

The Beatles in Stereo

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There are many rumors, legends, and popular stories about the Beatles that have proven to be untrue. “The Beatles made the butcher cover to protest what Capitol Records was doing with their albums in the United States.” False. “Lucy in the Sky With Diamonds” was about LSD. False. “Until 1968 or 1969, Beatles songs were not meant to be heard in stereo.” That one is also false, as this article will demonstrate conclusively.

When the Beatles signed with Parlophone Records in 1962, they came to be produced by a man whose experience with rock music – “guitars and drums” – was minimal. George Martin had produced classical music and comedy records when the Beatles came along, but Martin found that he had to learn about rock and roll, just as the Beatles needed to learn about music production.

“Soon after we got together [Paul McCartney] started taking piano lessons. I, on the other hand, bought myself a guitar and started to teach myself that. There was good reason for both: in the early stages there was a certain lack of communication, and we had to find common ground in which to talk about music....John and Paul, however, learned the piano far more quickly than I could master their instrument. So I dropped the guitar.”¹

In those days, the recording consoles created masters from twin-track tapes. George Martin didn’t know much about rock bands, but he knew his production techniques, and he was familiar with stereo sound:

“...I soon realised that even where we were not issuing the records in stereo, the stereo producing technique could still be very useful to the *producer* if he simply used its two tracks and mixed them to make a mono record.”²

When George Martin wanted to create the best possible sound for a mono single, he was accustomed to making what amounted to a stereo mix first. As he once described it, he used the twin-track setup as a step in the process of making a single mix. How was this accomplished? During the recording process, George Martin would arrange the instruments so that their volumes and placement did not interfere with one another. He had several microphone setups from which to choose. Some instruments would be placed onto one channel of the twin-track tape, while other instruments and vocals would be placed onto the other channel. This way, if everything worked well during the initial recording stage, the only thing that remained for the creation of



¹ *All You Need Is Ears*, George Martin, St. Martin’s Press, 1979, p. 138

² *Ibid*, p. 142.

a proper mono mix was some balancing and EQ'ing.

All Parlophone singles were released in mono only back then, so they didn't need to be released in stereo. Album tracks, however, were normally released in both mono and stereo. Ever since stereo was introduced in 1958, George Martin was mixing albums for stereo. In *All You Need is Ears*, he described the differences between mixing a comedy album for stereo and mixing a classical album for stereo. Since the stereo mix was basically complete already, little needed to be done at that point except to transfer the master tape onto a mix tape. Since mixing for twin-track had been done during the recording stage, the final stereo mix was easy to create, taking less time than the mono mix to make.

No, these mixes did not merely consist of “instruments on one side and vocals on the other.” Instruments would be included with the vocal track, but not in such a way that they would interfere with the vocals. “I Saw Her Standing There,” for example, features instrumentation along with the vocal track. In fact, quite a few of the songs from the *Please Please Me* album are carefully arranged so that the placement of the instruments and vocals on the twin track tape (i.e., the stereo mix) allows them to complement one another. Listen to “Boys,” which places the drums and vocals together, and the remarkable spread on “There’s a Place.”

Although twin-track tapes were used into late 1963, the presence of the Beatles in the studio changed the recording process somewhat. In several ways, they challenged the established procedures. A wonderful example exists with the recording of “Love Me Do.” The song was written by both John and Paul, and both of them sang the song, but Lennon always sang the portions of the song where there were solo vocals. In the studio, “the late addition of harmonica to Love Me Do caused a problem not foreseen by the Beatles in private rehearsal: who would complete the vocal line ‘love me do’ now that John had an instrument in his mouth?”³ George Martin instructed Paul to sing the lead vocals at those times – freeing up John to play.



Paul has described how nervous he was about taking the lead vocal in a point where he was not accustomed to doing so. However humorous the story was, it proved to be entirely unnecessary just a few months later. Had “Love Me Do” been recorded later in the year, John could have sung lead. For by then, George Martin had begun introducing a second tape into the mix – an “edit tape” of short overdubs.

³ This event is described in the liner notes to *Anthology 1*.

“Please, Please Me” was recorded on three occasions: in a slow, “Roy Orbison-style” on June 4, 1962; with Andy White on drums, and with guitar fills, on September 11; and the final version on November 26, 1962. This last effort featured harmonica fills in the place of the guitar riffs that had marked the White-backed version. Rather than pull John away from his lead vocal, George Martin decided to create a second tape of edit pieces and to perform a tape-to-tape overdub after the tracks were complete.⁴ For a time being, this became the usual method of escaping the need for a third track: segments of “edit pieces.”



Unfortunately, Parlophone’s practice of wiping the session tapes once the mono (and/or stereo) mix tape(s) had been created came back to haunt them when the stereo album was compiled. Apparently, the November 26, 1962, session was housed on two tapes. After the mono mixes of “Please, Please Me” and “Ask Me Why” were made on November 30, the tapes were slated for destruction. Had they anticipated the release of an album, the final twin-track (stereo) mix would exist. Instead, the second session tape, containing the last few of the eighteen takes of “Please, Please Me,” and the six takes of “Ask Me Why” survived the purge – perhaps by accident, but the whole session was not extant when the time came to prepare the stereo album. Therefore, an edit of three of those later takes was prepared for release on the stereo LP on February 25, 1963 – the day that both the mono and stereo masters for the LP were made.

Oddly, George Martin’s faulty memory of those early years has contributed to the general feeling of distaste toward the twin-track stereo mixes that arose during the 1970’s and to an extent prevails today among Beatles fans. Although he supervised the stereo mixes personally, he went on to write in 1979 that the early songs had never been released in stereo. Regarding the planned 1976 release of the *Rock and Roll Music* album, prepared by Capitol Records, Martin wrote, “They had put the tapes on a transfer machine and were going to issue them just as they were – but in stereo! The effect was disastrous.” He went on to describe how he altered the mixes that Capitol had received from Parlophone, moving tracks toward the center and adding compression and echo. After this, he wrote, “they really sounded quite tolerable.”⁵



⁴ *The Beatles Complete Recording Sessions*, Mark Lewisohn, Harmony Books, 1988, p. 23 (26 November).

