

# The Beatles Recording Reference Manual

Volume 3

*Sgt. Pepper's Lonely Hearts Club Band*  
through  
*Magical Mystery Tour*

(late 1966-1967)

## Corrigendum

Current as of Spring 2025

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Edited by  
Gillian G. Gaar

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Hammack, Jerry, 1961-

The Beatles Recording Reference Manual: Volume 3: Sgt. Pepper's Lonely Hearts Club Band through Magical Mystery Tour (late 1966-1967) Corrigendum



# About this Corrigendum

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## It's clear, I'm not perfect.

In researching, writing, editing and producing *The Beatles Recording Reference Manuals*, I made some errors. Some of these errors were of omission, some were of misinterpretations of information that I was challenged on and found my conclusions wanting, and others were bothersome copy/paste issues that were not caught in the proofing stage of book production.

Regardless of their type or nature, I take responsibility for them all.

I know these books are not cheap to own, and I also know that Beatles fans interested in this material are some of the most detail-oriented fans in the world. You don't want to pay for the same book twice, and you want the most accurate and up-to-date information possible regarding the work of the band in the studio.

This corrigendum is intended to provide you with all the content that changed between the first version of Volume Three and its current edition. I have included individual song narratives, diagrams, and sessions where information was modified due to one of the error types noted above. I have not included content where typographical or formatting errors occurred, and global changes (small, but essential corrections that would span multiple sessions) are noted in their own section, as opposed to on a session-by-session basis.

These pages can be printed and inserted into your volume.

Thank you to all the fans and scholars who have continued to help me make these books as good as they can possibly be. I am forever grateful to your contributions and critical eyes.

*Jerry Hammack*  
Toronto, Ontario  
Canada

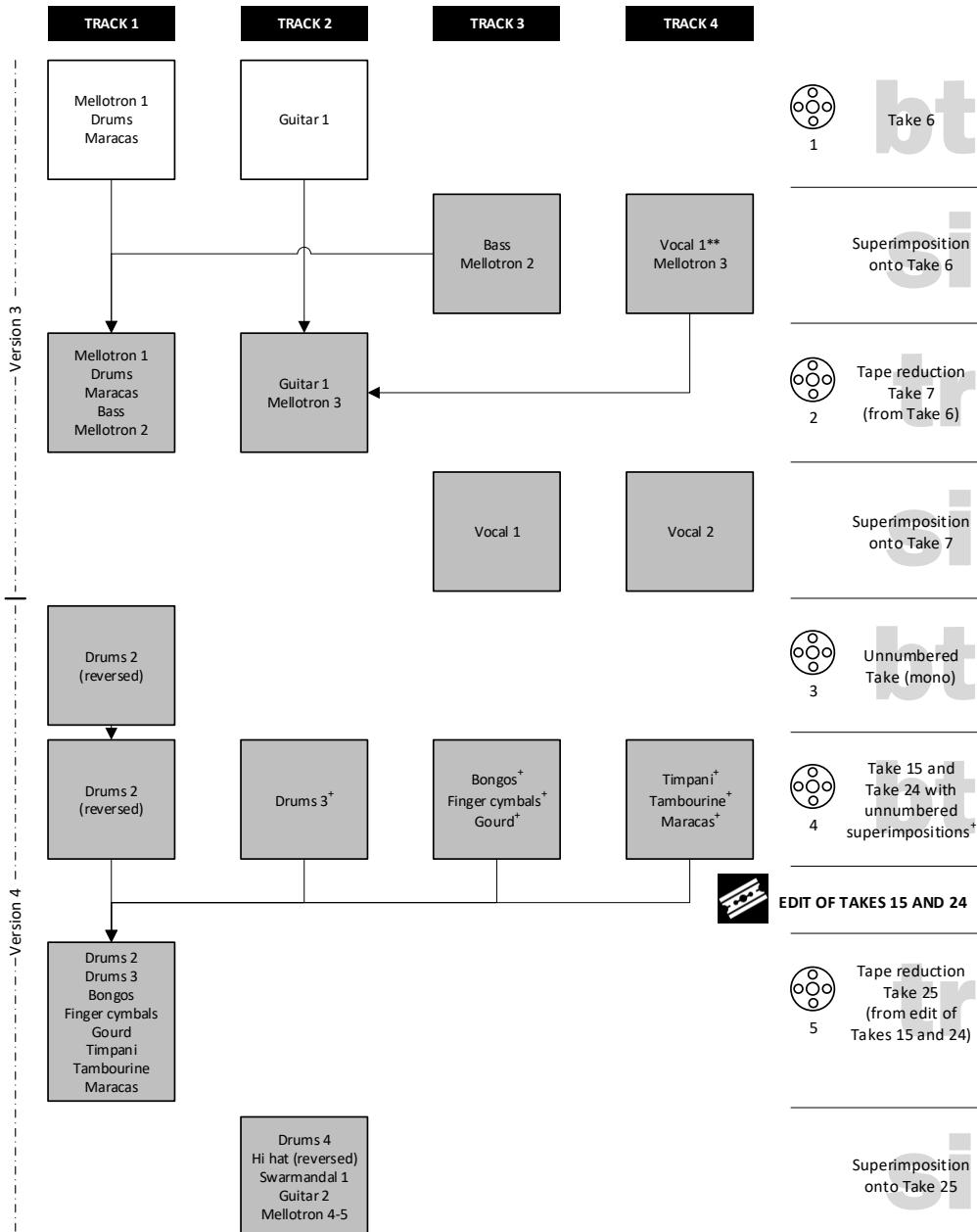
# Global and minor changes

- Numerous diagrams had minor content or formatting errors that were corrected. The errors did not impact the narratives or session data.
- A clarifying sentence was added to the Sgt. Pepper introduction: *The album would be considered an amazing accomplishment for musicians of any age, and these days, it's easy to forget just how young The Beatles were when they created it.* In a 2002 interview with CTV, Dhani Harrison recalled a conversation he had with his dad after he'd graduated from college. He was 23 at the time, and boasted about the fact that he had a university degree. George Harrison thought for a moment and asked out loud, "What was I doing when I was 23?" He paused, laughed, and then recalled, "Oh yeah, Sgt. Pepper."
- Emerick's microphone assignments for Starr's drum kit were previously believed to be limited to a bass drum mic, overhead mic and under-snare mic, but additional photos from the Sgt. Pepper sessions reveal that he added two more AKG D19c microphones to the mix—one for the hi-hat cymbals and one for the floor tom, for a total of five drum microphones during this era.
- The Indian instrument known as a tamboura has been noted in this and other volumes by a number of accurate, though possibly confusing names (including a few mis-spellings): tanpura, tambura, etc. It has now been standardized as "tamboura" in all text and diagrams, as this is the most common name for the instrument.
- *You Like Me Too Much* was mis-credited in the to Lennon and McCartney in the 1966 Releases section. It was written by Harrison.

