Volume 38, Number 2 Fall/Winter 2019

Journal of the

CALIFORNIA HISTORICAL RADIO SOCIETY

"The Blood Money Caper" Radio Play

Radio Day By The Bay 2019

Master of Ceremonies & Auctioneer Stan Bunger

Auctioneer Rosie Lee Allen

Dan Neely's Royal Society Jazz Orchestra

Auctioneer Kim Wonderley

FROM THE BIRTHPLACE OF BROADCASTING

California Historical Radio Society

HOME OF THE BAY AREA RADIO MUSEUM & HALL OF FAME

The California Historical Radio Society (CHRS), is a non-profit educational corporation chartered in the State of California. Formed in 1974, CHRS promotes the restoration and preservation of early radio and broadcasting. Our goal is to enable the exchange of information on the history of radio, particularly in the West, with emphasis on collecting, preserving, and displaying early equipment, literature, and programs. Yearly membership is $30 ($40 non-USA).

CHRS Museum in Alameda

CHRS has been fortunate to through the generosity of its donors to purchase a home for the CHRS museum and education center. It is located at 2152 Central Avenue. The building was built in 1900 as a telephone exchange.

CHRS volunteers are actively restoring the building to make it optimal for use. Our goal is to create an environment to share our knowledge and love of radio and enable us to create an appreciation and understanding for a new generation of antique radio collectors and historians.

Please come visit us any Saturday 9am to 3pm. Visitors and groups welcome at other times by appointment; Contact Steve Kushman.

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Contact us:

CHRS, PO Box 31659, San Francisco, CA 94131
or info@californiahistoricalradio.com

Visit us at: www.CaliforniaHistoricalRadio.com

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Contents of the Journal

COLUMNS

FEATURE ARTICLES

From the Editor

This journal covers many facets of radio. John Staples renovates a vintage Single Side Band exciter and reviews basics of SSB transmission. Bart Lee summarizes his visit to the SAQ historic spark station in Sweden. John Okolowicz offers perspectives of the Guild and Abbotware radio manufactures and product lines. Carsten Fisher walks through the basic service and repair of vintage phonographs. Jon Winchell gives us a glimpse of his interest in radio. Next are highlights of the Bay Area Hall of Fame inductees for 2019 and a brief history of KFOG, the station of the year. Rob Rydzewski shares an interesting snippet he found in the CHRS archives. The covers display 2019 Radio Day festivities. I wish to thank all the authors for their articles, support, and scholarly contributions.

I am always in need of quality content related to broadcast radio, ham radio, and television. If you have something to contribute, I urge you to let me know. I am especially interested in technical content. It can be of two types, a narrow topic in depth or a more broad topic with less depth. Enjoy . . .

Richard Watts, jrchrs@comcast.net ◊

From The President

by Steve Kushman

The Radio Collectors Time Machine…  ***It's Not Just A Clock Radio***

Step into the Radio Collectors Time Machine! Where would you like to go?... How about 1974 when CHRS was born. Collectors were generally young adults interested in a broad range of radios and related items. At this time antique radio gear was fairly abundant and easily found at flea markets, thrift stores, garage and estate sales. Spark gear, crystal sets, battery sets, 1920's leggy consoles, 1930's consoles, ham gear, 1940's and wartime radios were some of the popular genres in 1974. Serious collectors wanted this gear and there was much activity in buying, selling and trading these items. CHRS made these activities possible by bringing collectors together and offering venues for swap meets. 1950s and '60s radios… not too popular at this time, as some of these sets were household items still in use. Many scoffed at 'modern' plastic radios as 'junk' and argued that only a good wooden radio gives the best sound. There were a few who were interested in and collected early transistor sets. And those long low modern consoles... forget it. Nobody knew what to do with them. Many were scrapped and parted out.

Hold on! The next stop for the Time Machine is the late 1980s when I started actively collecting… and when I joined CHRS. Collectors were getting younger. Some of the older and more traditional collectors were fading away. CHRS swap meets continued to be the go-to destination for serious radio collectors. All of the gear mentioned in our 1974 stop was still pretty collectable. A bit less for the consoles as people didn't have room for them. But the high-end consoles always found homes. We were seeing interest in transistor novelty radios, mostly made in Asia. Many wanted that 'Stanley tape measure' or 'Gumby' radio. How cute. But because so many of them are based on cultural figures or advertising, they really give us snapshots of the times and also bring back fun memories. CHRS' novelty collection includes a recently acquired radio that looks like an early brick cell phone. In the late '80s interest in 1920s battery sets was waning. 1940s - 1960s plastic sets were becoming as popular as their wooden predecessors. But some were still considered to be 'junky'. The interest in 1950s - '60s transistor radios had steadily grown. And those modern long low consoles…sigh.

Looky! The Radio Collectors Time Machine is here today in 2019. More of our old timers have passed and have taken the desire for some of the early gear with them. Today it is difficult to find collectors who can appreciate a beautifully handcrafted 1920's battery set. Yes, they are mainly wooden boxes that require a power supply or batteries and an external speaker or headphones. But the craftsmanship on most of them is exquisite. From fine wood, inlaid trim and fancy escutcheons to hand bent square wires and beautiful coils inside. These radios were of paramount importance as they were some of the first radios we had in our homes. Also, those gorgeous 1920's high-boy consoles and 1940's & 1950's wide consoles don't garner much interest at all these days. But as in the past, high-end '30s consoles are popular. The highest interest is still mostly in table radios from the 1930s through the 1970s. 1970's collectable radios include mostly transistor radios and novelty radios. And remember those unwanted 'junky' plastic sets and long low '50s & '60s consoles we mentioned on our last two stops? The Time Machine has shown us how much things have changed. Traditional vintage radio collectors still do not want them. But young adults who are not necessarily collectors, want an 'antique' radio as part of their décor. Some want a colorful tabletop for the kitchen or a 'mid-century modern' console for the living room. CHRS has learned that restoring these orphaned radios, including repainting tabletops as needed and adding Bluetooth, makes them very attractive as a decorative piece for the modern home. The current enthusiasm for anything nostalgic makes these sets very popular. Some historical purists may not agree with new paint and addition of Bluetooth. But CHRS believes that recycling, reusing and refitting, is much better than trashing these sets, as was done for many years. The people who acquire these sets from CHRS may not realize it, but they, along with the traditional radio collectors are preserving important parts of our history. And it's very cool to hear one's own modern playlist through a 50 year old piece of technology.

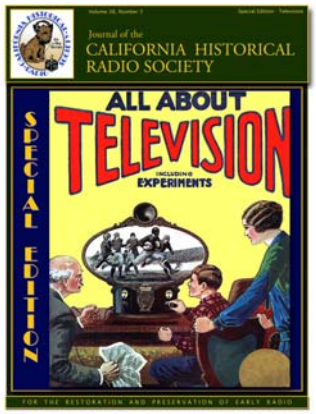
So, we hoped you enjoyed this brief ride on the Radio Collectors Time Machine. For the most part the Machine travels very fast. Way too fast as it gets away from us and minutes turn into years. It's good to travel back and see how CHRS and its passionate membership of collectors became historians regardless of the trends in collecting. Keep up the good work of preserving these small pieces of our past that mean so much to us today and to our future.

Please call or email me with comments or questions - (415) 203-2747 email: Steve@chrsradio.com ◊

From The Chairman

by Mike Adams

Do you know that you can experience CHRS without leaving the comfort of your home, city, state or country? Today, a bit of the depth and breadth of CHRS, value beyond the Journal you now hold in your hand. We are proud to be a multi-dimensional organization serving members and the museum-going public. As we have said in the past, we are all things radio.



First, our service to scholars and radio history hobbyists who find the print format useful. Bart Lee is in charge of our libraries and archives. We house a large communications library in Alameda, but you can browse its contents by clicking on "libraries" on the CHRS web. We have reprinted several books, David Rutland's *Behind the Front Panel*," and the Will Rayment biography. Both are available from Amazon. We have published Gary Gielow's *The Story of KPEN*, available in the CHRS Gift Shop. John Schneider's *History of Bay Area Radio* and my book, *Lee De Forest, King of Radio, TV and Film*, both from our gift shop and Amazon. We have just released a 140-page "Journal Extra," a compilation of original articles on television, this can be ordered from Amazon. For this we have included original articles by Malcolm Baird on his famous father, British television pioneer-inventor, John Logie Baird, as well as restoration and technical articles, from John Staples, and scholar Don Godfrey's historical bios on CF Jenkins and Philo Farnsworth. All of our print content is designed, managed and edited by our talented and modest treasurer and board member Richard Watts

We have two archives, both in the CHRS library and on the Web. Our very important Society of Wireless Pioneers (SOWP) archive is managed and scanned for online by hard-working volunteer scholar Bob Rydzewski. See it at www.sowp.org . The SOWP follows the history of shipboard and shore station code operators, from Marconi in 1900 to WWI. We have hundreds of stories and photos of this important era, wireless. Call it "pre-radio." Our other important archive includes stories, photos, air checks and actual equipment from Bay Area radio stations. The collection is called The Bay Area Radio Museum and Hall of Fame, on the web at www.bayarearadio.org . Soon this collection will be on display in our museum.

We are also on the air and streaming using YouTube. That collection features almost 60 hours, covering restoration workshops, live historical presentations, archival video from past events like Radio Days, radio plays and the all-important interviews with the legends of Bay Area radio past. And we cover the world over on our licensed amateur radio station W6CF. Among the principle operators of our station are extra-licensed John Staples, W6BM, Bart Lee, K6VK and Denny Monticelli, AE6C. Our brand new shack is designed to excite and teach the hams of tomorrow.
Our main web serves several constituencies from our collector, restorer and hobbyist base to our sales, auction, and eBay store, to our schedule of live events and more. Find out more at: www.californiahistoricalradio.com .

Denny Monticelli showing CHRS' W6CF Ham Station to the Alameda Amateur Radio Club.

Yes, we are everywhere you are. Find us. Join us.

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CHRS Central Valley Chapter News

by Richard Lane

The CVC has been very active this last summer accepting two radio estates from the Central Valley, and from CVC member Roger Vinande's collection. The two estates came to CVC via our website which gets many contacts from the public seeking a variety of services. Everyone in the club has been instrumental in some way in possessing these items.

The CVC October 5 swap meet has just concluded and the public turnout was very good (photos below); we picked up four new members. However, seller turnout was lower than in the past possibly in part due to estate item offerings by CVC competing with sellers. As a result, CVC members have decided not to offer estate items at future events so as not to impact sellers. The swap meet overall was a success.

The chapter is preparing for the next big activity at the Model A swap meet at the Stanislaus County Fairgrounds in January 2020. For more information on club activities visit our website at: cvantiqueradio.com or our Facebook page at Central Valley Antique Radio.

Rich Lane announced that he will be stepping down as CVC Chairman at the end of the year in preparation for he and his wife Jackie's move to the Puget Sound area in 2020. Rich will continue to be a CHRS member and he has already joined the Puget Sound Antique Radio Association. Rich thanked the members for all of their hard work and support and that it was a privilege to be their leader.

Membership meetings are held on the 3rd Saturday every month in the CVC clubhouse at the corner of Bradbury and Commons just Southwest of Turlock. Start time is 1:30 PM in Winter and 10:30AM during the Summer, consult the website exact times.

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Radio Central Update

by Richard Watts

Original circa 1900 exterior front elevation of 2152 Central Ave.

Lots Going On At RC . . .

Radio Day was a success. The annual fundraising event included Dan Neely's Royal Society Jazz Orchestra; the live staged "The Blood Money Caper" radio play, radio and silent auctions, and much more.

Dancing to the Royal Society Jazz Orchestra.

The Swap Meet in August was well attended.

Building renovation projects are nearly behind us. Work continues to finish the floor and wall treatment in the Hall of Fame gallery and Broadcast Studio exhibit. The floor tiling in the receiving area downstairs is also nearing completion. Walter Hayden and Robert Swart have upgraded the roof drain system. Attention will focus next to the Main Gallery wall and floor treatment.

Exhibit areas are being configured. The W6CF Ham Station is operational. The Television Exhibit is nearly complete. Configuration has begun on the Broadcast Studio exhibit; the playback equipment will be made operational and used for electronic transcription. Once the floor is installed in the Hall of Fame gallery, Mike Adams will set up the gallery exhibits.

Jim Fink is one of many techs busy in the shop.

Broadcast Studio exhibit as viewed through the window from the Hall of Fame gallery.

Its coming together.

John Staples and Gilles Vrignaud configuring the TV Exhibit.

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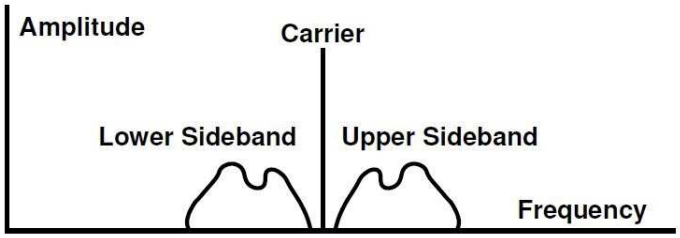
My (almost) 60-Year-Old Homebrew SSB Exciter

By John Staples, W6BM

Amplitude Modulation (AM) ruled the airwaves up to the 1950s, when an old, but seldom used protocol, Single-Sideband (SSB), appeared on the airwaves. It has now almost completely taken over the ham radio bands, as it is a more efficient and effective mode of voice communication.

What is it and how does it work? Amplitude modulation (AM) provides an easy way to impress audio onto an RF carrier, and is easy to demodulate, even with a crystal set. The amplitude of the RF carrier follows and is controlled by the audio waveform. The modulation process produces a pair of sidebands, mirror images on each side of the carrier, and the frequency difference of any frequency found in each sideband to the carrier is the frequency of the audio modulating waveform.



The amplitude modulated signal has a carrier to determine the frequency of the transmission and two side bands each having a copy of the message.

The two sidebands, the lower and the upper sideband, each carry the same information. When there is no audio signal, the sidebands vanish. The carrier amplitude is constant, and when the sidebands are present, they beat with the carrier so the envelope of the signal reproduces the audio waveform.

The carrier amplitude does not change with modulation. It is a constant and carries no information other than its frequency, the frequency you tune your radio to. But it consumes most of the power required to transmit an AM signal. If the carrier were eliminated and only the sidebands remained, a very low-power carrier could be inserted at the receiver to accurately reproduce the modulated audio.

