



# The Oscillator



"All the Electrons that are Fit to Flow . . ."

THE OFFICIAL NEWSLETTER OF THE DVHRC

WINTER 2017

## 2017 DVHRC Meeting Themes

The DVHRC board met in January and proposed these monthly themes for our Telford meetings. Remember, images can be projected for meeting viewing from your USB drive files or other media.

**Feb 14- Special DVHRC 25<sup>th</sup> Anniversary Celebration/Winter Auction.** Come hungry as we have food and a special surprise! Due to cancellation of the January meeting, you may bring your Christmas radio acquisitions for show and tell.

**Mar 14- Rarest Radios**

**Apr 11- Ugliest Radios**

**May 9- Kutztown XXXVI Planning**

**Jun 13- Crystal Radios**

**Jul 11- Tailgate Auction**

**Aug 8- Car Radios and associated service equipment, etc.**

**Sep 12- Kutztown XXXVII Planning, Art Deco Radios**

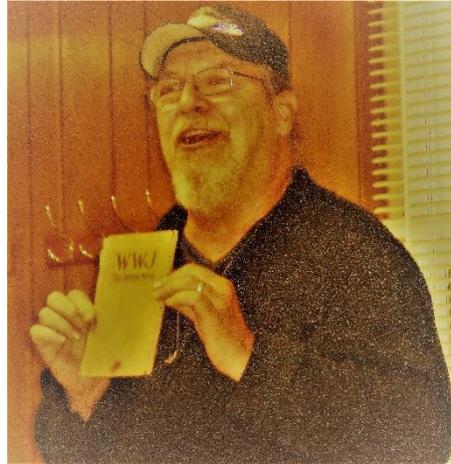
**Oct 10- High-End Radios**

**Nov 14- Decade- 1950's Radios**

**Dec 12- X-mas Party**

## Meeting of November 9, 2016

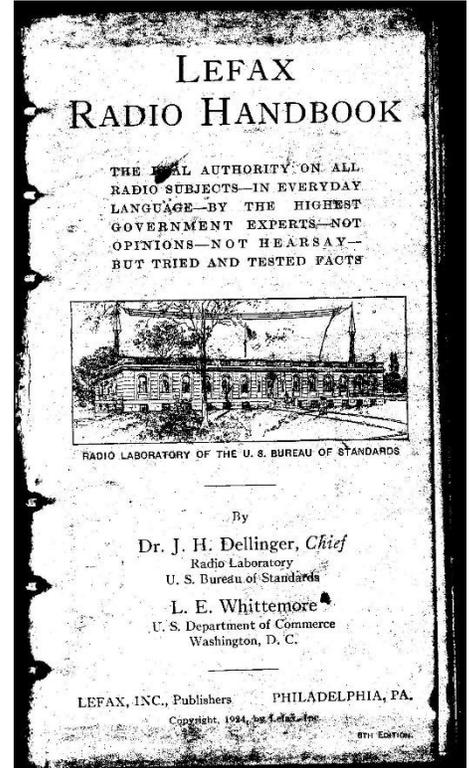
The theme of our November meeting was *Radio/TV Station Items*. Several interesting examples of radio promotions equipment were exhibited.



**Above:** Mike Koste shows off one of several radio cook books. WWJ was the world's first commercial radio station (load link for more). <http://www.detroitnews.com/picture-gallery/news/local/michigan-history/2015/11/06/wwj-the-worlds-first-commercial-radio-station/75308222/> Also shown were the popular depression-era Aunt Sammy's cook book which grew out of her daily USDA sponsored show, *Housekeepers Chat*.



**Above:** Terry Skelton displays rarely seen RCA BN17 Four-Fader Remote Console containing transistorized mixer amplifier weighing in at 18 lbs. According to the 1973 RCA Broadcast-Audio equipment catalog, the unit could also run on DC power provided by (6) TR135 mercury cells noted for consistent output throughout their life but no longer produced.



