



**DUKE CITY
HAMFEST
2025
ALBUQUERQUE
HISTORY OF
AMERICAN
RADIO
BROADCASTING
Hams Started It !**



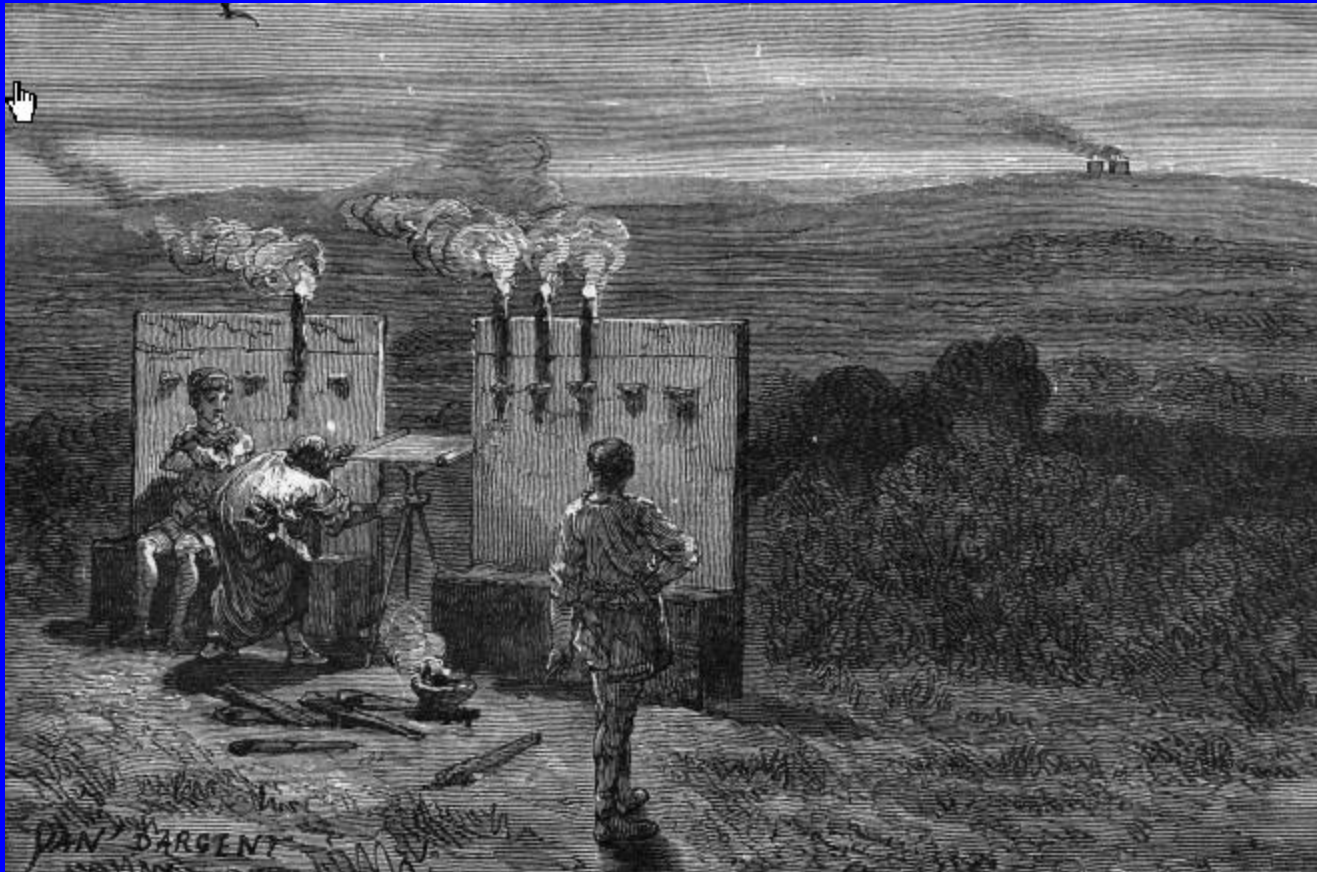
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PRESENTATION
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EDUCATIONAL
USE ONLY**

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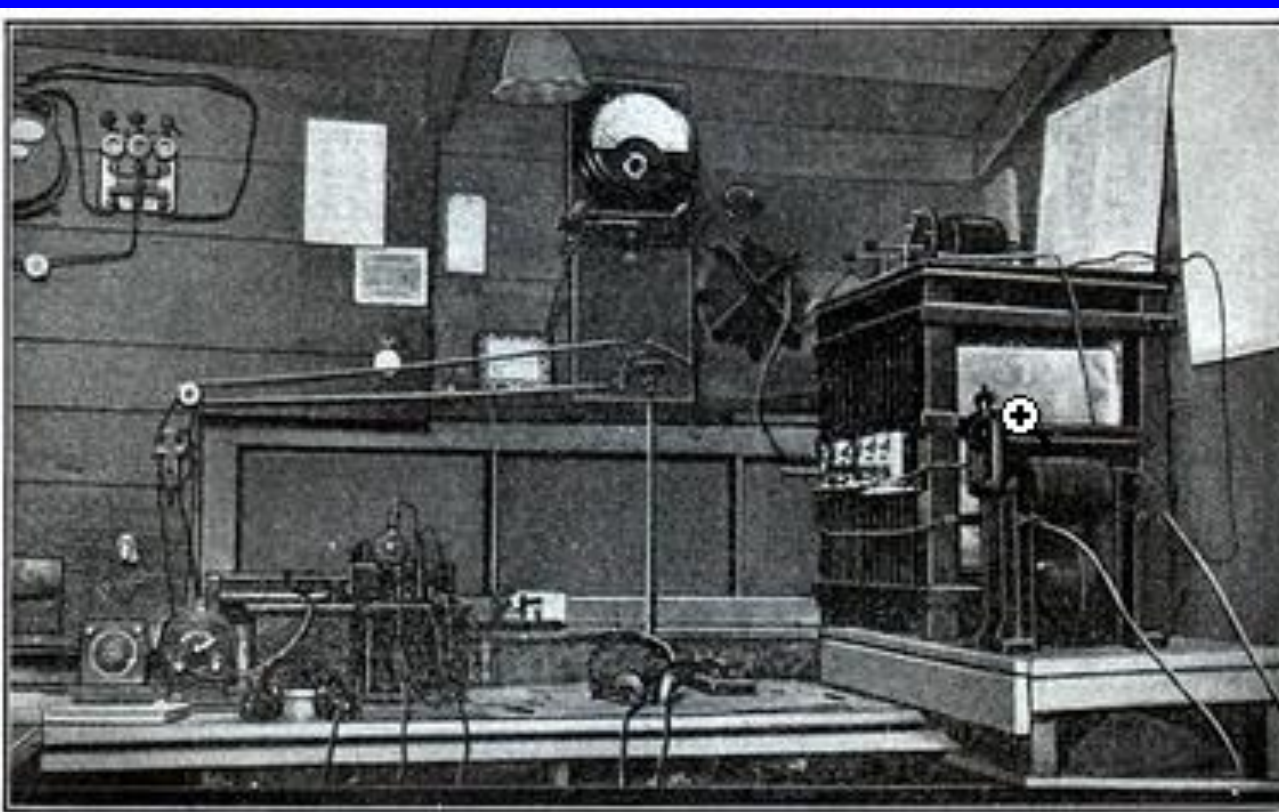
IT ALL STARTED WITH SENDING MESSAGES



WE NEEDED A BETTER WAY TO COMMUNICATE



IN THE BEGINNING EVERYONE WAS AN AMATEUR



FRONTISPIECE.—An Amateur's Set Heard Over a 500-Mile Range. I. K. W. Station Built by Mr. Ralph Batcher, at Toledo, Iowa, with the Assistance of the 1916 Edition of this Book.

RADIO STARTED IN AN ITALIAN VINYARD



THIS IS A TRANSMITTER??

YES !!

GUGLIELMO
MARCONI'S
FIRST
TRANSMITTER 1895
KIND'A CRUDE!

HIS FIRST SUCCESS
WAS MAY 13, 1897



WAS MARCONI REALLY 1ST?



**May 7, 1895 -- Aleksandr S. Popov
St. Petersburg University**

MARCONI WAS FIRST TO COMMERCIALIZE RADIO

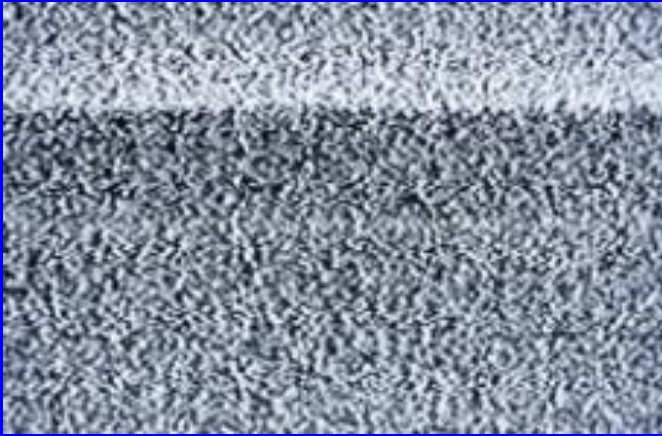


IT'S ALWAYS

ALL ABOUT
THE MONEY!

A vintage RCA Radiogram form, which is a type of bill of exchange. The form is white with a red header section. The header contains the RCA logo, the word "RADIOGRAM", and "RADIOMARINE CORPORATION OF AMERICA". It also includes fields for "FROM" and "TO" with checkboxes for "SHORE TO SHIP" and "SHIP TO SHIP". Below the header, there are fields for "Office of origin", "Date", "Amount of bill in U.S.", and "Place paid". The main body of the form contains the text "Bene the following Radiogram For RCA, subject to terms on back hereof, which are hereby agreed to". At the bottom, there is a small line of text: "TWENTY-THREE, FORTY-SEVEN, NINTH MUST BE PRODUCED WITH ANY COMPLAINT REGARDING THIS RADIOGRAM".