November 24, 1966 thru  
November 7, 1967

# Strawberry Fields Forever

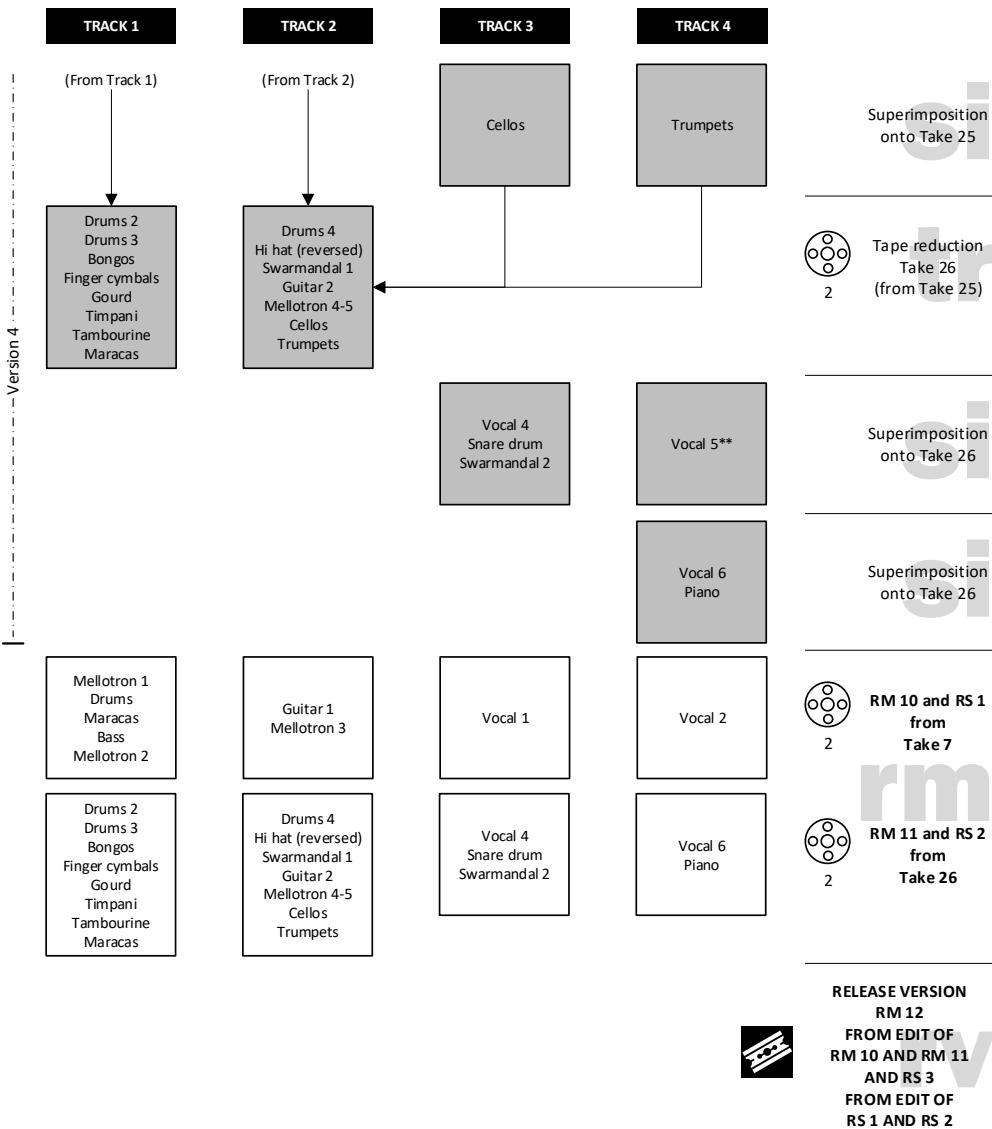
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November 24, 1966 thru  
November 7, 1967

# Strawberry Fields Forever

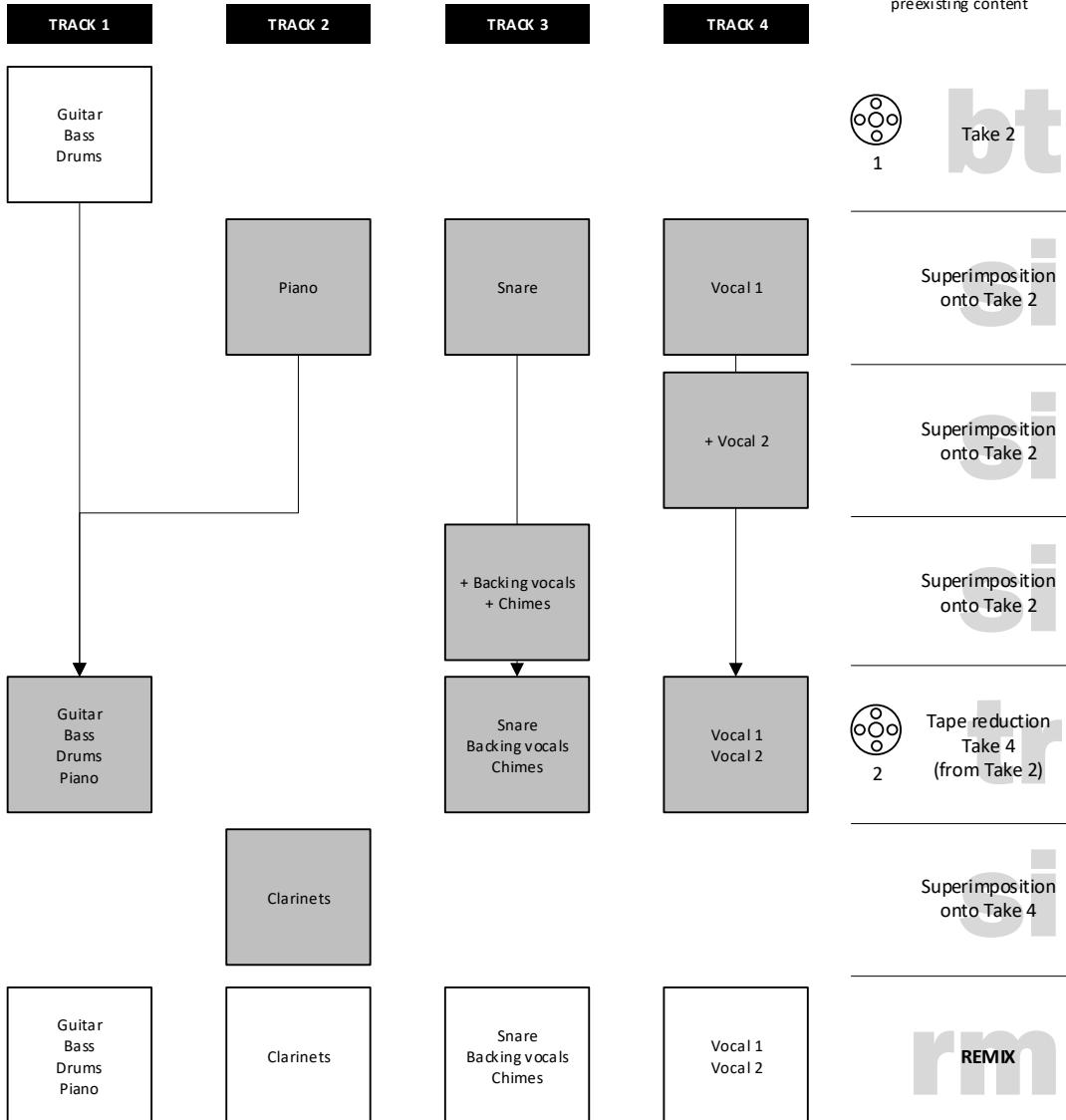
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December 6, 1966 thru  
April 17, 1967

