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RTTY Journal

VOLUME 28 NO. 8

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EXCLUSIVELY AMATEUR RADIOTELETYPE

I5FLN,FRANCESCA, SANDRA XYL,LUIGI

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MICROCOMPUTING
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AUTOSTART DELAY CIRCUIT FOR "CHARLIE SPECIAL"

RTTY JOURNAL

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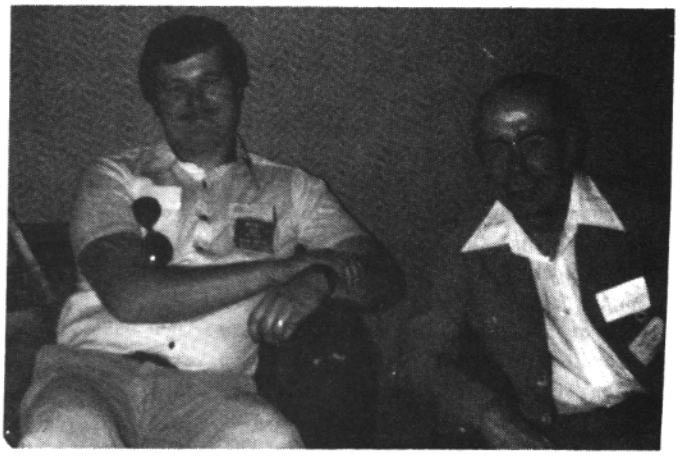

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Classified Ads

30 WORDS $2.00 ADDITIONAL WORDS 4¢ EACH -CASH WITH COPY-DEADLINE 1ST OF MONTH FOR FOLLOWING MONTH.

WANTED:MODEL 32 ASR RTTY Printer in good condition.State price in call or letter to:K8EWK,128 W. Royal Forest,Col's,OH 43214,(614)263-6043.

REAL TIME CLOCK/CALENDAR CHIPS WITH detailed specification and application information.OK1MSM5832 $8.00. 32.768 KHZ crystals for MSM5832 $2.00 W6RLL,Joe Young,16808 W.Goodvale Rd. Canyon Country,CA (805)251-2135.

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NOOW KEEPS SENDING WHILE YOU CW ID. The MS-738 AFSK tone mixer is the VHF answer.See November '79 RTTY JOURNAL for full description.Kit $10.75 plus $1.00 shipping.DATAPRO Electronics, 3029 N. Wilshire Ln.,Arlington Hts., IL 60004 VISA ACCEPTED.

TELETYPE PARTS WANTED: Highest prices paid,old or new models,especially model 15,any quantity.Send list/call Van,W2DLT,Teleprinter Corp.,Box 15, Berkeley Hts.,NJ 07922,201-464-5310 days.

MODEL28 GEARS,GEARSHIFTS,Parts and supplies for all machines.Two matching metal pieces for M28 stand-alone TD's $37 PP;Auto CR-LF kits (with instructions) for M28 printers $22PP; wiring diagram packets for 33ASR with 101C modem,$6.50PP;M28 motorized paper winders,$77PP;underdome typing reperf for 28ASR,single-speed complete $280PP.Model 28 keyboard typing reperfs,stand-alone TD's,triple TD's, answerbacks,Model 33 & 35 machines. Send SASE for complete list and prices.Lawrence Pfleger,K9WJB,2600 S. 14th St.,St.Cloud,MN 56301.

UT-4B BOARDS,SEE NOVEMBER '78 JOURNAL for users report.Complete speed conversion and many additional modifications such as parallel buffered outputs,transitional autostart and more. Slight modification for ASCII use. Price $18.95 ea.plus shipping.See our other AD in the classified section for M4D power supply and XB-6 crystal clock specifications.DATAPRO Electronics,3029 N.Wilshire Ln.,Arlington Hts.,IL 60004.VISA accepted.Phone 312 870-0555 evenings.

TELETYPE & ALLIED MACHINES & ACCESsories.SASE for list.20% off on all pick-ups.10% off all shipments.Goodman,5454 S. Shore,Chicago,IL 60615. 312-753-8342.

COLLECTOR BUYING TELEGRAPH & ALLIED instruments of yesteryear.R.Eichner, 914A Oakcrest,Charleston,IL 61920.

SALE! SALE! SALE! SALE!SALE! RTTY ID generator.Accepts 5 of 12 volt supplies,31 RTTY characters available, (please include letters,figures,spaces etc)Your pre-programmed answerback must be supplied with order.Example:DE (your call)(your name)(city & state).See Jan.'80 RTTY JOURNAL for complete description.Board is same size as popular ST-6 boards.Was $34 .99 now priced $24.95.Board alone was $8.50,now $6.Please add $1.00 for shipping.DAYTAPRO Electronics,3029 N.Wilshire LN.,Arlington Hts.IL 60004 Visa accepted.Phone 312-870-0555.

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 is ideal.Complete documentation $2. RM-300 Board just $21.25. Complete kit (less PROM) $71.25.PROM programmed with your call $7. RP-400 power supply (+5v &-12v and dual loop supply) board only $21. 25.Complete kit with heavy duty trans former and solid state autostart relay $71.25.CAL residents add 6%.Postage &. handling $1.00. ECLIPSE Communications,5 Westwood Dr,San Rafael, CA 94901.

FOR SALE:5th EDITION of the "LIST OF RTTY STATIONS IN FREQUENCY ORDER",now contains more than 1200 frequencies monitored in 1979-80 of commercial stations like:press,aeronautical, weather,telex,military,diplo,maritime etc.on shortwave.Schedules of around 70 newa agency stations and more than 180 special abbreviations are also included.This offset printed list is airmailed to you for $16.00 or 39 IRC from Joerg Klingenfuss,Panoramastrass 81,D-7400 Tuebingen 7,West Germany.

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 have up-to-date

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frequency,callsign,schedule,code lists for press,military,diplo,telex, aeronautical,weather etc. stations. Write for details.Joerg Klingenfuss, Panoramastrasse 81,D-7400 Tuebingen 7, West Germany.

FOR SALE:2nd EDITION OF THE "LIST OF ABBREVIATIONS,CODES & TABLES USED IN RADIOCOMMUNICATIONS",now contains: 170 general abbreviations;260 Q-code groups from QAA to QUZ;300 military and civil Z-code groups from ZAA to ZZZ;phonetic albaphet;signal reporting codes;symbols for designation of emmissions from AØto P9 and for classes of stations;table of frequency allocations from 10 kHz to 150 MHz, and common use frequencies.This offset printed list is airmailed to you for $9.00 or 20 IRC from Joerg Klingenfuss;Panoramstrasse 81;D-7400 Tuebingen 7;West Germany.

NEWS-NEWS-NEWS-AMATEUR RADIO'S NEWSpaper "WORLDRADIO".Trial subscription Two issues for one dollar.WORLDRADIO, 2509-F Donner Way,Sacramento,CA 95818

28ASR 100 WPM keyboard perf,4 ribbons 9 rolls TTY paper,8 rolls reperf tape $400.28 typing reperf,6 large rolls tape,auto wind-up reel, tape disp. reel $150.Flesher TR 128 $175.Free delivery 75 mile radius Danville,IL. Call WB9YJF 217-267-2734,Mike.

SELL HAL DS2000 with CW board $400. HAL RVD 1005 $200.Both mint.TS8205, 500 Hz filter,dentron coupler,& MFJ 482 keyer,1 year old.$850. KP4BQM,809 852-4401,Henry.

