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AIR STUDIOS LYNDHURST HALL CONSTRUCTION PROJECT - OVERVIEW

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INTRODUCTION

This paper outlines a brief history of Air Studios, describes the search for new premises and the subsequent design and construction of Air Studios at Lyndhurst Hall.

For 22 years Air Studios have been successfully operating from the top floor of a large office building at Oxford Circus in central London. One cannot imagine a worse acoustic environment for recording, situated as the studio is over three underground lines, and adjacent to one of the busiest road junctions in the world, Oxford Street and Regent Street. However, in 1970, despite these possible difficulties, George Martin and his fellow record producers, John Burgess, Ron Richards and Peter Sullivan decided that this was to be the site to build their own recording studio. All of the isolation difficulties were eventually to be overcome,and the situation has historically proved most successful.

The acoustic consultant at that time was Ken Shearer, who had recently parted company from Aero, and was achieving current success with the design and the execution of the now famous acoustic mushrooms installed in the Albert Hall.

Within the fourth floor at Oxford Circus he set about providing two main recording spaces which together with their control rooms were all totally isolated from the building structure, achieved by the clever use of acoustic springs and the provision of large voids between critical areas.

The total floor loading allowed within the building at the time was restricted to 100lb per square foot, therefore in the main, only dry construction was used. The floors of the studios 1 and 2 consist of platforms constructed with steelwork and woodwool slabs to achieve added mass, over a total floor void of 1-1.5 metres. Studio 1 dimension is 55ft x 28ft x 15ft high. Studio 2 is 28ft x 28ft x 17ft high.

The walls are independently suspended onto the outer edge of the floor platform and surrounded by acoustic voids of 1 metre or so. The roofs are independently slung from steelwork on metalistic mounts, and sealed onto the tops of the walls with a rubber strip.

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The two mixing rooms situated on the other side of the corridor are not acoustically isolated from the building structure. Their smaller overdub booths are so, to a limited extent. In 22 years we only had one complaint from the offices below, when the then film dubbing theatre was being used to record a jazz band!

Room treatment throughout is by use of tuned bass absorbers and wide range absorber boxes. The exception is the large studio which has little treatment in order to maximise the reverberation time for orchestral work. The main wall and ceiling construction of this studio consists of pre-formed fibrous plaster panels. Low frequencies are leaked away, and the result is a bright acoustic, which has become extremely popular with groups particularly for drum sounds.

Air Studios had negotiated a 21 year lease with the Landlords, Burtons, to commence during 1969. The initial rent was £1.50 per square foot, with reviews every 7 years.

The lease ended in June 1990. As Burtons had plans for building redevelopment they were not interested in any renewal. By this time the rent had risen to £6.00 per square foot, and was set to rise further with the demise of Light Industrial planning and the succession of BI. The alteration in planning laws meant that the new BI could encompass both Light Industrial and Offices under the same status. The net result was that Light Industrial space would increase to the same level of rents as comparable offices. The cost increase escalated the demise of many West End based recording studios, Pye (Later PRT), Trident, Marquee and Advision.

We were faced with the situation that Air Studios had to move. Searching for alternative premises proved a very lengthy process, with many possible sites viewed and discarded. Central London was ruled out. As well as the rent situation, clients had become fed up with the car parking and access difficulties. The bright lights of the city became jaded when they became overshadowed by such problems.

Selection of a building intended to house the new Air Studios required balancing several factors, all in their own way essential to the success of any such venture;

1) Suitable Space
Air Studios Oxford Circus occupies 1,000 square metres.

2) Suitable Height
Floor to ceiling height has to be adequate enough to accommodate isolation space, acoustic treatment, air ducting and wiring for the control rooms. The various recording areas essentially need substantial height in order to ensure good acoustic performance and an adequate reverberation time.

