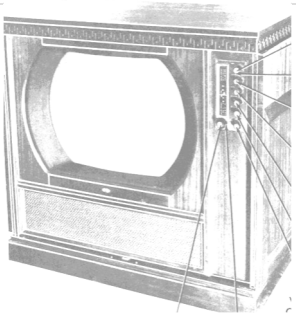
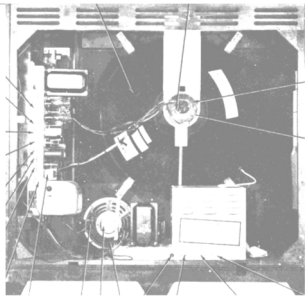
August, 2025

Volume 2 Number 8





WHAT'S NEW IN OLD TVS

The Newsletter of the Early Television Foundation

Greetings Early Television Fans,

This is Volume 2, Number 8 of the Early Television Foundation Newsletter. **The August Zoom meeting will be on Saturday, August 30th at 8 PM.** The summer is going fast as we get to the end of August. Weeks of "Hazy, Hot and Humid" can bring on summer doldrums. That came to mind when Steve McVoy opened the July Zoom meeting telling us that there was not much news to report. He did tell us that sweepstakes sales were coming in and he is confident we will reach the minimum sales needed. He is also looking for volunteers to help at the museum during the tailgating weekend. In this months newsletter we have part one of an article by James T. Hawes. He tells us the story of VinylVideo, the attempt to add video to a 45 RPM record. Also I'm taking the opportunity to stand up for what we call the 630 clones. There is more history there than you would think. Now time for a brief celebration. We have completed our first year of newsletters and starting a second. You can never tell

"What's New in Old TVs"

We want to hear from you !

newsletter@earlytelevision.org

Editors: Mike Molnar & Robert Ring

In This Issue:

Get Your SWEEPSTAKES TICKETS NOW !!

We are always looking for:

- **Letters** from members
- **Tech Tips** from service experiences
- **My first TV** (family stories?)
- **My favorite TV** (and why)
- **Stories** of working in the business.
- **Articles** that can be added in whole or in parts.


1
It may be hard to believe but this issue marks our one-year anniversary.
We would like to thank all our contributors who helped make our first year exciting and informative!

Many people have reached out to congratulate us on our first anniversary of publication.

Here is just a sampling from the mountain of best wishes that we've received.

"Amazing stuff! I can' put it down. "

Philo F.

"I just love reading this publication!"

Vladamir Z.

"Best thing since FM Radio"

Ed Armstrong

Steve M. says,

What a fantastic addition to the Early Television Museum

Many thanks to Robert and Mike for their work in creating this great newsletter

"The quality went in before the name went on"

Commander E.F. MacDonald

"I'm just spinning with delight over your wonderful publication!"

P. Nipkow

"Happy Anniversary! Amazing Work!"

Brig. General D. Sarnoff

Truly the "First with the Finest"

Alan B. Du Mont

The Upcoming Sweepstakes has Three Prizes. The top prize is the

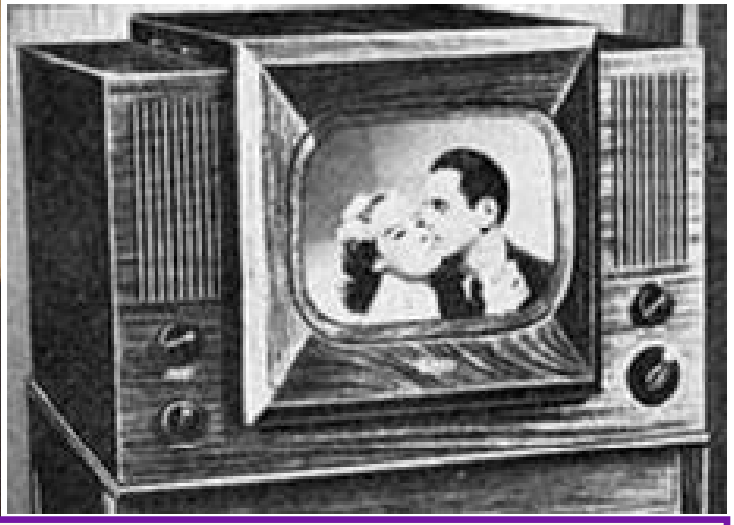
Top Prize is the 30 inch screen **The DuMont Royal Sovereign**,

Second Prize is the early round **Color TV RCA 21" model CTC 5**

Third Prize is 12 inch "630 clone" **FADA Model 930 tabletop set**

This month we will take a look at what it means to be a 630 clone. Where these inferior "knock off" sets? Where they made without RCAs permission? What is the real story here?

