

THE LONG REWINDING ROAD

Richard Lush reflects on the recording of the legendary Beatles album, *Sgt Pepper*.



Back in the '60s the world of recording was vastly different. Loops were on tape and what's more, tape machines had 'operators'. Wayne Connolly catches up with one of our best-known imports, and one-time Abbey Road 'tape op', Richard Lush, to discuss his experiences of rolling tape on one of the most famous albums ever – *Sgt. Pepper*.

Text: Wayne Connolly

► It was roughly 60 years ago today that a fictional officer by the name of Sgt. Pepper taught his band to play. And it was just over 40 years ago that a group of musicians calling themselves The Beatles recorded the world's first concept album as a tribute to his work.

From the liner notes on the original LP of *Sgt Pepper's Lonely Hearts Club Band*, you could be forgiven for thinking George Martin recorded the iconic Beatles album all by himself. In fact, George was fortunate to live in an era where engineers and second engineers were rarely credited on album sleeves at all. Also present at these famous recording sessions were balance engineer Geoff Emerick (21 years old at the time), and – over by the tape machines – a 19-year-old by the name of Richard Lush.

Born in London, Richard Lush began working as a tape op at Abbey Road in July 1965. His first session with The Beatles was on the recording of the single, *Paperback Writer*.

Lush was also at the machines, just three weeks after *Pepper* was finished, when The Beatles performed *All You Need Is Love* for a live broadcast by the BBC, which was viewed by an estimated 350 million people around the world. George Martin (considered quite old at 41) can be heard at the start of the program asking, "Are you ready Richard?"

After *Sgt Pepper*, Richard's association with The Beatles continued with *The White Album* and through onto various Beatles solo projects. He was tape op on George Harrison's *All Things Must Pass*, engineered for Phil Spector on Lennon's Plastic Ono album and for Geoff Emerick on the Badfinger album *Straight Up* (which includes the glorious *Day After Day*). He also worked on McCartney's *Red Rose Speedway*, The Zombies and many more, now classic, albums.

After this extraordinary period of his life, Richard moved to Australia in the mid '70s to take up a contract as a producer/engineer at EMI studios in Sydney. It was there that Richard went on to produce a string of hugely successful records with Sherbet, including the international hit *Howzat*, and engineer several multi-platinum albums with Air Supply.

TAKE TWO

Not content with recording *Sgt Pepper* once in his lifetime, last year Richard Lush returned to London to re-record the album with various contemporary bands, using the original console and four-track equipment. The *Pepper '07* project featured artists as diverse as Bryan Adams (doing a surprisingly powerful version of the title track), Oasis, Kaiser Chiefs, The Magic Numbers and Travis.

With the exception of Oasis, who insisted on doing their track at Abbey Road, all the sessions were recorded at Mark Knopfler's studio, who among other things, conveniently owns the original Abbey Road Studio 1 console.

Lush's studio history is the kind that inspires a frenzy of questioning among most recording engineers. Naturally, ahem... I remained calm, dignified and eminently reasonable throughout the interview...

A DAY IN THE LIFE

Wayne Connolly: Richard, can I begin by asking you what the duties of a tape op were when you first started out working at Abbey Road?

Richard Lush: In those days you were a dedicated tape op – you mainly just worked the tape machines. Apart from labelling tapes and cleaning the heads, you were also expected to look after varispeed, flanging and tape echoes, as well as make sure all the machines were lined up and that any relevant changes were logged. You were occasionally involved in moving mic positions, but apart from that, you were simply sitting, listening and observing.

WC: Were you required to do tight drop-ins on the old tape machines, and were the machines very clunky in this respect?

RL: Yeah, I did drop-ins on single vocal lines and all kinds of things really. In terms of their 'clunkiness' the four-track machines weren't too bad actually. They got worse with the eight- and 16-tracks when the gap between sync and repro heads got bigger.

WC: Is there any truth in the story that the machines at Abbey Road were originally in a different room and that you had to ring on the intercom when you wanted to drop in?

RL: They were at one stage. When the four-track recorders first arrived at Abbey Road, they were in great demand, so they were put into a central room. But an exception was made for The Beatles, who were always allowed to have the four-track in the control room. There was a time I recall standing outside one of these machine rooms when a call came over the speaker to record, immediately after the 'tape op' (not me thankfully) disappeared for a cup of tea. Unbeknownst to him, in the time he was away from the machine, the engineer had come down and played back one of the songs and left the tape parked right in the middle of the track. Upon his return, and in his haste to respond to the 'recording' call, the tape op immediately hit Record and erased half a song. Great drama ensued... it was a stupid system, that's for sure!

BACK TRACKING

WC: With the basic recording setups of the time, how much of an attempt was made to isolate the instruments, or was the bleed between instruments encouraged?

