

THE HAMILTON AMATEUR

HAMILTON AMATEUR RADIO CLUB INC.
P.O. BOX 253
HAMILTON, ONTARIO
L8N 3T8

BURLINGTON
MAY 11 1975
FIRST
CLASS



*Gerald Goldberg VE3HLI
17 Cottrell St.
Hamilton, Ontario
L8S-3L5*

March



HAMILTON AMATEUR RADIO CLUB INC.

CLUB STATION...VE3DC....VE3RCB---REPEATER...VE3DRW

INPUT...146.160 MHZ

OUTPUT...146.760 MHZ

1975 OFFICERS and DIRECTORS

<u>PRESIDENT</u>	Wm. R. McCASLIN VE3ARX	704 CEDAR AVE. BURLINGTON , L7T 2R7	634-5190
<u>1st VICE-PRESIDENT</u>	JOHN DYKSTRA VE3BOY	TALBOT ST. CAYUGA ,	772-5372
<u>2nd VICE-PRESIDENT</u>	DAVE. E. WALTON VE3FLZ	421 LODOR ST. ANCASTER , L9G 2Z9	648-6872
<u>PAST PRESIDENT</u>	GLEN A. SIMPSON VE3DSP	61 BRIARWOOD CRES. HAMILTON , L9C 4C3	385-8478
<u>SECRETARY</u>	PETE. C. WALTON VE3FEZ	421 LODOR ST. ANCASTER , L9G 2Z9	648-6872
<u>TREASURER</u>	GERALD CRAWSHAW	176 WEST 35th ST. HAMILTON , L9C 5K8	385-2789
<u>EDITOR</u>	ROBERT G. CLARKE VE3ANW	420 COCHRANE RD. SOUTH HAMILTON , L8K 3G9	549-2916
<u>ASSISTANT EDITOR</u>	MAX. PIZZOLATO VE3DNM	65 ELGAR ST. HAMILTON , L9C 4E4	385-2530

COMMITTEE CHAIRMEN

Club Station Licencee(VE3DC)	VE3BKM	VERN. HUCKLE	388-6989
RED CROSS STATION LICENCEE (VE3PCB)	VE3FHQ	GLENN A. GIBSON	385-2786
REPEATER LICENCEE (VE3DRW)	VE3CFM	BOB. MILLER	529-2950
REPEATER TECHNICAL	VE3FHB	KEN. CHRISTMAS	383-5666
REFRESHMENTS	VE3DNM	MAX. PIZZOLATO	385-2530
MEMBERSHIP		GERALD CRAWSHAW	385-2789
HEALTH & WELFARE	VE3GFE	STAN. BOLIBRUCH	528-4002
PHOTOGRAPHER	VE3FLZ	DAVE. WALTON	648-6872
PUBLICITY & ADVERTISING	VE3DOU	PETER GOODSON	561-1659
PUBLIC SERVICE	VE3FHQ	GLENN A. GIBSON	385-2786
PROGRAM	VE3FLZ	DAVE. E. WALTON	648-6872
TECHNICAL	VE3DVV	JOHN VANDENBURG	692-3221

MEMBERSHIP YEARJANUARY 1st to the following DECEMBER 31st

MEMBERSHIP FEES.....\$6.00 per year (all classifications)

PLEASE ADDRESS ALL CORRESPONDENCE TO THE SECRETARY AT - P.O. BOX 253, HAMILTON, L8N 3T8

Again, it was gratifying to see the large turn out at last month's meeting. According to the comments, you were more than satisfied with the program. Our thanks go to Dave Walton VE3JLZ our program director, and to Paul Westcott VE3DJP for the masterful way he presented his technical talk at the layman's level. As Al Barker VE3ND remarked, as he left the meeting, "there was a lot of more in this meeting!" We hope you, too, found that to be the case.

Dave has another interesting program in store for you this month, "Amateur Radio in the Past and Present" presented by Mr. Laurie Purdy VE3FPF... Editor of the Ontario Amateur. So don't miss this one!

Our programs are undergoing adjustment until we have on the air that which provides a most enjoyable listening experience. Technical talks on test equipment, may be confined to the newsletter, with practical demonstration exhibition style, conducted one in the spring and one in the fall, by our technical advisors. If you are in favour of this, make the fact known to Dave Walton VE3JLZ.

PROGRAM

DATE.....Wednesday March 19, 1975

TIME.....8:00 PM

PLACE....The Brow Infirmary, Chedoke Hospital.

