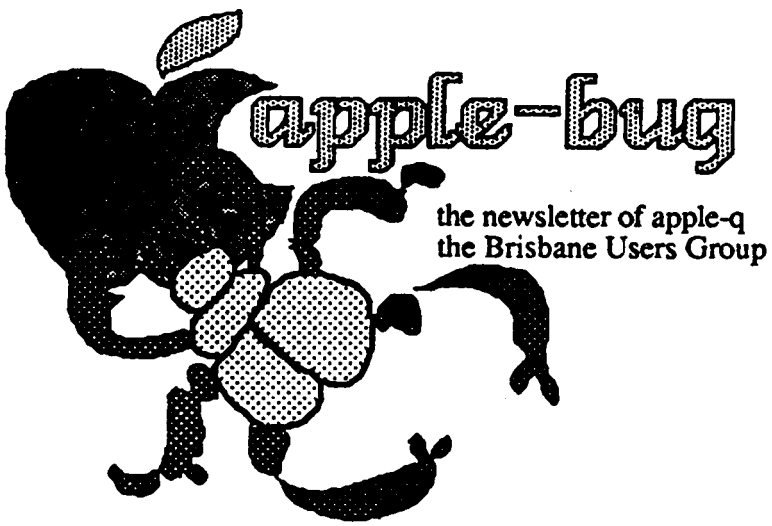

Dec 85

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- Help with adventuring

Hardware
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- Modems & Communications theory

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- New Group proposed

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Apple][, //e, //c, & Mac –
the reason for it all!
(and Apple/// & Lisa!)

Editorial

Peter J.Pegg

Before I go to the main matter of this editorial I should like to express thanks; first, my thanks to Graham Hannam and Peter Newland for getting the newsletter out under difficult circumstances while I was away, and secondly the thanks of the club to Brian Madden of Apple Australia for his support for the club during the past year, and especially his generous donation of icecream cakes to the birthday party, and his attendance at meetings with new products.

The letters to the editor published in this issue should be very carefully read. The newsletter takes a lot of time, often in inconvenient periods; if it is to provide more satisfaction, it must have more input from members. Both these correspondents have lived up to their words and made contributions. Who will be next? Thanks to our letter-writers for their thoughts and their contributions. A Merry Christmas to all of you!

What's When

Sunday 19 January
Open Day at the Hooper Centre

Monday 20 January
Committee Meeting

Sunday 16 February
Open Day at the Hooper Centre

Monday 17 February
Committee Meeting

Letters to the Editor

I have only been a member of Apple-q for a short period of time (2 months) but feel that I must nonetheless speak out about the appalling lack of member interest in the group's magazine.
As nearly as I can ascertain, the only members who are ever putting finger to keyboard with the intention of imparting information to their fellow members are the people who have been elected (coerced) to do all the other work attached to the running of the group.
THIS IS NEITHER FAIR NOR GOOD ENOUGH.
This magazine which costs us about $1000.00 p.a. is full of nothing, when it should be full of useful hints and tips, short programs etc.
To this end I hereby submit a hardware addition for any computer with an annoying fan. (printed separately on page 3 of this issue). It cost me about $20.00 to make this item but I consider it money well spent.

ps can anybody help me with a program that is an aid for designing 555 timer circuits in monostable and astable.

Being of a somewhat lax personality, between the time of my first starting this missive, and the actual completion of it, over a month has passed, and an item in the latest issue of BUGS has made a liar out of me. I refer of course to the article sent in by Bob Godbehere, which contains a short routine for DOS modifications. (Mind you, Bob is now an Apple-q official).

David Bourne also mentions requests that he has had from remote members wishing to meet others in a similar predicament. Being somewhat remotish myself, (Woodridge, Logan) I would like to contact people local to Logan and its environs. My telephone number is 208 9294.

