

RTTY

DECEMBER 1979

Journal

VOLUME 27 NO.10

75 CENTS

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WB9RTX, BEN, K9WRL NEIL, WA9KEK HOWIE WITH CARR

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CONTESTS

YAESU FT101/FR101 FILTERS

INFO-TECH M-70 CODE & SPEED CONVERTER

RTTY JOURNAL

Dee Crumpton
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FROM
THE
MAILBAG



The 1979 ARRL Southwestern Convention was held on October 19, 20 and 21 in Anaheim California. A meeting was set up with league officials and local RTTY'ers on Friday evening. The following people were present: Jay Holladay, W6EJJ Director of Southwestern Division, Doug Demaw, W1FB, ARRL Senior Technical Editor, John Lindholm, W1XX, ARRL Communications Manager, Art Smith, W6INI, SCM, San Diego Paul Gagnon, W6MA SCM, Santa Barbara, Bob Smith, WB6ODR, SDTS President, Dale Sinner, W6IWO SCATS President, Mae Washburn, WA6LNH, Secretary SCATS, George Boyd, WB6INV Treasurer SCATS, George Hammon, WA6CQW, RTTY JOURNAL.

The purpose of this meeting was to discuss varied subjects dealing with RTTY and the League. The first subject was DXCC recognition for RTTY'ers. I feel RTTY'ers achieving DXCC should get the same recognition as other members. The present system awards a DXCC certificate for 100 countries and at the time of issuance the call is recorded in QST. This is a one shot deal and no further update is recorded as the RTTY Ham gains new countries over 100. I made the suggestion that once a year this update appear in QST. This was favorably received and it is hoped will become a reality.

The question was asked why W1AW and RTTY Bulletin broadcasts do not include a standby at the end for general calls? The explanation given was that RTTY Bulletin operators are paid and some time ago a fuss was made about paid operators standing by for general calls. The League was forced to cease and desist. Amateurs in the local area are welcome, as in the past, to operate the RTTY station to carry on this program to help RTTY Hams receive a QSL card from W1AW.

The next subject discussed was lack

of technical articles on RTTY in QST. It was explained the league needs trained technical people and is having some difficulty hiring them. The fact that the League will not pay for articles compounds the problem.

The subject of traffic handling using the RTTY mode was discussed. This is one area where the RTTY Ham can really shine. Paul Gagnon wrote a very fine article in the RTTY JOURNAL (January 1979) on traffic handling using RTTY. I hope you will read or reread this article and write Paul to show your willingness to help out. Here in California, the Southern RTTY Traffic Net meets at 2000 hours local time on 3635.

I am sure you will realize that in the short time, approximately one hour, an in depth dialog could not be reached, however, the exchange of thoughts on both sides and the willingness to listen left me with an upbeat feeling. The need for all RTTY Clubs to do this at each area ARRL Convention is important. You must let each director know how the RTTY gang feels.

I enjoyed the convention. The chance to meet RTTY'ers in person was really important. The Convention attendance was around 2000. A forum for RTTY was held on Saturday at 1445 hours. I estimated attendance at 200. Hugh and Mae Washburn showed a super slide show on RTTY. Hugh and Mae are members of the Southern California Teleprinters Society and well deserved the applause they received at the end of their presentation of the fascinating world of the "green keys".

The banquet Saturday night was well done. The food was hot and tasty. The entertainment was provided by Stu Gilliam, WD6FBU, popular comedian. The master of ceremonies was Johnny Grant WB6MJV, TV celebrity on TV station

KTLA. Both provided many laughs and Stu's sketch about our dear Internal Revenue Service was one long series of laughs.

ASCII

The reality of ASCII will at long last be forthcoming. I have written to Doug Demaw and hope to get a copy of the ARRL ASCII report they sent to the FCC. When I receive this I will print it in the JOURNAL. I am very concerned about ASCII on 10, 15, and 20 meters. This may lead to problems if ASCII users and non-ASCII users try to operate in the same small RTTY band limits. The thought of the problems that occurred with AM and SSB some years back trouble me. Hank Scharfe, W6SKC wrote a fine article on ASCII and HF operation in (RTTY JOURNAL, April 1978).

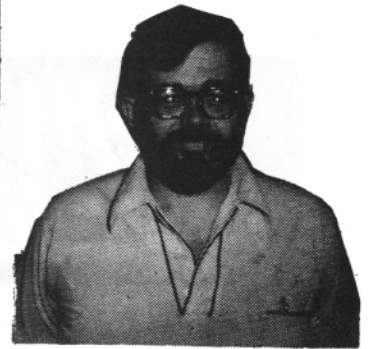
YEARS END

I will close out my column for the last time this year. Thanksgiving and Christmas are almost here. I want to wish all the happiest of holidays. I look back over the year and wonder where the time escaped to. The hobby of RTTY is so loose jointed and RTTY information appears in many national magazines. The November issue of popular Electronics has a fine article on Radioteletype reader for shortwave receivers by George Steber, WB9LVI. The shot gunning of information here and there makes it most difficult to capture the latest information. I am doing research into early Ham RTTY and realize more than ever how frustrating it must be for overseas Amateurs to get just basic information. I read approximately 2 dozen magazines each month and several dozen newsletters and still find it hard to keep up with new ideas concerning RTTY. I hope since March of this year with my first column you have enjoyed my efforts. The hobby of RTTY is only

RTTY-DX

SKIP PRINSEN WB6CYA 714-276-3182

3611 Merrimac, San Diego, Calif. 92117



Greetings to all!

Merry Christmas and Happy New Year. It sure seems strange to be saying that at the first of November Hi Hi. Anyway on to bigger and better items.

The DXCC Honor Roll is a listing which shows the standings of the various active stations which is published every six months. This next schedule will be printed in the January issue of the JOURNAL. Those persons already having sent in their inputs but have updates, feel free to call me or drop me a card. I must have your inputs no later than the third week of December. I need two sets of numbers such as 28/13. These two numbers mean that you have worked 28 countries and have 13 confirmed.

On the contest scene, the Giant Flash Australia/Oceania/Asia test on the week-end of the 4th of November seemed to me to be a complete failure. I saw very little action on the bands from North/South America nor any of the Asian/Australian or Oceanic Countries. I hope the up and coming tests are more popular.

Carl, K6WZ writes that he worked all continents. Carl worked AL T4AHC in Venda, a small country in South Africa. He also worked U9CBA/YV5 for the only South American. Venda, apparently is a new country and until it meets the qualifications under ARRL rules, it will not count for DXCC as S8 Transkei which also falls under this classification.

Gordy Ansun writes from HL9 land that he now has permission to operate. Gordy's Stateside call sign is WB9TGB. His new call is HL9W4, and plans operations on RTTY at 170/850

shifts 60/100WPM. Station operation should commence approximately 16 November, QSL is via SASE.HL9WU, PSC Box 2137, APO San Francisco, CA 96366.

John, W3KV sends the following: He has worked 3B9RS on 10 meters this is Walter, who was C5AAN earlier this year QSL via his home QTH of DJ6QT.

