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FEEDBACK

Monthly Publication

of

The Georgian Bay
Amateur Radio Club

The Georgian Bay Amateur Radio Club (GBARC) was instituted in October, 1973, at a meeting of amateurs living in the area. That nucleus consisted of VE3BIS Dick; VE3CRV Jim; VE3DTS Jack and VE3EFX Bill.

Since then the Club has grown to approximately 50 resident and non-resident members.

Regular meetings are held monthly except July and August, on the third Thursday. Currently they are held in the Tourist Information Center at Highway #21 and #70, 6 kms west of Owen Sound.

A repeater, for use by all licensed amateurs, is located near Woodford, 15 kms east of Owen Sound. The call is VE3OSR and frequencies are 146.34 in and 146.94 out. Coverage is roughly from Collingwood to Southampton and from the Bruce Penninsula to Durham.

A GBARC Net is held every Sunday at 9:30 a.m. on 3.783 mhz. Any amateur is invited to check in on phone or cw.

PAST PRESIDENTS OF THE CLUB ARE:

VE3CRV Jim	1973-74-75
VE3BIS Dick	1975-76
VE3DXO Dave	1976-77
VE3HIP Ian	1977-78
VE3HXX Ian	1978-79
VE3IDS Don	1979-80
VE3FOT Harvey	1980-81
VE3LPD Laverne	1981-82

OFFICERS FOR 1982-83 ARE:

President:	VE3LPT Moe
Vice President:	VE3NEG Bill
Sec. Treas.	VE3IDS Don
Editor:	VE3LCZ Andy
Tech. Director:	VE3LZX Don

Feedback correspondence should be sent to the Editor - Andy Kalnins
Box 1177
Port Elgin, Ont.
NOH 2CO

Yearly dues for Full Membership are $12.00, reduced to $10.00 if paid before Dec. 31st.

Club crests, designed by and available from VE3WF Fred at $2.00 each.

More complete information on dues, membership, club activities, etc, may be obtained by contacting the Secretary-Treasurer:
Don Richards
Box 44
Hepworth, Ont.,
NOH1PO

MEETING MINUTES NOV. 82

Meeting was called to order at 8:15 pm by Pres. Moe VE3LPT.
There were 25 members present and one visitor Rob VE3AQT.
Motion that previous minutes be accepted - moved Jack VE3DTS
2nd Moe VE3LPT.

Andy VE3LCZ requested information for Feedback as no new material was coming in.
Fred VE3KPK gave some tips on the proper use of the new Auto patch.
Bill VE3NEG mentioned the poor sensitivity of the repeater VE3OSR.
Ted VE3AEO suggested a repeater be installed completely owned by the club. After much discussion a motion to investigate the possibilities of such a repeater was proposed by VE3AEO and seconded by Andy VE3LCZ. - motion passed.
A committee to study above motion to consist of: VE3KPK, VE3BFV, VE3NEG and Stan Gazanos.
Moe & Norm Biggar have been in touch with Owen Sound Chief of Police, re: Emergency Communication.
President Moe thanked Bill BE3NEG for his efforts re: tour of Bruce Nuclear Plant.
Meeting was adjourned at 9pm and turned over to Ted VE3AEO, who introduced the subject of the evening "Old Timers Night."
A number of members described and/or demonstrated equipment and experiences of earlier years - making for an interesting evening.

Jack VE3DTS.

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ADGENDA FOR MEETINGS

DECEMBER: Flea Market;
Vendors - bring goodies and a folding table.
Buyers - Bring cash.
Browsers- Bring cheque book, you never can tell what may appear.
After the Flea market we will have a Bull session, where each of you will have a chance to speak his mind regarding the club. So if you have a suggestion and/or if you have a beef now is the time.

January: Bull session - Amateur Technical Theme.
Report of Repeater Committee.

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NOTE

Next meeting of GBARC will be held on Thursday 16th December 1982, 8 PM. Owen Sound Tourist Information Center, Springmount.

