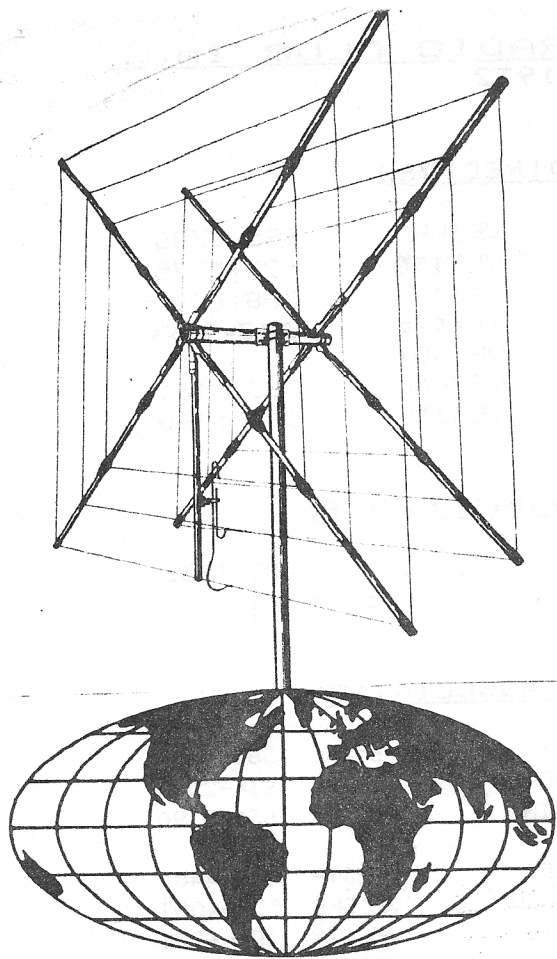


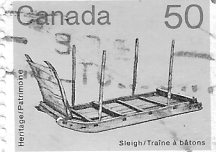
Apr. /86



# THE HAMILTON AMATEUR

HAMILTON AMATEUR RADIO CLUB INC.  
P.O. BOX 253  
HAMILTON, ONTARIO  
L8N 3C8

HAMILTON, ONTARIO



VE3OZY M8612  
R.W. Danby  
6 Clinton Street  
Hamilton, ON L8L 3J8

The HAMILTON AMATEUR RADIO CLUB Inc.  
Established 1932

1986 OFFICERS & DIRECTORS

PRESIDENT	:	GLENN GIBSON	VE3FHQ	385-2786
PAST PRESIDENT	:	FRED SPRING	VE3ITQ	627-3375
1 <sup>ND</sup> VICE-PRESIDENT	:	BORIS AUGUSTE	VE3ITY	388-6200
2 <sup>ND</sup> VICE-PRESIDENT	:	ROBERT WILSON	VE3CIB	383-2054
SECRETARY	:	EVERET ENGLERT	VE3JQX	
TREASURER	:	GORDON BARBER	VE3AAH	383-9161
MEMBERSHIP DIRECTOR:		MICHAEL SPENUK	VE3JTO	389-1760

THE HAMILTON AMATEUR

EDITOR : PHILIP KING VE3OII 545-9232  
(your contributions are always welcome)

COMMITTEE CHAIRMEN & ASSOCIATES

AWARDS & CONTESTS	:	NORMAN SMITH	VE3BK	385-5661
CLUB HISTORIAN	:	ED CHARLESWORTH	VE3ZF	634-2520
CLUB PROPERTY	:	BILL McCASLIN	VE3ARX	634-5190
EDUCATION	:			
EMERGENCY SERVICES	:	JACK HEYWOOD	VE3JTR	689-4406
HEALTH & WELFARE	:	STAN BOLIBRUCH	VE3GFE	528-4002
PROGRAMS	:	BORIS AUGUSTE	VE3ITY	388-6200
PUBLIC SERVICE	:	FIORE MANGA	VE3QGG	560-6329
PUBLICITY	:			
REFRESHMENTS	:	TED HARRON	VE3OCW	385-3025
REPEATER	:	GLENN SIMPSON	VE3DSP	385-8478
SWAP NET CONTROL	:	RALPH TUFTS	VE3BYM	388-6146
TECHNICAL	:	MARK GIBSON	VE3MWH	389-4308
VE3DC LICENCEE	:	GLENN GIBSON	VE3FHQ	385-2786
VE3NCF LICENCEE	:	ED CHARLESWORTH	VE3ZF	634-2520
VE3RCB LICENCEE	:	JOHN KASSAY	VE3FDK	385-0422

The Hamilton Amateur Radio Club meets on the 3<sup>RD</sup> Wednesday of each month excluding July and August at the Nash Auditorium, Chedoke Hospital in Hamilton. The meetings commence at 8:00 PM. Non-members & friends are always welcome. There's plenty of parking available.

Membership fees are currently \$20.00 per annum with a common renewal date of January 1<sup>ST</sup>. The fee includes the bulletin (10 monthly issues). Family memberships are also available at \$1.00 each additional.

