

# Synth History - Ep 01- Wendy Carlos

## INTRO

*[Music Intro]*

Welcome to the first episode of Synth History.

A podcast on synthesizers, drum machines, and the musicians that use them.

I'm your host, Danz.

And today we're going to be talking about legendary composer and pioneer in electronic music...

Wendy Carlos.

You might already know Wendy Carlos and her story, you're listening to a podcast called Synth History, after all.

Wendy was renowned for her first class renditions of classical music reinterpreted on the synthesizer, at a time when synthesizers were relatively new to the world.

With her 1968 album Switched- on-Bach, she introduced the world to what synthesizers were capable of.

Before it, synths were mainly used in experimental music-

*[experimental sound]*

but we'll get to that.

She scored the soundtrack to a few familiar movies.

Stanley Kubrick's A Clockwork Orange and The Shining.

Disney's Tron.

Wendy was also one of the first openly trans musicians to come out, at a time when coming out as trans was relatively new to the world, as well.

So whether you're familiar with Wendy, or a newcomer to the history of this legendary pioneer.

May I be the first to welcome you, to Synth History: E01 Wendy Carlos

## CHAPTER ONE - THE MUSIC WORLD CHANGES FOREVER

Roughly 50 years ago in 1968 the the music world change  
Wendy Carlos and Rachel Elkind recorded Switched-on-Bach in New York City on  
the West side of Manhattan.

*[New York City sounds]*

Recorded in a basement, they used a custom built 8-track.

*[clicking tape sound]*

The record featured ten pieces of music by German composer Johann Sebastian Bach,  
performed entirely by Wendy on the recently invented Moog synthesizer.

*[Synth line\_fade in]*

Switched-on-Bach would garner critical acclaim.

Not just that..

It would in fact..

blow..

*[blow up sound]*

peoples..

*[blow up sound]*

minds...

*[blow up sound]*

The ground-breaking record, whose artwork contained a man dressed as Bach sitting next to a

Moog synth, would sell over one million copies worldwide and win several Grammy awards. (1)

Including:

Best Classical album

*[glisten]*

Best Classical Performance / Soloist

*[glisten]*

and Best Engineered Classical Recording

*[glisten]*

The list of legends influenced by Switched-on-Bach is long.

The “Father of Disco”, Giorgio Moroder, cites the album as one of his earliest and deepest influences.

Giorgio of course, would go on to produce disco hits for Donna Summer, score Scarface, The Never-ending Story and more, using the synthesizer.

Other musicians that cite Wendy as an influence include space music pioneer Tomita. (2)

Synth wizards Keith Emerson and Rick Wakeman.

Even Dave Smith, founder of the synthesizer company Sequential and inventor of MIDI was influenced by Wendy.

MIDI, of course, is a technical communication standard that connects musical instruments together.

*[computer sounds]*

A way for them to talk to each other and send information.

Most musicians rely on this technology today.

Dave’s famous synthesizer, the Prophet 5, would be used by Phil Collins, John Carpenter and Madonna.

So if you think about it in terms of a butterfly effect, Dave’s first exposure to synthesizers was Switched-on Bach. (22)

Who knows just how much history in

terms of music

Wendy has either directly or indirectly impacted with that record.

*[experimental synths]*

Now, lets get to why it was so ground-breaking.

Up until Switched-on-Bach's release, synthesizers had been mainly used in experimental music  
or were obscured in the background.

When Robert Moog released the synth in 1965 musicians were...

Kind of warming up to it?

They were weary to say the least.

*[theremin sound]*

The Beach Boys dabbled a bit.

They famously used an Electro-Theremin on Pet Sounds. (8)

Micky Dolenz of The Monkees bought one of the first Moog synths. (7)

And The Doors' Strange Days, also featured a Moog. (9)

*[bleep bleeps / noise]*

The Moog was there, but it was way in the background.

The concept of recording a whole album solely with a synthesizer seemed pretty farfetched  
to almost everybody.

The idea of electronic music still a baby.

*[baby noise]*

The Moog was heavy.