RADIO BEFORE MARCONI

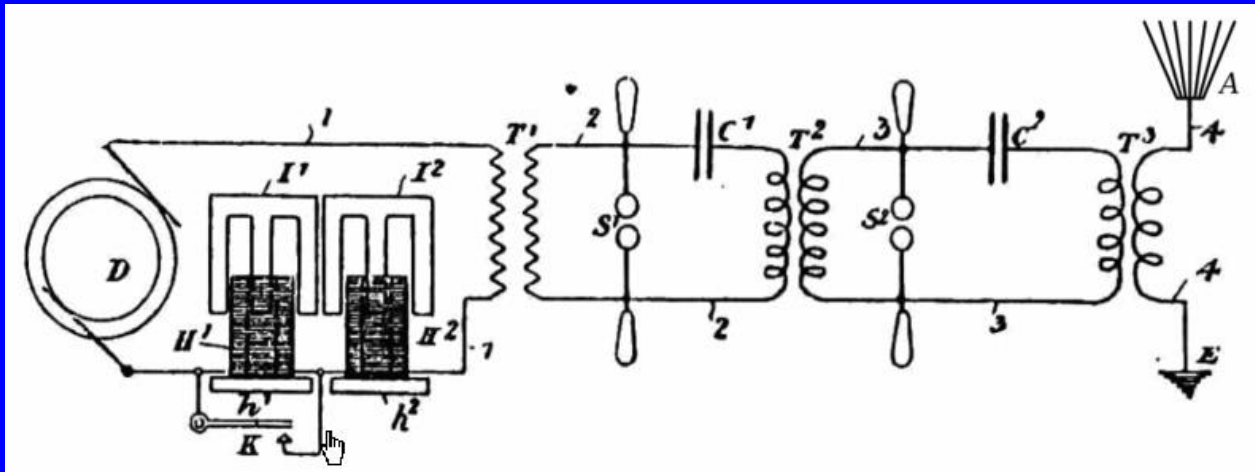


Static

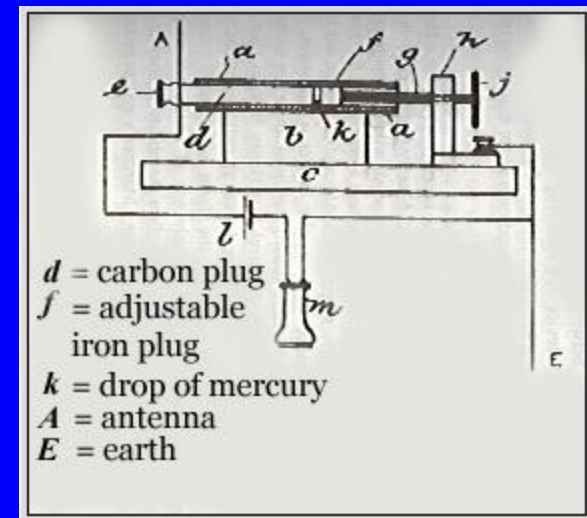
The world's first radio signals!



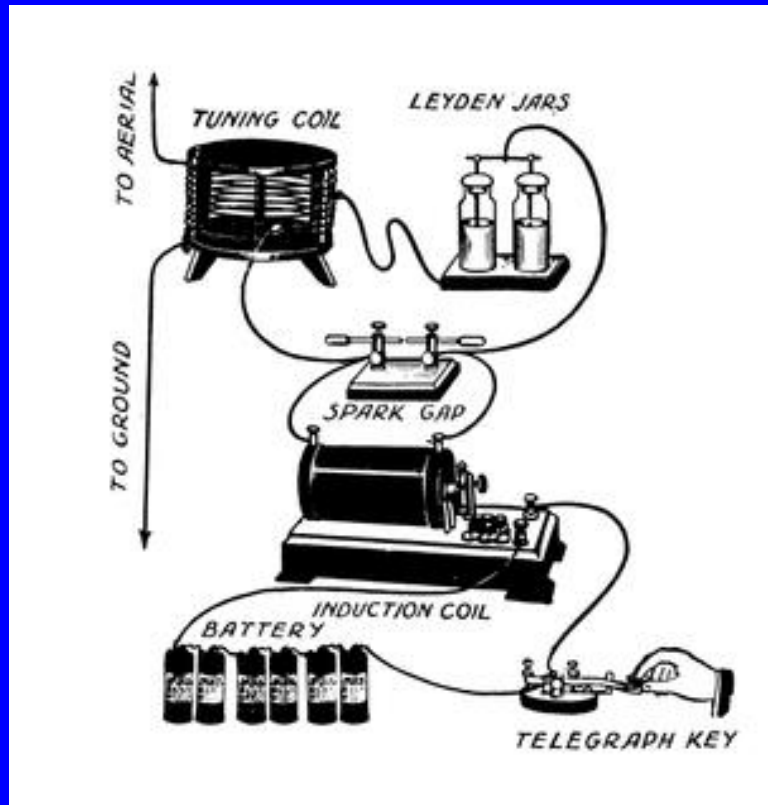
FIRST TRANSATLANTIC RADIO TRANSMITTER



Transmitter
Receiver



HAMS – ARCS & SPARKS INTO THE 1920'S

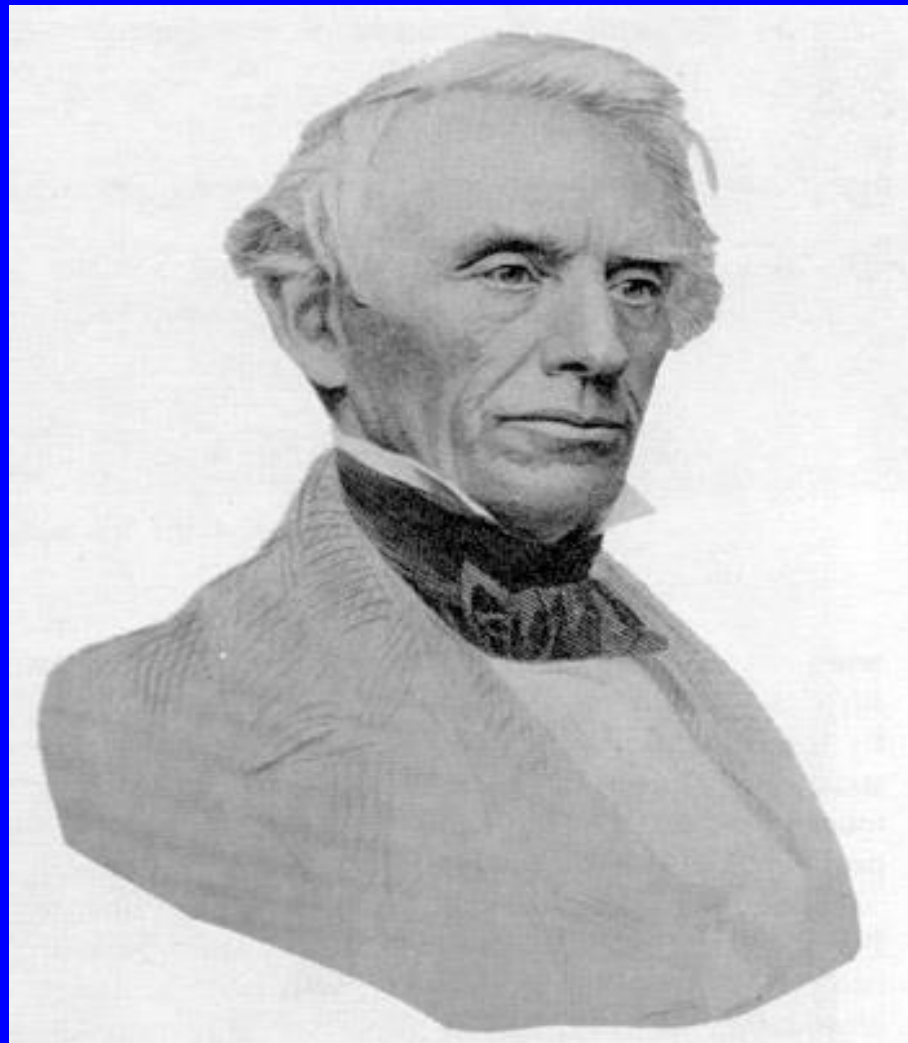


Ultimate Homebrew!