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SALE:FRESH,HEAVILY INKED UPI RIBBONS, fits all teletype machines $6.95 doz. red & black nylon ribbons dual spool $16.50 doz.,Kleinschmidt ribbons $11.50 doz.;perf tape 11/16" x 8"case of 40 rolls $19.50'perf tape 1" x 8" pink,case of 28 rolls $19.50,perf tape 1" x 8" black,case 28 rolls $19. 50;narrow strip printer tape 3/8"wide ungummed,box of 25 rolls $8.90;case of 100 rolls $23.50;Jack paneling containing 100 jacks on a 24" panel. Takes standard ¼" plugs $28. 88 MH toroids pack of 5 for $3; model 28 self contained stand alone typing reperf with 3 speed gear shift $135; single speed $99;model 28 ASR keyboard (less motor and perf) $49;model 28 LAXD TD head $55;model 28 LARP multi magnet reperf complete with motor,base and mounting studs to fit inside model 28 ASR cabinet $195;Model 14,15 syn motors,1800 rpm $19.50; model 14 typing reperf (less base & cover) $29; also available:paper, gears,manuals,parts and complete model 14 through 35 machines.Send us a list of your Teletype requirements. All prices are FOB Brooklyn,NY,Atlantic Surplus Sales,3730 Nautilus Ave., Brooklyn,NY 11224 Tel;212-372-0349.

CASSETTES WHOLESALE! Computer grade in packs of 10,25,50 and 100.Same tape used in all MICRO-80 software. LIMITED OFFER,Only 99¢ each.Add $1.50 postage & handling.Write Micro-80 Inc Wholesale Division,R-2665 N. Busby Rd.Oak Harbor,WA 98277.

SURPLUS TD PAPER 11/16 carton of 10 $3.00 Wt.13 lbs. 11/16 carton of 40 $10.00 Wt.47lbs. 7/8 carton of 8 $3. Wt. 13lbs. 7/8 carton of 32 $10.00 Wt.47lbs.For Kleinschmidt machines, paper teletypewriter continous flat fold 500 sets Wt.25lbs. $7.50.Add UPS Wt. Harmon,5628-10th Ave.S.Birmingham AL 35222.

I PAY CASH-Kleinschmidt model TT-98 & TT-76, Call Dave collect (213)760-1000.

IF-2 SELCAL-WRU PRINTED CIRCUIT BOARD $15 (73 magazine,p.254,Nov '78).Contains all circuits to control TTY and transmitter.Programmable to any access code in minutes.Easily interfaced to any station.Connects to UT-4(UART),orIF-1 REGENERATIVE REPEATER PCB $12.Complete documentation.Commercially fabricated boards.R.Parry, 38-W-255 Deerpath Rd.,Batavia,IL60510

TELETYPEWRITER GEARS,PARTS,RIBBONS, TOOLS,MANUALS,SUPPLIES.Also toroids. List,SASE TYPETRONICS,Box 8873,Ft. Lauderdale,FL 33310.Cash or trade for unused repair parts,components,Klystrous, and military connectors.

LIST OF RADIOTELETYPE STATIONS SEC-- OND EDITION.Press agency,commercial etc.Frequency in hKz,callsign,etc., $4.00,Pierre Gagnon,C.P.511 STN-St. Laurent,Ville St-Laurent QuebecCanada

RTTY89 for the Heath H89 or H8/H19/ H17 offers full disk I/O,disk autostart,dynamic video graphics,split screen,ASCII or Baudot operation.70 page comprehensive user's manual and prompt card included plus much more. Write for free brochure.Price only $100PP,Cal.residents add 6.5% sales tax.COMMSOFT,665 Maybell,Palo Alto, CA 94036.(415)493-2184.

WANTED:TELETYPEWRITER PARTS and assemblies for Teletype,Kleinschmidt and Mite Corp. Machines.Phil,W4LNW, POB 70,Morrisonville,NY 12962.

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

WHOLESALE DIGITAL CASSETTES ONLY 79¢. Fully guaranteed! Computer grade.Are you tired of no-loads;had it with poor quality and inflated prices?Obviously you're not using MICRO-80 CASSETTES.Send for your wholesale listing today.24-hour answering service,same day processing.1-206-675-6143.MICRO-80 Inc.,R-2665 N.Busby Rd. MICRO-80 Park,Oak Harbor,WA 98277.

FOR SALE:DT-600 DEMODULATOR BOARD.ALL basic TU parts mounted,tuned and aligned,with power/loop transformer and documentation.Autostart and anti-space not wired.$75PPD.L.L.Filby,K1-LPS, 97 Parker Ave., St.Johnsbury,VT 05819.

WANTED:SCHEMATIC OT T/M for Kleinschmidt TT-345A/FG (sync) reperf (converter built-in by Kleinschmidt-just hook up to receive!)Also some available for sale SASE.Sale-Special-Save-QSL's printed (300) $5 add 20% postage Samples 30¢.D.Testa,390 Lincoln Ave.RJ,Newark,NJ 07104.

FOR SALE:MODEL 35 KSR TELETYPE MACHINE Excellent condition,$400,Skip Prinsen WB6CYA,3611 Merrimac Ave,San Diego, CA 92117,(714)276-3182.

FOR SALE:ROLL PAPER (While supply lasts) 9" easy cut to 8½, 4 5/8" diameter.(12/case) $15 case + shipping. WB9YCO,Dale Mitchler,813 Oviatt St., Kaukauna,WI 54130,414-766-1724 no collect calls.

"SMART TU"

XITEX Corp. has just announced the addition pf the UDT-170,Universal Data Transciever,to its data products line for RTTY and Morse operation. The UDT-170 connects directly between the user's ASCII or Baudot Teletype or video terminal and the station transciever. For the user who does not have a teletype or video terminal the Xitex SKT-100 video terminal is recommended.

The UST-170 is actually the combination of a microprocessor based data converter plus a high performance RTTY Terminal Unit. In the receive mode,the TU takes the RTTY or Morse signal from the receiver audio output and converts it to a DC signal which is fed to the data converter portion of the UDT-170. Here, two single chip microcomputers are used to convert the ASCII,Baudot,Morse input signal into an RS232 or 60 milliamp output signal which has been regenerated to match the mode,Baud rate and line length of the user's terminal.

In the transmit mode,the serial out put signal from the keyboard on the user's terminal is fed into the data converter in the UDT-170 where it is continuously buffered and regenerated in the desired output mode (ASCII, Baudot or Morse) and data rate.

The UDT-170 will operate at any FSK shift from less than 100 Hz to over 1000Hz;Baudot rates of 60, 67, 75 and 100 WPM; ASCII rates of 110 or 300 Baud;Morse rates from 1 to 150 WPM with "Auto Track"; and line lenghts from 40 to 80 characters. Other features include a 2 digit LED display for the copy WPM rate (Morse only) and buffer states and an optional CW ID feature for RTTY.

The UDT-170 is packaged in an RFI protected metal enclosure measuring 12" x 7¼" x 3½" and operates on either 115 or 230 VAC,50/60 Hz. For additional info contact:Xitex Corp., 9861 Chartwell Dr.,Dallas,TX 75243.

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A QUICK MEANS OF DETERMINING CW CODE SPEED

by Chuck Edwards,WØMNO,4726 Barbarossa Dr.,San Diego,CA 92115.

There are,of course, many ways to find out how fast your ID'ER is working,or how fast is your CW converter or computer delivering CW.But most are either very complex or inaccurate This method is simple and accurate, as well.

All you need is a stop watch and an ability to either tap out or type out the word "PARISE" five continous times.What this would look like is: PARISEPARISEPARISEPARISEPARISE. This exactly simulates a five letter standard,as set up by the FCC. Do not include any spaces nor change any of the characters,as they add up to 50 elements,necessary to determine accurate speeds. Now then,what is done, is to determine the time that it will take to either send, type or receive.

You will find that if it is completed in 15 seconds you will have an exact 20 WPM,or if it takes 30 seconds, you will have 10 WPM speed. If you are transmitting with a Brass Pounder Key,then it would be a good idea to tape your output on a recorder and then time the output of the tape. A simple curve can be plotted so that you can find any speed just by the time that it takes to complete the magic words "PARSIE" five times.

Have fun with it. Never again will you have to worry about whether you are fast enough to pass any FCC requirement for tests,CW identification or make sure your computer is doing whatever CW speed it is supposed to be doing!

TIME/SPEED TABLE

60 Sec.= 5 WPM	12 Sec. = 25 WPM
30 Sec.= 10 WPM	10 Sec. = 30 WPM
23 Sec.= 13 WPM	7.5 Sec. = 40 WPM
20 Sec.= 15 WPM	5 Sec. = 60 WPM

Incidentally, my Apple/Macrotronics was right on its correct settings.