It certainly wasn't very portable.

You didn't have them in most music studios.

The sounds were otherworldly and for most musicians it was difficult to use.

*[bleep bleeps / noise intensifies]*

Even John Lennon said

"... It would take you all your life to learn all the variations on it ..."

People couldn't even pronounce the word "Synthesizer"

(5)

*[Wendy-Influenced music]*

When Switched-on-Bach came out the world finally heard what synthesizers' could do in the most classy way possible.

Wendy brought synthesizers to the spotlight.

*[Music fade]*

## **CHAPTER TWO - GROWING UP**

*[Birds chirping, suburban]*

Wendy Carlos was born on November 14th, 1939 in Pawtucket, Rhode Island.

Born to working-class parents, she had a brother, 22 months younger than she, and two other siblings who unfortunately passed just weeks after her mother gave childbirth.

At school, Wendy was an impressive child.

*[Kids / School Playground]*

She loved numbers, arithmetic, the sciences and art.

She built a computer which she won a Westinghouse Science Fair scholarship with.

She even fancied becoming an astronomer at one point.

*[JFK Moon speech]*

Wendy describes herself as: "I guess I was somewhat one of those, you know, smart-ass, nerdy little kids who

could catch on to something quickly." (11)

Gender dysphoria was something that Wendy struggled with at very early age.

Wendy was born as a male, Walter Carlos.

In her coming out article with Playboy in 1979, Wendy recalls one of her first memories at five or six was not knowing there was a real difference between boys and girls.

She couldn't understand why her parents didn't see it clearly-

why her parents insisted on treating her like a little boy.

And because she wanted her parents to love her, she began hiding her feelings at a very early age.

Her childhood was difficult

Because she was different, kids would throw stones and punches.

High school wasn't much better.

But Wendy, the prodigy, had arts, music and sciences on her side.

*[music fade]*

When the time for college came around, Wendy decided to study physics at

Brown University in Rhode Island.

In high school, she was a straight A student.

But in college, as she puts it in her own words, she just couldn't

"cut the mustard".

She had been ill-prepared and the mathematical side of it got to her.

She went from sitting comfortably at the top of her class..

*[Rising synth line]*

To falling to the very bottom.

*[Crash / boom]*

One of Wendy's professors would come up with an interesting idea - to combine science and music together. (11)

*"I don't see any reason why you have to make the decision of being only in sciences or only in music. Why can't you combine the two of them and do something that embraces both the scientific side that you're interested in; acoustics and all of these things, with the more artistic*

*creative impulses that you feel?"*

Brown University ended up developing something for Wendy through their special projects  
program.

She would essentially pursue a hybrid major in music and physics, rising from the bottom..  
to ending up on the deans list.

*[glisten rising synth sound]*

### **CHAPTER THREE - NEW YORK CITY**

*[bustling city sounds]*

Lots of important things are about to occur in Wendy's life.

She moved to the Big Apple in 1962 to pursue her masters in music composition at Columbia  
University.

She studied with Otto Luening and Vladimir Ussachevsky.

Otto and Vladimir both co-founded the Columbia-Princeton Electronic Music Center, where  
Wendy Studied.

They were early pioneers of tape music and electronic  
music.

*[tape music sounds]*

*[bustling city sounds fade]*

A really important thing is about to happen...

*[drum roll]*

Wendy met engineer and inventor...

Robert Moog!

*[conference sounds]*

Wendy was attending her first Audio Engineering Society Conference.

This conference for audio professionals still goes on today.

Robert Moog had set up an exhibit that year.

The story of how they met is, kinda funny.

She accidentally woke him up, as he was napping on a banquette on the

Mezzanine of the Barbizon-Plaza Hotel.

*[snoring - wake up]*

They became very good friends.

*[music break]*

It was a natural and almost perfect fit.

Robert was a creative engineer who spoke music.

And Wendy was a musician who spoke science.

To Wendy, it felt like he were her older brother. [17]

She would give him advice and technical assistance in his newly developing Moog Synth.

