# UP IN THE AIR

*With eighteen years as a major studio, Air has an established position in the international market. Janet Angus looks at this five-studio facility in central London and hears about Montserrat*

On an historic autumnal October day in 1970, AIR studios in London opened its doors to the world. AIR (Associated Independent Record producers) represented the teaming up of four successful record producers who had taken the unprecedented step of fighting for personal recognition in a record industry where formerly only the record companies themselves were making any significant profit.

Having achieved financial recognition, they pooled their resources and put another historic foot forward by going independent. The four were George Martin, John Burgess, Ron Richards and Peter Sullivan. Of the original team only Martin and Burgess remain at the helm of a company which has spawned a number of other music/video/film and television-related concerns. Richards and Sullivan pulled out in 1974 when the controlling interest in AIR was sold to Chrysalis which in turn became a public limited company in 1985 in a reverse takeover of MAM records.

In the restructured organisation Air studios (London) today forms part of the facilities wing of Chrysalis plc which includes Air Studios, Wessex Studios, AIRtv facilities house, Audio International studios, AIR-Edel Associates (a commercial jingle company), and newly acquired Record Plant Studios in Los Angeles, plus Air Montserrat, although not part of Chrysalis, being wholly owned by George Martin and John Burgess, as a separate company in its own right.

The opening party at the London studios on October 5th, 1970 lasted two days. A wealth of famous names have since passed through its doors; not only artists but producers and engineers too. Air personnel have often gone on to make their mark in related fields. The studio's first manager was Keith Slaughter. He was followed by Dave Harries who has been responsible for much of the present studios' designs and monitoring and has since gone on to bigger and more diverse things within the Chrysalis group. He handed the studio management responsibility over to Malcolm Atkin in 1985. (Atkin's first task was to host a party for the Prince and Princess of Wales for the Prince's Trust album of that year.) John Burgess managing director takes an active interest in the day to day running of the studios and shoulders the responsibility for Montserrat and management company, AIR Management Services.

When the studios were first conceived, George Martin, in spite of his huge success in the record charts was very keen on working in film and to this end the facilities and equipment at Air had a heavy bias towards that medium. The first two studios to appear each had projection rooms; a third studio for mixing with film editing facilities followed and finally a fourth mixing and projection studio completed the picture. But Martin and his colleagues were too successful in the music world for their own good in this respect and the film facilities never really paid for their keep. They were eventually dismantled at the end of the '70s.

Air's home is on the fourth floor of an impressive 1926 Neo-Romanesque building in the very heart of London—Oxford Circus. Although in those early days the fact that Oxford Circus is recognised all over the world and therefore offers built-in attractions to overseas clients was hardly relevant, Burgess believes that is one of the reasons why, in spite of fierce studio competition, they have no problems filling the bookings diary. It is sometimes not enough to simply offer the best equipment and recording studios within your power; a studio's reputation so often encompasses other factors.

Back in the '70s however central London was the hub of a small and very exciting music industry. Malcolm Atkin reminisces: "Those early '70s were lunatic days really. There was a lot more messing around in studios, and the Speakeasy was just round the corner, which provided quite a lot of distractions! Everybody used to meet up there after sessions, and sometimes during sessions, too.

"The Oxford Circus location was ideal. It is very central with access to everything you would want in the way of sustenance and entertainment. Considering we are on the corner of two of the busiest streets in London and above three underground train lines it's amazing how well the rooms have been isolated. You really wouldn't know where you are."