# When I'm Sixty-Four

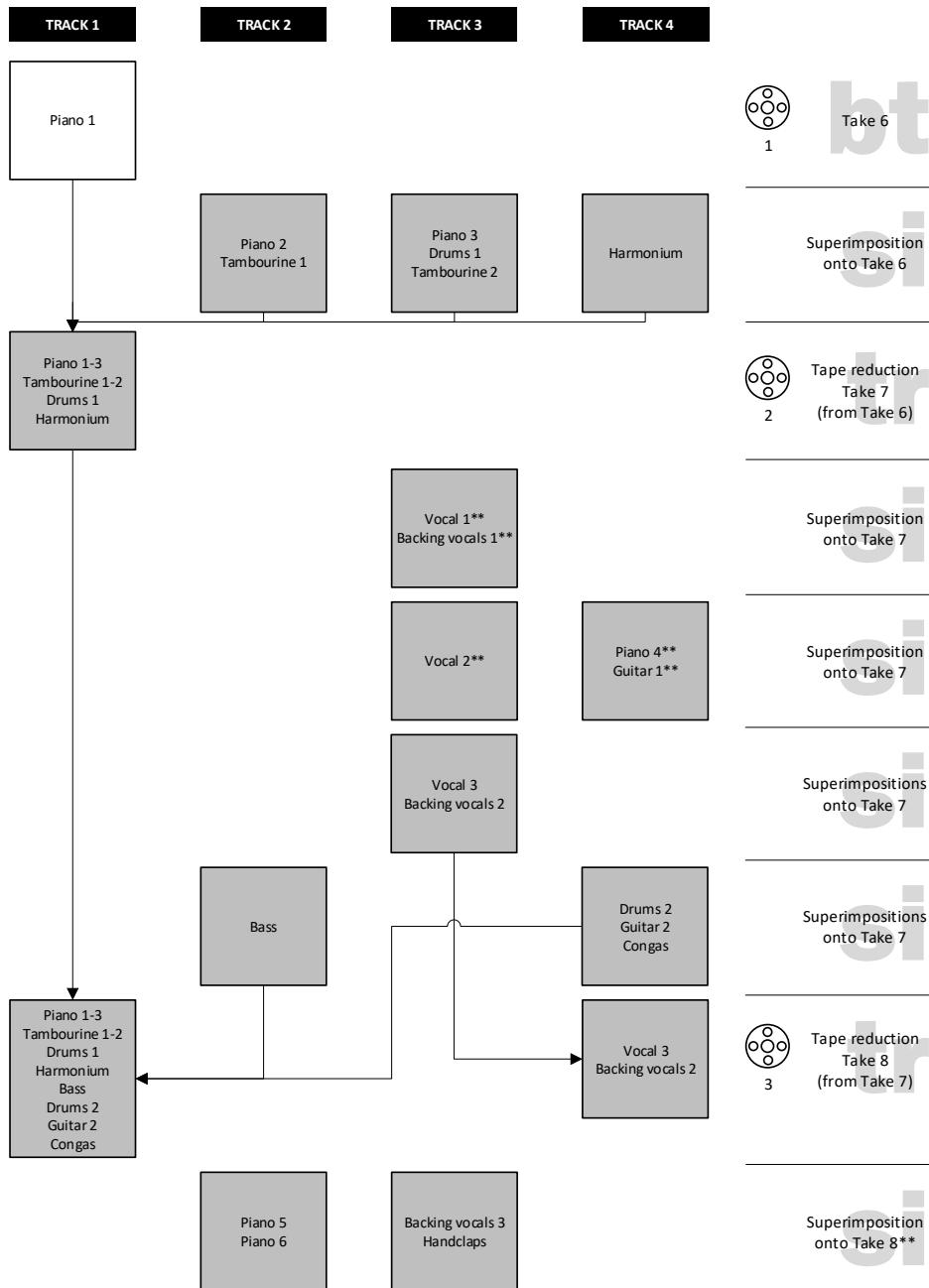
+ work added to a track with  
preexisting content



December 29, 1966 thru  
 January 25, 1967

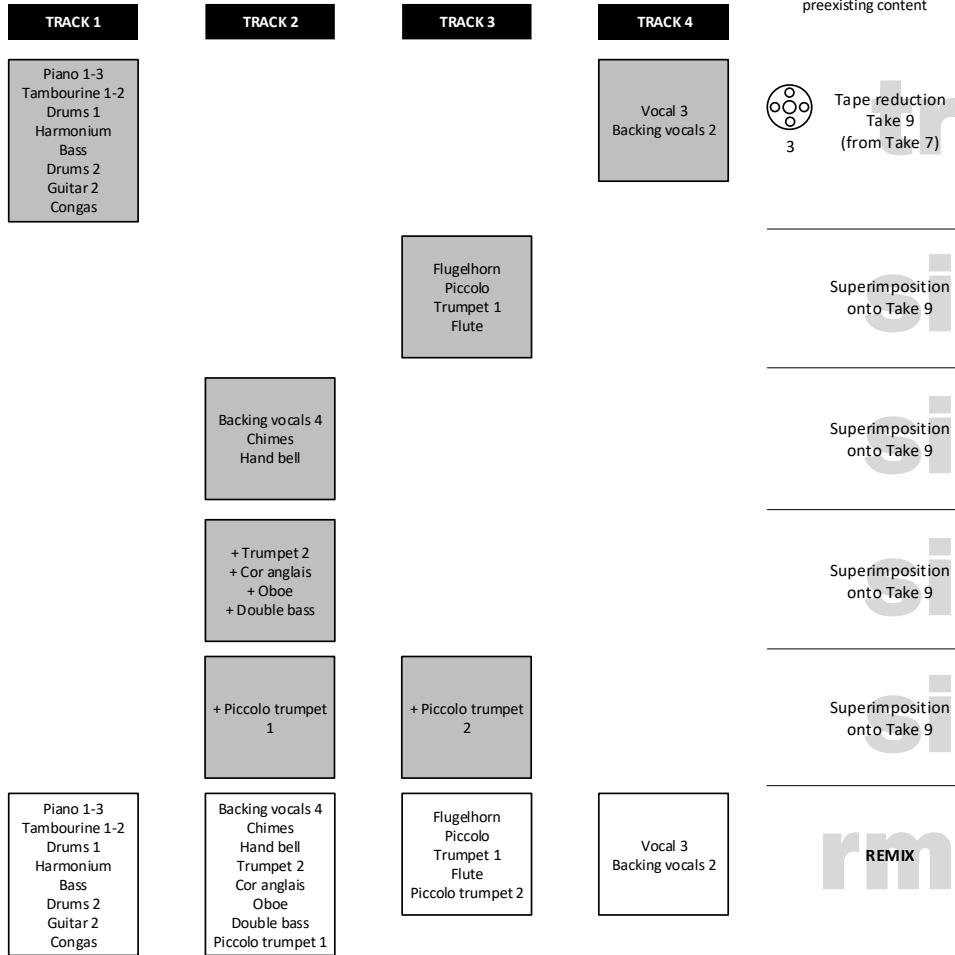
# Penny Lane

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December 29, 1966 thru  
January 25, 1967