Al Cooper was QRV for a few days as WA6QFN/H5 another of those enclaves in South Africa like S8 and T4.

Some calls noted: UT5RP (Ukraine), very strong signal but "no ears". Calls CQ by the hour but never answers calls, he is on 50 baud.

FK8BH has been reported by Europeans but not heard here yet.

VK0JM, (Antartica), OX3FG, CE3BG, Y03AC, HP1XBH, Bill ex KZ5BH now that KZ5 calls are deleted, TI3DJT, 9H79ET John Malta, F79WARC France, special for WARC Conference. Have word that Bruce was due to be QRV from St Helena ZD7 but so far nothing. No one has heard from Bruce in some time.

Other QSL info that will be of interest: GW3EHN, 76 Waun Road, Loughor Nr. Swansea, W. Glamorgan, SA42QN. C5AAN QSL via DJ5QT.

T4AHC, PO Box 999, Secundo transvaal, Republic of South Africa.

K1LPS, Larry Filby, 97 Parker Avenue, St. Johnsbury Vermont 05819.

HAM HELPS

H.J. Colburne, VE1XJ, PO Box 42, Waverly, NS, Canada B0N 2S0 writes for a friend, SP6BG in Barbadoes, W.I., saying that he has a frequency shift converter CV483/URA17 but no manual. If anyone can help them out it would be greatly appreciated.

AWARDS SECTION

DJ2YE, Diethelm Burberg received WAC all on 20 MHZ dated 15 November, 1979. Number 76.

VE3QO Bruce Balla, Box 392, Montreal International Airport AMF, (Dorval) PQ Canada H4Y 1B1 earned DXCC #42 dated 14 November, 1979. Great job Bruce, keep up the good hunting.

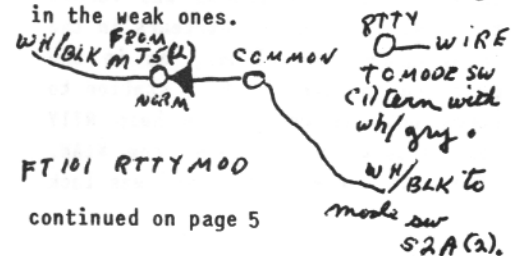
73 de SKIP

YAESU FT101/FR101 RTTY FILTERS

By Joel Bagley & Mike Stone

The YAESU FT101 Transceiver holds the prominent position of being the "classic" ham rig on the market. With thousands of them still in use and many on RTTY, the following conversion for around a 250 hz, CW/RTTY filter (which does indeed pass mark and space tones) was sent to us by Joel Bagley, WBOYUI, Dewitt, Iowa. The same type of conversion was sent by VHF RTTY News editor Mike Stone. Mike Stone who says, "you will wonder how you got along without it."

Note: This conversion, disregarding step one, allows the non-RTTY CW operator a very narrow filter far superior than the 600hz. filter installed. Very noticeable signal "gain" is detectable on a scope which will bring in the weak ones.



YAESU FT101/FR101 RTTY FILTERS

BY Joel Bagley, WBOYUI

Here is a nifty modification to the popular FT-101 series transceivers, which will allow the use of the CW filters when in the lsb mode for RTTY

First of all, you must incorporate a switch in the rig to allow this mod to work. I am a member of the Fox Tango Club, which is a Yaesu owner-operator club. The FT club newsletters have been carrying information on how to add toggle switches to the rig without butchering up the front panel. I chose to install a SPDT mini toggle switch in the bottom cover right next to the left hand (facing) desk foot. If you remove the bottom cover plate, you will see that there is plenty of room to install this switch by drilling a hole and mounting it in the cover plate.

With the cover off the rig, locate the mode switch, S2. You will have to carefully remove this switch from the front panel, which is not hard as it looks. Be sure not to break any wires off of the mode switch, as

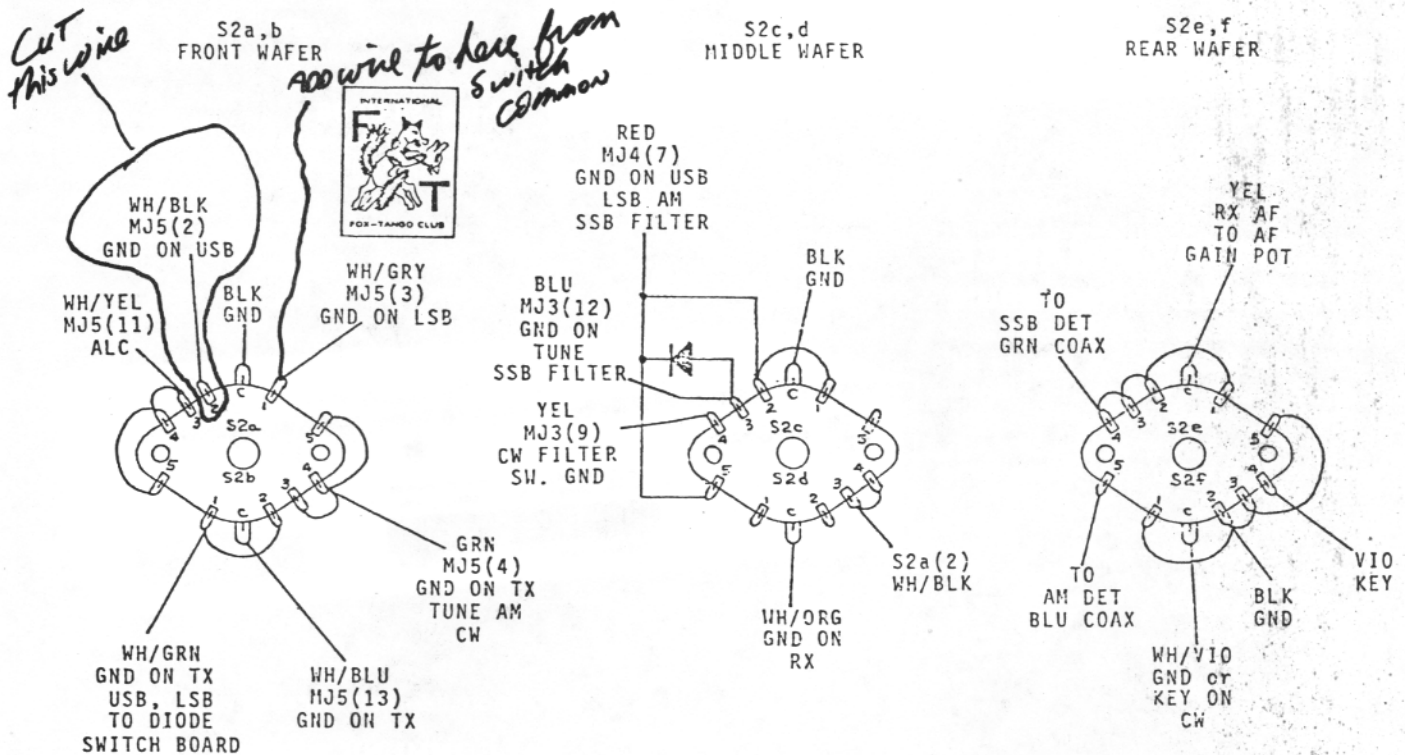
they are quite short. Next, locate the front wafer, nearest the front panel, and find the wire leading from terminal 2, to MJ5, term.2 on the main chassis. This wire should be a WH/BLK wire. Cut the WH/BLK wire near the center of the run, then connecting the end running to the modeswitch SA2(2), to the common terminal of your newly installed toggle switch. Then, hook the other end of the WH/BLK wire coming from the MJ5(2), to one side of your toggle switch. When the switch is in this position, your rig will operate normally. Now, run a length of hookup wire from the other terminal of the toggle switch, to the mode switch term.1, this term. also occupied by a WH/GRY wire. This connection allows the LSB oscillator to operate in any position of the mode switch.