Read on and learn why this third place prize is pretty special



The FADA model 930 12 inch TV from 1949

In 1920, the FADA company was founded by Frank A. D. Andrea to build radio parts and soon entire radios. When they obtained a license from Hazeltine Corp. to build Neutrodyne radios, their business boomed. By the time television came along Andrea had left the company and started the Andrea company, building TV sets from 1939. The FADA 930 often called "just a clone" has a part in the history of RCA and the start of the television industry.

RCA, the 630TS clones and the Fada 930

After RCA released the 1946 630TS it was only a short time before other companies began marketing 10-inch table tops which collectors refer to as clones of the RCA 630TS. The FADA 930 is one of these sets, but to consider it a clone or a knock-off doesn't do it justice. To understand how companies made such close copies of the 630, you need to understand the history of RCA and the RCA patent policy.

RCA was started in 1919 under the direction of the US Navy and US government in order to keep control of radio in the hands of American companies. After World War I, the Alexanderson Alternator and other GE patents combined with the patented radio developments at AT&T and some others, were seen as essential to produce the wireless equipment believed critical to keep vital communications needed by the military and government out of foreign control. RCA was formed as the company to market the products of these companies and Marconi was forced to sell American Marconi to RCA. Soon Westinghouse, controlling the Armstrong patents, joined the group. Ownership of RCA was divided by these companies.

Members of the RCA Radio Group, sometimes called the Radio Trust, had control of the US commercial radio market, mostly point to point communication, such as Radiograms. When in radio broadcasting began in 1920, RCA expected to have the lead in filling the booming public demand for radios. However, small companies licensed by Armstrong, before his patents were sold to Westinghouse, were able to move quickly, producing regenerative radios and were selling and often outselling the lumbering giant, RCA.

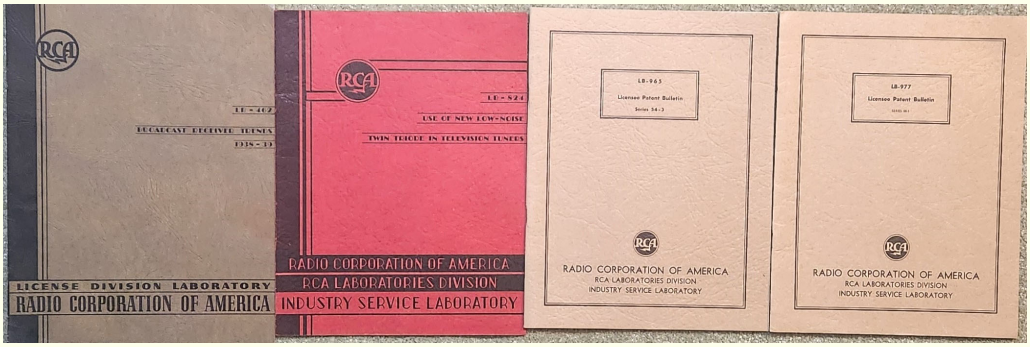
As the 1920s advanced, RCA kept radio improvements such as the superheterodyne from other manufacturers by refusing to license their patents to others. Still RCA could not take the lead in radio sales as the Neutrodyne and TRF circuits were well received by the public. Atwater Kent became the leading radio producer in the late 1920s. As the 1930s began, RCA, now under the full leadership of David Sarnoff, began to consolidate. He purchased the Victor Talking Machine company and made many moves to consolidate manufacturing in Camden, NJ.

All of this caught the attention of the US Justice Dept. Finally, after long negotiations, an anti-trust agreement was made causing General Electric and Westinghouse to divest themselves of ownership of RCA and that RCA would have to offer licenses to competing companies. David Sarnoff, who would proclaim that the justice department handed him lemons and he made lemonade, now had the freedom to act on his own to build RCA into the leader he envisioned. A big part of his vision was to bring electronic television to a commercial reality. When Westinghouse divested itself of radio work, Sarnoff brought some of the engineers from East Pittsburgh, PA to Camden, NJ. One in particular, Vladimir Zworykin, would help Sarnoff fulfill his vision.

