Radio Days

By Susan Mackie

Photo: Anne Chambers

"Every day sees humanity more victorious in the struggle with space and time."

– Guglielmo Marconi, inventor of radio

It is August 14, 2003 – the day the lights go out. Over fifty million people in seven US states and Ontario are left without power for lights, appliances, some telephones and water systems in what would be the largest recorded sweeping blackout in North American history.

Stores lose power for cash and refrigeration units. Gas stations aren't able to function. Street lights are dead and dark – causing snarled traffic and slowdowns that make it virtually impossible for anyone to get around.

In suddenly darkened offices, with no blinking computer screens, or supermarkets, where frazzled checkout personnel try to handle customers despite no electronic cash registers, there is only confusion. For awhile, anyway, it's just a big nuisance.

It soon becomes apparent that this is no ordinary blackout. There is no television or Internet to turn to for updates. There is no telephone service in some areas. Co-workers, neighbors, store personnel and even government officials are "in the dark".

We do find out what's going on. We're soon told that there are millions affected by the power outage, and that there is a state of emergency declared in both Ontario and New York. We're told to stay off the roads, to stay home from work, to conserve precious power. We're given this crucial information by the one and only means still readily available: the radio.

This scenario has repeated during other times of disaster and difficulty – as seen on September 11, 2001, the great ice storm of 1998, and the incredible hardships weathered by the people in British Columbia from this year of raging fires. But no matter what is happening, if you have a working automobile or a few batteries at home, you can get crucial information. The little machine with the dials and knobs is an essential link to the world, and in times of crisis, it brings home just how important this service is. During times of emergency and confusion…radio is the one constant.

Only a hundred years ago, the thought of speaking to someone on the other side of the world was a dream of science fiction writers. Guglielmo Marconi's vision of a world connected through wireless communication came true June 23 1901, at 4:30 p.m. local time, when he sent the first ever long-distance wireless transmission from the Isle of Wight to Cornwall on the British mainland.

The few words recorded on that day would reverberate throughout the world. They were the forerunners of cellular phones, pagers, baby monitors, microwave ovens, radar, and remote-control devices. Imagine a world without those, and you can feel the impact of Marconi's experiments, curiosity and drive.

Marconi's interest in radio technology began as a youth. He had no

formal education to speak of, but loved science, and performed incessant experiments using everything he could get his hands on (much to the chagrin of his father). He was convinced that worldwide communication was possible, using electromagnetic waves. Scientists scoffed, but he persisted – and the result was the dawning of a new age, a new way of life, and a new world.

Today, with a click of a button, the world is at our fingertips. From our radios, we can hear music, get weather reports, news, sports coverage, financial information…almost anything we want.

Radio Amateurs of Canada (RAC)

The Radio Amateurs of Canada are an organization dedicated to the support and education of people of all ages, from all walks of life, who are interested in honing their skills as radio amateurs. They share a common interest in communication, message transmission, world events, and electronics – and they enjoy connecting with each other immensely.

Amateur radio is fun, entertaining and educational – but it's more than just a hobby. Many skilled amateurs have offered invaluable assistance during storms, earthquakes, and other disasters, such as the great ice storm of 1998. Due to the level of responsibility required to operate an amateur radio, proof of operating and technical proficiency has been required in Canada since 1914, and is still in effect today. This ensures that all radio amateurs have the technical skill and experience to handle their hobby with maturity.

Amateurs may use the nine basic radio frequency "bands" (groups of frequencies), depending on their level of qualifications:

The basic qualification (entry level) does not require a Morse Code test. You must pass an examination totaling 100 hours on radio theory, radio airwave regulations, and standard operating practices. Upon qualification, access is given to all amateur radio bands above 30 megahertz. This means that you can operate FM voice, digital packet (computer), television, and radio contacts via satellite.

The Five Word Per Minute Morse Code Qualification, added to the Basic qualification, grants access to bands below 30 MHz. At this level, you can access popular world-wide short wave bands. With the passing of the **Advanced** test on advanced radio theory, the holder may build radio transmitting equipment, operate high-powered transmitters, and sponsor a club station. Once you have earned a qualification, it is good for life. There is no age restriction.

Photo: Peter K. Waycik

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When you receive your certificate, you will be given a Call Sign, used to identify your station. In Canada, call signs have a prefix of two letters following a number, followed by a two or three-letter suffix, for example – VE3RGM. This depends on the area you live in.

Morse Code

Morse Code, or symbols employed in radiotelegraphy, is a system of dots and dashes by a flash lamp, telegraph key or other rhythmic device. Morse Code is no longer used internationally by the military, or commercially, but it is still a requirement for some radio operator qualifications.

RAC Youth Education Program

Endorsed by Canadian astronaut Dr. Robert Thirsk, this program is designed to educate and enlighten school-age kids on the value of amateur radio. It is a partnership between the RAC and participating schools, providing financial help to purchase equipment, liaise with local amateur radio clubs, promote on the RAC web site and more. With the help of a teacher and the support of the local amateur radio club, amateur radio comes to life as students broaden their horizons by speaking to people from other countries and cultures. Subjects such as physics, languages, geography, social studies and mathematics can all be enhanced by incorporating amateur radio into the classroom. Students may even be able to talk to an astronaut on the International Space Station.

Young people may well discover an interest in a life-long career in science and technology and communication. Since amateur radio has long had a history of public service, in times of need, youth can learn this valuable skill that may one day be of great benefit to their community. As Dr. Thirsk says, "Amateur radio is a great way for students and teachers to reach out and bring the world, and space, into the classroom."

The little machine with knobs and batteries is a wonder of our age, a necessary tool, and as shown many times over, an irreplaceable link to the world.