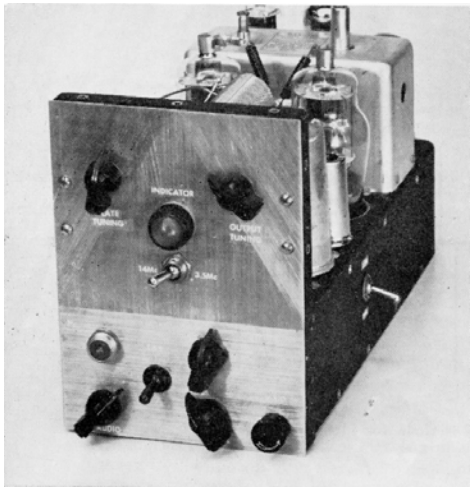
Furthermore, since each sideband contains the same information, only one sideband can carry all the modulation information as well, and that is the basis of SSB communication. This results in significant power savings at the transmitter, as well as reducing the bandwidth of the transmitted signal, and the bandwidth of the receiver can also be reduced to only width of one sideband, reducing noise pickup, resulting in about a 9 dB signal-to-noise improvement over AM communications.

As mentioned, SSB is not a new invention: it was used in 1915 by the Navy for communications on the very-low-frequency bands, as the antenna itself could be tuned to pass only one sideband. Western Electric used SSB for wire transmission, as several audio sources could be frequency-stacked and transmitted on phone lines.

The first significant tests of SSB on the air were carried out in 1956 in the military by SAC commander Curtis LeMay with the help of manufacturer Art Collins as they successfully tested air-to-air SSB communications using the new 75A4 and KWS-1. The 1950s saw a sudden increase in the ham radio community to test out this new version of communications.

Above is the Collins 75A4 receiver. Below is the Collins KWS-1 transmitter.

Central Electronics 20a exciter.



Cheap and easy SSB converson.

SSB pioneer manufacturer Central Electronics introduced the CE 10A, 10B and, later, the 20A SSB exciters. Exciters are low-power transmitters that are usually followed by linear amplifiers. W2EWL wrote a landmark article in March 1956 QST, "Cheap and Easy S.S.B.", a conversion article for the ARC-5 military surplus transmitter. The SSB revolution was under way.

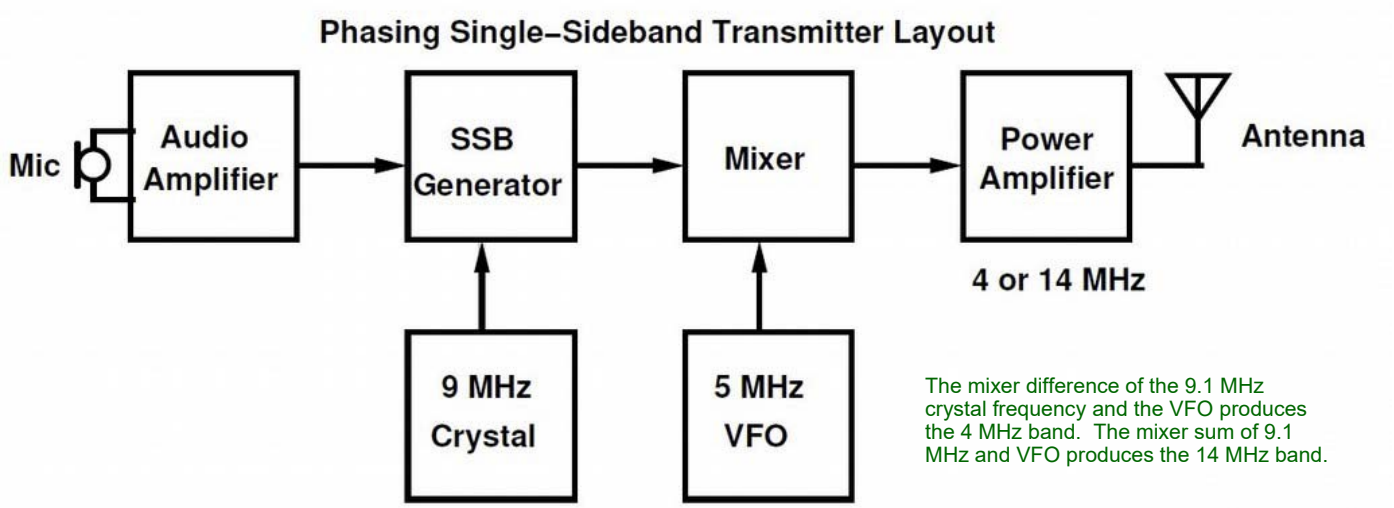
There are three ways of generating the SSB signal: the filter method used by Collins, the phasing method used by most home-builders, and the so-called "third method", the Weaver method, almost unknown and seldom used.

The filter method seems simple, but relies on (for me) an expensive or complex filter to select one sideband from the double sideband and carrier. The phasing method is a little more complex in theory, but easier to implement. If you remember your high school algebra and trigonometry, I expand on it in Appendix A.

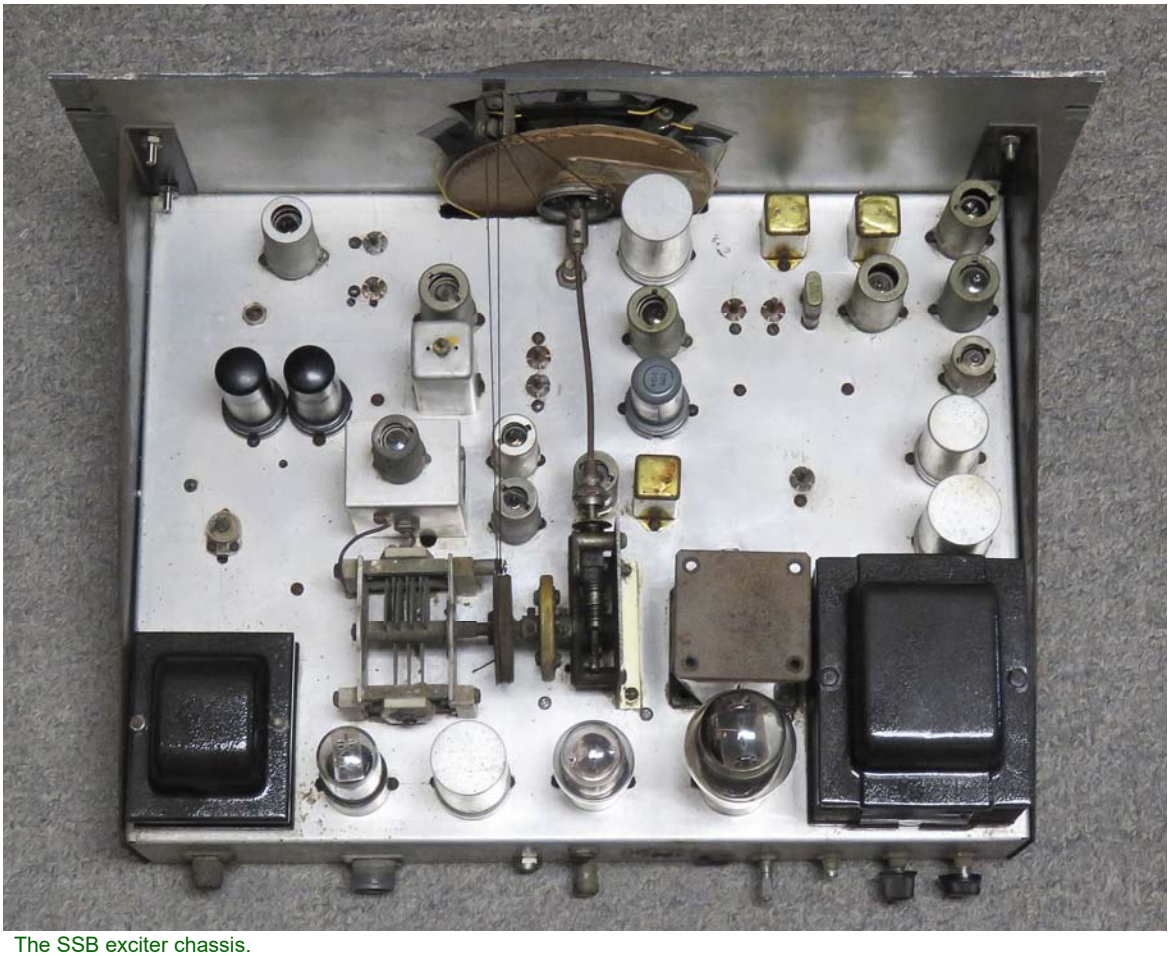
It was then I decided to build my own SSB exciter, based in part on the CE 20A. This was around 1959-1960.

My exciter is built on a 7 inch relay-rack panel and chassis including a VFO and covers the 75 and 20 meter phone bands. The dial escutcheon is from an Army/Air Force WWII BC-348.

The author's homebrew SSB exciter.



The exciter generates the SSB signal at a fixed frequency, 9.1 MHz, and then mixes it with a VFO that tunes from 5.1 to 5.3 MHz, covering the 3.8 – 4.0 and 14.2 – 14.4 MHz ham bands. These two bands were the most popular at the time for nighttime and daytime communications. Generating the SSB signal at a fixed frequency simplifies its design so its adjustment does not depend on the transmitting frequency.



The SSB exciter chassis.

The audio chain and sideband generator are at the upper right part of the figure. The VFO is center left, and the mixer, driver and the parallel 6AG7 output stages are at the left. The peak envelope output power is 14 watts.

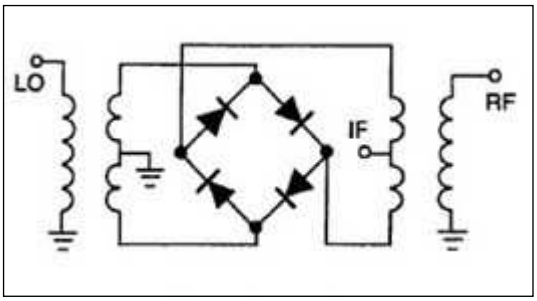
The SSB exciter tuning dial.

The dial is calibrated every 10 kHz and is driven by a dial drum from the VFO tuning capacitor. Voice-operated (VOX) switching and a tune-up mode are included.

The tune-up mode allows the frequency to be heard in the receiver so it is on the required transmit frequency.

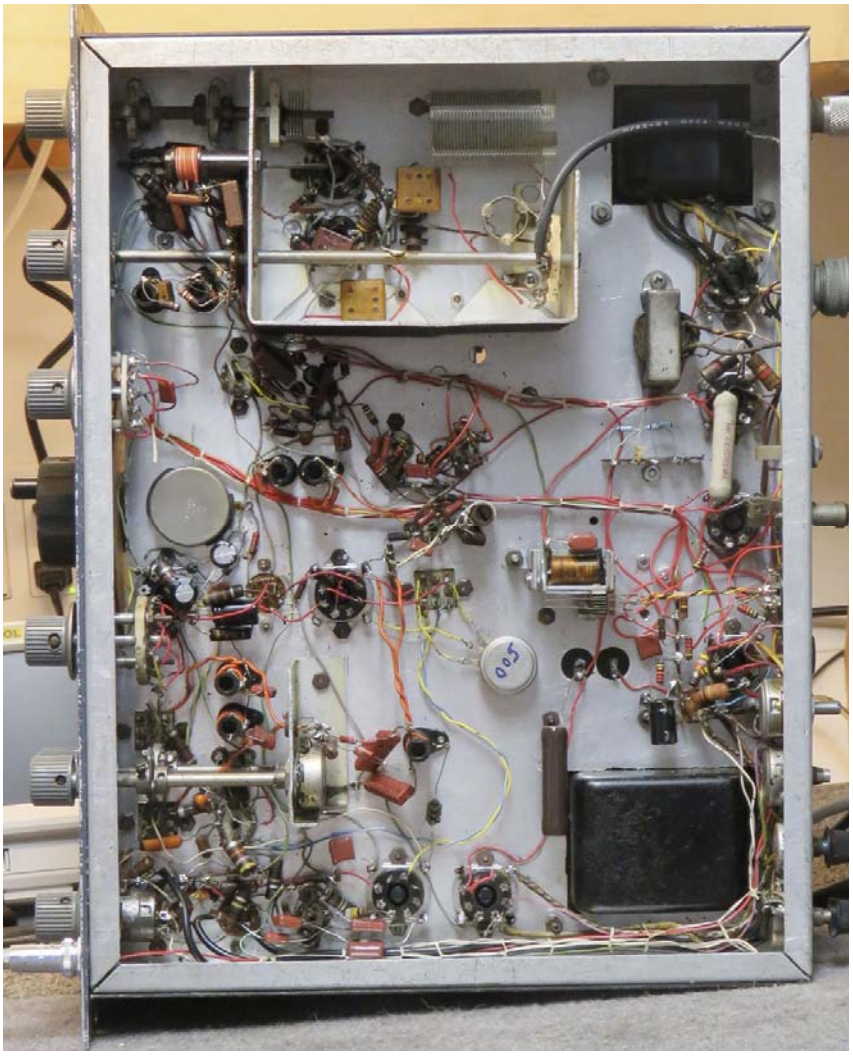
The single-side band signal is generated with two double-balanced modulators (DBMs).

A DBM produces a double-sideband signal without the carrier. The audio (IF in the diagram) and carrier signal (LO) are combined in a diode bridge that is balanced to null out the carrier. The quality of this balance determines the amount of carrier suppression on the signal.



Double Balanced Modulator that produces double sideband signal.

DBMs are used in both filter and phasing exciters, generating the sidebands but not the carrier. With the phasing method, two DBMs are used with two sources of audio and RF, each with a 90 degree phase shift between the two audio and two RF sources, which then are combined to produce the SSB signal.


Under side of the chassis after the replacement of capacitors.

Under the chassis, the sideband generator is seen near the bottom, and the 14 watt output amplifier at the top.

I built this almost 60 years ago, and all it needed was a clean-up and a recapping. Many of the original plug-in electrolytics were good but all the small paper capacitors needed replacement.

After clean-up, the exciter fired up immediately, but the quality of the signal was poor. The sideband suppression was not good and could not be improved with adjustment.

As mentioned, to generate the SSB signal, two RF and two audio sources are required, each with a 90 degree phase shift between them. This is easy to do with RF, particularly if the RF is generated at a fixed frequency, 9.1 MHz in this case.

Generating two audio signal 90 degrees out of phase with each other is another matter. This requires an elaborate all-pass phase shift network in the two audio channels, each producing a large phase shift, but providing a constant 90 degree phase shift between the two audio channels.

The phase shift network I used, and just about everyone else then used, was a plug-in commercial passive network made by

Barker & Williamson, the model 2Q4. Upon examination, and with subsequent circuit simulations, the network performance was very poor producing insufficient suppression of the unwanted sideband.