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GW3EHN-Oscar Thomas,76 Waun Rd., Near Swansea,W.Glamorgan SA42QN.
HL9WLI-Gordon Anson,PSC Box 2137, APO San Francisco,CA 96366.
HP1BS-POB 8577,Panama.
HP1PM-Peter,Box 603035,El Dorado, Panama.
H44DX-Bernie-POB 332,Guadacanal,Solomon Island.
JAØBXU/SU-POB 150,c/o Penta Ocean Construction Co,Ismaelia,Eqypt.
KV4AQ-Dr.Randall James,Christranslot, St.Croix,Virgin Islands, 00820.
LU1AE,Greek Embassy, Buenos,Aires, Argentina.
OA4BR-Zip Zellon,Box 538,Lima,Peru.
OD5JW-Wassim, POB 14-5449,Beirut, Lebannon.
OX3FG-Walther,Box 177,Julianhaube, Greenland 3920.
PY2DRH-POB 22,San Paulo, Brazil.
PZ1BF-POB 184,Paramaribo,Surinam.
SV1AB-Box 564,Athens,Greece.
SVØAP-Kent Parsen,POB 711,APO,NY09291
TF3SB-Doddi Sigurbjorn Bjarnason,Skeejagata 17,105 Reykjavik, Iceland
TI2MY-Jaun,Box 1845,San Jose,Costa Rica.
TR8JG-POB 665,Port Gentil,Garbon.
TU2HH-Alain,POB 1347,Abidjan,Ivory Coast.
UT5RP-Box 373,Odessa,Ukraine.
UP2AR-Hickey,Box 550,Antigua,West Indies.
VP2SU-John Caldwell,Palm Island,St. Vincent,West Indies.
XE1LE,Francisco Vasquez Bello,Arroyo #12 Fraccionamiento LO Fresnos, Naucalpan Estado de Mexico.
YBØACB-Warren,Box 2282,Jakarta,Indonesia.
YO3KWA-Box 1395 Bucharest 5,Romania.
Yv3AY-Roman,POB 456,Barqieisomo,Venezuela.
ZP5CD-Claudio Del Conte,Box 1337,Asuncion,Paraguay.
ZS2AB-Brian Weller,POB 10317,Port Elizabeth 6001,Rep.of S.Africa.
ZS3B-Box 109,Luderitz,Southwest,Africa.
4X4QG-POB 92,Heryelia,Israel.
5B4HF-John Hurley,Box 4180,Nicosia, Cyprus.
5K35B-Box 584,Bogata,Columbia.
5N2AMT-POB 1150,Kaduna,Nigeria.
6Y5SS-Rick,Knox College,Spauldings, Clarendon,Jamaica, West Indies.
9V1TP-Tip Ball,American Embassy, FPO San Francisco, CA 96699.

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microcomputing

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

Since most of you are interested in developing a system for amateur radio applications,I'll stress this subject the most. You may have noted in most ads for software a number of buzz words describing various types of software for home computers are used. Most of these ads are for high level software like Basic Etc. This type of software is excellent for most home applications like games and other household chores. However, in amateur radio applications this type of high level programing is not sufficient. Most amateur radio applications are for logic replacement,which means you are replacing software for hardware.Therefore,you require that the software be as efficient as possible. This means that high level languages are not satisfactory for most ham applications. More on the subject later.

You may ask what is a high level language? Well it is similar to English,in that you can write a statement to perform a task directly. This statement is converted to machine language that the processor will understand by the high language interpreter. For a single high language instruction the interpreter might issue 20 instructions to the processor. For example a typical high language statement in Basic is "PRINT". The interpreter will convert this word to a form that the machine will under stand and print a message on the screen.

A machine language instruction is an instruction which the particular type of processor understands. This is the only type of instruction which will cause the processor to do something. Each processor type has its own machine language and code for one processor will not run on another except in certain cases i.e.

8080 code will run on a Z-80 processor.

Z-80 code will not run on an 8080 processor.

6800 code will not run on a Z-80 processor etc.

Therefore, you can see that your choice of processor should not be made only on the cost and hardware availability. If you don't want to write your own software investigate what is available for the processor you are considering.

I discussed earlier that high level languages are not suitable for amateur radio application. This is due to speed. Most amateur radio applications require a completely devoted processor. High level languages add an enormous amount of time to convert the english type instruction to machine language. RTTY and CW are somewhat tolerant to slow software due to their slow rates, however, with SSTV applications every microsecond of time is important.

Well you might ash how do I generate microprocessor code for ham radio ? This is accomplished by two machine language programs called:TEXT EDITORS and ASSEMBLERS. The following is a brief description of each of these items.

1. Text Editors are used to enter assemble language code into the memory of the processor. Text Editors are an excellent means of entering sny form of text. They allow you to edit or change the text or find a portion of the text which you wish to change. Text Editors can also be used to create an amateur log book which can be stored away and recalled at any time from storage in the microprocessor.

2. Assemblers take the text file and converts the file to machine language The machine language can be stored and recalled at any time.

Assembly language is a pseudo english like statement which allows you to write machine language statements easily. In Assembly language you do not have to remember as much as required in machine language programming.

Assembly language is not difficult to learn. You will find many books ans courses offered at your local college and night schools. I would like to encourage you to try machine language programming. You can get a lot of satisfaction using your own program over the air.

With the FCC giving permission for ASCII to be transmitted over the air I'm sure more processors will be used for amateur radio contacts. The generation of ASCII RTTY programs will be very easy for any processor.

I understand from VK3UM that he and VK4XV have been exchanging software programs on 20 meters with good success at 110 Baud ASCII. Their software consisted of a text editor and a serial port on their processor. They were successful in exchanging the source code of a computer program The program was assembled and ran successfully without error.

In my next column I'll discuss interfacing the processor to the outside world.

****

DX ADDRESS LISTING

AP2MQ-Mansur Quereeshi,7 Union Park, Samanabad,Labore,Pakistan.

A7XD-Mike Smedal,POB 4747,Doha,State of Qatar,Arabian Gulf.

CP6IH-Roberto,Box 163,Santa Cruz de la Sierra,Bolivia.

C3IMM-Bruno Clase,Casa Pascol,La Massana,Principality of Andorra.

C6ACA-Barry Packington,St.Andrews,BX N7546, Nassau, Bahama Is.

C6ADW-Mike Wallin,Box 6333, Nassau, Bahama Island.

EA6BG-Mateo Amengual,M Canals 40,Palma,Mallorca,Balearic Islands.

EA6HY-Gabriel,La Puebla BOP Isla de Mallorca, Spain.

EL2AG, POB 3049, A Monrovia, Liberia, West Africa.

FC2CJ-Marcel Poli, Box 223, Ajaccio, Corsica.

FP8DF-Peter,POB 41,St.Pierre et Miquelon Island.

GD3YED-Rich Hillsboro,Selbourne Dr, Douglas,Isle of Man.

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RTTY-DX

SKIP PRINSEN WB6CYA

3611 Merrimac, San Diego, Calif. 92117

714-276-3182

Greetings to all!

One day last week I had a pleasant surprise,a phone call from Bruce KØBJ from Yankee Trader fame and all of the neat places that he was able to put on the air. Some of the countries Bruce was able to put on the air were:CEO, VR6, 5W1 and others. Anyone that finds they are going to be in the San Diego area Please feel free to give me a call on the phone and stop by for a cup of coffee. I would be very happy to meet each and everyone of you.

The DX forecasts for the first part of this month looks very promising, tho' I have noticed a lot of qrm on the band this past week. No awards for this month so I guess everyone is getting ready for the fall school season.

By the time that this gets to print and you read it the CARTG "BIG SMOKE" will be getting underway. The rules for this test are in the September issue so read up and join in on the fun.