VE3NCF 2M Repeater is operated by the HARC. The Repeater is located on top of the escarpment at Hamilton. It is available for use by any amateur within range. Input 146.160MHz and Output 146.760MHz.

A Swap-Net is held on VE3NCF Tuesdays at 8:00 PM.

Correspondence: All other correspondence should be addressed to:  
The Secretary, Hamilton Amateur Radio Club, P.O. Box 253, Hamilton, Ontario, L8N 3C8.

APRIL 1986 MEETING  
THE HAMILTON AMATEUR RADIO CLUB

DATE: Wednesday, April 16, 1986  
TIME: 8 o'clock P.M.  
PLACE: Nash Auditorium, Chedoke Hospital  
SPEAKER: Undecided at press time  
TOPIC: Undecided at press time

\*\*\*\*\*  
THE PRESIDENT'S MESSAGE

Its spring again - time for antenna repairs and adjustments and time to look forward to our upcoming exercises and events.

Regarding our special meeting held at the Red Cross Building for March, I was glad to see the good turnout with fifty-four persons signing the attendance sheet. VE3ARX Bill and VE3ZF Ed spoke on what's been happening at the Red Cross regarding our new Club Station and what they were hoping for in the future. During the coffee break everyone was able to proceed up to see our Executive room and Radio room with all the renovations and modifications. Bill and Ed and their assistants have done a splendid job. It was nice to see VE3DY0, Ken Warner in attendance.

Persons who are learning C.W. for exams should check the C.W. net at 28.605 Mhz at 7:00 P.M. each Monday evening. VE3TQ Jim is net controller and is assisted by VE3OCW Ted via his computer. The announcement in the March bulletin in this regard was in error and Jim and Ted have been running the net since its inception about two years ago. We wish to thank both for their fine effort. Following the completion of code practice, all are invited to check in.

By the time this goes to print, the new touchtone line on our repeater should be in place and adjustments completed. This should speed up the phone patches.

Please check with our Public Service Chairman, Fiori VE3OQG, if you are able to assist on the Salvation Army exercise on May 5th or the "big" race on June 8th. Regarding Field Day, Robert VE3ANW has volunteered to assist VE3GCP Fred in that operation. Please let them know if you are going to participate.

Our new Editor, Phil VE3OII got off to a great start with the March copy of the Bulletin. Please help him with upcoming issues by sending in interesting material.

Finally, it is my pleasure to relay greetings from Malaysia, where VE3HTC Dave, Willy and family are presently located. They will be home for about six weeks on leave this coming summer and we hope to organize a get together for an eyeball while they are home. Dave is planning on operating from 9M2 land when they return and will have me relay the word on his planned schedule. If any club member wishes to write Dave, I can provide his current address in Malaysia. He was happy to report the safe arrival of their new daughter, Kristina. He also mentioned that the monsoon season was nearly over which would provide more swimming. When we were in Singapore on our vacation last November, we had hoped to see Dave. However, my letter with our itinerary went astray, so the proposed eyeball did not take place.

Glenn, VE3FHQ.

---

### MEMBERSHIP CHAIRMAN'S REPORT

As of 19 March we have 87 members. A warm welcome goes to the following new members:

VE3BQ	VE3CIB	VE3JUY	VE3LWD	VE3MWO
VE3NKT	VE3NYC	VE3OIC	VE3OZY	
Michael Leustein		Victor Spafford		Ian Burton

And anyone else we may have inadvertently missed, and of course, all returning members who continue to support the Club.

Mike, VE3JTO.

---

### FIELD DAY '86

Many thanks to Robert VE3ANW for volunteering to co-ordinate the Field Day event this year. Fred VE3GCP, will be assisting as his past experience will prove valuable.

---

In the event of an emergency, or to gain access to the Radio Room at the Red Cross Bldg, contact Jack VE3JTR or Bill VE3ARX or Glen VE3FHQ. These members have the key and can get in without disrupting the Red Cross officials.

\*\*\*\*

Remember the computing S.W.R. bridge project that was undertaken by some members a few years ago? If you have the sensing unit or the completed unit and aren't using it, the Repeater Committee would like to hear from you. Leave your name with Glenn, VE3FHQ.

\*\*\*\*

---

\*

## EDITORIAL



I commend the D.O.C. officials for the content of their Discussion paper on a Possible Restructuring of the Amateur Radio Service in Canada. It is obvious, a lot of work and effort has gone into it. The paper is well written and can be easily understood by those of us who are not lawyers.

I paid particular attention to the last statement at the bottom of page 12... "Nevertheless, this does indicate that too much emphasis may have been placed on the technical aspects and not enough on the operating portion of the examination." When I wrote for my Commercial Operators ticket, operation was a substantial part of the exam.

The elimination of some of the technical requirements and code above 30 MHz, if replaced with a good operating knowledge, would satisfy the requirement for the candidate to "earn" his ticket. I think the exam will not be downgraded, but changed to reflect modern conditions. This, in my mind would reduce the possibility of 2 meters becoming another G.R.S., good buddy.