RL: We never worried about spill back then. It was just 'as it was', so to speak. And that didn't really change till the '70s when all the dead rooms came into fashion. Back in the early days you'd have some screens on the sides of the drums and most commonly the question would



Antique and legendary: The Studer four-track J37 machine no.1 recording Oasis at Abbey Road for Pepper 07 (top); The three consoles – Neve 88R in the distance, EMI REDD 51 and EMI TG Mk3 in the foreground (and again in closeup, above).

“ Everything was crafted and thought about to fit into the mix – it wasn’t just a matter of throwing a whole lot of stuff down. ”

simply be, ‘who’s playing drums?’ You knew that – with certain drummers at least – the drums were going to spill everywhere. In that circumstance, you’d try and say to drummers: ‘Look, can you try and keep it down a bit today? I’ve got strings and woodwinds coming in’. The problem was, everything went down to four-track. You’d get your rhythm instruments all sounding great, then you’d add in your strings and it would be like, ‘Where’s my drum sound gone?’. Really, in the end, the loudest person won!

WC: They didn’t even have screens in front of the drums?

RL: No, and a lot of those records – Shirley Bassey or whatever – were done live with strings, a choir and a singer in the iso booth. So there wasn’t a lot of emphasis on isolation.

WC: Do you think the spill was a significant part of the sound?

RL: Well, yeah. Later working at Song Zu [in Sydney], people would ask me to recreate, say, the sound of an Elvis track. I’d say, ‘Well, then we’ve got to do it all live’. The reason those drums sound like that is because the singer’s live in the studio with a tape echo on the voice, so the drums are getting a little bit of slap-back, and there’s a plate reverb on the violin that’s going on the drums. Meanwhile the bass and guitars are spilling into the vocal mic etc... so every sound ended up sharing a bit of the other instruments’ effects.

WC: So there would never have been an instance where you would put drums or guitar in these iso booths?

RL: Nope, that wasn’t the priority. You would just get Jimmy Page with a little tiny amp, come in late, plug in...

WC: ...and never play a wrong note!

RL: Well, there was a lot of pressure on everybody to get it right, but it didn’t feel like that, there was never that level of paranoia, like: ‘Oh my God, I’m going to make a mistake’...

That’s just the way it was done. It was interesting going back to do the *Pepper* ’07 project using the same approach. The goal was to get the best performance out of the band, as was the goal back then. I mean, despite the myths, there wasn’t a lot of editing, certainly nothing like what we have today.

WC: I was going to ask you about that because I always presumed that there would have been a lot of editing together of various live takes with The Beatles.

RL: No, not really. I mean Geoff Emerick reminded me recently that, in fact, we weren’t allowed to edit the four-track master tapes. They were never cut.

WC: Really?

RL: Yeah. I mean we would do Beatles backing tracks for a couple of days and we’d never cut the multitrack tapes.

WC: So that’s why they did 70 takes of a song – to get a complete take without mistakes?

RL: That’s right, to get it right, not so they could edit it 10 different ways. If Ringo bugged up a fill at the end of a song, they simply went back to the beginning and recorded it again. We did editing on two-track 1/4-inch mixes, sure, but not on four-track masters.

OVERDUBBING

In the days of four-track recording many of the overdubs were performed during the mixdown process to circumvent the lack of tracks. This is why some of the new Beatles mixes don’t have all the instrumentation on them, because some of the instruments are only on the final mixes, not the multitrack masters.

RL: In the four-track days we wouldn’t be doing, can I say, ‘important’ things on the bounce. It was always something like a drone or a pad or something. For instance, George Harrison would often say: ‘We’ll put an extra drone on as we bounce’. So he’d be sitting there playing his sitar for two hours while we got the mix happening. This is why when the *Anthology* came out, for instance, that overdub’s not there. On ‘Lucy’ [*In the Sky with Diamonds*] for example, there are things missing because they’re only there on the mono bounce track.

WC: So the bounces were complicated, particularly considering you were adding extra instruments...

RL: That’s the interesting thing about the bouncing, which shows just what a great engineer Geoff was – the fact is, sometimes we’d do *four* generations of bouncing and still the snare would be at the right level at the end of it. Everything was crafted and thought about to fit into the mix – it wasn’t just a matter of throwing a whole lot of stuff down. It was always a matter of trying a different guitar or amp if things didn’t fit together.

WC: I read in the book, *Recording The Beatles*, that on a few occasions they did add another snare on top, since the snare had become buried.

RL: I can’t remember adding a snare. I’ll have to check the book!

Richard (right) and famed Beatles engineer, Geoff Emerick having fun at Mark Knopfler’s studio recording *Pepper* ’07.