Marconi – Father of Radio



Father of Morse Code
Samuel F. B. Morse

Vail Morse Key



The Other Father Of Morse Code

ALFRED LEWIS VAIL

FIRST MORSE CODE WORDS

January 6, 1838

A patient waiter is no loser

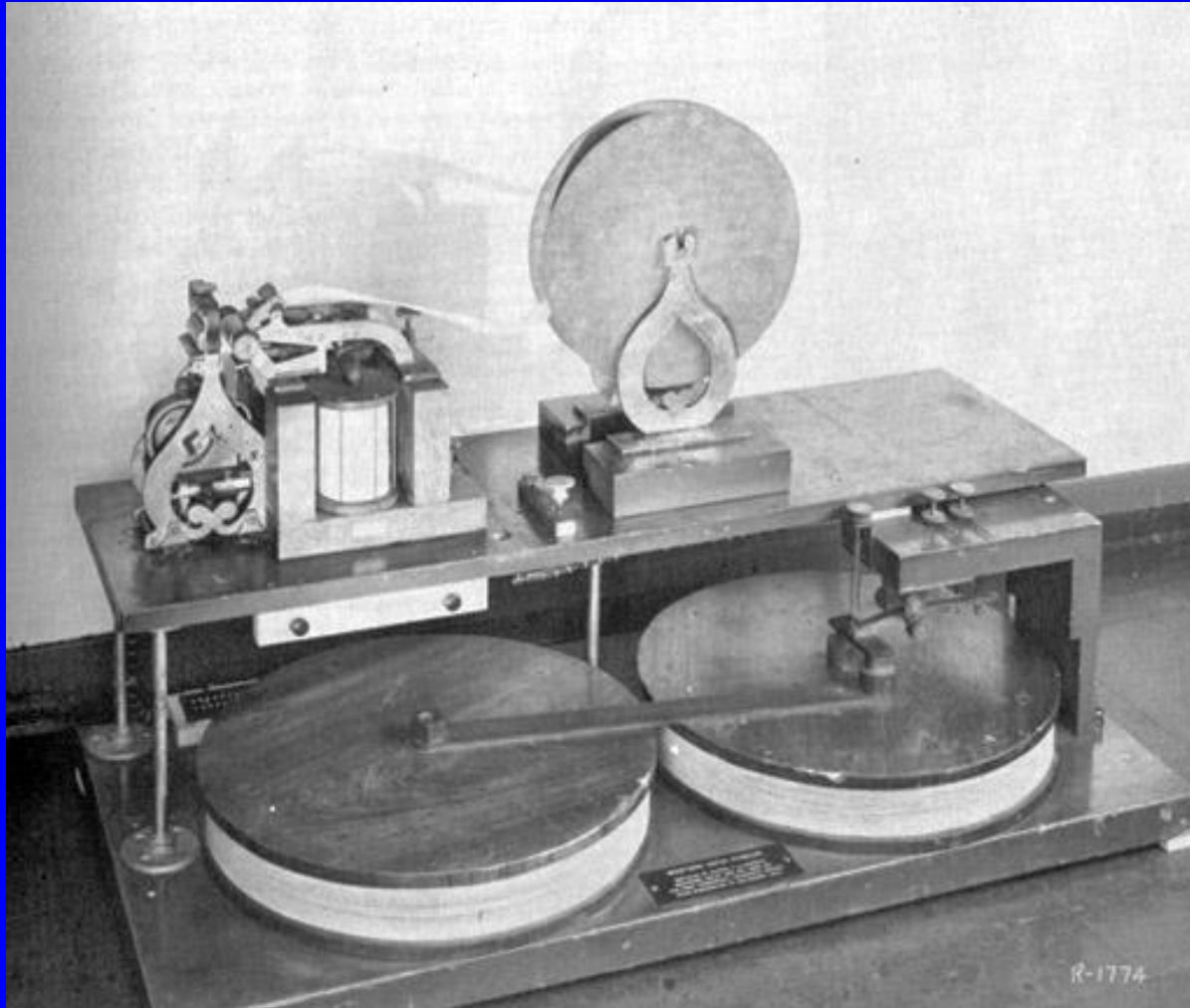
May 24, 1844

What Hath God Wrought

Note: there were, and there are, NO capital letters in Morse Code



Early Morse Paper Tape

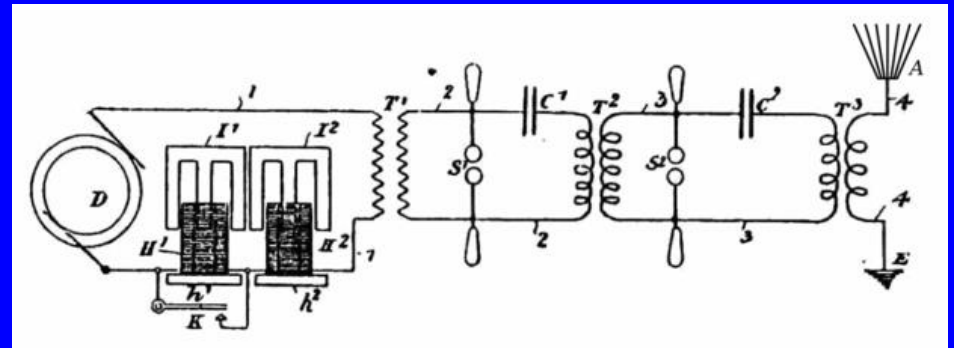
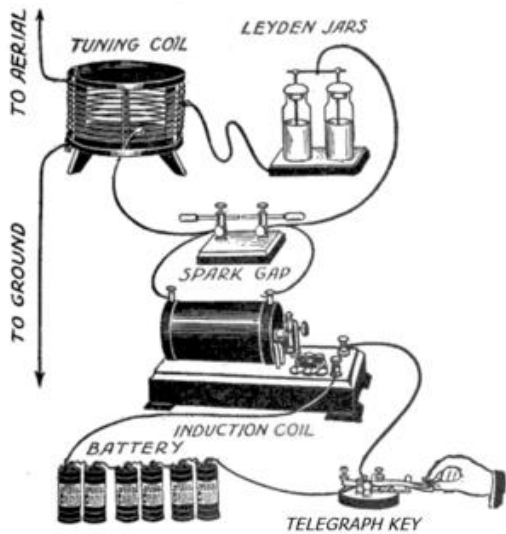


EMBOSSSED, NOT INKED

MORSE CODE FOR CLICKS IS VERY DIFFERENT FROM MORSE CODE FOR TONES

CHARACTER:	AMERICAN MORSE	INTERNATIONAL C
A	* -	* -
B	- * * *	- * * *
C	* * * *	- * - *
D	- * *	- * *
E	*	*
F	* - *	* * - *
G	- - *	- - *
H	* * * *	* * * *
I	* *	* *
J	- * - *	* - - -
K	- * -	- * -
L	- - - -	* - * *
M	- -	- -
N	- *	- *
O	* * *	- - -
P	* * * * *	* - - *
Q	* * - *	- - * -
R	* * *	* - *
S	* * *	* * *
T	-	-
U	* * -	* * -
V	* * * -	* * * -
W	* - -	* - -
X	* - * *	- * * -
Y	* * * *	- * - -
Z	* * * *	- - * *
1	* - - *	* - - - -
2	* * - * *	* * - - -
3	* * * - *	* * * - -
4	* * * * -	* * * * -
5	- - -	* * * * *
6	* * * * * *	- * * * *
7	- - * *	- - * * *
8	- * * * *	- - - * *
9	- * * -	- - - - *
0	- - - - -	- - - - -
Period	* * - - * *	* - * - * -
Comma	* - * -	- - * * - -
Question	- * * - *	* * - - * *

IN THE BEGINNING THERE WAS ONLY AMATEUR RADIO



All Other Radio Services
Are Descended From Us

HAMS BEGAN TO BROADCAST



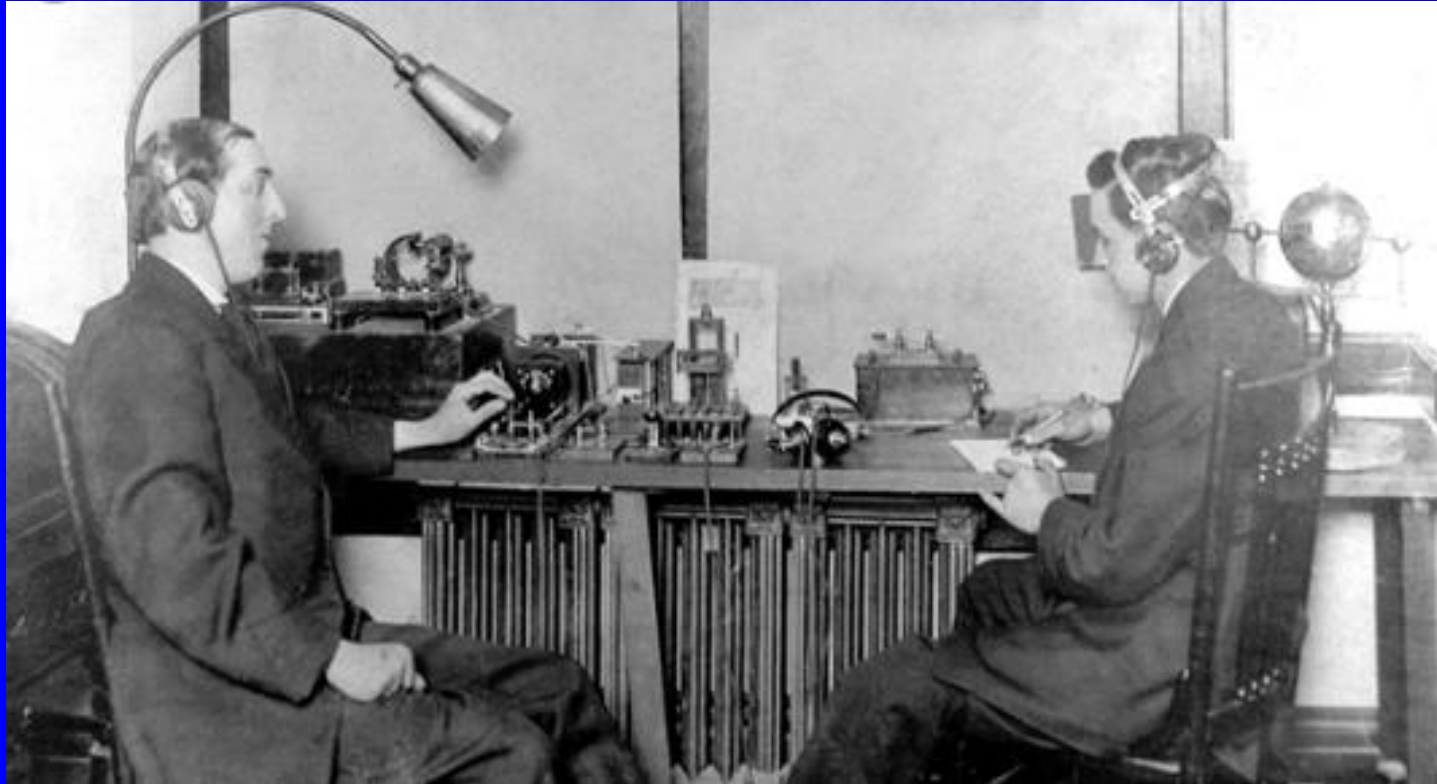
Charles Logwood broadcasting at station 2XG, New York City, circa November, 1916^[55]

EARLY BROADCASTING
WAS MOSTLY JUST TO
OTHER HAM RADIO
OPERATORS

THE GENERAL PUBLIC
DIDN'T HAVE RADIOS

---- YET----

IT WAS AN ARCS & SPARKS RADIO WILD WEST !!



AS COMMERCIAL RADIO GREW & PROSPERED
WE HAMS WERE CONSIDERED “INTERFERENCE”



RMS Titanic in 1912

Western Union Telegram

CLASS OF SERVICE	WESTERN UNION TELEGRAM	SYMBOLS
This is a fast message unless its deferred character is indicated by the proper symbol.		DL = Day Letter NL = Night Letter LT = International Letter Telegram
The time shown in the first line on domestic telegrams is LOCAL TIME at point of origin. Time of receipt is LOCAL TIME at point of destination.		
613P PST JAN 25 68 LA299		
SYB675 SY WA560 XV GOVT PDB WASHINGTON DC 25 NPT		
MR AND MRS ROLAND T MARCHAND SR		
1051 CLARION DR TORRANCE CALIF		
THIS IS TO CONFIRM THAT A REPORT RECEIVED THIS HEADQUARTERS		
25 JANUARY 1968 REVEALS THAT YOUR SON LANCE CORPORAL ROLAND		
T MARCHAND JR USMC UNDERWENT A SURGICAL AMPUTATION OF THE RIGHT		
LEG BELOW THE KNEE AT THE STATION HOSPITAL, DANANG. HIS PRESENT		
CONDITION IS NOW SERIOUS AND HIS PROGNOSIS IS NOW GUARDED.		
YOUR CONCERN IS REALIZED AND YOU ARE ASSURED THAT HE CONTINUES		
TO RECEIVE THE BEST OF CARE. YOU WILL CONTINUE TO BE KEPT INFORMED		
OF ALL SIGNIFICANT CHANGES IN HIS CONDITION. HIS MAILING ADDRESS		
REMAINS THE SAME		
LEONARD F CHAPMAN JR. GENERAL USMC COMMANDANT OF THE MARINE		
CORPS		
(07).		
STP200 (7-2-67)		



Intercepted !!

