RTTY JOURNAL

Price $1.50

AMATEUR RADIOTELETYPE - COMPUTERS - PACKET

VOLUME 34 NUMBER 9 NOVEMBER 1986

MARS

ARE YOU READY

MARS OFFICIALS

Larry Warren, KA7TPV - Art Delperdang, K4KBI - Ray Collins - Larry Bronstone

IN THIS ISSUE

MSO'S PACKETT HITS/MISSES DX SARTG RESULTS
RTTY BANDPASS HAM/WEST PICTURES ARRL NATIONAL PICTURES

RTTY JOURNAL
Dale S. Sinner, W6IWO
OWNER - EDITOR - PUBLISHER
ALL CORRESPONDENCE TO :
9085 La Casita Ave.
Fountain Valley, Ca 92708
TELE: 714-847-5058

SUBSCRIPTION RATES

USA	$10.00 per yr.
CANADA/MEXICO surf	$10.00 per yr.
CANADA/MEXICO air	$12.00 per yr.
FOREIGN surf	$10.00 per yr.
FOREIGN air	$15.00 per yr.

All monies in U. S. currency only

The publisher assumes no responsibility for errors or omissions and assumes no liability for same. Reproductions of this magazine must be accompanied by credit to the RTTY JOURNAL and the author. Publication will be on or about the twentieth (20) of the month. Subscriptions and ads must be paid for by cash, check, or money order in U. S. funds only, prior to subscription or ad start.

POSTMASTER : The RTTY JOURNAL (USPS 391850) is published monthly except May/Jun and Jul/Aug issues which are combined for $10.00 per year by RTTY JOURNAL, 9085 La Casita Ave., Fountain Valley, Ca., 92708. Second class postage paid at Santa Ana, Ca. and additional mailing offices.
Postmaster : Send address changes to RTTY JOURNAL, 9085 La Casita Ave., Fountain Valley, Ca., 92708. **ISSN 0033 - 7161**

DANNY WILSON, N6IHQ JOINS THE RTTY JOURNAL

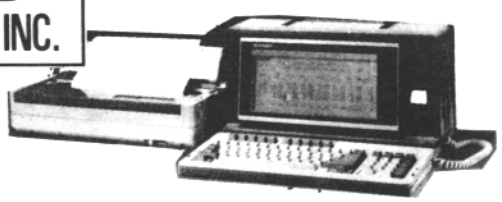
Danny Wilson has joined the Journal to contribute articles about Packet. Danny is married to Connie and they have one son six years old. Connie is expecting their second child in February. Danny has been a ham since 1981, his primary interest is RTTY and operates an MSO on one of the local 2 meter repeaters. Danny is also quite active on Packet and soon hopes to be on HF Packet. He is currently Vice President of the Southern California Amateur Radio Computer Club (SCARCC), which bosts a membership of approximately 100 members. He is active in public service work and is currently serving as assistant EC, in ARES work regarding digital communications. At 32 years of age, Danny has been real busy in amateur radio and his background will bring additional depth to the Journal. Danny's station consists of the following: TRS 80 III, ROM 116, MFJ-1270, ICOM 211, SWAN 500CX. Welcome aboard Danny. ED.

ABOUT THE COVER

MARS has been represented at the last three conventions I have attended, starting with Dayton earlier this year. They have been working hard to get recognition and exposure and they have been telling their story around the country. Their primary thrust is recruitment. MARS has been doing an outstanding job for many, many years, so I have chosen to highlight their efforts this month in the Journal.

RS COMPUTERS, INC.

SHARP PC-7000 $1688
FREE SHARP PRINTER WITH PURCHASE



320K, 2 5¼" DRIVES, GRAPHICS, ILLUMINATED CRYSTAL DISPLAY, NLQ PRINTER, SUPER COMPACT, LIGHT-WEIGHT
ALL PRICES SUBJECT TO STOCK

IBM™ COMPATIBLES "FCC APPROVED"
ALL PRICES SUBJECT TO STOCK
18826 Brookhurst Street, Fountain Valley, CA 92708
2 LIGHTS SOUTH OF THE SAN DIEGO FWY. (405) IN FOUNTAIN VALLEY CENTER PLAZA
(714) 963-3202
VISA MasterCard
Hours: Tues.-Fri. 11-6; Sat. 10-4; Closed Sunday & Monday

Dick Uhrmacher
K0VKH
212 48th St.
Rapid City,SD
57702

MSO'S

A very happy Thanksgiving to all of you! My how quickly time flies, and ol' man winter can't be far behind. Time to spruce up those antennas, lest you be dangling from your safety belt while the mercury rests near zero!

AMTOR MSO/CBMS INFO: John, TG9VT, reports that several "HAL" MSO systems are presently set up as "AMTOR" MSO's on 14073.5 Khz. Also John reports that an Australian AMTOR MSO is now active, (with official government permission), on 14075.00 Khz. John indicates that the "command list" is quite different than the usual MSO/CBMS commands, but is quite functional. This MSO utilizes an Apple compatible computer system, with disk drives and printer. The rig is a Kenwood TS-430S, to a Hygain beam for 20 meters, and a delta-loop for 40 meters. As it is set up now, the system scans 14074, 14075, 14077 and 7075 Khz. Those interested in further information on this system might contact the licensee, Gordon Dowse, VK2AGE, Lot 2, Bruxner Highway, Goonellabah, N.S.W. 2480, Australia.

John also sends additional information on a MSO/CBMS being operated by "Jack", 5V7JS. His system is QRV from 0800 to 1800 UTC on 21.115 Mhz, and from 1800 to 0800 UTC ON 14.080. The access code: " -5V7JS de Callsign". The command "-commands" will provide a list of operating commands.