**Above:** Jiri Placek exhibited a 1924 Lefax Radio Handbook printed in Philadelphia. **Below:** Logging of stations by the handbook's owner includes long distance nighttime skip. Equivalent frequencies for timeframe are shown below in red.

Call Letter	LOCATION	Distance Miles	Date	Time	(Tuning, was)
Woo	Phila., Pa.	14	7/2/23	7.50	Band selections
KYW	Chicago, Ill.	700	"	10.15	1-18 1/2 = 4, 0-14, 1
WWJ	Detroit, Mich.	475	"	10.35	1-16, 1-4, 0-12 1/2
WGY	Schenectady, N.Y.	250	"	10.40	Banquet of Octaves
WGM	Oakland, Ga.	650	"	11.20	Amplitude switches
WIP	Phila., Pa.	14	7/19/23	7.45	After dinner trial
WWJ	Detroit, Mich.	475	"	10.15	3 speeches, song
WJZ	Newark, N.J.	75	"	10.30	Songs and dance
WFI	Phila., Pa.	14	3/14/23	5.05	Orchestra-dance
WJAX	Cleveland, Oh.	350	"	10.55	Talk on insects
WOR	Newark, N.J.	75	"	10.50	Radio hints
WDAF	Kansas City, Mo.	1050	"	11.25	1-17, 1-4, 0-16
KYW	Chicago, Ill.	700	"	11.40	Victrol selections
Woo	Phila., Pa.	14	7/17/23	7.55	Victrol and victrols
WHAZ	Jama, N.Y.	220	"	8.55	Aggricultural disc
KDKA	Pittsburgh, Pa.	300	"	9.30	Victrol selections

\*First time station was heard 1-Over, 2nd, 3rd, 4th, 5th, 6th, 7th, 8th, 9th, 10th, 11th, 12th, 13th, 14th, 15th, 16th, 17th, 18th, 19th, 20th, 21st, 22nd, 23rd, 24th, 25th, 26th, 27th, 28th, 29th, 30th, 31st

WOO 590	John Wannamaker	Frequency shared with WIP	WJZ 660
KYW 870	Westinghouse	Chicago 1921 to 1934	WFI 750
WWJ 580			WJAX 770
WGY 790			WOR 740
WGM 710			WDAF 730
WIP 590	Cimbel Brothers	"Wireless in Philadelphia"	WHAZ 790
WWJ 590			KDKA 920



Delaware Valley Historic Radio Club  
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[www.dvhrc.com](http://www.dvhrc.com)

The Oscillator is the quarterly newsletter of the Delaware Valley Historic Radio Club.

Articles on radio and television history or collecting can be submitted by the 25<sup>th</sup> of month prior to quarterly issue dates of April, July, October and January to the editor at [gdottor@yahoo.com](mailto:gdottor@yahoo.com).

Personal views, opinions and technical advice do not necessarily reflect those of members, officers or Board of Directors of the DVHRC, nor is the DVHRC responsible for any buying or selling transactions.

Dues are \$20 per year and can be paid at a meeting or mailed to the above address. Meetings held 2<sup>nd</sup> Tuesday of each month at Telford Community Center.

#### DVHRC Board of Directors

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**Above:** This sign was displayed by Jarret Brown showing daytime and nighttime version used by WKAP, AM 1320 posted in the window of their Allentown studios. This real estate just northwest of Route 221 McArthur Road cloverleaf intersection was highly visible if not for the pulsating pattern of this nighttime sign but also because of the 5-tower directional tower array behind the studio with its own blinking red lights. These towers, moved since those days, were near the flight path of ABE (now LVIA) airport less than 2 miles east.



**Above:** Al Simmons acquired a classic WEEU clock from the days they were assigned to 850 khz. Al has plans to refurbish the clock.