NOTE

Deadline for Submissions to January Feedback is 03 Jan 1983.

FROM EDITORS DESK:

Amateurs who qualify for the WAZ award can have their cards checked by Jack, VE3GMT, in Toronto. This saves having to send the cards to the U.S. and pay their return. If anyone requires application forms please contact, VE3LCZ, Andy.

Complaints are being heard from many amateurs and prospective amateurs about the quality of the code tapes that the DOC is using at Exam Centers. In this day and age there is no excuse for an organization, such as Doc, to be incapable of making good readable recordings. A few hundred letters to Francis Fox may get the results required to rectify this situation. Congratulations to Bill, VE3NEG, who was successful in passing his regulations and theory portion of the advanced exam. The above may be a contributing reason for missing the code, wish you success in the future.

1982-83 ARRL Net Directory will be available soon. Send 9 x 12 SASE to CRRL, Box 7009, Station E., London, Ont. N5Y 4J9. 60 cents for first class delivery.

Amateurs in the U.K. got permission to use the 18 and 24 MHZ bands from October 01. Conditions are that they do not cause interferance to primary users in the bands, they use only CW and run only 10 watts to horizontally polarized antenna that has no gain in any direction. Freq. are 18.068 to 18.168 MHZ and 24.890 to 24.990 MHZ.

Halley's Comet, which was first seen using the 200" telescope at Mount Palomar Observatory, is still outside the orbit of Saturn but should be visible with binoculare about two years from now as it approaches the sun. Maybe VE3FOT could enlighten us further.

Silent Key - Jim Reid, VE3EMQ, University Hospital, London on November 14th, 1982. Internment in St. Phillips Anglican Church Cemetery at Walter's Falls.

Hello To All From Dick:
Dick VE3BIS/W4, Lakeland Florida. Dick Monitors Oatmeal Net 3780 weekdays 6 am and has regular sked with me on Saturdays and Sundays 21,265 MHZ, 9 am local time. Drop in and say Hello. Many other VE3's/W4 can be reached on the Snowbird net, weekdays 21,265 9:30 am local time.

Canada Contest 1982 0000-2400Z 19 December 1982. Open to all amateurs, everybody works everybody, on the 160, 80, 40, 20, 15, 10, 6 and 2 meters phone and C.W.

Anyone requiring IRC's may obtain them from Garth Hamilton, VE3EUP, in lots of 10, priced at $5.00 canadian. For more information, send S.A.S.E. to VE3EUP, Box 1156, Fonthill, Ont., L0S 1E0.

Pen ran dry, CU at the meeting. Many thanks to RSO bulletin, TCA and all other contributors.

Best wishes for the Season from Andy VE3LCZ, Marlene, Terry VE3LPK, Tammy and Shelley Kalnins.

Andy VE3LCZ

Ed Landefeld W8DCC
1135 Durham Circle
Massillon OH 44646

Build A Simple Capacitance Meter

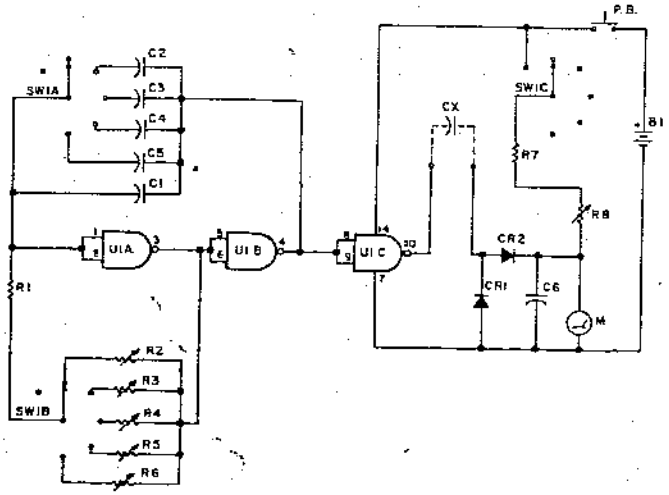
-- a useful weekend project

A time-honored and very practical supplier of components for the latest ham project continues to be the junk box. A well-stocked junk box not only reduces the cash outlay of a project, but also serves as a source of comfort and inspiration to the happy owner.