Bob Willson.

pps. Could somebody do an article on modems (incidentally, Centre Industries have now dropped the price of their Cicada 300 modems from about $300.00 to about $200.00).

Temperature sensing fan

Bob Willson

I hereby submit a hardware addition for any computer with an annoying fan. I had this problem myself until I solved it by modifying a circuit that was published in Electronics Australia July 1984, for the purpose of regulating the temperature in a room.
This circuit uses an LM3911 temperature sensing IC. A further feature (which is absolutely essential) is that it uses zero voltage switching. What this means is that it doesn't give dirty great glitches in the power supply every time the fan switches itself on. The whole thing when made up measures about 7cm x 6cm x 5cm. So, instead of having a fan that is running whether it is needed or not, we now have a fan that is off for about 90% of the time (depending on how it is adjusted).
Some slight modifications need to be made to the design, and I have listed below the parts you will need:

1 PCB code 84ht6
1 3-way mains terminal block
2 PCB mounting fuse clips
1 0.5 amp fuse
1 LM3911 Temperature controller IC.
1 74C14 or 40106 hex Schmitt trigger
1 MOC3040 or MOC3041 Triac driver
1 SC141D Triac
4 1N4004 1amp 400v diodes
1 15v 1watt zenner diode
1 LED
1 220µf 25vw PC electrolytic capacitor
1 0.47µf 250VAC metallised dielectric capacitor
1 680ohm 1/4 watt resistor
1 470ohm 1/4 watt resistor
1 390ohm 1/4 watt resistor
1 2.2Mohm 1/4 watt resistor
2 10Kohm 1/4 watt resistors
2 6.8Kohm 1/4 watt resistors
1 1Kohm 10 turn trim pot (instead of linear pot with a knob)
The only modifications are:
1) mount the Triac on top of the board (not underneath) be sure that you do not reverse this component
2) the LED is mounted directly onto the board
3) we do not want a control knob so the trim pot is mounted on the board, and once adjusted, it is left alone. (I had to extend the legs to make them reach the holes.)
4) the LM3911 is mounted on the board (you will need to make some extra holes)
5) the fan supply lines must be cut, and the unit inserted in the line.
Once made, the whole unit can be mounted into the computer, fairly close to the power supply, and preferably in the fan's air stream. I used a glue gun to fix mine onto the side of the power supply.

NB. You are working with 240V at mains potential, all joints must be well insulated. I smothered the whole of the board top and bottom with glue once it was set and running properly. Also be aware that even when it is disconnected, the 0.47 240V capacitor still retains a charge, and it should be shorted out with insulated pliers before touching it again, or else it will make you jump.

Letters to the Editor

Dear Peter,
I have been a member for several months now, and have been watching the progress of the club. The magazine needs more articles and information badly. I realise that the club is only in its early stages of growth, but it needs more support from the members. I'm sure that there are a lot of members that could contribute something.
I would like to suggest that members send in small useful programs, and that the club either publish the good ones, or create a disk full and make them available to members. When I first bought my IIe, I would have welcomed small programs to aid me in understanding the system better. I have written disks full of small programs, mainly Lo-res and Hi-res graphics. Some are very interesting and easy to understand. There must be quite a few members or people deciding to become members that need help and encouragement. It's OK reading the manuals, but unless you can see exactly what is happening, the mind boggles.
Anyway, this was not the real intention of writing this letter; it was only a suggestion. You seem to have no-one willing to contribute anything towards the Eamon series. Well, I have crawled out of the woodwork to make my services available. I am not sure exactly what sort of information you require here. I played the ERamon series for a couple of years on my father's][+. Although I have not played all the adventures, I have solved the ones I did play. I have made a few program modifications to the Eamon Master, and A.U.G. Sydney put out a small boot program that bypasses the Eamon Master. You use this if you want to kill everything in sight. I would be glad to forward any clues to any of the games, and solve problems that members might have. I am an adventure freak, and have numerous adventures beside Eamon.
Another suggestion for the magazine might be to add an adventurer's corner, whereby members write in and give fellow members clues to different adventures.
If you could let me know exactly what sort of information you are looking for, I would be glad to help in any way.
Yours faithfully
R.D. Prosser