BUSINESS.Glen VE3DSP will give a short report on the

CARF OPEN FORUM meeting of March 1.

SPEAKER..Laurie Purdy VE3FPF will speak about the

time he spent in the Caribbean area.

REFRESHMENTS....COFFEE AND SINKERS

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John Holland VE3BJ is continuing to bring honour to the club in his technical display and talk on amateur radio at various clubs and schools. We are proud of you John!

We were sorry to hear of the recent illness and hospitalization of John Panlitch VE3EVI. We trust you are feeling better John, and our prayers go out to you and your family. Our congratulations go out to Bob Clarke VE3AMW and Max Pizzato VE3DM for their efforts in producing a fine bulletin...Max is also your "coffee host" at club meetings. And where would we be without our able Secretary Pete Walton VE3PEX, who tries to make the minutes read as if we knew what we were doing!

So remember, Club Night, is your night, and we look forward to a pleasant evening with you over a cup of "Max's coffee!"

THE PRESIDENTS PAGE

Again, it was gratifying to see the large turn out at last month's meeting. According to the comments, you were more than satisfied with the program. Our thanks go to Dave Walton VE3FLZ our program director, and to Past President Glen Simpson VE3DSP for the masterful way he presented his technical talk at the layman's level. As Al Barker VE3HNG remarked, as he left the meeting, "There was a lot of meat in this meeting!" We hope you, too, found that to be the case.

Dave has another interesting program in store for you this month, "Amateur Radio in the East Indies" presented by Mr. Lawrie Purdy VE3FPF...Editor of the Ontario Amateur. So don't miss this one!

Our programs are undergoing adjustment until we latch on to that which provides the most interest for the time slot available. Technical talks on test equipment, may be confined to the bulletin, with practical demonstration exhibition style, conducted one in the spring and one in the fall, by our able technical advisors. If you are in favour of this, make the fact known to Dave Walton VE3FLZ.

The fellowship time over a cup of coffee is probably the most important aspect of the meeting, so we want to extend this time, and still keep the meeting within reasonable bounds.

Glenn Gibson VE3FHQ, our Public Service Director and Emergency Co-ordinator, has more news for you regarding good turn day of March 22nd. Glenn is a hard working dedicated type who is ever helping a fellow ham and a main cog in the promotion of amateur radio.

Gerald Crawshaw, our Treasurer and Membership Chairman, has done a fine job in caring for the club finances. But now Jerry needs your help. Your new membership was due January 1st 1975 and he would appreciate it if you could see your way clear to forward the \$6.00 to him at this time. Your executive is working hard to build a club you can be proud of, at minimal cost to you. Your paid-up membership is the best way to express your appreciation and approval.

John Holland VE3BOJ is continuing to bring honour to the club in his technical display and talk on amateur radio at various clubs and schools. We are proud of you John!

We were sorry to hear of the recent illness and hospitalization of John Paulowich VE3EVI. We trust you are feeling better John, and our prayers go out to you and your family. Our congratulations go out to Bob Clarke VE3ANW and Max Pizzolato VE3DNM for their efforts in producing a fine bulletin...Max is also your "coffee host" at club meetings. And where would we be without our able Secretary Pete Walton VE3FEZ, who tries to make the minutes read as if we knew what we were doing!

So remember, Club Night, is your night, and we look forward to a pleasant evening with you over a cup of "Max's coffee!"

EXCITING VALUES WITH HEATHKIT® SCOPES

Solid-state 10 MHz triggered scope

Providing a big 6x10 cm screen with lighted graticule for easy, accurate measurement, the Heathkit IO-103 scope is the ideal tool for the service shop performing audio and TV maintenance. The IO-103 offers wide bandwidth and complete calibration. Response on the vertical channels in DC-10 MHz ± 3 dB, with less than 50 ns rise time. The calibrated attenuator switch has nine positions, with variable control. And sweep is adjustable in seven calibrated steps, from 100 ms/cm to 100 ns/cm, with variable control between. Horizontal expansion gives x2 magnification $\pm 5\%$ for a 50 ns/cm sweep rate. Select either normal or automatic mode for triggered sweep. Other individually controlled triggering options include "plus-or-minus" for selecting waveform slope; AC-DC which removes any DC component in the signal, or permits direct coupling for triggering by DC level changes or very low AC signals.