A major factor limiting the utility of these readily available goodies is the difficulty of identifying them properly. The number of articles describing transistor checkers, IC probes, and programs for identifying and checking ICs points not only to the popularity of the junk box source of supply, but also to the difficulty mentioned above.

Capacitors are a part of this problem. It seems that the original equipment manufacturers, the source of many of these components, delight in concealing the true value with an esoteric part number. And the military is even worse.

Cheer up! All is not lost. Described herein is an unbelievably uncomplicated and cheap device that will go far toward blowing the cover of all those mysterious micas, discs, and ceramics smirking at you from your hoard.



The Circuit

As advertised above, this little device is ridiculously simple and inexpensive. It consists of an oscillator and a rectifier, with a meter to indicate the value of the rectified current. Let's refer to Fig. 1 and be a bit more specific. U1A and U1B are two NAND gates of a CMOS quad two-input NAND gate. You can get one for 29¢ if you don't have one. These two gates are cascaded, biased in the linear mode by the resistor network, and caused to oscillate by capacitive feedback around the two gates. The output is a square wave which is buffered by the third gate U1C to insure an output of constant amplitude. We apply the output of the buffer to the diode rectifier through our unknown capacitor. If the unknown capacitor is small (has high reactance) in comparison with the frequency of the oscillator, it will pass a small pulse on each cycle which will be rectified by the diodes. The meter will read the sum, or integral, of these pulses. The larger the value of the capacitor, the larger the pulses, the greater the sum and the higher the meter reading. Simple, isn't it?

This is a basic counter circuit. With a given value of capacitor, if the oscillator frequency is increased, there will be more pulses per second, thus a higher integrated meter reading. This forms the basis for a very simple and useful counter which is linear over quite a few octaves. We are simply turning the circuit around to measure capacity instead of frequency.

Circuit Details

The circuit was set up to use a 1 mA meter movement. The values shown in Table 1 list the oscillator frequency, capacitor and resistor values for a 1 mA meter movement. There are five ranges arranged as decades. The lowest range is 0-100 pF, the next 0-1000 pF, etc. Each range is linear, so it is quite possible to read a 5 pF capacitor on the lowest range. The highest range then reads full scale on a 1 uF capacitor.

It would be inadvisable to use a meter with less sensitivity than 1 mA if the 0-100 pF range is desired. Note that with the 1 mA meter, the oscillator is running at a frequency slightly greater than 1 MHz. This is approaching the

top frequency for this chip in this circuit. Conversely, if a sensitive meter such as 50 uA is available for this use, it should be desensitized to some extent if the 1 uF range is desired. With a 1 mA meter, the oscillator frequency is only 109 Hz on the 1 uF range. The 50 uA meter would require this frequency to be reduced to 5 or 6 Hz for this range, which would require awkward capacitor values in the oscillator and an excessively large smoothing capacitor to provide a steady reading on the meter. Approximate oscillator frequencies for meter movements from 50 uA to 1 mA may be interpolated from Table 1.

Construction

The instrument was housed in a discarded multimeter cabinet. One of the many miniboxes available would be entirely satisfactory. The circuit was constructed on a piece of perforated board which was mounted on the meter studs. Trimpots were used to set the battery check and individual capacitance ranges. The 5 pF capacitor for the 0-100 pF range was soldered directly across the IC socket and is in the circuit at all times. A five-position two-pole rotary switch is required. We added a battery check position on the switch, which required a third pole and sixth position on the switch. A push-button for the battery check function would do as well. The two leads to the binding posts for the unknown capacitor should be routed in the clear and *not* twisted together for neatness; their mutual capacity will show on the low range!

