

Introduction

This module's assignment brief was for a group to identify potential projects/locations, plan and execute the recording, edit/mix the project to a professional standard and then review the results.

The group members consisted of Josh Fairhead, Darren Jennings and Daniel Jaramillo. The ensemble chosen was the Royal British Legion Youth Band although others were also investigated.

Several discussions amongst the group members were held to plan the logistics of such a recording and once the band had confirmed a date (and a rehearsal had been heard), the necessary equipment was booked from the MRC and a van was rented to carry it all.

The main stereo pair was a Blumlein pair augmented with a home made binaural head and a few spot microphones; of which the complete list can be found in **Appendix X**. The rationale for this was that the Blumlein provided a degree of flexibility without the need to reposition the microphones when under time pressure because the polar patterns could be switched to cardioid to lessen ambience and general stereo width. The Binaural head was an experimental decision; we knew it could provide an interesting effect on headphones but may have had to be dropped if loudspeaker reproduction contained too many artifacts. The spot microphones were a precautionary measure; if a section needed more volume they could be automated up in the mix and just like the Binaural head they were used to augment the main Blumlein pair.

Planning and preparation

The most pressing task -initially- was to find a large ensemble suitable for recording. Given the college big band rehearsed on Tuesday evenings, we decided to investigate them as a possibility after lectures. Although they were of a decent standard and we were given permission to record them the band leader seemed rather dismissive of the opportunity and so we decided not to record them. At this point other opportunities were investigated and the group finally settled on The Royal British Legion Youth Band of Brentwood, who were enthusiastic about the idea of recording.

After contacting the group we made a trip out to their rehearsal space to investigate both the room and the band. The room was a large rectangular shape with a low ceiling which wasn't ideal but certainly useable. Above where the players sat there was a mixture of ceiling tiles - some of which were reflective, while others had rock-wool behind them to provide some absorption; again, not ideal but useful none the less.

The ensemble set up with clarinets and flutes in the front, trumpets to the left with saxophones and euphoniums to the right, trombones and tubas were at the back with a percussion section behind everything (**See Appendix X**). After hearing a rehearsal we discussed altering the placement of musicians as it was felt that the stereo balance might be affected - the band leader agreed and the adjusted layout can be found in **Appendix X**.

At this point we decided to go ahead with the recording and so the various problems and where they might arise were discussed. We decided to use two Pro Tools systems owned by the group to record with while other equipment was booked from the MRC to deal with the size of the ensemble. A large van was also rented in order to carry the equipment out to the recording location in Brentwood.

Set Up

The recording set up consisted of two computers running separate Pro Tools sessions that were to be merged after the recording so that a higher track count could be reached. One system consisted of a Focusrite Saffire connected through ADAT into a Digidesign 002 along with a TLAudio Ivory II connected through the line-in while the other system was an AVID 003+.

Initially it was planned to have the Saffire connected through the 003+ to simplify the setup while connecting the more important instruments to the better pre-amps. Unfortunately there were a few issues discovered at the last moment and it made the most sense to connect the Saffire through the 002 (a tested and working system).

The main stereo pair was two AKG C414s set up in a Blumlein configuration **about 4 meters?** from the front line of the ensemble. We chose this configuration due to its 'on location' flexibility; if it proved too reverberant the figure of eight pick up pattern could be switched to cardioid to capture less of the room's reflections.

A Binaural head was also used to capture the performance; this was an experimental approach where we knew if it didn't work it could be dropped at mix stage. This was made from silicone and had a pair of DPA 4061's inserted in the ears; these are relatively flat omni-directional microphones barring a maximum 4dB boost from 4-20kHz with a median point of about 12kHz. **Blah blah blah**

The set up was then augmented with additional spot microphones on each section. The trombones and trumpets were spotted with sE R1s which are quite dark/dull ribbon microphones with a high frequency roll off starting around 10kHz; they were chosen for this quality as brass can sometimes sound quite harsh and brittle. The clarinets and flutes were recorded with AKG C414s which were probably a mistake given that the large diaphragms picked up a lot of spill. The saxophones, tubas and euphoniums were all initially recorded with Beyerdynamic M160s; these seemed ideal for brass given that they were hypercardioid ribbons but upon listening the euphoniums microphone had to be replaced with a TLM193 as the signal was too weak.

The drum kit was recorded with a coincident pair of DPA 4011's at an angle of about 90 degrees positioned roughly four foot above the snare. Given the amount of microphones present and the potential phase problems that could occur; coincident seemed like a rational choice as it would have less phase offsets in comparison to a semi-coincident or spaced pair. This is obviously a gross oversimplification of the process but regardless it reduces the concern of comb filtering once all the signals are summed together. The kick drum was recorded with a standard AKG D112 inside the shell and the snare was captured with a Sure Beta 57 on the top shell. The bass drum and timpani's were also close **miked** with an Electro Voice RE20 and two Sure Sm57s respectively; the use of dynamic microphones ensured that the high pressure levels could be handled while also being mostly insensitive to spill.

The cymbals were captured with an M160 which was again used for its directional properties and high frequency roll off. This was spotted for the sake of manipulation in the mix although it was picked up well in the main stereo pair; so much so in fact that the percussionist had to be asked to play them low down so that some of the level would be reduced.