The only drawback I can see to this mod, is that when you are operating RTTY, and have the mode switch in the CW position, you have to switch the

mode switch back to lsb or you will have no transmitter output. The reason for this, is that when using AFSK you are pumping audio into the mike jack, and when this rig is in the CW mode position, the mike audio is disabled. So, you must return this to the LSB position or you will have no output. If anyone has a cure for this please write and let us know.

In my particular rig, I have both standard 600 hz filter and the Fox Tango Club special 250-hz filters and found that the narrow filter does indeed pass RTTY tones well enough so you can pull in some weak signals particularly in a pile-up situation. So the mod is really quite attractive to me, and virtually no expense involved to make a 100% improvement in your receiving ability.

See pages 11 and 14 for more schematics.



SWITCH WAFERS ARRANGED AS VIEWED FROM REAR OF SWITCH WITH REARMOST WAFER AT RIGHT.

FT-101 MODE SWITCH MAP

TOM HAMMOND
NØSS - KØRPH
26 MAY 1977

NOW YOU CAN HAVE BOTH

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HAL design experience now makes it possible to offer you an efficient, reliable, and cost effective terminal for your RTTY or CW station. Investigate the new DS2000 KSR from the people who KNOW HOW to build RTTY and CW equipment. See how you can get great performance and save money too!

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Price: \$449.00

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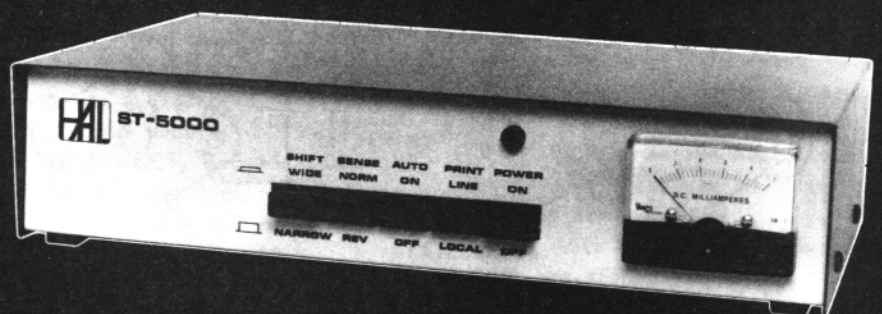


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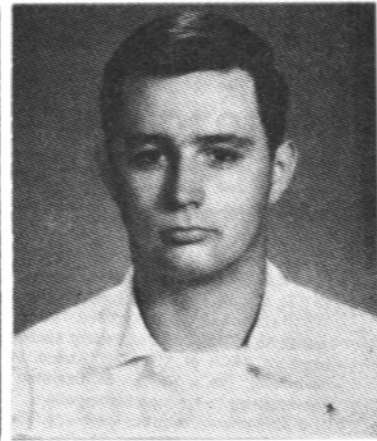
I.E.C. Intelco; Bissone





VHF RTTY NEWS

Mike Stone, WBØQCD, P.O. Box H, Lowden, Iowa 52255



Saw many familiar and new RTTY faces at the October ARRL Midwest Convention Hamfest held at Cedar Rapids, Iowa. Collins featured tours of the plant as well as their new KWM-380 transceiver. Cedar Valley Amateur Radio Club sponsored the 3 day event with Senator/Ham Barry Goldwater, as guest speaker at the Saturday night dinner. Several forums were held covering everything from TVI to SSTV. I was surprised that the "Midwest's largest RTTY Club" did not offer any kind of display, talk or demonstration on RTTY communications.

At great length, I again spoke to Harry Dannals, W2HD, President of ARRL, with regards to the earlier conversation we had at Dayton, about the omission of RTTY and other specialized modes from the yearly handbooks. He said that complaints were brought to his attention, as well as to the leagues officials at headquarters. As a result, RTTY will be re-inserted into future handbooks. Thanks to all of you who voiced your opinion.



let's rap...

"fcc gives go ahead on ASCII for Amateurs". Many of you have written voicing your concern over ASCII communications versus Baudot level codes. The concern seems to be over possible outdated equipment rather than

than that of the code itself. In October the FCC instructed its staff to draw up rules and guidelines for ASCII use in the Amateur spectrum. This has been the first concrete evidence of positive consideration of the higher level code in many years. Baudot code levels were introduced back in February 1953, 850 shift for Amateur use. ASCII has been around a good many years also but, as yet, has not been authorized for use on the Amateur bands. It has been argued whether ASCII would be more susceptible to hits and misses due to its higher "bit" information level as well as rapid baud rates. Baudot continues to serve as the most reliable communication code of Teleprinter communications. One can see the number of computer stations now on the air using ASCII converter to Baudot output. The number of stations that continue to use the simpler conventional code and equipment must not be ignored. So, what do we do to not make drastic changes in outdated gear and yet remain with the state-of-the-art?

One answer that is becoming very evident on the market place is the manufacturing of "converters", Baudot to ASCII and ASCII to Baudot such as MS-COMMS "BTA-1", INFO-TECHs "M-70", Macrotronics "M-80" and "M-800", Itex "ABM-100" as well as Hals "DS-2000 or 3100" units are but the first of many manufactured interfaces to update the RTTY enthusiast with older gear or the computerist wishing to communicate with the Baudot crowd. One thing should be immediately clear-

ed up: no matter what level or levels of coded information are approved, it all remains RTTY. RTTY does not distinguish between levels of codes. The definition of RTTY is "a method of transmitting teletypewriter communication using a radio link". So do not "deep-six" that ole Model 15 nor be hesitant about buying a personal computer. Both modes are RTTY and are quite compatible on the bands (Editors note) We are all "RTTYers" and must stay together on presently used frequencies and yet not intentionally QRM each other). A combined Baudot and ASCII established segment would be doubly helpful in discouraging CW QRMers that presently continue to plague our areas. Stations desiring to cross communicate and exchange programming material would be of great benefit to all. I would, in particular, like to hear from those of you on VHF circuits on how you plan to blend the different code levels on autostart circuits. (Note from the Publisher): In keeping up with the times, the RTTY JOURNAL will be forming a guest column on ASCII communication and formats. Leaders in the field will report and discuss various aspects of 8 level communication and computer interfaces.