Now Sarnoff worked to tighten RCAs patent position. He started by bringing an infringement suit against the Splitdorf Corporation of Newark, NJ. RCA charged them with infringing the Alexanderson TRF patent for use of cascaded amplifiers, as in any multistage amplifier. RCA won the first round but it was believed that with testimony proving that the circuit was in prior use before Alexanderson, that RCA would lose. This would cause a serious setback to Sarnoff's hope of licensing the entire radio industry. It was becoming clear that to produce a competitive 1930s radio now required use of the RCA patents. Each company wanting an RCA license would have to pay $100,000 plus a 7 1/2 percent royalty on all sales. If RCA lost the appeal to Splitdorf, the licensing plan could collapse. What happened next was an industry secret for many years.

With strong evidence presented, the radio industry awaited the judge's ruling to be in favor of Splitdorf. Instead, a complete surprise, as a settlement was announced and Splitdorf took out a license and agreed to pay back royalties. This caused the other radio companies to fall in line and Sarnoff was now in control of the radio industry. The truth that would come out in later years was that Splitdorf, instead of risking a loss, took a backroom deal from RCA. They would agree to the expensive settlement, but they never paid RCA for the license or for the back royalties or for future royalties. Also, they weren't allowed to tell anyone. To RCA, the millions in fees paid by the rest of the industry made the side deal with Splitdorf financially insignificant.

Now in the 1930s, most of the industry had RCA licenses and access to all of the relevant RCA patents and their technical publications. The results of RCA research would be shared and the license holders' engineers could take advantage of this information and spend their time finding improvements and cost reductions for their companies.



RCA INFO SENT TO LICENSE HOLDERS

The amount of research and development needed to produce a commercial television system was out of reach for most radio companies. RCA under the leadership of David Sarnoff, was able to use the income from all of the licensees to fund their television research. They kept up this research through the worst of the depression. After many field tests, first commercial broadcasts and the interruption by World War II, RCA is able to introduce the 10-inch table model 630TS. Now RCA could begin to reap the rewards of their investment and research and the best way to do this would include parts, tubes CRTs and even the knobs sold to and the royalties paid by their license holders. Also, RCA had a large income from offering all the elements of a complete commercial television broadcast system, from cameras to transmitters. They had technology to network stations giving the means to reach millions of TV owners to bring-in millions in advertising revenue.

RCA model 630TS and it's cousin FADA model TV 30

Introduction

New Series on Video Recording

In the late 1920s, John Logie Baird had many firsts in television. Few became more than public demonstrations with the hopes of raising the interest of inventors. One of those firsts was called *Phonovision*. It consisted of recording the image from his televisor onto a phonograph disc to be played later. The results were not impressive. Could more modern technology make this possible? Read on as James T. Hawes tells us about VinylVideo. Could you get a video image on a 45 rpm record? *–Mike Molnar*

Part One Follows.

Fig. 1. The Phonovision discs all resemble 25cm (10in) diameter single-sided 78rev/min 'shellac' audio discs. A distinguishing feature is the radial structure.

VinylVideo & Phonovision

TV Pictures from Audio Records

Success & Failure

by James T. Hawes, AA9DT

Good Old Grooves

Many of us remember when the latest rock songs came out on 45 rpm records: One hit song per record. Up to five minutes long, but usually less. We called these records "singles." At the local record shop, a single cost a buck. But a mall store like *Korvette's* or *K-Mart* might offer singles at 69¢ or 79¢ each. So much for the sound. Back then, where did we watch rock videos? Simple: No way to do that. And no "45 rpm *video* single" existed.

Picture This

Flash forward to about 1998: We'd thought 45s were dead. But like *The Poltergeist*, "they're back!" At last, "video singles" became possible with the half-"new" / half-"old" format *VinylVideo*. It used stereo, 45 rpm records, and a diamond stylus. But this time, *Bob's your uncle!* Out came video *and audio*. (Taylor 2018a, 7:48-8:37)

VinylVideo: How It Started

Where did *VinylVideo* originate? Vienna, Austria. Gebhard Sengmüller, Martin Diamant, and Günter Erhart invented *VinylVideo* in 1998. ([Best Before?] 1998b; Supersense 2016, 17.) It began as a technology-art project that attempted to answer two questions: (1) Before videotape, in the 1940s, could engineers have used audio records to reproduce video? (2) Consider that audio records allow less than one percent of the necessary bandwidth. Would video recordings even be possible? After considerable experimenting, the answers to both questions turned out to be "yes"! The technical juju was in the *VinylVideo* converter box ("home kit," "*VinylVideo* Unit"). It connected between the record player and TV. In went an audio signal. Out came video and sound.