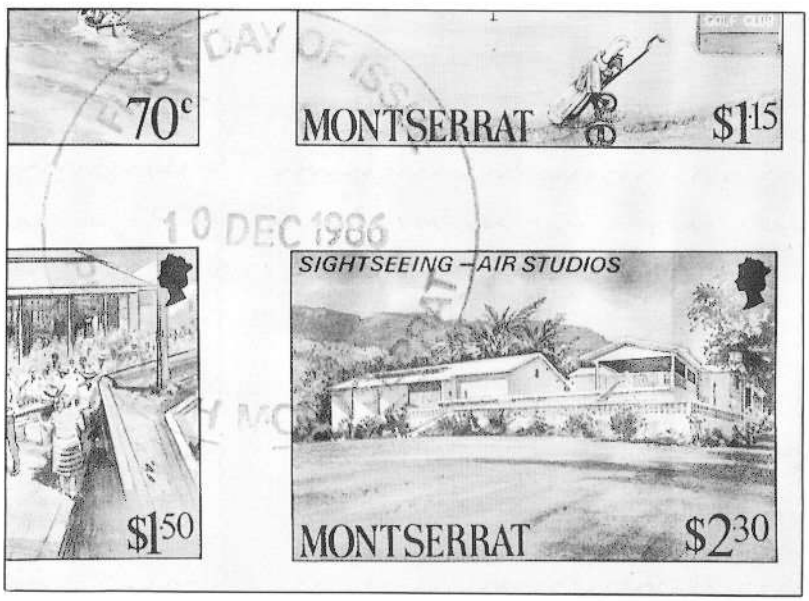
The building was orginally Peter Robinson's department store. The one thing which most recording studios in central London feel distinctly restricted in is space. Not so Air. The fourth floor of Peter Robinson's was a studio designer's dream, not only because of its spaciousness and high ceilings but its construction made it ideal. Malcolm Atkin explains: "There was a huge banqueting hall which had four marble steps going down three feet to the banqueting hall floor, making the installation of a floating studio floor a piece of cake."

This hall proved large enough to accommodate two studios, including Studio One which on its own has a reputation as an exceptionally large recording room. The original room designs were by Ken Shearer. Over the years as control room acoustic ideas progressed so the control rooms at Air have been updated, although the recording areas themselves have not seen much change. "We have fine-tuned the studios over the years. The fashion through the '70s was for deader and deader rooms. Then at the beginning of the 1980s live acoustics became the vogue and so we stripped off the padding and bass absorbers in Studio One and it was an instant success. The drums came out of the drum booth and on to a drum riser in the middle of the room and the piano moved into the drum room."

Since those original studio designs, Air have reworked the rooms in-house—often under the guidance of Dave Harries. "In those days there were a lot fewer people out there building the sort of studios and the only way to get what you wanted was to do it yourself," explains Atkin.

All four of the present day control rooms are built on the same design principle, produced by Angus McPherson. "Below 200 Hz is where most of the acoustic problems are; above that the problems can be solved without consuming the volume of the room. The principle acoustic treatment in all four control rooms is in the ceiling. The walls perform mid range absorption, whilst the ceiling takes care of the bass end, comprising a series of tuned panel absorbers at varying frequencies. When we did Control Room One we had hundreds of 2×4 boxes and we tuned each one until we had what we wanted."

The absorbers sit above an acoustically transparent but



visually effective black Formalux grid, flanked by wood slats, which allow complete access to the full ceiling volume above. One of the more tiresome problems of building a studio above a shop is that you become classified as class 20 fire risk; every single piece of wood in the facility had to be flame proofed, and all mains cable specified mineral cable.

Another problem was that because of its historical architectur the building itself is Grade 1 listed: "You can't even poke air conditioning out on the side of the building because the facades belong to the Crown." The air conditioning therefore had to be routed up to the roof.

McPherson worked on the interior designs for Studios One and Two, all the offices, corridors and canteen and then emigrated—no connection. Dave Harries provided the acoustics. Studio Four's interior was designed by Malcolm Atkin and Dave Harries while interior designer John Rickets came up with an imaginative design for Studio Three, which was later brought into line with the rest of the facility.

Of the recording areas, Studio One's is the largest at 58×32 ft. The main area can hold up to 60 musicians and has a hardwood floor with plaster walls and ceilings.

"The drum riser in here is very popular," says Atkin. "A lot of clients come specifically to use that room for drums."

Custom built large screens were constructed in the room and feature both soft and hard surfaces for varying acoustics. There are two isolation booths—one large enough to house the 9 ft Bosendorfer grand piano. Both have hardwood floors beneath removeable carpets and are fairly dead. A large entrance lobby has been wired up to provide a third booth area.

By means of a complicated engineering feat, the large scale lighting in this studio is on a dimmer system that alone comprises as much machinery as an ordinary studio machine room.

Microphone amps are located in the studio area and are controlled from the gain on the channel amp in the custom Neve mixing console. When designing the desk Rupert Neve calculated that runs over 20 m long could make a significant difference to the signal. Atkin is of the opinion that this feature certainly contributes to the sound.