- **Early Motorized Delivery Service**

FIRST WORDS SPOKEN ON THE AIRWAVES December 23, 1900



Reginald Fessenden's "Voice Transmitter"

One, two, three, four. Is it
snowing where you are Mr.
Thiessen? If it is, telegraph
back and let me know



FESSENDEN'S SETUP WAS REALLY CRUDE !

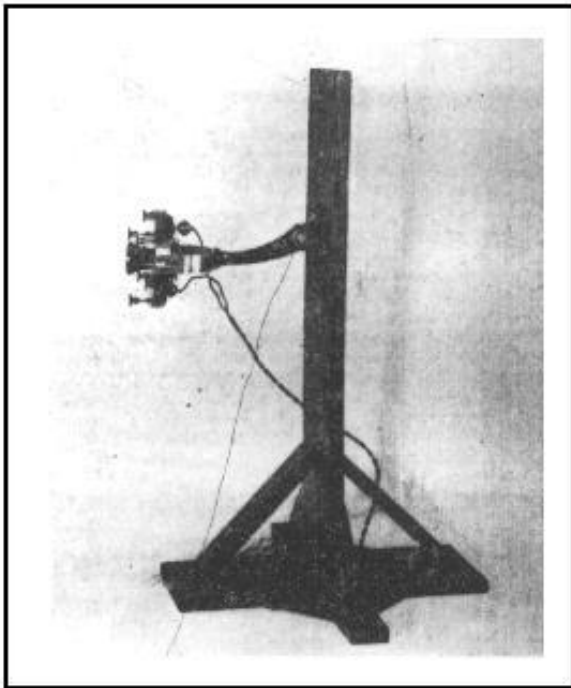


Fig. 11. Carbon microphone transmitter, specially designed for the carrying of heavy currents and rapid radiation of heat.

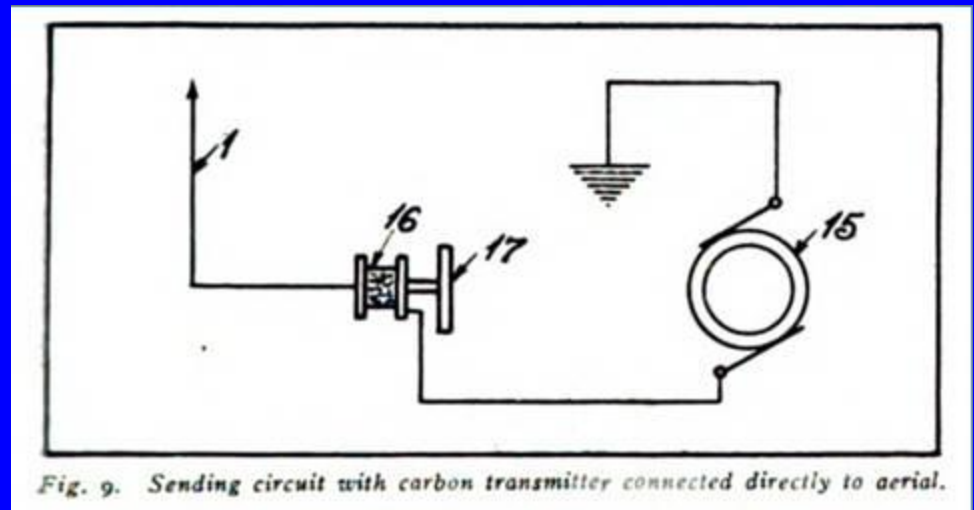


Fig. 9. Sending circuit with carbon transmitter connected directly to aerial.

Gives new meaning
to the phrase
“HOT MIC”

1902 – TEEN AMATEUR VOICE TRANSMISSION

13 YEAR OLD FRANCIS McCARTY

However – he
used an arc
transmitter

Nobody could
understand
what he said



1906 CHRISTMAS EVE

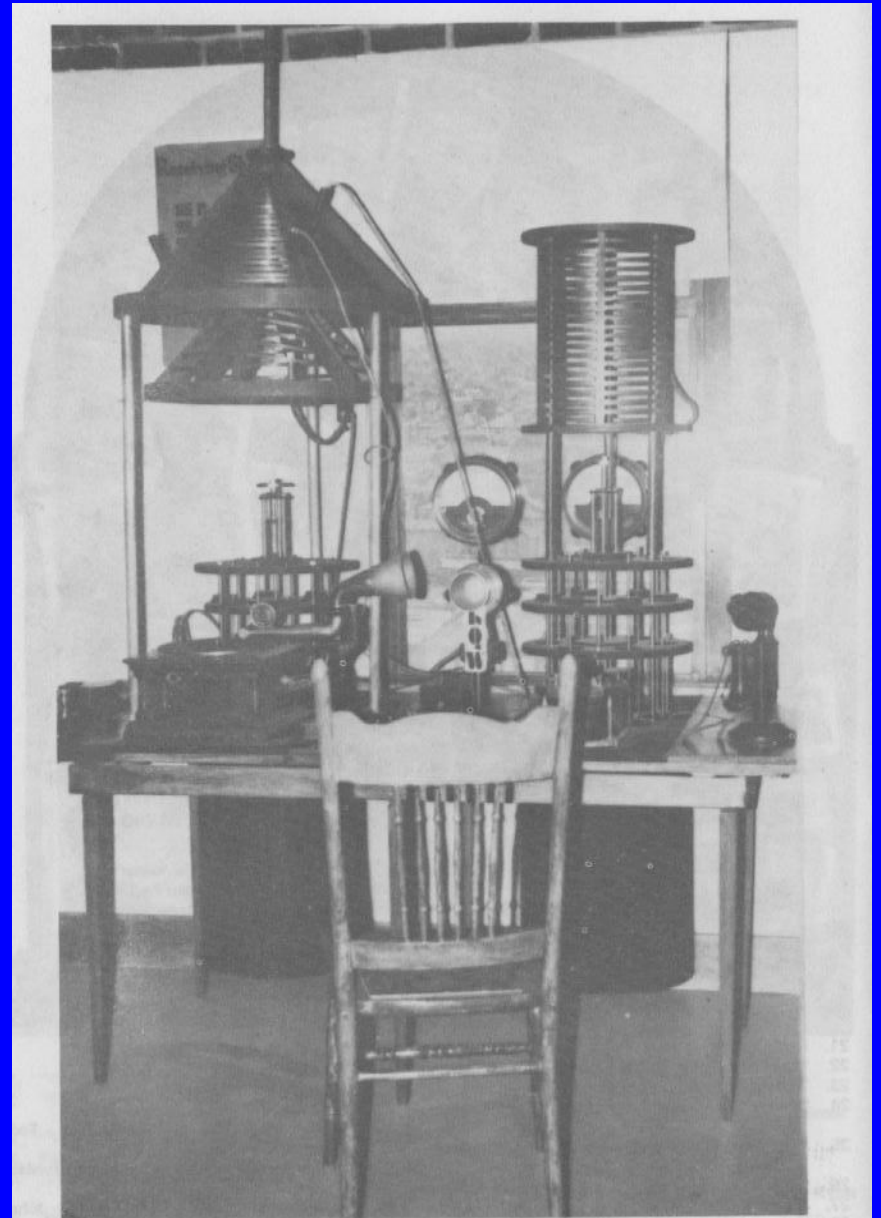
Canadian Reginald Fessenden speaks “HELLO!”
and plays “O Holy Night” on his violin

His wife’s planned Christmas Bible reading
never happened that night – she got

MIC FRIGHT!!



**Charles
Herrold's 1909
Transmitter
(May or may
NOT be the)
First ever
really clear
voice
transmission**



ONLY HAMS HEARD HIM THE PUBLIC HAD NO RADIOS

Christmas Eve 1906

A voice came from
the Morse Code
receivers

Listeners heard him
play “O Holy Night”
on his violin, and heard a wax cylinder recording
of Handel’s “Largo”



VERY FEW CITIZENS HAD RADIOS BACK THEN

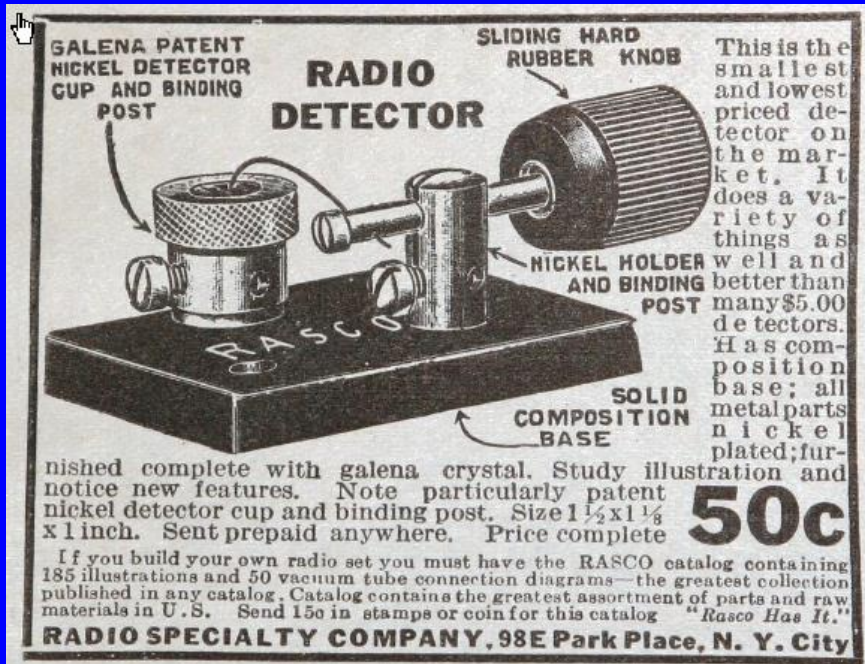


Nearly All Communications
Were In Morse Code
And Were
Point-To-Point

When Radio Started Talking
The Public Started Listening
Broadcasting Was Born



BUT FEW HAD RADIOS



RADIO DETECTOR

GALENA PATENT NICKEL DETECTOR CUP AND BINDING POST

SLIDING HARD RUBBER KNOB

NICKEL HOLDER AND BINDING POST

SOLID COMPOSITION BASE

This is the smallest and lowest priced detector on the market. It does a variety of things as well and better than many \$5.00 detectors. Has composition base; all metal parts nickel plated; furnished complete with galena crystal. Study illustration and notice new features. Note particularly patent nickel detector cup and binding post. Size $1\frac{1}{2} \times 1\frac{1}{4} \times 1$ inch. Sent prepaid anywhere. Price complete **50c**

If you build your own radio set you must have the RASCO catalog containing 185 illustrations and 50 vacuum tube connection diagrams—the greatest collection published in any catalog. Catalog contains the greatest assortment of parts and raw materials in U.S. Send 15c in stamps or coin for this catalog "Rasco Has It."