I would like to work as many of you as I can to get your direct input. I have been working the "hot" 10 meter segment on RTTY as well as around 14.085 MHz. Bill, W6ATU, San Bruno, CA told me that the "Bay area" RTTY repeater at 147.33/93 is very active out there. Well known RTTY enthusiast Niel Petlock, K9WRL had a nice write

the exciting new INFO-TECH M-70 CODE/SPEED CONVERTER

The Info-Tech M-70 is a microprocessor based unidirectional simplex converter which will accept as an input: Loop, RS-232 or TTL signals at Baudot speeds of 60, 66, 75 or 100 wpm or ASCII speeds of 110 or 300 baud. The outputs of the M-70 are: Loop, RS 232 and TTL at Baudot speeds of 60, 66, 75 or 100 wpm or ASCII at 110 or 300 baud. With simple external switching, the M-70 can be operated half duplex in any mode/speed conversion combination.

A 1024-character buffer is provided for down-speed conversion, with buffer empty and buffer full status indicator outputs.

OTHER FEATURES:

- Auto-start output with two selectable formats: channel active, or space character detect
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- Selectable automatic C/R and L/F
- Selectable unshift on space (Baudot inputs only)
- Selectable bell defeat
- Selectable parity select (ASCII outputs only)
- Buffer Run/Load input

PRICE \$175.00 FCB ST. LOUIS.

The M-70 is a "Semi-Kit", including a completely assembled and tested printed circuit board with 22 pin, double side edge card connector, power transformer, complete schematic and operating information with several application examples. All that need be added are selecting switches, when options may want to be changed, indicating LED's, and a suitable cabinet or card rack position.

User Specified, Factory Programmed Options Include:

Selcal #1 = _ _ _ _ _ Off = _ _ _ _ _
 Selcal #2 = _ _ _ _ _ Off = _ _ _ _ _
 WRU = _ _ _ _ _

Enter only one character per space, including non-printing characters, shown as follows (all spaces need not be filled in):

Figures = † Line Feed = L/F
 Letters = † Blanks = BLK
 Carriage Rtn = C/R Space = SPC
 eg. Selcal #1 = W † † K E BLK Off = N N N N

Please use order form supplied.

see above

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Continued from page 7

up, along with WB9RTX and WA9KEK on the new "Chicago Area Radioteletype Repeater System" (CAARS) on 144.71/145.31 Mhz. The "super" system incorporates an on board computer mailbox service permitting members to leave and retrieve messages on command.

Got a nice letter from Duane Fruecht in Wisconsin regarding their RTTY only repeater on 146.10/70. Sponsored by the Mississippi Valley RTTY repeater Club, the system is located at the home of WBOZRH across the river in Minnesota. WOMZN, generously donated the duplexer system to the club and they are using a VHF engineering RCVR with 25 watt XMTR strip. The control circuitry was built by Duane and W9HWQ. Apparently, it has been so "hot" with activity, that they had to build the system inside a temperature controlled "milk cooler".

VHF RTTY enthusiasts north and south

of Colorado Springs, CO. might try accessing WAOUZO's repeater for RTTY on 146.19/79 as it utilizes a by-directional 12 element beam for maximum range.

On a note from John Miller, W4FRW the following computer "Bulletin Boards" exist for access: Atlanta, GA 404-252 2324, Chicago (password 100,100) 312-729-9374 or, Chicago (password Alpha) 312-729-9375, Silver Springs, MD 301-593-3042.

Want to interface an IBM Selectric? Contact Bob Bruninga, WB4APR.

In case you VHF RTTY repeater buffs haven't noticed..ID requirements are now at 10 minute intervals.

N6GW, Gordon Wenz had a nice write-up in the fall issue of ARRL's CD bulletin on using RTTY for emergency communications. Any of you doing any of that type of thing or have organized VHF nets?

"HF RTTY ART CONTEST announced for HOLIDAY SEASON." Many a RTTY pix will be transmitted and received during the Christmas Holiday Season and now is your chance to win a years free subscription to the JOURNAL! All entries must be submitted to me by January 5th, 1980 and must be originated by the applicant. Send a tape of the artwork along with a final printed copy. Subject must be of "Christmas Holiday" nature and may include the "new Year" 1980. Final judgements and winner will be announced in the February issue of the RTTY JOURNAL. Be sure to print your name and call at the bottom of the picture.
 BEST OF HOLIDAY WISHES....

"TAPE OFF THE FLOOR"

(Taken from RTTY December 1953 issue)
 Description of the new Model 26 printer is described on the front co-

Classified Ads

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TELETYPEWRITER PARTS WANTED, for all machines manufactured by Kleinschmidt Mite and Teletype Corp., new only, also sub-assembled. I pay shipping. Phil Rickson, W4LNU, Rt.6, Box 110362, Brooksville, FL 33512.

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NEWS-NEWS-NEWS-Amateur Radio's Newspaper, "WORLD RADIO". Trial subscription two issues for one dollar. "WORLD RADIO, 2509-F Donner Way, Sacramento, California 95818.

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THE DOVETRON TBA-1000 Baudot-ASCII Code Translator is designed to interface Baudot and ASCII circuits. I/O may be low level polar (EIA RS232C or MIL 188C) or high level neutral (active or passive). Parallel ASCII is also available. A preloadable 192 character buffer prevents character over-runs when down-converting baud rates. ASCII Control characters may be used to command peripheral equipment and functions. Features such as Unshift/Space, LTRS Only, Blank Diddle, Variable Character Rate, LED Memory Status Indicators and TD Inhibit are standard. Baudot speeds of 45, 50, 57 and 75 bauds are front panel selectable. ASCII baud rates of 110, 150, 300, 600, 1200, 2400, 4800 and 9600 bauds are internally selectable via a BCD coded DIP switch. All baud rates are crystal controlled and programming instructions are etched on the PC board. The 3.5" X 9.0" X 17.0" package is self-contained and available as a table top or rack mount unit. Power requirements are 115/230 VAC, 40-400 Hz, 10 watts. A bypass option is available. Amateur Net: \$395.00 FOB. DOVETRON, 627 Fremont Ave. South Pasadena, CA 91030.

HARDCOPY: RECENTLY REFURBISHED Teletype machines available. 32 R/O \$279.95, 33 R/O \$379.95, 33KSR \$489.95, 33 ASR \$599.95 FOB Ottawa, Canada. Prices in Canadian dollars, Visa and MC accepted. C.O.T.S. Enterprises, Box 3103, Stn. D, Ottawa, Canada K1P 6H7

UT-4 COMPONENTS. FC33512DC FIFO \$12., AY5-1013A UART \$5.00. See July/August issue for others except 74221/74LS221 Everything postpaid (airmail oversea) Peter Bertelli, W6KS, 5262 Yost PL., San Diego, CA 92109. 714-274-7060.

