

SOUND WAVES

VRPS SPRING 2012



By Jim Sargent

As I begin this quarterly column, I do so on a really enjoyable spring-like day with the door to my office wide open even though winter is still on the calendar for another two weeks. Actually, as most of the folks here in north Texas will tell you, winter was never really a factor this year. A few days colder than others, but really nothing approaching the winter of the last two years where we saw an unusual amount of snow and freezing temperatures. Still, the winter season is the period of the year I typically find more time to repair a few radios, the winter of 2011 and 2012 being no exception. I am thankful for that. However, now is the time things start hopping for the radio hobby. I have personally been busy scheduling and conducting auctions, as well as shipping radio parts, knobs, and tubes nationwide throughout the winter. So, I am confident that the hobby is alive and well. Speaking of auctions, our Spring auction will be history by the time this article appears in your mailbox. This is our main fund raising event of the year, paying for things like this newsletter we send out quarterly. Not surprising to you, but postage, printing, etc...they do not come free. In fact the cost goes up every year. Our Directors do a good job of monitoring our finances and making sure we have the necessary bank account to keep doing the things we (and you) have told us you want us to do. Several upcoming events, including the May swap meet, are set for later this spring. I have stated this before in this column, but if you are not making the monthly meeting a regular event on your calendar, then you are missing a very rewarding part of

FROM THE PRESIDENT

this hobby and specifically this group of collectors. We have a tremendous amount of talent and historical knowledge in our organization, and Mike Grimes does an outstanding job of pulling together monthly meeting topics. Our web site (www.vrps.org) is up to date and reflects upcoming topics. Elsewhere in this issue of the Soundwaves, you will also find some clues to upcoming events. Several of us took the opportunity to attend the annual HVRA convention in Houston in early February. A really good time, lively auction, excellent contest, great crowd; what more could you ask for in the dead of winter? If this is not on your bucket list of things to do each February, I suggest you take a look at it for next year. I am updating my email blast. If you are not receiving an email reminder of meetings and auctions, it probably means I do not have your correct email address in my system. Drop me an email at bsargent@swbell.net and I will make the necessary adjustments. One more remark about winter before leaving you this month. My wife and I were blessed with two new granddaughters over this winter. We have found them to be great modulators! Until next time, good hunting.

THE VRPS WELCOMES
NEW MEMBERS;
KEN BRATZ
LARRY CHRISTENSEN
BUCKY GEER
JACOB LITTLEJOHN
RICHARD MOTES
LARRY PENLAND

SARGENT AUCTION SERVICE
Presents Another Great Radio Auction
Saturday June 2, 2012
Auction starts at 10 am CST

Doors open for viewing at 8:30 am day of sale
3630 Cavalier Drive
Garland TX 75042

This is a partial liquidation of the vast radio collection
belonging to Dick & Edith Morgan.

Other auction information and photos will be posted
on:

www.sargentauction.com
www.auctionzip.com

Terms: Cash, checks, VISA, MasterCard and Discover
Buyer's premium for all sales 5%

Sargent Auction Service
Jim Sargent, Auctioneer, TX License 16135
Member : NAA, TAA, AWA, VRPS, HVRA, ARCI,
ARRL, QCWA, MTC
200 Thomas Road
Granbury, TX 76049-1921
Phone: 972-742-8085
e-mail: bsargent@swbell.net



VRPS
CONVENTION 2012

will be November 16-18, 2012. It's not
too early to make your hotel reserva-
tions .

THE HAMPTON INN & SUITES
1700 RODEO DRIVE
MESQUITE, TX 75149

You can use the direct link on the
VRPS WEB SITE (WWW.VRPS.ORG) TO
MAKE YOUR RESERVATIONS OR CALL
(972) 329-3100 OR 1-800-HAMPTON.

The VRPS has arranged a special discount
room rate. Room rates are \$86.00 (plus tax)
for single/double rooms or \$106.00 (plus tax)
for suites. You must make your reservations
by midnight, October 20, 2012 and state that
you are there for the Vintage Radio Conven-
tion to take advantage of this special rate.