Studio Two is also acoustically brighter than when first built. To one side of the control room is a private television and telephone room which is made available to clients using the room.

Atkin explains why, when space in central London is at a premium, Air decided to provide such a luxury for each of the four studios.

"It was first requested by Paul McCartney, so we built a room on to Studio Two where he could have meetings and make telephone calls, etc, in private. It paid off because he subsequently did three albums with us and a film. We thought it was such a good idea we decided to do it in all the studios."

The overdub room is shared with Studio Five (a wholly different facility which will be detailed later on) as there is currently little demand for it in Two. Control Room Two is very similar to Control Room One, but houses an SSL *SL 4000 E* with *Total Recall*, customised for use with cue mixers.

*Studio One*

*Studio One's control room*

Studio Three is an overdub/mixing facility that has seen dramatic changes—at one point featuring a John Rickets design, which earned it the label 'the galvanised room' as it had metal wall finishes. However, since April 1987 it has gone in for a more conventional look with fabric wall and ceiling coverings in greys and blues.

The console is a Neve *V* series with GML moving fader automation. Air studios was the first UK studio to install the Massenburg automation. Atkin explains their decision:

"When *Necam 96* came in here it didn't work as it should do—it was a very early version which, at that time, did not meet with our approval. I understand that other London studios, for example PRT and CTS are now using it and are very happy with it.

"The Massenburg system is in some respects a lot simpler in that it is a slave system. *Necam* and the SSL master control tape machines, cue list autolocation, etc. The Massenburg simply chases wherever you send the tape machine. In other respects it is more sophisticated. It uses a 40 Mbyte hard disk drive and is capable of taking in a lot of data more quickly than the other systems. It can run 128 faders at ¼-frame accuracy and is generally a very fast system.

"It was the only other system I could see that was a serious moving fader automation at the time and it is building up a very good reputation in the States. We were getting a lot of feedback about it and certainly, after playing with it, I had to agree."

Studio Three also uses the *Lynx* synchroniser. "The *Lynx* is the first truly rock and roll synchroniser. If you did that with *Q.Lock* it would have brain damage. It cues in really fast. As far as we are concerned it has completely solved the problems of running to video."

When in 1982 Studio Four took delivery of its 48-channel SSL *SL 4000 E*, it became the first purpose-built 48-track room in London. Primarily intended for overdubbing and mixing it has a 12×10 ft live studio area. The rooms are finished in very traditional, non-hi-tech style with Tudor-look oak panelling and brick walls with a few mirrors dotted around.

All the rooms have full 46-track capability with *Q.Lock* or *Lynx* synchronisers. Console choice has posed difficult decisions—more so because Air has so many facilities to equip—mistakes with that number of large investments would certainly prove costly. Out at Air Montserrat a compromise was reached when their SSL was fitted with Focusrite sub mixer in order to offer both alternatives.

Atkin: "Air has always been a staunch Neve stronghold and so they were very upset when we bought an SSL. I would never have believed that anyone would be able to design a standard item for anything like a console, but SSL did it. Neve custom built every single desk; it is such a completely different approach."

Multitrack tape machinery in the London facility comprises five Studer *A800* 24-tracks and four Mitsubishi *X850* 32-tracks (Sony *1630* mastering)—no small investment.

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"We are a very honest studio," explains Atkin. "We say we don't cut rates below a certain level and we don't. You get your money's worth. I think it is true to say that Air is really one of only a few studios which have been properly funded and put together. You have to charge a certain rate in order to properly equip the facility."

Why digital multitrack machines, and why all Mitsubishi? "Digital is inevitable. The thing that has been holding it back for many years is the different formats. Mitsubishi came along with a machine which was designed five years after the first efforts and therefore theirs gave better error correction figures. Plus, of course, Mitsubishi gives you eight extra channels.

"Studios had got very comfortable with analogue tapes—no compatibility problems there—and they are still very loathe to lose this standard format. Digital multitrack is a very small market. A lot of it is due to the fact that digital 2-track mastering formats are in a state of chaos. The *1630* is the only acceptable CD mastering medium at the moment. We are being presented with DASH, PD and R-DAT, which is showing some signs of being the true winner. It is a true digital machine whereas the *1630* is something we inherited from video; the technology is quite horrendous."

Analogue mastering is on Studer *A80* or Ampex *ATR102* (¼ or ½ in).