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GET BY WITH JUST ONE MIC

WC: Can we talk about guitar sounds for a moment: was it usually a matter of reproducing what you heard coming out of the amp, or would you be manipulating the sounds a lot with compression and EQ?

RL: Geoff used the totally old-school approach: ‘Let me hear it in the studio, then if I’m happy, back to the control room’. So a lot of those sounds were as you heard them at the amp, and on the walk back to the control room you’d think, ‘Right, what can I do to it to get that sound... I know, I’ll put the Fairchild on it’. The Fairchild was used on most things, although we’d use the Altec compressor on the bass, which was modified in-house to have different attack and release times.

WC: Would you ever record the guitar amps using multiple mics?

RL: No, it was always just either a Neumann U47 or a 67. On *Pepper* ‘07 it was religiously a 47 and a Fairchild... always.

WC: When you look at The Beatles’ recording setups, they were always in a huge room but they would always have the bass amp screened off right beside the drumkit...

RL: Well everybody was quite cosy. It was all very close. The studio was four times the area they actually used. They really just used a quarter of the room, so the leakage between mics is a lot less apparent.

IN THE CAN

WC: I’ve read that The Beatles were the first to do overdubs with headphones.

RL: When The Beatles first started recording they had a speaker – the big white elephant – for communication and playback. If you play all those early stereo tracks and you cut off one side, you can hear the playback spill on it. I can’t

remember why they moved to headphones or how they suddenly appeared. But certainly I always remember John complaining about the headphones. He didn’t particularly like cans and would only ever use one headphone. In fact, they made up a pair for him especially with just one earpiece.

WC: Would they use the figure-eight pattern with the mic at 90 degrees to the speaker to try and minimise spill?

RL: Yeah, or try and put it on cardioid and have it away from the speaker and, you know, politely mention... ‘do you have to have it that loud?’

WC: Can you take us through a typical *Sgt Pepper* drum mic setup?

RL: When Geoff came along he would use a mic on the snare and a mic on the hi-hat, and sometimes a mic underneath the snare, as well as kick, and D19s on toms and as an overhead. We used a couple of the D19s on the recent project that we got from AKG – they were a great mic. The company is debating, I think, whether to bring them back again.

WC: And what about strings? Any particular techniques you favour for recording strings?

RL: Well, valve mics are always the best way to go. In an ideal world I would love to have all U67s. On a quartet, maybe four mics – if you have great players, and they can balance, you might use less. But the orchestral stuff on *Pepper* ‘07 was 67s quite a way away in front of the orchestra and a Decca Tree of three valve 47s.

WC: Was there much mix bus compression back in the days of *Sgt Pepper*?

RL: Not that I can remember. Individual tracks were compressed through the Fairchild. The drums, being on one track were often put through it.

WC: To what extent was doubling used on guitars and vocals?

RL: There were quite a lot of double-tracked vocals. By the time I got to work with The Beatles they had refined it and wanted it to be perfect.

WC: Did the automatic double-tracking (ADT) take over from real doubling eventually?

RL: Well yeah, it was Ken Townsend – who should be knighted. Well, he got an MBE for his idea. The story goes that John said to him, ‘It would be great to not have to sing it again to double-track it’. And he went home and thought about it and came up with what we know as ADT.

WC: So how was the ADT and flanging done?

RL: You could only do it on mixing, and because the four-tracks had a sync and repro output, you sent the sync head output to a quarter-inch mono machine and then sped it up to match the signal coming from the repro head of the first machine.

WC: Delay the ¼-inch to match the repro of the four-track?

RL: No, speed it up.

WC: So they would vary the speed of the

quarter-inch with an oscillator?

RL: Yeah, and as you got the quarter-inch output closer to the repro output, it would start to flange. Then John would say ‘Wobble it’, and you’d get [the effect heard on] *Roll up, roll up for the Mystery Tour*.

WC: Is it possible to recreate those sounds now do you think?

RL: All of those things are dependant on the tape machine, the sync head, the head gap and the sound of the machine. I mean, with *A Day In The Life*, I’d defy anyone to get a tape echo sound like that. For some reason John’s voice triggered it really well. And the sound we got on the BTR tape machines was quite different to the sound of the Studers later on, and John would always say, ‘It doesn’t sound the same’.

WC: Was the tape delay used a lot in conjunction with the echo chamber or on its own?

RL: A bit of both. We’d have quite a few things running – two four-tracks, trying to sync them up, and sometimes three, or perhaps even four machines going for delays as well... so, sometimes about six machines in all! People would say, ‘Oh, he’s just a tape op,’ but it was a big job! You’d have to spool them all back etc. The *All You Need Is Love* broadcast was particularly nerve wracking as I had to firstly play a version of the song with just backing vocals before spooling it off while they introduced the show and then cueing up the reel of the full instrumental backing.