With the accelerated rate of change in technology, ham radio has seen much competition from other fields of electronics for hobbyists. However, our hobby has survived and is still alive and well.

With greater emphasis on operating requirements, I think future amateurs will respond positively and be just as proud of earning their ticket as we are.

I agree with the proposals, look forward to them being implemented, and to welcoming new hams who may be waiting on the side.

Let's hear your views--they don't have to be typed. Jot down a few sentences, give them to me and look for them in next months issue.

73s Phil VE3011

## NEWS & EVENTS

The Amateur examinations given by the D.O.C. are no longer free of charge.

The fee for each part of the exam is \$5. Those who try for the Amateur certificate (theory, regulations, code sending, code receiving) will be required to pay 20 kc's.

The D.O.C. has announced a new way for candidates for the Amateur and Advanced certificates to be given credit for proficiency in sending and receiving morse code. Called "attestation", it allows three people, who must be holders of Advanced Amateur or Professional Radiotelegraph Operators certificates, to examine a candidate and supply a letter of "attestation" indicating the candidate has the required proficiency in code.

The new procedure is designed to cut costs for the D.O.C., cut costs for candidates who would otherwise have to pay a total of \$10. each for the D.O.C. administered tests which will still be available, and be more convenient for all. This will be implemented shortly, when the details have been worked out.

-CRRL News

\*\*\*\*

The following countries have notified the I.T.U. that they forbid communications with their Amateur Stations: Angola - Burma - Ethiopia - Ghana - Iraq - Kambuchea - Libya - Pakistan - Saudia Arabia - Somali - Thailand - Turkey - Yemen - Zaire.

\*\*\*\*

The Jack Ravenscroft trial outcome is in limbo for the moment. The Judge has taken the month of March off on vacation. Results are now expected sometime in April.

\*\*\*\*

In order to help publicize the Discussion Paper on Amateur Examination Restructuring to Non-Hams, the London Amateur Radio Club had some of their members go on the local cable T.V. station. A panel discussion was held and some films were shown of Ham Stations and Amateur Activities.

\*\*\*\*

The Salvation Army annual event will be held on May 5 at 7pm. About 10 mobiles are needed at 340 York Blvd to help out. If you can assist, call Stan VE3GFE at 528 4002 or Fiori VE300G at 560 6329.

\*\*\*\*

On Sunday June 8, Hamilton will be the site of the World Class Marathon. This will be a good sized undertaking as the route is in excess of 26 miles around the bay and thousands of participants are expected. Both mobiles and handhelds are needed. To get in on the action, contact Fiori VE300G or Stan VE3GFE or Bob VE3ANW.

Mark these dates on the calendar as operators will be needed for the following future events:

Canada Day celebrations at Gage Park  
Opening day at the C.N.E.  
Aug 16 at the C.N.E. for Veterans Day  
Aug 26 at the C.N.E. for the CLARA net.  
More on these events later.

\*\*\*\*

YTM114

Keep an eye open for a Kenwood TR7800 2meter mobile transceiver with the serial number 0110066. This unit was stolen from Fred Robinson's car on 7 March 1986. If found, notify the police. This makes two rigs in two months. If this fellow continues to "lift" equipment at this rate, by October he should have enough to rent a table space at the H.A.R.C. fleamarket.

\*\*\*\*

C.A.R.F. is offering an insurance policy to its members. Coverage includes interference lawsuits and damage caused by towers. The premium is \$26./year for \$1,000,000 of coverage.

-Feb 1986 TCA

\*\*\*\*

In past years, only members of the medical professions, as well as sales, training, technical support and maintenance personnel were wired for sound. Now pagers are being used by managers, lawyers, truck drivers, window cleaners, engineers, and entrepreneurs.

Only 5000 pagers were in use in 1967, when the first paging company in Canada called Calling All Cars, was formed. By 1975 that figure grew to 50,000; in 1985, it was 250,000.

A 1983 study by the Canadian Radio Common Carriers Association projected by 1990 there will be 750,000 pagers in use.

-March 10, 1986 Financial Times

\*\*\*\*

With regret, the Amateur Radio community learned that Ford Smith VE3JUD became a silent key last month. Ford will be missed by many.

\*\*\*\*

George, VE3FXT will be moving from Cambridge to set up a new home in Calgary. George is not only a world traveller but he makes it a point to take his ham gear wherever he goes and has given many of us QSOs from "all corners".

\*\*\*\*

Bert, VE3DPB will be leaving the community of Lynden to join us in Hamilton. Let's roll out the welcome mat for Bert.

\*\*\*\*

Ted, VE3OCW has stepped down from the post of 2nd vice-president. The Executive accepted his resignation after Ted indicated he did not have enough time to devote to the position due to other commitments. Filling the position will be Robert Wilson VE3CIB who has been appointed in accordance with the Club Constitution.