Several days ago I got a crystal for my H.F rig to get on the autostart net on 14.075 with the group there. This first night was spent, as was the first night I got the crystal for the 14082.5Khz autostart net waiting for the carrier to go away. hi hi...I still have not made a contact with the group with any of the group and I notice that there is an awful lot of qrm on that frequency. It tends to make one think that the cw boys do not know what RTTY sounds like and that we are engaged in qso's down there.

As promised last month,I now have the listings of all of the qsl managers in the computer and would like you to give me updates and corrections as needed. I will not be able to have this listing printed each month due to space limitations,but will run them every few months. If you have a question on what I have send me a SASE and I will send you a printout of the data that I have to date. Please keep in mind that these listings will be only as complete as your inputs, so keep me up to date on them. Feel free to break in and give me any updates that you know of if you hear me on the air.

The Australians now have a very nice DX broadcast that is sent on Sun days at 2130 on 21.100mhz. This broadcast is very well done and will give you an up to date idea of who is who on the bands.

K6SAD Ken on Guam Island has been very active lately on 14mhz at around 1200Z. DK5DB/ST2 now has a TONO computer and is active around 1700Z. 7X4MD is active again on 20 meters around 0700Z. YJ8YS is still very active around 1100Z. TI2CAH is very active around 0700Z looking for ZL's. FO8FN is active and is very quick to qsl he is active on 20 meters at around 0400Z. PJ2MI is active working into the USA on Thursday evenings. News that the Caroline Island trip is off for the time being. LU1AE is active on 15 meters at around 2300Z qsl is to the Greek Embassy,Buenos Aires,Argentina. I8UDE/IF9 was to be active from Martheen Island on all bands on the 30th of August qsl's go to I8UDE but I have not received any reports that anyone has worked this station as yet.

DL1WX,Juff in Lanfebsfeld Rhineland near Dusseldorf is now qrv with a homebrew computer. He is on all days from 1730 'til 2000 utc on even days he is on 14.098mhz and on odd days find him on 21.098mhz. Info on DX and on Oscar are stored in memory and are easily called up. His system has a relay on it also. Other stations such as HB9AVK also have computer systems on this same frequency.

Here is a partial listing of the DX stations that have been worked in the past few weeks.C6ACA,C6ADW,C31UL, CP6IH,A7XD,AP2MQ,ZB2BL,FK8DJ,EI3CN, GJ3FKW,TI2MY,5Z4RT,ZS3B,FY7AS,HP1XUL, FM7BW,VK8BE,VK8DI,VKOKH,OD5MR,KA6BB, HM1AQ,OH3KR/OHO,9H1FA,ST2SA,SVOAP, J6LRP/MM,HK3SB,HK2DUK,KP4ANG,LU8DS, LU5AD,LU3MDO,LU1AE,CE3AE,FM7BW,AP2PS, and JA1DSI.

Many thanks to all of the stations that help me with their inputs to the DX column. I hope to work more of you in the near future.

73,de Skip

****

BIG SMOKE

The wires will soon be buzzing!What they are all talking about is the 20th W/W RTTY DX 'New Decade' Sweepstakes sponsored by CARTG,Saturday October 18th.0200 GMT to Monday October 20th,0200 GMT. Send IRC's for rules sheet,award list,zone chart and log sheets.

There are 20 award plaques and certificates. Plan to be 'on deck' for the CARTG "BIG SMOKE". Canadian Amateur Radioteletype Group.85 Fifeshire Rd Willowdale,Ont M2L2G9 VE3BII

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"KONTEST KORNER"

CARTG	18-20 Oct.1980	Sept, 80
WAEDC	8-9 Nov. 1980	Sept, 80
DARC	15 Nov. 1980	Sept, 80
Volta	December 1980	coming
Europe & Africa		
Giant Flash	March 1981	coming
BARTG	March 1981	coming
VK/ZL/Ocenia	June 1981	coming
SARTG	August 1981	coming
WAEDC	7-8 Nov. 1981	coming

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QSL MANAGERS LIST

A4XFW	K6QX	K4GMH/VQ9	K4GMH
C5AAN	DJ5QT	K6SAD/KH2	VE5QY
C31UL	DF5HS	KX6HC	W1FO
C31PS	DL5NJ	OY1A	K6XP
C6ACA	W2IUC	P29BB	VK4AHD
DK5BD/ST2	DF1BP	QX3CO	WB3KGY
FK8CR	W7OK	S8AHC	WA6QFN
FK8DJ	JH3XCU	T4AHC	WA6QFN
FR7BE	W4LZZ	TU2GA	K9BXA
FR7ZS	F5DV	VE6GBU/SV	DK3CU
FY7AS	F5WQ	VQ9MR	N5GU
HI8XDF	K3SWZ	VR1AF	W7OK
HM000	DK5ML	VR3AH	WB4PRU
HP1AXW	K1RQ	VR6BJ	KOBJ
JY1	WA3HUP	YJ8YS	JL1CII
YT2D	YU2CDS	3B9RS	DJ6QT
ZB2BL	W2UTH	3D6AD	WA6QFN
ZB2EY	DL5NJ	5KODOG	W4FRU
ZD9GG	ZS1Z	5Z4PD	DL3WL
ZF2AC	N3JL	5Z4RT	I8JN
ZF2BN	W4HET	9A1ONU	IOLVA
ZS2MI	WA2IZN	9Y4VU	W3EVW
3B8RS	DJ6QT		

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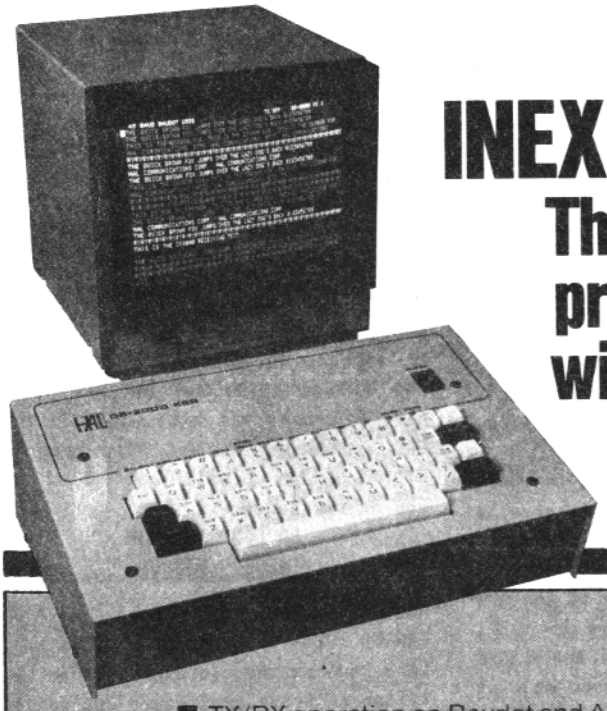


INEXPENSIVELY SUPERIOR

The DS2000 KSR is the lowest priced RTTY terminal available with these advanced features:

- TX/RX operation on Baudot and ASCII RTTY plus Morse Code (Morse RX optional)
- Integrated keyboard and video generator allows editing of transmit text
- Full 24 line by 72 characters per line display
- Bright/dim display of characters differentiates between TX and RX display
- Morse receive option may be added at any time
- Separate CW identification key for RTTY operation
- Status line on top of screen shows terminal operating conditions
- Pretype transmit message into 255 character buffer; edit before transmitting
- 2 programmable "Here Is" messages
- Word-wrap-around prevents word splitting at end of display line
- Word mode allows editing of text to be transmitted
- Quick Brown Fox and RYRY test message keys
- Small size metal cabinet gives effective RFI shielding from transmitters
- Loop compatible RTTY connections and plus or minus CW key connections
- 110 and 300 baud ASCII
- 45,50,57,74,100 baud Baudot
- 1-175 wpm Morse transmit
- 1-175 wpm optional Morse receive
- 120/240 v, 50/60 Hz power
- Internal CW side-tone
- UnShift On Space for Baudot
- Keyboard Operated Switch
- SYNC idle for RTTY
- One year warranty

Write or give us a call. We'll be glad to send you our new RTTY catalog.