Kit IO-103, 36 lbs. was 299.95 Now only 199.95

IO-103 SPECIFICATIONS - VERTICAL CHANNEL - Input impedance: 1 megohm shunted by 30 pF. Sensitivity: 50 mV/cm. Frequency response: DC to 10 MHz ± 3 dB @ 3 cm deflection. DC to 8 MHz ± 3 dB @ 6 cm deflection. Rise time: Less than 50 ns. Attenuator: 9-position, 0.05 to 20 V/cm (1, 2, 5 sequence). **HORIZONTAL CHANNEL** - Input impedance: 100 k ohms. Sensitivity: 0.25 V/cm (uncalibrated). Frequency response: DC to 500 kHz ± 3 dB. **TIME BASE** - Sweep: 7 steps, 100 ms to 100 ns/cm. Horizontal expansion: x2 $\pm 5\%$. **Trigger Options** (switch selected): Auto/Normal: +/- (plus or minus); AC/DC; INT/EXT. Sensitivity: Internal, 1 cm display. External 0.5 V peak-to-peak. **GENERAL** - CRT: 5DEP1F, green, medium persistence phosphor. Graticule: 6x10 cm, edge lighted. Power supplies: All solid-state rectifiers, all amplifier supplies regulated. Power requirements: 120/240 VAC, 50/60 Hz, 35 W. Overall dimensions: 12 3/4" H x 9 1/4" W x 16 1/4" L. Dimensions include all protruding surfaces such as knobs, handle, feet, etc.

DC-5 MHz general purpose scope

If you're looking for a truly outstanding general purpose scope at a sensible price, you need look no farther than the IO-102. A wide band response of DC-5 MHz, fast 80 ns rise time, and a high 30 mV/cm input sensitivity make the Heathkit IO-102 scope a truly high performance, low cost instrument for a wide variety of applications. And for added convenience there's switch selected AC or DC coupling; frequency-compensated three-position attenuator to accommodate varying input levels; switch-selected grounding for zero reference line; FET high-impedance input circuit to minimize loading.

The recurrent, automatic sync-type sweep generator provides five sweep ranges, from 10 Hz to 500 kHz. A separate frequency vernier control permits selection of the desired sweep rate to give a stationary trace. And an external horizontal input allows the sweep signal to be applied by an external generator. The front panel internal-external switch and external sync connector provide a means for applying an external sync signal. A one volt peak-to-peak output provides a signal that can be used as a comparison to determine the value of an unknown voltage.

The type 5DEP1 CRT used in the IO-102 provides a brilliant, easily-read trace, even in areas such as classrooms with high ambient light levels. The highly visible trace, coupled with the large 5" CRT make the IO-102 ideal for classroom demonstration purposes. A 6x10 cm ruled graticule makes trace amplitude easy to determine. And to provide additional convenience and versatility, the CRT bezel may be replaced by a standard scope camera mount.

Both horizontal and vertical amplifiers and sweep circuit are operated from zener-regulated power supplies. The transformer-operated power supply can be wired for either 120 or 240 VAC operation, and is fused for protection.

Kit IO-102, 31 lbs. 179.95

Assembled SO-107A, wired version of the IO-102 in handsome black & white styling (not shown), 31 lbs. 233.33

IO-102 SPECIFICATIONS - VERTICAL CHANNEL - Sensitivity: 30 mV/cm, uncalibrated; Frequency Response: DC - 5 MHz, ± 3 dB. Rise Time: 80 ns. Input impedance: 1 megohm shunted by 35 pF. Attenuator: 3-position, frequency compensated; x1, x10, x100. **HORIZONTAL CHANNEL** - Sensitivity: 0.1 V/cm. Frequency Response: 1 MHz ± 3 dB. Input impedance: 1 megohm shunted by 50 pF. Sweep Generator Type: Recurrent, automatic sync. Range: 10 Hz - 500 kHz in five switch-selected steps, continuously variable between steps. **GENERAL** - Cathode Ray Tube: Type 5DEP1, selected steps, continuously variable between steps. Viewing area, 6x10 cm. Power Supplies: All solid-state rectifiers, regulated. Power requirements: 110-130 or 220/260 VAC, 50/60 Hz, 35 W. Overall Dimensions: 12 3/4" H x 9 1/4" W x 16 1/4" D, including knobs, handle, feet, etc. Net weight: 27 lbs.