⁵ Op. cit. Martin, pp. 146-7.

George Martin actually forgot that he personally supervised stereo mixes of nearly every early song, and he was clearly unaware of the fact that not only had the songs from *Please, Please Me* been available in stereo since April of 1963, but also that the album had been available **solely** in stereo for the past six to seven years at the time when the *Rock and Roll Music* album was being compiled. Martin's later statements that he had never intended for the twin-track recordings to be released in stereo led not only to a general detest of the early stereo recordings but also to the 1987 decision to release the first four albums in mono only on compact disc.

This happened because EMI was planning to release all of the CD's in their original stereo mixes. They contacted him in December, 1986, and he was struck at how "dreadful" they were. He got the company to agree to put the first four discs out in mono, and to let him remix the next two albums. When asked about the original stereo mixes, the producer went so far as to deny that they ever existed: "I can't believe that. We issued 'Please Please Me' in February 1963, and certainly no stereo mixes were made. Not by me. Not by anybody I know....I was not aware of a stereo album being produced. I thought it had been done after I left in 1965. Certainly I wasn't aware of it at the time. Now, that may seem extraordinary to you, but in 1963 I don't even think I had time to have breakfast. Certainly I didn't do the stereo mixes, and neither did the Beatles. Some geezer at EMI probably looked at this and said, for the minority of stereo people around, we'd better put out a stereo record."⁶



Of course, people know now that the stereo album had been available since the "gold label" days in 1963, and that it is available in many label variations since then. The fact is that people were buying stereo albums in England in 1963, and even though mono albums outnumbered stereo ones by at least a ten-to-one margin, nevertheless Parlophone and George Martin made sure its audiophiles had the opportunity to purchase stereo albums – including every one released by the Beatles.

The pattern of using a reel of edit pieces when overdubs were needed continued with the group's next single. "From Me to You" and "Thank You Girl" were each recorded on March 5, 1963. Both songs featured a twin-track backing and edit pieces. The mono and stereo mixes of "Thank You Girl" were made immediately after the last overdub session on March 13th. "From Me to You" was mixed for mono and stereo the following day. An interesting but minor shift in philosophy occurred between those two days, and in both cases the presence of all the edit pieces appears to have been the cause of confusion.

When "Thank You Girl" was mixed for mono, some of the edit pieces were accidentally omitted, and when the song was mixed for stereo, the harmonica was mixed into the vocal track. George

⁶ "Why release the first four albums on CD in mono? Well, why not ...," Interview with Allan Kozinn, *New York Times*, March 8, 1987.

Martin seemed particularly fond of the harmonica sound, and the possibility of its interfering with the vocals must have occurred to him. Therefore, on the following day some harmonica overdubs for the stereo mix of “From Me To You” were added to both tracks. This created the appealing effect of having the harmonica in the center of the recording. Since George Martin, who supervised the mixing, later went on to write about how one could use two tracks to create a full spectrum of stereo, and since Martin had done this before with comedy and classical albums, the thought to make use of the stereo spread must have sprung to mind that day. This was also the first time that single tracks were mixed for stereo right away; that practice would prove to be sporadic, since the production team normally only made mixes for anticipated releases.

The problem with creating edit pieces was a simple one: the two tapes had to be manually synchronized. In 1962 and 1963, this meant that only short pieces could be used for editing, because the tapes would go out-of-synch after half a minute or so. That was not a problem for the short overdubs on “From Me to You” and “Thank You Girl,” but it soon proved to be a nightmare...twice. As the Beatles returned to the studio on July 1st, they could not have realized that such a fine song would necessitate a complex twin-track recording.

“I’ll Get You,” which featured a harmonica overdub that ran throughout the song, was difficult enough, but the real problems occurred when mixing “She Loves You.” According to Lewisohn, it took three reels of tape to contain the recordings of the two songs. This may mean that several dozen proper takes and edit pieces were involved.



Mono mixes for just those two songs took three hours on July 4th; the entire *Please Please Me* LP was mixed for both mono and stereo in that span of time. Since so much guitar overdubbing needed to be done, after editing together the “best” takes, the production team apparently broke the song up into a number of short bits. The edit pieces were then synchronized with those pieces of tape, and the tapes were spliced back together to make the final mono mix. On several releases of the song, you can hear seven edits. These occur before each verse, before each chorus (except the first), after “because she loves you” during the last verse, and before and after “Pride can hurt you too/Apologize to her.” The edits in mid-verse are most likely edits of different takes, because the ambiance of the song changes slightly for those lines. This same process was probably carried out on “I’ll Get You” as well, but the edits in that song are not obvious. Needless to say, the number of edits and sheer length of time required for such an arduous task made a stereo mix ridiculously impossible with 1963 technology, and no stereo mixes were attempted.

As if that wasn’t enough, the group’s next album tested the limits of twin-track recording. Tapes had to be “bounced down” so that new material could be added on top of the existing recording. If the overdubs were placed on one side of the twin-track tape, they would appear alone in the final stereo mix. This was unacceptable, of course, and attention had to be paid to layering the tracks properly during the recording process. The group’s grasp of recording was evolving, and so was George Martin’s. Double-tracked vocals appear on several songs (“It Won’t Be Long,”

“Don’t Bother Me,” “Please Mister Postman,” “Roll Over Beethoven,” “Not a Second Time”), and instruments other than guitar-and-drums appear regularly as overdubs (harmonica, piano, maracas, organ, handclaps). It was only 1963, and the Beatles were already creating an album that could not be performed live. Yet with only two tracks of tape, George Martin and Norman Smith were working hard to get everything recorded and laid down the proper order so that the final stereo (twin-track) tape wouldn’t sound like a hideous mess.

Since the stereo mixes were basically made as the album was being compiled, only a single balancing and copying session was needed (on October 29th) to bring the stereo album together – except for one song. Mono mixes were made on three different days (August 21, September 30, and October 23) of the songs that were in their final forms at the time. This included a bit of editing. The struggle with mixing for stereo and with twin track was most evident on “Money.” George Martin appears to have disliked the way that the twin-track tape was heard in stereo, although the mono mix from August 21st had been fine for a single-channel record.