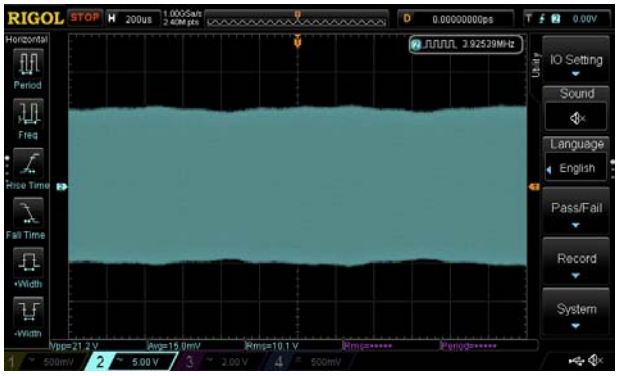
Appendix B describes my solution to the 2Q4 problem and the subsequent very good performance of the exciter, far better than when new.

An interesting and valuable feature of a phasing exciter is its ability to produce not only a SSB signal, but also a double-sideband signal, a high-quality AM signal, phase modulation, and AM that does not produce out-of-band "splatter" frequencies when overmodulated.

A single audio frequency fed to a SSB generator will produce only one output RF frequency, whose value is the sum (or difference for lower sideband) of the suppressed carrier frequency and the single audio frequency. In essence, the upper sideband frequency is just the audio frequency numerically added to the carrier frequency. This is what makes it useful for wire communications, as several audio channels can be assigned their own frequency offset and separation, carried by wire, and demodulated into their respective channels at the receiving end.

I carried out a series of test with a 1 kHz audio frequency for various configurations of the exciter. Each DBM has its own carrier nulling control, which can be also be adjusted to re-introduce a carrier. The phase of one of the audio channels can be reversed, which is how which sideband is chosen, or one audio channel nulled, which will then produce a double sideband signal.

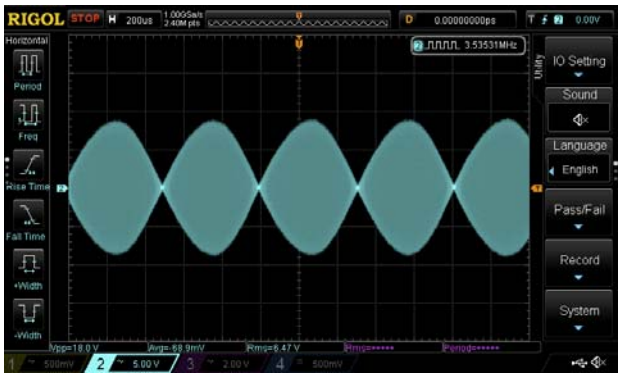
The first plot shows the RF envelope with the exciter in the upper sideband mode, a 1 kHz audio signal. This results in an almost pure carrier 1 kHz above the (nulled) carrier frequency of 3.9 MHz. The slight ripple shows that the suppressed carrier and lower sideband are all below 30 dB, an acceptable value.



RF envelope in upper side band mode.

Two DBMs with properly phased inputs are required to produce a SSB signal, each produces the upper sideband in equal phase, and the lower sideband 180 degrees out of phase with each other, so the sum is just the upper sideband with the lower sideband cancelling out. Appendix C expands on this.

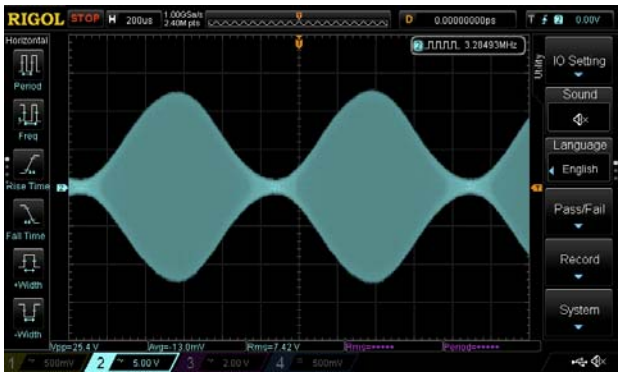
If the audio to one of the DMBs is eliminated, then a double-sideband suppressed-carrier (DSSC) signal is produced.



Double sideband signal, audio to only one DSB

If received in an AM receiver, the output will be highly distorted, but the insertion of a carrier at the receiver in phase with the original suppressed carrier will remove the distortion and the signal will be demodulated as a conventional AM signal. Some early ham transmitters had the ability to generate a DSSC signal as it requires simple circuitry and offers the power-savings over an AM transmitter.

If a DSSC signal is generated and the DBM diode bridge is unbalanced, a high-quality AM signal is produced. This signal can then amplified with a linear amplifier to high power, but without the power-savings as the carrier will always be present. The amplifier must be able to provide a peak power four times the carrier power during modulation, as the peak carrier voltage is twice the unmodulated carrier voltage, and power goes as the square of the carrier amplitude.

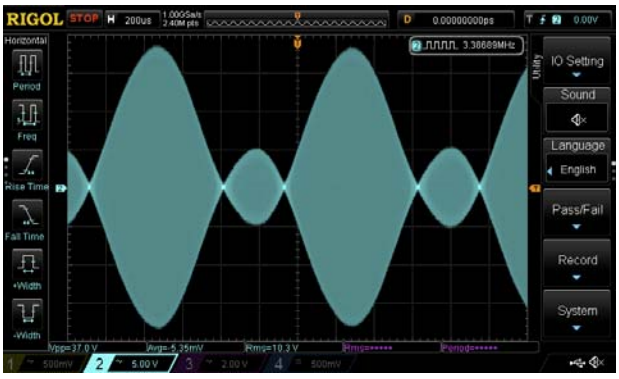


AM signal, one DBM unbalanced, audio to one DBM.

One advantage of generating an AM signal this way is that overmodulation does not cause "splatter", or generation of frequencies outside the spectrum of a properly-modulated AM signal.

A conventional AM modulator will "flat-bottom" the signal, or produce a sharp signal cut-off on the negative-going part of the audio signal. This sharp carrier cut-off is what produces out-of-band signals.

Overmodulating the DBM in the AM-generating configuration continues to produce a signal without the sharp cutoff, sparing adjacent signals from splatter. The signal will be slightly distorted in an envelope-detection receiver, but if received with a receiver using a synchronous detector, where a locally-generated carrier is locked to the incoming signal, no distortion will result.



Overmodulated AM signal from unbalanced DBM.

Most early broadcast transmitters incorporated a low-level amplitude-modulated stage, followed by a cascade of linear amplifiers. This, because high-level modulation and modulation transformers were only in the development stages. These early broadcast transmitters were not very efficient.

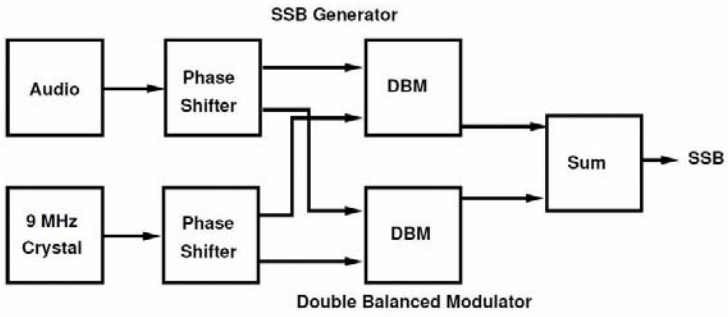
Aftermath: I was one of the sideband "pioneers" in the very late 1950s and early 1960s where AM still reigned king, but later, I reverted back to AM after almost all others had converted to the much more efficient method, I using converted broadcast transmitters, a Collins 20-K and an RCA BTA1R on the AM frequencies in the 160 and 75 meter phone band.

Appendix A — Block diagram of hardware needed to produce a single-sideband signal

Historically, the first method, the filter method, is the easiest to understand. If a double-sideband suppressed-carrier is generated at a very low frequency, then a modest filter can remove one sideband. This was used by RCA in their overseas voice communication systems which operated below 100 kHz.

A DSSC signal can be generated with a DBM diode bridge. The two sidebands have a particular phase relationship with each other, and the frequency components in each sideband are mirror images of each other, symmetric around the suppressed carrier.

When two DBMs are provided with two audio signals that have a 90 degree phase shift with respect to each other, and two RF signal that also have a 90 degree phase shift, combining the outputs will allow one sideband to add, and the other sideband to cancel. Reversing either the RF phase or the audio phase will allow the other sideband to be generated.



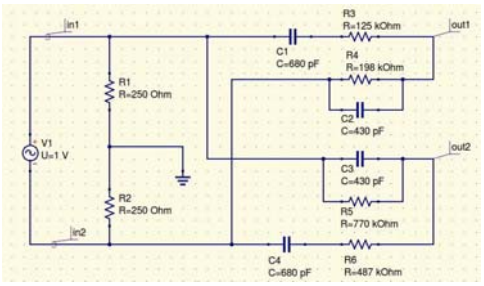
SSB Generator block diagram.

AM and phase-modulated (PM) signals can be generated by passing audio to just one DMB, and then re-inserting carrier from one of the other DMBs.

The sidebands have a special phase relationship to the (suppressed) carrier. If a DSSC signal is generated in one DBM with the audio to the other DBM removed, and one of the DBMs is unbalanced to produce a carrier signal, an AM signal is produced, as the phase relationship between the carrier and the sidebands will modulate the resulting signal amplitude. However, if the other DBM is unbalanced, its carrier is now 90 degrees with the sidebands produced in the first DBM, and an approximate phase modulated signal is produced. This is the method that H. Armstrong used in his FM transmission experiments and in many subsequent FM transmitters. This allows a crystal oscillator to be the frequency reference, rather than a free-running frequency-modulated oscillator whose precise frequency must be controlled by some other means.

Appendix B — The 90-degree audio phase shift network

The poor sideband suppression was the result of an inadequate design of the B&W 2Q4 phase shift network, used in many commercial units, including "sideband slicer" receivers. Its purpose is to provide two audio signals that differ by 90 degrees in phase with each other and with constant amplitude.

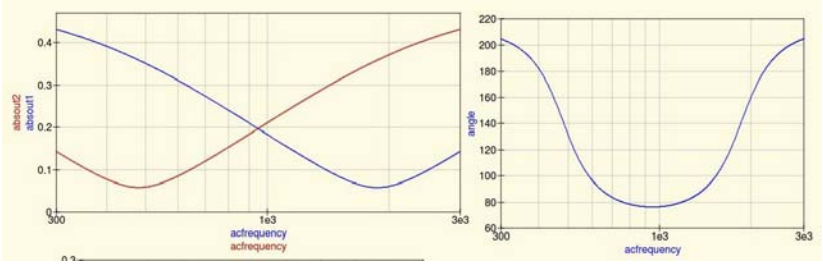


B&W 2Q4 phase shift network.

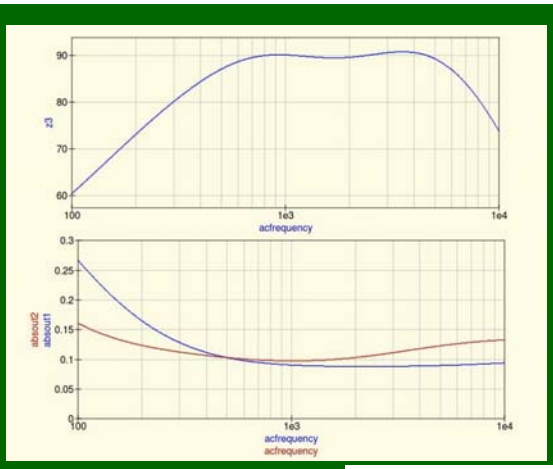
The filter was simulated with the open-source **qucs** software, with the resulting amplitude and phase values shown in the left- and right-hand plots.

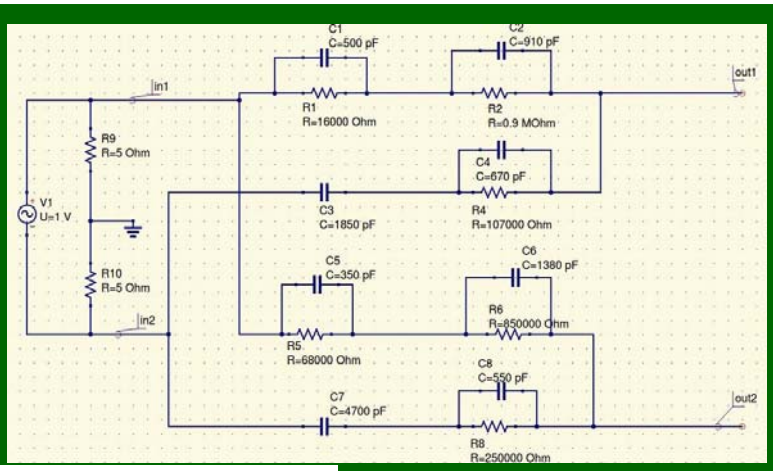
The amplitudes were equal at only 950 Hz, and diverged widely at other frequencies. The phase shift difference was 80 degrees at 950 Hz, increasing dramatically at other frequencies.

I analyzed the superior audio phase shift network used in the CE 200V, known to have very good audio, and developed a network based on that. Here, the 90 degree phase shift is maintained within 5 degrees from 400 Hz to 6 kHz, and the amplitudes in each output channel are much better matched.



Filter simulation of 2Q4 network.



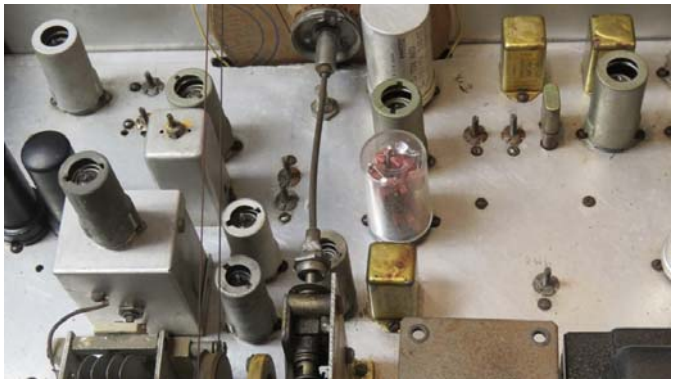


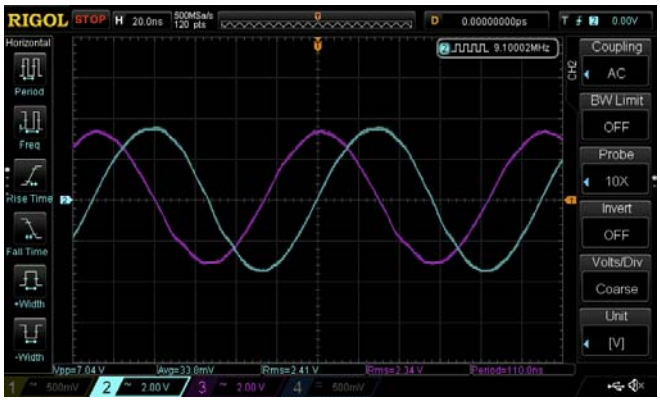
Author's filter design and simulation of performance.