NEW
LOW
PRICE

NOW
ONLY

199.95

NO MONEY DOWN

Kit, or
Assembled,
Tested,
Calibrated

179.95
KIT

NO MONEY DOWN

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ASSEMBLED

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HEATH

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MISSISSAUGA

ONTARIO

SECRETARY'S REPORT FEBRUARY 19th 1975

Regular meeting Hamilton Amateur Radio Club was opened at 8:12 pm by Bill McCaslin VE3ARX, Club President.

Bill had all the visitors introduce themselves and then Pete Walton VE3FEZ gave the secretary's report. Bob Clarke 'ANW moved they be adopted as read and Glen VE3DSP seconded the motion.

Bill announced that name badges would be made available to anyone who wants them for 75¢. They will have first name and call sign only.

Gerry Crawshaw gave the treasurer's report and Stan reported that no members were sick or in the hospital.

Bill passed out some membership certificates that had not been picked up by the members. He then introduced Jim Baskey Jr. and presented him with an RSO tie-tac for his enthusiasm with club activities including Field Day and Talk-in Station during RSO Convention.

John Kassay announced a bike-athon the last Sunday in May. The Optimist Club have asked for our assistance. Glenn VE3FHQ will be looking after this.

Fred Robinson 'GCP and Lawrie Purdy 'FPF told us about CARF plans for the future of amateur radio especially related to the new licensing proposals in the U.S., and CARF will be giving us total Canadian representation. There will be a meeting with CARF about this soon, and anyone wishing to attend should get in touch with Glen Simpson, Chairman of this Committee.

Glenn Gibson 'FHQ talked about the recent SET exercises and thanked all members for their participation in the event.

Bob Clarke 'ANW asked for comments on articles for the club bulletin also advertisements for used amateur gear.

Bill commented on the excellent job done by Ed Charlesworth and John Holland at Southmount High School. He also read a letter of thanks from the school to the club. John Holland described the event in detail.

John Vandenburg 'DVV talked about obtaining test equipment for the club with the money that was donated by the Hospital. John recommended that we purchase a Grid Dipper and SWR Bridge Watt Meter. Bob 'ANW moved we accept the proposal and the motion was passed unanimously. At this point the meeting broke for coffee 9:00 pm and was called to order again at 9:15 pm.

John Dykstra introduced Glen Simpson VE3DSP who gave us a real good talk on T.V.I. Ed Leslie thanked Glen for his talk.

Dave 'FLZ moved that a special committee be appointed to represent the club at the General CARF meeting in Toronto on the 29th of Feb. This was seconded by Bob Clarke and Glen Simpson was asked to be Chairman of the committee. A further meeting to be held at BROW on Wed. Feb. 26th to draft up club proposals to be presented at CARF meeting. Our meeting adjourned at 10:40 pm

Pete Walton VE3FEZ Secretary

The following is a copy of the proposals submitted by the HARC to CARE on the 1st of March 1975.

CARE
HYBRID AUDIO AMPLIFIER MODULES

The Sanken s1-10104, s1-1025a, s1-1050a.
A complete power amp in a module that is only 2 or 3 inches square.

The only other parts needed are a heat sink, power supply, three capacitors and a resistor.

Can be driven by most preamps.

These modules are flat +/- 1/2 db 20Hz. to 20k Hz. Harmonic distortion is less than .5% into an 8 ohm load.

10 watt 8.95 25 watt 25.50 50 watt 37.25.

Good selection of quality 7400 series TTL IC's in stock
Call us or come in and tell us about your IC needs.

Good stock of various 7 segment readouts in stock (led)

Still a good buy! Full function calculator kits, while they last.....\$19.95

ffk-801 calculator kit with floating decimal, percentage, constant and all other functions.....\$29.95

9 volt ni-cad rechargable battery and charger.....\$5.99

SPECIAL OFFER with purchase of ffk-801 calculator receive at no charge 1 ni-cad battery and charger!!!!

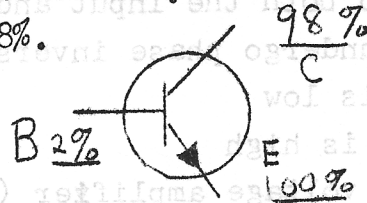
That at the same time we approach A.R.R.I. to acquire an Associate Country status to replace our present Division status.

The following is a copy of the proposals submitted by the HARC. to CARF on the 1st of March 1975.