The article on the next page was submit-
ted by David Spivey. He said that the wife
of one of the people in his Springdale
office cut it out of the NW Arkansas Times
and sent it to him. I thought it was a great
article and others in the club would really
enjoy reading it.

The First Radio In Springdale

Recently my wife and I had dinner at the Acambaro restaurant on the corner of Johnson Street and U.S. 71B. As we were walking across the parking lot, I noticed the old Bob Clark house directly across the street. It is now painted light green and has been converted into a business office.

I asked my wife, "How many people dining here tonight have any idea of the historical significance of that house?"

"Not many," she replied. I had no idea of its history until you interviewed Bob when you were writing Emma, We Love You."

"I can imagine the Magnavox Horn Speaker ticking out of that little attic window and a front yard full of people listening to their first radio broadcast," I replied.

Young Bob and his friend Donovan Youree were the first hams to communicate with each other in Springdale. They both used Model T spark coils as a transmitter, and crystal sets as receivers. Donovan lived on Maple Street. They communicated by Morse code as this was before radio learned to talk. After their radio contact, they met midway between their homes and compared their handwritten notes. Of course the operation was illegal — neither had

COMMENTARY



BRUCE VAUGHAN
Nr5q@aol.com

a license. The FCC was lax about enforcing the law at that time.

Bob Clark and Ed Cummins were owners of Famous Hardware. Bob was very supportive of Bob Jr. and his interest in everything electrical. The Audion (radio tube) was just coming into widespread use in 1920. Bob Jr. asked his father if there was any chance he could have one of the Audion kits for Christmas, and of course his wish was granted.

The Audion radio worked much better than his crystal radios. One night, near bedtime, he was in his attic workshop listening to his radio when he received one of the biggest thrills of his lifetime — he actually heard the human voice coming through his headphones. Listening carefully, the man on the radio said, "This is KDKA, Pittsburgh, Pa." Though Bob little realized it at the time, he was listening to the first radio station in America, an outgrowth of Dr. Frank Conrad's Amateur Radio broadcasts from his backyard garage.

Bob ran downstairs and told his parents what he had heard. His dad said, "Son, I have to hear this wondrous radio."

They climbed the stairs; Bob took the headphones apart and handed his Dad one phone, while he listened to the other. His dad listened for several minutes. "Son, that is absolutely amazing. Is there any way you can make it louder so that others can hear this wonderful new invention?"

Quickly the young boy whipped out the latest "Tucker Duck and Rubber" catalogue. "Dad, for a little less than three hundred dollars I can buy one of the new Magnavox Loudspeakers and a three tube regenerative radio kit. I know I can build it."

"Son," replied his father, "take that catalogue down to 'Stant' Thompson in the Famous Hardware Office, tell him to order everything you need, and charge it to my account."

Two weeks later the parts arrived; Bob began work immediately. The radio tubes and parts were mounted on a pine board about two feet long. Tuning dials, audio controls and switches were mounted on a Bakelite panel. The radio exceeded Bob's expectations bringing in KDKA with more than ample loudness. Bob's Dad listened to the radio for a few minutes, then said, "Son, that is a

wonderful instrument, but do you think you could make it look a little better — it's not a thing of beauty." Young Bob replied, "Dad, I'll try, but there is no way to hide all the wires without putting it in a cabinet."

"I've an idea son. Tomorrow, run it down to the cabinet shop and tell the man to build a solid walnut cabinet to house that radio. Take the radio with you so he can see what size the cabinet needs to be. Have him hinge the top so you can get to your parts."

Three days later the handsome radio was back in Bob's attic — again he sought his Dad's approval.

"Now that's more like it son," exclaimed his father. "I have one more suggestion — let's remove the east window and place that horn in the opening. Then we can invite friends, neighbors and anyone else that is interested to come out at night to hear this new marvel."

The results were amazing. People came from miles around to hear their first radio. Some brought blankets and spread them in the front yard. Soon it became necessary to borrow folding chairs from the church for the older visitors.

BRUCE VAUGHAN IS A RETIRED BUSINESS OWNER WHO LOVES TO WRITE. HE'S A LONGTIME SPRINGDALE RESIDENT.