She even recorded a nine-minute single-sided mono LP as part of an introduction to the

technical

aspects of the Moog, for people to learn how to better understand the new machine.

Part of her compensation for making the record was in Moog equipment.

And by the time 1966 rolled around-

she had her very own Moog synth. (12)

The first modest design was even hand delivered by Robert Moog himself.

He brought it to her tiny walkup studio apartment on West End Avenue, near 79th Street in

Manhattan.

They carried it up together straight from his station wagon.

*[climbing up steps]*

Her professors encouraged her to get a job at Gotham Recording Studios.

There, she would make jingles for commercials and provide sound effects with her Moog.

*[sound effects / jingle]*



Around this time she met her longtime friend, collaborator Rachel Elkind.

The two would become very close.

Rachel was working as a secretary for Goddard Lieberson, the  
then president of Columbia records.

At the time, Columbia was starting a campaign called “Back-to-Bach”.

Basically, for this campaign they needed contemporary recordings of Bach for their musical  
library.

A way to make Bach hip again.

Rachel and Wendy thought this would be a great way to showcase the synthesizer.

They got a deal with Columbia Records.

And with a \$2500 advance, Columbia granted Wendy Carlos and Rachel Elkind the artistic  
freedom to produce and release a Bach-inspired album.

No one knew it would become such a commercial and critical success.

No one knew how swept up the world would become by the synthesizer.

Wendy ended up moving out of her small West End Avenue apartment and into Rachel’s  
apartment,

where an entire floor would be a dedicated music studio.

#### **CHAPTER FOUR - INTERNAL STRUGGLE [16]**

Great things were happening in Wendy’s life..

but still...

Wendy faced an internal struggle.

She began hating her body.

Becoming more and more masculine as an adult, she couldn’t even look into a mirror.

The idea of suicide crossed Wendy’s mind.

And she had to do something about it.

Wendy decided to jot down a list of what she needed to do to survive.

At the top of it, was finding a doctor to aide in the process of affirming her  
gender.

She read a book entitled “The Transsexual Phenomenon” by Harry Benjamin and it helped her.

Reading the book made her realize there were others out there like her.

And in the fall of 1967, she called the Harry Benjamin foundation.

In her coming out article with Playboy [16], she speaks of her experience.

It would be a long process of hormone pills, consultations and confusion.

After all, a chemical battle was going on.

At one point throughout the process, she thought she had been given tranquilizers.

Only to learn later, that they were in fact estrogen pills - and for the first time in her life

Wendy felt-  
peaceful.

*[peaceful music]*

She began living permanently as a woman in May of 1969, awaiting a gender reassignment surgery that would come three and a half years later in 1972. She would become one of the  
first public figures to speak openly about it.

If she did make an appearance as a male, it was only for the sake of her business.

Rachel, would do a great job at covering for Wendy,  
so she didn't have to make any uncomfortable public appearances.

When the phone rang for Wendy

*[ring ring]*

who in the professional world was still known as Walter...

*[hello?]*

Rachel would say:

*“He’s in Providence, visiting his family”*

or

*“He’s on tour”.*

In 1969 Wendy was asked to perform with the Saint Louis Symphony.

*[airplane sound]*

At this point, she was wearing women’s clothes and insisted to Rachel that she would *not* fly to

Saint Louis dressed as a man.

So Wendy flew down to Saint Louis on the plane in women’s clothes.

Checked into the hotel as a woman,

*[ding]*

Walked up to her room as a woman.

*[door open, shut]*

And then began the transformation into Walter.

They pasted on sideburns, stuffed long hair under a man’s wig, even ran an eyebrow pencil

over the chin to simulate 5 o’clock shadow. [25]

When Wendy emerged from the hotel room as Walter, the hotel concierge was confused and

thought Walter’s sister had checked in earlier.

Wendy didn’t identify as Walter Carlos and disliked having to perform as him.

She disliked the forced secrecy. (16)

But in a cruel world, not accepting of people who are different,

what was she supposed to do?