**Above:** WSAN, Allentown, PA circa 1928. This may have been the main studio at the time.

## Xmas Party of Dec. 13, 2016

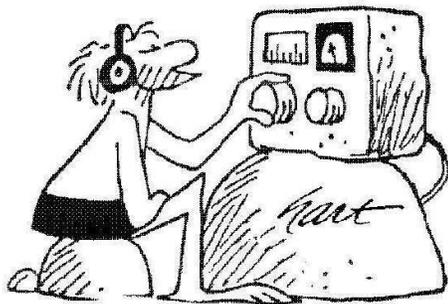
Fellowship and the holiday spirit were in good supply this night as we celebrated the season at the Red Cedar Inn. Gifts included table radios, test gear, wind-ups and a Hallicrafters S-120. The food was good and plenty in the cozy confines of the Red Cedar. This water color holiday card was given to club members attending.



## Some Housekeeping Notes

Membership dues of \$20 are due and may be paid at the Feb. 14 meeting. The potential ice storm caused cancellation of January's meeting. Cancellations are announced via our website DVHRC.com, the reflector email and our Facebook page by 5 PM.

We are always looking for a good story to publish, especially projects and technical fare which are harder to come by. You may forward them to [gdottor@yahoo.com](mailto:gdottor@yahoo.com). At the next meeting, there will be a form for suggested subjects, stories or research you would like to see. ed.



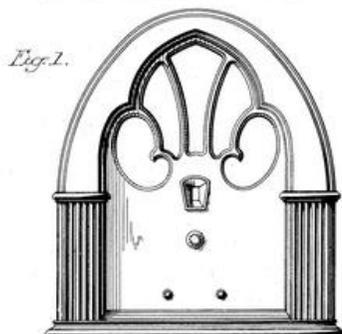
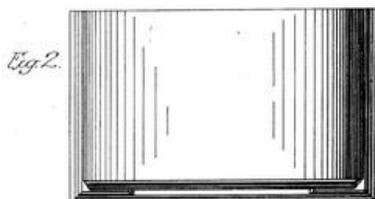
## Enduring Design Rocks

Happy 86th birthday Baby Grand!

- Rockin' Patent: US Design Patent No. [D83,956](#)
- Filed: 28 February 1931
- In the name of: Edward L. Combs
- Title: Radiocabinet
- What's claimed: "The ornamental design for a radio cabinet, as shown."
- Why this (design) patent rocks: Unlike utility patents, design patents (also called "registered designs") protect the way all or part of a product looks rather than how it works. This is why the claim here refers to the "ornamental design" for the radio cabinet "as shown". The design itself appears to correspond to the Philco Model 21 radio (see [here](#) for more information).

Post by [Iain Russell](#), Patent and Design Attorney, [EIP](#)

April 21, 1931. E. L. COMBS  
RADIOCABINET  
Filed Feb. 28, 1931 Des. 83,956



Inventor  
Edward L. Combs  
By *Wm. H. Thompson*  
*Attorney at Law*

"Patents Rock" was born out of Ian's passion for music and his career as a Patent Attorney. See his website below for more Rockin' Patents.

<https://patentsrockblog.wordpress.com/about-2/>



## Preserving Hard Cover Books

Today's books include electronic versions but older books may not have an electronic equivalent. Libraries are retiring older volumes with low circulation. The following announcement appeared at a local university.

*The Rohrbach Library contracted with Sustainable Collection Services to review the print titles in our Main Collection. Using their data-driven analysis, librarians plan to remove books that no longer support the current curriculum from the collection. We invite all interested faculty to attend an open session to review the data analysis.*

For some of us, there still is something nice about sitting in the easy chair reading a classic volume. The question becomes, with current readers, have hard-copy volumes become obsolete? With most books available for sale on the web, either used or new, is it worthwhile to save your local library's copies?