This resulted in a much better sideband suppression and better audio quality that I had with the original 2Q4 audio phase shift network.

A new phase shift network was fabricated on an octal base, pin-compatible with the original 2Q4 network and enclosed in a clear plastic housing. The figure below shows the new network replacing the original 2Q4 network.

Author's filter (left).
The B&W 2Q4 (right).


Author's filter installed in chassis.



The two scope traces above show the 90 degree phase relationship is preserved between the two 9.1 MHz RF sources and the two 1 kHz audio sources, left to right.

Appendix C — Analysis of the SSB signal generation

Here are the trigonometric equations that define the generation of the SSB signal.

First, two trig identities: the rule for the product of two sine or cosine functions:

$$2 \sin(A) \sin(B) = \cos(A-B) - \cos(A+B)$$
$$2 \cos(A)\cos(B) = \cos(A+B) + \cos(A-B)$$

Then: the carrier frequency is ω_c and the modulation (audio) frequency is ω_m, where the frequencies are given in radians per second: $\omega_c = 2\pi f_c$, $\omega_m = 2\pi f_m$.

Generation of the SSB signal requires two RF and two audio frequencies, where the carrier can be represented by the in-phase signal by sin ($\omega_c t$) and the quadrature (90 degree phase shifted) carrier by cos ($\omega_c t$), similarly for the audio frequencies, where t represents time.

The signal from a double-balanced modulator is the product of the carrier and the modulating frequency: sin ($\omega_c t$) sin ($\omega_m t$).

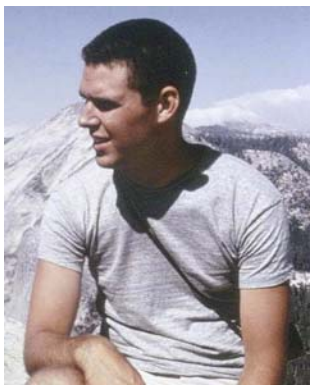
For lower sideband generation, the signals from two DBMs are added together, with the signals to the second DBM shifted by 90 degrees.

$$\sin(\omega_c t) \sin(\omega_m t) + \cos(\omega_c t) \cos(\omega_m t)$$
$$= 1/2\,[\cos((\omega_c-\omega_m)t) - \cos((\omega_c+\omega_m)t) + \cos((\omega_c+\omega_m)t) + \cos((\omega_c-\omega_m)t)]$$
$$= \cos((\omega_c-\omega_m)t)$$

as two of the terms cancel, the other two add. The frequency ($\omega_c - \omega_m$) is the angular frequency of the lower sideband. A similar treatment with the phase of the audio phase reversed to one of the DBMs by multiplying it by -1 results in the upper sideband ($\omega_c + \omega_m$) being produced.

The Author

John Staples, W6BM, relaxing on top of Half Dome not much later than the creation of the SSB exciter. He loves hiking, caving and is a motorcycle nut. He received his Amateur Extra and First-Class Phone commercial licenses in 1958, shortly before the SSB project.



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A Radio Odyssey (Part 4) — The Radio Station SAQ in Sweden

By Bart Lee, K6VK

Bart Lee recently traveled to Europe and visited communications-related museums. The first three visits were chronicled in prior issues. The last visit will be presented in this article.

The Editor

Sweden's Radio Station SAQ at Grimeton still operates sending Morse code on long waves (17.2 kHz) as it did almost a century ago. Swedish engineer Ernst Alexanderson (Fig. 1) figured out how to generate radio frequencies at high power mechanically with a large rotating wheel in 1904. Canadian Reginald Fessenden asked General Electric to devise a radio frequency generator. Charles Proteus Steinmetz conceptualized it, and Alexanderson did it with his Alternator. This system grew, under RCA, to worldwide circuits, each with at least one 200-kilowatt Alexanderson Alternator. Then short wave radio came on the scene so quickly that RCA dropped the worldwide Alternators project in about 1926 with only a few circuits completed.

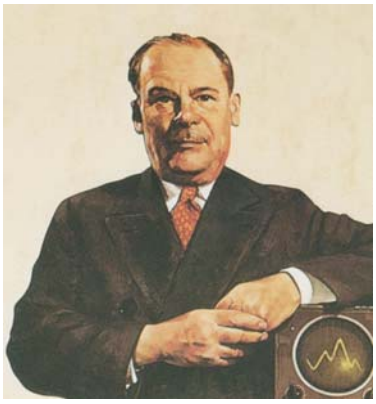

Fig. 1: Ernst Alexanderson.

Today, UNESCO World Heritage status protects SAQ[1] (see Fig. 2). Enthusiasts worldwide seek to copy its occasional Morse code transmissions. Paul Shinn of CHRS has done so. Volunteer engineers and radiomen staff the station. Mrs. Camilla Lugnet acts as Managing Director of the Grimeton UNESCO World Heritage Foundation (Fig. 3). This Foundation preserves, operates and interprets station SAQ. All of the antenna field as well as the station buildings remain and are maintained (largely by the Swedish government, whose Navy uses the antenna), as is the alternator itself. SAQ's six towers reach to 120 meters high (Fig. 4), each carrying six cables the length of the field, as a capacity hat. A large groundscreen sits under the towers. The towers radiate, not the cables above, although the whole system may radiate as a giant capacitor. Alexanderson contributed not just the alternator technology, but also the insight that tuned and very low resistance grounding of each tower in effect multiplied the radiation out of the system. At 17.2 kHz the wavelength is about 17,400 meters. The whole system runs from the control

Fig. 2: Grimeton Radio Station is a UNESCO World Heritage site.

Fig. 3: Managing Director Camilla Lunet with Bart Lee.

Fig. 4: SAQ tower.

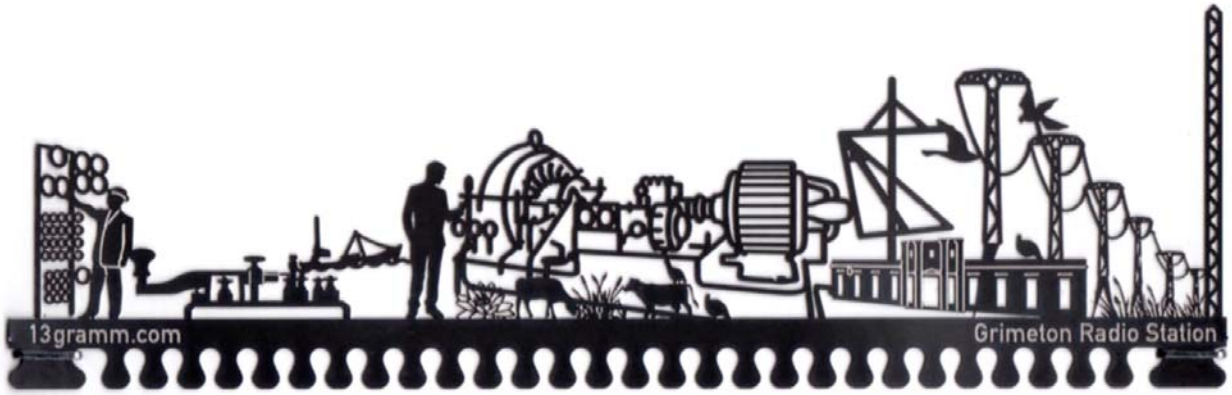

Fig. 5: Graphic showing the operational flow of the Alexanderson Alternator as described in the text.

panels to the key to the alternator to keyer to the antenna tuner to the towers (see promotional silhouette, Fig. 5).

The alternator shines (and whines) as the enormous Crown Jewel of the museum on this antique technology, as impressive as the towers are. The alternator exemplifies the massive electro-mechanical technology of the turn of the last century (Fig. 6), at eight feet high and with its motor, a good 30 feet long. The output circuits to the antenna (Fig. 7) are about 15 feet wide and 12 feet high. Four thick cables (Fig 8 shows one) take the electrical signals from the alternator to the tuner and the magnetic amplifier that keys the signal. A large variometer at the left side of the tuner adjusts the output impedance to the antenna for the operating frequency.[2]

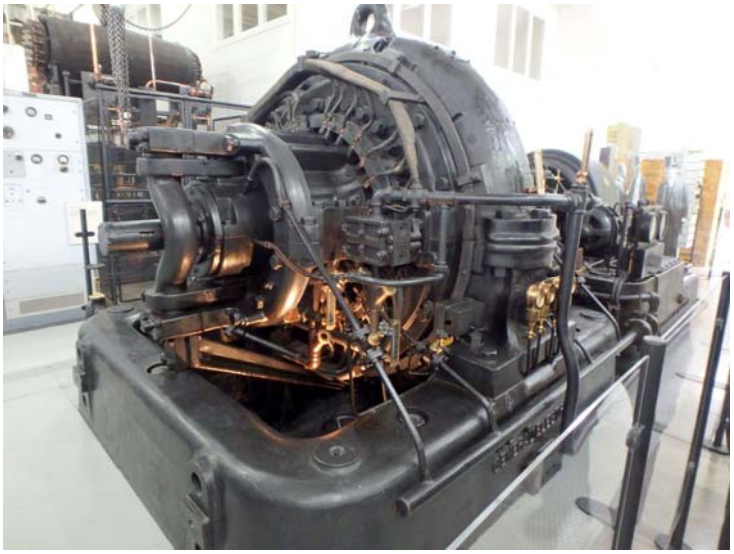

Fig. 6: The Alexanderson Alternator.

Fig. 7: Output circuits to the antenna.

Fig. 8: Thick cables connect the alternator to the tuner.

Fig. 9: Ola Hernvall, engineer and guide.

Fig. 10: Demonstrations were offered.

Fig. 11: Tour of the SAQ facility.

The Grimeton Friendship Group, of which Jan Steinback is President, provides the engineers and operators who manage SAQ on the technical side. Bengt Svensson, SMØUGV, AWA, is a principal of this Group and he facilitated the visit leading to this note. Six or so of the Group's engineers can run the system. Engineer and Guide Ola Hernvall (Figs. 9 & 10) speaks fluent English. The staff wears blue Grimeton shirts (Fig. 11). The machinery, the explanations and the cascading soundscape of the operation entrance visitors (in Fig 11, note the hearing protectors also serving a radio receivers for the guide's talk). SAQ's transmission displays on a large video screen (Fig. 12).

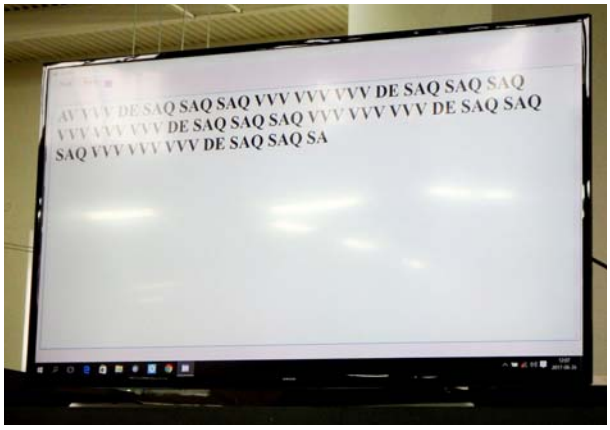

Fig. 12: SAQ transmissions displayed on a large video screen.

A visit to SAQ starts in the interpretive hall, a separate purpose-built visitors' center. It features a world map (Fig 13) of the alternator system of the early 1920s, focused on RCA's Radio Central in New York and including SAQ and Bolinas High Power, KET, in California. The center offers a cafeteria (Fig. 14). A small shop sells books, videos, a wide variety of graphics and various toys and souvenirs (Fig. 15). Signage and interpretive information appears in English, Swedish and in some cases German.[3]

A smaller building next to the center houses the museum amateur radio station SK6SAQ (Fig. 16). A huge log periodic antenna (Fig. 17) gives the ham station, via shortwave radio, the worldwide reach the RCA alternator system sought on longwave.

Fig. 13: SAQ interpretive hall.

Fig. 14: Center offers a cafeteria.

Fig. 15: SAQ souvenir store.

Fig. 16: Entrance to amateur station.

Fig. 18: Main SAQ facility.


Fig. 17: SK6SAQ huge log periodic antenna.

The main building (Fig. 18) houses not only the alternator and related power equipment, but also the museum library (Figs. 19 & 20). Kjell Markstrom, in the middle of the library photo Fig. 20, saved the station as its last managing engineer.

Bengt Svensson, elucidating this history for this note; writes:

> "Kjell Markstrom was managing engineer at Televerket [Swedish Government] Radio, for the Gothenburg section. He was responsible for all radio installations on the west coast. In those days every installation belonged to the government, *i.e.*, Televerket. Then all Televerket Radio sections in Sweden were taken over by the company Teracom, which worked with private companies for community radio and to establish medium and short wave broadcasting stations. Teracom ordered Televerket Radio to take down the antenna system at Grimeton, to avoid expensive future maintenance. At this time the Swedish navy was not interested in using the antenna system, as they have a modern installation at another place, suitable for the Baltic Sea. The North Sea was not then in focus."

"Kjell delayed the dismantling for several years. At the same time a delegation worked hard to get Grimeton on the World Heritage list. That happened in China in 2004. Kjell was a member of the delegation. Thus the complete


Fig. 19: Director hosts refreshments in Library.

Fig. 20: Kjell Markstrom (center) saved SAQ as its last managing engineer.

working SAQ station was saved for future generations. About ten years ago, the Swedish navy wanted to share the antenna system for North Sea coverage. So all antenna masts were maintained including painting, which is very expensive."

Jan Steinback of the Grimeton Friendship Group chairs the Board of Directors; in the visitors' group photo (Fig. 21) he stands at the left, then UNESCO Director Camilla Lugnet, then Swedish radio collectors and AWA members Bengt Svensson and Anders Widell, and then at right, an ambassador from the California Historical Radio Society (your author). Bengt Svensson and Anders Widell, both AWA members, made the visit possible; they appear in the midst of their collections in Figs. 22 & 23.

Fig. 20: Bart Lee with Jan Steinback, Board of Directors chair and others.

