






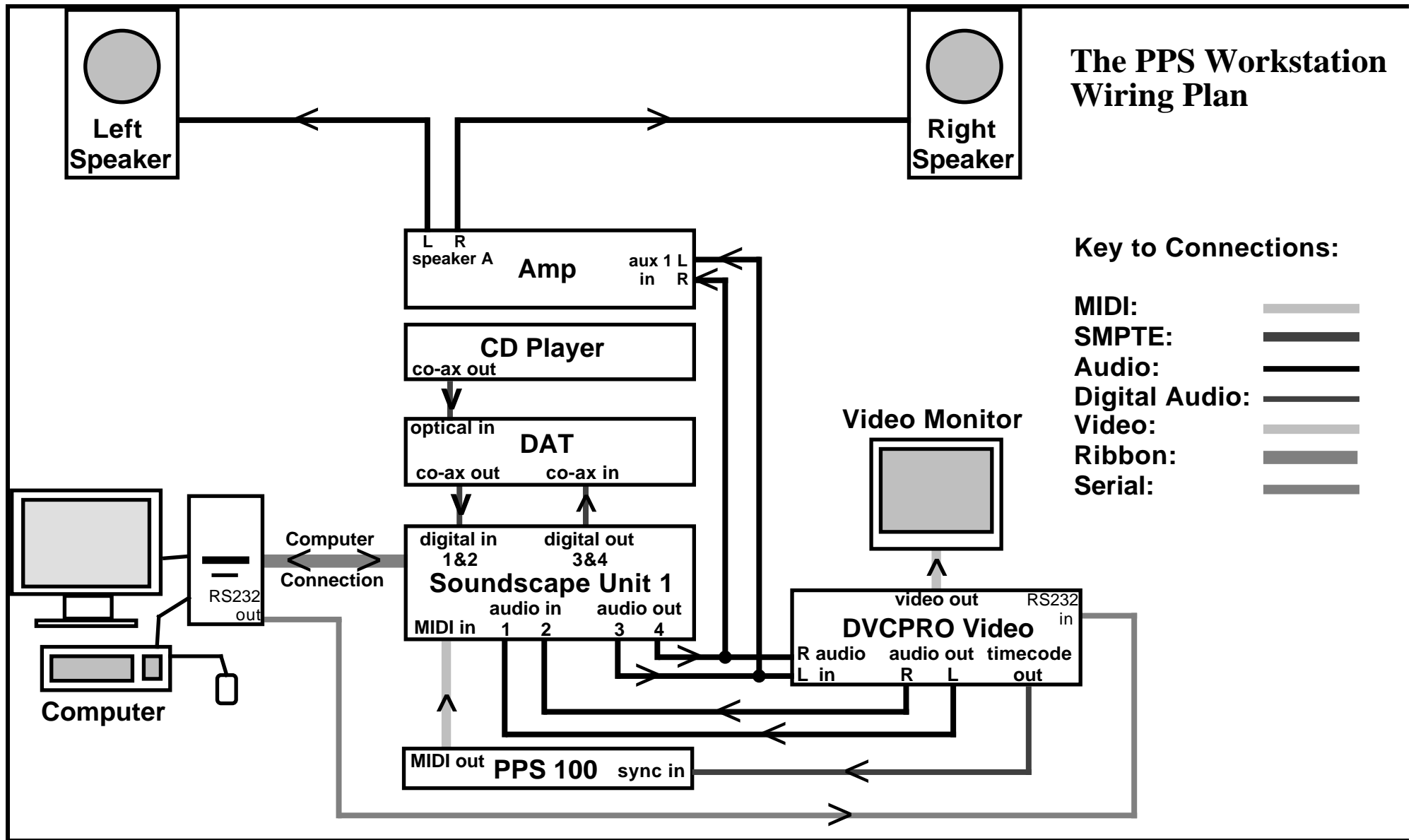


The PPS Workstation Wiring Plan

Key to Connections:

- MIDI: 
- SMPTE: 
- Audio: 
- Digital Audio: 
- Video: 
- Ribbon: 
- Serial: 



Post Production Sound Suite – The Workstation

The workstation consists of several units as follows:

The Computer

This is where the soundscape software is housed and is the main user interface. A ribbon cable connects the computer to the Soundscape unit to allow control of it. The RS232 port on the computer is connected to a similar port on the DVCPro machine to allow the computer to control it.