Russ, K1DOW/4 from Arcadia, Florida reports that he's noted another DX AMTOR system in operation. It is DJ9JC, and the SELCAL code is DJJC. This MSO scans the following frequencies on a 24 hour basis: 3581, 7038, 14075, 14078, 14079, 21081, 21113, and 28075 Khz.

"Brownie", K5FL of Dento, Texas reports that he has been leaving his MSO parked on 14.115 Khz, (carrier frequency, "mark" is 14.112.8 Khz - access code is MSO5FL, 75 baud, 170 hertz shift), in the evening hours. (during the daylight hours, his fine MSO can be found on the "National Autostart Frequency" on 20 meters). Brownie utilizes the "HAL" MPT-3100 MSO system, and a Kenwood TS-940S. As you probably know from reading past issues of this column, this author has been beating the drums for increased digital activity above 14.100 Khz for some time, and Brownie's actions are commendable. Better propagation conditions are inevitable, (although at times recently one wonders!), and our miniscule digital portion of 20 meters will be more crowed than ever. Having increased activity in the area from 14.100 to 14.125 Khz will not only provide some breathing room for all dedicated digital enthusiasts, but hopefully it will demonstrate to others that may be interesed in downward expansion of the phone segments, that the area between 14.100 and 14.150 is not a vast "no mans land"! Give Brownie's MSO a shot when you have time!

IBM "PC" MSO program: Have you been thinking about a good "MSO program" for your IBM "PC" (or clone)? Want to run a MSO on your new "HAL" DS-3200? Clark Constant,W9CD has developed a very sophisticated MSO program that very closely emulates the highly successful "HAL" MSO system. It is written in two different forms, one designed to be utilized with the "HAL" PCI-2000 "computer RTTY interface", (user installed in your PC, or in the "HAL" DS-3200), and one that utilizes an external "HAL" ST-6000 deluxe demodulator. The command structure follows the "HAL" MSO way of doing things, with a few extras, (like remote speed changes), thrown in.

If you are interested in MSO activites, and would like a copy of this software, send a good quality 5 1/4 inch diskette, (preferably new and formatted), to Clark Constant, W9CD, 2208 S. Race St., Urbana, IL. 61801. Please include a suitable mailer for return of the diskette, a pre-addressed label, and sufficient postage. Since this sophisticated program is being furnished at no cost, those desiring to obtain it are requested to comply fully with the above requirements. And, if you would like to see this IBM-PC MSO program in action, Clark parks his MSO on the "National Autostart Frequency" on 20 meters, using it with his "Compaq" PC. The access code is: MSO9CD.

"Carrier", "Mark" and "Space" frequencies unraveled: Over the years, tradition has called for the RTTY "Mark" frequency to be used for making schedules with other RTTY stations, setting up net operations, etc. However, with the advent of digital readouts on transceivers, and with each manufacturer having his own idea concerning what frequency should be displayed, it can be a bit confusing. What follows is a laymans guide to understanding the differences between these three RTTY frequencies:

1. The "carrier" frequency is that frequency normally displayed when your transceiver is in upper, lower sideband, or CW modes.(cont. pg. 6)

Danny Wilson,N6IHQ
4818 Pearce Ave.
Long Beach,CA.90808

PACKET

A disaster is unraveling in the dry Santa Monica mountains which separate Southern California from the high desert and helps form what is know as the Basin. A cigarette is carelessly thrown out the window of a passing car on a lonely stretch of highway. Within a half hour one acre of parched wilderness is burned in what will become a major forest fire, putting to test the skills and the very lives of those brave enough to challenge it.

Several dozen miles away, a large group of runners are gathering at the starting line of a gruelling 24 mile marathon. At several points along the course aid stations are set up with various supplies to help runners through the race. Supplies that include water, ERG (electrolytic replacement with glucose), fruit, ice packs, Vaseline, even cots for those needing to lie down after "hitting the wall". Even before sunrise, trucks have been lining the course with cones and barricades for traffic control. Race officials, scattered throughout the course, are busy with the details of getting the race started and completed smoothly. Within five hours of the starting gun, most of the runners will have completed the race. Some won't.

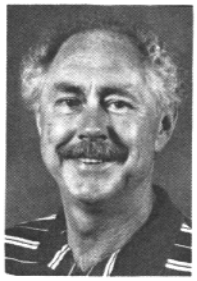
Not far from the start of the race, a ham radio operator weighs options. His son (who is also a ham) has moved about 200 miles north of the Southern California area. The two would really like to stay in touch via the airwaves. Unfortunately, the son has taken residence in an apartment complex with a strict rule banning external antennae. No repeater links exist within the range of the Hand-held unit on a 5/8 wave mobile antenna inside an apartment.

These are three wide ranging scenarios of which amateur radio plays a part in each; In the case of the forest fires that ravage the hillsides of Southern California each year towards the end of summer, amateurs answer the call to assist the agencies involved with fighting them. They set up at the base camps near the fire line to assist in point to point communications. The officials of the marathon depend on amateur radio ops for maintaining communications between the race officials, aid stations, barricade vehicles, and vehicles picking up runners that are unable to continue the race.

The third scenario involving Dad and Harmonic can be termed as a difficult, but not an impossible problem to solve. How? The answer to this situation is Packet radio. In the various populated areas of the nation, Packet radio "links" exist to give excellent local and long range coverage. In essence, a station operating with very low power and poor antenna location can achieve excellent results over long distances using 2 meters!

So what is a forest fire and a marathon doing in this column about Packet Radio? It would seem that Packet radio is changing the aspect of both Public Service and Emergency Communications. Packet has been used very effectively in many situations (these two used only as examples). As the expertise of the operators increases and the Officials at such events become aware of the usefullness of this mode, the applications of Packet will be expanding to meet many of the needs that these types of communications present.