RADIO SPECIALTY COMPANY, 98 E Park Place, N. Y. City



Our Special Complete
Radio Receiving Outfit
Simple to Operate—Best Results

Our special complete Receiving Outfit is one of the very best on the market. It will equal in results any receiving outfit of its type, regardless of cost. Everything is complete—nothing extra to buy. You may take the materials we send you, put up the aerial wire, easily connect the instruments, and in less than half an hour, you can be receiving signals, radio music, lectures, stock reports, market reports, or any other radio program being sent out within your range. Wavelength range, 180 to 600 meters, which includes broadcasting stations, amateur and commercial ship and land stations.

The Complete Outfit Includes:

- Tuska Combined Tuner and Detector which is so simple in operation, that a child can handle it.
- Telephone Head Set—Our Special 2000-ohm Double Head Set—reproduces messages loud and clear.
- Radio Storage Battery, 6-volt, 40-ampere hour capacity.
- One Detector Tube.
- One "B" Battery.
- Antenna Equipment, including 150 feet bare copper wire, 25 feet insulated wire, porcelain base double throw switch, lightning protector, ground clamp, two screw eyes and 25 feet of wire for connecting instruments. Ship. wt., complete outfit, 40 lbs.

562 C 639—Complete Outfit.....\$49.50

\$49.50

\$950 in today's money

BUILD YOUR OWN

HAM RADIO AS BROADCASTER

- Einar Dessau used his ham radio to broadcast to Denmark government listeners in 1909
- **Call Sign?** There weren't any –he eventually became **OZ9DES**
- **Public Listeners?** Zero - In Denmark, the public had no radios !!

OZ9DES in 1909



ALL STATIONS ON 833 KHZ

And you think we have QRM

Later 750 and 619 KHZ were added

Next it became 550 to 1350 KHZ

It still wasn't enough!

Today: 540 to 1700 KHZ



THE FRC COULD

grant & deny licenses, assign
station frequencies & power levels,
& issue fines for violations

**THERE WERE VERY
FEW RULES BACK THEN**

Charles Herrold, 6XF

May, 1921 - Played Records That Were

**“Supplied By J. A Kerwin
of 84 East Santa Clara Street
Dealer In Phonographs”**

Commercials On Amateur Radio !!

April 6, 1914

THE ARRL IS BORN

Hiram Percy Maxim
1AW, later W1AW



But What about
Clarence Tuska
1WD



April 6, 1914

THE ARRL IS BORN

Clarence D. Tuska

SNT Call Sign

(Southern

New

England

Tuska)

Later 1ZT



ANNOUNCEMENT

¶ Q S T is published by and at the expense of Hiram Percy Maxim and Clarence D. Tuska.

¶ Its object is to help maintain the organization of the American Radio Relay League and to keep the Amateur Wireless Operators of the country in constant touch with each other.

¶ Every Amateur will help himself and help his fellows by sending in 25 cents for a three months' trial subscription.

THE PUBLISHERS OF Q S T

THE TELEPHONE COMPANY GETS INTO THE ACT



15 Minute Long
Commercial For
Queensboro Realty
In Jackson Heights, NY



Five Kilowatts In 1923

EXPERIMENTERS PUT MOVIES ON THE RADIO (TV)

W3XK June 14, 1923



Charles Francis Jenkins



Charles Francis Jenkins in 1925

Annabelle Moore



ANNABELLE

Whitford in 1895

WE GOT THE FCC THE COMMUNICATIONS ACT OF 1934 CREATED IT

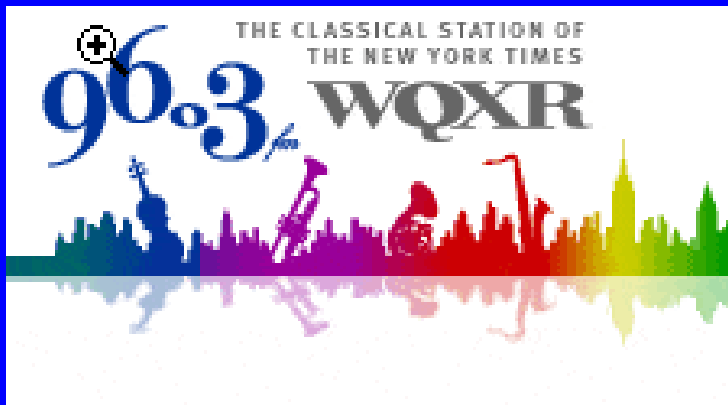
**THE FCC HAS
LOTS AND LOTS
OF RULES THAT
IT ENFORCES**



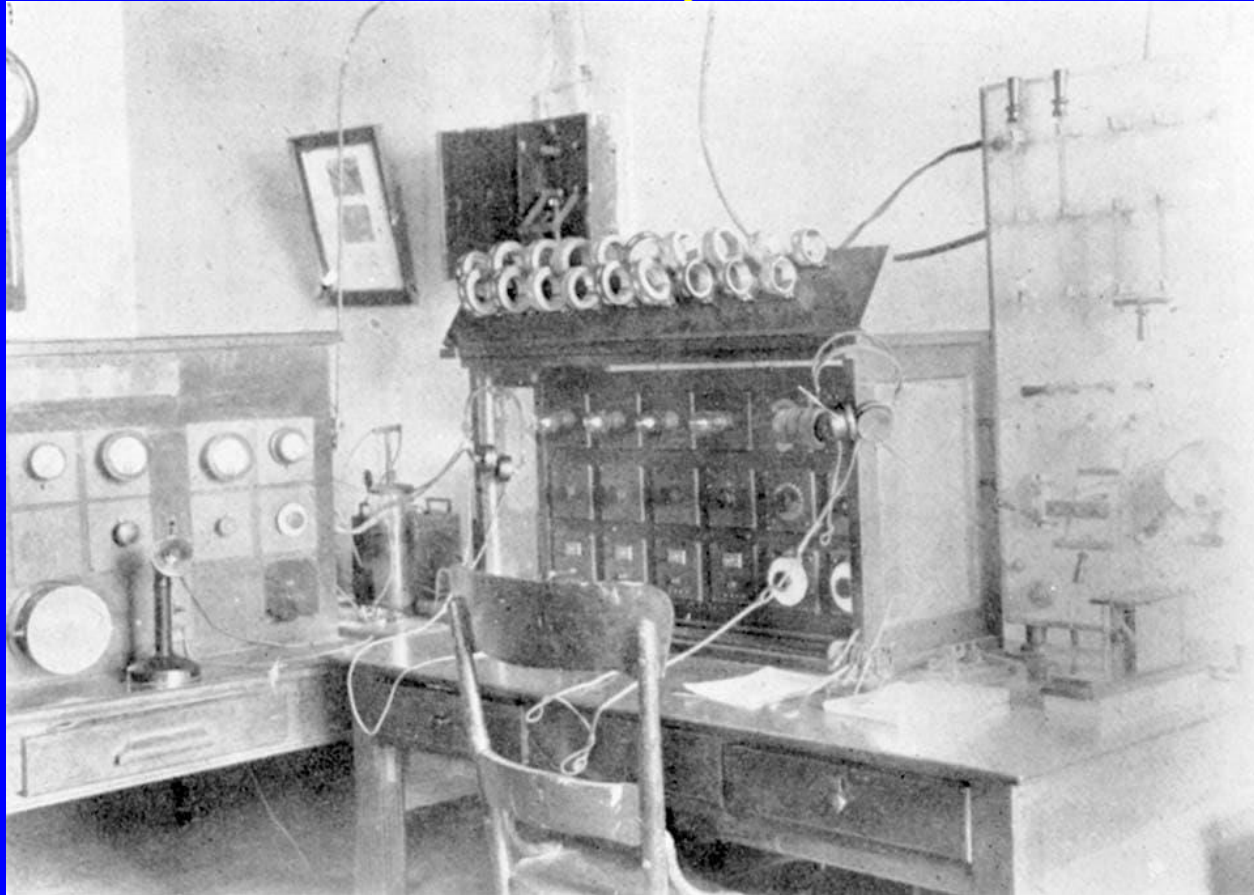
AMATEUR RADIO AND BROADCASTING WENT THEIR SEPARATE WAYS



John Hogan
W2XR



AMATEUR STATION 9YK IN 1921 BECOMES WEW SAINT LOUIS, MISSOURI



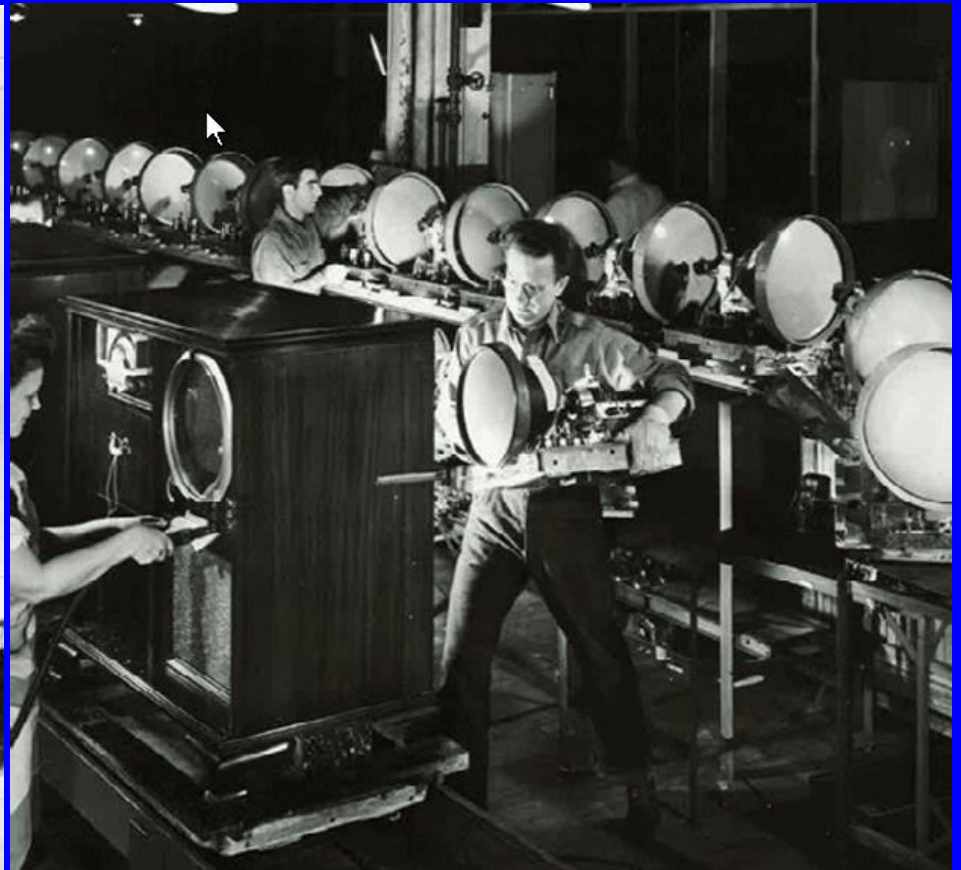
8MK BECOMES WWJ DETROIT



8ZZ BECOMES KDKA PITTSBURGH



9ZN BECOMES ZENITH RADIO'S WJAZ & MAKES RADIOS & TVS



VANITY CALL SIGNS



WGN	World's Greatest Newspaper
WLS	World's Largest Store
KRLA	Radio Los Angeles
WHB	World's Happiest Broadcaster