*[music fade out]*

## **CHAPTER FIVE MORE MUSIC**

*[Moog / Classical]*

Wendy released her second studio album, *The Well-Tempered Synthesizer* in November ’69.

Nominated for two Grammy Awards, the album consisted of classical music performed on

none other than the Moog synthesizer.

The album contained music from-  
Johann Sebastian Bach, Claudio Monteverdi, Domenico Scarlatti and George Frideric Handel.

The album's title is a play on words from Bach's set of preludes and fugues named  
The Well-Tempered Clavier.

*[birds chirping]*

The following year, Wendy recorded Sonic Seasonings.  
Marking her departure from classical pieces, Sonic Seasonings featured four ambient tracks.  
Each of the tracks, loosely based on one of the four seasons.

Spring, summer, fall, and winter.

She combined various field  
recordings with sounds from the Moog synth.

*[ethereal sounds]*

*[wind / winter sounds]*

And actually, Sonic Seasonings predated environmental-ambient forms of New Age music by  
over a decade.

*[rain sounds]*

Wendy, a perfectionist, would soon meet another perfectionist...

## **CHAPTER SIX - STANLEY KUBRICK**

*[Clockwork Orange cover]*

The first movie Wendy scored was Stanley Kubrick's "A Clockwork Orange".

Based on the Anthony Burgess novel of the same name,

A Clockwork Orange takes place in a near-future dystopia.

Wendy became enamored with the novel's imaginings of an ultra-violent future.

Once Wendy and Rachel learned about Kubrick's adaptation, they immediately sent examples

of their work. (15)

Kubrick was excited by what he heard, and he invited Wendy and Rachel to work on his film.

Wendy rearranged many pieces of classical music that Stanley Kubrick had already gained permission to use, including The Thieving Magpie, William Tell Overture by Rossini and other works by Beethoven.

In the film's opening-  
otherworldly sounds followed synthesized timpani hits transition into  
Wendy Carlos' Moog rendering of Henry Purcell's Music for the  
Funeral of Queen Mary.

Right now, you're listening to some Wendy Carlos inspired covers of these songs, using MIDI  
and software synths.

*[synthesizer Clockwork Orange covers]*

Wendy also implemented the use of the vocoder on "A March from 'A Clockwork Orange'",  
based on the choral movement of the Ninth Symphony by Beethoven.

In her usual style, this  
was a pioneer move, as vocoders had yet to be used extensively.

Three months after the official soundtrack's release, Wendy Carlos released a second version  
of the soundtrack containing unused cues and musical elements unheard in the film.

Walter Carlos' A Clockwork Orange would be rereleased thirty years later with a new title  
Wendy Carlos: A Clockwork Orange.

*[music break]*

Stanley Kubrick and Wendy Carlos would work with each other again with The Shining.

A psychological horror film, it was based on a novel of the same name by Stephen  
King.

After seeing the first ten to fifteen reels of the film, Rachel and Wendy talked with Stanley  
Kubrick about his

philosophy and what he envisioned musically for it.

Over the course of a few months, they recorded about four and half hours of music, mostly synthesizer, according to cues notated extensively throughout the film.

But the music didn't quite grab Stanley Kubrick.

Their tastes shifted slightly since they had scored "A Clockwork Orange".

Wendy and Rachel were doing more theatrical, richly textured things.

Kubrick's fix on why he had called them in the first place became disturbed.

He asked Wendy if she knew any theme that might be ideal for the movie.

She suggested "Dies Irae" to him, latin for "Day of Wrath".

A Gregorian chant from the Middle Ages.

*[Dies Irae plays]*

She suggested Berlioz' treatment of "Dies Irae", specifically.

"Symphonie Fantastique".

*[Dies Irae]*

Other composers may sympathize with this story.

Sometimes, directors become fixated on the temp music in their film.

Kubrick was no exception.

He wanted Wendy to do something with an orchestra in the same vein as Berlioz.

So Wendy and Rachel hired 36 musicians on a very modest budget

and recorded an orchestra in London.