Fig. 22: Bengt Svensson.

Fig. 23: Anders Widell.

Notes:

1. See www.grimeton.org .
2. Ola Hernvall has written a superb TECHNICAL MANUAL for SAQ, which is bound with an INTERPRETIVE MANUAL, in a publication in English by the World Heritage Grimeton Radio Station. The mailing address is Radiostationen Grimeton 72, SE-432 98 Grimeton, Sweden. E-mail is info@grimeton.org. The nearby coastal city of Varberg offers excellent hotels.
3. For example, an excellent tri-lingual history brochure, GRIMETON RADIO SAQ by Carl-Henrik Walde.

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Lou Dolgin's Radio Guild

By John Okolowicz

Fig.1: Country Belle model 556.
Source: Steve Adams - RadioAttic.com

I'll bet there are not many of you who haven't seen one of Guild's radios. By Guild I mean the Guild Radio & Television Co. of Inglewood, CA. Their Country Belle antique wallphone-styled radio, alone, (Figure 1) has appeared consistently on Ebay's web site since it began – a tribute to a clever design that rekindled memories of a lost bygone era. Although, when this radio was first introduced there were many homes in America's heartland that were still using those phones.

Guild Radio & TV was formed around 1952 by a young enterprising former prop man from Warner Brothers' studio by the name of Lou Dolgin with the help of his two Warner Brothers' buddies Jack Ackerman and Herbert Fremont.

For this article I was fortunate to make contact with Lou's son, Gary, who very generously helped me shed light on Lou's life story and the history of the Guild Company.

To begin, lets review Guild's wide range of novelty radio products. Figure 2 shows a December 1963 ad from the Fresno Bee newspaper placed by a furniture store advertising seven of Guild products:

1) Roll-top desk styled cabinet with a stereophonic AM/FM radio-phono console. The description reads:

   "Here is beauty and greatness, in breathtaking stereophonic dimensional effect and realism . . . added HF stages for extreme sensitivity and selectivity. The Guild New Englander embodies an entirely new and advanced 3 channel audio amplifier and an electronic crossover system . . . 84 watts (combined peak) of undistorted audio power!

   Here is an instrument that flawlessly recreates with unsurpassed quality, all the color and tonal qualities of the original performance in 'dramatic' stereophonic sound."

2) Town Crier — An 8-tube radio in the shape of an old fashioned lantern.
3) Buccaneer Chest — An 8-tube radio in the shape of a stereotyped pirate's chest.
4) County Belle — radio in the shape of an old wall hanging telephone.
5) Teakettle Portable — This teakettle style was also sold with a replica trivet.
6) Spice Chest style radio with shutter doors.
7) Grafonola AM-FM radio-phono combination.

Fig.2: Fresno Bee 1963 ad for Guild radio products.

Jack Ackerman (1917-2007), Guild's Production Manager, created a design patent for the spice chest radio shown in Figures 3 and 4. Note that the patent shows Jackie Ackerman as the inventor, leading one to assume that a woman designed it. However, Jack's middle initial is "E," so this provides an interesting twist to the radio's birth. Gary postulated that Jack's wife, Ollie (Olive Annette Ackerman, 1922-2002), may have inspired the product design and was indirectly "rewarded" with the deliberate, but misleading, attribution "Jackie Ackerman."

The teakettle and Country Belle wall phone designs were both patented by Robert E. Bowers as shown in Figures 5, 6 and 7. I asked Gary if he knew anything about Mr. Bowers and the R-E-B Company, the patent's assignee. He did not and this still remains a mystery.


Sept. 22, 1953 J. ACKERMAN Des. 170,439
RADIO CABINET OR SIMILAR ARTICLE
Filed April 13, 1953
Fig. 1.
Fig. 2.
JACKIE ACKERMAN, INVENTOR.
BY John Flam
ATTORNEY.

Fig.4: Patent for the Guild Spice Cabinet.

Fig.3: Guild Spice Cabinet.
Source: CHRS collection

Fig.5: Guild Tea Kettle.
Source: Steve Adams - RadioAttic.com

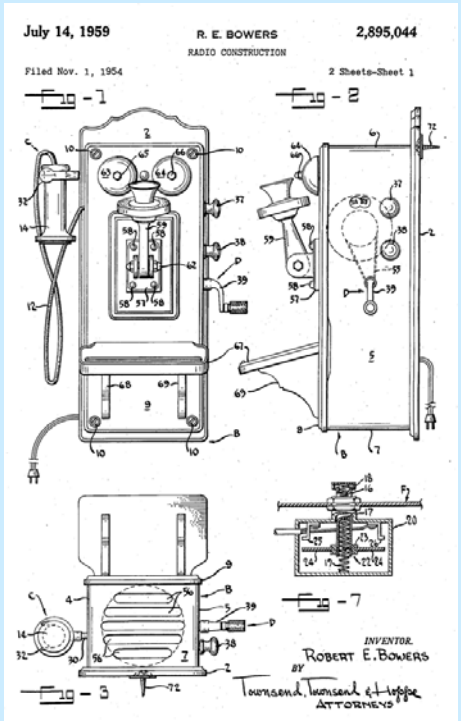

July 14, 1959 R. E. BOWERS 2,895,044
RADIO CONSTRUCTION
Filed Nov. 1, 1954 2 Sheets-Sheet 1
INVENTOR. ROBERT E. BOWERS
BY Townsend, Townsend & Hoppe ATTORNEYS

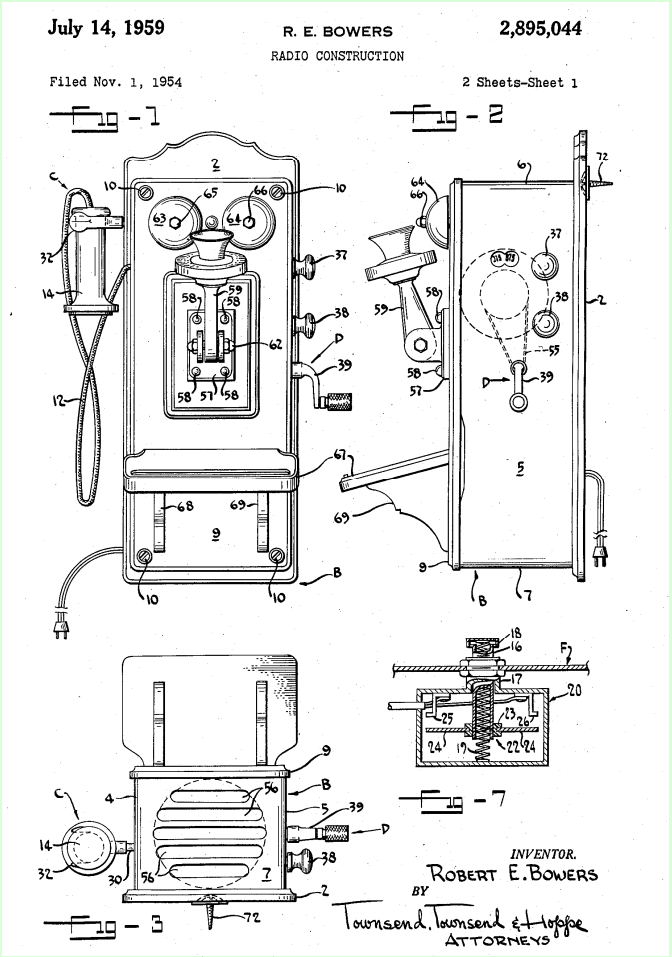
Fig.6: Patent for a similar Tea Kettle radio.

The Country Belle may have been the best selling of Guild's products and the most well known. It lasted through three model number iterations and it matured from a 5 tube radio (model 556) to a 6 tube radio (model 665) and finally to a transistorized AM/FM radio (model 6407). The technical evolution from tube to transistor also affected Guild's other early models.

The Country Belle's success did not go unnoticed; it has been said that plagiarism is the sincerest form of flattery. A little known company in Yonkers, NY by the name of Master's Art Inc., made a cheaper looking clone, the model RT400 (figure 8). This may be the only product they ever made. The RT400 used the same 5 tube complement as the first model 556 Country Belle i.e. 12BE6, 12AV6, 12BA6, 50C5, and 35W4 tubes. Most (or perhaps all) of the RT400's components were made in Japan.

The Guild Company made many other radio cabinet versions and Radiomuseum.org may be the only place where

Fig.8: Master's Art, Inc clone of the Country Belle.
Source: Steve Adams - RadioAttic.com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RADIO CONSTRUCTION
Filed Nov. 1, 1954 2 Sheets-Sheet 1
INVENTOR. ROBERT E. BOWERS
BY Townsend, Townsend & Hoppe ATTORNEYS

Fig.7: Patent for a similar radio to the Country Belle.

Fig.9: Guild Old Timer clock and radio. Source: Al Guy

one can find the most complete listing of them, some of which are quite obscure and, consequently, hard to find. For example, Guild also manufactured television sets but none are accounted for on radiomuseum.org's web site.

Some other products Guild made were the model 785 Grafonola (an old-time reproduction record player with horn speaker), a Hurdy Gurdy (model 171), the Old Timer (a colonial style wall clock) (Figure 9), Buttons & Bows (model 6509, a replica sewing box), Conquistador (model 6711 carved chest), and El Tessoro (model 6931, a larger chest shaped radio) (Figure 10), and the Buccaneer pirate chest (Figure 11).

The Bonnet Box (model 818) had a cabinet in the shape of a set of dresser drawers that enclosed an AM-FM radio-phono combination. Guild's description said, "Exclusive 4 speaker 'Tetraflex' acoustical system. . . full 25 watts undistorted power. . . Duo-ray indicator eye."

Fig.10: Guild Conquistador.
Source: Steve Adams - RadioAttic.com

Fig.11: Guild Buccaneer pirate chest.
Steve Adams - RadioAttic.com

As manufacturers are known to do, Guild invented new terminology to give potential consumers the impression that Guild's products had access to some exclusive technical expertise. Terms like "Tetraflex," "Duo-Ray," and "Guildtenna" (this was their self-coined name for their ferrite antenna) are just some examples used in advertisements and brochures.

Fig.12: Guild Stereodon.
Source: Steve Adams - RadioAttic.com

The Stereodeon (Figure 12) may have been their most exotic product. It was a console radio-phono combination in the shape of a player piano. The size and cost of this may have limited the sales of this item and I imagine that only a very few have survived.

I may have run across one of Guild's unique "ghost radios" in a thrift store about 4 or 5 years ago. It was built into a fireplace mantel, something I had never seen before. Desperately wanting to document it for posterity, I made plans to take some photos the next day. Unfortunately, it was sold just that fast and it remains a mystery to this day.

For anyone collecting these radios who wants to do any kind of restoration, the published literature is limited because only a few of their models appear in Howard Sam's photofacts, namely, the Country Belle, Grafonola, and Bonnet Box.

Lou Dolgin, the founder of Guild Radio, was born in Hartford, CT on November 1, 1911 to Harry and Ruth Dolgin, both of whom were immigrants: Harry was originally from the area around Kiev, Ukraine (at that time a part of Czarist Russia) and Ruth was originally from Poland. Harry arrived in the USA by way of Ellis Island in 1909.

While Harry worked with his hands eking out a living as a carpenter, Lou also was very creative and resourceful. Lou developed a love for old cars by spending a lot of his free time at local garages learning how to maintain, and in some cases, supercharge the engine for added performance.

Tinkering with automobiles led Lou to develop a life-long love affair with Jaguars; he eventually became a lifetime member of the Jaguar's Owners Club.

Lou enjoyed driving, especially with the top down, and often took long trips across the country getting deeply sunburned while taking pictures on his excursions. Photographing the world around him was Lou's other favorite hobby, and something that Gary fondly remembers learning from his dad.

Lou's older brother, Sol (born 1908, deceased 1991), moved to the west coast to work for Warner Brothers as the Director of Exploitation Marketing (I believe this is a fancy term for marketing) in the late 1930s. After some convincing Lou agreed to join him a few years later as a prop man.

Gary still can remember some of the stories Lou would tell about the movie stars of yesterday and their idiosyncrasies. One of them involved the bigger-than-life, swashbuckling ladies man, Errol Flynn.

During filming of *The Adventures of Robin Hood* (1938) when he was to have a battle with Friar Tuck while standing on a log in the middle of a creek, Flynn was petrified that the water would be too cold and he was adamant that he would not film that scene. So, legions of Warner Brothers extras (Lou included) were enlisted to form a bucket brigade to constantly pour in hot water to warm up the fast flowing natural creek where the action was taking place. All this to cushion the cold shock when Flynn was to fall in the water.

When WWII broke out most men of age either enlisted or were drafted into military service, but Jack Warner wanted to keep all newly enlisted members of his crew in L. A. To accomplish that he managed to get himself elevated to the rank of Colonel and, therefore, had the power to form a special military unit which was christened the FMPU (First Motion Picture Unit). The purpose of the FMPU was to produce more professional, realistic videos for use by the military. Training videos that were previously created by the Army Signal Corps were so dreadful that they were virtually useless.

Towards the end of the war Lou had a feeling that Americans were going to want to start purchasing domestic items such as radios in a big way after the servicemen returned to start families. So, with his friend Jack Ackerman, who he met at Warner Brothers and with Herbert ("Bert") Fremont, a gifted electrical engineer who he met shortly after leaving Warner, Lou formed the Guild Radio and TV Company to make radios (and later TVs) in 1952.

Lou appreciated fine furniture and especially liked the Early American and French Provincial styles, so his idea was to create and market radios based on those vintage motifs. Their first address was at 8162 Beverly Blvd. and when they outgrew that location they moved to larger quarters at 460 N. Eucalyptus Ave. in Inglewood, CA in 1955.

Gary recalls, "Lou was a stickler for quality and Guild strove to make sturdy and reliable quality products."

Gary also said that Guild may have been the first manufacturer to make a 27" TV. It turns out that Dumont had already been advertising a much larger 30" screen in 1951, even before Guild was formed.

To earn extra money while the business was starting up, Lou taught himself enough electronics to service radios and TVs at night when the factory was quiet. Gary warmly remembers how his dad lugged around a large tube caddy when he made "house calls."

Guild employed some family members: Gary's younger brother worked there, as did Gary's uncle Sol, and even Gary's grandfather (Lou's dad).

When I asked Gary about the impact the Japanese had on the status of Guild's operation, he said that his dad recognized that changes were coming. Lou, along with his wife Fern, had flown to Japan in 1962 to develop potential parts suppliers.

As the 1970s approached, it became apparent that the concept had a limited shelf life and Lou sold out to Jack Ackerman. However, Gary relates that "Jack tended to be a bungler and frequently neglected to order parts in a timely fashion." True or not, the company folded only a few years later.

