

Archiving to do # 5

This is my fifth of these articles in the series
October 2004

Also available in PDF format from my Web site
www.paradox.com.au/~jcdalton/JCED04



ATD
Archiving_to_do_5.sxw

Now More on New Technology

It is now time for me to talk a little about new technology. Using new technology one needs to be able to use a computer. I have been holding off from getting to this facet of archiving because many people do not use or possess a computer. There are other things that can be done outside the world of new technology but I feel it's time I talked about this subject. Of course people who do not use a computer can perhaps get a kind relation or friend to do this work. Also there are professional firms that do such archiving but it is an expensive exercise.

To save/archive/store data on all sorts of new devices. Quite a few people who have a computer now have a CD Writer, aka burner installed on their computer, including myself. I would like some feedback from people who can help or suggest anything in what I have spoken about so far.

There are new devices and medium to archive data onto but as I have said in previous ATD's it's up to future generations to transfer/record/burn the data archived so that it's not lost. The main job at hand for we oldies is to get the sounds into a computer so it is converted to a digital format. The data can be edited then archived to CD or DVD.

More about using new technology later in this ATD #5.

Sounds

Sounds include personal sounds such as voices of people who have passed away or still living.

Grandfather, grandmother, father, mother, uncles, children, grand children and so on.

Sounds of voices of friends or people who have some part that concerned one's family.

Sounds of music played by people who one considers played some part concerned one's family such as wedding music etc.

Sounds of events that one would like to pass onto future generations. The list is long.

When Marie and I wed in 1960 our wedding ceremony at the church was recorded onto six old 78RPM acetate and aluminium 10inch (20cm) diameter records. In later years I recorded the sounds onto 7inch

(18cm) reel-to-reel ¼ inch (6mm) wide magnetic tape. Years later I recorded the sounds onto cassette tapes.

As well as our wedding sounds I recorded from 1960 other sounds, our children talking and special occasions such as their birthday parties. Also many other historical sounds.

Most of the sounds one needs to archive are of ones personal people's voices which one holds copyright and no other recordings have been made by anyone else. But of course there are other historical sounds that have been recorded by other people which could still be of interest to future generations.

As this archiving sounds onto a new media occasionally one may want to do the reverse, that is to put sounds from the new media, CD-R or whatever onto an old media, sound reel-to-reel, cassette tape or whatever which is accomplished by the sound coming out of the computer via the Auxiliary or Line Out sockets as shown above going to the sound system. The Output of the sound system would then go to the various device, the record disk player, cassette tape recorder or whatever the device would be used. A sort of reverse system. My system allows me to do just that.

Sound/audio Setup

One needs the equipment to play the sound whether it be a disc record player for circular records, a reel-to-reel player for those tapes, a cassette recorder for cassette tapes, a CD Player for CDs or whatever the media might require. Here is a very simple setup showing three of the players which will send the sounds to a computer. These three items are represented at the top and the sounds are fed into the computer by connecting to the Aux (auxiliary) or sometimes called LineIn socket of the computer.

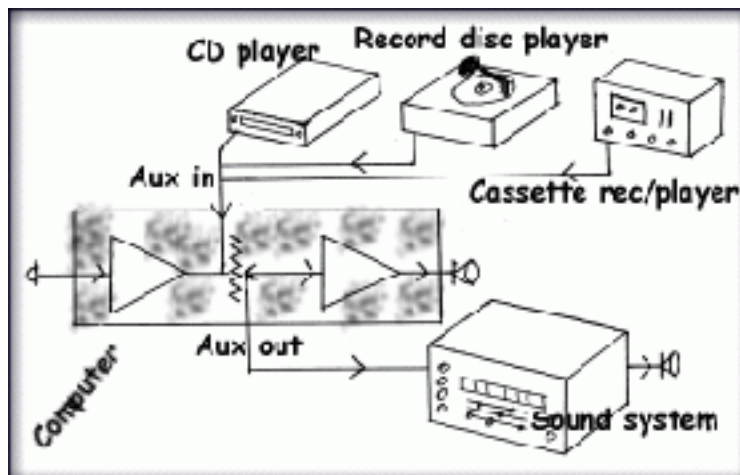
Sound such as one's announcements are spoken into a microphone which is connected to the Mic In socket of the computer, shown at the left.

The computer is represented by what we technicians call a block diagram as shown in the middle. Sounds being recorded can be heard from the computer's Speaker Output socket as shown on the right.