EARLY TENT STUDIO



Great Acoustics

Absolutely NO

Echoes Or Reverb

STATIONS WANTED POWER THEY NEEDED TUBES



Ralph Heintz 6XB, later 6GK, later W6XBB
His wife, Sophie was 6GI

HAMS WOULD SUPPLY THEM

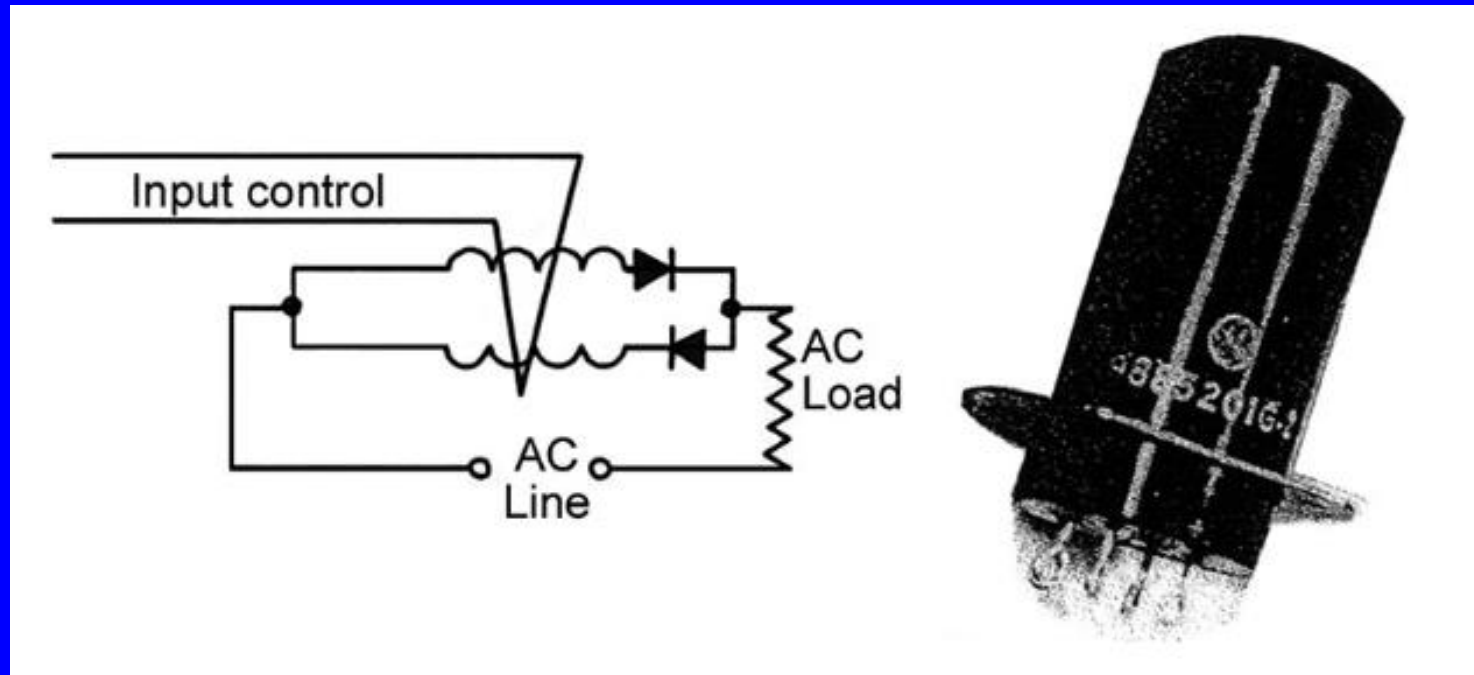
EIMAC – A SUCCESS STORY



Bill Eitel W6UF

Jack McCullogh W6CHE

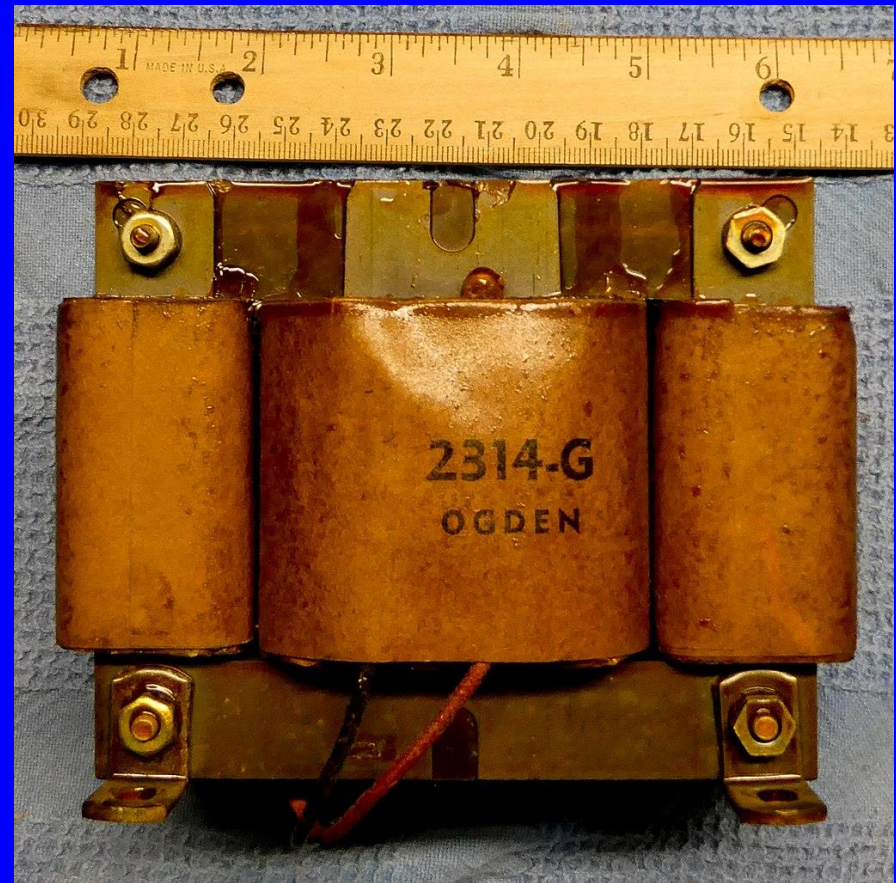
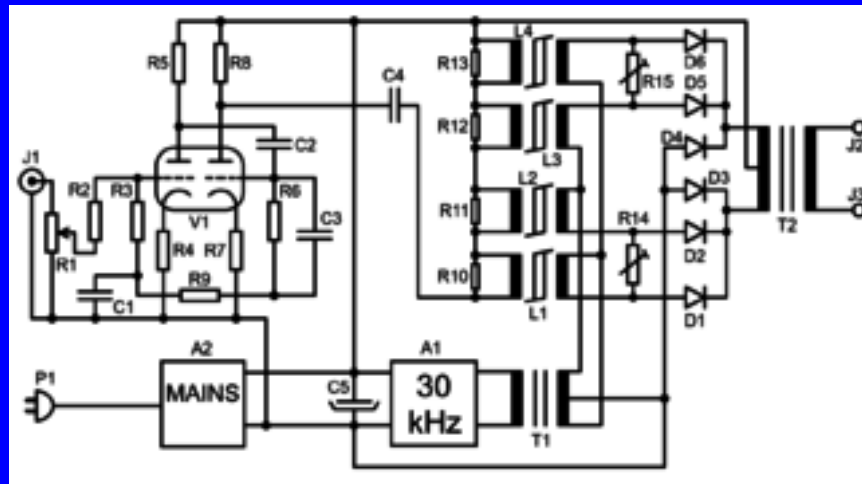
THE AMPLIFIER TUBE YOU NEVER KNEW