Meanwhile, Lou embarked on a completely different venture. His youthful love of automobiles re-emerged and resulted in his opening the Auto Hobby Center in Van Nuys.

The purpose was to help customers control the ever growing costs to automobile repair. This is something that is especially a concern for single women who often get taken advantage of in this area. Lou's idea was to teach people how to do their own maintenance and offer a venue where tools can be rented and automobiles can be worked on. The shop also sold the most commonly used supplies such as oil and air filters.

The February 2, 1973 issue of the *Los Angeles Times* had an article about the self-help garage trend titled "More Car Owners Pick Up Wrenches. Rising Costs Spur Motorists into Learning Do-It-Yourself Tuneups." The article mentioned Lou's Auto Hobby Center and went on to say:

"of course conventional repair shops are upset and claim that it is a potentially dangerous trend and warn that the national goal of greater auto safety and reduced auto emissions are too easily undermined by inept tinkerers."

Lou first got his idea from a magazine article about a similar operation in Maryland. He flew east to personally meet with the owners and see the shop in operation. He felt that there were several ways he could improve upon their operation and subsequently spent eight months perfecting his business.

Gary was also able to contribute some useful concepts for improving upon the operation based on his experience serving in the Marine Corps with their self-service garages.

According to the article, Lou credited part of his success to the economic downturn that occurred in 1974 which forced people to be more frugal. Secondly, he used a careful system of inventory control to monitor tool usage to prevent losses.

The Auto Hobby Center lasted for seven years, five of which were managed by Gary after he graduated from college. Lou was shocked that Gary wanted to work in the shop but as Gary put it to me, "who else would work for the salary I get and who else would be as conscientious as your son." Gary felt an obligation to his dad to "pay back" the sacrifices Lou made for him to attend college.

When the business' insurance coverage came up for renewal and at the same time the auto parts store next door desperately wanted to purchase their building, Lou obliged and sold out.

To keep busy during his semi-retirement Lou became a salesman for an automobile dealership where he was able to spend more time with his first true love --- Jaguars.

According to Gary, Lou kept his original 1967 Jaguar XKE 4.2 because it was the last year that Jaguars had three SU carburetors, glass headlight nacelles and discrete tail lights. It had a total of 450K miles on the oddometer when Lou passed on.

Lou died of a heart attack on December 2, 1997, and Gary still misses him greatly.

Lou Dolgin as a Tech Sargent in the 18th Army Air Force, First Motion Picture Unit (FMPU), circa 1945.
Source: Gary Dolgin

Lou Dolgin and wife Fern.
Source: Gary Dolgin

Acknowledgements

Many thanks to Gary Dolgin for his memories of his dad.

List of Figures:

The Author

John Okolowicz is a retired Honeywell engineer after working there for 29 years and has been dabbling with radios most of his life. He is fascinated by industrial design & their designers as well as the artistry of old magazine ads as they relate to radio technology. He has had previous articles published in *the* AWA's *OTB, the AWA Review, Radio Age (*the Mid-Atlantic Radio Club's newsletter), *Antique Radio Classified, Ephemera Journal, Transistor Network, and Deco Echoes.* ◊

First Aid for Record Players

By Carsten Fischer

This guide explains minimum maintenance on turntables. Lubrication of old record players has usually dried out and hardened over time; running a turntable without proper lubrication will cause damage to the motor and bearings. These steps should be performed on all turntables that have not been used for a while or as routine maintenance about every 5 years. These notes apply to most turntables made between 1940 and the present.

Identification and service notes — Model and make of a turntable is often stated on the top of the chassis. US -radio manufacturers usually rebadged third party units. The original manufacturer can be identified by a printed code or a model label on the underside of the chassis. Service notes for many turntables can be found on the internet. For pre-1941 record players, service notes can be found in Rider's *Record Changers and Recorders*. Recent production "Thorens", "Lenco", "Dual" etc. badged turntables are generic products that have no connection to the original manufacturer.

Remove turntable chassis — The chassis can usually be lifted from its mounting board or plinth by simply pulling it up. Some mounting screws have a clip at the end, which can be flipped parallel with the screw to fit through the mounting hole. On DUAL turntables, the mounting screws tilt for removal.

Remove the platter — The platter is usually locked to the shaft by a C-clip or a C-shaped spring. Early Zeniths, Garrards and most post-1980 turntables have the platter sitting on a tapered section of the main shaft. Often the platter can be pulled off the shaft easily. If the platter is stuck, one person needs to pull the platter upwards while a second person gently taps the shaft with a piece of wood. Care must be taken not to tap so hard that the main bearing gets damaged. Early Thorens and Rek-O-Kut turntables have the main shaft as part of the platter. The platter lifts out vertically. There is a bearing ball at the bottom of the bearing well, which must not be lost.

The Drive system — The upper and lower motor bushing needs to be lubricated with 3-in-1 thin motor oil. The motor bushings are usually sintered bronze and may have felt oil reservoirs. A good amount of oil should be applied several times, until the bushings do not absorb any more oil. The upper bearing can usually be lubricated by placing oil on the motor shaft. Inserting the nozzle in the gap below the rotor or a hole in the housing allows lubrication of the lower bearing. If no oiling hole is provided, or if the motor is frozen, the motor should be taken apart for cleaning and lubrication. The pulley on top of the motor must be free of any oil or grease and should be cleaned with acetone. Phenolic pulleys on Rek-O-Kut turntables should be cleaned with alcohol.

Idler wheel drives need the bushing in the center of the idler wheel oiled with 3-in-1 oil. The idler wheel should be cleaned with alcohol.

Turret drives: The turrets can be pulled off their shafts, which should be lubricated with Moly grease. The outside of the turrets can be cleaned with alcohol. The sliding mechanism that shifts the turrets can be greased with Moly grease.

Lubricate the drive motor shaft, the rear bearing of the motor, and the idler wheel shaft. Clean the drive surfaces of the motor shaft and idler wheel with alcohol.

Important: Turret wheel drives and some idler drives do not lift the rubber wheels away from the pulley when the turntable is switched off. Leaving the drive engaged will cause flat spots on the rubber. These turntables have a neutral position (usually a dot or N on the speed selector) which disengages the drive. The turntable should always put into neutral after use.

When testing a changer, always set the speed to 78 rpm first. If the changer stalls, the motor needs to be switched off immediately, otherwise the pulley will grind a flat spot into the rubber wheel. Flat spots on rubber wheels can sometimes be removed by gently "shaving" the rim with a piece of sandpaper.

Belt drives: Clean the pulley and the belt area on the platter with alcohol. Replacement belts for most models are available.

Direct drives: Some early direct drives have the motor sitting under the chassis, which should be lubricated as stated above. Most direct-drive turntables have the rotor as part of the platter. Care must be taken not to damage the rotor when taking the platter off. Technics turntables requite a special oil to oil the main platter bearing.

Geared direct drives: Most pre-1941 record players have the motor drive the main shaft by worm gear and pinion. For lubrication the assembly can be taken apart. Bushings should be lubricated with oil, the worm gear with Moly grease.

Turret drive lubrication with Moly grease.

It is recommended to leave the speed control in the neutral position when not in use.

Main platter bearing — Changers have the platter turning on a central shaft. At the bottom there is usually a ring of 5 or 6 ball bearings between two washers which act as bearing races. Shaft and bearings can be cleaned with acetone. Bearings and shaft should be generously coated with 30W or similar engine oil.

Technics direct drive turntables have a simple journal bearing. (see previous section).

Turntables with the shaft as part of the platter require the bearing well to be filled with 30W engine oil. The platter will take some time to settle into the well. It is best to slightly overfill the well so that the shaft pushes the excess oil out at top of the well. After the platter has settled, it can be lifted off again to remove the excess oil.

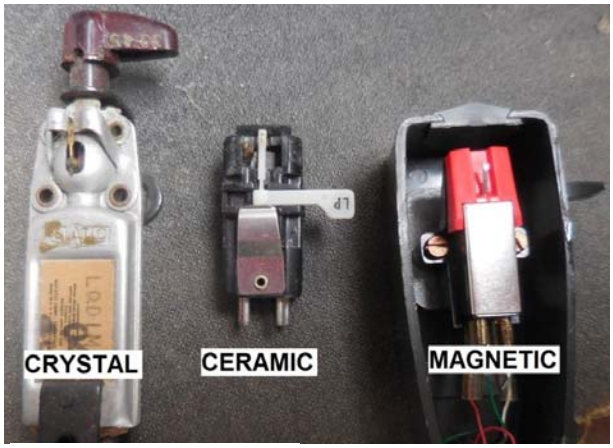
Cartridge — Crystal cartridges are high output units (up to 3 V), often with a thumb screw and replaceable needles. In most cases the crystal has disintegrated. Replacing them with a modern ceramic cartridge can be challenging if changer requires a high tracking weight for function, or if the radio's phono input requires a high voltage.

Ceramic cartridges usually have flip-over styli for both 78 rpm and 33/45 rpm records. It is best practice to replace them with a new ceramic cartridge for reliable operation.

Magnetic cartridges should be tested for continuity, and the stylus should be checked for wear and damage. Replacement styli are available.

2-pole motors are designed for use with crystal/ ceramic cartridges only, they will induce a noticeable hum with a magnetic cartridge. 4-pole motors are compatible with magnetic and ceramic cartridges.

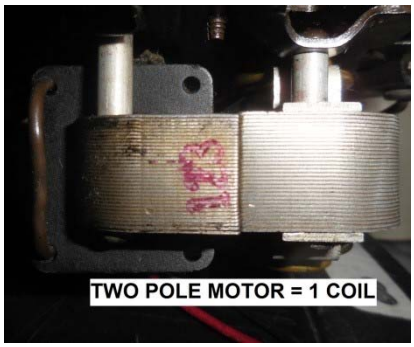
By wiring the two signal pins and the two ground pins in parallel, a stereo cartridge can be used for mono. The wires should always be soldered to clips, not directly to the cartridge.



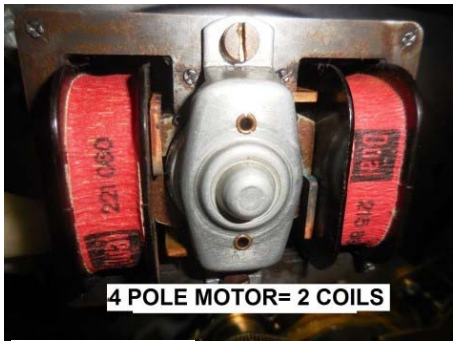
Three phono cartridge types.

Usual values for stylus pressure are 2 grams for a modern magnetic cartridge (use Stanton 500 for up to 7 grams). Ceramic cartridges can be set at 5 to 10 grams. Stylus pressure should be checked with a gage.

Turntable speed — Turntable speed can be checked with a strobe disc or a tachometer. Per NAB +-1% is within spec. Pre-war units may vary up to +-3%.



Two pole motor.



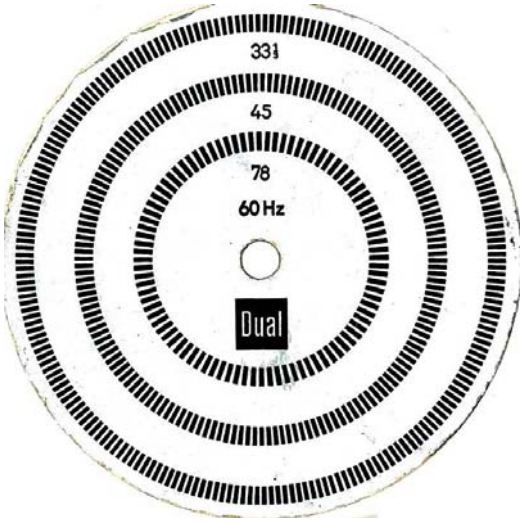
Four pole motor.

If speeds are slow or erratic: Turntables may need up to 30 minutes to come to their design speed, especially if bearings are gummed up. On European and Japanese models, check that the 110/200V switch is in the correct position. Due to the difference in network frequency, a 50 hz unit will run fast by 20% in the US. This requires a change of the pulley. Servo controlled direct drive turntables do not have this problem.

4-pole motors will run slow if one of the motor coils is dead.

If the turntable is slow and/or stalling, the problem is in the idler/belt system: Possible causes can be resistance in the mechanism, a stretched belt, oil or grease on the pulleys, or a hardened rubber wheel with not enough adhesion necessary for the proper speed.

If speeds are fast: 50-hz pulley on an import unit. Also, since network voltage has increased from historically 110V to up to 120V, some turntables may run fast. Short of turning down the pulley diameter, not much can be done.



Strobe disc for assessing turntable speed.

Changer mechanism — Changer mechanisms require intricate maintenance. If the original grease has hardened, it will be necessary to disassemble the mechanism and clean the parts. Lubrication should be done according to the service notes.
Moly grease is best used with sliding parts, for pivoting bushings 30W motor oil is used. White lithium grease should be avoided, as it gums up. Excessive lubrication and lubrication of parts that are designed to run dry should be avoided.

For plastic cam wheels a plastic-safe grease must be used.

For DUAL turntables with a clear Lucite main cam: To avoid damage to the cam, the main groove on the underside needs to be thoroughly cleaned with alcohol and given a generous coating with plastic-safe grease.

Sources and References

- Turntable service manuals: https://www.vinylengine.com/library.shtml
- A great source for idler wheels, belts, styli, cartridges. Also explains the manufacturer's code: http://thevoiceofmusic.com/
- Technics/ Panasonic spindle oil: https://www.kabusa.com/frameset.htm?/m1200.htm

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Enjoying Radio with the Help of the California Historical Radio Society

By Jon Winchell

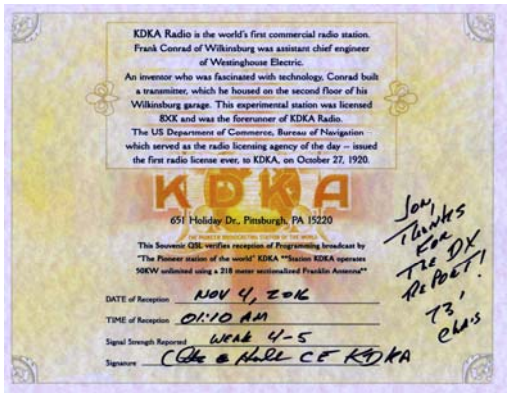
The author with Stan Bunger.

Len Shapiro introduced me to the California Historical Radio Society some years ago. I have always been interested and now I feel connected as a volunteer (among other things, I convert tapes to MP3s) and as a radio listener.