Mainly using instruments and textures in the bass region, they added synthesizer at the very last step.

All of it, based on "Dies Irae".

But even still, Kubrick couldn't hear anything other than Berlioz' version.

Wendy and Rachel had re-recorded *again*.

And after seven hours of recordings, only two cues ended up being used in Stanley Kubrick's The Shining.

[Dies Irae fadeout]

When work on *The Shining* was complete, Wendy Carlos and Rachel Elkind parted ways. Rachel moved to France with her husband in 1980, and Wendy remained in New York City, sharing a converted loft in Greenwich Village with her new business partner Annemarie Franklin

## CHAPTER SEVEN - TRON

In the hot months of the summer in June of 1981,

Wendy received a call from Michael Fremer.

He was in control of the production of Disney's upcoming sci-fi adventure film, *Tron*. Michael was committed to producing a soundtrack whose artistic and technical quality would be second to none,

and of so course Wendy came to mind. He was a big fan of hers. (20)

*Tron*, of course, would go on to become a groundbreaking film for computer-generated imagery.

Written and directed by Steven Lisberger, the movie was originally inspired by the early Atari video game *Pong*. (21)

[*Pong* sound effects]

When Wendy asked to see a copy of the script, she recalls:

*"The concept of the film and story itself intrigued me. It looked like a beautiful film from a graphics point of view. I was a little disappointed in the script itself, which seemed written in a somewhat sophomoric, comic-bookish style, but one can overlook things like that if other aspects of the film make it attractive.*

*I had to decide if this was something that I would devote the better part of a year to. As I thought about it, it became clear to me that the part of the score for the computer world*

*should be as full of color as possible. I wanted to use a combination of symphony orchestra and synthesizer for the computer world, and just a string orchestra for the real world. I felt that the symphony orchestra in combination with synthesizer could be a strong factor in the film."*

*[Tron-esque music]*

Wendy cites her work on Disney's Tron as the most difficult and tightly packed amount of work in her life.

The score was a gigantic undertaking in a very short period of time.

A team consisting of Wendy, Michael Fremer, Annemarie Franklin - who coordinated the project, arranger and orchestrator Georgie Calendrelli, and music editor Jeffry Gussman worked day and night to meet the deadline of the movie.

She describes it as grind followed by more grind.

It was difficult.

The team worked all the way up until 11pm the night before the London Philharmonic was booked by Disney to record orchestral parts.

Choral parts were recorded by the UCLA chorus in Los Angeles.

And Wendy recorded synthesizer in her home studio in New York City- she used a mix of an analog Moog Synth and Crumar's GDS digital synthesizer.

When Tron came out, Wendy was not happy with the use of the orchestra, which Disney initially insisted upon.

Wendy's music for Tron, with its variable time signatures, was too difficult to perform in the the orchestra was allotted. She would end up replacing portions of the performance with HER GDS Synth.

## **CHAPTER EIGHT - SOLIDIFYING HER STATUS AS A LEGEND**

Between the movie scores,  
Wendy released Switched on Bach II in  
1973, the sequel to Switched on Bach.



She released a record entitled *By Request* in 1975.

And *Switched-on-Brandenburgs* in 1980.

A double album consisting of all six of Bach's Brandenburg Concertos, it was the fourth record in Wendy's project of classical music.

The Brandenburg Concertos are widely regarded as some of the best orchestral compositions of the Baroque era. (27)

In addition to the music, there's something else a little special about this record.

It was the first album she released under the name of Wendy Carlos

*[Moog Synth Music]*

In 1984 Wendy composed *Digital Moonscapes*.

She was yet again, a pioneer.

Comprised of two suites for digitally synthesized orchestra, it was inspired by astronomical subjects.

*Digital Moonscapes* incorporated an entirely digitally simulated symphony orchestra.

Using Digital Synth's GDS - the same one she had used in *Tron* (22)

Wendy built a library of voices replicating as closely as possible the features of acoustic instruments to replicate an orchestra.

Fine-tuned by ear, there were no digital sampling techniques and no microphones used at any stage.