Calibration and Operation

When the unit is completed, it should work just fine, but it probably will not. First check to make sure the gates are oscillating. Since they are biased in the linear mode, all gates and outputs should be at about half the battery voltage. If they are at zero or full voltage, they cannot oscillate. If they are at about half-voltage, they just about have to oscillate if the circuit is wired correctly. When oscillation has been proven, the diode circuit will rectify and indicate on the meter, unless a diode is reversed or there are other wiring errors. This is not a cranky circuit!

After you find the wiring error and get the thing working, the rest is a snap. With a fresh battery, set the battery check trimpot for a full-scale reading on the check position of the switch. In spite of the junk box complex, most of us have *some* capacitors that are marked. Calibration was begun on the most sensitive range. Select three or four 100 pF capacitors, and set the trimpot for a full-scale reading. Micas are usually pretty close, and very little discrepancy will be observed.

Range	Total R	C	Frequency
0-100 pF	15k	5 pF	1100 kHz
0-1000 pF	31k	100 pF	112 kHz
.01 uF	36k	1500 pF	11.2 kHz
.1 uF	45k	.012 uF	1.170 kHz
1 uF	45k	.1 uF	109 Hz

Table 1.

Also check some smaller values, such as 50 pF, 10 pF and 5 pF to make sure that the scale is linear and all is well. Using the 100 pF capacitor, decade up to the next range and set the trimpot for 10% full scale. Now try a 1000 pF. It should read pretty close to full scale.

In short, if you have a selection of known capacitors, you will be able to set each range without difficulty. Note that once you have proven the scale is linear, you can use intermediate values to calibrate. A .5 uF capacitor can be used to set the 1 uF range, for example. It is best to try three or four different capacitors of different types for each range. You will find that consistency can be achieved and the calibration is sufficiently accurate for all practical purposes. If you are a nitpicker and have a friend with a good bridge, you can achieve very good accuracy.

Operation is extremely simple. Place the capacitor across the binding posts and depress the button. Read the capacity on the meter. If the meter tries to go beyond full scale, go to a higher range. If the meter reads less than 10% full scale, turn to a lower range. That's all there is to it!

The circuit is self-limiting; the meter may bang over full scale if the capacitor is too large for the range selected, but the current supplied will *not* burn out the meter. No current is drawn from the battery unless you depress the push-button, so the battery cannot be run down because you forgot to turn the thing off. Current drain while checking is less than 5 mA.

A similar instrument has been part of the shack equipment for a number of years. It has proven very useful in putting these unknown capacitors to work, and I hope you will find it to be as indispensable as I have. ■

Parts List

B1	9 volt transistor battery
C1	5 pF mica
C2	100 pF mica
C3	1500 pF mica or mylar
C4	.012 uF paper or mylar
C5	.1 uF paper or mylar
C6	.1 uF
IC1	CD 4011 quad NAND gate
CR1	1N34 or equiv.
CR2	1N34 or equiv.
M	1 mA meter
R1	12k ¼ or ½ W.
R2	50k trimpot
R3	50k trimpot
R4	50k trimpot
R5	50k trimpot
R6	50k trimpot
R7	5k ½ W.
R8	10k trimpot

This is the article which appeared in 73 magazine a few years ago, and a few members have been reminding me of my promise to put it in Feedback, HI. I found the meter quite handy to have around the bench and it doesn't take long to build. For calibration purposes, bring a few asorted values of caps to the meeting, and measure them on my meter if you like. You will need one cap for each range and it is better if they fall somewhere in mid-scale.

73's Don WB3IDS

VE3 OSR

georgian bay amateur radio club

146.34 146.94

BOX 592, OWEN SOUND, ONTARIO N4K 5R1

Mr. Fred Kuznicki

VE3KPK

Owen Sound , Ont.

Nov. 20, 1982

Dear Fred,

On Behalf of the Georgian Bay Amateur Radio Club, thank you for your very generous actions in providing the Club with an Auto-patch service at no cost to the Club.