THOSE FM RADIO CHANNEL NUMBERS by MIKE GRIMES

Have you ever wondered about those "channel numbers" on FM radio dials? What frequency is being displayed? Frequency covered?

Some pre-war radios had FM capability and the dial indicated a channel number rather than the frequency. This dates back to about 1940; the beginning of the FM assignment of frequencies for commercial broadcasting. Remember, a lot of AM station frequencies were referred to by both frequency and wave length, but not a channel number.

The first assignment for FM commercial broadcast was from 42.1 MHz to 49.9 MHz (actually 42 to 50 MHz). Our good friends at the FCC in their wisdom thought it would be best to refer to the station frequency assignments by a channel assignment rather than frequency. Perhaps, they thought it would be easier for the public to remember the channel, than the frequency. Conversion was simple enough: just drop the four and the decimal and you have channels 21 thru 99. These were the first channel assignments and can be found on early (pre-WWII) FM radios. Of course, RCA and WWII delayed much FM development of commercial use for the next few years.

"After World War II, the FCC moved FM to the frequencies between 88 and 108 MHz on June 27, 1945. The change in frequency was said to be for avoiding possible interference problems between stations in nearby cities and to make "room" for more FM radio channels. However, the FCC was influenced by RCA chairman David Sarnoff, who had the covert goal of disrupting the successful FM network that Edwin Armstrong had established on the old band. The 500,000 receivers built for the original FM radio band could be retrofitted with converters, but many were just replaced. The greater expense was to the radio stations themselves that had to rebuild their stations for the new FM radio band. The move of the FM band, an organized campaign of misinformation by RCA (a company that competed with FM radio by focusing on AM radio and the emerging technology of television), and adverse rulings by the FCC severely set back the development of FM radio."

After this change in FM frequency assignment, a new conversion of FM Dial Scale readings to channels was affected. You will sometimes see channels from 200 to 300 on the dial of post WWII FM radios and no frequency designation(see Fig 1, pg 5). So to know the frequency designation, the channel number must be converted. It was not quite as simple as the previous channel numbers. The conversion from channel to frequency may be made from the following analysis:

The FM band extends from 88 to 108 MHz, each station channel 200 kHz, in width, Channel 201, that lowest in frequency, has a center frequency of 88.1 MHz. Each succeeding channel is successively, higher, so channel 202 is centered at 88.3 (200 kHz. Higher) and channel 203 is centered at 88.5 MHz, etc. Manufacturers were not necessarily consistent with this conversion and some variation of this rule will be noted. But for the most, the conversion will work.

Originally, FM stations in a market were generally spaced four channels (800 kHz) apart. This spacing (see Fig. 1) was developed in response to problems perceived on the original FM band, mostly due to deficiencies in receiver technology of the time. Later, as technology improved, the stations were assigned by one channel, a 200 kHz separation.

Quite often you hear FM stations referred to as a channel as well as TV. TV frequencies have been referred to as "channels" from the beginning and this nomenclature has stuck. But FM channels slowly disappeared from the dial by the mid 1950's. By the 1960's and thru 1970's, the FM commercial broadcast industry had expanded rapidly, and the dials only indicate frequency. However, as you listen to an FM station, notice how often the announcer will refer to the station as "a channel on your dial." It is interesting to note that the FCC continues to use "channel" in their documents to indicate an FM station's frequency assignment.

So next time those channel references show up on the FM dial, just do your conversion and know the FM frequencies. Some interesting WEB sites for reference and further reading are listed below.