I reserved the book *Tune in Yesterday- The Ultimate Encyclopedia of Old-Time Radio 1925-1976* by John Dunning and found it to be widely available on Amazon in hard-copy both new

and used. *But does it have an electronic equivalent?*

The librarian I spoke to said that if you want to investigate any book title use these web resources:

- 1) Google search will disclose sales outlets like Amazon, etc.
- 2) Google Books – <https://books.google.com/>
- 3) *Hathi Trust* is a way to find out if there is an electronic version and whether accessible on line. Their goal is to preserve culture through 120 partners' cooperation. <https://www.hathitrust.org/>

I did the Hathi Trust search on "Tune In Yesterday" and found it not available electronically due to copyright restrictions. Thus, preservation of this fine book is in the hands of the private holders and the online marketplace. This could change if Prentice Hall allowed electronic distribution in the future.

Since I did reserve this book, there is less chance it will be removed from the collection at this library. You may also want to contact your local library to find when vintage books of interest are retired or sold for an opportunity to acquire them.

DVHRC once maintained a shared library for vintage radio subjects. Most possess their own personal copies now and with the web there will be no going back to the future. However, clubs may want to discuss options to preserve certain volumes or purchase newer ones for local libraries in order to promote the hobby.

Now, about the book *Tune in Yesterday*; the author, John

Dunning is noted for writing the Cliff Janeway detective series but also had a passion for Old-Time radio. The book is an encyclopedia listing nearly every dramatic and variety radio show from Amos and Andy through The Ziegfeld Follies of the Air. In between there are many I had never heard of including ones that follow here. As I sunk into my leather chair with the reading lamp's warm glow illuminating the pages, I chose a few samples of shows lesser-known shows from later in the era, directly quoting Mr. Dunning below.

**Lonesome Gal** was first heard at station WING, Dayton Ohio on October 13, 1947. For two years it remained strictly a local disc jockey show, with sultry, sexy, Jean King wooing the guys in her most haunting style and best come-hither voice. Miss King, identified only as "Lonesome Gal" spoke in as intimate a manner as radio would allow as though she and her one male listener were alone over candlelight and wine. She called him "muffin" and "baby" and, judging from the frantic phone response from lonely men across town, must have hit a universal emotion. In December 1949, she decided to syndicate the show; within six months she had more than fifty stations and an income in the six figures. Her show was unusual syndication fare, because each broadcast was completely localized, including local commercials which she wrote and read herself. Miss King accomplished the localization by maintaining active correspondence

with Chamber of Commerce officials in cities where the show was running; thus, she was able to describe town parks, monuments, and streets as though she had actually been there. But it meant a hectic grind, writing and recording almost 300 separate shows a week. Miss King, a refugee from the Tarzan films, had played briefly in *I Love a Mystery* in 1943, but had dropped out of radio to try movies. She had no money and no job when she hit Dayton, and happened to land at WING at just the right moment. Soon she was purring "Hiiiiiee, baaayyybeee" driving men nuts, and wearing a mask for all public appearances.

**Granby's Green Acres** was a CBS situation comedy premiering July 3, 1950; it ran during the summer and was inspired by characters heard on the Lucille Ball show, *My Favorite Husband*. The Granby's, a city family moved to the farm, were played by Gale Gordon and Bea Benaderet, who had also played the Atterburys on *Husband*. Like Rudolph Atterbury, John Granby had been a clerk in a bank. His wife was somewhat addled and impractical. Louise Erickson played their breathless teenage daughter and Parley Baer was the hired hand Eb. Jay Sommers wrote, produced, and directed. (We all know Jay Sommers took this idea to the CBS television network).

**Space Patrol** was a latecomer to radio, but is fondly remembered by children of the 1950-55 era, when this 30-minute adventure of the future ran on ABC. It followed the

universe-jumping exploits of Buzz Corey, commander-in-chief of the Space Patrol, and his unending quest to bring law and order to vast interplanetary space. Corey's companion on these missions was Cadet Happy, played by Lyn Osborn, whose strongest expression of emotion was "Smokin' rockets!" For a time the arch-enemy of the Space Patrol was Dr. Ryland Scarno, master criminal. The series was heard twice a week, sustained in 1950-51. Then it moved to Saturdays for a four-year run, sponsored by Ralston in 1951-54 and by Nestles Chocolate in 1954-55. It was also seen on TV in the early 1950's. Ed Kemmer played Buzz, and the show was produced and directed by Larry Robertson. The opening was done to a singing, marching theme, and a shouting description right out of *Mark Trail*:

*High Adventure in the wild, vast reaches of space! Missions of daring in the name of interplanetary justice! Travel into the future with Buzz Corey, commander-in-chief of the Space Patrol!*

Dunning's coverage of the majors such as *The Mercury Theatre of the Air*, is thorough with some seven pages written about that great series and the rise of Orson Welles. *Tune In Yesterday* is one book you will want to have on your bookshelf, one which you can enjoy over and over and as reference. So on these cold winter nights when TV just doesn't cut it, pick up a good book and enjoy! ed.

## Upcoming Regional Events

*Following are some excellent programs and a reason to have multiple club memberships in our region's clubs! Paste links into your browser to load.*

**NJARC Repair Clinic Saturday, 02.18.17, 10am to 5pm**, Vintage radio repair workshop. Free repair evaluations by club experts.

**Reservations required.** Where: InfoAge Science History Learning Center and Museum, 2201 Marconi Road, Wall Township NJ 07719. [president@njarc.org](mailto:president@njarc.org)  
<http://www.njarc.org/#calendar>.

**MAARC Meeting Sunday, 02.19.17, tailgating 11am, meeting 1pm**

MAARC's next meeting in Davidsonville, MD on February 19th, 2017 is going to feature a large selection of very nice gear offered for sale at our monthly auction from the Holland Estate. There will be some very nice antique and vintage radios, ham gear, hi-fi equipment, a Navy WWII receiver, speakers, and other equipment. Presentation topic will be "Super Show and Tell". See their website for details:

<http://www.maarc.org/>. Don't miss this opportunity to take home some very nice items.

**NJARC Spring Swapmeet Saturday, 03.18.17, 8am to 12pm.**

Vendor setup at 7:15AM. \$5 entrance fee. \$30 vendor fee (\$25 for members). Additional table \$20 reserved. \$25 day of event subject to availability. Where: Parsippany PAL, 33 Baldwin Rd, Parsippany, NJ 07054.

[president@njarc.org](mailto:president@njarc.org)  
<http://www.njarc.org/#calendar>.

**Hamfest-Warminster Amateur Radio Club (WARC) including EPA Section Convention Sunday, 05.07.17, 7am, vendors setup 6am rain or shine.**

Where: Bucks County Community College's Lower Bucks campus, on Rte. 413 in Bristol, PA. Please note that this is also an ARRL Convention meeting and there will be a guest speaker from ARRL headquarters and more. See website for details: <http://wp.k3dn.org/hamfest/>

**Kutztown Radio Show Friday, 05.12.17 through Saturday, 05.13.17 opens 7am. Vendor setup starts 12 noon Thursday. No Early entry shoppers Thursday. Free parking and free admission for shoppers.**

Where: Renningers Farmer's Market, 740 Noble St., Kutztown, PA 19530. Antique radios, parts, and related items. Audio and Ham welcome. Tables, electric available. **Exhibitor reservation advised: Phone M-Th 570.385.0104; F-S 610.683.6848.** See links at: [www.dvhrc.org](http://www.dvhrc.org) or [facebook.com/renningerskutztown](https://facebook.com/renningerskutztown)

**RadioActivity 2017 Thursday, 06.15.17 through Saturday, 06.17.17.**

*RadioActivity* will be held at the Sheraton College Park North Hotel in College Park, MD. The theme will be GENERAL ELECTRIC. Categories are:  
1. GE radios pre-1936  
2. GE radios post-1935  
3. GE ephemera

The Sheraton College Park North Hotel (formerly the Sheraton Washington North Hotel) is located off of Exit 29B (Rt. 212) of I-95 between Washington and Baltimore, at 4095 Powder Mill Road, Beltsville, Maryland, 20705. The hotel is on the southwest corner of the interchange. See their website for details: <http://www.maarc.org/>.