The world's first digitally synthesized orchestra.

Wendy's record *Beauty and the Beast* was released in 1986 on Audion Records.

The album uses alternate musical tunings and scales.

Influenced by jazz and world music.

The entire record is synthesized.

Wendy even dove into the comedy world.

She made a parody record with Weird Al Yankovic.

Together, they made a gentle satire on *Peter and the Wolf*.

The project was a chance for Wendy to - how she puts it - have some musical fun and tomfoolery, working with a bright, witty collaborator.

Weird AI adapted and narrated its story, while Wendy rearranged the music with a "MIDI orchestra", her first venture using the digital interface. [23,24]

Weird AI says:

*"To call Peter & The Wolf the greatest recording ever made since the beginning of time would be an understatement.*

*This record heralds a bold new age, a quantum leap in the evolution of mankind ... and it also makes a swell Christmas gift.*

*I knew it would be a great thrill for me to work with Wendy Carlos, having enjoyed her work since I was an embryo."*

To mark the 25th anniversary of *Switched-On Bach*, Wendy re-recorded the album with her set of new digital instruments and recording techniques.

Released in '92, it took roughly one and a half years to produce and around 3,000 hours.

In '98 Wendy released *Tales of Heaven and Hell*, it featured the epic 18-minute long

"Clockwork Black"-

a sequel to her work in *Clockwork Orange*

*[music break]*

## **CHAPTER NINE - IN CONCLUSION**

As of 2020 Wendy's catalog is somewhat difficult to come across on streaming services.

Reading through the information via her website, it seems that the distribution company she had been using, East Side Digital, suddenly discontinued its albums and operations without warning.

Her site reads that she's currently working on a new distribution agreement.

Time to start looking for some vinyls I guess.

If you check out Wendy's official site, you'll find, that addition to composing -

Her current interests are a plenty, ranging from painting, map-making and photography.

You might be surprised to know, that she is also an accomplished solar eclipse photographer.

Her work even published by

NASA.

Perhaps it's not surprising though, considering Wendy's childhood interests.

There are some words I keep thinking of by Vincent Van Gogh, words that Wendy included

on the artwork for her record Beauty and the Beast.

They read:

I'm always doing what I cannot do yet, in order to learn how to do it.

*[music break synth]*

Her influence immeasurable,

her story remarkable,

Wendy Carlos is...

without a doubt...

One of the worlds' most important living composers.

A true pioneer, in more ways than one.

*[music break]*

## **OUTRO**

Alright! That wraps up the first episode of Synth History.

I hope you enjoyed it. I just want to

take a second to thank all the folks who donated to the GoFundMe I had goin' on for this

a while back.

It seems so long ago now. After Covid-19 hit things kinda got a little crazy.

This episode was written, recorded, produced, engineered and edited by your's truly in the  
heart of New York City.

The music featured in this podcast is original, covers or under the public domain,  
like the Gregorian chant Dies Irae.

A transcript of this episode with references will be available on Synth History . com, where  
you'll also find links to recent interviews I've done with Gary Numan, Pete Townsend, Rick  
Wakeman, Suzanne Ciani, Vince Clarke, Oneohtrix Point Never and more.

Also on the site you'll find a link to the Synth History Spotify Playlists.

Synth History Vol. I and Vol. II are currently up.

So be sure to check those out.

If you'd like to support Synth History or become a sponsor you can e-mail

[synthhistory@gmail.com](mailto:synthhistory@gmail.com)

Synth History's handle on Instagram and Twitter is @Synth\_History.

On Facebook there's no underscore it's just synthhistory.

The original music in the podcast will be available at some point.

Lastly, I want to give a shout out to my voice actors, who were nice enough  
to comply when I sent them random stuff to record on a voice memo on their phone.

So that is

Bailey Cooke, Cody Crump, and Matthew James Reilly.

Before I go, I just want to say-

It's been really an honor researching someone I have so much respect and admiration for.

Anyway, thank you very much, my name is Danz and that's Synth History.

*[music outro]*

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