\*\*\*\*

At press time there is no Chairperson for this year's flea market. At the April meeting, the event will be discussed. The H.A.R.C. fleamarket, every October has established itself as one of the best, and now is the time for someone to volunteer their time and hard work to continue this tradition. As Chairperson you will have the chance to implement your own ideas or come up with changes for improvements. If you feel that you can organize a committee and would like to handle one of the major events of the year, do not hesitate to offer your services by calling Glenn at 385-2786. The hall is already reserved and waiting for someone like yourself to make it a bustling bee-hive of activity during the Hamilton Amateur Radio Club's Flea Market '86.

\*\*\*\*

The C.N.I.B. is now renting to blind Amateurs Ten-Tec Argonaut 11s to replace the aging Heathkit HW-12s and HW-32s available previously. For info contact Fred Roberts VE3AFA, CNIB National Office, 1931 Bayview Ave, Toronto, Ont. N7G 4C8.

- DST

\*\*\*\*

If you haven't already done so, send in your submission to the D.O.C. on The Possible Restructuring of Amateur Radio in Canada. The deadline is May 16 1986.

Send your views with reasons behind them to:

The Director General  
Radio Regulatory Branch  
Department of Communications  
300 Slater Street  
Ottawa, Ontario  
K1A 0C8  
Attention: DOS-PR

---

CORRECTION: Last months news reported the weekly Monday evening code practice session and credit was given incorrectly.

Jim Tazzeo VE3TQ is running the sessions, with assistance from Ted VE3OCW and Fiori VE3OQG.

Join Jim at 7pm local time on 28.605MHz on Monday evenings. Jim's net has been running for some time and is of assistance to both future and present Hams. Following the code practice, give Jim's group a call, to show appreciation for their many hours of time and effort put into a job well done.

---



### REVERSE PATCHING

There seems to be some confusion as to what Amateur Radio is, atleast that is the impression that I am getting. This confusion is arising in our continued efforts to interface the radio and the telephone. If you listen on the 2 meter band, you will discover that about half of the conversations you hear are utilizing an autopatch. Originally, I think, the autopatch was developed to provide direct access to the police and other emergency services. It has now grown to include normal calls and calls by people avoiding toll charges.

Now, there is some movement towards a "reverse patch." A reverse patch is the interfacing of the telephone system to the radio such that a person (non-licensed) can contact through a repeater an amateur that is mobiling around. How it works: Someone calls the repeater on the telephone. The repeater answers and waits for the proper DTMF control sequence to be entered by the caller. If the sequence is not entered or entered improperly within a certain amount of time, the call is terminated automatically by the repeater controller. If the code is entered properly the repeater controller will trigger a ring tone on the air. Someone listening to the repeater can answer this reverse patch by entering another DTMF control sequence; the call then proceeds as a normal patch.

It is my opinion that autopatching and especially reverse patching is not what amateur radio is really about. This type of operation is radio-telephone and there are other areas in the radio spectrum that are specifically allocated for this type of operation; there is also cellular radio.

There is also a controversy over the legality of these patches and reverse patching. The big question: Is a non-licensed individual ultimately generating a signal on the air? If the answer to this question is "yes," then reverse patching is definitely contrary to the Radio Act if done by someone other than a licensed amateur.

Furthermore, there are difficulties that could--probably will--arise if the reverse patch is enabled. The telephone number of the repeater must be known. After sufficient time this number will be well-known. The repeater controller is designed so that the DTMF receiver is multiplexed to a number of inputs. A software routine is used to provide prioritized access to the various audio inputs channels. It turns out that the telephone line has higher priority than the main receiver for use of the DTMF decoder. (There are additional inputs that have higher priority over the telephone line.)

Should a "telephone hacker" appear on the line, and the reverse patch was enabled, a legitimate radio user would not be able to operate any of the facilities available over the air--patches, mailbox functions, etc.--because the DTMF decoder would be listening on the phone line. This could create a real problem if an emergency situation arose.

Therefore, based on the above arguements, I would suggest that any idea of enabling the reverse patch be abandoned. If anyone has a strong case for using the reverse patch, I invite them to present their case.

73, Mike, VE3JTD

CODE SET for VE3NCF RC-850 CONTROLLER

Touch-Tone Pad Test: 5 (sequence of up to 32 keys)

Autopatch: \* (7 digit phone number) # to end

Emergency Autodial:

- \*910 HRPD (police non-emergency)
- \*911 911 EMERGENCY
- \*912 OPP Burlington
- \*917 MOT Road Reports
- \*918 Hamilton Auto Club Emergency Road Service
- \*919 Weather (recording)

Voice Response Telemetry Messages:

- 70 Time of Day announcement
- 71 S-meter readback
- 715 Internal Temperature
- 716 Internal Voltage

Mailbox Messages:

- MB0: Phone Home
- MB1: Call me tonight
- MB2: Call me ASAP
- MB3: Cancel Meeting
- MB4: C U at the meeting
- MB5: I am on TVI
- MB6: I am on MBR
- MB7: I am on DRW

Demo Message/Mailbox:

- "Callsign" followed by "Demo message" 2(00-79)
- "First Callsign" "from" "Second Callsign" 2(00-79)(00-79)
- Repeater IDs, Timeout Messages, etc. 2(0-8)
- Time of Day announcement 29
- Messages present interrogate 2
- Preview Mailbox Messages 2\*(0-9)
- Store "message #" for "First Callsign"  
from "Second Callsign" 2(00-79)(00-79)(0-9)(4 digits)
- Retrieve "Callsign's" messages 2(00-79)(4 digits)
- Cancel "Callsign's" messages 2(00-79)(10 digits)

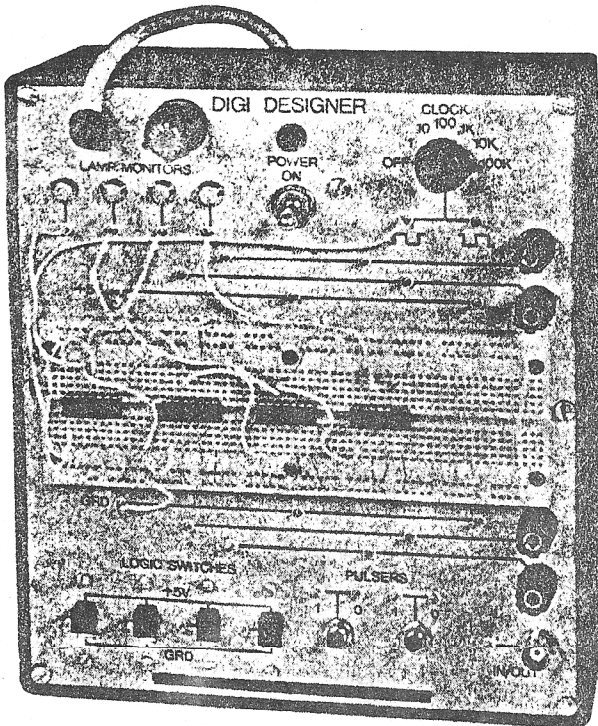
CURRENTLY ASSIGNED MAILBOXES

00:ALL OPERATORS	20:VE3ITY Boris	40:	60:VE3ITJ Aranus
01:reserved	21:VE3JUC Tom	41:VE3GFE Stan	61:VE3JTG Mike
02:reserved	22:VE3BOY John	42:VE3FDM Pete	62:
03:reserved	23:VE3FMS Jack	43:VE3NYC Paul	63:
04:reserved	24:VE3OIZ Bill	44:VE3NKZ Ted	64:
05:reserved	25:VE3OCD Joe	45:VE3BK Norm	65:
06:reserved	26:VE3OCW Ted	46:VE3DSP Glenn	66:VE3HNG Al
07:reserved	27:VE3NCK Bill	47:VE3FHB Ken	67:
08:reserved	28:VE3OIN Ken	48:VE3FMT Jim	68:
09:reserved	29:	49:VE3FEZ Pete	69:
10:reserved	30:VE3OCD Bob	50:VE3OQG Fiori	70:VE3FDK John
11:VE3ZF Ed	31:VE3EGT Les	51:VE3OCT Doug	71:
12:VE3ITQ Fred	32:VE3NCN Bert	52:VE3FHQ Glenn	72:
13:VE3NKW John	33:VE3MHW Mark	53:VE3OZY Rick	73:VE3GCP Fred
14:VE3OZG Hugh	34:VE3ANW Robert	54:	74:
15:VE3CNF John	35:VE3JUR Dave	55:VE3FMG Mike	75:VE3OCY Don
16:VE3AAH Gordon	36:VE3OII Philip	56:	76:
17:VE3OQX Ev	37:VE3RW John	57:	77:VE3JTR Jack
18:VE3MWM Stu	38:	58:VE3HLI Gerry	78:reserved
19:VE3EHL Ed	39:VE3EKY Bernie	59:VE3IM Tom	79:reserved

---

## BUILDER'S CORNER

By Boris VE3ITY

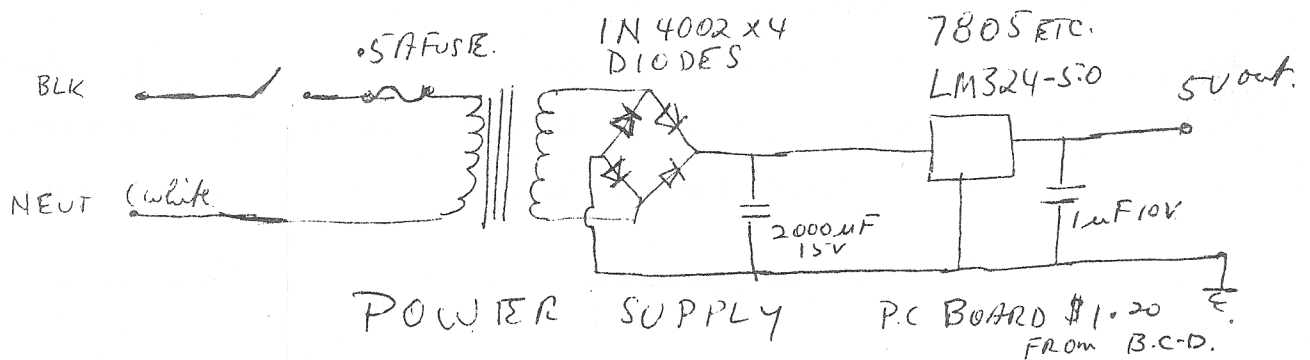


Finally I have settled down and this month will be the first appearance of Builder's Corner. If all goes well you could look forward to enjoying (I hope) this monthly feature.