1. That CARF re-write its constitution to accept individual memberships across Canada, with the provinces as divisions.
2. That the provincial societies begin to wind up its operation as a Society and form the Provincial Divisions, turning its current membership over to the national body.
3. That the Provincial Division directors be elected in a provincial election and in turn form the national executive, with the exception of the President and Vicepresident who would be elected by a national vote.
4. That each division maintain its current executive as the Division executive, and CARF maintain its present executive.
5. That the executive members mentioned in #4 hold a meeting to decide on matters of funds, headquarters and the production of a national magazine, locate and appoint committee heads.
6. That the CARF tabloid now known as The Canadian Amateur, as soon as possible become a bi-lingual magazine with technical social and business content, and supportive of Canadian service groups.
7. That before the end of 1975, a national and divisional election be held to elect or re-elect the executive for a term of two years.
8. That when it is felt that the new organization honestly represents the majority of Canadian viewpoint, that it seek recognition by the D.O.C. as the representative of Canadian Amateurs in dealing with our Government.
9. That at the same time we approach A.R.R.L. to acquire an Associate Country status to replace our present Division status.

7. In a typical transistor

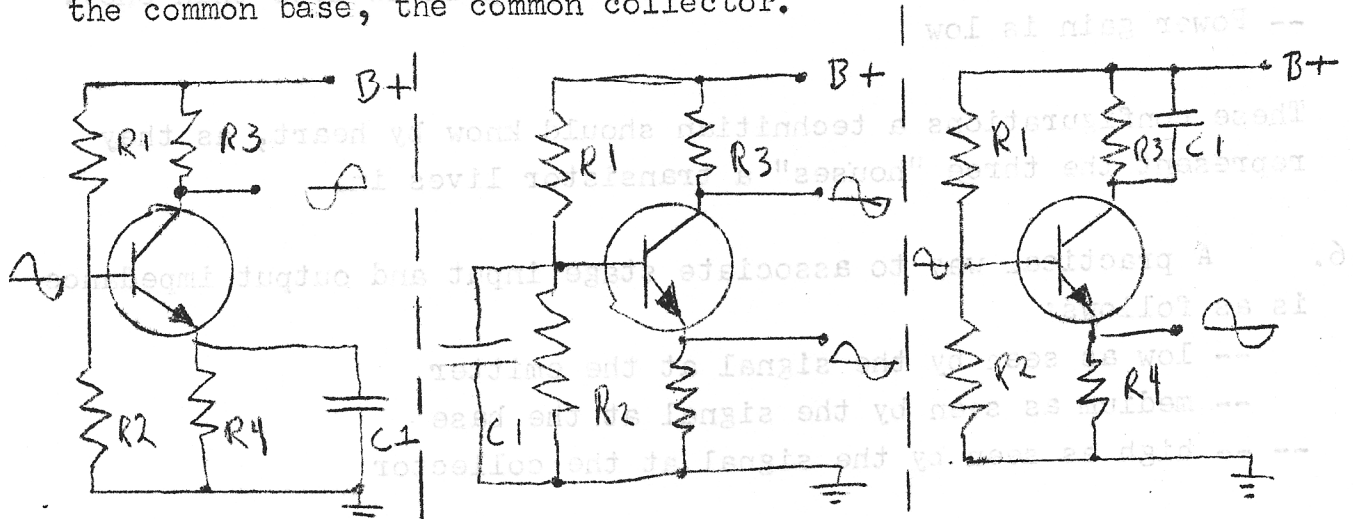
8. In a typical transistor (nnp or pnp) approximately 2% or less of the current that flows between the emitter and base; and about 98% or more of the current flows between the emitter and the collector. The emitter processes all the current, 100%.
9. The amount of current that flows between the emitter and collector is known as alpha. It is always less than unity or 1. In the example given it is 98%.



10. The ratio between the amount of current that reaches the collector and the amount reaching the base is known as beta. In the example given it is 49.

$$\frac{98}{2} = 49$$

11. Beta is the current gain capability of a transistor. A transistor having a beta of 100 has twice the current gain capability of a transistor having a beta of 50. The average transistor has a beta of 50 to 150. Transistors that have a beta lower or higher than this are by no means uncommon.
12. Regardless of the type of circuitry used, a transistor is usually found in one of three basic configurations; the common emitter, the common base, the common collector.