The song was completed in five takes, with take 5 being the “best.” Takes 6 and 7 both contain mixed down versions of take 5 together with piano overdubs. Take 7 also appears to contain some guitar during the intro that was left in from take 5 but mixed out when take 6 was created. The mono mix was made by editing the intro from take 6 to the body of take 7. On July 30, Lewisohn reports that George Martin tried again overdubbing piano onto the track. He did this in one complete take (8), a new edit for the song’s introduction (9-10), and two edits of “natural piano” (12, 14). All of these are described as “track 3” – which would mean a third generation tape. If we are to believe the descriptions on the production sheets describing the mono and stereo mixes, neither of them used this new material. Martin may have been very reluctant to use a third-generation tape.



Complicating matters even more, George Martin added two more piano edits directly into the body of take 7 on September 30th. From what little description there is, these were probably short edit pieces that did not run the whole length of the song. If take 7 was indeed made by combining take 5 onto a single track and adding piano to the second channel, these new piano edits did not create a third generation of tape; instead, the edits either added to or wiped portions of the existing take 7. No attempts were made at a second mono mix, so at this time the producer seems to have been concerned with how the track would sound in stereo.

At the moment, the only finished take consisted of a piano by itself on one side and all other instruments on the other. This was not suitable for a stereo LP, and so George Martin had some work to do. Although the documentation says that the stereo mix was made from “take 7”, this could not have been the case. If take 7 sounds on the tape like what we hear in the stereo mix, it would not have taken long at all to compile the stereo mix. Instead, George Martin spent three hours

working on that one song – on a day allotted to that song alone. Lewisohn reports that the stereo mix was made by using “two separate” twin-track tapes.⁷

Since the piano from the stereo mix sounds basically like the piano from the mono mix, we can state fairly certainly that George Martin did not create an entirely new piano track on October 30th. Therefore, what he must have done was to manually synchronize the piano track from take 7 with the complete recording of take 5. This allowed him to mix one of the tracks of tape 5 into the center of the recording, as it appears on the record.

Some allege that the recording of money as we hear it now is merely a copy of the twin-track tape. This could not be. The documentation states that Take 5 + piano = Take 7. Had Take 7 been made by mixing the vocals into the center while simultaneously recording piano, then the later introduction of new piano into Take 7 (September 30) would have messed up the recording – forcing the material in the center to jump abruptly to the left. Since that does not happen in the stereo mix, the stereo mix is not simply a copy of Take 7.

Another theory has been that Take 5 and Take 7 were merely played together, with Take 5 mixed to the “left” and Take 7 mixed to the “right.” This would have resulted in the parts common to both takes being placed in the center of the recording. However, if that were true, then Take 7 would have consisted of an incomplete recording – with half of Take 5 missing from it (the parts that appear on the left in the stereo mix). We know that this is not true, since the mono mix is complete and was made simply and without tape synchronization.

A recording and mixing chart for the song “Money” looks like this (see diagram) and demonstrates George Martin’s commitment to a decent-sounding stereo mix.

With all of the recent intricacies that had developed in the use of twin-track machines, it is no surprise, then, that EMI ordered a four-track recording console. Only through the genius of George Martin and his engineers were the Beatles able to give us *With the Beatles* in the form in which we may now enjoy it. Fans in 1963 certainly took that genius for granted.

Four-track recording again changed the way in which Martin’s corps recorded and mixed tapes, and this change emerged immediately. Even as the recording and mixing for the *With the*



⁷ Op. cit. Lewisohn, p. 37, 30 October 1963.

Beatles LP were being completed, the group broke in a new four-track machine on October 17, 1963. The two released tracks that came from this session comprised the Beatles' fifth Parlophone single: "I Want to Hold Your Hand" and "This Boy." At this point, basic tracks could be recorded and added to when a basic track was deemed "best." This best track would be finished up with overdubs as later takes. Consequently, the last takes of the a-side (take 17) and b-side (also take 17, but takes 16 and 17 were additions to take 15) were complete with overdubs. On October 21st, both songs were mixed for mono and stereo.

Lewisohn was unaware of the stereo mix of "This Boy," but he reported that the stereo mix of "I Want to Hold Your Hand" was made "for unforeseen future use."⁸ Dropping four tracks down to two tracks was now as easy as combining two channels into one. Now, however, there could be the option of easily placing one or more of the four tracks into the center of the stereo mix. The choice made on this day was to place the vocals on one side, as George Martin was accustomed to doing with the twin-track recordings. These original stereo mixes were not released right away; in fact, neither of these early mixes saw the light of day until 1976. The stereo mix of "This Boy" was first released on a reissue of the Canadian single, "All My Loving"/"This Boy" (Capitol Canada 72144) in 1976. That same year, the original stereo mix of "I Want to Hold Your Hand" was issued on a reissue Australian single (Parlophone A-8103) together with the stereo mix of the b-side.



The stereo mix of "I Want to Hold Your Hand" that was made in 1963 was either forgotten or deliberately ignored, for when German Odeon requested a stereo mix of the song for their 1965 compilation, *The Beatles Greatest* (Odeon SMO 83-991), Norman Smith at Parlophone complied by creating a new mix with the vocals in the center. Smith had left EMI by the time the standard stereo mix of the song was created for the impending release of *A Collection of Beatles Oldies* on November 7, 1966. That common stereo mix also has the vocals mixed into the center.

Nineteen sixty-four saw the Beatles and George Martin again breaking new ground in stereo recording, but not before revisiting two old songs. On January 24, Norman Smith made a copy of the four-track master to "I Want to Hold Your Hand" at the request of George Martin. The Beatles had been asked by German Odeon to re-record the vocal tracks from two of their biggest hits – that song and "She Loves You" – so that fans in Germany might enjoy the songs in their native language. According to George Martin, "Odeon sent over a translator from Cologne to coach the boys, although they did know a little German from having played there."⁹



⁸ Ibid., p. 37.