This month's project is a digi-designer. Of all the gizmos and do-dads I have in the shack, the digi-designer is one of the most versatile and useful. It makes short work of I.C. projects because neither soldering, nor wire wrapping is involved. In brief, a digi-designer consists of a large breadboard capable of holding several I.C.s, components and wires, in conjunction with a stable power supply, logic switches, logic level detectors, and a clock pulse generator. The beauty of this project is that you could configure it to suit your area of interest.

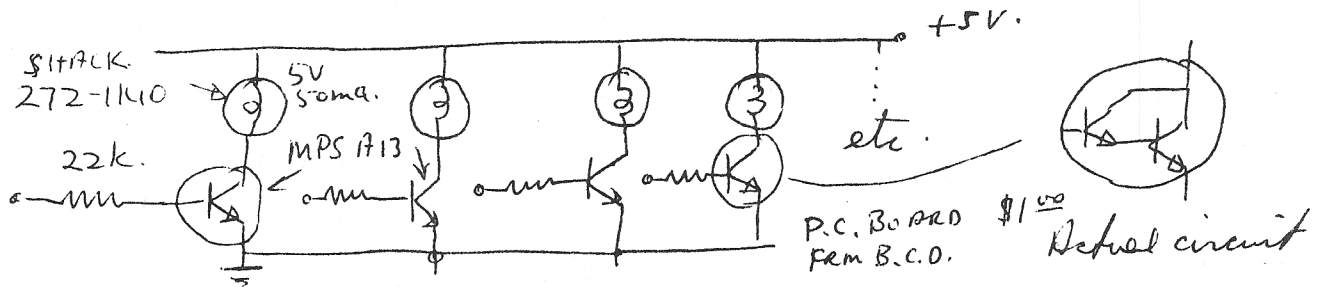
If you're into op-amps then a bi-polar variable 5v-15v power supply may be in order. However for straight TTL work, a regulated 5v supply at 1 amp or thereabouts is ample. Let's go through the steps required to build one of those useful instruments; after you've finished building - you'll be proud to show it off!

1) THE POWER SUPPLY The 5 volt 1 amp power supply is strictly conventional. The power transformer is 6.3 volt 1.2 amp.



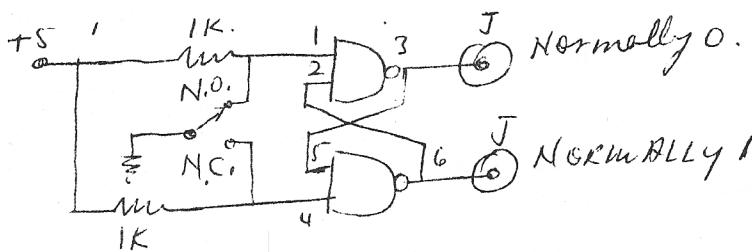
2) LOGIC DETECTORS Logic detectors give us a visual indication of the logic state of any point without having to hook up a scope or volt meter etc. Since many I.C.s are manufactured as quads and since 4 lines are required to fully represent a BCD digit, four logic detectors are used in this project. However, you could easily double the number or reduce the number of detectors accordingly to your requirements. Bear in mind that you are building this for the future so don't skimp!

A logic detector must not significantly load the circuit under test, therefore a darlington transistor is used to turn on a low drain bulb from the 5 volt power supply. The 22k resistor in series with the base serves to isolate the lamp from the circuit under test.

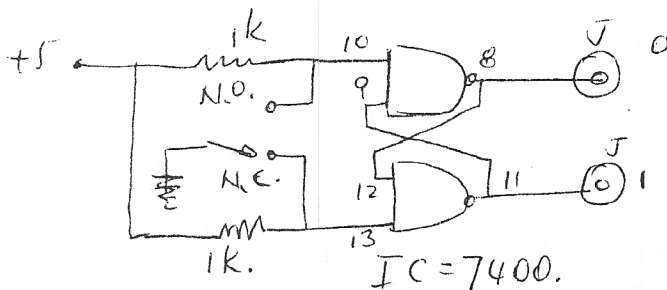


NOTE: Do not be tempted to use an ordinary transistor like a 2N3904. Use a darlington! e.g. MPS AB

3) PULSER The pulser provides a convenient way of injecting manually one pulse at a time of either polarity. This is useful for manually clocked circuits to observe the action of the input pulses. Again, two pulses are provided two outlets each.