3) Attractive Building and Surroundings
In order to impress prospective clients, it was essential that the new studio should be located in an area of London which would seem trendy and attractive, and containing decent restaurants and pubs. A certain amount of controlled car parking is essential, and therefore the site should contain adequate external area available for this purpose.

4) Space for Expansion
The concept of 2 studios and 2 mixing rooms has long been the ideal scenario for Air Studios. It is now realised that during the past the studio had suffered a commercial disadvantage in not providing audio post production facilities. Space should be made available in the new building in order to accommodate these increased facilities.

5) Reasonable Communications
In London, one would hope for easy access to the studio for cars. Reasonable public transport facilities should be within easy reach.

Many years searching ensued. Various sites were visited, and some are listed here in order to show individually why they were discarded.

1) *Building in Kilburn Lane*
Too close to the railway and poor surroundings.

2) *Disused Cinema in Kensal Rise*
A difficult planning situation with Brent Council. Poor surrounding area.

3) *Disused Factory in Wimbledon*
Poor surroundings

4) *Pickle Factory in Chiswick*
- Too small

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5) *School in Hamden Gurney Street*
Sitting tenant would not vacate

6) *Church in Cosway Street*
Tube noise interference

7) *Part of Sainsbury's Shopping Centre - Camden Town*
The Chairman found the building unattractive.

8) *The Diamara in Regents Park*
No large rooms and therefore difficult to transform.

9) *Part of a new building on canal in Camden*
Too near railway line

10) *Factory in Kings Cross*
Poor surroundings.

11) *Cecil Sharpe House, Home of the English Folk Song and Dance Company*
Too small

12) *Yard in Camden*
Too small

13) *Adison Studios, Gosfield Street*
Too small

These are just a small collection of buildings indicating the difficulties encountered in searching for the ideal location.

Eventually we stumbled upon Lyndhurst Hall. Immediately we realised that this building combined all of the essential ingredients required to be the new basis for Air Studios. With an available area of almost 2,000 square metres the size seemed generous. The building contained a large church of 500 square metres, within this area a seated gallery of 250 square metres, an occupied church hall of 250 square metres, additional ground floor rooms of 70 square metres, an occupied two storey apartment of 200 square metres, a single storey apartment of 200 square metres and an empty schoolroom of 200 square metres plus a separate two storey building of 120 square metres.

Having discovered the ideal building and completed the highly involved purchase-negotiations, the available spaces had to be utilised in an efficient manner in order to successfully fit the anticipated facilities within the famous old walls.

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Some layout designing was to prove a problem. The main building, having been designed by Alfred Waterhouse, who was one of the more notable victorian architects, is Grade Two Star listed and therefore subject to many building and planning restrictions. The external appearance could not be altered, likewise the interior, but we were to be allowed to construct below the three galleries. We would need extensive double glazing, but the glass could not to be fixed to any external facing wall.

The main hall layout designed itself, almost as if Sir Alfred Waterhouse knew that one day it would be converted into a studio! The area would provide a large control room, two small triangular booths with sliding doors to the front, a machine room, a clients room, large hall and three useful galleries.

A large organ had been installed during 1896 by Henry Willis containing three manuals and 56 stops. Sadly this magnificent instrument had been vandalised beyond repair during the previous ten years, and an estimate for restoration would prove to be impossibly costly. For this reason only the organ frame and front pipes are to be restored and re-installed.

Other problems were encountered. With ten years of neglect the interior of the church had suffered severe deterioration The leaky roof had caused dampness in the timbers, which as a consequence had become badly affected with dry rot. As a result, these timbers had to be replaced, particularly in the inner ceiling dome structure. It's ornate plasterwork had to be stripped away and replaced with new, which incidentally allowed us to add mass for improved acoustic isolation.

An interesting structure was discovered in the centre of the church roof consisting of a large gas ring and chimney venting out through the louvres in the lantern. This chimney contained several baskets full of clinkers. Below the gas ring were large flaps in the centre of the domed ceiling. It was supposed that this was part of a victorian ventilation system. When the gas ring was ignited heat would rise up through the clinker and out through the lantern, drawing air up from the church through the ceiling flaps. Air vents at low level in the surrounding walls would allow the entry of fresh air into the building.