⁹ Ibid., p. 38.

There were actually two translators involved in creating the German lyrics: Camillo Felgen (aka Jean Nicolas) and a friend who gave his name as Lawrence Montague. Camillo/Nicolas was present when the Beatles recorded their new vocals. It is often reported that the team, supervised by George Martin, lacked the original session tapes of “She Loves You” and had to re-record the song from scratch. The notes on tape box E51592 read: “Tracks of ‘I Want to Hold Your Hand’ and “She Loves You” – Backing Track.” The sources of these tracks are not specified, but these items are numbered (1) and (2) on the box. This is followed by “She Loves You + vocals” and “I Want to Hold Your Hand + vocals,” which is in turn followed by a note that the final versions (with German vocals) are at the end of the tape.

John Barrett’s notes, made in the 1980’s, say that tape E51593 contains eleven attempts at recording “Komm, Gib Mir Deine Hand” and thirteen¹⁰ attempts at making “Sie Liebt Dich.” Notice that there was approximately the same number of takes per song.

It is commonly believed that “Komm, Gib Mir Deine Hand” required only new vocals while “Sie Liebt Dich” also required a new backing track. This theory is based on the idea that the original master of “She Loves You” had been lost or destroyed by this time. However, outtake vocals exist for both songs, and the similarities between “Sie Liebt Dich” and “She Loves You” are too striking to be coincidental. In fact, when the instrumental track for “Sie Liebt Dich” is adjusted to run at the same speed as “She Loves You,” and when edits are made at the same location as “She Loves You,” the two songs can be synchronized very well – so that they sound like a single recording. Some parts of each recording appear to be “missing” from the other, but this is easily explained by the volume levels at which the tracks were combined to create the final mixes.

Whatever you believe about “Sie Liebt Dich,” both songs were mixed for both mono and stereo right away (on March 10 and March 12, respectively). Both mono mixes were released in Germany in April, but while the stereo mix of “Komm, Gib Mir Deine Hand” was to emerge in the United States¹¹ and other countries, the stereo mix of “Sie Liebt Dich” was not released anywhere until it came out on the *Rarities* album in 1980. This appears to have happened because German Odeon had not requested stereo mixes of the songs, and since American Capitol did not issue “Sie Liebt Dich” in any form while the Beatles were together.

The next serious Beatles project was the soundtrack to what became *A Hard Day’s Night*. Although this project overlapped the *Long Tall Sally* EP, the mixing of songs for the eventual LP is more fascinating because the film company, United Artists, seems to have been requesting mixes of every song that neared completion. Since the film was in mono, they requested mono mixes, which means that Martin and company left the stereo mixing until a convenient time. So, while the material for the EP was mixed for stereo fairly early on, winding up on *the Beatles’ Second Album* in America, most of the songs from the album were mixed for mono over and over (and sent to United Artists and Capitol), but the vast majority of final album mixing wasn’t done until June 22nd. Of the six songs that were not in the film, one was the b-side to “A Hard Day’s Night” in England, and two were originally slated to appear somewhere in the movie, so only three mono mixes were kept to be done on June 22nd.

¹⁰ Lewisohn reports 14 takes of “Sie Liebt Dich.”

¹¹ on *Something New*, Capitol ST-2108

While there were no truly interesting stereo (or mono) mixes made during the film project, the intensity of the work serves as a testament to the band's popularity. In 1964, the Beatles were the greatest thing since sliced bread, and even interview records were making the charts. For the next album, George Martin seems to have put off the mixing until as late as possible. Aside from a couple of rough mixes to see how a song sounded, there were no mixes made between August 11th, when work on the record began, and October 12th. Martin rightly realized that if the engineers kept track of the volume levels that they had set while making the mono mixes, then most if not all of those levels ought to work again for the stereo mixes. This would make the stereo mixing go much easier if the mono mixes were made first.

One oddity from the set of sessions is that George Martin mixed "No Reply" for mono on October 16th – and did nothing else, Beatlewise. Perhaps this explains the difference between the mono and stereo mixes on "in my place." By the way, once again both sides of the single were mixed for stereo – for potential use later on.

The year of 1965 saw a return to a more stable pattern. The Beatles were doing fine with four tracks, though, and as a result there were no challenging mixes to be made. The stereo mixes for the *Help!* album were quite easy to make. Noteworthy is the fact that while "Yes It Is" (the b-side to "Ticket to Ride") was mixed for stereo on February 23, 1965, the stereo mix remained on the shelf for more than twenty years. Apparently, there were some problems with a rapid reduction in volume (dropout) at the end of the song; these were remedied in 1986. However, during the intervening years no EMI affiliate appears to have *requested* a stereo mix of the song.



That element of needing to request mixes appears to have been new in 1965. Another example of this is "I'm Down," which was mixed for stereo and mono on June 18th. In most countries, the mono mix was sufficient because the song was only found on the "Help!" single, but Japan requested the stereo mix for their *Help!* EP,¹² and they received it. Therefore, until 1976 the song was considered "rare" in stereo, because it was only on the Japanese release. On the other hand, Capitol Records (North America) did not request a stereo mix of "Ticket to Ride" when they compiled their own *Help!* album. Therefore, the stereo mix (made only 5 days after the mono mix and found on British copies of the album) was not released in the United States until 1982, when it debuted on *Reel Music*.

In general, though, most of the stereo mixes would fold down into mono very well, and their mono counterparts differ from them only minutely. The lone exception is the song, "Help!" The mono and stereo mixes of the song have different lead vocals, different backing vocals, and the stereo mix has a tambourine not present in the mono version.

¹² Odeon OP-4110, released in December, 1965.

The stereo mix is clearly the finished mix, containing the correct lyric in the first verse and having the additional tambourine. Plus, the session papers show that Take 12, the completed version with the guitar overdub, contains the “stereo mix” vocal with the tambourine.