It is my desire to bring Packet radio into a corner of the RTTY Journal. Dale and I have conversed several times on the mode and how it could really bring some more depth into the publication. I have articles planned on such topics as how to get on and operate Packet, effective Packet communicating, Packet Bulletin Board Systems (PBBS), digital breakdown of a packet, what is inside a TNC, more discussion on Packet in public service, maybe an interview or two with some of the poineers of the mode and the list can go on. However, I would like to hear from you .... what would you like to see in this column? Would you like to hear about HF Packet, VHF Packet? Reviews of equipment? Or maybe more technical discussions? This list can also go on. Drop me a line and let me know about what you want this corner of the Journal to be. If you would like to include an article of your own please do so! Packet radio is still in it's infancy, both technically and applied. The mode is growing leaps and bounds. And will more than likely continue to do so in the future. I look forward to sharing that future with the readers of the RTTY Journal. Until next month, take care and have a nice Thanksgiving holiday. ryryryryryryryryryryryryryry



Dale Sinner, W6IWO
9085 La Casita ave.
Fountain Valley, CA.
92708

HITS & MISSES

HAM-WEST - LAS VAGAS, NEVADA. I was there and enjoyed this convention even though it was much smaller than the ARRL National last month in San Deigo, Ca However, these two conventions are not in the same league. I think Las Vegas has great attracting powers for any convention, so I sure hope the Ham community continues to support HAM-WEST. I talked with many of the exhibitors about this convention sight and they agreed it has great potential. They want to continue their support, all that remains, is for us, the Ham community to continue our support. See you at HAM - WEST next year.

This convention gave me an opportunity to meet with some of the Journal advertisers, attend some interesting forums, and have an eyeball QSO with Hams I don't see to often. I also picked up some very good ideas for future articles which I think you will find most interesting and informative.

This month I'm highlighting the MARS forum. Military Amateur Radio Stations (MARS) have been around for many, many years but untill just recently did not participate in to many forums at the conventions. That's all changing and you can be sure they will be very active at upcoming conventions. There main theme this year is recruitment. MARS is looking for more members and they asking you to join them. No matter which branch of the services you are interested in (Air Force, Army, Marine, Navy) MARS is ready to accept your application.

Representing the different branches were Arthur Delperdang, K4KBI, Director, Navy-Marine Corps MARS, Harold (Ray) Collins, Chief, Air Force MARS, Larry Bronstone, Western Area Director, Larry Warren, KA7TPV, Chief, Army MARS and the present Chairman of the MARS Chiefs Panel. These four fine gentlemen represent nearly 12,000 MARS members around the world. Each of these representatives gave a short commentary. Art Delperdang, K4KBI extended a warm welcome to all those in attendance and indicated that Navy-Marine MARS is looking for a few good people to become MARS affiliates. Ray Collins spoke of patriotism being one of the main reasons many people join the MARS program. Larry Bronstone spoke of the need for more Hams to join them and invited all to stop by the MARS booth for literature and ask any questions they may have concerning MARS activity. Robert Warren, this years chairman, spoke about what MARS can do for an affiliate Amateur station. He indicated that MARS can provide organized nets, training, pride of nationalism, commeraderee, traffic handling experience, and much more. Chief Warren hopes that traffic handling will increase two fold over what it is now in the next year and this means more operators will be needed. He also stated that in the case of a national disaster the Department of Defense will be counting on MARS to take command of communications for at least the first 72 hours.

Your question may be, what can I do for MARS. Chief Warren answered that we the Ham community can provide our time, our talent, and the youth of our equipment. We can help to train military personnel, a program that the ARRL and MARS are now working on. The forum was ended with a question and answer period so attendees could ask questions of the different services.

I enjoyed this forum very much and look forward to receiving more information on MARS in the near future which will be published here in the Journal as they apply to our digital modes of operation.

Other highlights of the HAM-WEST convention included great TV coverage by the local TV media. When I mentioned this to a bartender at the airport upon departure, he was quick to tell me how much he enjoyed the TV news coverage and how much more enlightened he was about Amateur Radio and all the public service Hams provide.

My stay in Las Vegas was of further interest in that I was able to attend two days of the famous COMDEX convention which followed the HAM-WEST convention. This is the computer dealer expo which is always one of the largest conventions in this country each year. COMDEX was expecting upwards of 85,000 people to attend during this week of the convention. My purpose in attending was to peruse all the latest software dealing with desk-top publishing. At the present time I am using a desk-top publishing program to produce the Journal. Upon completion of a page on the computer I then send it to a laser printer which provides me with a camera ready copy. Even though I'm satisfied with the program I now use I'm also open to new ideas and techniques. I learned a great deal at this convention, one of which was to wear comfortable shoes. With over 1200 booths covering every aspect of the computer field, there was lot to see. (cont. pg. 6)

MSO cont.

2. The "Mark" frequency is 2125 Htz lower in frequency than the "carrier" frequency, (transceiver in LSB).
3. Assuming narrow shift, the "Space" frequency is 170 Htz lower than the "Mark" frequency.

Now for some examples. Place your transceiver in the "LSB" mode, and carefully tune in the "National Autostart Frequency" at its "carrier" frequency of 14087.750 Hz, (170 Hz shift, 74 baud). To determine the "Mark" frequency of this MSO operation, subtract 2125 Hz, providing 14085.625 Hz. To further determine the "Space" frequency, subtract an additional 170 Hz, providing 14085.455 Hz. But you say, what if I'm using the "FSK" mode on my transceiver, rather than "LSB"? Now things become just a bit more complicated, (but not impossible). Some transceivers read the "Mark" frequency when placed in "FSK", and some read the "Space" frequency. First determine what the "carrier" frequency is of your favorite RTTY operation with your transceiver in "LSB" mode, and jot that frequency down. Now switch to "FSK" mode and again tune your transceiver to your favorite RTTY operation frequency. Subtract this frequency reading from the frequency reading you obtained above when in the "LSB" mode. If the result is 2125 Hz, then your transceiver reads the "Mark" frequency while in the "FSK" mode. And, if the result is 2295 Hz, then it reads the "Space" frequency in the "FSK" mode.