VinylVideo launched quietly, in art shows across Europe and the U.S. At these shows, *VinylVideo* demonstrated its uniqueness: It was part science project, part Techno art exhibit, part mass com parody. (Berwick, 2000; Rowell 2000; Supersense 2016, 3)

In 2014, Supersense hired Diamant. His assignment: Engineer a version of *VinylVideo* that would be affordable by hobbyists and collectors. Diamant reduced the price by replacing the dedicated processor with a ready-made *Raspberry Pi*. Yet *VinylVideo* remained a hand-assembled product and a cottage industry. Supersense marketed software, too: Four Heavy Metal recordings. As with the art show pressings, the new records were limited editions. (Spice 2018; Taylor 2018a, 3:49-4:09, 5:45-6:56)

A note about the record format: The center hole wasn't the RCA, 1.5-inch one, but instead the smaller hole, typical of 33 rpm records. Also, some *VinylVideo* records were larger than standard, seven-inch singles. (Taylor 2018a, 6:45-7:07)

Appeal of *VinylVideo*

VinylVideo was feral television. It was a cry in the wilderness: A media wilderness of snowy lines, noise bursts, and craggy vocalizations. The rough-hewn format was perfect for Heavy Metal videos. (Spice 2018)

For the viewer, *VinylVideo* was a safari amid ferocious, apocalyptic beasts. It was vital, primal, instinctive. It was madcap, unconventional, headlong. It compelled: Who could look away? The noise and imperfections stirred animal spirits. Video snow concentrated attention. Viewers began seeking patterns, filling gaps in the picture. Especially in close-up, gestures and faces were haunting. They transfigured into ominous symbolic lifeforms, invoking a kine-Kabuki.

VinylVideo penetrated. It massaged the mind. Viewers had to listen, watch, and *absorb* these revelations. Before the experience faded away forever. (McLuhan 1967, 26, 31-41, 56, 63, 125)

Limits to the Technology

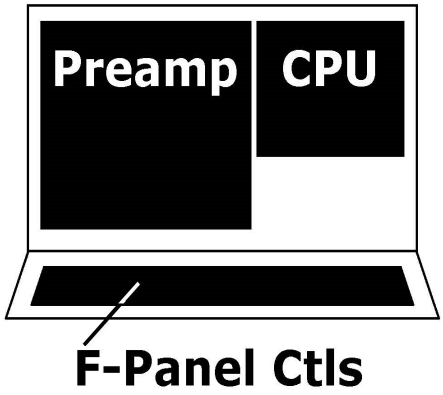
There were limits to *VinylVideo*, of course...

1. The video was black-and-white, at only eight fps, that is, frames-per-second. (Yet *VinylVideo* was compatible with normal TVs.)
2. The monophonic audio was no better than telephone quality.
3. The user couldn't just plug a record player into a TV's A/V jacks. In between, the user had to install the *VinylVideo* secret sauce: A converter with gain, EQ, and software-controlled video processing from a computer board. (There were two versions of the *VinylVideo* converter. The later, Supersense version used a ready-made, *Raspberry Pi* processor board. This *Raspberry Pi* considerably reduced the converter's price.)
4. *VinylVideo* was hyper-low-definition television. (Recording on audio records required a drastic reduction in the number of lines per picture.)
5. To the author's eyes, there were only a small number of gray tones. Yet according to inventor Martin Diamant, the system could display 256 grays. (Diamant, 2025a)
6. *VinylVideo* didn't record.
7. *VinylVideo* images had conspicuous defects. As with audio records, vinyl surfaces required special care. Scratches caused visible, white dropouts. Widespread video snow also marred the picture. To the author, the *VinylVideo* images also looked pallid. Here, *VinylVideo* tech encouraged viewer participation. The viewer could optimize the picture: By tweaking the monitor's (TV's) CONTRAST and BRIGHTNESS controls, as necessary. (On a scene-by-scene basis.) Adjusting the converter's VIDEO GAIN control might also help. (Supersense 2016, 5, 7) A gamma corrector and a DC restorer might have automated some of these manual chores. Yet the *VinylVideo* rumble filter (Diamant 2025b) might have clashed with a DC restorer.
8. As with any round record, the detail diminished toward the center of the record. (Diamant 2025c)