HAL COMMUNICATIONS CORP.
Box 365
Urbana, Illinois 61801
217-367-7373

DS2000 KSR	$499.00
ESM-914 Video Monitor	$169.00
MR2000 Morse receive option	$159.00

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

HITS & MISSES

George Hammon WA6CQW
14215 Pecan Park Lane SP 73
El Cajon, CA 92021

FROM
THE
MAILBAG

SOUTHWESTERN CONVENTION

The southwestern division ARRL convention held September 5-7 at the Los Angeles Marriott Hotel was, due to general chairman W6GC and staff, a a fine convention.

Dee, our publisher hosted a hospitality room and many of the RTTY gang came by to say howdy. I was able to talk with many newcomers to RTTY and also renew old friendships.

The RTTY forum was conducted by Mae and Hugh Washburn WA6LNH/WA6IEX. This was a standing room only forum and a treat to the old timer and newcomer alike. THE SCATS Club can be proud of them and the super RTTY forum they put on.

The SCATS Club set up a complete working RTTY station next to the area of registration. This station is a module complete with wheels,that is able to moved with ease for storage at night. This portable module makes it easy to take to conventions,shopping malls etc.

The DX forum was outstanding. Jim Raferty,N6RJ gave us the latest DX news. Dr. San Hutson,K5YY was a treat to hear. San is now on the ARRL DX advisory committee and is a respected DXer around the world also for many of us struggling for DXCC a joy to listen to.

The RTTY breakfast Sunday morning was well attended. Irv Hoff,W6FCC was the featured speaker. Irv brought back memories of early RTTY and his comments on computers brought many questions. At the conclusion of his talk Irv explained the reason for his calling his ST-6 "THE MAINLINER" was from his employment as a pilot for United Airlines.

I really enjoyed this convention and look forward to the one in Arizona next year. My XYL enjoyed the microwave cooking class by Mitsey M. Miki. Jeanne attended with Linda Preston,WA6HGA and both brought back a flock of new recipes for oriental cooking.

I toured the equipment displays and finally bought the frequency counter I have been wanting. The HAL Communications display was a spot for the RTTYer to stop and pass the time of day. HAL now has in stock ST-5 and ST-6 kits.

I chatted with Gary Pierce,K6CAQ Old time RTTYer now working for Cubic The new transcievers on display looked nice.

I stopped at the booth of the United Radio Amateur Club. They gave,to all amateurs, a 20 meter CW transmitter PC board.URAC passed out free PC for the companion receiver at the ARRL convention in San Diego in 1978. This unit is described in Apr & Dec 1978 QST. The PC boards were made at the Carson Adult School by URAC members attending the Ham Radio Class. A tip of the hat to this very fine club for doing this.

ART CONTEST

SCATS presents their RTTY art contest.Started on 1 September,runs th ru Nov. 30,1980.Rules are:Licensed Amateurs & members of their families are eligable to participate.Entries must originate by manual input to a teleprinter using standard communications,and must be submitted by the originator of the art,or by Amateur on behalf of family member. Art must be suitable for transmission via amateur radio.Submit multiple entries if yopu wish. Entry must have title. Art may containshading.Tapes must permit a reasonably short running time,and be compatible to machines which do & don't downshift on space. Three functions must be used between each line.,normally:carret LF LTRS.

ELECTION YEAR

WA6WZO Fried Heyn joined RTTYers at our breakfast. Fried is the past president of the Southern Calif Amateur Radio Computer Club. Fried is running for the Southwestern Division Director. He took the time to stop by our group and was serenaded with "Happy Birthday". Fried is a true friend of RTTYers and has my support and vote.

10 MHZ BAND

The current plan is to make this new band an exclusive RTTY and CW band. Please write your ARRL director and support this.

I will close out my column this month. I am sitting in my ham shack and see the autumn signs beginning to appear. The 21 Mhz band is open and I hear ON4DN but he shuts down before I can call him. G3SVH is now 599 explaining he has only been on RTTY 2 weeks. I will look for all of you on the bands.

SO LONG FOR NOW
GEORGE,WA6CQW

****

HELPFUL HINTS

TAPESPLICE-I find that any given surface such as the glued part of an envelope or brown craftpaper cut to 11/16 and run through thr perf with an All "ltrs" combination,makes an excellent splice tape for torn sproket hole tapes.K9WRL May 1972.

MODEL 28 SPEED CONVERSION-When converting a model 28 3 speed gearshift from 60-67-100 to 60-75-100 WPM it is necessary to change gears #195263, 22 teeth and 195264 49 teeth to $145-369 24 teeth and #145374 47 teeth. W9CPD July-Aug 1972.

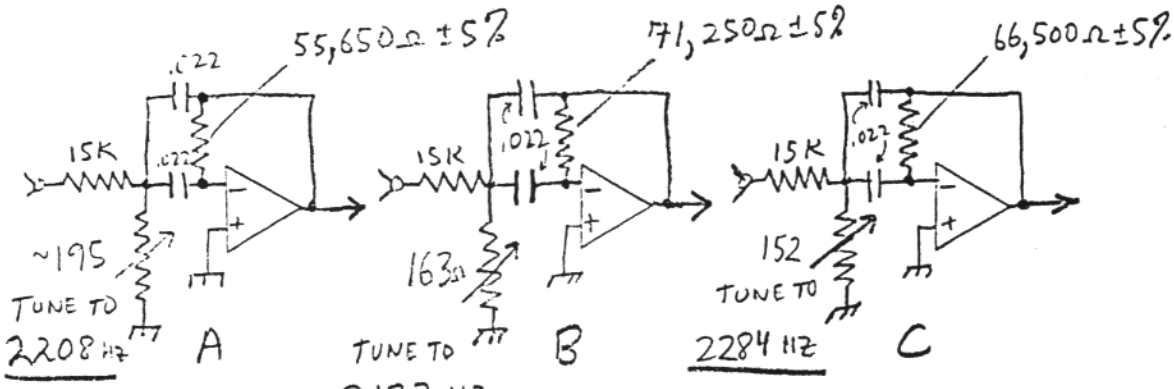
HOMEBREW REINKER FOR MODEL 15 & 19's and Model 14 typing reperf-It is easy to make your own reinker using felt pads.There are two spindle ribbon guides on the ribbon feed assembly. Cut a thick piece of felt from an old hat abt 3/4 x 1½ inches. If you want to,permanently afix the felt by needle and thread or cement.Mount also a small piece of metal or toothpick across the top of the slotted ribbon guide (arm that reverses the ribbon) just barely above the ribbon to keep it from rising over the felt reinker, use an eyedropper to saturate the felt.Run the complete ribbon back and forth typing on it as you go.After saturation,only a few drops a week will be necessary.NCR #164991 black ink is recommended.WA2RDO Jul 1972.

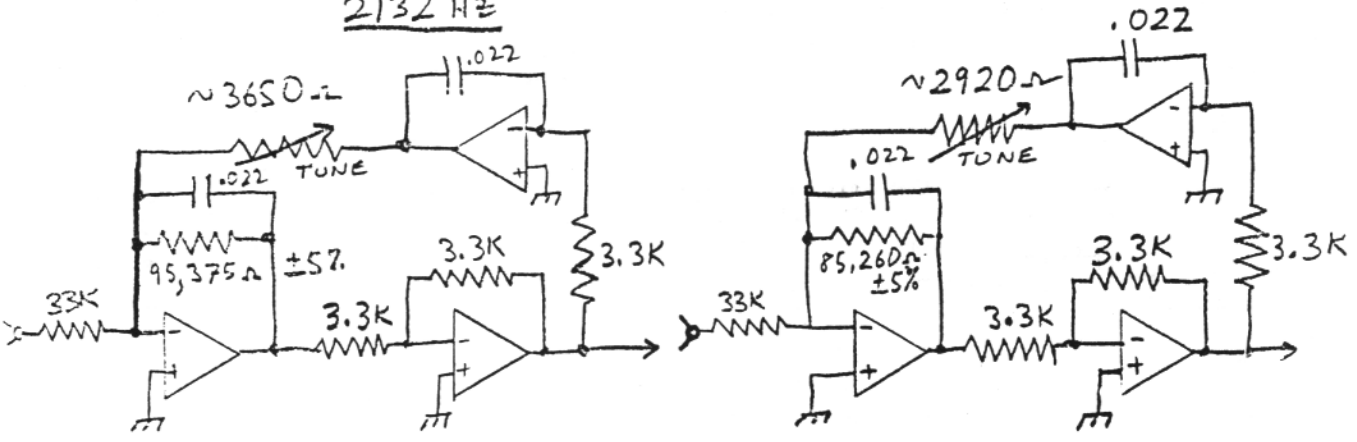
TAPE STORAGE-Brag and pic tapes are always a storage problem. Those plastic QSL card displays (20 per card) will work just great for separation. You can even slip in a card with the title on it that will be displayed for easy reference.W7RPV Feb 1970.