That's it for this month gang. Enjoy RTTY and the MSO's, and drop us a line or note with anything you'd like to see in this column. 73's de Dick,K0VKH ryryryryryryryryryryryryryryryryryr

HITS/MISSES cont.
This also included a lot of walking. I was most impressed by the magnificent booths many of the exhibitors had errected. By far the busiest booth I observed in the two days I was there was the Atari booth. There must have been at least 50 computer stations set up in this booth and each one was attended by personnel from Atari. All these booths were busy at all times and I had a hard time getting into the main area. They win my award for profesionalism in how to handle a booth.

This month Danny Wilson,N6IHQ is joining the Journal and will be a contributing writer on Packet radio. A warm welcome to Danny and I hope you will receive him the same way. I know Danny would like to hear from any of you, so please don't hesitate in writting to him. Danny plans to have articles of technical nature as well as general information on Packet both VHF and HF. If you have something of interest which you feel Danny could use, I know he will welcome it. In the December issue, Danny will be highlighting the HAM-WEST Packet forum. This was a very interesting forum hosted by Lyle Johnson, president of TAPR.

Next month I hope to have the index ready for publication. It will go back a few years and hopefully it will help those of our subscribers who are new to the Journal. We still have back issues of many past Journals and if we do not have them in stock, any article can be obtained from Red Wilson, WB0ESF (see classified ads section).

GIVE ME TO A FRIEND

ENCLOSED IS PAYMENT FOR A ONE YEAR SUBSCRIPTION TO THE RTTY JOURNAL.

NAME: _____ CALLSIGN: _____

ADDR: _____

CITY AND STATE: _____

COUNTRY: _____ POSTAL ZIP: _____

The RTTY Journal is now in it's 34th year of publication. It is now expanded to include computers and ham radio and Packet radio. We try to keep you up to date on the latest in these digital areas plus other interesting articles such as "Elmer". The Journal also includes a Classified section for inexpensive advertising directed to those people who are most apt to buy your "For Sale" items or place a "Want" ad for those hard to find items. Join the great circle of friends who now subscribe to the RTTY Journal.

USA $10.00 -- Canada/Mexico surface $10.00/Air $12.00 --- Foreign surface $10.00/Air $15.00

Or This Inexpensive

It Really Shouldn't Be This Easy

Remember just a few years ago, how it took a roomful of equipment just to work RTTY. And if you wanted more than one mode it took a dedicated computer system costing thousands of dollars. The new AEA Pakratts are proving it doesn't take lots of equipment or money to enjoy working all bands in five different modes.

First, A Good Idea

The idea behind the Pakratt is very simple. One controller that does Morse, Baudot, ASCII, AMTOR, and Packet, and works both HF and VHF bands. Of course the decoding, protocol, and signal processing software must be included in the unit, and connection to the computer and transceiver have to be easy. The unit also has to be small and require only 12 volts, so it will work both in the shack and on the road.

Second, Computer Compatible

It doesn't matter what kind of computer you have, we have a Pakratt for you. The PK-64 works with the popular Commodore 64 or 128, and the PK-232 works with any other computer or terminal that has an RS-232 serial port. The PK-64 doesn't require any additional programs. Simply connect to the computer and transceiver and you're on the air. The PK-232 needs a terminal or modem program for your computer. The one you're using with your telephone modem will work just fine.

PAKRATT™ Model PK-64

PAKRATT™ Model PK-232

Third, Performance and Features

The real measure of any data controller is what kind of on-air performance it gives. While the PK-64 and PK-232 use different types of modems, both give excellent performance on VHF. The optional HF modem of the PK-64 uses independent four-pole Chebyshev filters for both Mark and Space tones, and A.M. detection. The HF option can be factory or field installed.

The PK-232 uses an eight-pole bandpass filter followed by a limiter discriminator with automatic threshold correction. The internal modem automatically selects the filter parameters, CW Fc = 800 Hz, BW = 200 Hz; HF Fc = 2210 Hz, BW = 450 Hz; VHF Fc = 1700 Hz, BW = 2600 Hz.

The PK-64 uses on screen indicators to show status, mode, and DCD (Data Carrier Detect) while the PK-232 uses front panel indicators. Both units use discriminator style tuning for HF operation. And that's just the tip of the iceberg. Features like multiple connects on packet, hardware HDLC, CW speed tracking, and other standard AEA software features are included in both the PK-64 and PK-232.

Fourth, AEA Quality and Price

Not many manufacturers like to discuss quality and price at the same time. AEA thinks you want high quality and low price in any product you buy, so that's what you get with the Pakratts. Ask any friend who owns AEA gear about our quality. The people who buy our products are our best salespeople. As for price, the PK-64 costs $219.95, or $319.95 with the HF option. The PK-64A, an enhanced software unit with a longer flexible computer cable, costs $269.95 or $369.95 with the HF option. The PK-232 costs $319.95 with the HF modem included. All prices are Amateur Net and available from your favorite amateur radio dealer. For more information contact your local dealer or AEA.

Prices and specifications subject to change without notice or obligation.