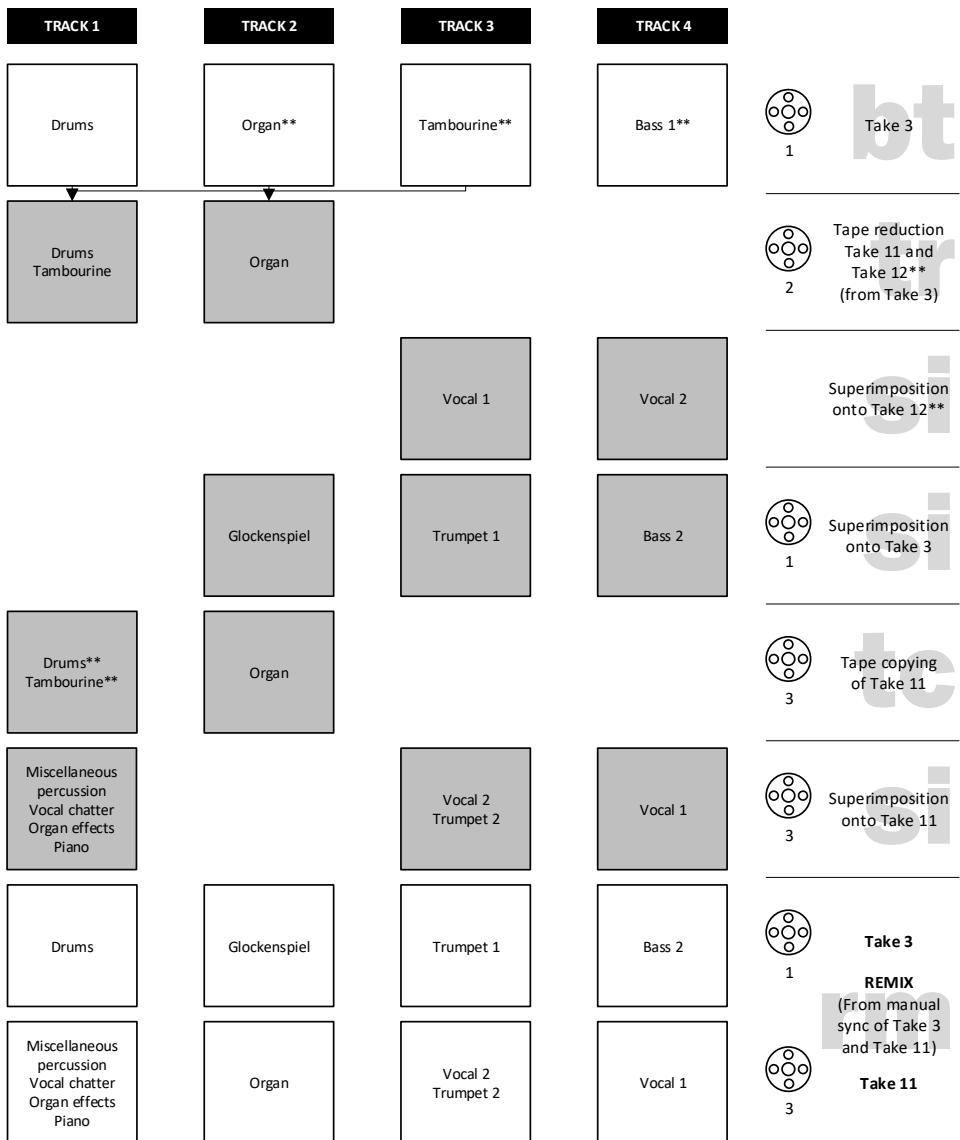
# Penny Lane



February 13, 1967 thru  
 October 29, 1968

# Only A Northern Song

\*\*work not used or erased



# Getting Better

## Sessions

- March 9, 1967
- March 10, 1967
- March 21, 1967
- March 23, 1967
- April 17, 1967

Into the fourth month of the *Sgt. Pepper's Lonely Hearts Club Band* sessions, neither John Lennon nor Paul McCartney showed any signs of slowing on the quality of songwriting they brought to the album. While the thrust of *Getting Better* is all McCartney optimism, he noted the call and response cynicism of “A little better all the time (It can't get no worse)” was 100% Lennon; likely the honest admission of “I used to be cruel to my woman, I beat her and kept her apart from the things that she loved...” was his as well. A true collaboration between two powerhouses, highlighting both McCartney’s optimism and Lennon’s honesty.

The technical team for the song’s first session on March 9<sup>th</sup>, 1967 at EMI Recording Studios, Studio 2, included producer George Martin, balance engineers Malcolm Addey and Ken Townsend, and tape operator Graham Kirkby.

The song was recorded to the four-track Studer J-37 primary tracking machine.

The backing track featured McCartney on the studio’s 1964 Honor Pianet C, Lennon on either his 1965 Epiphone ES-230TD, Casino or 1961 Fender Stratocaster with synchronized tremolo, Harrison on one of three electric guitars available to him (a 1961 Fender Stratocaster with synchronized tremolo, 1964 Gibson SG Standard with Gibson Maestro Vibrola vibrato, and a 1965 Epiphone ES-230TD, Casino with Selmer Bigsby B7 vibrato), and Starr on his 1964 Ludwig Oyster Black Pearl “Super Classic” drum set.

McCartney’s unique sound on the Pianet part came from plucking the high G string of the instrument during the first two verses of the song and letting the note ring with the instrument’s sustain pedal (the choruses and rest of the song were played normally).

For amplification, three rigs were available to Lennon and Harrison: the 85-watt 1966 Fender Showman (Blackface) amplifiers with cabinet, 30-watt 1966 JMI Vox UL730 amplifiers with

cabinet, and the 30-watt 1967 JMI Vox Conqueror amplifiers with cabinet. Lennon also had access to the 50-watt 1966 Selmer Zodiac Twin 50 Mark II amplifier during this period. The Pianet was amplified through the 30-watt 1963 JMI Vox AC30/6 Twin Treble amplifier.

The band worked through seven takes of the backing track, take 7 being the best of these.

With the performances filling the four-track tape, five tape reduction remixes were next (takes 8 through 12) with the guitars, drums, and Pianet being reduced to one track on the new tape.

Take 12 was the best of these reductions and on the following day, subject to superimpositions of McCartney on his 1964 Rickenbacker 4001S bass, and Starr adding snare and hi-hat to reinforce the drum sound. The parts were double-tracked. On the last open track, Harrison added tamboura (a traditional Indian four or five-stringed droning instrument).

For bass amplification, McCartney used either the 50-watt 1963 Fender Bassman 6G6-A amplifier with cabinet or 30-watt 1966 JMI Vox UL430 Bass amplifier with cabinet. Emerick recalls using a restroom as an echo chamber for the bass track (there was one just down the hallway from Studio 2, near remix Room 53).

On March 21<sup>st</sup> in Studio 2, with the four-track once again at capacity, two more tape reduction remixes were created from take 12 (takes 13 and 14), opening two tracks for vocal work. Harrison's tamboura part was treated to a phasing effect during the reductions.

Take 14 was the best of these reductions, and was superimposed with Harrison and Lennon's double-tracked lead and backing vocal performances (though due to an infamous incident in which Lennon was so high on LSD he had to leave the session, the work would have to be redone).

Two days later in Studio 2, the LSD-soaked vocals from March 21<sup>st</sup> were replaced and a final tape reduction remix was created, take 14 becoming take 15 and opening a track for the superimposition of Harrison's guitar stabs, McCartney on the studio's Steinway "Music Room" Model B Grand Piano, Starr on a set of ASBA congas, and a contribution of handclaps by two or three members of the band.