THE "CADILLAC PHILTRE"

BY MIKE N7RY 18025 NW Avalon Dr.,Portland,OR 97229

A 5 pole tenth order butterworth 260 HZ Bandwidth audio filter for narrow shift tones of 2125/2295 HZ.....



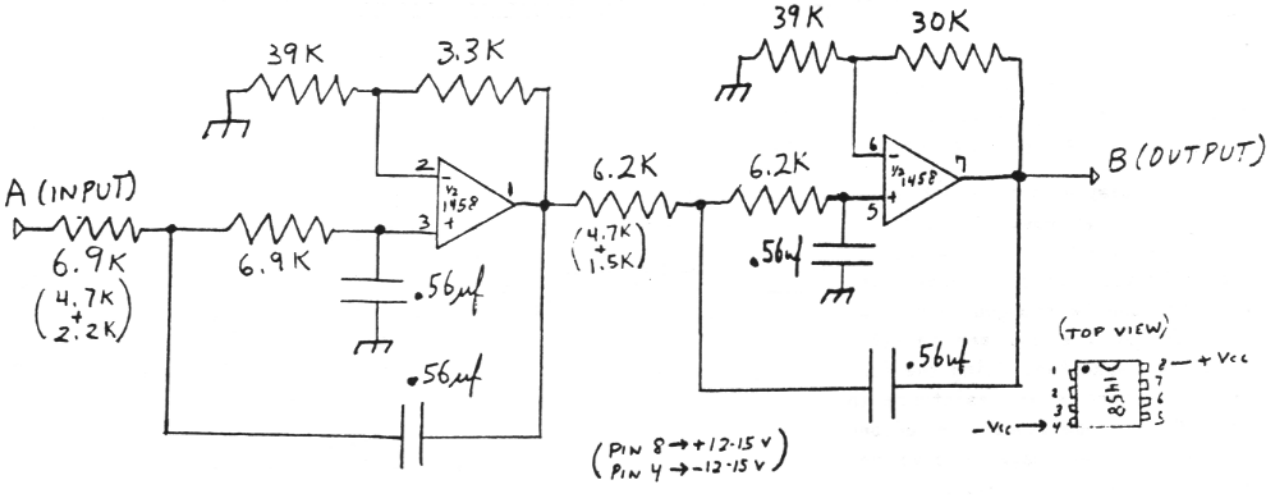


NOTES...All stages are tuned to the indicated frequencies,then assembled in series. Stages may be connected in any order,although lowest distortion may occur in theory when the higher frequency stages are placed in front,I.E. "C,E,A,B,D" may be better than "A,B,C,D,E". The way shown works fine in practice though.

Capacitors should be +/- 10% polystrene or polycarbonate. Do not use disc ceramics! Very good results may be obtained using Plessey "White block" capacitors and 5% tolerance resistors.

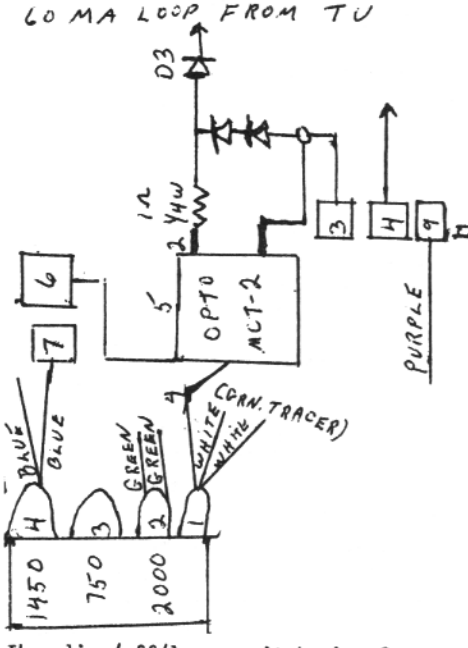
Opamp pinouts are not shown,since any of many general purpose opamps are suitable. MC1458 dual opamps were used on several. Do not use Norton (3900) series opamps the circuit impedances here are too low for those special "current mirror" opamps.

73's Mike,N7RY.....



HOOKUP FOR TELETYPE MODEL 33 LOOP CIRCUIT USING A MCT-2 OPTO-Isolator..
John Greves,W9RI
Rock Island,Illinois 61201

The following circuit,employing a MCT-2 Opto-Isolator system to keep all loops separate (for multiple printers Baudot/ASCII) is used for 60ma loop current for both receiving and transmitting. Using a Dovetron MPC-1000C I am able to use a model 28 and 33 in the same loop. Block numbered squares represent the terminals on the model 33 chasis terminal strip (9). The resistor is the Green one. About 50W along the right side of center. Verify all terminals in position as shown:



The line/off/loop switch in front still is okay in off/loop line gets you "real world".

30 HZ (3db) BESSEL LOW PASS FILTER OPTIMIZED FOR 45 baud "60 SPEED" USE USING A SINGLE 1458 DUAL OP-AMP.

NOTES: 1. Check output voltage at pin 7 with full mark and space to be sure that it is not saturating-the circuit has a voltage gain of 2 (approx.). If output swings to more than three fourths of the supply voltage, use a voltage divider on the input A to get the dynmamic swing at B lower.

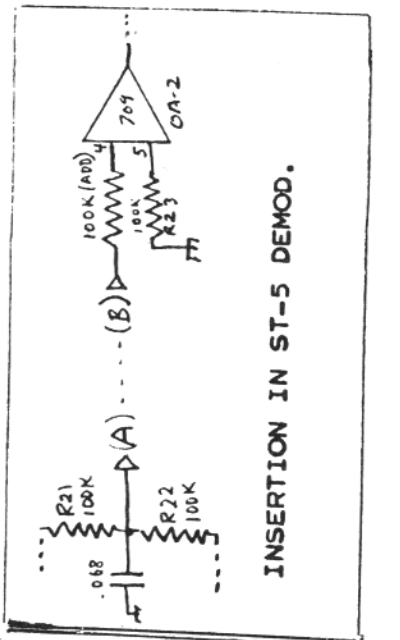
2. For optimized use with ASCII at 110 or 100 speed Baudot, the four capacitors may be changed to .15ufd. (resistors remain the same.)

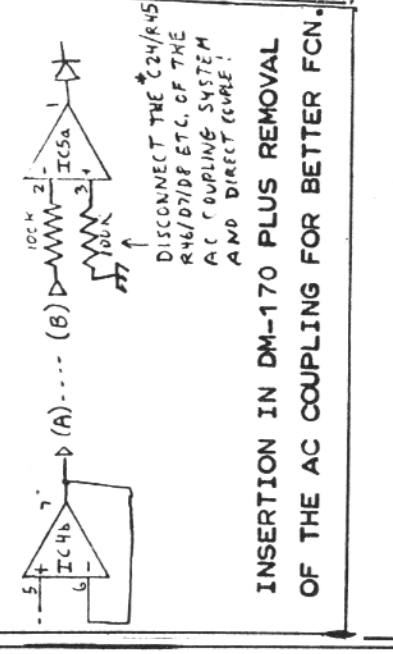
3. If using the DM-170 TU, consider removing the AC coupling on the slicer stage. This generates increased errors that depend on the prior characters that have just been received and where they left the instantaneous charge on the coupling capacitor (even if you do not add the lowpass hi!) 73, Mike Moore, N7RY.....