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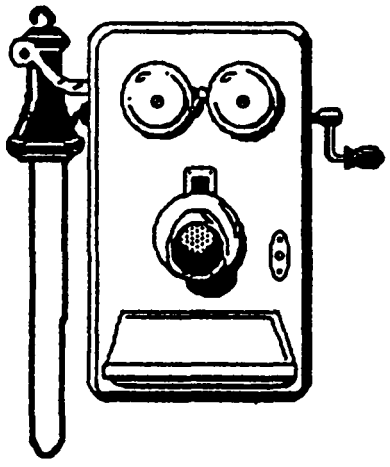

On-line

Communications Modems Bulletin Boards etcetra

Graham P.Black

A person without a telephone is cut off from their friends. A personal computer without a modem is cut off from the world of tele-communications. A modem will allow you to take advantage of the wealth of information, from any of the networks or information services, that are rapidly expanding throughout Queensland and Australia, not to mention other parts of the world.

MODEM THEORY

Question: - What is a Modem?
Answer: - The name MODEM is a contraction of the words 'Modulation' and 'Demodulation'. Modulation is used because of the fact that some signals cannot be directly sent over the various transmission channels. To get around this, a carrier wave whose properties are better suited for transmission over the channel is modified to represent the original digital signal. Demodulation on the other hand, is the reverse process of modulation. The original message is extracted from the carrier wave. The modem then, modulates digital data into a carrier wave for transmission over analog facilites, and then demodulates the carrier wave back to digital at the receiving station, for use by a terminal or computer. The modem is actually the interface between digital equipment and an analog network.

The next logical step might be to ask, what brought about this need for modems? The need arose as computer systems became multi-user systems and large amounts of information had to be transmitted between computers that might be located some distance from one another. The medium chosen for this transmission of data was the telephone line. However the telephone network was designed for analog signals while the computer systems transmit digital data. This is where the modem comes in. A modem in essence is simply a sophisticated analog to digital and digital to analog (A/D and D/A) converter. The modem converts digital signals from the computer into analog signals that can be transmitted over the telephone line.

Categories
Modems fall into several different categories, which differ in operating parameters and performance according to the application for which they are intended. The categories include long and short haul modems, acoustic couplers, modem eliminators (line drivers), and modems for communication

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over fibre optic or coaxial cable.

Long haul modems for voiceband communications are availbale for use on the public switched telephone network, while others are designed strictly for dedicated use on a leased telephone line, and still others are available for both switched and dedicated applications.

Short haul modems, also referred to as limited distance modems, are designed for use over privately owned facilities installed on user or over private telephone company lines. Transmission distance is limited by the transmission speed and is typically 6 to 10 miles.

Modem eliminators are low-priced substitutes for conventional modems, and are used to extend the cable distance between two data terminal equipment devices (such as CRT terminal and mini-computer) beyond the 50-foot limitation imposed by the EIA RS-232C interface.

The two types of modem you are going to encounter, are the 'Direct-connect' and the 'Acoustic coupler'. The Direct connect modem plugs directly into the telephone socket at the wall. The telephone is removed from this socket and the modem is plugged in, in its place. Also, the modem will (should) have its own telephone connected to it, otherwise you will need a double-adapter to enable you to plug the modem and the telephone in together.

Acoustic couplers are modems that acoustically connect data terminal equipment to the telephone network. The acoustic connection is implemented via a conventional telephone handset, which is cradled in the coupler's acoustic transmitter and receiver transducers. Acoustic couplers are generally used for portable applications (and for use with wall-mounted telephones).