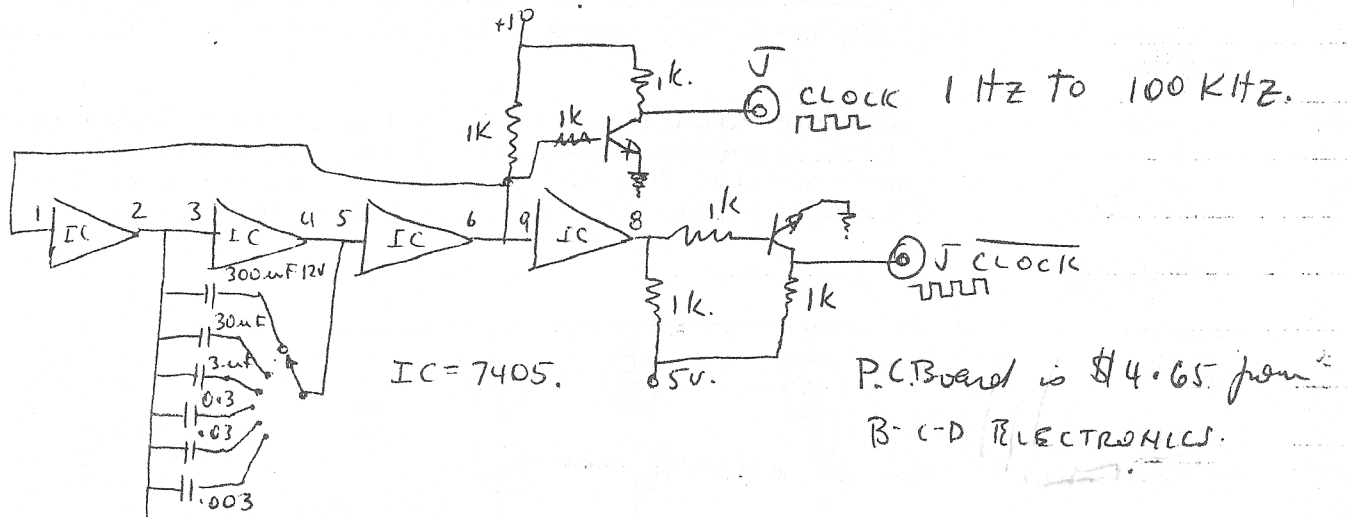


Note. J = JACK.  
 NC = Normally closed  
 NO = " Open.



P.C. BOARD IS \$1.00  
 From B.C.D.

4) CLOCK GENERATOR I saved the most complex circuit for last hoping that after assembling the previous simple circuits you'd be well qualified to tackle the clock generator.



If you think that's too much to breadboard, don't despair, P.C. boards are available for all circuits from B-C-D electronics and many of the parts are available from Radio Shack. Next month we'll show you how to piece the whole thing together. In the meantime start scrounging for parts.

73 de VE3ITY

THANK

To:

Mike VE3JTO	Bob VE3OCQ
Ed VE3ZF	Bill VE3ARX
Glenn VE3FHQ	Boris VE3ITY
Stan VE3GFE	Fiori VE3OQG

For their assistance with your monthly newspaper. Without their help, The Hamilton Amateur would be much smaller.

Phil VE3OII

12

Get those projects off to a good start, build them on a B-C-D Electronics Printed Circuit board foundation. We manufacture boards from the ARRL Handbook, ETI magazine, also Radio Electronics, Elektor, etc magazines. Send for free list. No quantity too small, no set-up charges like the big guys. Try us you'll be pleasantly surprised.

All boards are G10 Epoxy fibreglass coated with liquid flux. We also manufacture to your specs and schematics.

Noise Bridge .....	\$2.00
Mosfet Dipmeter .....	1.40
FET Voltmeter .....	1.50
Operating Impedance Bridge	2.00

**B-C-D ELECTRONICS**

P.O. BOX 6326 STA. F.  
HAMILTON, ONTARIO L9C 6L9

THE HAMILTON AMATEUR RADIO CLUB SWAP NET with Ralph VE3BYM

=====

VE3OIY "RAY" 734-4130 WELLAND  
 -ELECTOHOMER B&W 21" MONITOR \$50 -PYE S.S. AICRAF7 RCVR  
 \$40 -HEATH 10-102 SCOPE \$135 -HEATH HR20 RCVR \$60

VE3YR "BILL" 335-5955 BURLINGTON. OR 692-4998 BINBROOK  
 -RADIO SHACK PRO 2020 SCANNER W/MAN LIKE NEW \$250

VE3CZN "RAY" 632-0344 BURLINGTON  
 -HW 101 XCVR W/2 P.S. \$300 -CLIPERTON L LINEAR 1KW \$650  
 -VHF 40W 2M LINEAR \$130 -MOT. UHF RPTR \$300 -COMMADOR  
 DUAL DISC DRIVE MSDSD2 \$550 -SB102 XCVR \$350