## Antique Radio Classified Back

You may view the February 2017 issue free: <http://antiqueradio.com/>.

This issue highlights the recent John Terrey auction. The magazine has switched to electronic distribution and the good news is that they have lowered the subscription rate to \$30, have no printed page limits and color displays as well. Check it out!

## VW Car Radio Nostalgia

As a baby boomer, some of my happy memories include the progression of car radios installed in the various Volkswagen vehicles owned by my parents and later myself. Growing up in Bethlehem in the 50's and 60's, my dad took a fair amount of heat from the many Bethlehem Steel employees up and down my street when he purchased his first used VW sedan in 1964. Mom was going back to work and this was dad's solution for "his" wheels. It was a 1955 with the small oval window and an Automatic 6 volt AM unit optional during the early years of VW. This unit included its massive housing containing the vibrator power supply. That radio was later removed from the car when dad sold it and remained in our basement near my radio shack but later disappeared. Looking at the prices for vintage VW radios, I wish I could have saved it!

My fondest memories, however, are of the *Sapphire* solid state units which VW began supplying in the early sixties. One of them was installed in the 1968 bug my family purchased, the first brand new car

my family ever purchased. This time it was mom's car but one I was able to use after getting my license. I commandeered this car on weekends and really loved the dependable Sapphire IX which served me well as a teen in the heyday of Top 40 programming.

Also, with their RF amplification stage, a car radio such as this served my QSL'ing DX hobby during that period.



Sapphires, like the gem, fetch fairly high prices in all conditions on the web due to many nostalgic former owners and likely scrapping of most along the way leading to a supply and demand "situation". I found an authority on their repair, classification, and progression that follows. *You may need magnification or may also view the following site:* <http://vwradios.com/Home.html>



I'm Nick Stokes; no, not that guy from CSI Las Vegas, I'm the one

who likes air-cooled Volkswagens and repairs radios. The picture above shows me with a 1970 and a 1974, both daily drivers for my daughters.

After my 28 years and 4 months active duty in the US Air Force it was time to retire and find something to do with my time. As a USAF-trained electronics technician, I knew a few things about electronics and started to look into who fixed radios for classic cars. I found out that there were some folks out there, but most repair businesses do not want to deal with troubleshooting and repair and those that do have to charge enough to make it a living. Fortunately I don't rely on it for a living but it has to fit in my extra time.

So... I decided to start collecting test equipment, Sams Photofacts and VW radios. This led me to contact Brad Claussen who was repairing radios but was leaving it; and it just so happens he lives near my Mother's house in southern Wisconsin. After some emails he sold me his stock of radios and provided some Sams schematics. Because of Brad and my VW friend Tom Tucker who scoured various swap meets and schooled me on classic VWs, I'm repairing VW radios.

### **Classic VW Radios as I know it**

I contributed to an article in the VW Trends (RIP) magazine about the radios installed in classic Volkswagens. My contribution lies with the '60s and '70s radio models from Bendix and Motorola commonly referred to as

Sapphires. I do not have any information regarding the very early models from Telefunken and others from the very early 1950s. If you have this information I would welcome it and publish it here with credits. Much of my information has been obtained through working with the radios and speaking to those in the VW community with knowledge of the early days. I frequently hear the phrase "It was purchased from the dealer with a Sapphire?? installed so it must be the only correct model for that year". While this radio may have been installed when the Bug was purchased, it may have a radio from a prior year or later depending on the dealership's stock. It would not be unheard of for a dealership to use a radio kit on the shelf for a new model if the features are the same.