AEA Advanced Electronic Applications, Inc.
P.O. Box C-2160, Lynnwood, WA 98036-0918
206-775-7373 Telex 6972496 AEA INTL UW

RESULTS

THE 16TH S. A. R. T. G. WORLD-WIDE RTTY CONTEST 1986

WORLD TOP SCORES

Single Operator Top Five
CLASS A

G4SKA	219,600
I7FKO	218,435
HB9HK	211,560
SM5FUG	202,710
EA5FKI	139,830

Multi Operator Top Five
CLASS B

LZ2KIM	316,220
WA7EGA	210,900
OH2AH	150,520
0H20T	54,280
YU2CRS	31.785

SWL Operator Top Five
CLASS C

OH-100	272,330
DE2QRV	214,360
ONL-383	98,100
Y2-2814/M51	77,140
OH2-900	54,280

SCORES

Class A Single Operators

Nr.	Call	QSO	Points	Multipliers 3.5	7.0	14	21	28	Total Score
1.	G4SKA	245	2745	15	17	37	10	1	219,600
2.	I7FKO	267	2765	10	17	36	13	3	218,435
3.	HB9HK	230	2580	13	8	45	11	5	211,560
4.	SM5FUG	215	2330	16	11	43	9	8	202,710
5.	EA5FKI	166	1770	14	7	35	17	6	139,830
6.	WB5HBR	207	2270		6	48	1	1	127,120
7.	FM5CD	201	2415			52			125,580
8.	IS0MVE	172	1950		12	38	4		105,300
9.	I0ZSG	185	2000			43	7		100,000
10.	IN3ZUG	157	1675	1		51	7		97,825
11.	I2VXJ	122	1300	3	8	36	11	4	85,800
12.	W2FG	128	1740			44			76,560
13.	LA7AJ	127	1490			40	7	1	71,520
14.	OH2BDN	132	1270	1		35	7		54,610
15.	OK2FD	87	965	11	6	26	2	1	44,390
16.	CT4KO	96	975	1	1	29	9	2	40,950
17.	W2JRG	97	955			39			37,245
18.	I0KKY	105	1105			32			35,360
19.	CT1BRG	78	765	1	4	27	10	2	33,660
20.	Y39TO	83	835	1	4	28	5	1	32,565
21.	PA3DBS	100	1180			27			31,860
22.	VE1ASJ	89	1045			30			31,350
23.	DJ1XT	74	945			32			30,240
24.	OZ2CJ	69	715	12		24	5	1	30,030
25.	SP2UUU/1	93	980		6	23	1		29,400
26.	K6WZ	82	800	1	5	30			28,800
27.	Y21RO/A	68	685	11	5	23	1		27,400
28.	OH2BUQ	78	780			28	6		26,520
29.	IV3UT	63	625	2	3	25	8	2	25,000
30.	OH2BYL	67	705			24	10		23,970
31.	SM7BGE	72	710	10	1	20	1		22,720
32.	SM4AIO	58	570	7	5	20	5		21,090

(cont. next pg.)

33.	GW3EHN	60	635	7		18	5	2	20,320
34.	DF5BX	59	615	11		19	2		19,680
35.	K8CV	55	610			32			19,520
36.	SM7ABL	50	510	9	3	17	3	4	18,360
37.	DF8WX	53	565	3		24	4		17,515
38.	KA1LMR	41	545			28			15,260
39.	Y43ZO/2	42	440	1	1	24	1		11,880
40.	KL7PG	38	420			22			9,240
41.	KJ4XP	46	405			22			8,910
42.	OZ7XE	40	400			14	5	3	8,800
43.	F6BVB	45	450		1	17			8,100
44.	W5SL	27	335			22			7,370
45.	LA7SP	29	350			21			7,350
46.	Y23VP	24	345			18			6,210
47.	EA3AW	25	265			15	3		4,770
48.	ZL2AKI	21	270			9	6		4,050
49.	SP3XR	25	265			13			3,445
50.	OH1TD	24	245			12			2,940
51.	YU3MJ	15	150			14			2,100
52.	W8LNK	16	175			12			2,100
53.	PA0YN	19	190			10			1,900
54.	SM4CMG	13	135	4		7	1	1	1,755
55.	DK5KJ	16	160			10			1,600
56.	SM0KV/0	14	140				10		1,400
57.	OH7AI	12	130			9			1,170
58.	PA0KHM	13	135			8			1,080
59.	SM4CJY	14	140			7			980
60.	Y31MB	10	100	6		2			800
61.	SP7LIL	14	70			10			700

Class B Multi Operators

				Multipliers					
Nr.	Call	QSO	Points	3.5	7.0	14	21	28	Total Score
1.	LZ2KIM	290	3260	11	16	50	16	4	316,220
2.	WA7EGA	244	2775	2	13	59	1	1	210,900
3.	OH2AH	201	2120	14	9	42	6		150,520
4.	OH2OT	122	1180	7	6	27	5	1	54,280
5.	YU2CRS	80	815	9	8	22			31,785
6.	SK6NP/6	23	230			10			2,300
7.	SP2ZD/1	6	55		1	5			330

Class C SWL Operators

				Multipliers					
Nr.	Call	QSO	Points	3.5	7.0	14	21	28	Total Score
1.	OH-100	236	2410	14	18	57	17	7	272,330
2.	DE2QRV	217	2330	16	13	51	12		214,360
3.	ONL-383	136	1510	6	16	42	1		98,150
4.	Y2-2814/M5	121	1330	10	4	38	6		77,140
5.	OH2-900	122	1180	7	6	27	5	1	54,280
6.	DE1GMH	84	920	10		30	3		39,560
7.	Y2-1928/I64	82	900			34			30,600
8.	ONL-4003	47	500		1	21	1		11,500
9.	Y2-7684/042	33	320			19			6,080
10.	JA1-7777	10	105			6			630

Check Logs: LA3VP -- FG/W1QU/FS -- OZ1CRL

Roy Gould, KT1N
P O BOX DX
Stow, MA. 01775

DX - NEWS

Hello sunspots! Well the bands seem to be improving. It sure has been nice the past week to hear signals on 15 meters. The 20 meter band has been hopping also, as you will see when you read the RTTY BANDPASS. I am also able to bring you some good DX tips this month thanks to lots of help from the gang. You know the old proverb about listening sure pays off. You can really learn a lot about what DX is or has been on the band just by listening in on a few QSO's before firing off the transmitter. I spent one Saturday recently listening most of the day and was amazed at the wealth of info that is out there. Still it would be nice if more of you would drop me a line about what you are hearing. Sometimes it may not mean much to you, but you would be surprised how much it might mean to someone else. So let me hear from you and we'll list it all right here in the Journal.