VE3INH "JOHN" 621-7433 ETOBICOKE  
 -YAESU: FT980CAT HF XCVR W/ FIF232C INTERFACE, FRB1 RELAY  
 BOX, GEN COV. XTR KIT, TEK SERV MAN \$2200

VE3GIV "BOB" 388-4344 -KENWOOD STN COMPLETE W: TS520 XCVR,  
 DG5 DISPLAY, SSB, CW FILTERS, AC&DC P.S., SP520 SPKR, MAN. \$525

VE3EC "BILL" 681-0509 -ROBOT 1200C COLOUR SLOW SCAN CONV \$1175

VE3MLX "GREG" 731-7361 THORNHILL ICOM IC230 2M XCVR W/TT BRKT \$125

VE3OQG "FIORE" 560-6329  
 (2) VIC20 KEY BOARDS W/CW INTERFACE, SOFTWARE, DATA SET  
 P.S., RF MODULATOR 145.00

VE3NCU "CHUCK" 389-8902  
 -(4) SCANNERS BEARCAT 220 PROGRAMABLE \$175 -BEARCAT 160 \$160  
 FANNON XTL \$110 - REALISTIC PRO 4 XTL \$75

VE3EKY "BERNIE" 527-7175 -CARDON COMM. 2M 5/8 ANTENNA \$15

VE3KYD "FRED" 632-2044 BURLINGTON  
 -MSD SD2 DUALL DRIVE FOR C64 899 W/MAN \$575 -CENTRONICS 737  
 PRINTER W/PARRALEL INT. \$175 -AEA CPICWRTTY INTERFACE \$225  
 -ACCORN ATOM COMP \$125 -BUSS CARD C64 BASIC 4-IEEE INT \$125  
 -SHUGART400SL DRIVE NEW \$125

VEFWX "JOHN" 820-2308 MISSISSAUGA -COLLINS R390A RCVR NEG \$200

WANTS

=====

VE3CZN "RAY" 632-0344 BURLINGTON-(2) MARCONI DT83 UHF XCVRs

VE3FWX "JOHN" 820-2308 MISSISSAUGA-MAN. FOR MARCONI DT93B VHF XCVR

VE3ITJ "ARRUNAS" 388-7897-MAN TV2C/U TUBE TESTER, TUBES KT66 ECT

VE3OCZ "MARK" 681-0400 BURLINGTON -KANTRONICS INTERFACE FOR VIC20

SWL "MURRAY" 627-1630 DUNDAS GENERAL COVERAGE RECEIVER

≡≡ FLEA MARKETS ≡≡

DURHAM REGION AMATEUR RADIO FLEA MARKET - Saturday April 12 9am-2pm  
Pickering High School Pickering Village, Ajax  
Take exit 399 from Hwy 401 east.  
Admission: \$3. Includes ticket on Superprize  
Door Prizes - Commercial Displays - Refreshments  
VE3OSH 147.72/12 52-52 Simplex VE3SPA 147.975/375

\*\*\*\*

DAYTON HAMVENTION - April 25 26 27 Box 44 Dayton, Ohio 45401  
Technical Forums - New Products - 3 day Flea Market - YL & Non Ham  
Activities - Special Awards  
CW Awards: all participants receive an award indicating their maximum  
speed. World record is 72.5 wpm.  
Free parking & free shuttle bus service from major hotels.  
Admission: \$8. in advance, \$10 at the door

\*\*\*\*

ROCHESTER HAMFEST - May 16 17 18. No details at this time.

\*\*\*\*

SOUTHERN ONTARIO REPEATER TEAM FLEA MARKET & PACKET SYMPOSIUM -  
Sunday May 25 9am Medway High School, Arva Ontario (Just north of  
London)  
Symposium at 10 am - Refreshments - Admission: \$2. - Tables: \$3.  
VE3TTT 147.78/18 VE3SUE 449.4/444.4

\*\*\*\*

CENTRAL ONTARIO FLEAMARKET & COMPUTERFEST Saturday June 7 8am-2pm  
Sponsored by the Kitchener-Waterloo Amateur Radio Club  
P.O. Box 812 Kitchener, Ontario N2J 4C2  
Col. John McCrea Legion Hall on Highway 7, Guelph Ontario.  
Refreshments - Door Prizes General Admission: \$2.  
Inside vendors \$8./8ft table Outside vendors: \$3/space.  
VE3ZMG 147.96/36 52-52 simplex

\*\*\*\*

INTERNATIONAL PEACE GARDEN HAMFEST & COMPUTERFEST July 12 13.  
North Dakota - Manitoba (Dunseith N.D.),  
For info: Box 64 Minot, N.D. 58702  
Transmitter Hunts - Mobile Judging - CW Contests  
Activities for Kids & Non-Hams - Camping Facilities - Motels nearby  
52 simplex

\*\*\*\*

=====

COMMANDMENT OF ELECTRONICS

Beware of lightning that lurketh in an undischarged capacitor, lest  
it cause thee to be bounced upon thy buttocks in a most ungentlemanly  
manner.

-1981 issue of TCA