HAM HELPS

PAPER HANDLING-Heavy Model 19 & 28 series printers can be greatly aided in movement by a set of dolly casters found at your local hardware stores. A blessing on carpeted surfaces.W7GPP May 1972.

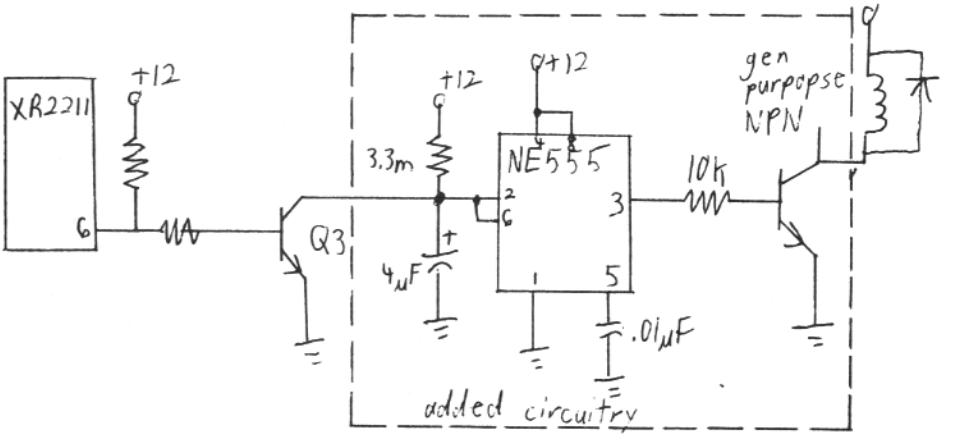
TYPEBOX CLEANER- A good ole toothbrush and soapy water removes ink buildup from hard to get to places on 28 series printer typeboxes. Be sure to oil properly to prevent rust buildup on hammers and springs.WB0QCD Dec 1978.





AUTOSTART DELAY CIRCUIT FOR "CHARLIE SPECIAL" by Rudolph Williams WD5DGI/6 VC-7 NAS Miramar,San Diego,CA 92145.

Here is a simple auto start delay circuit which can easily be added to the "Charlie Special" TU from the December 1978 issue of the JOURNAL. The time delay can be changed by varying the values of the 3.3 meg resistor and the uF capacitor. Using the formula T=RxC,where R is resistance in megohms,C is capacitance in uF,and T is time in seconds,will give you the approximate time delay.



What a "bash" it will be for RTTY & SSTV/ATV enthusiasts at the September 20/21 Peoria,Illinois "SUPERFEST" The JOURNAL will,of course, be there, as will many midwestern teletypers. Displays and forums on "specialized modes" will be presented. Area VHF RTTYer,WB9GYH, Bob Coppernoll will present a talk on, "how to get started in RTTY" and how ASCII and computers are now able to play a larger part in Amateur Radio. WBOKFB,Jim in Cedar Rapids will be showing on SSTV, how to take RTTY artwork pictures and display for ATV use. His RTTY artwork that is originated on perf tape, is darkened accordingly for the "camera" to capture and transmit into his A5 mode transverter. The October "Cedar Rapids" hamfest will also include a special RTTY/SSTV/ATV display area with forums. WBOQDV/R RTTY regenerative repeater in Ackley, Iowa has sure been getting a lot of use this summer! The "system" is activated by sending two spaces and the abbreviation "XMIT" to turn the repeater on. The machine then stays up after the last inputting signal for one minute for others to enter without repeating the command sequence. Looking toward the eastern part of the state, WBOSAX /R teleprinter repeater also on 146. 10/70 Mhz. has been undergoing overhaul and revitalization at it's new Blue Grass,Iowa site. WA9LRO/R F2 repeater in Gridley,Illinois has been the "working" repeater for most of the summer VHF band openings. It is always a "pleasure" to show the Indianapolis fellas what RTTY sounds like on their "voice" 10/70 repeater as Indiana RTTYers were forced to abandon the regular VHF teleprinter frequency for other frequencies. They don't like "band openings". KA4AOK, Red in Montgomery, Alabama reports that he worked WDOFGJ at 0200 GMT on 29 July '80 with a 5x9 report on 50. 700 Mhz! Red has asked for the SMIRK 6-meter organization to officially recognize a RTTY VHF calling frequency of 50.700 Mhz. (seems a bit high to me, any other 6 meter "nuts"?VE4TL Bill near Winnepeg,Canada reports VHF activity on ASCII comprising "Apple" owners at 147.18 Mhz. W9RI,John Greve of Rock Island,Illinois has "modems" now for the Quad-City Computer Club members as they near completion of ASCII VHF links. WOYMW/R repeater announced in earlier issues, still not on-the-air yet as fast scan TV testing is being done in Dewitt,Iowa for the areas first ATV repeater system now under construction. It is nice to hear from those who follow the column even if they are complaints. W4FQM Ed Webb, writes that southwest Florida really does have a regenerative RTTY repeater at 146.10/70 Mhz. on standard 170 shift. Thanks for a new subscription Ed!. Attention RTTY Art Buffs! Are you working on your 1980 "Christmas-Holiday" Art contest entry to this column of the JOURNAL? Ask last years winner Tammy, how it fels to be a winner. The FCC in mid-June made a notice of proposed rule making #80-252 to allow SSTV and FAX transmissions in the SSB portions of the "General" portions of the bands on HF. Many RTTYers are also into this area and may want to voice their approval by sending 5 copies plus original to FCC, Washington,DC marking the envelope Docket #80-252 AMRAD Newsletter reports the success of Bob Bruninga with special systems for the deaf and RTTY. Write to Bob c/o USS Blueridge LCC-19,FPO San Francisco,CA 96628. Keep sending those VHF RTTY reports and repeater updates,last count was 83 VHF teleprinter repeaters in the USA!

73's MIKE

****

NS-1A TERMINAL UNIT SCHEMATICS SEE FOLLOWING PAGE PLEASE.

NS-IA TERMINAL UNIT

Nat Stinnette,
890 Virginia Street
Tavares, Florida 32778

The NS-1A is an RTTY Demodulator built around the LM565 phase lock loop IC. This is an FM demodulator IC so the NS-1A works on the FM principal and therefore has no filters.

The LM565 has a voltage controlled oscillator which is adjusted to frequency by a 5K pot. The frequency of this oscillator is placed about midway between the incoming signals,mark and space. It locks on these signals and as they alternate (mark & space), the output of the IC goes positive and negative above and below a reference voltage appearing at pin 6. An LM741 comparator or "slicer" is connected to these voltages and the output, also plus and minus, is used to drive a 2N706 transistor which is connected ahead of the 2N5655 keyer transistor. This 2N706 has the effect of reversing the polarity of the voltage going to the base of the keyer transistor causing it to produce upward shift copy, mark/hold low, space high. Two reversed polarity diodes are used as limiters and to protect the LM565.

A setting of the VCO 5K pot.can be found which will permit copy of both wide and narrow shift. Also the NS-1A will follow wide drift excursions without retuning the receiver.It will copy AFSK and FSK equally well.Shifts other than the standard wide or narrow shifts can usually be copied with out further adjustment. There are indications that the NS-1A will copy 100 WPM without any circuit changes but conclusive tests have not been made at this speed. The AFSK feature should have wide appeal for those operating six and two meters RTTY.

A zero center meter (u.a.) is used as an aid in tuning. It may not be needed on AFSK depending on personal preference. A SPST switch is placed across the output of the keyer transistor to put the teletype machine in a "hold" condition when tuning or transmitting. A +12v. and -12v regulated power supply is required.

This all solid state terminal unit is built on a P.C. board app. 3" x 3½". The wired/tested unit with instructions,less meter,power supply, switch sells for $26.95PPD.to author. parts package $15,board $4.95.