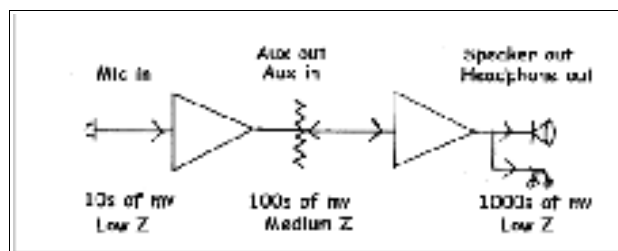
I have marked the connections as so many "Z". Z is the notation for Impedance which also becomes part of the electronic circuit system but I'm not going to talk any further about that, it's far outside the scope of these

ATDs. Here I have also marked the signal level as so many "mv" (millivolts).

Below that is an amplifier or stereo system which can be used to monitor, that is hear the sounds being saved onto the computer in addition to the sound from the computer itself. Sometimes one listens to the sound from one or the other but not usually from both at the same time. All the items need to be connected in the correct manner, the correct cables with plugs plugged into the correct sockets, not only at the computer but also to the other equipment.



Most of the connections will be of the RCA type as pictured here and some will be the 3.5mm plug/socket.



Plugs and Sockets

Here are some plugs that are connected to one or both ends of cables which one will use. The cables will most likely be stereo cables with two plugs at each end but sometimes one plug at one end.

The 3.5 plug will be plugged into the computer.

The 6.5mm plug or the above 3.5mm plug could be plugged into the sound device.

The RCA plugs will be plugged into the sound devices of the computer.

There will already be one or more 3.5mm plugs plugged into the computer for the speakers and a microphone. Also there should be audio input and output, usually called **auxiliary** or **line**.

So it will be necessary to plug the other cables with one or more of the plugs into the sound device/s such as a record turntable, microphone, video recorder, tape recorder etc. Yes I know it's a bit confusing. One needs to be careful and mark with tape the cables or plugs

because it does become a little confusing. People may need help from a sound/radio technician to connect everything up correctly.

Turntable for Records

Records are now referred to as Vinyl discs but for me it means circular discs recorded/played at various speeds. 16 2/3, 33 1/3, 45 and 78 RPM. There were 78 RPM records that were recorded not at 78 but speeds between 65 and 82 RPM but I have never seen one.



In years past the records were played by using a play head or cartridge which gave an output of sound in the hundreds of millivolts range into an amplifier or radiogram. Later the play head was quite light so the sound output was in the range of tens of milliwatts. To accommodate this a pre-amplifier was built into the amplifier or stereogram or sound system. So people who wish to record the sounds via one of these low output turntables have to arrange for a small amplifier to increase the sound fed into a standard (PC) computer.

If the reader has one of the old high output turntables/record players or record changers then the sound can be fed directly into the computer, no pre-amplifier is required.

The input or auxiliary input of a standard computer is of the high voltage level range so this has to be taken into account. As far as I know there are now at least two turntables available that have the amplifier built in so the sound fed to a computer is at the high level (voltage).

One of these is pictured here, the LAB 1100 which I first saw in Brisbane electronic stores in 2003 and cost \$129.00. A belt drive, two speed with built-in preamplifier.



Tape Recordings

Tape recordings include the myriad of formats but the most common would be reel-to-reel and cassette tapes.

For people like myself who have recorded a lot of sounds



of peoples voices, personal relatives and friends then there will be sounds worth archiving. I have recorded Marie and my wedding of 1960

which was recorded by Earwaker whose business was Earway Recording Service. He recorded our wedding reception on six 25cm (10inch) aluminium based shellac 78RPM discs which in later years I recorded onto reel-to-reel tapes then later cassette tapes. Now I have recorded (burnt) the sounds onto CD-R.

Video Data

This includes sound and images from various media such as tape, film and newer media such as discs. Cables to allow connecting a video camera to a computer are usually supplied with it. There are USB and other format connections possible but I will leave that to the reader to

sort out. The thing one needs to be able to do is put the data into the computer.