The Soundscape Unit

This is the hardware side of Soundscape, recordings (takes) are recorded to the hard disk drive in this unit, the virtual mixer circuitry is housed in here and all the audio connections, both analogue and digital, and control connections, (MIDI), are made to this box.

The DVCPro Video Player/Recorder and Video Monitor

This part of the system is used to play and display the video images. Sound can be recorded into soundscape from here via the analogue audio output connections. The final sound track can be recorded back to here from Soundscape via the analogue input connections. The DVCPro recorder is controlled using the remote device control program.

The DAT

The DAT is used mainly to get sound into soundscape. It is connected digitally to Soundscape, so recordings made from this source are exact copies (clones) of the sound on the DAT. The DAT is also used to back up data from the Soundscape unit for storage, this data includes all the recorded sound, the arrange file and the mixer file, (as long as you save these files to the S Disk).

The Amplifier and Speakers

The amplifier and speakers are used to let you hear your work as you manipulate your soundtrack in soundscape. The speakers are connected to speaker set A and the output from Soundscape is plugged in to input Aux 1 on the amplifier.

The PPS100

The PPS100 unit is used to translate the SMPTE timecode from the DVCPRO player into MIDI time code, which is fed into the Soundscape unit. This provides the synchronisation link that allows Soundscape to follow the images on the video tape with frame accuracy.

The CD Player

The CD player allows the PPS operator to play CD tracks, (this could be music or sound effects), into Soundscape. The CD player's digital co-axial out put is connected to the optical input on the DAT player, via a co-ax to optical converter. So to record sounds from the CD player into soundscape, you need to set the input of the DAT to "optical" and press the "REC" button (without a tape in it) to put it into "sound through" mode.

PPS - The Components

By the time you get to the PPS session, you will have collected and/or recorded all the sound you need for your program. This will include at least some of the following categories:

Sync Sound: this is the sound that was recorded at the same time as the pictures. It is most often the sound of people speaking, dialogue of the actors in a drama, the voice of a presenter in a factual based piece. Usually the aim of the sound recordist on location (or in the studio) is to get any dialogue recorded as cleanly as possible, avoiding background noise, electrical hum, etc. Sync sound can also be actuality sound, for example in a documentary the sound of the subject pursuing their activity would be recorded in sync.

This sound is normally recorded onto the DVCPRO tape, the sound from the microphone is usually one channel and the sound recorded by the microphone built into the camera on the other channel.

Sync sound is recorded into the soundscape arrangement via the analogue inputs whilst soundscape is slaved to the DVCPPro machine.

Wild Track: this is the sound that is the natural sound of the environment that the film is based in, sometimes referred to as **atmospheric**, or **atmos** sound. It is important that the sound recordist records this on location where the atmospheric sound is less controllable. It is used in the PPS process for smoothing out the sound track to cover changes in sound perspective between shots. It can be recorded straight to camera on mono, in which case the sound is transferred into soundscape from the rushes tape it was recorded to. It could also be recorded to DAT (in stereo), this might be preferable, and this would then be transferred into soundscape via the digital input. Studio recording wouldn't require wild track taken at the filming location because the studio environment isn't a natural one, but the recordist would probably have gone to a location similar to the simulated one in the studio to get the natural sound from here to use.

Foley Sound: this is the name given to action sounds that (usually) arise from human movement or action. It is mainly used for drama, and for some "specialist" documentaries, like wildlife. They are traditionally divided into three types:

Footsteps – the sound of people walking(!) Care needs to be taken to use the correct surface, shoes and movements when recording footsteps, thumping great Doc Martins do not sound right when seen against a woman walking down the road in high heels!

Movements – the sound of clothes when people move. Care needs to be taken to use appropriate fabric to match the costumes that the actors are wearing.

Specifics – the collective name for other sounds that arise from human action, for example putting a key in a lock, moving a chair, stirring a cup of tea etc.