For almost ten years now, people have proposed the existence of a phantom “thirteenth take” in order to explain the difference in the mono mix. Bootleggers created confusion by providing differing versions of what are alleged to be takes 9 through 11 of the song. Lewisohn made matters worse by stating in two different books that all of the tracks found in both mixes were taken from the same tape. He claimed on one occasion that “clever editing” was responsible for the differences between the mono and stereo mixes. Another book, *Recording the Beatles*, received a lot of fanfare when it came out. That book added to the problem by reporting opinions as though they were facts; however, the author does make some very strong points.

Recording the Beatles makes the claim that the Beatles made a thirteenth take of the song at CTS Studios in London. A photograph showing the Beatles rehearsing or miming the lyrics to the song (in preparation for the introductory shot in the film showing the group performing) has been interpreted as the group *recording* a thirteenth take of the song. The author further claims that the recording was done on a three-track machine – which would have been incompatible with EMI’s equipment.

The supporters of this view claim that a new recording was requested *because* the video had already been made and did not show the presence of a tambourine. Actually, the first mixes were made on April 18th, while the promo film wasn’t shot until April 22nd. This means that the promo film was shot using a dub-down of take 12 (with the “stereo mix” vocals). Since the film doesn’t pretend to show a “live” performance of the group – any more than the clips in their first film were really thought to be done live, the theory that the tambourine needed to be removed simply doesn’t hold water. Walter Shenson and Richard Lester were content with instruments that didn’t match the imagery in *Hard Day’s Night*, but we’re expected to believe that **not only** did they refuse to accept this for *Help!*, but also there was no way the additional overdub could have been done at Abbey Road. In fact, even within *Help!*, there are performances portrayed as “live” where the instrumentation does not match what is shown in the film. There is no documentation indicating that the mono and stereo mixes that were taken to the film company excluded the vocals; instead, the paperwork at EMI merely shows that they made mixes using take 12 of the song.

Let’s track the Beatles’ movements through April and May of 1965 to see what must have happened, and what could not have happened. According to existing documentation, the Beatles filmed two related scenes for the movie on April 14th. They were free on the 15th and could have recorded a new set of vocals at Abbey Road had they been asked to do so. George and John appeared on *Ready, Steady, Go* on the 16th but the band was otherwise free. The band was free on Saturday the 17th and Sunday the 18th. If we suppose, for instance that someone from the film studio was with George Martin and Norman Smith



when they made the mixes on the 18th, if those mixes were unsuitable an arrangement with the band could have been made. Similarly, the whole band was available for work on the 19th.

Now, filming recommenced on April 20th at Twickenham Studios. The band was also filming on the 21st. On April 22nd, the promotional film for "Help!" was shot; this clip is also shown near the beginning of the movie, together with the opening credits. The Beatles were not at CTS studios prior to this time, so the film clip was shot using the copy of Take 12 made on April 18th as its base. That copy of Take 12 contains the correct "stereo mix" vocals. That promo film appears to have been edited later on with **both** versions in mind – as though United Artists could use either the "mono mix" or a mix down of the "stereo mix."

Between April 23rd and May 11th, the band was free on April the 25th and 26th and on May 1st and May 8th. On May 10th, they filmed scenes at Berkshire, but on that same day they recorded songs at Abbey Road. These were all occasions during which the band could have re-recorded the vocals for "Help!" had they been asked to do so. Filming wrapped up formally on May 11th, and there was plenty of free time afterward. The key date is actually the "synch work" done on May 18th. If there were ever a phantom take, it would have been made on this day. I now believe that there **was** a new take made on May 18th, but not for the reasons stated heretofore. Specifically, the new take would have had nothing to do with the presence of the tambourine, or with wanting to "change" the vocals in some way.

It was not a mix from April 18th that was taken to CTS a month later. The Beatles were asked to come in and do synch up work, INCLUDING better synching along with the video. They could not have done this work at Abbey Road because the film footage wasn't there. George Martin must have thought it was easier to trot a NEW copy of the master of take 12 (without vocals, and with the instrumental backing already combined onto one channel) with him to CTS.

I don't think that there was necessarily any problem with the equipment at CTS being compatible with the equipment at Abbey Road. There COULD have been, but that was unimportant. Martin came packing whatever he needed, ready to record two new vocal tracks.

The Beatles didn't BOTHER adding a tambourine to the new recording because this session was just for the film; they didn't care if it matched the record. They sang the song a few times along with the video until they got what the film folks wanted, and Martin took the tape back to Abbey Road with him and left a copy with CTS.

United Artists had the option of using either version -- the synch-up done at CTS or the original mix that they had received in April. They chose to go with the synch-up. John flubbed the lyrics in the film version, but the edited video doesn't show him singing that line. Nor does it show him singing "I've changed my mind" in the first verse, which is sung differently in the mono mix.

Take 12 (the "stereo mix") was a superior recording. John sang the correct lyric in the first verse, and the intro was clearly better than what they had done at CTS. So on June 18th George Martin made the decision – a month after the last recording – to release the finished version on the LP in stereo, but he thought to release the film version (in mono) as the single because it

more closely matched the version that they'd hear in the film. A simple edit and the mono mix was complete.

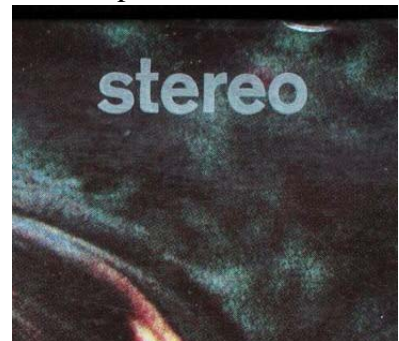
When the movie was issued on videotape in 1982 – and on releases since then – they used the stereo mixes of the songs – tambourine and all. Apparently having the correct version of the song was now more important than having the vocals perfectly synched. That being said, let me state here that the theory that I provide is just that: a theory compiled from the existing information. What we can come out of this with is that the stereo mix is the preferred one.

As George Martin was preparing the final set of mixes for the *Help!* album on June 18th, he must have thought about the album's track listing between sessions for the mono and stereo album or during the stereo mixing session. "Wait" was mixed for mono along with the (other) tracks for the *Help!* album, but the song was not mixed for stereo later in the afternoon. At that time, Martin made the decision to shelve that song and to replace it with "Dizzy Miss Lizzie," a song that the group had recorded on May 10th together with "Bad Boy." Both songs had been intended for release in America alone, and Capitol was preparing an album that contained them.