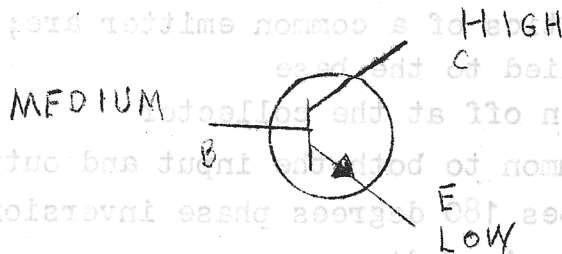
13. The chief characteristics of a common emitter are;
- the signal is applied to the base
 - the signal is taken off at the collector
 - the emitter is common to both the input and output signals
 - the signal undergoes 180 degrees phase inversion
 - The input impedance is medium

- the output impedance is high.
 - the common emitter is a voltage and current amplifier
 - power gain is high
14. The chief characteristics of a common base are;
- the signal is applied to the emitter
 - the signal is taken off at the collector
 - the base is common to both the input and output signals
 - the signal does not undergo phase inversion
 - the input impedance is low
 - the output impedance is high
 - the common base is a voltage amplifier (current gain is less than one)
 - power gain is medium
15. The chief characteristics of a common collector are;
- the signal is applied to the base
 - the signal is taken off at the emitter
 - the collector is common to both the input and output signals
 - the signal does not undergo phase inversion
 - the input impedance is medium
 - the output impedance is low
 - the common collector is a current amplifier, (current voltage gain is less than one).
 - Power gain is low

These configurations a technician should know by heart, as they represent the three "houses" a transistor lives in.

16. A practical way to associate stage input and output impedance is as follows:

- low as seen by the signal at the emitter
- medium as seen by the signal at the base
- high as seen by the signal at the collector



A.R.E.C. NEWS

Spring will soon be with us, and with its arrival, our March 22 exercise for Amity, "GOOD TURN DAY". We are looking for 6 mobiles, and one portable base, set up at Amity. Four mobiles will be initially assigned to their areas, to check on truck locations, one mobile will be available for Mr. Wallace, and one mobile can act as an overall backup.

Our effort in '74 was much appreciated.

There will be an exercise in April, and a bike a thon Sunday May 25 th. So Keepthem in mind fellows!

Glen Gibson ve3fhq, E.C. Hamilton

The treasurer has brought it to my notice that only one third of themembership have renewed for this year. Please take note; this is the last buletin you will receive unless you pay your n on increased dues. Im sure you want to support the club, especially after our achievements in the last 2years.

FAIR EXCHANGE

Bill ve3gzm has for sale one model 15 page printer. maybe he has the converter too.

The address of CARF is P.O. Box 356, Kingston, Ontario. At the open forum, in Toronto, the CARF Executive expressed the desire to improve communications between themselves and us as individuals and us as club s. So if you have something on your mind, let the HARC executive know or write CARF directly at the above address.

THE QUIET CORNER

Read: Romans 5:6-11

MY SUBSTITUTE!

(Christ) bore our sins in his own body on the tree:

1 Peter 2:24

The famous physician Dr. James Simpson of Scotland once gave this stirring testimony: "When I was a boy, I saw a sight I shall never forget--a man tied to a cart and dragged through the streets of my home-town. His back was torn and bleeding from the whip. It was a shameful punishment! For many offenses? No, for just one. Did anyone offer to bear some of his lashes? No! He endured them alone. His penalty was determined by a changing human law and was the last instance of its enforcement. When I was a student at the University, I saw another sight that lingers in my memory--a man being led to the gallows. His hands were tied, and his face was as pale as death. Thousands of eager eyes were on him as he walked slowly to the place of execution. Did anyone ask to die in his place? No! He underwent the full sentence of the law alone. For many offenses? No! For only one! He had stolen some money, and he paid with his life. It was the penalty of a changing law, for it was the last time capital punishment was inflicted for that crime. I saw another sight I shall never forget--myself a sinner, standing on the brink of an eternal Hell. For one sin? No! For many grievous wrongs committed against the unchanging laws of God. I looked again and behold, Jesus Christ became my substitute! He bore in His own body on the tree all the punishment for my sins. He suffered, 'the just for the unjust,' that He might bring me to God."

Friend, as you think of Christ dying on the cross, can you say with Dr. James Simpson, "My Lord, my God--MY SUBSTITUTE"?

"If Thou art the Christ," they taunting said,
"Come down from the cursed tree";
He heeded no jeering word they said
But bowing His head, HE DIED FOR ME!

THOT: Christ DIED for us that we might LIVE for Him!

Courtesy of 'Our Daily Bread'

Keep Smiling

Bill . VE3ARX