### **1950s**

The 1950s VW owner who wanted a radio was limited to aftermarket radios such as Blaupunkt, Automatic, Motorola and others available on the market. Some of these manufacturers made kits for the VW which included antenna, knobs and faceplates made especially for the car. The earliest radios had vibrator-driven power supplies that were sometimes in a separate chassis to be mounted in the trunk area. Others such as the Automatic and Motorola had them mounted in the same chassis. The purpose of a vibrator is to take the 6 volts supply voltage, change it mechanically to a pulsating 6 volts so it can be increased through a transformer to provide the high (~230 volts) plate voltage

the tubes require. The progress of technology led to transistor power supplies and then to all-transistor radios. Blaupunkt used the same names e.g. Frankfurt, Bremen etc. throughout the changes so sometimes it's confusing as to the type of radio. ALL the Sapphire-series, Bendix and later Motorola radios are all-transistor - NO tubes.

### The Sapphire Part No. Scheme:

Through the 1960s both Bendix and later Motorola used the same scheme with the first digit signifying the year and added FM to signify an AM/FM radio. The B appears to stand for Bendix and the final letter was for the application; V=sedan, T=transporter, G=Ghia, 3=T3 although only the V was stamped on the radio. When Motorola started in 1964, an M was added to differentiate it from its Bendix cousin. Up until the Sapphire XVIII, all the even number Sapphires, e.g. II, IV, VI etc. with the exception of the VIII 8-track, was an AM/FM radio



### 1960-61 Sapphire (0BV,1BV) by Bendix

The VWoA dealer-installed radios started with the 1960 Bendix Sapphire I AM radio. I've been told that it actually happened in 1959 because of model year changes but the radios are stamped 0BV for 1960. The

Bendix-supplied Sapphire I radios for 1960 and 1961 are distinctive in a number of ways. They have a large tuning window face and have the keystone shaped pushbuttons as well as unique inner tone and dummy knobs.



There is a slight difference in the 1960 and 1961 radios in the location of the audio output transistor visible on the back of the case, the 1960 is in the center while the 1961 is closer to the side. These radios also had a 3-pronged speaker plug common to other radios of that era. I've seen the same plug on a 1955 Ford radio.

### 1962-1965 Sapphire I (2BV, 3BV, 4TBV, 4TMV, 5BV) by Bendix and Motorola

These radios all look very similar although all say Sapphire I on the tuning window, there are some differences. The 1963 Sapphire brought a narrower tuning window and smaller pushbuttons as well as larger, metal chrome inner knobs. In 1964 the federal government requirement for the CONELRAD triangles at 640 and 1240KHz was dropped because of the implementation of the Emergency Broadcast System (EBS) in 1963.



Bendix Sapphire I 2BV, 3BV

This was also the first year of the Motorola Sapphire I radios. The case and part number are different but they look similar to the Bendix model (without the "by Bendix" script) all I've seen have grey pushbuttons. I suspect that Motorola made radios for 1964 (4TMV) but not 1965 because I've never seen a 1965 Motorola Sapphire, only Bendix (5BV) and those all have grey pushbuttons as well.



Motorola Sapphire I 4TMV sans CONELRAD

### 1962 and 1964 Sapphire II (2FMBV, 4FMBV) by Bendix

This was the introduction of the first AM/FM radio as a dealer-installed option for the VW.



If you know about the era, FM was not the popular band as AM top 40 ruled the airwaves, I know WLS and Larry Lujack was on my radio. What this means is that there were not many who ponied up the extra money for the dual

band radios which are in high demand today.

**1965 Sapphire II (5FMBV) by Bendix** This was a redesign of the printed circuit card from the earlier Sapphire II radios and all I've seen have grey pushbuttons.



**1966 Sapphire III (6BV, 6TMV) by Bendix and Motorola** This was a change in the look of the VW Sapphire radio. Both Bendix and Motorola made Sapphire III radios but they now had a black tuning face with chrome knobs and a chrome and black faceplate.



The Bendix model has the output transistor above the on/off shaft while the Motorola has it below the tuning shaft. It appears the metal chrome plated inner knobs are now plastic, chrome-plated but look the same as the 1962-1965 radios.