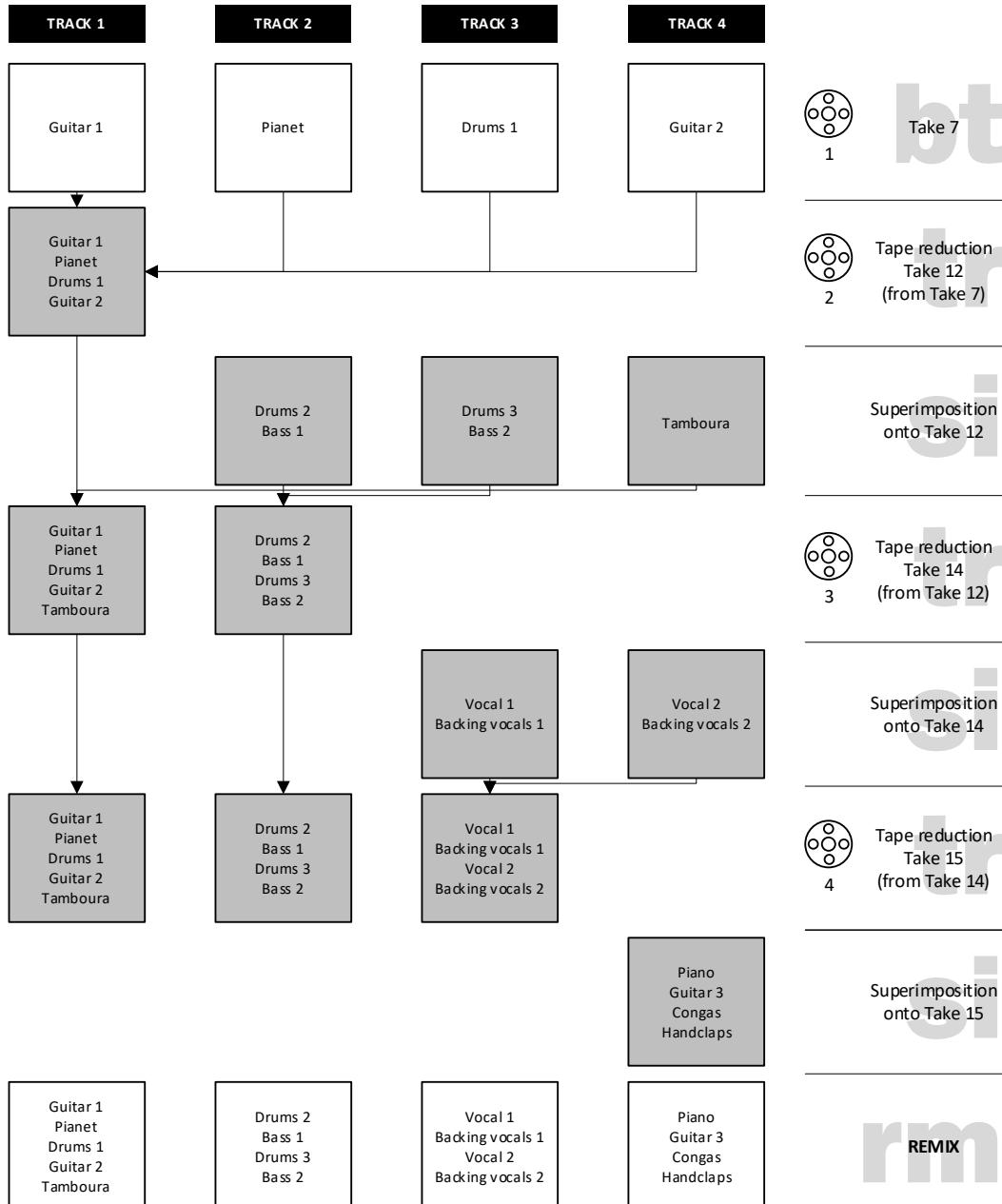
The piano superimposition had two distinct sections, the first played traditionally (during the "Me used to be angry young man" section) and the second played with percussion mallets during the ringing at the end of the song. With these additions, recording on the song was completed.

Before the session ended, remix mono (RM) 1 through 3 were created from take 15. RM 3 served as the mono release version of the song.

On April 17th in a Studio 2 control room session, remix stereo (RS) 1 was created, also from take 15. RS 1 served as the stereo release version of the song.

March 9 thru  
 April 17, 1967

# Getting Better



# Within You Without You

## Without You

### Sessions

- March 15, 1967
- March 22, 1967
- April 3, 1967
- April 4, 1967

If George Harrison's *Love You To* was the seedling of Indian influence in his songs, embracing the three-part raga form of that culture's traditional music, the influence came into full hybrid bloom with *Within You Without You*, in which Harrison and Martin took the form somewhere more personal. While *Love You To* stuck firmly to the raga traditions, the inclusion of Martin's classical western string arrangements on *Within You Without You* was even more of a blending of sensibilities than the fuzz guitar used on its predecessor. It was Harrison's masterpiece of the era.

The technical team for the song's first session on March 15<sup>th</sup>, 1967 at EMI Recording Studios, Studio 2, included producer George Martin, balance engineer Geoff Emerick, and tape operator Richard Lush.

The song was recorded to the four-track Studer J-37 primary tracking machine.

The backing track featured Harrison with Beatles road manager Neil Aspinall on tamboura (a traditional Indian four or five-stringed droning instrument), along with musicians from London's Asian Music Circle (Anna Joshi on dilruba [a traditional Indian bowed, sitar-like instrument with a goatskin soundboard to resonate the tones], Amrit Gajjar on swarmandal [a traditional Indian harp or zither], Natwar Soni on tabla [Hindustani percussion, similar to western bongos], and Buddhadev Kansara on tamboura.).

Take 1 of the song was composed of three sections, called Parts 1, 2, and 3. Part 1 comprises approximately the first 2:23 of the song, Part 2 running from 2:23 to 3:40 and Part 3 from 3:40 until the song's end at 5:04. By the end of the session, the backing track was completed.

On March 22<sup>nd</sup> in Studio 2, superimpositions onto take 1 included double-tracked dilrubas by unknown musicians (likely the same members of the Asian Music Circle noted above). With the reel now full, a tape reduction remix was created; Parts 1, 2, and 3 of take 1 being reduced as take 2, opening two tracks for further work.

Before the session ended, remix mono (RM) 1 was created from take 2 for Martin's use in scoring the string sections for the song.

On April 3<sup>rd</sup> in Studio 1, superimpositions to take 2 began with George Martin conducting a string section consisting of Erich Gruenberg on first violin, Alan Loveday, Julien Gaillard, Paul Scherman, Ralph Elman, David Wolfsthal, Jack Rothstein, and Jack Greene on violins, and Reginald Kilmey, Allen Ford, and Peter Beavan on celli.

Work on the song concluded with Harrison's lead vocal, acoustic guitar, and sitar additions (played on his 1962 Gibson J-160E and custom-built 1966 Rikhi Ram sitar, respectively). With those performances, recording on the track was completed.

The session continued into the early morning in the control room of Studio 2. Before everyone went home for some well-deserved sleep, remix mono (RM) 1 through 3 from Part 1 of take 2, and RM 4 and 5 from Parts 2 and 3 of take 2 were created.

Picking up at 7 PM that same evening (now April 4<sup>th</sup>), RM 6 through 11 from Part 1 of take 2 and RM 12 from Parts 2 and 3 of take 2 were created, utilizing frequency control to raise the pitch of the performances by a semitone, and improving on the remixes from the early morning session. ADT (artificial double tracking) was added to both the string sections and very subtly to Harrison's vocals during the remix (the treatment was the same for both the mono and stereo versions of the song).