I first got interested in listening to radio years ago by hearing Dr. Don Rose on KFRC with his one-liners and sound effects. I also heard John Mack Flanagan on KFRC. (Then in 2017 I met him at the CHRS Bay Area Radio Hall of Fame in Alameda. I also recently met Stan Bunger from KCBS at Radio Central).

I listened to Bill King on KNBR 680 from 1974-75 announcing the Golden State Warriors winning the Championship. I listened in my bedroom while my family was watching TV.

My interest in radio continued, as I became a radio caller about sports and politics. I called Rush Limbaugh and Sean Hannity in the mid-late 1980s. In 1991-92 I was a fan on KNBR 680 radio talking sports with Ken Dito, discussing Magic Johnson. I also called KNBR in the mid-90s talking to Gary Radnich, Rick Barry, Tom Tolbert, Ralph Barbieri, Bob Fitzgerald and Rod Brooks. I listened regularly and called often.



QSL card from historic radio station, KDKA

This sparked my interest in the radio industry, and distant AM stations. I started enjoying DX-ing in August of 2016. I used my Sony S01 CD Radio Cassette-Corder. I then noted on my monitoring logbook the stations I listened to. Then I followed it up by writing many reception reports, sending my monitor-QSL card. In return I received QSL cards from many of the stations.

For cross-country reception on November 14, 2016 I received the best QSL card of all from ***KDKA***, 1020 AM, in Pennsylvania (reception between 1:15 am and 1:30 am). KDKA's (multiple) card shows KDKA historically as the first licensed U.S. broadcast station. Then after awhile ephemera such as record surveys, radio station personalities photos, and recordings of Bay Area Stations caught my interest.

For shortwave radio listening I now use multi-band radio equipment such as the Eton-Grundig Satellit 750 (on my card). For DX-ing at home, two antennas provide good signals. I get stations from Los Angeles on the AM broadcast band, and on shortwave, Cuba, China, Brazil, and other stations that I enjoy listening to. Now I am also beginning to use a VHF scanner and a discone antenna. I also collect some vintage radios such as Philco and Zenith sets.

Jon Winchell is an active volunteer and supporter of CHRS, and an avid radio enthusiast.

Lastly, I want to dedicate my interest in radio broadcasting to my Mom because she listened to the radio when the Kansas City Athletics broadcast in 1955. In honor of my Dad – he also had interest in radio because he had listened to *The Shadow* in the 40s and 50s. I also want to thank Len Shapiro for his perspective and Bart Lee for helping me with shortwave radio.

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Abbotware's Kitschy Novelties

By John Okolowicz

California, home to some of the most attractive tombstone radios of the 1920s such as the Peter Pan and Gilfillian sets, can also claim to be the home of the kitschy-est radios ever made, namely, Abbotwares' statue radios.

Kitsch implies bad taste, but many times the so-called poor taste is ironically intentional. Schlock is a feature and not a bug. Which is the appeal. Black velvet Elvis Presley is the first example of this kind of art that springs to mind. Margaret Keane's Big Eyes paintings are another. Some radio collectors may place Abbotwares' products in this category.

Abbotwares is mostly known for their horse radios. Seventy years after their introduction they still pop up everywhere antique radios are sold: on any given day one can usually be found on Ebay. However, what may not be as well known is that they actually did make a few other interesting non-horse models along they way, some of which are undocumented and others may still need to be discovered.

They were located at 1770 Workman St., Los Angeles, California and their Articles of Incorporation reveal that their primary purpose was to "engage in and carry on any and all business as manufacturers, producers, merchants, importers and exporters . . . especially giftware, art goods, and kindred articles of metal and plastic materials."

Incorporation papers were filed on March 15, 1946 and signed by three directors: Ida Becker, Ray Kronsberg, and Theresa Kronsberg.

The first six models they started selling are shown in the November 15, 1947 issue of *Billboard* magazine (Figure 1). Six months later they were up to 13 different statues.

Abbotwares maximized their limited selection by offering them in a bewildering combination of metal surface finish (bronze, copper, copper & silver, silver, gold, black & silver, palomino) and mounting base styles (clock, radio, pen sets). Their horse was even available with or without a removable saddle as well as multiple sizes (7-1/2", 10-3/4", and 12-1/2" tall).

Fig. 1: Billboard ad for the Abbotware's horse.

Model #	Description	Dimensions (High)	Radio Model #	Price Range	Clock Model #	Price Range	Other Model #	Price Range
1	Western horse (attached saddle)	7-1/2"	R1	$36 - $42.50	C1	$48.25 - $55	D1	$50 - $60
2	Western horse (detachable saddle)	10-3/4"	R2	$40 - $50	C2	$55 - $65	n/a	
3	Western horse (detachable saddle)	12-1/2"	R3	$48 - $70	C3	$62 - $83.75	B3	$52 - $73.75
4	Rearing horse with rider	13-1/2"	R4	$47.50 - $67.50	C4	$60 - $80	B4	$50 - $70
5	Lady Godiva on horse *	13-1/2"	R5	$45	C5		B5	$47.50
6	Two race horses with jockeys	8-1/2"	R6	$45	C6	$52.50	B6 & D6	$47.50 - $58.75
7	Thoroughbred race horse	9-3/4"	R7		C7		D7	
8	Western horse plaque mounted on a clock base		R8		C8		D8	
9	Race horse mounted on a clock base		R9		C9		D9	
10	Combo western horse and race horse plaque on a clock base		R10		C10		D10	
11	Female rider on western horse	13-1/2"	R11		C11		D11	
12	Unspecified model ??		R12		C12		D12	
13	Female rider on western horse	14"	R13		C13		D13	
14	Unspecified model ??		R14		C14		D14	
15	Ecstasy, nude Art Deco woman		R15		C15		D15	

* Lady Godiva in bronze only

Model Prefix Legend	
R = Radio only	B = 2 Pen Holders only
C = Clock only	D = 1 Pen Holder & 1 Clock

Fig. 2: Abbotware's product mix and pricing.

Figure 2 is a condensed spreadsheet showing their product mix and pricing based on the early *Billboard* ads. Note that the product model numbers shown in their ads (i.e R1, R2, R3, etc.) never appeared on their products, only the generic radio chassis number of Z477.

Abbotwares placed a total of four ads in *Billboard* magazine, the last of which ran in the November 6, 1948 issue (Figure 3). The headline at the top of the page read: "Here's the real deal you've been waiting for!" and under that two versions of the Ecstasy Art Deco-style nude woman are pictured at the top of the page: the clock version is on the left and the radio version is on the right.

In Figure 3 one can see that Abbotwares broadened their portfolio from clocks and radios to include other products such as the "slave girl" cigarette lighter. Alternately, on Ebay one can also find even more diverse products such as a piggy bank made to look like a bust of Jimmy Durante.

The products in the above spreadsheet are hardly the end of the story. There are even more models of clocks and radios that were not shown in any published ads, such as the Hula Dancer radio, and the Moose radio which can be seen on radiomuseum.org's web site. Conceivably there are other versions of their statuary yet to be discovered.

One unique example is the rare Babe Ruth model shown in Figure 4. Another is a strange oddball radio I

Fig. 3: Abbotware's showing the broadened product mix.

once owned that had no Abbotwares nameplate yet it had all of the characteristics of an Abbotwares set. It was a statue of 2 singers, one simultaneously playing the piano and the other strumming a mandolin (Figure 5). It also had a bright red incandescent light, all of which straddled the radio base.

"Marvel-Tone" was the tradename Abbotwares used for their model Z477 radios and all radios used the same radio chassis. The radios were rather unremarkable using a 3-1/2" speaker and five tubes of the "All-American 5" variety.

Although giftware items were a major source of income for Abbotwares, they also had a little known subsidiary, the Valveaire Aircraft Division on 1773 Sichel St., that manufactured aircraft parts. In January 1955 the workers' union held a strike which may have led to the end of Valveaire.

Fig. 4: Abbotware's Babe Ruth model.

Fig. 5: Unusual Abbotware's (?) model.

1959 marked the end of Abbotwares as a business entity. Lester Rosen, a local auctioneer, placed a notice in the Los Angeles Times on July 12, 1959 advertising that all equipment from their site would be auctioned off on Monday, July 20 (Figure 6).

LESTER ROSEN AUCTIONS

AUCTION #1

Trophy Mfg.—Foundry—Plating Dept.

MON., JULY 20th

1770 Workman St., L.A.

Finished Trophies, Cups, Plaques, Medals, Figurines • Thousands of Parts & Bases for Trophies • Gold Trophy Tubing • Plating Generator, 1500 Amps. • Plating Tanks, Vats, Hangers, Chemicals • Gas Melting Furnaces • Shalco Shell Molding Machine • Ford Industrial Engine • Tabor Jolt Rollover—Core Oven—Misc. Foundry Supplies

Fig. 6: 1959 auction notice in Los Angeles Times of Abbotware's equipment.

List of Figures:

References:

- *Billboard* magazine, June 5, 1948, p87 & March 27, 1948, p113.
- "Aircraft Parts Plant Makes Strikers Offer," Los Angeles Times, January 14, 1955, p33.
- Radiomuseum.org web site.

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Bay Area Radio Hall Of Fame 2019

Presented By Ben Fong-Torres and Kim Wonderley

The latest inductees into the Bay Area Radio Hall of Fame (BARHOF) were announced during the Radio Day By The Bay 2019 celebration on Saturday (July 20) in Alameda. In addition, the recipients of this year's Sherwood Awards – the "people's choices" for the Bay Area's most popular radio stars – were also announced.

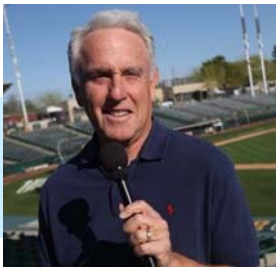
***PROGRAM HOST**: Sue Hall first surfaced on KFRC in 1980, until a management change in 1984. She joined the London & Engleman show on KMEL for four years, then showed more versatility at K-101, KMVQ, when it was "Movin," and The Wolf, spinning country. She returned to an FM version of KFRC, and, now, she's on KOIT and on TV, doing traffic on KGO Ch. 7.*

***PROGRAM HOST**: Sarah Clark arrived at Alice 97.3 in 1997 after a scenic tour of radio markets that include Orlando, St Louis, and Philadelphia. It was in Philly where she was first teamed with her partner Vinnie. Make no mistake, Sarah is the star of the morning show... but the team is considered family by Bay Area radio listeners. The result has been a long time ratings winner.*

***PROGRAM HOST**: Bob Ray. No, not Bob & Ray, but one DJ, Bob Ray, who has spent over 25 years on the air, including ten years doing mornings on KLIV in San Jose as well as time on KSFO. He also announced soccer games for the San Jose Earthquakes, and is now a DJ online, on Boss Boss Radio.*

***TALK HOST**: Ray Taliaferro. The former long-time all-night talk show host on KGO, Ray was a strong, loud, liberal voice on the air—and a passionate activist for such causes as the Leukemia and Lymphoma Society, for which he helped raise millions of dollars on KGO Cure-A-Thons.*

***NEWS**: John Evans has been the overnight anchor at KCBS for the last 10 years, but his history is all over the map. He's been a reporter, a news director, a program director, a disc jockey and a show host. The call letters span divergent formats, from KDFC, to K101, from KYA to KMEL and KFOG.*



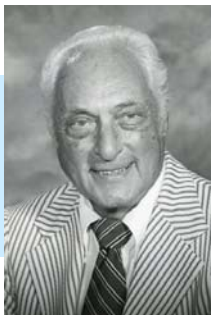
***SPORTS**: Ken Korach has been on the Oakland A's broadcast team since 1996, alongside his boyhood hero, Bill King. After Bill died in 2005, Ken became the lead voice—and paid tribute to Mr. King by writing the book, Holy Toledo—Lessons from Bill King.*

***ENGINEERING**: Veldon Leverich has been chief engineer of the Salem Media Group since 2008. Before that, he was director of engineering for Mapleton Communications and its four stations. And one of his earlier positions was at KGO radio, where he was chief engineer from 1972 to 1981.*

MANAGEMENT: Doug Harvill. As senior VP and market manager for CBS Radio's San Francisco cluster, Doug helped KCBS go to Number One, surpassing long-time market leader KGO. He also oversaw sister stations like Alice, Now and Live 105. He was so effective that, of course, he was let go when CBS merged with Entercom.

SPECIALTY: Jane Dornacker came out of nowhere and onto KFRC, where, on Dr. Don Rose's show, she reported traffic like no one before her. That's because she was a comedian, and turned freeways and jams into fodder for jokes. She moved on to New York and WNBC, and a very early version of a show hosted by Howard Stern.

PIONEER: Joe Levitt began working at KQW as an announcer in 1929, before it became KCBS. He then founded Coast Radio and put the second San Jose radio station on the air in 1948. That was KXRX, whose alumni include Hal Ramey and Stan Bunger. Joe and his sons operated three East Bay stations, KUIC, KKIQ and KKDV.



The Class of 2019 was selected by the current members of the Bay Area Radio Hall of Fame, with the exception of Bob Ray (selected by public vote) and Veldon Leverich (selected by the Society of Broadcast Engineers, Chapter 40), as well as Doug Harvill and Joe Levitt, who were selected by BARHOF's board. Following a very competitive round of public voting, this year's expanded Sherwood Awards – pitting broadcasters currently on the air locally – will go to:

Music Format: SARAH AND VINNIE – Long time morning stars on Alice 97.3. Sarah Clark and Vinnie Hasson created their own blend of talk, riffing, comedy and ensemble teamwork -- with sidekicks like Hooman and Uzette—and it's worked—for 22 years.

News/Talk Format: RONN Owens – Already inducted into the Bay Area Radio Hall of Fame, back in 2007, Ronn is the last legend standing at KGO. Last year, after 42 years as a highly rated talk show host, he was moved a ten-minute feature, The Ronn Owens Report, but obviously remains popular with radio listeners.

Sports: Dan Rusanowsky – The voice of the San Jose Sharks since their first season, in 1991. Rusanowsky, who was inducted into the Bay Area Radio Hall of Fame in 2013, also serves as a producer of all Sharks broadcasts, is a 39-year veteran of hockey broadcasting.

Among the Sherwood recipients, both Ronn Owens (2007) and Dan Rusanowsky (2013) are already BARHOF inductees, with Sarah Clark – the "Sarah" half of Alice's morning duo – joining them this year.