Inside the Converter

Inside the *VinylVideo* converter box were three PC boards: (1) An analog phono preamplifier. (2) A *Raspberry Pi* digital CPU with an analog-to-digital

converter. (3) A front panel board that provided a base for the controls. (Taylor 2018a, 12:10-13:10.) (Older hardware used a proprietary processor system. [Spice 2018]) Below is an interior view of the 2016 *VinylVideo* converter chassis. In this illustration, the converter is resting on its front panel. (Taylor 2018a, 12:04-12:56) The table beneath the drawing details the controls and jacks on the 2016 converter chassis. (Taylor 2018a, 4:22-5:14; Supersense 2016, 16)



PC boards inside 2016 converter (*Front panel face down*)

***VinylVideo* Converter, 2016 Model (About 8.25"W x 3" H x 7.5" D)**		
Front, Panel Controls, 4	**Back, Panel I/O, 13**	**Kit Includes**
01-Power Button 02-Calibrate Button 03-Level / Gain Pot 04-Line/Phono-In (Toggle)	<u>To TV</u> 01-HDMI-Out Jack (F*) 02-AV-Out, Mini Phone (F) 04-Line-Out, Mini Phone (F) 05-Line-Out RCA Red (F) 06-Line-Out RCA Wht (F) <u>From Phono</u> 07-Line-In, Mini Phone (F) 08-Phono-In Mini Phone (F) 09-Line-In RCA-Wht (F) 10-Line-In RCA-Red (F) 11-Moving Mag/Coil Toggle <u>Power</u> 12-5V Pwr-In Mini, Ctr (M*) 13-Binding Post for Ground	01-5V/2A wall wart supply 02-Power plug adapters 03-RCA AV cable (3-lead) 04-Audio cable (Stereo) 05-Converter box [•NOTICE: Despite stereo audio cable, audio signal is mono.]
*KEY: F=Female. M=Male. Pwr= Power.		

Television System Compatibility

Was *VinylVideo* NTSC-compatible? Yes. *VinylVideo* worked with PAL, NTSC, and NTSC-J. The 2016 manual also describes a widescreen mode. (Supersense 2016, 12; Taylor 2018a, 8:05-8:37, 9:10-9:47.) According to inventor Martin Diamant, the video output to the AV connectors was analog. But the output of the HDMI connector was digital. (Diamant 2025a) The table below summarizes many aspects of the *VinylVideo* technology. (Diamant 2025a, b, c)

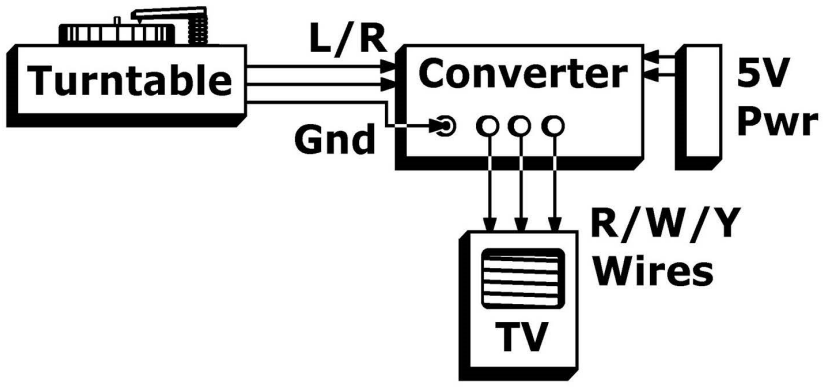
***VinylVideo* Attributes**

Grays	Supports	Wide-screen	DC Restorer	Max Signal	Gamma Corrector	Video
256	PAL, NTSC, NTSC-J	Available; detail same as NTSC/PAL	No; has rumble filter	White	No	Interleaved TDM,* compandered
Sound	**Video Format on Record**	**Lines / Frame**	**Interlace**	**Frames / Rev***	**Follows RIAA Curve**	**Bandwidth**
Time-compr (rec); exp (PB)*	Baseband	84	None	[illegible] relation	Yes	20 Hz-20 kHz

*KEY: Compr= Compressed; Exp= Expanded; PB= Playback; Rec= Recording; Rev= Revolution; TDM= Time-division multiplexing

Connecting the Turntable, Converter, & Monitor (*TV Set*)

Component interconnections followed the diagram below. (Supersense 2016, 8)



***VinylVideo*: Interboard connection diagram**

How *VinylVideo* Worked

The *VinylVideo* converter box connected between the stereo turntable and television monitor or TV set. Back-panel jacks made these connections easy. (Taylor 2018a, 5:19-8:40) The 45 or 33 rpm, stereo turntable played the record as usual. By time division multiplexing, *VinylVideo* recovered video and compressed audio from both stereo tracks. (Diamant 2025b) Despite the use of stereo, the video was 2D, not stereoscopic.