SELL MODEL 28 KSR, Model 28 TD, Model 14 reperf, model 14 keyboard base, ST-6 converter with ID unit. Pick-up only. WA6CPP, 13779 Wells Lane, Lodi, Calif., 95240. 209-334-1211.

FOR SALE: TWO MODEL 35 ASR; \$275 and \$350. Model 28 KSR floor-stand model, \$175. Pick-up in Milford, MI only. Bob, K8MPV. 313-684-6295.

FOR SALE: FIVE 28 ASRs \$225 each cashiers check, typing perfs and reperfs. Pickup or will ship COD for freight. Call Days: Paul Allison (615) 244-1793, nights and weekends: Paul Lindsey, WB4WNC, (615) 883-3620.

KENWOOD TS-520 OWNERS-your 500 HZ CW filter too wide- brand new 250 HZ custom CW crystal filter only \$45.00 postpaid. Len Malone, K8AQ, 949 Havensport, Cincinnati, Ohio 45240.

MODEL 28 RT SET, CONSISTING of typing reperf and creep-head TD on a stand, each with 60/67/100 WPM gearshift, reperforator has rubout mechanism installed, tape takeup bin included, \$95. Model 28 typing reperf with cover, rubout mechanism installed, remote motor control, and gears for 60 and 100 WPM \$140. Model 28 TD with remote motor control and gears for 60 and 100 WPM \$80. Teletype manuals included with above. Teletype 110VDC 225 ma loop supply \$15. Model 28 RO base without motor, \$20. Model 28 KSR keyboard with motor, \$50. Model 28 printer mechanism, communications type, with auto CR/LF and nonoverline good working condition \$60. Sam Leslie, W4PK, 505 Wellington, Forest, VA 24551 ph (804) 525-7589.

FOR SALE TELETYPE MODEL 33C, good working order. Will trade for Model 32 or 28 in good working order. WB2SQK Sammy Wasserlauf, Box 64, Swan Lake, NY 12783. Phone 914-583-4294.

SELL/TRADE: MODEL 28KSR, 28 typing reperf, 28 RO (no printer), model 15, Hal ST5000, TTL2, Altronics Howard model L TU, George Churpek, 839 Cambon Circle, Ojai, CA 93023 or call 805-646-5296.

33 KSR-WILL SWAP FOR HAL ST-6-AKI with three shifts. Factory wired preferred. Or for a UT-4B. Dale Mitchler, WB9YCO, 813 Oviatt St. Kaukauna, WI 54130. 766-1724.

6800 MICROPROCESSOR OWNERS-RTTY operating software for SWTPC or similar processors. Transmit Baudot or Morse and receive Baudot code. Written for on the air use- keyboard selection of pre-loaded messages or CW ID. Can also be used as buffered CW keyboard with keyboard speed control. For more info and price send brief description of your system to K9AR, 742 S. Vail Ave., Arlington Hts., IL 60005.

BARGAINS-BARGAINS-BARGAINS, have a quantity of RTTY related items such as 28 RO, KSR, ASR & 28 ASR table top cabinets. Also many items in 28 equipment- cash & carry & if you're going to be in the Chicago area I suggest you phone me at 312-753-8342 for an appointment and we will be happy to show you anything-everything without obligation on your part. Yes, plenty of 28 & 33 machines etc., on hand-so I repeat-if you're in the area phone & help me clear out odds & ends & make room in the warehouse. 312-753-8342. C.B. Goodman, 5454 South Shore Drive, Chicago, IL 60615.

RTTY! ST-5X TERMINAL UNIT-AFSK power supply. WRU. RTTY scope amplifier. Boards and kits. Bomark, Inc., P.O. Box 7116, Hollywood, FL 33021, 305-962-7219.

ST-5, DT500, NS-1A OWNERS. Get increased selectivity with our active bandpass filter 2125/2295 Hz. See February JOURNAL. Kit \$11.95 wired/ tested \$16.95 postpaid. SASE for info Nat Stinnette Electronics, Tavares, Florida 32778.

HAM RADIO MAGAZINE-The no-nonsense state-of-the-art technical magazine Dozens of exiting projects and an emphasis on quality. Subscribe now and see for yourself. 1 year \$12.00, 2 years \$22.00, 3 years \$30.00. Ham Radio Magazine, Greenville, NH 03048.

THE DOVETRON SSD-100 SOLID state cross display replaces the conventional CRT and associated high voltage power supplies as the tuning indicator in the MPC-Series RTTY Terminal Units. In addition to "instant on" operation and a predicted reliability in excess of 100,000 hours, the solid state display out-performs the original CRT in every instance. The absence (or deactivation) of the high voltage supplies and the resultant decrease in heat generation increases the MTFB(mean time before failure) of the terminal unit more than 10 times. The display itself consists of high intensity (4 millicandelas), red, rectangular LEDs (light emitting diodes) arranged in the traditional cross pattern and operated in a bargraph mode. The two LEDs that form the apex of the Cross are tied into the terminal unit's logic in such a way that they extinguish if the TU is improperly tuned to the incoming tones, or if the incoming signal is upside down in respect to the "sense" of the terminal unit. A separate LED in the upper left quadrant of the cross display monitors the two input channels and "flashes" in the presence of time or frequency dispersive multipath distortion, indicating that the Multipath Corrector should be turned on. Separate LEDs in two other quadrants monitor the status of the internal loop, the Signal Loss circuit and the Send/Receive mode of the terminal unit, making the SSD-100 a convenient display center of the various functions. A light sensitive photocell in the fourth quadrant monitors the ambient light conditions at the operating location and automatically adjusts the display's light output. Under normal conditions, the SSD-100 may be read comfortably from 75 feet. The new front Bezel contains an anti-glare optical filter and provides 30% more viewing area than the original CRT bezel. A retrofit kit (SSD-100K) is available to update existing CRT-equipped terminal units in the field. Your inquiry will bring complete details by return mail. DOVETRON, 627 Fremont Ave., (POB 267), South Pasadena California 91030.

FOR SALE 4TH EDITION of the "LIST OF RTTY STATIONS IN FREQUENCY ORDER" now contains more than 2800 frequencies of commercial stations like press, military, diplo, telex, weather, etc. on shortwave. Schedules of around 100 news agency stations are also included. This offset printed list is air mailed to you for \$15 or 39 IRC from Joerg Klingenfuss, Goethestrasse 14, D-7400 Tuebingen 1, West Germany.