The first back liners for *Beatles VI*¹³ show the two songs listed at the end – probably because Capitol had received them most recently. That first listing reads "See Label for Correct Playing Order." The final British *Help!* album, however, wound up containing "Dizzy Miss Lizzie" in the place of a Beatles original.

After George Martin left EMI to form his own company, AIR, in August, 1965, and after the Beatles returned from their Summer tour, everyone settled down to record the group's new album. The album was due for the Christmas season, and recording did not begin until October 12th, so time was short. Even though this was the case, the Beatles were the Beatles. This time, they were able to write songs in the studio rather than being compelled to include cover songs originally recorded by other artists.

George Martin tried some experimentation of his during stereo mixing, even as the group was also experimenting. Back then, mono and stereo were viewed as "incompatible." This meant that a stereo record could not be played on an older monophonic machine – which had a heavier tonearm. The machine would ruin the record. However, by 1965 – as Martin was aware, there were some newer mono record players that had lighter arms. These, theoretically, could play a stereo record, although the sound would be in mono. The issue that occurred to the producer was that the stereo record didn't sound like the mono record when the channels were combined into mono. The experiment, then, was to try to create an album that would be playable on stereo and mono phonographs.



The Beatles, meanwhile, had their own experiments in mind. Led by Martin, they were beginning to concentrate on how to use layers to create an effective recording. "Nowhere Man"

¹³ Capitol ST-2358, released June 14, 1965.

is actually an exciting sonic adventure when one realizes how it was recorded. The studio had a setting switch that controlled treble. This switch was normally set on “pop” for a Beatles recording, but the Beatles insisted that the rhythm guitars be as high-register as possible. After some insistence, Norman Smith agreed to allow full treble on the song. When they heard it, the group decided that it wasn’t enough. They ran the guitars around through the system again and pumped up the treble a second time. That still wasn’t enough, so they did it again, placing what Paul McCartney later called “three times the allowed value of treble” onto the song.¹⁴ Unfortunately, much of that treble-boost was removed during the vinyl-cutting process, but you can still hear some of it. On the Mobile Fidelity cassette for *Rubber Soul*, there’s the treble in all of its glory.

Several years ago, I happened to stumble upon one of Mobile Fidelity’s recording engineers – selling his collection on eBay. After buying a tape from him, I asked him about the tapes versus the LP’s. He said that he had worked on the tapes personally, and that they always did direct transfers of the masters – even though the vinyl albums were subject to compression and limiting. That’s why you can hear on the cassette release what Paul McCartney described to Mark Lewisohn. In stereo, it’s terrific to hear how high up the rhythm work is: the guitars are simply **way** up there.

The creation of songs through layering was particularly effective on songs like “Michelle” and “Norwegian Wood,” and George Martin’s work really shines on “In My Life.” For all of these, the songs in stereo are simply amazing. In 1987, Martin was bothered with the fact that the stereo mix essentially sounds like twin-track. He remixed the whole album, so that the standard CD’s to this day have a more “modern” feel to them. I have always preferred his original experiment because of what it represented historically.

The single tracks, “We Can Work It Out” and “Day Tripper,” were mixed for stereo along with the rest of the *Rubber Soul* project. The two songs appeared in stereo on the American *Yesterday,...And Today* album and on the Australian LP, *Greatest Hits, Vol. 2*. Both songs were mixed again for stereo release in the UK, so that the “official” stereo mixes of the two songs differs from the mixes that were released outside of England prior to the *Collection of Beatles Oldies* LP.

Work on the *Revolver* album began on April 6, 1966. From the first session, it was clearly going to push the layering effect to an extreme – as well as introducing new levels of experimentation. Once again, these effects are simply amazing in stereo. Geoff Emerick, taking up the engineer’s seat vacated by Norman Smith, followed Smith’s techniques only briefly – later choosing to contribute to the experimental flow himself. Mono and stereo mixes during this period were made somewhat

¹⁴ Op. cit., Lewisohn, p. 13.



sporadically. For some songs, a finished mono mix was made right away, but almost all of these were considered “rough mixes.” Sometimes acetates were cut of these mixes for listening purposes, while seven of the final mono mixes and eleven of the stereo mixes were actually done during the last two days (June 21st and June 22nd) of work on the album. In fact, the only three songs that had been mixed for stereo prior to the last two days were the ones done for Capitol Records on May 20th. These were released only on tapes in 1966, because Capitol chose not to wait five additional days for the stereo mixes to arrive; they needed those tracks for *Yesterday...And Today*.

The stereo mix of “I’m Only Sleeping” that was sent to Capitol was clearly unsuitable for the final release of *Revolver*. The overdubbed backwards guitar during the instrumental bridge starts and stops at the wrong points in the song. This mistake was corrected with a new mix before *Revolver* came out in England. Unfortunately, on some songs the need for combining channels on a four-track tape created problems that are particularly audible in stereo. This is perhaps most evident on “Eleanor Rigby,” on which elements of the instrumental backing had to be combined together in order to fit onto the four tracks. Compare this to the mix found on the 1999 release of the *Yellow Submarine Songtrack*, where the instruments are separated, and you’ll hear a remarkable difference between the way that George Martin originally conceived of the background sounds and the way that four-track recording necessitated that it be laid out.

Revolver was particularly effective in leaving behind the notion that a stereo record is supposed to sound like a live performance. Whereas double-tracked vocals through *Help!* were usually placed together, the norm from this point on would be to create extreme separation between those vocals by placing one vocal track on the left side of the stereo image and its twin on the right.



The single track, “Paperback Writer,” features a high-volume bass guitar and an unusual instrument called a jangle box. Once this song was committed to tape, it could never be played live by a four-member band. Yet even if additional musicians stepped forward, Paul deliberately designed the song so that the whole mix would “warble” (fade in and out) at the end of verses 2 and 4. In stereo, the song appears to jump at and away from you at these points – as though your record player was suddenly being submerged in water.