The Magnetic Amplifier

Invented in 1910

By Ernst F. Alexanderson



Hybrid Tube And
Magnetic Amplifier

HIGH POWER AM AND SHORTWAVE STATIONS USE CONTROLLED CARRIER MODULATION



**We Were First!
Remember the
Heathkit DX-35?**

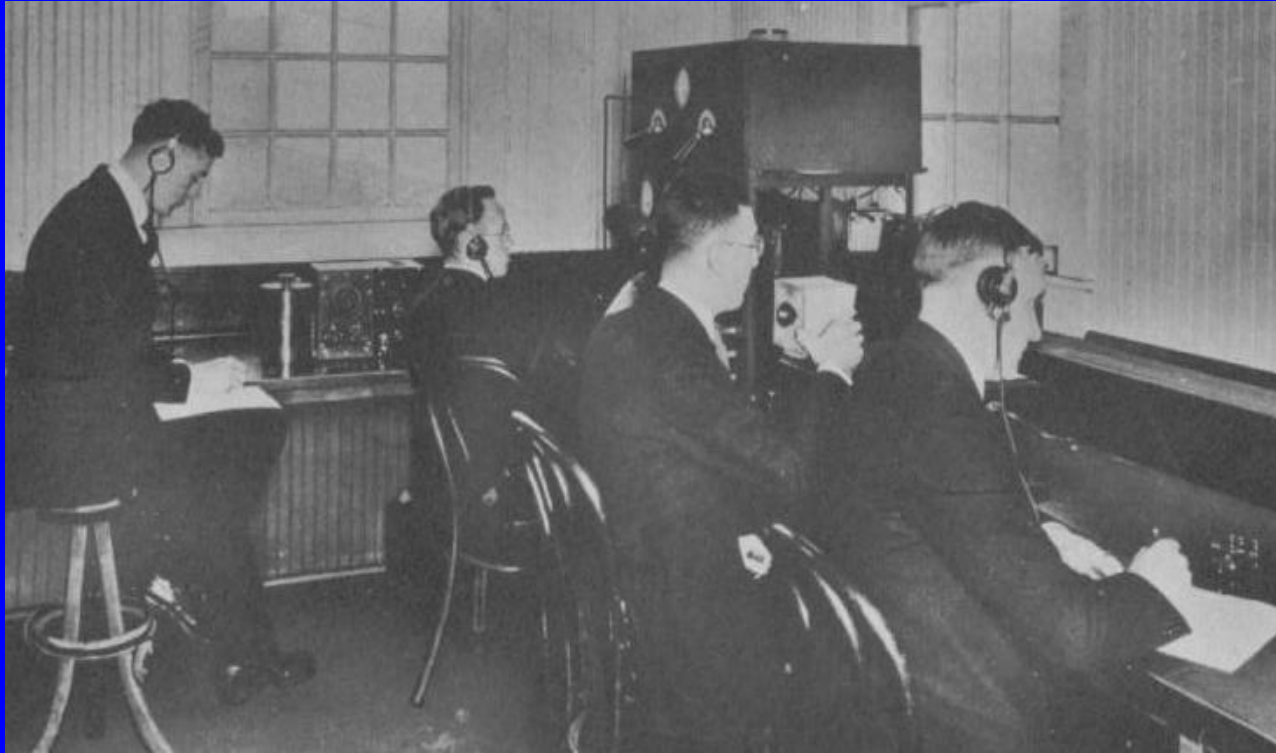
***Modulation-Dependent
Carrier Level**

FIND THE MICROPHONE



HINT

KDKA Election Coverage



Asked for reception reports (QSLs)



KDKA

Farm Reports By Early Remote Broadcast



What Are Barrows And Gilts Anyway ?

Gilt- A female pig that has not produced a litter of piglets

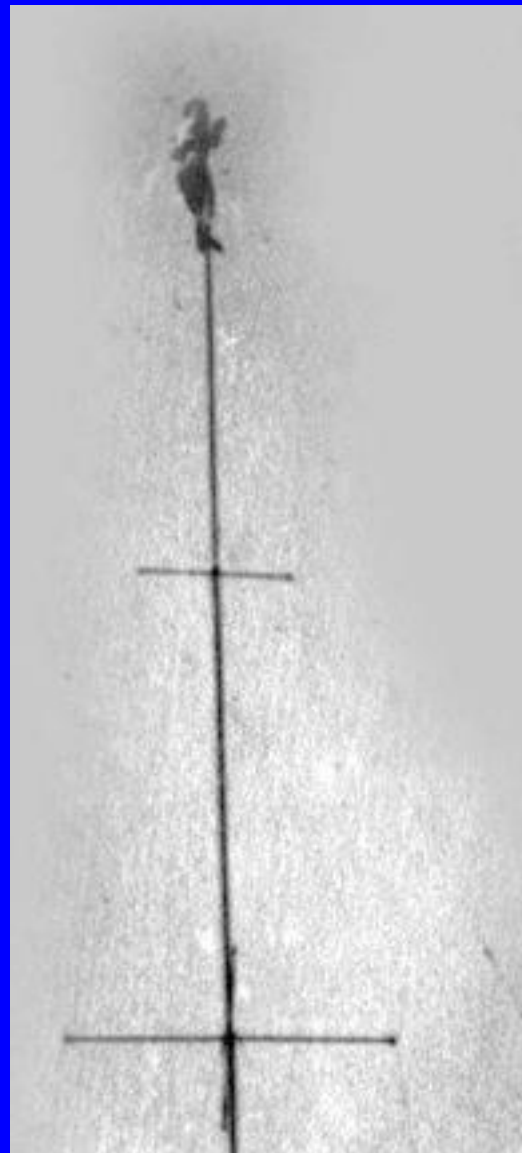
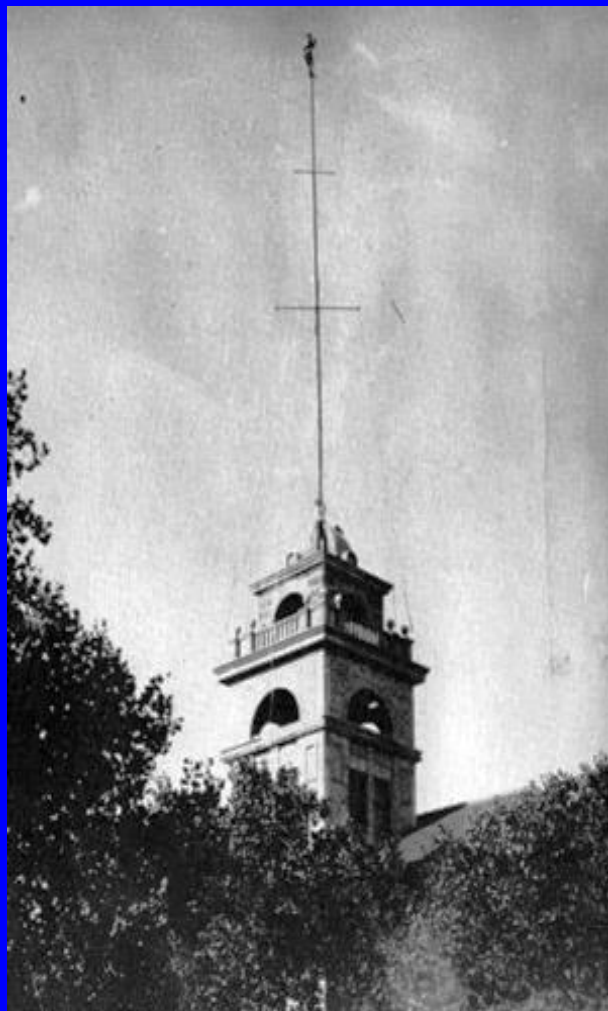
Barrow- A castrated male pig.

LOWELL THOMAS BRINGS THE NEWS



Typical Early Remote Broadcast





← Very
Brave
Or
Really
Crazy
Early
Radio
Engineer
1922

KOB Antenna - Las Cruces

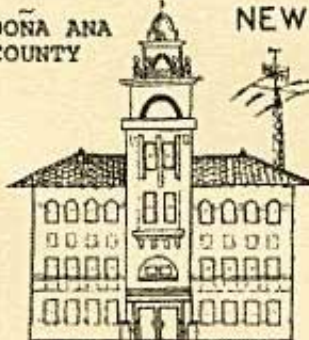
W5GB LAS CRUCES GODDARD MEMORIAL HAM RADIO CLUB



ESTABLISHED 1919 EX 5CX, 5PY, 5PZ, W5GEM

 **W5GB** 

NEW MEXICO STATE UNIVERSITY
DONA ANA COUNTY

 NEW MEXICO STATE UNIVERSITY
AMATEUR RADIO CLUB
BOX CC, LAS CRUCES, NM 88003

Confirming 2 way ☐ contact
with ARS ☐ on ☐
19 at ☐ UTC

RST ☐ on ☐ MHz.

Rig: ☐

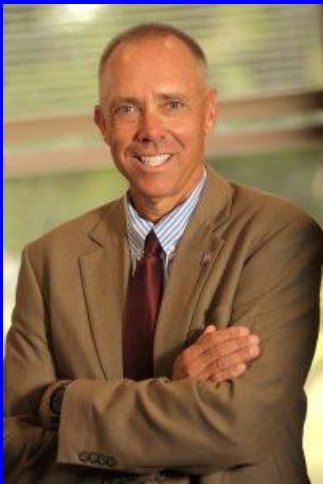
PSE QSL TNX 73, 

Robert Bennett, right, and Charlie Welch, left

RCA'S LITTLE NIPPER W5GB'S WORKING DOG



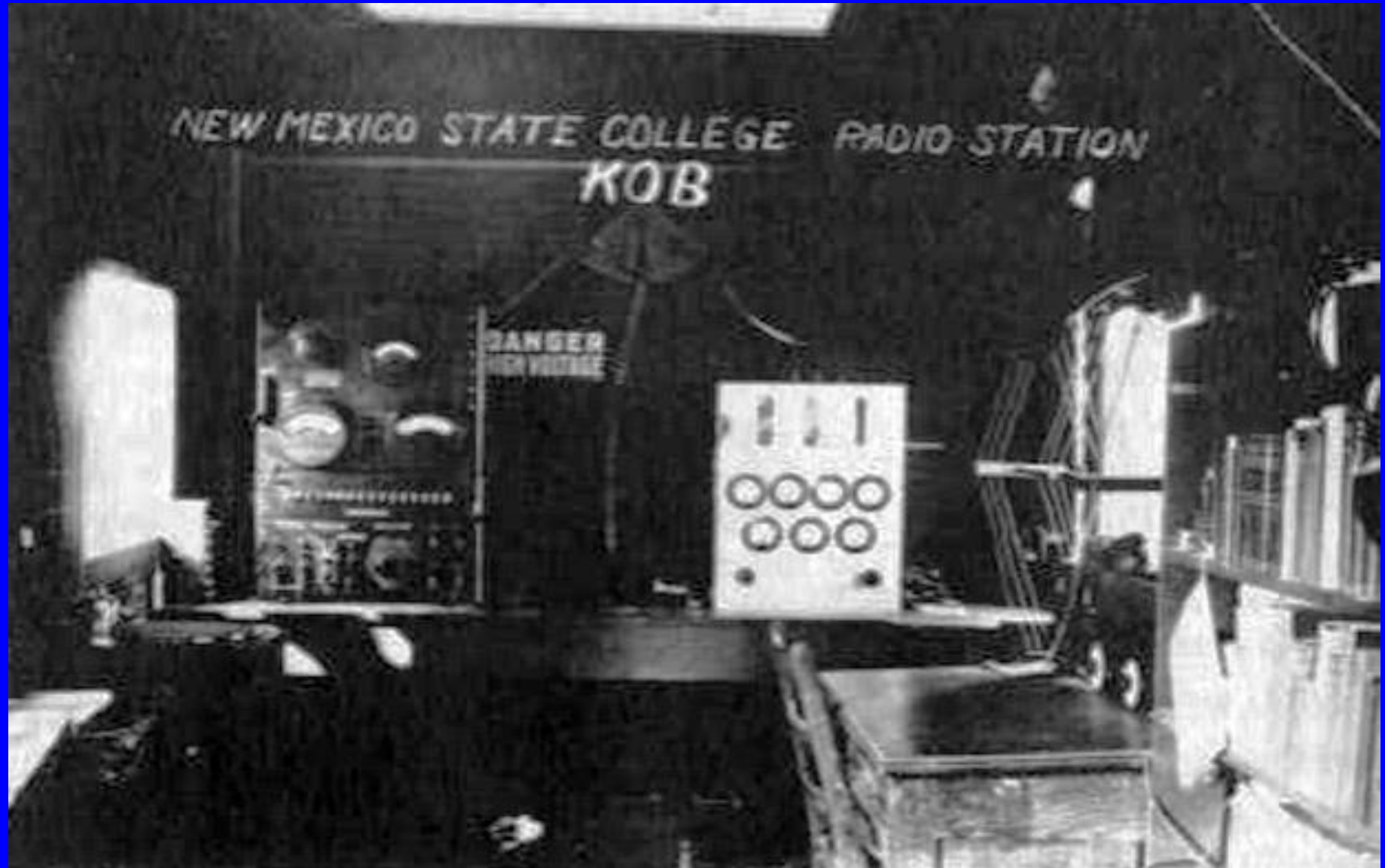
W5GB'S WORKING DOG
"WAVE" RETRIEVES PLACE
KICK STANDS AT FOOTBALL



Steve Stochaj
KD5SSE



Early KOB Radio Transmitter



KOB's 1st Albuquerque Towers

The antenna is a wire between the towers!!