As you know, an auto-patch has been a long awaited service in our area and due to various reasons, we never have been able to get "off the ground". Due to your inititive, we now have the use of such a service. Personally, I do not know the financial cost incured by yourself to purchase the equipment, as well as the usage of your FM transceiver, etc., but I know this amount is not small. As well, I understand a considerable amount of time and work is involved in setting up this system. To donate the use of this equipment, free of charge, certainly deserves more thanks than this letter can express.

The Club would like to pay for the installation of a private telephone line to your QTH for the auto-patch, and pay the monthly billing. This has been passed at the October 1982 GBARC meeting.

Once again, thanks Fred!

73's

Don Richards

Don Richards VE3IDS
Sec-Treas
GBARC

cc- Feedback, monthly publication of GBARC
- GBARC files
- VE3LPT Moe Hurlbut , President GBARC

WES WHITE

BUILT MODEL TRAIN WHICH HE OPERATED

Mr. Wes White of R.R.#3, Priceville, entered into rest on August 12, 1982, in Bracebridge, Ontario as the result of a fatal heart attack. He was in his 76th year.

Born in Artemesia Township on June 22, 1907, he was the son of George White and Harriett Johnson. He attended the Springhill Public School and Flesherton High School.

Wes began working for Ontario Hydro at the Big Chute Generating Station on the Severn River in 1929.

In 1933 Wes married the former Doris Conner and on January 22, 1935 their eldest daughter, Georgina, was born.

Along with many of his fellow Canadians, Wes Marched off to war to serve his country with the RCAF in both Canada and England, re-turing to New York in December, 1945, aboard the Queen Elizabeth. Among his many souvenirs is the Christmas Day menu from that historic voyage.

Wes returned to the Big Chute to resume his career as a power house operator. Sharon (Mrs. Tom Hurdman) was born on December 1, 1946, followed by two brothers, Tom (September 14, 1950) and David (September 28, 1953). Tom predeceased his father as the result of an accident on October 18, 1973.

He returned to Artemesia Township to build a home on the old Durham Road, where he and Doris have since resided.

Wes was a member of countless organizations and gave fully to his time and talents to any worthwhile cause. In 1981 Wes was hon-oured by the Split Rail Foundation for his efforts. He was an active member of Prince Arthur Lodge No. 333 and the Royal Canadian Legion Branch No. 333, Secretary of the Centre Grey Plowman's Association, a member of the Georgian Bay Steam, Auto and Gas Antiques Inc., a licensed Ham Radio Operator since February, 1962, and found time to teach a night school course at Grey Highlands Secondary School for persons who were interested in obtaining their licence. Wes was also an active member of the St. John's United Church in Flesherton. Memorial services were held Saturday night in the Fawcett Funeral home by his brethren of Prince Arthur Masonic Lodge and comrades of Flesherton Legion.

Wes will be greatly missed by all those who knew him.

Submitted by
Alex McMillan

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FOR SALE

Tone Alert, Built by Dick, VE3BIS,
Responds to 4 digit code signal from tone pad for individual paging and to a single digit signal for emergency purposes. Self contained with speaker, monitor with speaker muting and built in "Horn", just supply 12V DC and Tranceiver Audio.

Immediate Availability. Price To Be Negotiated With VE3BIS/W4

Contact - Andy VE3LCZ
832-5868
Port Elgin.