Special Effects: these are the sounds that are used to enhance visual effects in a film, for example thunder, explosions, gun shots, breaking arm, etc. Special effects can be created by combining sounds in soundscape or by using some of the more "creative" tools to change them in some way. A lot of special effect sounds can be found in the CD effects library and they are recorded into soundscape digitally via the DAT, after having transferred them to a DAT tape from the CD jukebox in the transfer suite.

Music: this is the part of the sound track that is often used to add mood to the piece or to direct the audience emotion wise. The music you use might be from a library CD or specially composed for the piece. Music can be transferred into soundscape digitally via the DAT or the CD player. If you are using music from one of the MA Music Design students, then it is quite likely that the recording has been made at a sample rate of 48KHz, which is incompatible with your session rate of 44.1KHz. If you record from such a DAT with the session sample rate at 44.1KHz, then soundscape will attempt a realtime samplerate conversion, and this generally is not very successful, the sound will have whining overtones to it. What you need to do in this case is set the session sample rate to 48KHz and record in the music. Now set the session sample rate to 44.1KHz. Now choose the sample rate conversion tool:



and click on the part(s) you just recorded. In the window that appears, type in a value of 44100 in the new sample rate field, then click OK. The parts will have their sample rates converted to 44.1KHz and will now play back clearly and at the correct rate.

Automated Dialogue Replacement: this is the name given to replacement dialogue that is used on the sound track instead of the sync dialogue. Sometimes it is necessary to re-record actors lines in a voice over recording studio if the sound recorded at the time of filming was not good enough or impossible to record because of the natural sound of the location or maybe the sound of the special visual effects. The replacement dialogue is recorded from the original actor(!) in a recording studio while he or she is watching at a replay of the film for timing purposes. It is clearly preferable not to have to fall back on this for several reasons: the cost, the extra time it takes, the fact that the actor might not be able to successfully get the same performance that they originally gave.

PPS - The Practice

So what has to be done when making the sound track for a film?

Setting Up Your Space On The S File Manager

The very first thing to do is to make a folder on the root level directory. When soundscape first opens, it comes up in a sub directory, double click the very top icon in the S File Manager window, this takes you back to the root level directory. When here, right click the background of the window and select New Folder from the sub-menu that appears. Name it appropriately, (the name of your project etc), and click OK. This will put you in the folder in the S File Manager window. Now, make sure that the timecode offset, (found under the settings menu as SMPTE Offset), is right for your project, e.g. for a film that starts at 10.00.00.00, the offset would normally be 09.58.00.00. Now save your arrangement using the “Save Arrangement As...” option under the File menu, naming it appropriately. Choose to save as an “S File”, this will put it in your folder. Now save your mixer using the “Save Mixer As...” option under the File menu, name it appropriately and choose to save as an “S File”, again to save it into the folder you created. This will make it easier to find in the future, and especially make things easier if you do a Data Backup of your work. It is wise to do regular savings of your arrangement as you work.

Sync Sound: The next thing you would usually do is record in all of the sync sound from the master copy of the online edit tape. Now determine which track has been recorded from the camera microphone and which from the mixer (external microphone). The mixer sound should be the best to use, but sometimes you might need to rely on that recorded from the camera microphone if the mixer sound is poor in places. Based on this, select which is the best sync sound to use through the film.

Listen to the levels of the recording. Are they constant? It is quite likely that the sound will not have been recorded at a constant level due to the different positions that the microphone will have had to be placed for each different shot of the film. So you will need to balance the level of the dialogue. There are a couple of ways to do this:

You could make cuts between the regions of different sync sound level and then use the level tools to balance the level of the sound.

Or you could use the dynamics compressor to treat the channel(s) that the sync sound is going through in real time.

Listen to the background sound in the sync sound if there is any, can you hear a difference in the sound perspective? It's possible that you can, and this would be distracting to the viewer of the film to hear that they are changing position

with each cut in the film, it draws attention to the fact that they are watching a film and helps prevent them engaging with it.

This can be masked using the wild track sound that the sound recordist recorded on location, to help this masking you may have to fade up and down the background sound around each bit of sync sound, or try automating it using the expander part of the dynamics processor.