WC: Would you use tape loops for delay?

RL: No, just a reel of tape. You’d have ‘Tape Echo’ written on the spool so you’d know it was an old reel of tape, and after a week it would wear out.

WC: You should have kept some of those reels to sell on eBay years later!

RL: Oh I know, I should have done a lot of things in my life! I’ve still got the plectrums! All the lyrics that were left on stands that got thrown away...

WC: But you must have known at that point they were the world’s biggest band?

RL: Well, it’s funny. You did, but then it was just a job as well. I mean, at times you’d be playing back *A Day In The Life* for the Monkees or whoever came in and you’d just think, ‘Wow, that’s amazing,’ but that’s just what went on at Abbey Road. I mean, down the road at Decca, there were people working with The Stones.

THE FIFTH (SIXTH & SEVENTH) BEATLES

WC: So George Martin would never be involved in anything technical, like reaching for an EQ or a fader?

RL: No, not really. Later on he liked to fiddle with faders, but not in the ‘67 period. If he had an idea for a fade he would perhaps take over for the benefit of John and Paul.

WC: Does the acclaim for George Martin seem a bit out of balance to you?

RL: Well, yes. I can remember when *Sgt Pepper* came out Geoff and I were both a bit upset, after all the work we'd done on it, that we weren't credited. But EMI's policy at the time in England was that no engineer or studio was credited on EMI records, whereas Capitol, the affiliate in America, did. Later on when the CD came out we were credited. There were a couple of articles at the time that basically asserted that 'George did everything'. We were both a little bit miffed about that – it was like, 'weren't *we* there?'

MIXING IN STEREO

WC: The mono and stereo mixes of *Sgt Pepper* were done separately – have the mono mixes ever been released on CD?

RL: No, they've never come out, and it's a point of contention that Geoff and I often discuss, because the stereo mixes were done in a real rush – three mixes in an evening sometimes! We wanted to get rid of them, and of course The Beatles never wanted to hang around to listen to them either. Why? Because all the effort went into the mono version. At the time pop records came out in mono and only classical records came out in stereo. With *Sgt Pepper*, however, someone decided three quarters of the way through the project that there should be a stereo mix as well as mono. So it was really only done as an afterthought, and yet these are the mixes people have been listening to for years!

PEPPER '07

Revisiting the recording of arguably the most famous album of all time isn't something you do every day. Re-recording the famous Beatles tracks using the same recording equipment was in some respects a logistical nightmare. Most of *Pepper '07* was done at Mark Knopfler's studio where much of the original equipment now resides. With one exception...

RL: Yeah, except for Oasis, who insisted on doing it at Abbey Road. For that we flew in Lenny Kravitz's Abbey Road Redd console all the way from New York.

But Mark [Knopfler] has a Redd 51 from Studio 1, a TG which came from Africa (which Geoff previously recorded *Band On The Run* through) and a Neve 88R. So we had three consoles. The biggest got used for talkback. The recording was all done on the Redd, and the TG was used for extra faders. [Knopfler] also has the similar Altec compressors.

WC: So they were song-a-day sessions. It must have been a pretty instructive experience?

RL: Kind of a song-a-day. I mean, The Kaiser Chiefs took a bit longer. There were a few communication errors with them unfortunately. They came in and said; 'Oh, we didn't know anyone was filming it, we thought we were making a CD'.

There were two miscommunication issues there: firstly, we were filming it; and, secondly, we weren't making a CD! So they were very nervous, and then the drummer walked in the control room and said, 'Where's the screen?' And we said, 'Well, we're recording on four-track, and they said, 'Oh, no-one told us that! What we normally do is put down about four takes and then chop it up in ProTools'. We said, 'Well, we're not doing it like that here, you really have to give a great performance'. So they went off and had a band meeting...

WC: A band meeting about playing the song properly!

RL: That's right. But eventually they got it happening and gave a great performance.

WC: And tell me, did you ever get to work on Magic Alex's console? [Magic Alex was the 'wizard' who advised The Beatles on 'all things technical' in the later years]. I've read that it was just like a theatre prop. Geoff Emerick, in his book, talks about spending months trying to make it operational.

RL: No, I never used the console because he never finished it. We could all see Alex was a con-man. Even George Martin would say, 'I don't trust that man'. But for whatever reason John had complete faith in him. In fact, John came in one day and announced that Magic Alex was going to make some speakers that were 'this thin' (forming a tiny gap between his thumb and forefinger). 'They're going to be like a painting on a wall'. We were like, 'Sure, John'. John would buy Alex new Nikon cameras and all kinds of stuff, meanwhile, we were lucky to get a cup of tea out of him! ■