<http://www.mrpophistory.com/askmrpophistory/2011/03/29/fm-radio-why-did-it-take-so-long-to-catch-on-pop-culture-radio-history/>

http://www.olderadio.com/current/bc_fm.htm

<http://transition.fcc.gov/mb/audio/bickel/findvalues.html>

http://en.wikipedia.org/wiki/FM_broadcasting_in_the_United_States

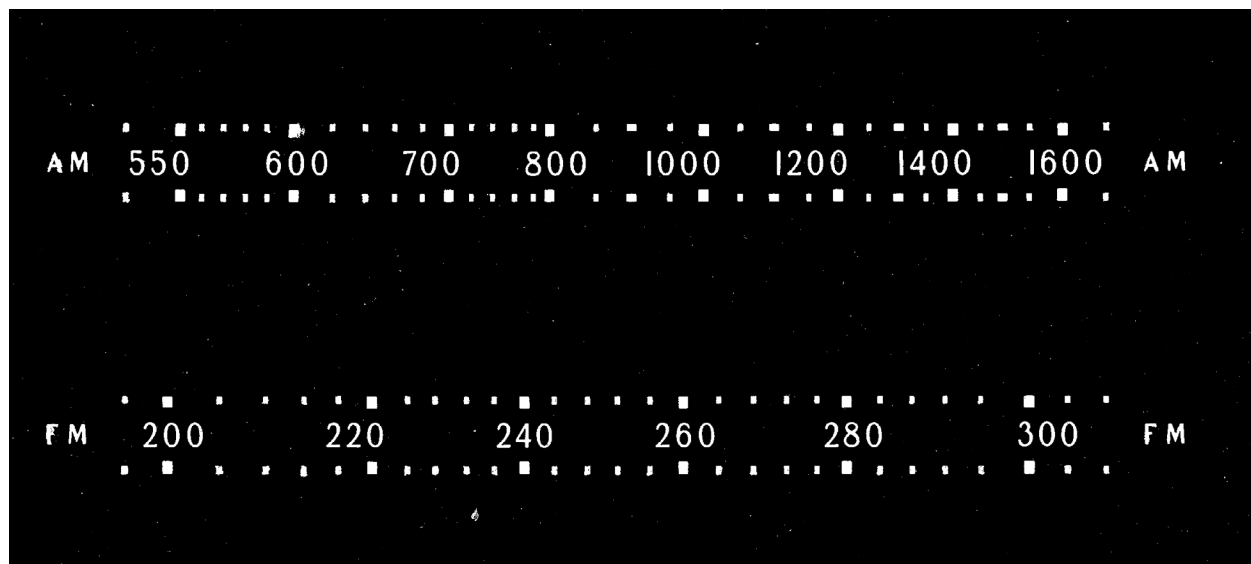


Figure 1

FROM THE VP BY RANDY JAMES

Well, here we are again-Spring!. This is my favorite season, except for the severe weather. As I write this I am watching the TV accounts of the tornado damage around the Mid-Cities and the forecasts of more possible storms. David Finrock, our main weather guy (who replaced the late Howard Taft), said that this was the first time he had ever seen tornadoes on the ground in Tarrant County and Dallas County simultaneously. Hope you all survived the storms with little or no damage and no injuries.

On to more upbeat subjects, there are lots of fun events coming up. On April 21, our monthly meeting will be an ugly radio contest. You heard me right- an UGLY RADIO CONTEST! Bring your less appealing radios (hey, beauty is in the eye of the beholder) and they will be judged by our members in attendance. Now, this does not mean you should take a hammer to your radio (though I have been tempted to a few times when frustrations set in while trying to restring a dial cord)! The winner will be awarded a cash prize. For this event the club will furnish soft drinks and coffee. Everyone is encouraged to bring your favorite snacks to share with the other members to celebrate the crowning of the King of Ugly Radios! On May 19, come on out for our Spring Swap Meet and transfer some of those radios you can do without to somebody else. You might even find that elusive item you have been searching for. At any rate we always have a good time! Officially it starts at 8:00 but usually it starts much earlier (around daybreak) and is pretty much over around 11:00 or so. On June 2, Jim Sargent will be doing another great radio auction at Dick and Edith Morgan's place. Those that ventured to Quinlan or Garland for past auctions know that you won't want to miss this one! Details of all these events can be found elsewhere in this issue. Some members have inquired about making their Convention 2012 hotel reservations early. We think this is a great idea (don't be like me and always put things off until the last minute). You can find the information in this Sound-waves or go to the website at www.vrps.org for info or to take advantage of the convenient direct link for making your reservation. One last thing- I really need for you to send me pictures of you at your bench to run with the Notes from the Bench column (I know, I know, I'm nagging). It doesn't matter if it is messy (they are not supposed to look like Martha Stewart's kitchen). We all enjoy seeing where other members work on radios. Please please please (now I'm begging) send them to me by email (randy-jeannine@sbcglobal.net) or snail mail them to me at 5544 Trail Lake Dr., Fort Worth, TX 76133. Okay, I have rambled on long enough. Until next time, Happy Trails to You and keep on truckin' and collectin'.