The presence of backward instruments and vocals (“I’m Only Sleeping,” “Rain”) only served to create an even wider distinction between what the Beatles were doing with multi-track recording and what a record was “supposed” to sound like. Again, the impact is most effective in stereo, where we can clearly hear channels of forward music juxtaposed with the impossibility of

someone singing or playing backward. Sadly, since “Rain” was a b-side, and since new rules applied, the song was not mixed for stereo until three years later. Still, in 1966 it became undesirable to bury their amazing work in a mono mix. That astounding achievement was about to strengthen with their next single.

Despite the fact that radio stations expressed their preference otherwise, the a-side of the Beatles’ next single was the astonishing “Strawberry Fields Forever.” There are two stereo mixes of the song: the original mix that was released on the American *Magical Mystery Tour* album (made December 29, 1966) and the mix made for the German release of the album (made October 26, 1971). Until the standardization of the catalog in 1987, the so-called American mix was more common; however, since the mix from 1971 was the one to be released on CD, it is now the common mix.¹⁵

The original mix was done so that the swarmandal stays in the center of the mix throughout the body of the song; the newer mix has the swarmandal pan from side to side. However, both the mono mix and the 1971 stereo mix pick up a stray note during the line “no one I think is in my tree;” that stray note was mixed out of the 1967 stereo mix. Also, the edit between the acoustic and “heavy” versions of the song is covered up nicely in the 1967 mix with a panning effect, while on the newer mix the ambiance changes abruptly. Listen to the song with headphones on, and you can easily pick out the effects throughout the recording; also, the backward cymbal is more crisp in stereo.



The Beatles didn’t have to work on their next album for long before arriving at another stereo masterpiece. Once again, the Beatles and the production team were at their best when they pushed technology to its limits. Four-track recording was simply inefficient now, and yet “A Day in the Life” is positively brilliant. Although the song really needed an eight-track recording console to contain all of the information, the studio had only four tracks. How can a quadruple-tracked orchestra fit onto the same tape with four tracks of Beatles? Well, it cannot. So the solution was to use a second four-track machine and figure out a way to synchronize the two tapes electronically.

Since the song was so magnificent, it was given special treatment when mixed for stereo on February 22, 1967. The Beatles were present for the initial sessions of stereo and mono mixing for the song, and there is no doubt that they suggested to Geoff Emerick and George Martin the stereo effect that appears throughout the song. During the first verse (“I read the news today, oh boy”), John’s voice stays on one side of the recording. During the next two verses (“He blew his mind out in a car” and “I saw a film today, oh boy”), John gradually moves from side to side – as

¹⁵ The American LP was released as Capitol (S)MAL-2835; the German album from 1972 is Hör Zu SHZE-357.

though he were walking across the stage in front of the listener. As John sings “I’d love to turn...you...on,” those last three words actually overlap the first three bars of the orchestral backing. The orchestra comes roaring at us, progressively louder, from all around until it suddenly stops.

The third verse has a subtle effect in stereo: the lead vocal appears to be coming from one side, but it’s actually double-tracked into the other side of the stereo as well. At the end of the verse, on “hall,” the double-tracked voice comes up to full volume. Then again we hear the orchestra as it surrounds us, and the song ends with chords from three pianos. As the room empties of sound, the stereo effect has been so astounding that the listener feels compelled to take a deep breath. This says nothing about the lyrical content or structure of the song, both of which are interesting in their own rights. A book could be written about “A Day in the Life.”

The stereo mixes of most of the songs on the Sgt. Pepper album are to be preferred over the mono mixes. It has passed to us as legend that the Beatles themselves participated in the mono mixes but not the stereo ones. This may not be entirely accurate. Sometimes, the two sets of mixes were made together (“Sgt. Pepper’s Lonely Hearts Club Band,” “Within You; Without You,” “A Day in the Life”), and the Beatles were likely present for both or absent for both. On a few other occasions, there is no mention of the members of the band being present – although since the mono mixes were often done immediately after recording sessions, at least one of them certainly may have been present. With a couple of songs (“When I’m Sixty-Four” and “She’s Leaving Home”) one or two of the band members were almost certainly present for the mono mixes. In the case of “When I’m Sixty-Four,” Paul was upset with how his voice sounded on earlier mono mixes and wanted to speed the track up. For at least one song (“Good Morning, Good Morning”) the band was surely absent for the mixing. We do know that only the professionals were present for the main stereo mixing session. What effect does this produce on record?



On the opening track, the mono mix has more abrupt crowd noises, and the song does not blend as well with the following track. The organ on “Being for the Benefit of Mr. Kite!” is louder and a bit obstructive during the instrumental break on the mono mix; the stereo mix sounds better. The animal sounds come and go more naturally on the stereo mix of “Good Morning, Good Morning,” and the cross-fade to the “Sgt. Pepper Reprise” is handled better there than on the mono mix. The crowd noises on the Reprise seem to fade in and out unnaturally fast on the mono mix, whereas the effect of a live concert is more natural in stereo. For a number of songs, though, there is no glaring difference that would distinguish one mix as being superior to the other. That being said, on two songs, the mono mixes are definitely to be preferred. The stereo mix of “Lucy in the Sky With Diamonds” has a more natural sound, but the additional phasing in the mono mix was John’s intent. The other song with a superior mono mix is “She’s Leaving

Home.” The highs are crisper in mono, and the song plays at the proper speed. Apparently, with all of the speed changes being made, the stereo mix was slowed down in error.

All in all, *Sgt. Pepper’s Lonely Hearts Club Band* needs to be heard in stereo in order to be properly appreciated. In the midst of the sessions which produced that album came other songs which also sound amazing when reproduced in stereo. “Only a Northern Song” wound up being one song that took 32 years to be released anywhere in the world in true stereo. That Harrison track proved to be so difficult to make with a four-track machine that a stereo mix could not be created until the advent of digital editing. That stereo mix is amazing by itself, with portions of the cacophony moving to-and-fro throughout the body of the song. Since, however, the mix was created so late, it is likely that we will never know what a stereo mix of the song from 1967 might have sounded like. Even so, the 1999 mix is certainly representative of the experimental feel of a song from 1967. The *Songtrack* is worth its money just to get that mix.