The BARHOF Class of 2019 and this year's Sherwood Award winners were honored with a luncheon in September at the Basque Cultural Center in South San Francisco. The event was held under the auspices of the Broadcast Legends, in conjunction with the California Historical Radio Society. ◊

KFOG — The Home of Quality Rock and Roll

From BayAreaRadio.org

The Bay Area Radio Museum and Hall of Fame (BARHOF) and the California Historical Radio Society (CHRS) announced that San Francisco's KFOG (104.5 FM) is the recipient of the Legendary Station Award for 2019. The award focuses on KFOG during its era as "The Home of Quality Rock & Roll," with an emphasis on the people who helped build it into one of America's truly legendary stations.

The station was originally known as KBAY when it went on the air from studios on Pacific Avenue near Columbus on February 4, 1960, with 30,000 watts of power under the ownership of Sherrill Corwin. Corwin, who was the head of the Los Angeles-based Metropolitan Theaters Corporation, had hoped to build a network of "Good Music" FM stations in California, but his grand plan only lasted a few months.

In May 1960 – after only about ninety days on the air – Corwin abandoned the project and sold KBAY and two of his other fledgling FM stations (one in Los Angeles, the other in San Bernardino) for the princely sum of $100,000 to radio pioneer Rogan Jones, who had built some of the earliest radio and TV stations in Washington state.

Jones incorporated his new collection of stations as International Good Music, Inc., but also ran into the bane of FM broadcasters in the early 1960s: few listeners were listening, and even fewer advertisers were advertising. In March 1963, Jones accepted $75,510 for KBAY and turned over the keys to its Pacific Avenue studios to Kaiser Broadcasting of Oakland.

And that's where our story truly begins.

Under the ownership of Kaiser and the management of Richard Block, KBAY became KFOG on March 1, 1963, beginning multiplex stereo broadcasts of its Good Music format. From Bill Ruck & Pete taylor: "We had 29kw from the old Sutro tower but had to cut to 7kw due to the increased antenna elevation on the new tower." Thus making Dick Block the original "Foghead." A Stanford grad, Mr. Block rose to president of Kaiser Broadcasting and helped spearhead the company's innovative foray into UHF television, including the launch of KBHK (Channel 44) in San Francisco. When KFOG debuted, the studios were at 420 Taylor St. in the old NBC building, co-housed with TV station, KBHK. In 1964 KFOG moved to Ghirardelli Square.

The KFOG Class of 1982: (front row) Lee Abrams (consultant), Brooke Taylor (weekends), Michelle Michaels (evenings), Bill Keffury (overnights); (back row) Lee Baby Sims (mornings), Dave Logan (program director), Greg Nelson (weekends), Amir Mansbacher (afternoons and 'Psychedelic Psupper' host), Dave Morey (middays, '10@10' host and production director).


BARHOF 2010 Inductee Dave Morey at KFOG.

KFOG made an immediate impact on Bay Area listeners with its tasteful palette of music interspersed with memorable station breaks that featured the mournful moan of an actual San Francisco foghorn – a signature segue that remains a constant on the station five decades after it was first heard.

KFOG's first foray into syndicated easy listening was with QMI (later, SRP, Stereo Radio Productions). Through the 1960s into the 1970s, KFOG remained a stalwart "Good Music" or "Easy Listening" station along with two other colorfully call-

lettered local stations, KABL and KOIT. In 1974, Kaiser Broadcasting received a hefty return on its original $75,510 investment in KFOG, selling it to General Electric for $1.6-million.

Just after KFOG's twenty-first birthday, GE decided to scrap the evergreen-but-decaying Good Music format. The following year, late in 1983, GE sold KFOG to Susquehanna Broadcasting.

BARHOF 2018 inductee M. Dung at KFOG.

The KFOG Class of 1987: (left to right) Rosalie Howarth (overnights), Bob Acton (weekends), Dave Morey (middays, '10@10' host, and production director), Trish Robbins (weekends), Dave Logan (program director), Bonnie Simmons (evenings), Sky Daniels (afternoons), M. Dung (mornings, 'Sunday Night Idiot Show' host, imaging production), Andy Rush (weekends), Scoop Nisker (news director), Bill Keffury (weekends).

Under the management of Tony Salvadore (BARHOF 2012) Dave Logan took the reins as the first Rock Program Director. Music was selected by him and his staff and played directly from LPs. KFOG quickly positioned itself as "The Home of Quality Rock & Roll" and rocketed to new heights of popularity with a talented team that included the rare and wonderful M. Dung (Mike Slavko; BARHOF '18), Dave Morey (BARHOF '10), Rosalie Howarth (BARHOF '11), Wes "Scoop" Nisker (BARHOF '16), Peter Finch (BARHOF '14), Bonnie Simmons (BARHOF '10), Kevin "The Rat" Radich (BARHOF '16), Trish Robbins, Sky Daniels and John Rivers.

In the 1990's KFOG changed its format to Adult Alternative Album Rock. Then in June 2000 Dave Benson became KFOG Program Director.


Dave Benson.

Dave Morey's move from afternoons to the "KFOG Morning Show" along with Peter Finch, Kim Wonderley and later Renee Richardson and Irish Greg set the standard for Morning Radio.

Also in this period Rosalie Howarth's "Acoustic Sunrise" show began and ran for years.


Irish Greg, Dave Morey, Peter Finch & Renee Richardson.

And who can forget the occasional Scoop, John Grappone and Annalisa in the afternoon?

Wes 'Scoop' Nisker.

John Grappone.

KFOG's Annalisa.

From KFOG's live concerts, 17 volumes of "Live From the Archives" were produced raising thousands of dollars for the Bay Area Food Bank.

"KFOG Kaboom", (Thanks Jude Heller BARHOF Class of 2018), thrilled KFOG listeners and Bay Area Residents every year with a huge fireworks display timed to a KFOG soundtrack.

KFOG also received the prestigious Marconi Award during this time. This is the period that KFOG rose to true greatness.

Dave Morey's "10 at 10" became a standard.

KFOG "Live From the Archives."

KFOG Kaboom fireworks.

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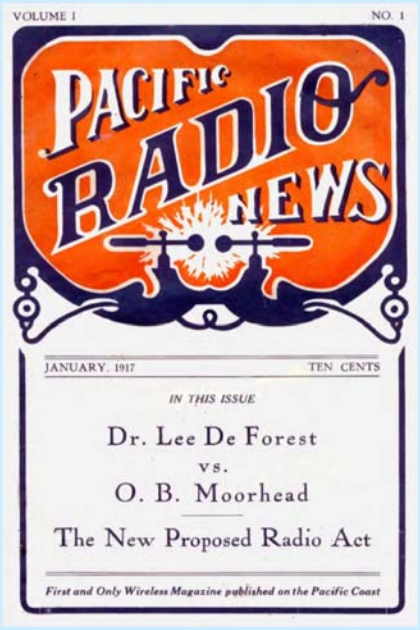
From the CHRS Archives

By Bob Rydzewski

News of the day — Jan. 1917



AMATEUR STATIONS ROBBED

During the past three months, more than half a dozen San Francisco amateur stations were looted by daring robbers and up to the present time no clew has been found. Detectives have been working on the case for several months but have obtained no definite information as yet.

The station of Mr. A. W. Martin was thrice robbed. Mr. T. T. Barnett's station was looted twice. The entire equipment, including the screws on the wall, were taken by these daring mischief-makers.

Mr. T. J. Ryan reports that his basement was robbed at least three limes in two weeks, many magazines, insulators and other small wireless articles being stolen. Mr. Howard Cookson's aerial on the Y. M. C. A. building was stripped of the wire, insulators and other material, everything being taken but the aerial poles.

While Mr. C. P. Altland was spending his vacation in Los Angeles, his aerial was also stripped of the wire and insulators.

Looks as if some enterprising enthusiast is endeavoring to establish a wireless corporation for the sale of second hand material.

Detectives assert that they are under the impression that no amateur is guilty of the offense and place the blame on second hand junk dealers, who are taking advantages of the high price of metals, especially copper.

On Thursday night, November 23d, the antenna used at the big football game at the University of California was stripped of all its wire.

Any information regarding these daring robbers will be appreciated. All correspondence should be addressed to the S. F. Radio Club.

And the following month . . .

FIVE AMATEUR STATION ROBBERS CAUGHT

The amateur station robbers referred to in our January issue have been caught by Detective Thomas J. Stanton and Mr. T. J. Ryan, Sergeant-at-Arms of the San Francisco Radio Club.

Mr. T. J. Ryan endeavored to gain admittance to his basement on the evening of December 16th and found it difficult to open the door. He forced his way into the basement and found the seventeen year old thief hiding behind the door. After several minutes of grappling, Mr. Ryan succeeded in throwing his opponent to the floor, holding him in this position until a neighbor summoned help from the local police department. He was taken to the Park Police Station and stated that his name is Benjamin Carrolls, age seventeen. He has already served time in the Detention Home, together with two brothers, who are still serving time in the same place. Carrolls stated that he had no intention of robbing the basement. A search of his person revealed a concealed brass rod, a screw driver, pair of pliers and various other appliances.

Upon being questioned what these tools were being used for, he stated that he is employed by an electrical manufacturer and uses the tools in his home workshop. He is still held in custody by the police department awaiting trial within the course of a week.

A search of his basement revealed that he was responsible for the looting of at least a half dozen amateur stations. Practically all of the apparatus taken from the stations owned by Mr. A. W. Martin. Mr. T. T. Barnett and Mr. T. J. Ryan were returned to the owners.

Detective Stanton succeeded in trapping four other amateur station robbers, none of them being over twenty years of age. They have been released on probation by the Judge of the Juvenile Court.

Benjamin Carrolls has confessed to the burglaries of several grocery stores in San Francisco and plans for similar future offenses have been unearthed by the detectives.

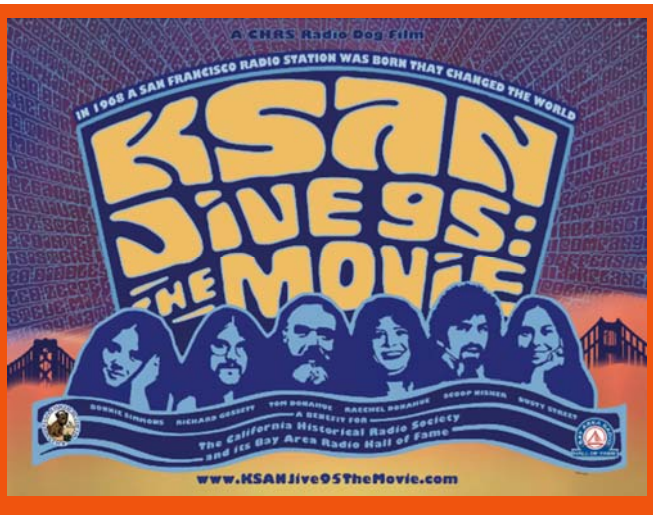
In the last 101 years, things change . . . and things stay the same . . . ◊

KSAN Jive 95: The Movie

Our CHRS Radio Dog Production, **"KSAN Jive 95: The Movie"** continues in production. But making a feature length documentary is costly. We are seeking to raise $150,000 to produce this film. The KSAN Jive 95 story is perfect for CHRS to tell and immortalize in film as it is an important part of our mission to preserve and present local radio history. KSAN, during the period 1968-1980, was pivotal in the development of our popular culture. This film will raise awareness and refresh remembrances of a time when a radio station could create change and really make a difference in so many ways.

Part of our recent grant from the Rex Foundation was earmarked toward the KSAN Movie project. We commissioned famous poster artist Wes Wilson for a movie poster. Wes and his daughter Shirryl Bayless collaborated to create this outstanding poster.

Now it's your turn to help. Please visit www.ksanjive95themovie.com and see how you can get great perks for donating to this project and help to preserve the KSAN Jive 95 legacy.

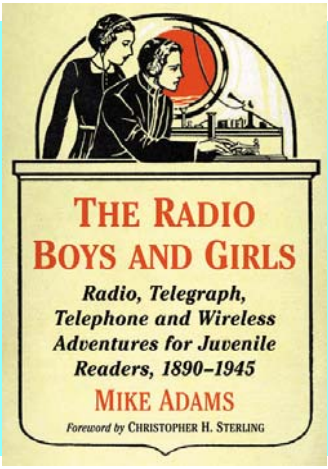


CHRS Publications

The Radio Boys And Girls—Radio, Telegraph, Telephone and Wireless Adventures for Juvenile Readers 1890-1945 is the latest book by Mike Adams, It captures the genre of series fiction about wireless and radio was a popular in young adult literature at the turn of the 20th century and a form of early social media. Before television and the Internet, books about plucky youths braving danger and adventure with the help of wireless communication brought young people together. They gathered in basements to build crystal. They built transmitters and talked to each other across neighborhoods, cities and states. By 1920, there was music on the airwaves and boys and girls tuned in on homemade radios, inspired by their favorite stories.

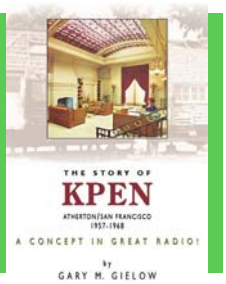
This book covers more than 50 volumes of wireless and radio themed fiction, offering a unique perspective on the world presented to young readers of the day. The values, attitudes, culture and technology of a century ago are discussed, many of them still debated today, including immigration, gun violence, race, bullying and economic inequality.

Available now at Amazon.com



The Story of KPEN: A Concept in Great Radio! CHRS member and Broadcast Legend Gary Gielow has written a new book chronicling the tales of two young men from Stanford, he and James Gabbert, who brought Stereo and new ideas to the FM radio band in the late 1950s and 1960s. This book is the definitive history of KPEN 101.3 FM, the 2015 BARHOF Legendary Station. 100% of the proceeds benefit CHRS.

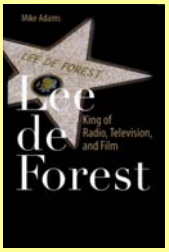
Available in the Museum Store or on the website.



Behind the Front Panel: The Design and Development of 1920's Radio by David Rutland has been re mastered by Richard Watts for CHRS. With emphasis on radio technology, Rutland describes the development of 1920s tubes and radio circuitry designs by De Forest, Marconi, and other inventors and manufacturers. A classic!

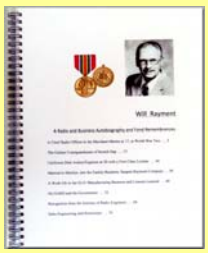
Buy at Amazon.com

Also available in the museum store



Lee de Forest

Bay Area Radio



Will Rayment

KSAN Live Jive CD

Volunteer of the Year
Denny Monticelli

Volunteer of the Year
Dave Harris

More Radio Day