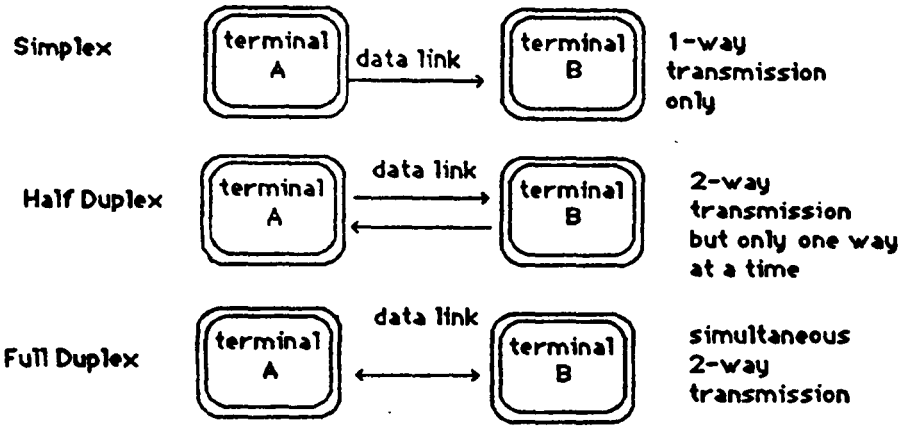
Data Transmissiom Rates (Baud Rates)

Modems are generally categorized with respect to their data-transmission rate or the speed at which the signal is sent. These rates are determined by the actual transfer rate of transmitted data in bits per second (bps). The categorization is as follows:

Low speed	up to 600 bps
Medium speed	1200 to 2400 bps
High speed	3600 to 16k bps
Wide band	19.2k bps and faster

Communication Modes

There are three different communications modes: Simplex, Half Duplex, and Full Duplex. Simplex is the most elementary approach, providing one-way communications between two points or transmission in one direction only with no way of responding. An example of simplex communication is your home television set. Half duplex communication provides transmission in two directions, but only one way at a time, as with a CB radio where both individuals can transmit and receive, but not simultaneously on a single channel. Full duplex is the mode of communication where transmission can occur in both directions simultaneously.



The three communication modes suit different applications and requiredifferent levels of design sophistication.

Synchronization

The next consideration is how the transmitted data synchronizes, or operates with respect to the timing of the receiver's clock. Most Low to Medium speed modems, use synchronous transmission methods. This means that each information character sent contains a start bit and one or two stop bits that frame the character. After receiving the start bit the receiver knows the next bits received will be data, reception of data ceases after receiving the stop bit. The start and stop bits allow the receiver and transmitter to synchronize with each character. At higher speeds, sending larger amounts of information, modems operate synchronously. Synchronization between transmitting and receiving devices is achieved through synchronization characters or bits at the beginning of each transmission. These devices synchronize over longer periods of time thus permitting transmission of whole blocks of data without start or stop bits.

Modulation Techniques

As the amount of data sent across a telephone line and the speed of transmission increases, the modulation technique required to insure error-free transmission becomes more sophisticated. The simplest scheme, frequency-shift keying (FSK) is employed by the Low speed modems. In this scheme, data is transmitted at two frequencies which correspond to logic ones and zeros, also called marks and spaces, respectively. The second common modulation technique, phase-shift keying (PSK), transmits the data as phase-change information instead of frequency information. This technique permits higher level data encoding which means the more information can be transmitted in less time or at a lower clock rate. The third modulation technique, which is even more sophisticated and employed in higher speed modems, is called quadrature amplitude modulation. It employs both amplitude and phase modulation to encode multiple bits of data, thus packing more bits of data to achieve higher transfer rates.

System Interface

A modem must be connected to the telephone network in some manner in order to operate properly. There are two common methods, electrically through data access arrangement (DAA), or acoustically through a microphone and speaker. The actual requirements of these connections are determined by the common carrier specifications and FCC (and/or Telecom) regulations. The most common interface to the computer or terminal is with the RS-232C. Common interfaces to the telephone lines include dial or switch network, private, leased, or dedicated line.