The rear hall was not subject to any English Heritage restrictions on building to the interior. The room is exceedingly attractive and contains many stained glass windows which are intended to be restored and on view in the final scheme. As the rear of the building is surrounded by residential properties, the design of the interior structure must ensure

adequate sound isolation to the exterior. Despite being in constant use, the rear hall was found to be generally in poor condition, with cracking floor slabs and unevenness in levels. Part of the floor needed excavation for extra drainage and therefore it was decided that complete excavation should take place and the opportunity was thus taken to fully float the floor on Tico Pads and to fit underfloor heating.

With curved glazed walls, and convex ceiling panels, the completed studio will hopefully resemble Studio 1 at Oxford Circus, which coincidently has traditionally been Air's most popular room, and also the most financially successful over the years.

The central section of the building, situated between the church and church hall, contained an assortment of rooms. There was a small basement, containing a boiler and the organ blower. Above this was the original vestry and organ equipment which was situated on the ground floor. The first and second floors contained a two storey apartment with two entrances from the main staircase, and the top floor consisted of a small flat. It was decided to house three control rooms within this area, stacked one atop the other, together with an enlarged basement below and bedrooms above. This then was to be the heart of the studio. Initially the available size had to be expanded in order to provide enough space for each control room plus a machine room and client room facilities. It was also necessary to provide an adequate acoustic barrier between these rooms and the two ground floor studios.

The basement had to be of the same area and excavated to five metres deep in order to accommodate the necessary air conditioning and electrical plant, plus controls and pumps for the four floor hydraulic lift installation. Surrounding the 250mm thick basement walls, considerable underpinning was designed to support the existing building. The basement shell acts as a floating foundation supporting the steels which rise within the building. These steels in turn support the three control rooms each of which is constructed as an individual concrete box mounted on rubber Tico Isolation Pads. The difficulties encountered during construction became extremely complicated with the integration of the various services within the available spaces between walls, floors and ceilings, which had necessarily to remain acoustically separated.

The ground floor control room (studio 1) serves the rear hall studio, separated from the front hall by two dense concrete walls which include air ducts. The two rooms above will serve as mixing rooms, each containing smaller recording overdub booths. Each of these three control rooms are capable of containing 120 db of sound without affecting the others.

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The area directly above the rear hall studio has been designed as an audio-for-video post production facility and also contains the technical workshop and central machine area. The floor structure consists of a single 6" concrete slab on Tico Pads over a 700mm void, fully isolating the sound from the studio below. This area also contains an audio dubbing suite plus a pre-production suite and includes space for future technical expansion.

The top floors of the building contain two audio editing facilities, plus a residents lounge and five bedrooms with bathrooms for clients use.

The separate building to the side contains a kitchen and dining area with a games room.

The central courtyard will be glazed over to form a glass conservatory, creating the reception area with it's associated offices and successfully uniting the various building with all it's separate entrances.

Appendix - Mixing Consoles

The Hall (Main Hall)
72 Channel Neve VRP Legend with flying faders - New

Studio 1 (Rear Hall)
72 Channel 1980 vintage Neve Console (this is the last console designed by Rupert Neve whilst still working for Neve Electronics and as such is unique) It has been working at Oxford Circus since it's installation in 1980 and was updated by Rupert Neve whilst he was working with Focusrite.

Studio 2
80 Channel SSL 8000 Console with Ultimation - New

Studio 3
AMS Logic 2 fully digital, 4 x 48 input, 20 bit Console - the world's first fully operational multitrack Digital Recording Console

Dubbing (1st Floor)
AMS Logic 2, 24 input Post Production Console.

Pre Production (1st Floor)
Audiofile Room