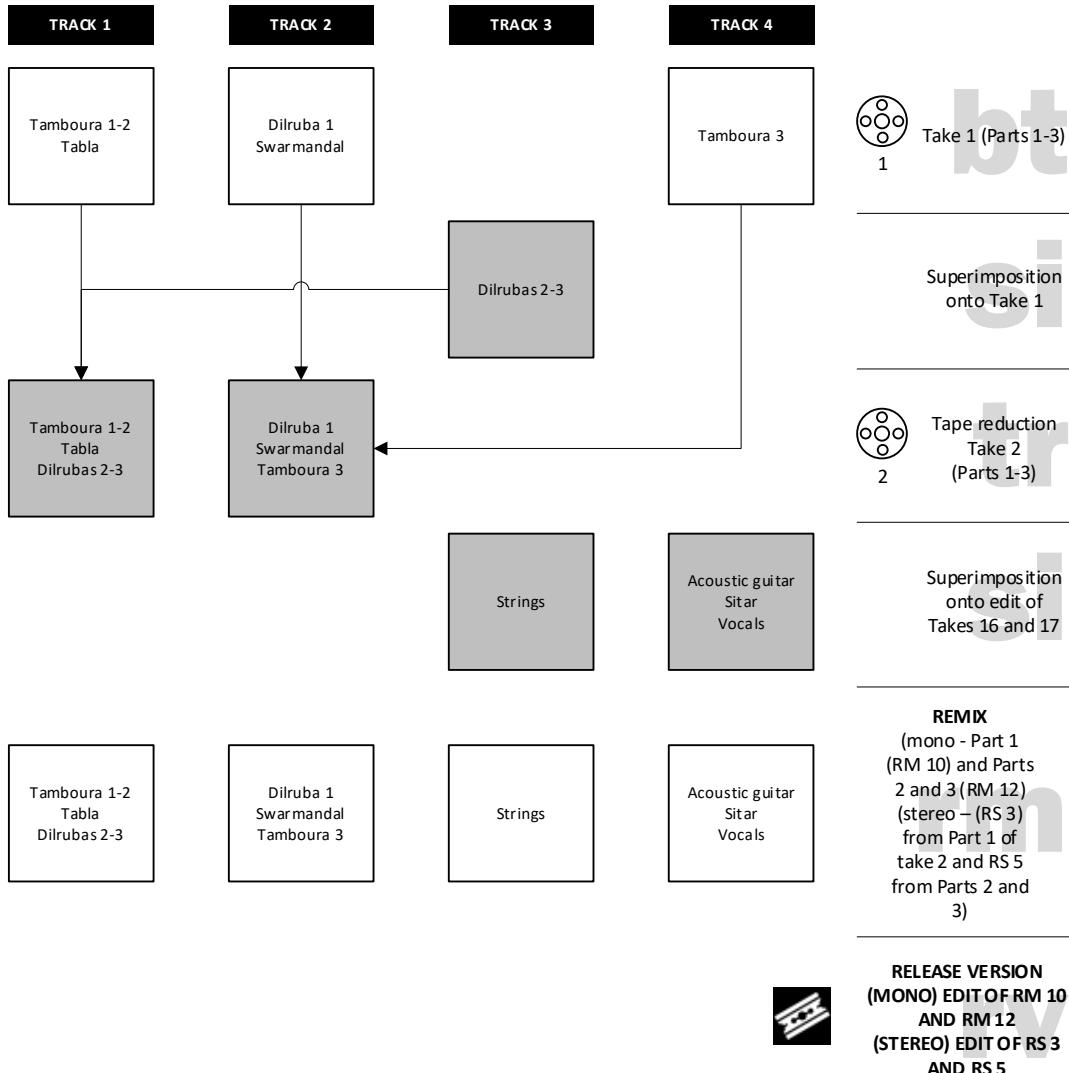
Next, Emerick edited together the best Part 1 (RM 10) with the best Part 2 and 3 (RM 12), the edit occurring at around the 2:23 mark of the song; a superimposition of applause and laughter from the EMI sound effects tape library was also added to the edit. The result served as the mono release version of the song.

Stereo remixing followed, with the creation of remix stereo (RS) 1 through 3 from Part 1 of take 2, and RS 4 and 5 from Parts 2 and 3 of take 2. Again, Emerick edited together the best Part 1 (RS 3) with the best Part 2 and 3 (RS 5) and as with the mono version, added a superimposition of

applause and laughter from the EMI sound effects tape library. The result of the edited work served as the stereo release version of the song.