FOR SALE

TRS80 Computer-Level II Basic, 16K, with CRT, Cassette Tape Recorder, Some Tapes, Manuals for Level I & II and other reference books - Excellent Shape. $750.00

28ASR Teletype - good condition, needs small amount of work (c/w tape punch & reader) $100.00

35ASR Teletype c/w tape punch & reader, all manuals - has been running, needs reassembling $100.00 as is

12" B/W Television set, excellent condition (ideal for computer monitor) $100.00

Contact - Cam Thomas VE3CTQ
6 Penatangore Row,
Kincardine
396-7083

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Realistic DX160 Solid State General Coverage Receiver, 160 m through 10 m, AM and SSB, 110 VAC and 12 V DC operation. - Like New $100.00

Contact - Jeff VE3KPT
363-2523
Chesley

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Heathkit FET Transistor Tester Model IT3120 (Try a good trade or negotiate) $100.00

Lampkin Modulation and Deviation Indicator Model 205 A/B Mint condition - plus new instruction manual $100.00

Drake R4B T4XB P/S and Speaker Best Offer

G.E. Pacer 2 MTR Less Xtals 15w needs 2 tubes $ 50.00

Marconi: DT34 and DT75 2mtr, solid state except 2 final tubes (Assortment of 5) $ 50.00

Shure 444 Desk Microphone $ 50.00

10 Meter mono band, 3 element (in carton) $100.00

15 Meter mono band, 3 element (in carton) $125.00

2 Meter Beam, II Element $ 35.00

Contact - Walter Stoyko VE3FFN
519-923-3544

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Triden 2, Solid State 100w transceiver, Covers 80,40,20,15 & 10. Analogue Readout. No AC supply, operates on 12V DC 20Amps $500.00

Radio Shack Frequency Counter 0-30 Meg. $ 45.00

Contact - Laverne Wyville
VE3LPD
538-1888 Meaford

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HW101 Plus AC Power Supply $400.00

Contact - Steve Sauder
396-7982 Kincardine

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AS FOLLOWUP TO LAST MONTHS MEETING THEME "AMATEUR RADIO OF YEARS AGO", HERE IS AN ARTICLE FROM "THE COASTAL COURIER" SUBMITTED BY JERRY MUNROE, VE3MAY.

Wireless Telegraph Station "VAS"

By Fred Calder

It was on June 2, 1896, at London, that Guglielmo Marconi was granted the patent for his invention of wireless communication: "According to this invention electrical actions or manifestations are transmitted through the air, earth or water by means of electric oscillations of high frequency". On July 20, 1897, Marconi formed the Wireless Telegraph and Signal Company, Limited.

The first practical use of wireless was made late in 1898 when communication was established between a station at South Foreland on the south-east coast of England and the "East Goodwin" lightship at the entrance to the Strait of Dover, a distance of 12 miles. The following March communication was established between South Foreland and a station at Wimereux on the coast of France, a distance of 30 miles. A number of stations were erected on the British coast to contact ships while they were still miles at sea and Germany, France, Belgium and Italy followed suit, all using Marconi equipment.

Marconi believed that signals could be transmitted much greater distances and even across the Atlantic Ocean, and to that end had a powerful station erected at Poldhu in Cornwall, not far from Land's End. In December, 1901, Marconi and his assistants took apparatus for a receiving station to St. John's, Newfoundland, and on Decemb r 12th heard the first signals from Poldhu, the faint but intelligible three dots of the letter "S", repeated some 25 times. Marconi's beliefs were confirmed: the signals had overcome the curvature of the earth and spanned almost 2,200 miles of ocean.

Marconi was forced to abandon further tests in Newfoundland under threat of prosecution by the Anglo-American Cable Company which held a monopoly on telegraph communication in Newfoundland. There was no such monopoly in Canada and Canadian interests, with government support, persuaded Marconi to erect a wireless station on the coast and a site at Table Head, Glace Bay, was decided upon.

Early in 1902 Marconi, with R.N. Vyvyan, newly married engineer in charge, and a number of assistants came to Glace Bay to begin construction of the station. As soon as work was well under way Marconi returned to his laboratory at Poole, on the south coast of England, for further research and experiment. By the end of October the station was completed. Four square wooden towers 210 feet high supported the antenna. Near the base of the towers were the boiler house, the power house with the engine and alternator, and the wireless house with the transmitting and receiving rooms. The Vyvyan residence was nearby.