Once you have sorted out the above, it would be a sensible thing to time lock the resulting parts using the time lock tool:



This will prevent accidental repositioning of the sync sound.

Automated Dialogue Replacement: If you've had to do this, record it in and sync it against the pictures. Make sure the levels are in keeping with the sync sound.

Wild Track Sound: The next thing to do is to record in the wild track sound that was recorded at the shoot, or was taken from a CD. Place it, perform any fades and/or cuts as necessary and balance the levels against the sync sound.

Foley Sound: Record in any Foley sound and place it in sync against the images. Balance the levels with the other elements.

Special Effects Sound: Record in your special sound effects and place them in sync against the film. Balance the levels against the rest of the sound track.

Music: Record in the music, (see cautionary notes in previous section!), and place it in sync against the film. If you have used a composer to write original music, it would be worth having them at the PPS session to ensure that the music is placed correctly, the thing about music is that it often looks "right" in different places, but the composer will be able to tell you exactly where to put it, saving you valuable time in the session. Balance the level of the music against the rest of the sound track.

Now you've recorded in, placed and balanced the level of the sound track, you might find that parts of it are just too dense, for example the composer and the sound designer have both put in lots of sound at certain key points in the film. In this situation, the director should make a decision about what is to be done, do you lose some of the sound effects, do you fade out the music earlier, do you "thin out" some of the sound with EQ?

Organising your tracks.

It is a good idea to organise your tracks as you record in the different types of sound. For example, you could keep all the sync sound on track one, the wild track and atmospheric sound on tracks three and four, Foley sound on tracks five and six and so on. The benefit of this is that you can then mix levels between the different elements of the sound track using the channel output faders on the mixer, and use different effects on each group independently. For example, you might decide that you need to use a dynamics compressor on the dialogue tracks, if they are all coming through one mixer channel, then this becomes much easier.

Name your parts and takes as they are recorded, this makes it much easier to identify them later. If you label the mixer channels, (double click the white space at the very bottom of the mixer channel and type in the name...), this name is automatically assigned to the parts created as you subsequently record them.





































You will probably find that as you work on the atmospheric, Foley and special effects elements, you will need to use more tracks than you have available, in this case you will need to mix tracks down once you have balanced them in order to create more free tracks. Use the mix down tool to do this:



It is a wise precaution to save your arrangement under a different name before mixing down so that you can go back to it later if you need to return to an unmixed state.

If you need to process just parts of a track, e.g. EQ a voice to make it sound like it is coming through a telephone, don't assign it to its own track just to do a live EQ, mix down the part with the processor active and replace the old part with the new processed part, on the same mixer channel, and then bypass the processor in the mixer, or better still, remove it all together from the mixer.

Soundscape Tools Reference

 Create Tool, mixer only	 Level Adjustment Tool, arr	 Scrub Arrangement Tool, arr
 Track Assign Tool, arr, mixer	 Mix Down Tool, arr	 Noise Gate Tool, arr
 Move Anywhere Tool, arr, mixer	 Solo Tool – Play From Click, arr, sfile	 DC Offset Tool, arr
 Move Between Tracks Tool, arr	 Solo Tool – Play From Start, arr	 Reverse Waveform Tool, arr
 Move To Locator Tool, arr	 Draw Waveform Tool, arr	 Time Lock Parts Tool, arr
 Copy Anywhere Tool, arr	 Information (Name) Tool, arr	 Time Stretch Tool, arr
 Copy Between Tracks Tool, arr	 Delete Tool, arr, mixer	 Pitch Shift Tool, arr
 Copy To Locator Tool, arr	 Stereo Link Tool, arr	 Sample Rate Convert Tool, arr
 Cut On Click Tool, arr	 Trim Tool, arr	
 Cut On Locator Tool, arr	 Slip Tool, arr	
 Glue (Rejoin) Tool, arr	 Invert Waveform Tool, arr	
 Fade Up Tool, arr	 Normalise Tool, arr	
 Fade Down Tool, arr	 Repeat Copy Tool, arr	
 Level Tool, arr	 Scrub Part Tool, arr	