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Mention amateur radio to many people today and they are surprised the hobby is still alive. They seem to believe it should have been killed off by the internet and mobile phones. While *many* hams are older folks there is an increasing band of younger people taking up the hobby. My view is that we tend to see the older ones at the regular meetings because they have the time to go to meetings.

The influx of younger people has been aided by an entry level licence aimed at frustrated CB operators and the Scout movement. Amateur Radio Experimenters Group (AREG) is a good example of the younger generation of people coming into the hobby and perhaps this is aided by the ability to use quite sophisticated digital modes and radio equipment coupled to computers.

When I was a Radio Apprentice in the 1960's there were many people trained in radio during World War Two and there was an inexhaustible supply of parts and equipment available from the disposals stores. Most Amateur operators built their own equipment from ideas and projects in books and magazines. The essence of amateur radio was experimentation, just like it has been when radio was born. AM and CW (Morse Code) was the only modes of operation and to become a Ham in those days you needed to pass a Morse Code test, not a problem for most of the professional radio operators of the days. Many of us younger fellows did not have the time or perhaps the interest in becoming proficient in Morse but we still wanted to "play radio".

As an apprentice I soon took an interest and became one of quite a few pirate operators on the One Metre band, building equipment based on projects and ideas mostly in Radio and Hobbies magazine. I studied Morse Code and almost got to the required standard but higher studies got in the way and when I started teaching at the Radio Trade School, I had access to equipment and a school call sign and so I did not go any further. It was about then digital and computer technology caught hold of me and my radio exploits were limited to collecting domestic radios to restore.

Over the next few years Single Sideband communications took over the HF bands and Frequency Modulation was the most popular mode on the VHF and UHF bands. Equipment gradually got too sophisticated to be home built by all but the most experienced operators and most Hams became black box collectors.

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About 1980 Packet Radio was developed by amateur radio operators and this combined radio and computer technology. In 1985 I almost got hooked on the idea of using packet radio as it combined both my interests, radio and computers but lack of time due to my work load soon had me forgetting about getting involved.

During the 1990's my radio collection started to include some marine radios and even some 1960's Ham equipment and so it was time to take the hobby seriously. The first step was to see what had happened to the hobby over all these intervening years and I was surprised at what I found searching the internet. A computer had to be involved somewhere.

Modes of operation now include a host of digital communication modes that are perhaps the modern Morse Code replacement. The amateur bands now extend from 130KHz right up to microwave frequencies as high as 47GHz. There is also very sophisticated technologies like Earth Moon Earth communications where signals are bounced off the moon back to earth, a very long way from your location. Amateur microwave equipment is constructed from mostly modules supplied by back yard business and even radar modules from security systems are used by some.

Digital modes are becoming a way of getting through the very high levels of radio interference we now have, generated by such modern every day appliances as plasma televisions, solar inverters, inverter controlled air conditioners and switch mode power supplies in almost every electronic device in the home. Digital modes can get through the noise with bands widths of just a few Hertz. These technologies have been largely developed by the amateur radio community as a matter of necessity, echoes of the early days of radio when amateurs did much of the development. Digital interfaces are available or built or in kit form and some of the latest rigs have the interfaces built in.

There is a growing band of "boat anchor" restorers, builders and operators. To qualify as a boat anchor a radio must have at least one valve in the final PA stage. Amplitude Modulation is not dead, there are AM nets on the HF bands most days of the week and QRP operations are also on the increase. A QRP rig is one where the input power to the final PA stage is no more than five watt and although very sophisticated QRP rigs are available commercially, many operators are building their own either from kits or from designs and ideas in

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magazines and books. At the other end of the power spectrum, Hams are now building high power linear amplifiers often using the RF power tubes from Russia and in the true spirit of Ham radio, many constructors are recycling the power transformers and other components from microwave ovens.

Software defined radio is another technology where the home constructor can build their own equipment. There are SDR kits available ranging from simple receivers to quite sophisticated rigs. Many of these kits are available with any surface mount component already fitted but the constructor still has a lot of through hole components to fit and often very tiny coils and toroids or binocular coils to wind. Simple SDR radios connect to a computer via the computers inbuilt sound card and the more exotic rigs have a built in sound card, often of a much higher specification than those fitted to most computers. These are then connected to the computer via USB, Ethernet or Firewire interfaces. Look up the \$20.00 SDR radio on the web, this is a DVB_T USB device designed to receive terrestrial Television in Asian countries but using the correct software and drivers it makes a very effective SDR radio receiver covering about 52MHz to above 1GHz of the radio Spectrum, and producing a panoramic display of 2MHz of that spectrum.

No discussion of Ham radio today would not be complete without mention of the very generous spectrum allocations we have that are the envy of many in the commercial sector. Over the years more bands of frequencies have been added, the latest additions are allocations around the 500KHz region, no longer needed for marine emergency use, and now an allocation in the 5MHz region is being considered world wide. We are very well looked after by the various national and international volunteer bodies that look after our interests and by the government control body in Australia, the ACMA.

If you would like to find out more about Amateur Radio Today, visit the Wireless Institute web site and do web searches on any key words associated with the hobby. There is a vast amount of information out there in the internet world. Ham Radio and computers coexist very well.