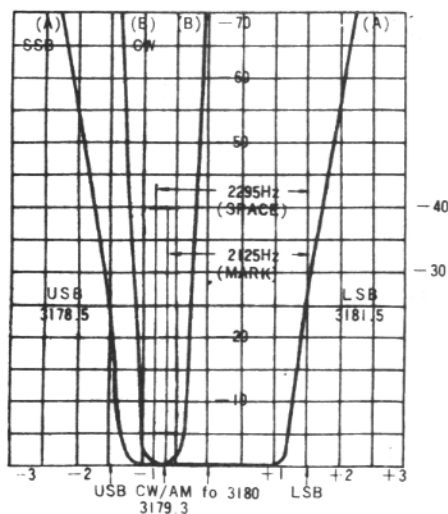
FOR SALE: 28ASR TABLE-TOP compact (1) 28KSR single-speed (2), w/gearshift (1); M28 ROTR single-speed (2), w/gearshift (3); M28 LXD stand-alone TD(10); 28 KSR compact w/gearshift (2); 34 ASR (1); M28 keyboard typing reperf (2); M28 triple LXD (2); M28 underdome typing reperf single-speed (1), w/gearshift (2); friction-feed mod kits, New (3); 2-shaft reperf for 28 ASR, RO NEW (5); M28 motorized paperwinders (10); self-contained answerbacks (3); 35KSR (1); 35ASR (1); 33ASR TWX (1). Gears and parts available for all machines. Send SASE for list and prices. Lawrence Pflieger, K9WJB, 2600 S. 14th St., St. Cloud, MN 56301.

KEYBOARD MICROLOG AKB-1 all RTTY speeds (plus CW) with AFSK modulator, buffer and message memories \$399. Video display-Microlog AVR-2 decodes all RTTY speeds plus ASCII and CW. Built-in dual tone demodulator, audio visual tuning indicators plus scope output. Direct hookup to receiver audio for perfect copy \$499. Printer/speed converter interface add \$75. Use your TV with RF modulator or our professional video monitors. 9 inch \$189. 15 inch \$279. Brag tape accessory may be used with any keyboard. Record your message on any cassette tape. Transmit recorded message at any time. Only \$75 fully assembled and tested. 110 vac. AFSK demodulator Hi/lo tones, normal or invert. Audio in TTL out. Assembled and tested, 110 vac. only \$75. AFSK modulator. Factory set for 2125/2295 may be adjusted for other frequencies pairs. Fully assembled and tested, 110 vac. only \$50. Computer PC board G10 double sided plated thru holes uses Motorola 6800 microprocessor with full description and diagrams \$10. Complete parts kit including M6800, M6821, M6810 (2) plus power supply. With

continued on page 11-2nd column

continued from page 3
 an infant, growing daily. The advent of computers and RTTY will make our hobby grow into manhood. In the last 10 months it is clear to this author that the ARRL is no longer the catalyst of Amateur Radio but merely a reflection. They record the happenings of the past. The only way this will change, if it ever does, is with paid authors. The pay of technical staff members must be competitive with industry. I don't feel we Amateurs should write for free and apparently others feel the same way. Let's look at several QST's at random.

July 1979 had 184 pages, 101 pages are ads, 38 pages of technical articles and 45 pages a reminder. In September 1979 had 228 pages of which 125 pages were ads, 46 pages of articles and 57 pages of reminder. I think is clear what QST is offering. Look at the figures. Doug Demaw and I discussed this at the Convention and this very fine gentleman is grabbing the reins of QST again and I look for things to change. In conclusion, thanks to all who took time to write me, thanks for all the newsletters and again may your holidays be the best. So long for now, GEORGE, WA6CQW.....



FREQUENCY (KHz)

YASUE FILTER SCHEMATIC

continued from page 10
 complete assembly instructions and application notes. \$39. Ask your favorite dealer or order directly from MICROLOG CORPORATION, #4 Professional Dr., #119, Gaithersburg, MD 20760. Visa/MC welcome.

RM-300, THE COMPLETE TU AND AFSK generator on one board. Your CW ID generated from on-board PROM. Thinking of VHF RTTY through your local repeater? This premium quality board is ideal. Complete documentations \$2.00. RM-300 board just \$21.25. Complete RM-300 kit (less PROM) \$71.25. PROM programmed with your call \$7.00. RP-400 power supply (plus 5v. & + & -12v and dual loop supply) board only \$21.25. Complete kit with heavy duty transformer and solid state autostart relay \$71.25. Calif. residents add 6%. Postage and handling \$1.00. Eclipse Communications, 5 Westwood Dr., San Rafael, CA 94901.

THOUSANDS OF COMMERCIAL RTTY stations are active between the amateur shortwave bands.. Many of them can be printed easily 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 do have up-to-date frequency, callsign, schedule, code lists for press, military, diplo, telex, aeronautical, weather, etc. stations. Write for details. Joerg Klingenfuss, Goethestr. 14, D-7400 Tuebingen 1, West Germany.

THE RACK LINE BY DAYTAPRO, for individual or repeater these versatile uniform boards will do the job right. All boards are 4½" X 6½" (same as the DT-600) G-10 1 oz copper solder plated with a 22 pin edge connection. All kits have edge connector included. CW ID System, interfaced for digital, FSK or AFSK keying, 10 minute timer, variable speed (5-24 wpm) 12 or 5 volt use. Kit \$27.90, board alone \$8.95. MINI VERSION of above CW ID (CW ID only) Kit \$19.95. (NEW LOW PRICES). M4D power supply, plus 5 volts @ 1 amp with crow bar protection, plus 12 volts @ 1 amp and minus 12 volts at 1 amp. Each fused and has LED indication. Kit \$32.50, Board alone \$8.50. DUEL XB-6 crystal controlled clock for UAR/T control develops 6 baud rates each. Kit \$26.95, board alone \$8.50. CRYSTAL CONTROLLED AFSK. Now enjoy rock solid frequency with no drift. Kit \$28.49, board alone \$8.75. TU-LOOP POWER SUPPLY. Low voltage supplies (+5, +12 and -12) all rated at 800 mils each with a high voltage loop supply with the keying transistor located on board. Also has a 20 mil loop driver and keying provisions, input keying need be only 5 volts and ground. Kit \$52.49, board alone \$8.50. EXTENSION BOARDS (available in February 1980.) Two types. Straight for rack testing and 90 degree angle for cabinet testing. With edge connector Kit \$13.95. UT2B SPEED CONVERTOR Transitional autostart, on board clocks, parallel buffered outputs, FSK keying output and edge connector mounting to name a few of the options available on this basic speed converter. Complete board kit \$39.49. Thru plated board alone \$13.95. DAYTA PRO ELECTRONICS, INC., 3029 N. Wilshire Lane, Arlington Heights, IL 60004. Phone 312-870-0555 evenings. Add \$1.00 for shipping, VISA accepted

Continued on page 12

BUY YOUR RTTY BEGINNERS HANDBOOK \$4.50

EQUIPMENT REVIEW-INFO-TECH MODEL M-70, CODE AND SPEED CONVERTER

S. Dick Uhrmacher, KØVKH,
212-48th Street
Rapid City, South Dakota, 57701

You say you want flexibility? You say you want to copy ASCII on your old Model 15? You say you want to park your rig on autostart and have WRU and SELCAL? Well, now's the time to do it! The gang down at INFO-TECH has recently announced their new M-70, Code/Speed Converter, and as usual they have produced a superior unit. Being the proud owner of one, I don't have anything but good words to say about it, and if you are looking for a way to update your present RTTY equipment, without mortgaging the farm, then read on!