Marconi returned to Glace Bay to supervise testing and opening of the station. Much experimenting was necessary before communication was established with Poldhu. The station was to be officially opened with an exchange of messages between Lord Minto, Governor-General of Canada, and King Edward VII. On December 17th Marconi himself took the key and transmitted Lord Minto's message to Poldhu, and the Poldhu operator sent the King's message to Glace Bay. Two-way communication across the Atlantic had been achieved but reception of signals was erratic and undependable and Marconi realized that much more experimenting had to be done before results would be satisfactory, so he returned to his laboratory at Poole. Tests continued between Glace Bay and Poldhu and shore-to-ship communication was carried on from both stations.

Marconi now came to the conclusion that higher power and a longer antenna were needed for dependable communication across the Atlantic. A more powerful alternator was installed at Glace Bay and early in 1905 Marconi, new married, returned to Glace Bay with his bride, to conduct tests of the new equipment. Results were disappointing so Marconi decided on a new and longer antenna system. The site at Table Head did not have space to accommodate the proposed antenna so Marconi ordered the entire station moved to a new location, some four miles to the south-east, near Glace Bay Lake, and leaving Vyvyan in charge of the project he returned to England.

Marconi now considered the station at Poldhu out of date as far as trans-Atlantic communication was concerned, so a new and more powerful station was erected at Clifden, County Galway, on the west coast of Ireland. The improvements in this station were incorporated into the Glace Bay station, which now was the most powerful wireless station in the world, rivalled only by the German station at Nauen, near Berlin. Marconi returned for final testing and results were so satisfactory that little further experimenting was necessary. In October, 1907, limited public telegraph service was opened between Glace Bay and Clifden, and unlimited service was inaugurated early the following year.

Marconi used the letters "GB" to identify the Glace Bay station. When an international convention assigned call letters to the participating countries Canada was issued a series of three-letter calls beginning with the letter "V". When the Canadian Government assigned call letters to the different wireless telegraph stations the call "VAS" was given to the Glace Bay station.

As research and development brought improvements to wireless equipment they were incorporated, as far as possible, into "VAS" to keep the station up to date. In the early 1920s the station was converted from spark to continuous wave

transmission, and the antenna system was expanded by the erection of two 600-foot steel towers.

We must remember that "VAS" was not a broadcasting station, whose purpose was for entertainment: it was a commercial telegraph station, where all transmissions were in code and at long wave lengths, well outside the broadcast band. In the late 1920's "VAS" was issued a limited license to use voice on a frequency of 685 kilocycles - a wave length of 437.8 metres - in the broadcast band, for the Department of Marine and Fisheries to issue weather forecasts and bulletins of interest to fishermen, twice daily, at 1:00 p.m. and 12:00 midnight. Sometimes recorded music was played at the beginning and end of transmissions. About this time some American broadcasting stations were adopting slogans, in some cases suggested by the station's call letters. It did not take much imagination on the part of the "VAS" staff to come up with the slogan "The Voice Of The Atlantic Seaboard", and it was used in conjunction with the station call letters. The slogan never did receive official recognition: it remained just a catchy phrase, but one with considerable listener appeal.

There came a time when the station no longer could keep up with the progress in wireless development and it became obsolete. During the 1930's traffic diminished as it bypassed Glace Bay for modern stations inland. Finally the entire operation was transferred to Drummondville, Quebec, the station was closed and the towers were removed. "VAS" disappeared from the scene.

The metal building which housed most of the equipment, and the large dwelling where officials of the station lived, and where Marconi himself lived while at the station, still stand.

The station is gone but memories linger. It was here that Marconi made history. Here he proved that "electric oscillations of high frequency" could provide two-way communication over great distances, even span oceans: here he demonstrated the practical use of other of his wireless-associated inventions.

Marconi's station is commemorated by a modest monument, erected largely through the efforts of the Table Head Athletic Club, on Timmerman Street, at the site of the original station.

MERRY XMAS