Once the sounds are saved onto the computer's hard disk they can be edited. The parts that are not the original sound, the noise and crackle of tapes and records can be removed. The sounds can also be given more or less treble, bass and so on. Parts can be removed such as certain words or whole sentences. Effects can be added, reverberation, echo, wharp and so on can be added/made to the sounds. Voice over such

as announcements can be added. There is a lot to do to the sounds which is very time consuming. How much time and effort you put into your projects is of course up to you. It depends on how important one places on the sounds/data. But of course what at the present seems not so important may be very important in the future. I want to stress that if the reader does not yet have a CD or DVD recorder installed in their computer there is no rush to have that done. As I just said there is plenty to do to the data to be archived, the sounds and images which could take a year or so. A CD or DVD recorder (burner) can be installed at any time. If you do have one installed on your computer then I suggest the reader ignore the CD or DVD device until the editing work is done, or at least a lot of it.

Using a CD and DVD device is not so easy as we are led to believe. One needs a computer which has a medium fast microprocessor such as a Pentium PIII running at 400mHz or faster. The hard disk needs to be at least 3gb in size. An Apple or PC running Linux or MS Windows is required which covers most everyone systems these days.

I will talk more about CD and DVD Recorders (burners) in a later ATD.



Clean the Record

Clean the record disc.

Before you start, you should do your best to clean the record as thoroughly as possible; getting dust and gunge out of the grooves will eliminate a fair amount of the lower level noise that would otherwise require a very time consuming job to remove at a later stage. Ideally use a vacuum device or perhaps it's better to get them professionally cleaned by someone who has access to special cleaning machines. Or simply using warm water with a few drops of dish washing liquid.

The device (record player/turntable) should be checked and be in good working order if it's not a new device.

The speed of the turntable should be checked with a stroboscope or the device may already have one. The plain paper/card/plastic type is adequate which must be used with a light shining on it so that the strobe bars show. A 78 RPM strobe is pictured here. The stylus should be checked for wear. Stylus to play 78RPM records and any other l/p (45 and 33) for that matter can be purchased from The Calculator Shop in Brisbane.



Their address is;
 Shop 6,
 Elizabeth Arcade,
 97 Elizabeth Street,
 Brisbane Qld 4000
 Australia
 They have a Web site at ;
www.calculatorshop.com.au

Clean the Tape

There's not much to clean but one can possibly use a vacuum cleaner to remove any loose dust that may be on the tape wound onto reel-to-reel tapes. There's not much one can do with cassette tapes or video cassette tapes. Professional people do go to great lengths to clean all types of media but we ordinary people don't have the time or equipment. There are high frequency cleaners that are used but I suggest out of the range for us.

The same advice I have given above about player devices also applies. It should be in good working order working at the correct speed/s.

Sound Data Format

There are various formats that sound is recorded/saved as which are used for different reasons. One of the most popular format is the Wave format.

WAV Sound Format

Sound is usually saved in the format called **Wave** the extension is **.WAV**.

I usually save in the .WAV format at first and while editing then to another format called **.MP3** or **Ogg Vorbis**. Wave files occupy a lot of space on storage media, usually the hard disk. Thirty minutes of sound saved in .WAV creates a file about 120mb in size which is big. This is not such a problem these days, that is in this new century, since 2000 because hard disk drives are now quite large in capacity, not hundreds of megabytes (mb) but gigabytes (gb).

More about this later. Here is screen capture of a few seconds of a few words I spoke into a microphone.

You may think things are starting to seem a bit complicated especially now that you are looking at a wave form of a sound. Like anything it's easy when you understand. The green bits represent the sound, the frequency (pitch) of it. The sound starts from the left and

ends at the far right. In other words the length of the sound is the length of the whole wave form, left to right. The bigger the green part in a vertical plane, the most highest and the lowest represents the volume. A small sound doesn't show much in the vertical plane.



There's a lot to do before copying sounds off devices and when these are old it's really in the realm of restoration. I can not cover this here so the reader may need to read

up on the subject or as I said earlier you may need help. The main thing to do is to copy the data (sound and images) onto a computers storage system so that the data can be edited if necessary.

I will expand on the editing of sounds in a later ATD.



Time Capsules

I have mentioned this in previous ATD's and would like to hear from anyone who has information on any.

I have an image of the plaque I photographed in the Brisbane City Hall in August 2004 which I will put in ATD #6 with some details about it.

That's all for this ATD. JCED

This "Archiving_to_do_5.sxw" was built up using OpenOffice.Org which I refer to as "OOO". OOO is an Open Source application which is a free Office Suite that I use in Linux Mandrake and MS Windows 98.

The file is Exported as a PDF directly from OOO.
 John C.E.D'Alton.