Well so far I have over 1000 cards in from Ted, HC5KA and the group (HD8G) from the Galapagos Islands DXpedition. I am sorting now and waiting for the logs and the cards from the printers and as soon as I get all that together I will begin to get them out to you. It will probably be the end of December before I get them all, so please be patient.

Wow! Next month Christmas! Where did the time go? I hope you have your orders in for that new piece of RTTY gear, antenna, or rig. Christmas has a double meaning for me each year as it is also my birthday. 43 years young coming up. (ED: Happy Birthday Roy!)

RTTY CONTEST

As I mentioned last month, we are in the planning stages for a New RTTY Journal/ CQ magazine RTTY World Wide Contest. Some of you have sent in your comments and I appreciate them, keep them coming. I will answer each one of you direct and also through this column. The idea of having it in the Fall (September) is that all 3 CQ magazine contests all held then. So the plan would be for the RTTY contest the last full weekend in September, followed by the Phone contest in October and the CW contest in November. Still not cast in concrete but will keep you posted in this column.

RTTY DX NEWS

Lots of helpful information this month.

CO1BB .. Chod Harris, VP2ML, editor of the DX Bulletin says he met Edmund, C01BB at the ITU conference in Argentina recently. Chod asked him about QSL's! Ed replied that PO BOX 1 is actually a QSL Bureau, however, not all cards get through. Ed says also that no Greenstamps or even IRC's are necessary but a SAE would be appreciated. The best way is probably with a Cuban stamp. Ed will answer all cards and some may be returned via the Bureau. Chod also asked him if a QSL manager might help but Ed was not to keen on the idea. So if you are still waiting, try the above.

DJ6QT, Walter .. Word has it that Walter is looking for a spot to activate this Winter on RTTY. Soon as we hear something I will pass it along to you. Until then keep an eye on the screen for him. Walter always does a great job and is an excellent QSL'er.

AZ1A .. The news on this operation is that due to the local Post Office moving during the time that a bulk of the QSL cards were mailed some may have been missplaced or lost. So if you are still waiting for this card it is recommended you try again.

CE3CEW .. Look for an Easter Island operation soon. Plans are still being made.

WA4WIP .. The "Wipper" is planning a Caribbean operation some time this winter. He will let us know as soon as he finalizes the location.

V85BA .. Has been active on the keys, QSL to P O BOX 989, Gadong, Brunei.

V31AB .. Wayne has been active and loves RTTY!! QSL to Wayne blanton, PO BOX 108, Corozal, Belize.

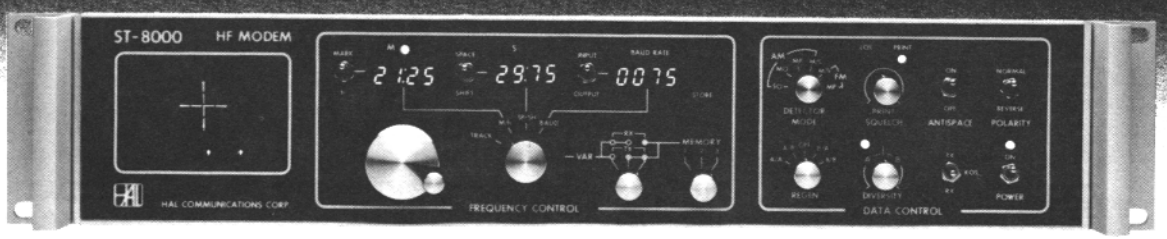
OD5PL .. Francis has been active on 20 and 15 meters, QSL via HB9CRV.

VP8AQT .. Dave was supposed to be on from So. Georgia the week of November 1. Hope everyone got him. If he did get on and you did work him, QSL via G6KFR who is also Dave's regular QSL manager.

TK5 Corsica .. Word has it that a TK5 has been on RTTY recently on 20 and 15 meters. The person who gave me this info did not have the suffix, but if you hear this TK5, work him!!
5X5NK .. has still not been heard on the keys, even though Gin, JA1ACB (cont. pg. 12)

Wide Dynamic Range and Low Distortion — The Key to Superior HF Data Communications

- Dynamic Range > 75 dB
- 400 to 4000 Hz
- BW Matched to Baud Rate
- BER < 1 X 10^{-5} for S / N = 0 dB
- 10 to 1200 Baud
- Linear Phase Filters



ST-8000 HF Modem

Real HF radio teleprinter signals exhibit heavy fading and distortion, requirements that cannot be measured by standard constant amplitude BER and distortion test procedures. In designing the ST-8000, HAL has gone the extra step beyond traditional test and design. Our noise floor is at -65 dBm, not at -30 dBm as on other units, an extra 35 dB gain margin to handle fading. Filters in the ST-8000 are all of linear-phase design to give minimum pulse distortion, not sharp-skirted filters with high phase distortion. All signal processing is done at the input tone frequency; heterodyning is NOT used. This avoids distortion due to frequency conversion or introduced by abnormally high or low filter Q's. Bandwidths of the input, Mark/Space channels, and post-detection filters are all computed and set for the baud rate you select, from 10 to 1200 baud. Other standard features of the ST-8000 include:

- 8 Programmable Memories
- Set frequencies in 1 Hz steps
- Adjustable Print Squelch
- Phase-continuous TX Tones
- Split or Transceive TX/RX
- CRT Tuning Indicator
- RS-232C, MIL-188C, or TTL Data
- 8, 600, or 10K Audio Input
- Signal Regeneration
- Variable Threshold Diversity
- RS-232 Remote Control I/O
- 100-130/200-250 VAC, 44-440 Hz
- AM or FM Signal Processing
- 32 steps of M/S filter BW
- Mark or Space-Only Detection
- Digital Multipath Correction
- FDX or HDX with Echo
- Spectra-Tune and X-Y Display
- Transmitter PTT Relay
- 8 or 600 Ohm Audio Output
- Code and Speed Conversion
- Signal Amplitude Squelch
- Receive Clock Recovery
- 3.5" High Rack Mounting

Write or call for complete ST-8000 specifications.

HAL Communications Corp.
Government Products Division
Post Office Box 365
Urbana, Illinois 61801
(217) 367-7373 TWX 910-245-0784

(cont. from pg. 10)
has sent him a TONO. Hopefully, we should hear from him real soon.

KE4FE/KH2 .. Quite active, both on Baudot and AMTOR.

9U5BB .. Burundi Slim is back again, telling us to QSL via the ON Bureau. Save your money. The On Bureau says he is a phony. Carl, K6WZ just got his card back from the ON Bureau saying, "Sorry".

UF7FWN has been on 20 RTTY recently, seems to have a speed problem and is hard to work. He gets out extremely well (10 over 9 here) but doesn't seem to hear to well. Keep trying.

Well that is about it for another month. Oh, a few people have asked me on the air why I put all the sighting info in for each station in the BANDPASS. The reason is, if you need to work one of these stations for a new one, you can look back and see if that particular station has a certain frequency they like to operate on and/or time of day, month, etc. Knowing all this, you can then make your plans and "bingo" you got him.

Keep the information coming, and remember a one ringer will bring me up on 14.095 if I am home. Good luck and good hunting and a Tip of the DX Hat to: W1DA, W5HEZ, WA4WIP, K6WZ, TG9VT, and the DX Bulletin. de Roy.

RTTY BANDPASS

CALL	FREQ.	TIME (UTC)	DATE
A22BW	21.097	1730	110286
A4XZF	14.088	1330	110186
CE3CEW	14.083	2240	110186
CN8EL	14.085	2020	102986
CX9CA	21.091	2150	102686
DF9FA/4S7	14.093	1220	102986
DU1AUJ	14.089	1450	102686
EI4EH	14.088	1330	110186
GI4TLT	21.089	1500	110286
HI8DLA	14.088	1300	110186
IS0MVE	14.088	1330	110286
KE4FE/KH2	21.091	2115	102586
LX1BY	21.089	1515	110286
OD5PL	21.087	1530	102786
OX3FG	14.081	1720	110186
SP3CUG	14.086	1330	110186
SU1ER	14.085	1120	102486
TA1F	14.091	1130	102986
TL8CK	14.086	2000	101386
UF7FWN	14.085	1315	110186
	14.086	1200	110386
UA0JV	14.094	0130	102786
UZ6AWF	14.099	1705	110186
V31AB	14.082	2100	102986
V85BA	14.087	1330	102686
VP8AQT	14.088	2330	101686
3C1MB	14.095	2145	102386
4X6RA	14.095	1650	110186
5N26ZHN	21.091	1315	102686
9H4B	21.093	1330	110286

Price REDUCED

Work VHF or HF Packet On Any Computer With Kantronics Complete Packet Communicator

KPC-2

From IBM to C-64, or any computer with an asynchronous serial port, you can now work packet on VHF or HF with one TNC, the KPC-2! Extra cost options are unnecessary. KCP-2 is packed full of features and backed by our full-time customer support departments. KPC-2 has totally new hardware and software, Kantronics designed. For more information contact Kantronics or a Kantronics dealer.

Suggested Retail $ ~~219.00~~

NOW $169.00

Features

- AX.25 Version 2.0 software
- Supports multiple connects, up to 26
- RS232 or TTL compatible (C-64 too!)
- HF modem included! (both U.S. and European tones)
- Carrier Detect, and software squelch operation
- FCC Part 15 Certified
- Kantronics industry standard extruded aluminum case
- Power supply and cabling included
- All EPROM software is Kantronics sourced and copyrighted
- 128K EPROM, 16K RAM — expandable to 32K, 4K EEPROM.
- Advanced software HDLC routines, eliminating costly out-of-date chips

Customer Support

- Extensive dealer network
- In-house programmers/engineers
- In-house service representatives
- Periodic software updates (like 2.0!)

Want more information on Packet?
Contact us about our new **PACKET VIDEO.**
$ 25.00 (shipping included), VHS or BETA format.