At the other end of the tape machine spectrum is the bane of Atkin's life: "I hate cassette machines. People will happily spend thousands of pounds recording something and then complain when it doesn't sound so good on something that Philips designed as a dictaphone. They are the bane of my life; maybe R-DAT will put paid to that."

Control room monitoring has seen a few changes over the years. "We used to be all Tannoys in the '70s—*Golds* and then *HPDs*. I still think they have a wonderful sound but unfortunately they were not powerful enough for rock and roll. So then we went to JBL *4350*s in Studios One and Three, and *4335*s in Studio Four. Studio Two has Dave Harries' designed monitors, which utilise a beryllium ribbon HF unit, Dynaudio softdome mid range, four 12 inch Dynaudio bass units, BSS crossover and HH 800 W amps. We will probably build the same monitors for the other rooms eventually. If you are not careful with them the JBLs can be quite a peaky speaker.

"Having said all that, most albums these days seem to be mixed on nearfield monitors anyway which I find in some ways quite frightening. The idea of basing your overall album quality on a £200 pair of speakers and only going back to the main monitors for quick reference is frightening. There seems to be a growing number of engineers who bring their own monitors, although we provide Yamaha *NS10*s and Auratones in all the rooms. You can't find that many people who actually love *NS10*s and yet the industry seems to refer to them as standard. Seems to be a pretty makeshift sort of standard to have. They all have their own brand of toilet paper. . . at the end of the day it is just a bit of cardboard flapping around in a box."

All the Air studios feature a unique foldback system which provides individual stereo mixes for each band member. The system was designed for Montserrat using 8-channel mixers with integral 400 W headphone amplifier. "Seeing what each musician chose to mix for himself showed us just what a compromise and struggle traditional foldback had been. SSL modified the consoles to incorporate it. Over the years the only person to complain that the system wasn't loud enough was Lemmy!"

Each control room has a fixed complement of outboard equipment which includes AMS *RMX16* and *15.80S*, Yamaha *REV7*, Eventide *949*, Drawmer and *Kepex II* noise gates, UREI *1176* limiters, Neve compressors, AMS phasers, Neve *2254* and *33609*, Roland *SDE3000*, Yamaha *SPX90 Mk II* and dbx *902*. Supplementing the fixed equipment is a central bank of equipment from which any of the studios may draw as required.

Studio Five is a MIDI programming room with a difference, which opened in the Autumn of 1986. "We started with a plan to build a MIDI studio but didn't have a lot of space and there were time constraints. The equipment was changing so quickly and we weren't 100% sure how it would integrate with the rest of the facility. For example we didn't really think people would want a tape recorder. We soon found out that they did! We were trying to identify a facility which would not conflict with the other rooms," says Atkin. "We felt a strong need to get involved if only in order to keep up with the rapidly changing technology."

Programmers and Canadians Dee Long and John Jones became involved in the project and set to work to create what they see as a wholly unique facility.

John Jones explains: "We moved to the UK specifically to set up Studio Five. Although it is called a programming room it is really a MIDI studio. Music is becoming more MIDI oriented every day. People tend to think of MIDI as a programming tool but we think of it as something much greater.

"We believe it is where recording is going. More and more producers and artists are working at home using MIDI. It is just a matter of time. I am convinced that this type of studio is what will survive. Of course you will always need big studios too but this is the way to come.

"In a normal studio you record the sound not the mechanical performance. With MIDI you are recording the performance not the sounds; they can be altered as much as you want in any way you want afterwards."

The equipment list is long and because of the nature of the room, constantly changing and being updated. It includes Akai *S900* 12-bit sampler, 64-way digital patch, *820* MIDI mixer and *MX73* master keyboard; Dynacord *Add-One* drum sampler and *Power Drum Kit*; *MacII*/*MacPlus* and Atari *ST* PC with Performer/Composer, SoundDesign, Upbeat, M, Jam Factory,

*Studio Three*

*Studio Two*

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Master Tracks, Q-Sheet software; complete Opcode *Librarians* and Opcode *Editors*; Oberheim Sample Player (Mirage, Emulator *II*, Akai *S900*; Prophet *2002+* and *3000* samplers and *VS* synthesiser; Roland *D-50*, *Super Jupiter*, *MKS50*, *GM70/GK1* guitar synth, and *GP8* guitar effects processor; Sycologic *M16* MIDI patch (32-way); Yamaha *DX7 II FD* with disk drive, *TS816* and *802* multivoice *TX*.