Configuration. *Supersense* recommended software configuration before playing records. Configuration adapted the conversion process to the turntable in use. The *VinylVideo* manual (*available online*) explained the procedure. (Supersense 2016, 9-10.) Even without configuration, the record would play through the converter. But configuration would likely improve playback quality. (Taylor 2018a, 7:30-7:39; Supersense 2016, 5.)

Inside the converter, the analog phono signal fed a preamp board. This board also connected to the back panel, and handled the analog I/O tasks.

The preamp plugged into the video processor through an internal USB connector. The *Raspberry Pi* processor quantized the video and audio, and produced the output signal. During processing, the analog phono signal underwent analog-to-digital conversion.

On the proc board, a micro-SD card contained system files: Boot and config code, build instructions and a read-me file, etc. A user could examine at least some of these files with an SD card reader. (Taylor 2018a, 13:12-13:27) After the proc, the signal left the converter, on the way to the TV.

Setup screens. The converter box provided setup screens that helped the user to optimize the playback appearance.

Bibliography for Part 1

Berwick, Carly. 2000. "Visions in Vinyl: Pictures Bring New Life to Old Records." *The Village Voice*, 4-18-2000, 41. https://tinyurl.com/3pu5cmyt

[Best Before?]. 1998b. "*VinylVideo*™ - an Invention by Gebhard Sengmüller, in Cooperation with Martin Diamant, Günter Erhart and Best Before." [Vienna, Austria?]: [Best Before?], [1998]. Access on 5-9-2025. (See link 01_vv_short_text.html at "Press Kit" page of https://vinylvideo.com/), or https://www.vinylvideo.com/press/02_text/01_vv_short_text.html

▪**Re:** Brief introduction to *VinylVideo*

_____. 1998c. "Welcome to the World of *VinylVideo*™." [Vienna, Austria?]: [Best Before?], [1998?]. Access on 6-27-2025. https://vinylvideo.com/press/02_text/06_vv_catalog.pdf
▪**Re:** Lengthy brochure: *VinylVideo* development, artists, articles, shows, etc.

Diamant, Martin. 2025a. Email to author, 1-3-2025. ▪**Re:** *VinylVideo* technology, availability.

_____. 2025b. Email to author, 2-5-2025. ▪**Re:** *VinylVideo* technical details.

_____. 2025c. Email to author, 3-3-2025. ▪**Re:** *VinylVideo* number of lines, modulation method, etc.

McLuhan, Marshall, Quentin Fiore, and Jerome Agel. 1967. *The Medium is the Massage: An Inventory of Effects.* New York: Random House, Inc., 1967. At Amazon: https://shorturl.at/pjEre

Rowell, Erica D. 2000. "Video Art Gets in the Groove: High-Tech Slumming with Low-Tech on Art House Scene." 2000. New York: abcnews.com, 2000. Most recent modification 6-27-2024. Access on 5-17-2025. https://gebseng.com/reviews/vinylvideo/2000-11_abc_news.pdf

Spice, Anton. 2018. "*VinylVideo*: The Technology that lets you play records on your TV set." The Vinyl Factory (blog). 10-16-2018. Access on 11-14-2024. https://thevinylfactory.com/features/vinylvideo-play-records-on-tv/

Supersense. 2016. *VinylVideo User Manual.* Vienna: Supersense Gmbh, [2016]. https://supersense.com/vinylvideo

Taylor, Matthew ("Mat," "Techmoan"). 2018a. "*VinylVideo* - Playing Video from a 45rpm Record." 9-17-2018. Access on 2-1-2025. YouTube video, 17:16. https://www.youtube.com/watch?v=UtNGVb94TFE#ddg-play

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COMING NEXT MONTH

PART 2

VinylVideo