The M-70 is a microprocessor based (Fairchild F-8) speed and code converter, which will convert Baudot to ASCII, or ASCII to Baudot. It has a large 1024 character buffer for down-speed conversion, or delayed (controlled) output, two modes of autostart, (carrier or space character delete), two independent SELCAL outputs and a WRU (who are you?) output. It includes other features, such as auto carriage return and line feed, unshift on space, bell defeat, selectable ASCII output parity, manual control of the buffer output, outputs for buffer status LED's, and a host of other goodies.

The unit is supplied in a "semi-kit" form, which includes a completely assembled and tested printed circuit board, a 22 pin double-sided edge connector, power transformer, complete schematic, operating instructions, and several pertinent application examples. The enclosure, LED's, switches, fuse assembly, etc., are user supplied. The actual use of the M-70 is left totally to your own imagination, and due to its great flexibility, here's your chance to really have a functional, state-of-the-art RTTY system.

The unit was placed in service at this QTH primarily with the thought of using the WRU, SELCAL and autostart functions. Assembly was quite straight forward, the only real area of cau-

tion being the proper wiring of the edge connector, and the various user defined switches. It performs very nicely, providing the station with flexibility normally only attained with large expenditures of money for the more sophisticated RTTY equipment. For instance, the unit can be thought of as two separate entities, one being the receiver, and the other a transmitter. The "receiver" portion will accept data in Baudot at 60, 66, 75, and 100 words-per-minute, and ASCII at 110 and 300 baud. The output portion (transmitter), will output data in Baudot or ASCII at these same speeds, completely independent of the input speed or mode. As an example, you may be receiving ASCII at 110 baud, and outputting this date in Baudot, at 60 WPM! How's that for jazzing up the old Model?

The unit will accept such inputs as RS-232C, loop (fully isolated-optically-either 20 ma or 60 ma), or TTL. The output portion will provide RS-232C, TTL, or a fully isolated reed relay, that will key up to 200 VDC, at 100 ma! Again, flexibility is the key word, and the M-70 can be "married" to almost anything currently available.

The WRU and SELCAL codes are factory programmed in PROM (programmable read only memory), the code information being user supplied at the time of order from the factory or dealer. Additionally, two "off codes" (typically NNNN) must be specified by the user at the time of the order.

For those of you who may be fortunate enough to have RTTY video equipment at the time, the M-70 integrates very nicely. In my QTH, the M-70 receives ASCII (RS-232C) from the video terminal, converts it to Baudot, and outputs it (RS-232C) to a small AFSK generator. The tones from this AFSK generator are then recorded on cassette, (which is automatically started when either SELCAL code is recognized). This provides me with approxima-

tely 60 minutes of mass storage. Once the message is recorded on cassette, it is a simple matter to run the output of the cassette back through the video terminal to demodulate the tones, and thusly decode the message. The system works every time, and the autostart-WRU-SELCAL system provides an accurate means of monitoring any net or frequency. For those of you who do not have a video setup, or any one who desires hard copy, it is a simple matter to have the autostart, or SELCAL, control a small relay, which in turn will start and stop your printer.

I hasten to point out that the applications listed above are only a very few of the possible uses of the M-70, and its ultimate use in your ham shack is only limited by your imagination. Good luck, and see you on RTTY!

ADS CONTINUED

SALE! SALE! SALE! SALE! SALE! RTTY ID generator. Accepts 5 or 12 volt supplies, 31 characters available, (please include letters, figures, spaces etc.) Your preprogrammed answer-back must be supplied with order. EXAMPLE: DE K9WRL NEIL ARL HTS ILL. Board is the same size as the ST-6 boards. Was \$34.99 SALE PRICE \$24.95. Board alone was \$8.50 SALE PRICE \$6.95. Add \$1.00 for shipping. Daytapro Electronics, 3029 N. Wilshire Ln, Arlington Hts., IL 60004. VISA available. Phone orders 312-870-0555 Eves.

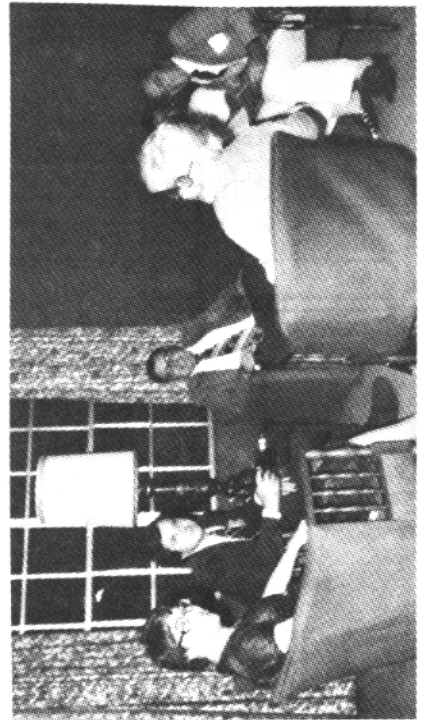
UT-4B KITS NOW AVAILABLE, All logic, resistors, capacitors, diodes and transistors to fill board, edge connector included. See November 1978 RTTY Journals for users report. Kit \$109.95, UT4B Board alone \$17.95. M4D power supply for UT-4B, Kit \$32.50, Board alone \$8.50. Dual X8-6 optional crystal clock for UT-4B Kit \$26.95, Board alone \$8.75. Additional info see above.....

ALEXANDER VOLTA CONTEST EXCHANGE POINTS TABLE

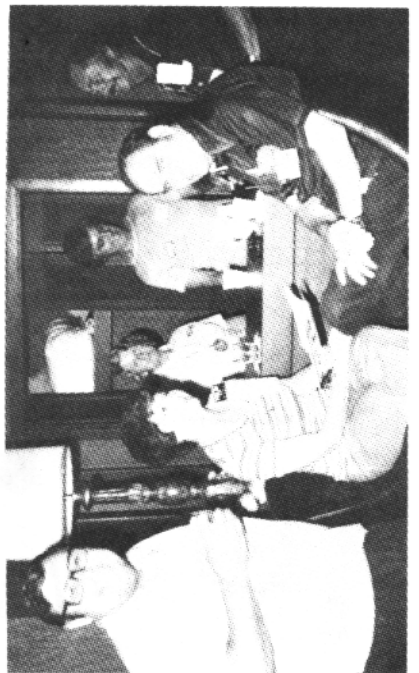
WHERE WERE
YOU?

RTTY JOURNAL
HOSPITALITY
ROOM ANAHEIM.

Linda, Jim, George, Jean, Bret & Bob



George, Mae, Dee, Bob, Hugh & Dale.