Although only six songs long, the *Magical Mystery Tour* EP also contains some experiments in stereo. The title track features the sound of traffic racing across the stereo image. The backward effects appearing throughout “Blue Jay Way” actually made it unwise to include those effects in the mono mix.



The most amazing song of the six is “I am the Walrus.” Since two four-track tapes were combined onto a single master, the drum track actually appears twice, with the effect of having double-tracked drumming – one track on the left side and the other centered. The strings and horns are placed right in the mix along with some of the vocal backing. Unfortunately, it took about forty years for the complete song to appear in true stereo. Due to John’s appearance at the mono mixing session, a live radio broadcast (of *King Lear*, Act IV, scene vi.) was dropped into the mono mix. Since this could not be duplicated for the stereo mix, the ending of the song was in rechanneled stereo for many years. While the production team was working on the *Love* album, they discovered that the original radio performance from 1967 still existed on tape. Using a clean copy of the performance, they mixed the song for true stereo for the first time – again creating a song for which it would be worth purchasing the entire album.

The group’s singles, “All You Need is Love”/“Baby, You’re a Rich Man” and “Lady Madonna”/“The Inner Light” were mixed solely for mono at first. Although the love anthem was about to come out in stereo on the *Yellow Submarine* album, “Lady Madonna” had to wait until Apple’s *Hey Jude* album, and the other two songs were not released in stereo while the Beatles were together. This pattern changed abruptly when the *White Album* was being recorded, and the remaining singles would be mixed for stereo and mono together – or, later, stereo alone.

Attitudes toward mono and stereo were changing all around the world. Stereo record players were now outselling monaural ones in almost every country. German Odeon had switched to stereo only for albums in 1964. In the United States and Canada, Capitol Records was in the process of eliminating the mono/stereo option for LP's and of switching to stereo for singles as well. Great Britain would hold on for a few more months before deciding not to release new albums in mono. By the end of 1969, only a few countries around the world (e.g., Brazil) were still pressing more albums in mono than in stereo.

Rock and roll records in general were becoming far more complex than the 1950's "guitar and drums" sound. As the Beatles worked on the White Album, George Martin found that many songs used up more than four tracks, and everyone found it necessary to move elsewhere for some of the recording. Specifically, Trident Studios – which opened in 1967 – had an eight-track machine. They were possibly the first studio in Britain to use one,¹⁶ and the Beatles certainly needed one by this time.

So on July 31 and August 1, 1968, the Beatles recorded "Hey Jude" – using an eight-track console for the first time. As if to herald in the demise of mono, this time and this time only a stereo mix was made of a single track first (August 2) and combined into mono (August 6). Although a proper mono mix was made two days later, the witnesses of the process by which "Hey Jude" was released complained about its final form.

According to Lewisohn, Engineer Ken Scott complained that the song had sounded much more natural at Trident, whereas EMI's equipment seemed to dull down the treble.¹⁷ Meanwhile, Jac Holtzman – founder and leader of Elektra Records – had heard the first stereo mix of "Hey Jude" and was so enchanted with it that he wrote an open letter in *Rolling Stone* magazine about the song. In that letter, he requested that the single be issued in stereo.¹⁸ Even in the United States, most singles were still released in mono, but that was changing; in England, stereo singles did not become the norm until the release of "The Ballad of John and Yoko" in 1969.

"Hey Jude" does sound amazing in stereo, with a "big" sound building all around. Unfortunately, "Revolution" was not mixed for stereo immediately. That song was completed and mixed for mono before the trip to Trident. By the time the song finally received the stereo treatment (December 2, 1969), the song was no longer fresh in the producers' minds. As a result, the stereo mix of "Revolution" lacks the dynamic power of the mono mix; by contrast it is much more subdued.

The shift from four-track recording to eight-track recording greatly affected the White Album. Some songs that had been recorded on four-track consoles were dubbed down to an eight-track console and finished up there. Those tracks that were already complete (such as "Revolution 1") had master tapes that were as high as fourth-generation copies. In the case of "Revolution 1," the

¹⁶ although Lewisohn reports (*Recording Sessions* p. 146) that Abbey Road had an eight-track console but had not installed it.

¹⁷ *Ibid.*, p. 147.

¹⁸ This according to *The Beatles Forever*, by Nicholas Schaffner, p. 108. The letter likely appeared in issue 15 or issue 16.

mono mix was made by combining the channels of the stereo mix, but a number of songs received distinct mono mixes. Also seeming haphazard is the fact that sometimes the mono mixes were made before the stereo mixes, while at other times the stereo mixes were made first. The transition to an eight-track machine located at EMI seems to have stabilized the process somewhat; for all songs begun on or after October 8th, the stereo and mono mixes were made on the same day.

While the group was working on the ill-fated *Get Back* project, there came a pronouncement that Beatles albums ought to be heard in stereo. However, since British singles were still being issued in mono, proper mono mixes were made for those two songs alone; the remainder of the album in all of its versions was mixed for stereo only. The group's next single, "The Ballad of John and Yoko"/"Old Brown Shoe," was mixed for stereo only – even though a mono matrix number appears on the label.

From that point on, the stereo format had clearly emerged alone as the sole form in which to release albums. The mono versions of all of the albums were discontinued and would not return for over ten years. Since stereo was regarded as the victor, a clamor began to slowly arise among Beatles fans over being able to hear their music in mono. Oddly, that clamor was reversed after the decision in the eighties to make the first four albums available only in mono on CD.

It is my own position that all of the mixes should be available, and that listeners ought to be permitted to choose between stereo and mono, and between differing stereo or mono mixes. I enjoy the mono mixes, while I generally prefer stereo. It is an unfortunate that the mistaken belief arose that stereo was no more than an afterthought. Stereo and mono were thought of differently, that is true, but the difference was not one of the "superiority" of one mode. Instead, they were merely alternatives.