**1966 Sapphire IV (6FMBV) by Bendix** The Sapphire IV was the AM/FM model only by Bendix with the bands changed with a chrome slider in the center of the radio. Beside the chrome Sapphire IV

slider in the center, there are output transistors above both the shafts. The picture below was taken of one installed in a notch.



**1967 Sapphire V (7BV, 7TMV) by Bendix and Motorola**



As with many things on the 1967 Bug, this is a one-year-only item and highly sought-after. It is essentially a 12-volt Sapphire III so it will fit without modification in a 6-12 volt converted vehicle. The difference with the Sapphire III models is with the center chrome strip and they came with rubber knobs to match the dash knobs. The bottom picture shows radios sans faceplate with the Motorola model on top of the Bendix.



**1967 Sapphire VI (7FMBV, 7FMBVX) by Bendix** This is probably the most sought-after of all the the Sapphire models. It's a one-year-only, 12 volt, AM/FM mono radio making it desirable for many VW years.



As far as I can tell it was made only by Bendix but there were two models, one with a pair of output transistors above the shafts like the IV (7FMBV) and a later version with a combined pair above the on/off shaft. (7FMBVX) To get technical, the change was from NPN to PNP transistors and because the combined transistor pair is NLA I've been able to repair a 7FMBVX with separate NPN transistors. This model also used the black and chrome faceplate and the rubber knobs.

**1967/8? Sapphire VII**



A unique radio with a 6-12 volt switch and no pushbuttons. I've only seen this one and don't have a faceplate.

**1967 Sapphire VIII (A7SMV) by Motorola**



The symbol of the late '60s and early '70s, the 8-track tape player. I've seen both the in-dash and under dash, each with an AM radio made by Motorola for the VW, rubber knobs and all.

### 1968 Sapphire IX (8BV) by

**Bendix** The new padded dash of 1968 narrowed the radio opening and changed the radios significantly.



**Above:** Simple but beloved Sapphire referred to in introduction installed in mom's 1968 biege VW.

This new Sapphire IX model by Bendix slid into the dash opening with spring clips on the side and required a frame or escutcheon between the faceplate and padded dash. These radios still had metal faceplates but are very prone to pitting. The Bendix has a unique nut to fit over the shafts to hold the faceplate. As best as I can tell, this was the last year of the Bendix Sapphire radio for VWoA.

### 1968 Sapphire X (F8SMV) by

**Motorola** Another scarce AM/FM radio. This model uses a unique metal chrome faceplate with the Sapphire X logo in the center with a small red AM FM window above the tuning shaft.



This dual-purpose shaft had a function for the inner knob to

change the frequency band and the knob revealed the selected band.

### 1968 PlayTape (PA8MV)

The PlayTape uses a small cartridge tape similar to an 8-track but smaller.



You can see the comparison below and I've seen tapes available on eBay.



The portable player shown in the second picture has a VW pictured on the side of the box.



### 1969 Sapphire IX (9SMV) The

1969 Sapphire IX outwardly looks to be just the same as the 1968 but there are some difference.



First of all this one is by Motorola, the 1968 model was by Bendix,

the knobs are smooth like the 1968 but the shafts are split rather than D-shaped like the Bendix. Finally the faceplates both are metal and say Sapphire IX but the 1968 model is rounded on the edges while the 1969 is angled.



The story of similar Moto models continues in the 70's and can be viewed via following link: [http://vwradios.com/Sapphire\\_Radios\\_1968\\_to\\_1979.html](http://vwradios.com/Sapphire_Radios_1968_to_1979.html)

Also, if you have some time, you can view several interesting but quirky YouTube videos showing repairs of a Bendix Sapphire radio with some nice technical background and another of a Motorola Chevy Corvair which was not very well constructed. As always, you may need to paste these links into your browser.

<https://www.youtube.com/watch?v=YJU4We2iveM>

<https://www.youtube.com/watch?v=4vaAhZ7u0jA>



See all of you next time around! DVHRC signing off.