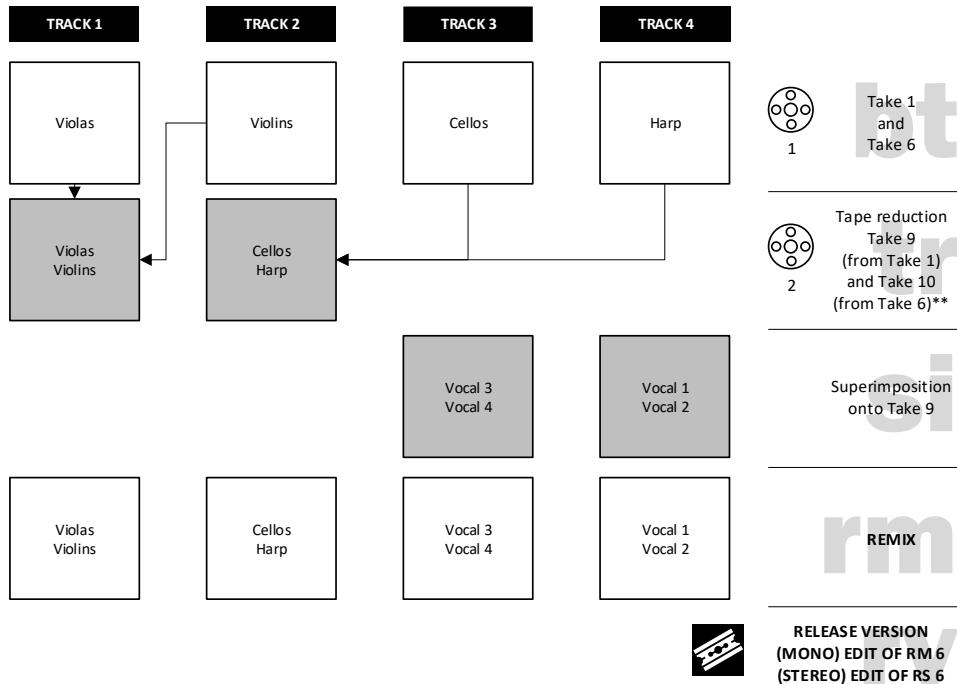
March 15 thru  
 April 4, 1967

# Within You Without You



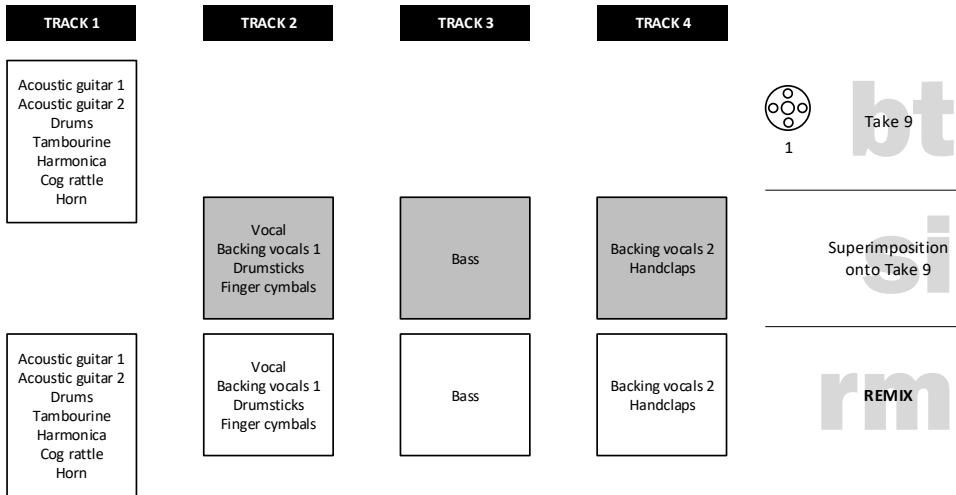
March 17 thru  
April 17, 1967

# She's Leaving Home



May 12, 1967 thru  
October 29, 1968

# All Together Now



May 17, 1967 thru  
November 26, 1969

# You Know My Name (Look Up The Number)

\*\*work not used or erased

TRACK 1

TRACK 2

TRACK 3

TRACK 4

Guitar 1  
Guitar 2  
Bass 1  
Drums 1

Vocal 1\*\*

Vocal 2\*\*  
Handclaps  
Bongos 1

Guitar 3  
Drums 2  
Piano 2

Bass 2

Piano 1

Piano 3  
Bongos 2  
Maracas

Saxophone 1

Piano 4  
Bongos 3  
Tambourine  
Cog Rattle  
Whistle

Vocal 3

Vocal 4

Piano 5  
Drums 3  
Saxophone 2  
Vibraphone

Bass 3



Part 1 - Take 9

Superimposition  
onto  
Part 1 - Take 9



Part 2 - Take 12



Part 3 - Take 4



Part 5 - Take 1



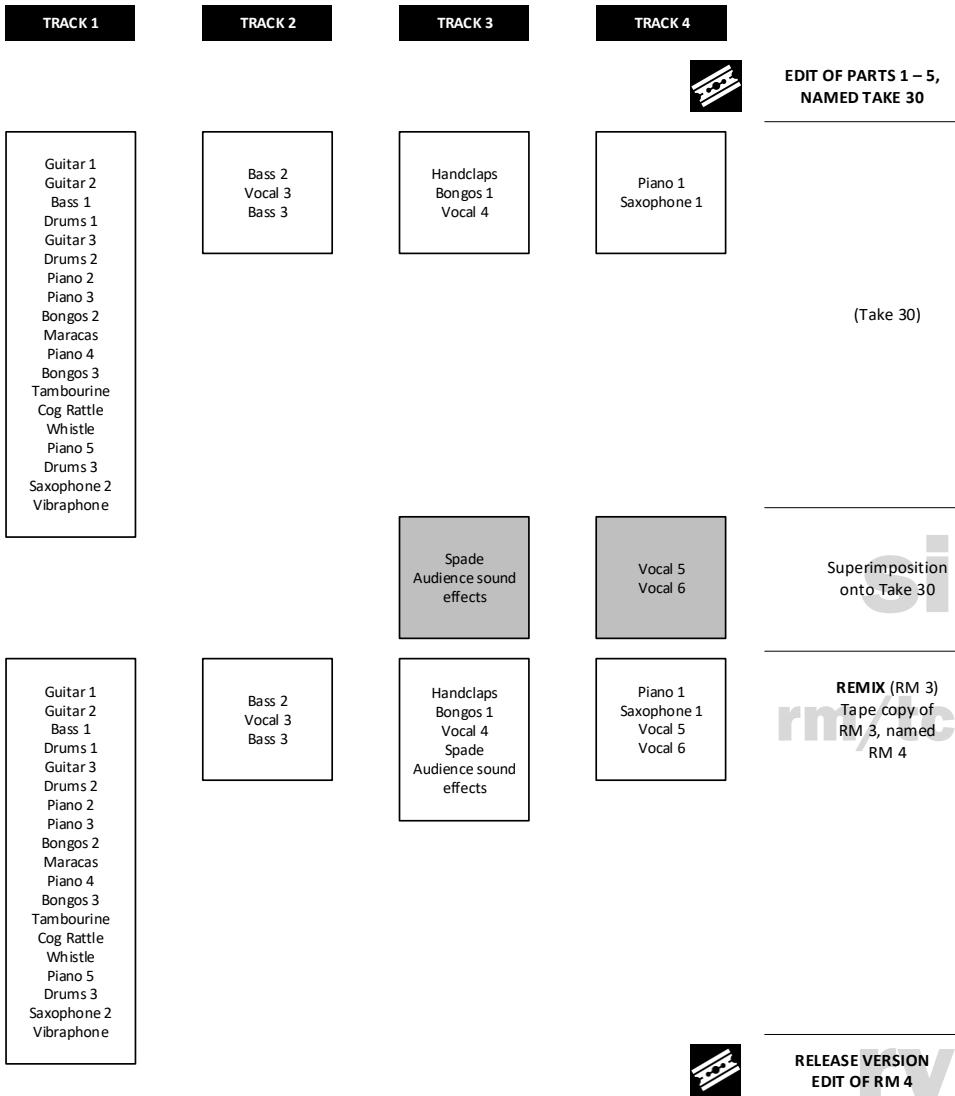
Part 4 - Take 6



EDIT OF: PART 1 –  
TAKE 9, PART 2 –  
TAKE 12, PART 3 –  
TAKE 4, PART 4 – TAKE 6  
AND PART 5 – TAKE 1

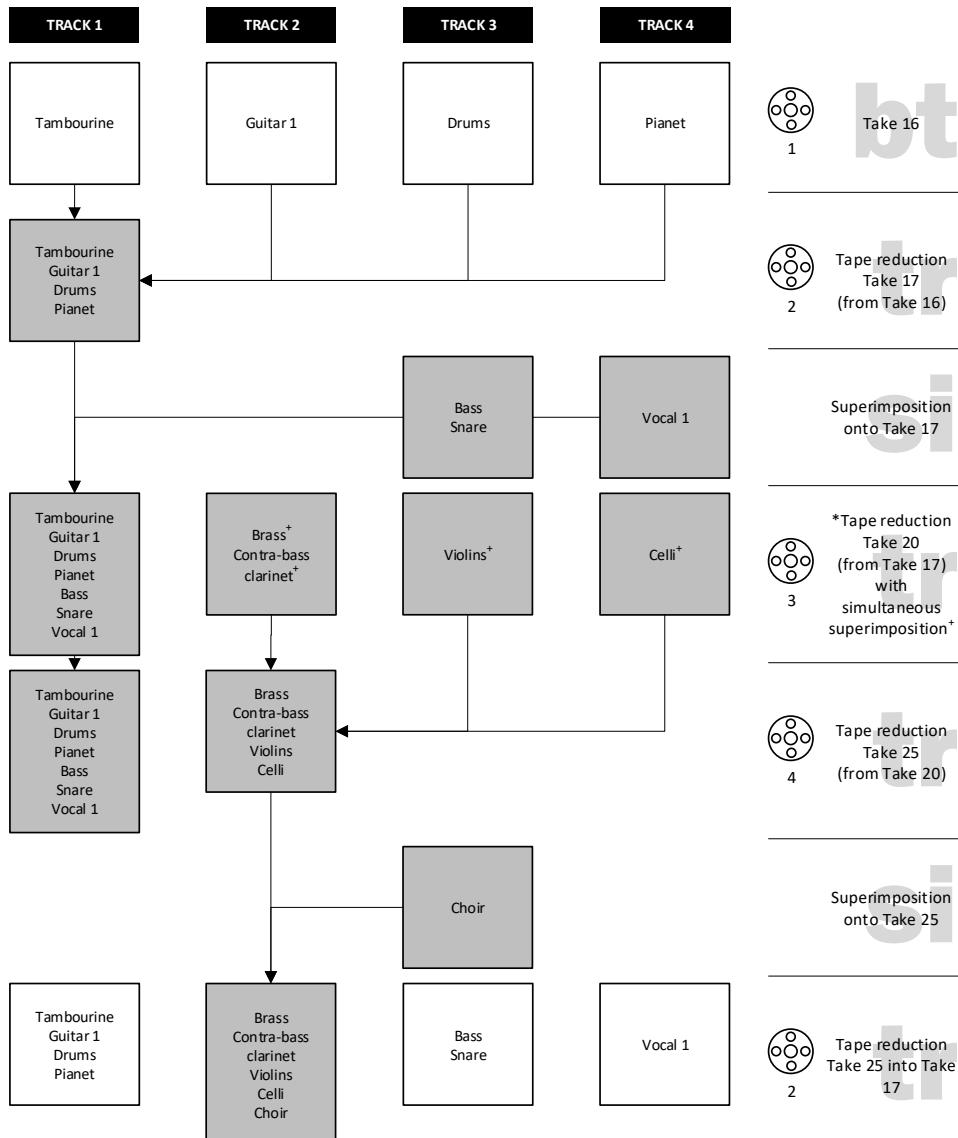
May 17, 1967 thru  
November 26, 1969

## You Know My Name (Look Up The Number)



September 5 thru  
November 17, 1967

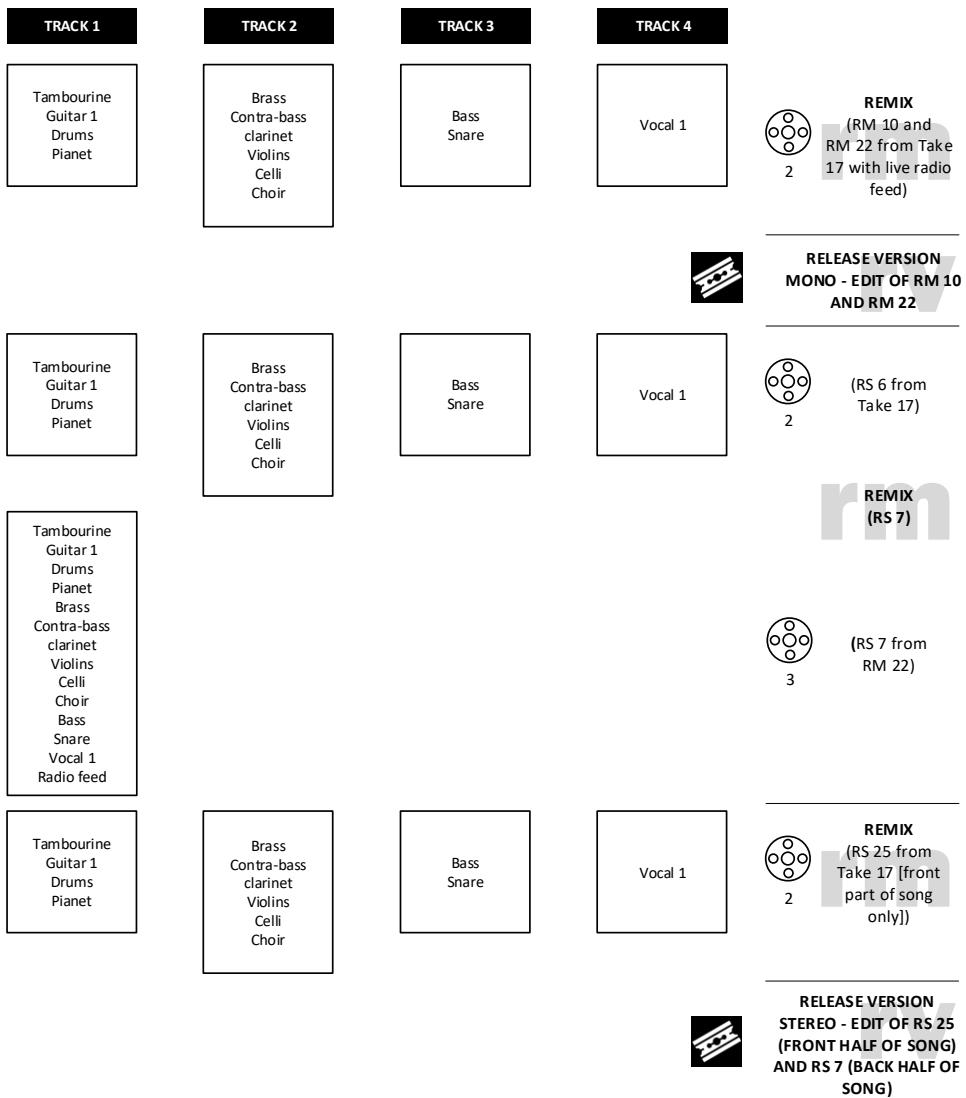
# I Am The Walrus



September 5 thru  
November 17, 1967

# I Am The Walrus

\*\*work not used or erased



# March 23-24, 1967

## Time

7PM - 345AM

## Studio name and room

EMI Recording Studios  
Studio 2

## Songs recorded (composer) (activities)

- *Getting Better* (Lennon and McCartney)
  - superimposition onto take 14
  - tape reduction of take 14 into take 15
  - superimposition onto take 15

## Songs mixed (version) (remix number and take)

- *Getting Better* (mono)
  - remix (RM) 1-3 from take 15

## Studio Personnel

- Producer: Peter Vince
- Balance engineer: Peter Vince
- Tape operator: Ken Scott

## Musicians (instruments played)

- John Lennon (vocals, percussion)
- Paul McCartney (piano, percussion)
- George Harrison (guitar, vocals)
- Ringo Starr (bongos, percussion)

## Instruments

## Electric guitars

### *Harrison*

- 1961 Fender Stratocaster with synchronized tremolo (Sonic Blue)
- 1964 Gibson SG Standard with Gibson Maestro Lyre Vibrola vibrato

- 1965 Epiphone ES-230TD, Casino with Selmer Bigsby B7 vibrato (after April – George)

## Percussion

- ASBA congas, handclaps