480I- WHAT DOES IT MEAN?

BY Mike McCarty

During the January 2012 meeting, the question came up as to why the Digital Television (DTV) resolution corresponding to the National Television Standards Committee (NTSC) broadcast standard used for analogue television in the USA until recently is called "480i", when the NTSC standard calls for 525 scan lines.

In order to understand the question, one needs to know something about the television standards, and the naming convention for DTV resolutions. The analogue signal standard calls for sixty half frames of video information to be sent each second. Persistence of vision results in the illusion of continuous motion. The various digital modes result in approximately the same number of full frames being viewed per second, but measure resolution in a vertical by horizontal (VxH) number of picture elements (pixels) being sent; again persistence of vision results in the illusion of continuous motion.

The analogue standard was devised when cathode ray tubes (CRTs) were universally used as the display device. CRTs use an "electron gun" to shoot high velocity electrons at a "target" (the visible screen). When an electron strikes the screen, the screen produces a momentary flash of light. Under constant bombardment of a steady stream of electrons, a single spot of light seems to be produced. The stream of electrons may be directed to any given location on the screen by means of powerful electromagnets, called the deflection yoke.

During display of an image, the spot is moved from the left to the right, diagonally down the screen, to produce one slightly slanted line. At the completion of one line, the beam is turned off, and the magnetic field is adjusted to return the beam to the left, and slightly below, in order to scan another line. Thus, during one half frame, 262.5 lines get produced on the screen. The last line is a "half line" because it runs from the left side of the screen only to the middle of the bottom. At this time, the beam is again turned off, and is returned to the middle of the top of the screen, and another half frame of 265.5 lines, starting with a half line, is displayed. This technique, called "interlace" eliminates the flicker which would be noticed if the lines were simply scanned in order from top to bottom. So, one entire frame has 525 lines in each frame, sent as two 265.5 line half frames, interlaced like the fingers of clasped hands.

Deflecting the electron beam takes very powerful magnetic fields, which store energy, so it takes time to change them. During the time the fields are being changed to move back for another line, the elec-

tron beam is turned off, hence these intervals of time are called "blanking intervals". It takes significant power to move the beam vertically, moreover the less the time allocated, so to reduce the stress on components, the vertical blanking interval (VBI) was lengthened compared to the horizontal retrace blanking. Thus, although a full frame is 525 lines, only 486 of them contain actual image content, and the rest are allocated to the VBI. As time went by, other information, like time of day and video captioning, were inserted into the signal during the VBI, but basically it remains a time during which the beam may be positioned, even though modern LCD and plasma display TVs no longer have a beam nor a need to deflect one.

The digital television (DTV) standardized signals specify the resolution in pixels. Generally, the TV is capable of displaying what resolution mode is currently being employed, usually simply by giving the vertical resolution followed by either the letter "i" or "p" indicating whether the signal "scan lines" are sent interlaced, or progressively, that is, in order down the screen. Examples would be "1080p" and "480i". The former indicates 1,080 vertical pixels of resolution with the "scan lines" sent in progressive order, while the latter indicates that there are 480 pixels vertically (480 "scan lines") sent interlaced. The 480i is the DTV mode which corresponds to the analogue NTSC signal, and is the one used when transmitting recordings made using the NTSC standard.

So, the question is "Why is that '480i' rather than '525i'?" The question has already been answered in part, in that 39 of the scan lines of the NTSC signal are allocated to the VBI, and contain no useful video information, and no part of the DTV signal is dedicated to represent it. However, this still leaves 6 of the 486 NTSC scan lines containing video information unaccounted for. The answer to this lies partly in a practice called "overscan", and partly in the influence of computer displays.