CORRESPONDENT zone

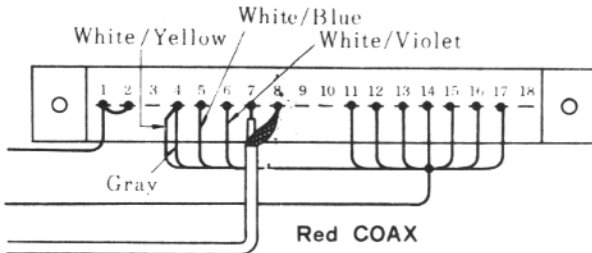
YOUR zone		CORRESPONDENT zone																																								
40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1			
40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	1		
15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27		
20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22		
25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	10	11	12	13	
35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9
40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	2	3	4

NOTE: RTTY RECEPTION

Since 170 Hz shift is commonly used in recent RTTY operation, the following modification may be recommended so as to use the 600 Hz CW filter in the RTTY reception.

MJ-6 BFO/REG Unit Socket STEP ONE:

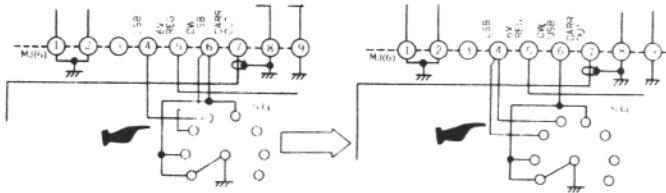
Remove a white/yellow wire from pin 6 of the MJ-6 and solder this white/yellow wire to pin 4 of the MJ-6.



(THIS CHANGES USB TO LSB IN RTTY MODE)

REG/BFO PB-1312

REG/BFO PB-1312



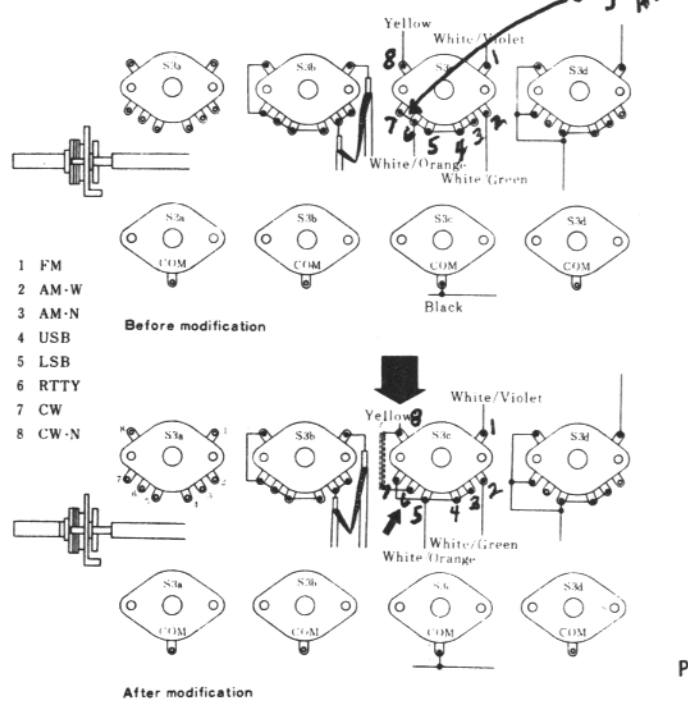
BEFORE

AFTER

(INTERCONNECTION OF 600 HZ. FILTER)

MODE Switch (S₃C wafer) STEP TWO:

Disconnect a jumper wire between pin 5 and 6. Connect pin 5 to 7 with a jumper wire. Connect pin 6 to 8 with a jumper wire.



After modification

TAPE OFF THE FLOOR CONTINUED.....
 ver. Stan Mahurin, W6UPY showed his latest version terminal unit featuring "unheard" of things such as Autostart on the DC relays, DC clamping circuits, oscilloscope output display etc. The Southern California RTTY Society met for a meeting and toured United Geophysical Research Laboratories, "Hot Rod" Charlie. W7HRC mentioned that if you are having difficulty with your signal due to QRM on the band, reverse your sidebands and tune the other side of the carrier. Emile Duval received a Holiday "green slip" from FCC for transmitting 525 cycle shift.....

Copies of past RTTY JOURNALS are available from WBOESF, Ralph Wilson (See inside front cover)
 BEST OF HOLIDAY WISHES73's MIKE
 ++++++

KONTEST KORNER

15 Alexander Volta RTTY DX Contest, December 1 and 2....
 RULES:

TEST PERIOD: Saturday Dec.1st, 1200 GMT to Sunday Dec. 2nd 1979 1200 GMT.

BANDS: All Amateur bands 3,5 to 28 MHz.

ENCHANGE 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 will count for points in accordance with the Exchange Points Table. The two-way RTTY contacts made on 28MHz are worth double.

CONTACTS: 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. Contact with a station which would count as a multiplier must be found in at least 5 logs, or contest log from the multiplier station must be received in order to be valid.

SCORING: Total exchange points times the total number of multipliers times the total number of QSO's. Italian Bonus Points added last of 1000 points for each I contact.

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

MESSAGE: RST, Message number and zone.
 LOGS AND SCORE SHEETS: Use one log per band. Logs must be received before January 20, 1980 to qualify. Airmail advised. Send logs and score sheets to: A.V. RTTY DX CONTEST COMMITTEE, c/o SSB & RTTY CLUB, P.O. BOX 144, 22100 COMO ITALY.

SWL ENTRIES: This contest is open to SWL RTTYers. The same rules apply as are used above and a separate result table will be made. Logs must contain: Band, Time GMT, Call sign of station heard number sent by that station and exchange points. AWARDS: To the top stations.

WORLD CHAMPIONSHIP: Points and positions achieved in this Contest will be valid for inclusion in the "World RTTY Championship" for the year 1979.

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DOVETRON

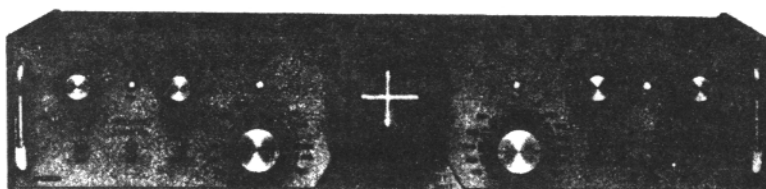


MPC-1000C

Multipath Correction
In-Band Diversity &
AFSK Tone Keyer

Amateur Net: \$545.00

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

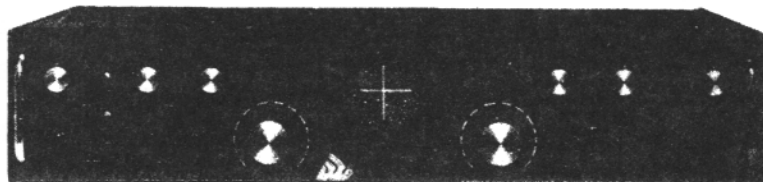


MPC-1000CR

Signal Regeneration &
Speed Conversion

Amateur Net: \$645.00

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



MPC-1000R/- TSR-500

Dual UART Regeneration,
Speed Conversion, 200
Char. Memory, Word Cor-
rection & DIGITAL
Autostart

Amateur Net: \$895.00*

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

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

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



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 & 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.**



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

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