## Pianos and keyboards

- Steinway "Music Room" Model B Grand Piano (circa 1880s)

## Amplifiers

## Guitar

### *Harrison*

- 1966 JMI Vox UL730, 30W with cabinet, with two 12" Vox Celestion Alnico Silver T1088 speakers
- 1966 Fender Showman (Blackface), 85W head with cabinet, with one 15" JBL D130F speaker
- 1967 JMI Vox Conqueror, 30W with cabinet, with two 12" Vox Celestion Alnico Silver T1088 speakers

## Recording equipment

### *Recording console*

- REDD.51

### *Primary tracking machine*

- FOUR-TRACK: 1" Studer J-37

### *Mixdown machine*

- MONO: 1/4" EMI BTR2

### *Outboard signal processors*

- EMI RS124 Altec Compressor
- EMI RS127 Presence Box
- EMI RS144 4-Way Mixer/Premix
- EMI RS168 Prototype Zener Diode Compressor/Limiter
- EMI RS56 Universal Tone Control (Curve Bender)

- EMI RS92 Neumann Mic Equaliser
- Fairchild 660 Limiter

#### *Effects*

- Echo chamber (includes RS61 Low Level Amplifier with RS62 Power Supply and RS106A Echo Control Unit – Band Pass Filter)
- EMT 140 plate reverb
- STEED (send tape echo/echo delay)

#### *Monitors*

##### Control room

- Altec 605A (Altec 612 Cabinet) with EMI RS141 Leak TL/25 Plus Amplifier

##### Studio

- RLS10 - "White Elephant"
- Vox LS.40 speaker (4x10" Elac speakers), with EMI RS141 Leak TL/25 Plus Amplifier
- S.G. Brown Type "Super K" Headphones

#### *Microphones*

##### Vocals

- Neumann U48, U47/48 (U47/8)
- Electric guitar amplifiers
- Neumann U67
- Neumann KM54
- Other
- Neumann U67
- Neumann KM54

#### **Superimpositions**

- *Getting Better* – superimpositions included Lennon on double-tracked backing vocals; McCartney on piano; Harrison on guitar and double-

tracked backing vocals; Starr on congas; Unknown on handclaps

#### **Remixes**

##### Mono master remixes

- *Getting Better* (mono) (remix (RM) 3 from take 15)

#### **Notes**

The piano at the end of *Getting Better* was played by striking the strings with mallets, reinforcing the ringing tone of Harrison's guitar part.

**Sources** - Lewisohn, Mark (1). p. 104. / Martin, George and William Pearson. pp. 108-111. / Ryan, Kevin and Brian Kehew. p. 455. / Winn, John C. (3). p. 112.

## ABOUT THE AUTHOR

Jerry Hammack is a Canadian-American musician, producer, recording engineer and author living in Toronto, Ontario, Canada.