It was early on recognized that, CRT manufacture being what it was, not all TVs would be capable of displaying exactly one entire frame of information on the screen. There was developed then the concept of "text safe" and "action safe" areas of the view. The area called "text safe" was one which it was deemed that all televisions would be capable of displaying, and inside of which all text intended for display would be positioned. If, during the preparation of an advertisement, for example, one wished to display a telephone number, then one would be sure to use only that portion of the display inside the text safe area. A larger portion of the view area was that which many, though not all, TVs could be expected to display, and while

PICTURES FROM THE SPRING AUCTION

it was required thus to have some useful content in it, one must ensure that that portion of the view was free of microphones, portions of the set which the viewer was not intended to see, etc., but which should not contain any of the important action of the scene. The area outside of the text safe area was called "overscan", and 6 scan lines of that region has no portion of the DTV signal allocated to represent it. Partially, the decision was due to the influence of one of the standard computer display resolutions of 480x640 pixels, it being thought that one might like to use his DTV for use with his computer.

So, that's the reason that the DTV mode which corresponds to the older analogue TV broadcast is called "480i".



MONTHLY MEETING PROGRAMS

NOTE: Programs will be held at various locations in Irving, Texas. Make note of the location as they will change from time to time. Senter East, 228 Chamberlain St.; Garden and Arts, 906 S Senter Rd; and Heritage Park, 217 S. Main St.; will be the locations.. Refer to the WEB site. Programs start at 2pm. unless otherwise noted. Call us on the cell tellie if you get lost: 972-898-7251 or 972-742-8085.

APRIL 21, 2012 Garden & Arts Building

THIS IS CONTEST MONTH. No April fool is without an ugly radio or phonograph. This month we will hold an "UGLY RADIO" contest. Bring your item which only a mother could love. You define "ugly." A prize will be awarded after the vote. We will have refreshments to honor the winner. The club will furnish drinks. Bring a snack to share.

MAY 19, 2012 Senter East Building Parking Lot

Tail Gate Swap Meet. The official starting time is 8:00 AM, but veteran attendees know it really starts much earlier and is usually over around noon.

JUNE 16, 2012 Garden & Arts Building

Superheterodyne Radio alignment, revisited. We will cover alignment of IF and RF sections of a superheterodyne radio. We will show Bret Menassa's alignment video and he will be there to help answer any questions about radio alignment. He will have copies of his video for sale if anyone wants one.

JULY 21, 2012 Senter East Building 8:00 AM -Noon

Annual Repair Session. Bring your troublesome radios or phonographs for our "experts" to give advice and help to get them working again. If possible clean the radio up and test the tubes before the meeting. Programs are subject to change, contingent on scheduling conflicts. As always, your suggestions for programs/content are welcome. If the programs do not fit your needs and you want something different, let me know. I need volunteers to organize other programs, so consider presenting a program yourself.

Call me anytime or send me an email. Mike Grimes 972-898-7251 (cell), or K5MLG@verizon.net.

VRPS, INC.
PO BOX 165345
IRVING, TX 75016

**SOUNDWAVES IS PUBLISHED QUARTERLY BY THE
VINTAGE RADIO AND PHONOGRAPH SOCIETY, INC.**

Board of Directors

PRESIDENT - JIM SARGENT (972) 742-8085

E-MAIL: bsargent@swbell.net

VICE-PRESIDENT - RANDY JAMES (817) 292-7435

E-MAIL: randy-jeannine@sbcglobal.net

SOUNDWAVES NEWSLETTER Randy James

E-MAIL: randy-jeannine@sbcglobal.net

WEBMASTER - MIKE GRIMES

E-MAIL: k5mlg@verizon.net

VRPS WEBSITE: www.vrps.org

CLEO CHERRYHOLMES
RONALD DANIEL
BLAKE DIETZE
MIKE McCARTY
ED JANSSEN
BILL McKEOWN
GEORGE POTTER
GARY REEVES
BILL JEWELL