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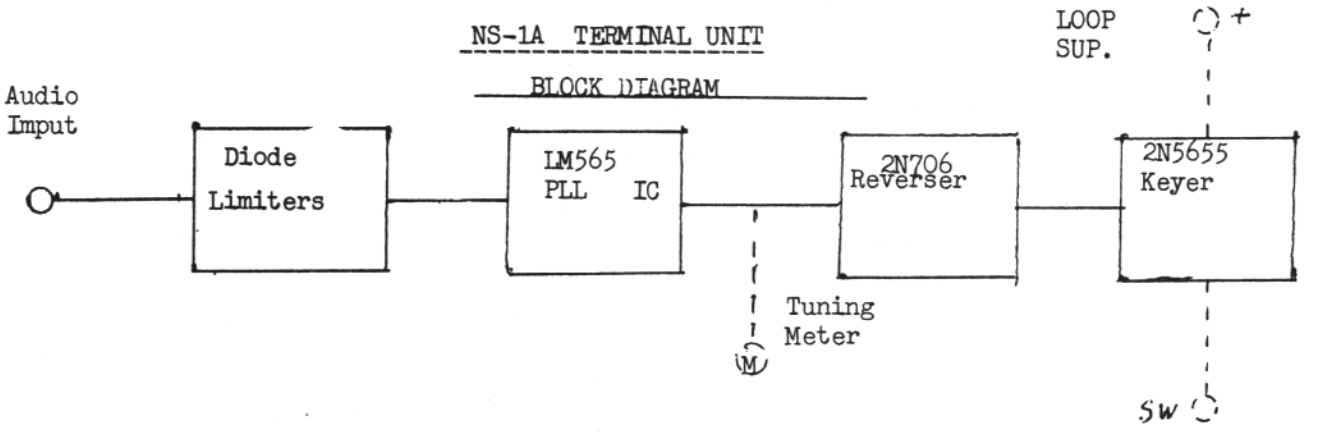
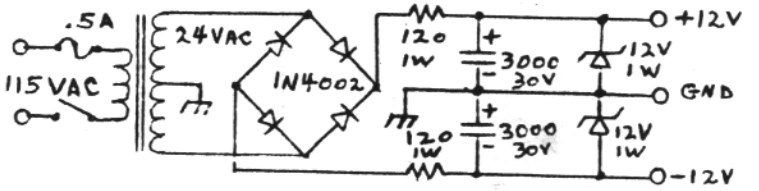
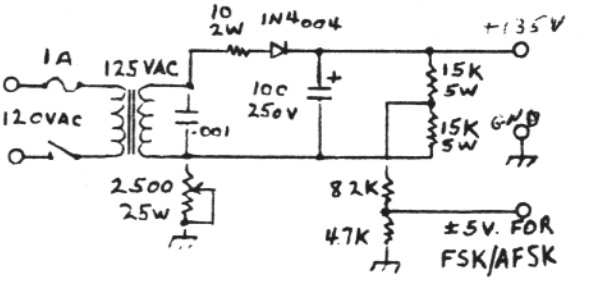
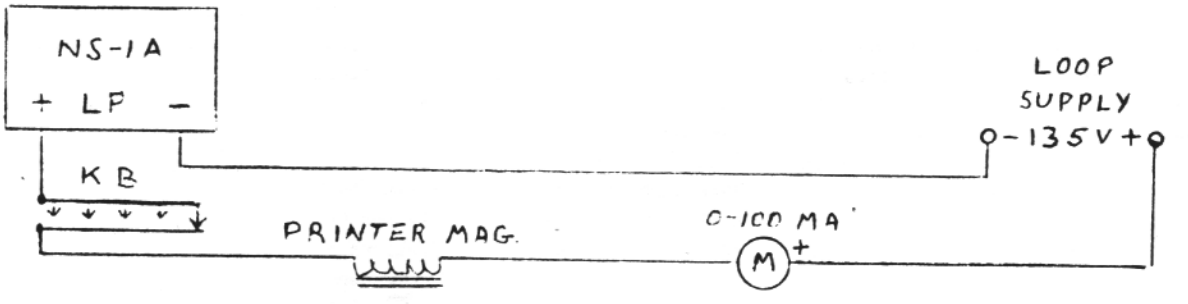




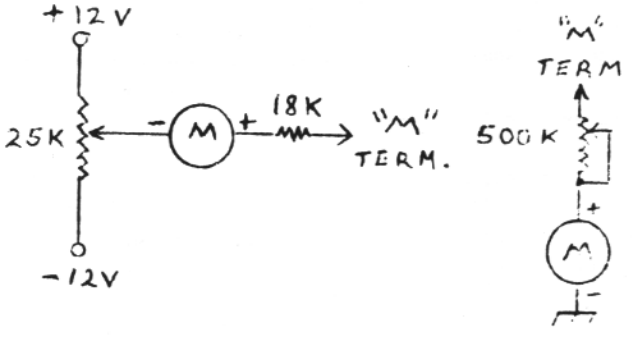
Suggested Power Supply for NS-1A

Loop Power Supply





Loop Supply Connections



Circuit for utilizing)-1 mA meter as a zero center tuning meter. Instructions: before connecting the 18K resistor to "M" terminal, set 25K pot about midway, ground the 18K resistor to chassis and adjust 25K pot to center scale (.5mA). Now when the 18K resistor is connected to "M" terminal the meter will act like a zero center meter with plus to the right and minus to the left.

Circuit for zero center tuning meter. Use 50 ua. or 100 ua. meter.

RTTY BEGINNERS HANDBOOK $4.50

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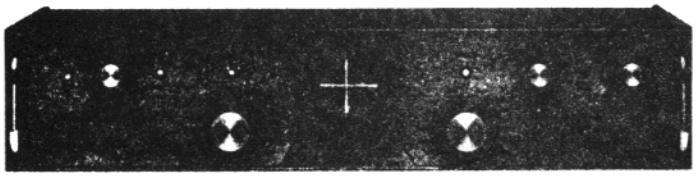
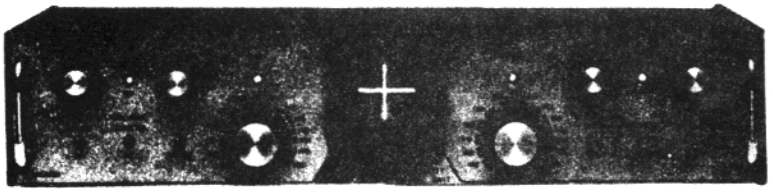


MPC-1000C

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.

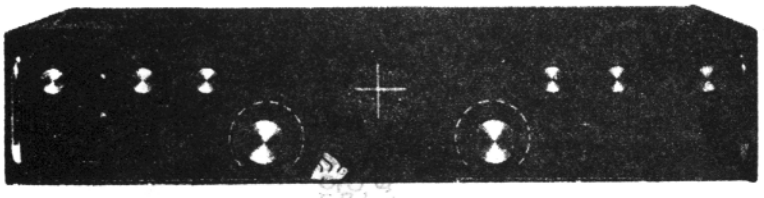


MPC-1000CR

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 Correction & 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.

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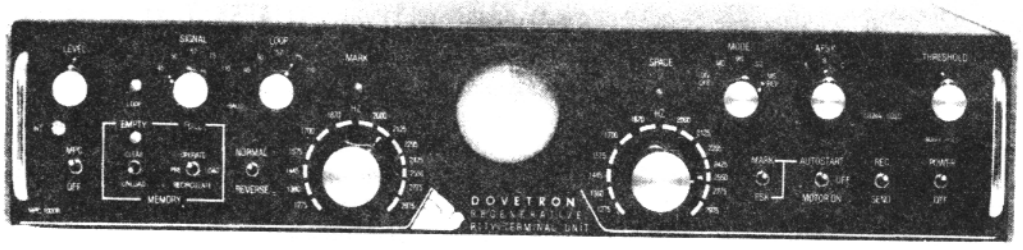
627 FREMONT AVENUE
(P. O. BOX 267)
SOUTH PASADENA, CA. 91030

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.

DOVETRON

627 Fremont Avenue
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