"We are not saying that MIDI is a band in a box although of course it can be. It is not only keyboards. We don't think of MIDI as playing things that human beings can play. By utilising the *Performer 2.0* software we can now record a whole band in MIDI."

The room offers over 100 voices on 32 MIDI channels, simultaneously recorded, enabling live recording without necessitating quantisation. Additional desk outputs and inputs are controlled by the Akai digital patchbay and all sounds, sound path, music notation, music performance and mixing can be saved for near total recall.

During Autumn '87 the room was redesigned to accommodate this vast array of equipment as well as to incorporate the overdub/sampling booth which it shares with Studio Two.

Atkin: "Some clients felt that the original room was too small for 12-hour days, three to four weeks on end. Now there is plenty of room to set everything up.

"We felt that pre-production/programming was something that we needed to get into. I couldn't afford the time and expense of getting involved directly so we invited Dee Long and John Jones to set up a room in conjunction with Air. That is how we were able to set up a specialised experienced room. Obviously it is not an area you can just jump straight into."

During the '70s George Martin suddenly got a bee in his bonnet about building an off-shore studio, Malcolm Atkin takes up the story:

"Keith Slaughter stepped down as studio manager because they were going to build the studio on a boat which caused a lot of people a lot of grey hairs. There were problems with the size and weight of the necessary generators and they got to the point where they were considering towing the generator behind them on another boat! It got so complicated that in the end they decided it was a bit of a non-starter.

"George Martin had been looking at Caribbean islands for two or three years before he found Montserrat. He wanted a British colony with stable politics; there are only 12,000 people on Montserrat so it doesn't have that many internal politics to worry about.

"The studio has 30 acres of prime site—the whole side of a hill with the villa at the top and a view right across the Caribbean. George just saw the view and said, 'This is it, I'll take it.' It is fabulous and unspoilt. Montserrat has been extremely lucky to avoid the tourist boom of the '60s and '70s—mainly because it is a little hilly and they couldn't get a long runway on to it but also because the beaches have black volcanic sand. So nowadays it is very special.

"As for the studio, we had *carte blanche* to do whatever we liked. There is a very large live area (about 30 ft$^2$) and a dead area 20×10 ft. There is an unusual piano booth out of which the keyboard sticks into the main room enabling the player to sit with the rest of the band. There is also a large iso booth about 10 ft$^2$. The control room is 25×20 ft—huge. Dave Harries designed the rooms with a bit of interference from me.

"At the time we put in a 52-strip Neve console and then two years ago updated with a 48-strip SSL *SL 4000 E* with 12/8 Focusrite mixer built in. We very nearly started with a Cadac. Rupert Neve had left Neve but was commissioned to design the desk. Everything was customised; different. I was a bit nervous about having a complete prototype and in fact when we first switched it on it went bang and blew up! Anyway everything was sorted out and engineer Geoff Emerick, old Golden Ears, said it was brilliant.

"However, this country is so SSL orientated that we couldn't sell time on it. The desk in Studio Two is a copy of it. Studio One had the third one and it still sounds wonderful. Mark Knopfler and people like that come here because they like the Neve desk. So it was in order to accommodate those people as well as the SSL fans that we put the Focusrite channels in.

"We originally installed MCI machines, because they sounded good apart from anything else but also because MCI were relatively handy in nearby Florida. We changed one MCI for a Studer *A800* in 1981 and then two years ago put in two Mitsubishi *X850*s. The monitors are JBL *4350*s, Tannoys, UREI *Time Aligned* and Yamaha *NS10*s. We are always messing about with monitors."

Air Montserrat was originally designed for the American market because of its location but over the years they have attracted mainly UK artists.

"Because it is part of Air London and is run from here we are in a position to look after the equipment properly. We change the maintenance engineer and tape op every four months or so, when they look as if they are starting to crack! A lot of people thought that you wouldn't get anything done out there because of all the distractions but (a) you haven't got A&R people breathing down your neck and (b) contrary to popular opinion most famous musicians are in fact workaholics; there isn't really very much night life and people do tend to get a lot done."

I can't think of many people who would object to being given the chance to try.□

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*Studio Four*


*Studio Five*


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