Kantronics
RF Data Communications Specialists
1202 E. 23 Street Lawrence, Kansas 66046 (913) 842-7745

RTTY FORUM, SAN DEIGO,CA. SEPT. 5,6,7, 1986

RTTY HOSPITALITY ROOM - SAN DEIGO,CA. SEPT. 5,6,7, 1986

Ben Grokett, KR6E - Bill Henry, K9GWT - George Boyd, WB6INV - Jonnie Johnson, W1JY - Herb Goodman

MARS FORUM LAS VEGAS, NOV. 7,8,9,1986

CLASSIFIED ADS

30 words $3.00, addditional words 5 cents each. Cash with copy
Deadline for copy is 1st of month of publication

W0UZA ESTATE SALE: Latest version HAL MPT-3100 ASR Terminal, ST-6000 Deluxe Demodulator, DSK-3100 Disk Drive System. Includes C-1 cable, all manuals, in original boxes. The most sophisticated RTTY, CW or ASCII system made, in mint condition. Original cost over $4500, now $2500 plus shipping. Contact Dick, K0VKH, (605) 343-6127

FOR SALE: HAL PCI-2000, like new, $400 with software. New price was $645. Jerry Clark,K7KZ -- 4186 Soldier Trail, Tucson,AZ., 85749 (602) 749-5785

NEWS - NEWS - NEWS - Amateur Radio's Newpaper "WORLDRADIO". One year subscription is $11.00. Contact, WORLDRADIO, PO BOX 271309, Escodido, Ca. 92027-0770

FOR SALE: New 32 & 33 manuals, 3 Volume sets - Vol 1,2 & parts $13.00 per set. -- Model 35, 4 volume sets $15.00 (Please specify Model number). Model 33 prints $8.00 per set. Roll paper G/W grade $2.50 per roll. -- Bond $3.00 per roll. -- 2 spool ribbons, heavy ink $2.00. -- 8 level tape $1.00 per roll. -- Fan fold 8 level tape $3.00 per box. -- RS-232 interface, NEW, installs into UCC-6 & converts 20ma to RS-232-C standard, $100.00 (Unit wires easy to UCC-6 plug #2 & power transformer with complete instructions). --Caster sets for Model 32 & 33 stands $10.00 per set. -- Model 33 stands with regular legs $10.00 each (with caster sets installed $15.00 each). -- Many hard to find ribbons & paper supplies available. Call or write for lists. Teletype parts available please site part number. Special on 81/2 X 11 white bond 8 copy sprocket forms, carbon interleaf, 350 sets per box (That's 2800 bond sheets & carbons) priced to move $10.00 per box while they last. -- All terms FOB Tram Teletype Service, 50-0 Corbin Ave., Bayshore, NY. 11706, Phone - (516) 242-5011. Terms prepaid - All shipping charges will be C.O.D.

HAL COMMUNICATIONS ANNOUNCES THE NEW DS-3200 "RADIO DATA COMMUNICATIONS TERMINAL", for RTTY, CW, ASCII, plus IBM "PC-XT" Compatability! Four models to choose from, including mass storage to 20 megabytes! For information and pricing call or write to dick,K0VKH, Dialta Amateur Radio Supply, 212 48th St., Rapid City, SD., 57701, Phone (605) 343-6127

HAM RADIO magazine: The no nonscence state - of - the - art technical magazine. Subscribe now and see for yourself. 1 year $22.95 in USA, $31.00 Canada and Foreign surface.

$37.00 Air Europe, Africa, Japan areas. Contact HAM Publishing Group: Greenville,NH. 03048

FOR SALE: Super HAL station: MPT-3100 $1450, DSK-3100 $600, ST-6000 $450, ARQ-1000 $500, Factory cabling $150 (all rack mount). All mint condition $2750 for the package. Teletype model 40 with printer and model 40 monitor with manual $375. W8WYK,(216) 662-0731

BEST BID: AEA PKT-1 -- AEA-AMT-1 -- DGM keyboard (DGM-2000) -- DGM terminal (MVD-1000) -- Radio Shack Model 100 computer. Fred Kienzle,K4ZS, 254 Avilez Blvd., Titusville,FL. 32780. Phone (305) 269-6970

BACK ISSUES: A duplicate of any back issue may be obtained from: Red Wilson,WB0ESF, 4011 Clearview Dr., Cedar Falls,IA., 50613, $1.50 PPD & SASE. Reprints of both UART articles $2.00 PPD.

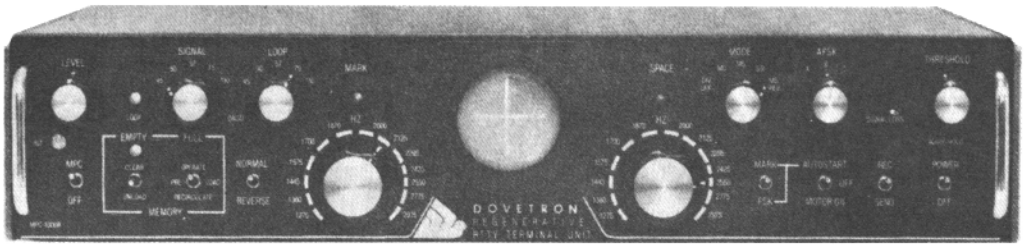
ON SALE: RS XT -- IBM Compatable, 4.77 Mhz, 256K drive, 8 expansion slots, 135 watt power supply, printer port, graphics, AT style keyboard, FCC approved. $695.88, price good through December 31,1986 (plus shipping). RS COMPUTER, 18826 Brookhurst ST., Fountain Valley,CA. 92708 phone (714) 963-3202. Additional drives, turbo, etc. at reasonal prices, call for quote on your needs.

WANT TO GIVE A DIGITALLY MINDED FRIEND A NICE XMAS PRESENT. GIVE HIM OR HER A ONE YEAR SUBSCRIPTION TO THE RTTY JOURNAL. GET YOUR PAYMENT TO ME BY DECEMBER 5, 1986 AND I'LL GET THE DECEMBER ISSUE IN THE MAIL IN TIME FOR XMAS. HOW ABOUT THAT FOR A DEAL????

(SUBSCRIPTION FORM ON PAGE 6)

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 & Digital Autostart, 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.

DOVETRON

627 Fremont Avenue
South Pasadena,
California 91030, U.S.A.

RTTY JOURNAL
9085 LA CASITA AVE
FOUNTAIN VALLEY,CA
92708

SECOND CLASS
POSTAGE PAID
SANTA ANA,CA
92799-9998