Industry Standards
To ensure that variations in the parameters discussed thus far don't result in totally incompatible systems, thus making communications impossible, industry standards have been set. The Bell System, for example, has traditionally dominated the U.S. communication industry such that muchof its equipment has become a standard for determining performance characteristics. At the international level, the International Telegraph and Telephone Consultative Committee (CCITT) recommends certain standards for data communications. But while the standards of CCITT run parallel to many of the Bell specs, the two systems are not necessarily totally compatible.

Special Interest Group. (SIG)

Yet another Special Interest Group is being formed within the club. We have not got a name for it yet, but it will be dealing with the following:-

(a) Tele-Communications.
The use of modems with the computer
Connecting computers to the telephone and communicating with other systems, such as VIATEL and Remote Bulletin Board Systems (RBBS - ABBS - RCP/MBBS - etc)

(b) BASIC Programming.
Learning to program in Applesoft Basic

If you would like to learn how to program, using Applesoft Basic, then you should join this SIG.

Contacts:-
'Blue' Whitworth.....ph. (07) 203-6721
Graham Black.....ph. (07) 284-0999

Either see us at the Trading Table each month or phone one of us at the above numbers.

FOR SALE

Stephen Campbell has had to sell his Mac and now wishes to sell the following software. Everything is secondhand, but in good condition, with most of it still in the original boxes and unused. All software is guaranteed to be in working order. Contact Stephen Campbell - Phone (07) 352-5940 after 6.30.pm (weekdays), or on (07) 221-4322, during business hours, and make an offer.

..Price...Description.....

$ 50.00...Animation Toolkit - 1
$ 43.00...Art Portfolio
$ 75.00...Click on worksheet - Desk accessory spreadsheet
$ 25.00...Cutthroats (from Infocom)
$ 35.00...Cyborg (adventure game)
$120.00...Davinci Commercial Interiors
$ 45.00...Desktoppers
$ 25.00...Fastfinder (fast alternative to Apples Finder)
$ 50.00...Feathers & Space (arcade style game)
$ 40.00...Forbidden Quest
$ 35.00...Funpak
$ 55.00...Icon Switcher - create or change any icon
$ 30.00...Infidel (from Infocom)
$ 45.00...Legacy
$ 30.00...Lock It
$ 35.00...Lode Runner (Arcade style game)
$ 40.00...Mac Attack (Arcade style game)
$ 85.00...Mac Calendar
$ 60.00...Mac Command (Arcade style game)
$650.00...Mac Tablet (enables drawing with a stylus instead of the mouse for fine detail, tracing, etc.)
$ 60.00...Machome (programmes for the home)
$ 40.00...Macmatch
$110.00...Macpascal
$135.00...Macproject
$ 30.00...Mactrack
$350.00...Macvision (Records digitised image from a video camera - can be edited in Macpaint)
$ 40.00...Mastertype (Typing tutor)
$180.00...Microsoft Basic
$ 75.00...Musicworks
$375.00...Odesta Helix
$450.00...Omnis-3 Data Base
$200.00...Overvue
$550.00...Pagemaker
$ 25.00...Planetfall (from Infocom)
$ 45.00...Pyramids of Peril
$ 90.00...Quickset - Desk Accessories
$ 45.00...Sargon III (computer chess)
$ 55.00...Slideshow Magician
$ 30.00...Sorcerer (fron Infocom)
$ 30.00...Starcross (from Infocom)
$175.00...Talkshow
$210.00...Think Tank 512k
$ 85.00...Windowware Calendar/Phone Book
$ 35.00...Transylvania
$165.00...Videoworks
$ 90.00...Zork I, II, & III. (from Infocom)
$ 20.00...Diskette Box (holds 80 disks)
$ 15.00...Diskette box (holds 36 disks)