KGGM Radio 610

First In Albuquerque

Franciscan Hotel



KGGM Towers



NEW YORK, MONDAY, OCTOBER 31, 1938.

Radio Listeners in Panic, Taking War Drama as Fact

***Many Flee Homes to Escape 'Gas Raid From
Mars'—Phone Calls Swamp Police at
Broadcast of Wells Fantasy***

A wave of mass hysteria seized thousands of radio listeners throughout the nation between 8:15 and radio stations here and in other cities of the United States and Canada seeking advice on protective



War of the Worlds terrified listeners!

Tokyo Rose – Iva Toguri



Hanoi Hanna (Trinh Thi Ngo)



Voice of America Signs On - 1942



Video

CONELRAD Symbol from the Cold War



1951



HAMS ON THE RADIO ENTERTAINED US

Donnie Osmond - **WD4SKT** (Osmonds)
Patty Loveless - **KD4WUJ** (Country)
Joe Walsh - **WB6ACU** (Eagles)
Priscilla Presley - **NY6YOS** (Elvis' Wife)



MARLON BRANDO'S ISLAND PARADISE HAM STATION

FO8GJ



KE6PZH

ANDY DEVINE



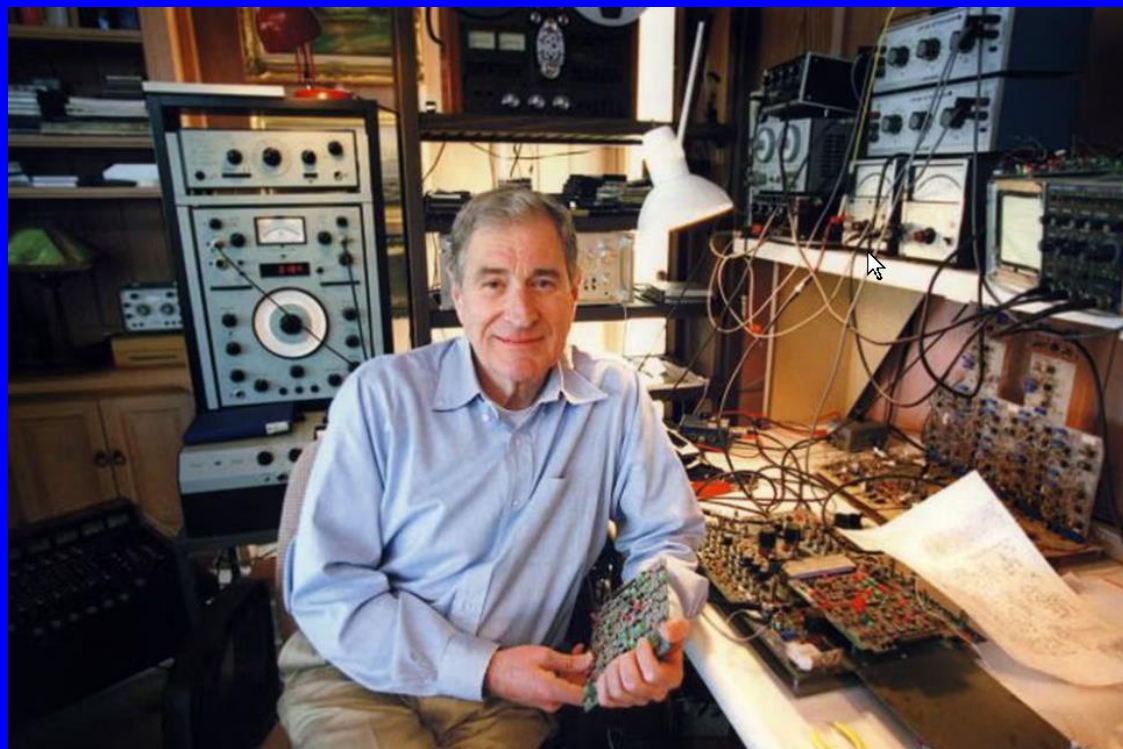
WB6RER



SATURDAY MORNINGS “ANDY’S GANG”

RAY DOLBY

F5VBY

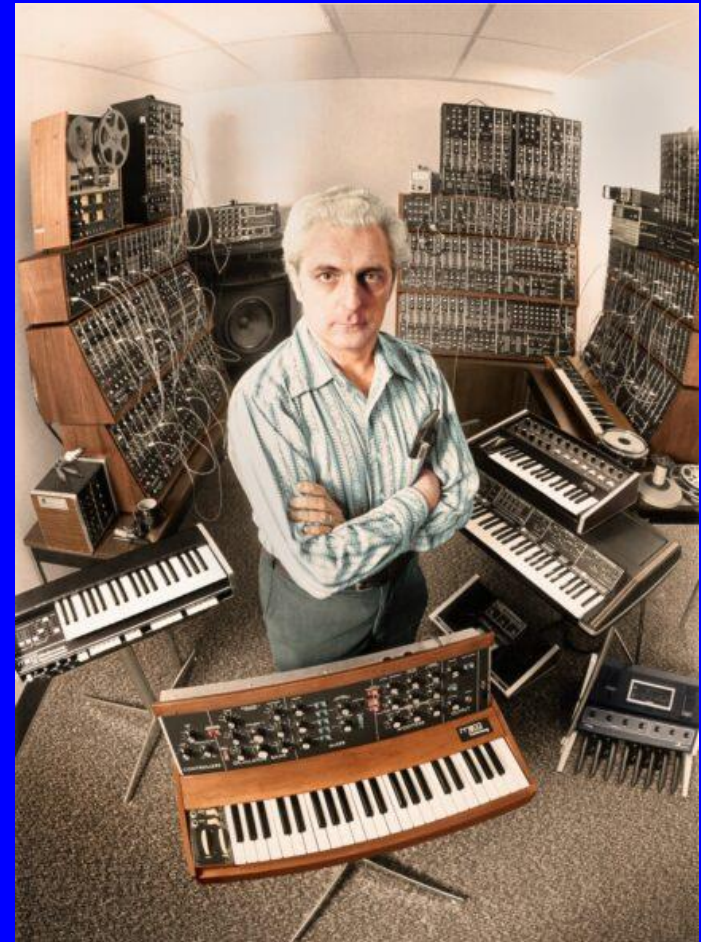


HAMS MADE MUSIC
WITHOUT HISS POSSIBLE

Hams Gave Us Music Synthesizers

Robert Moog

K2AMH



Arthur Godfrey

Coast to coast, everybody's good friend

K4LIB



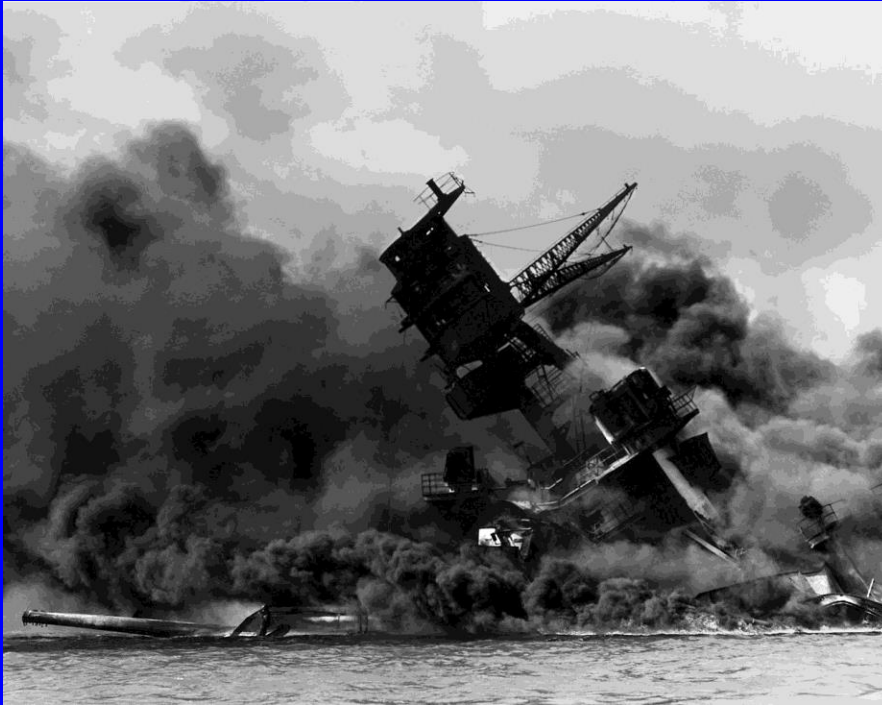
It's Arthur Godfrey Time



America's Favorite Morning Show



In Times Of Crisis Americans Turn To Radio & TV



- December 7, 1941
- Americans were glued to their radios
- Franklin Delano Roosevelt spoke

WAR EMERGENCY RADIO SERVICE



Band name	Frequencies
2½ meters	112–116 MHz
1¼ meters	219–225 MHz
70 cm band	400–401 MHz

HAM
RADIO
GOES TO WAR



NEWS – VIA MORSE BEFORE TELETYPES



Copied press
wireless news for
KNX, Los Angeles

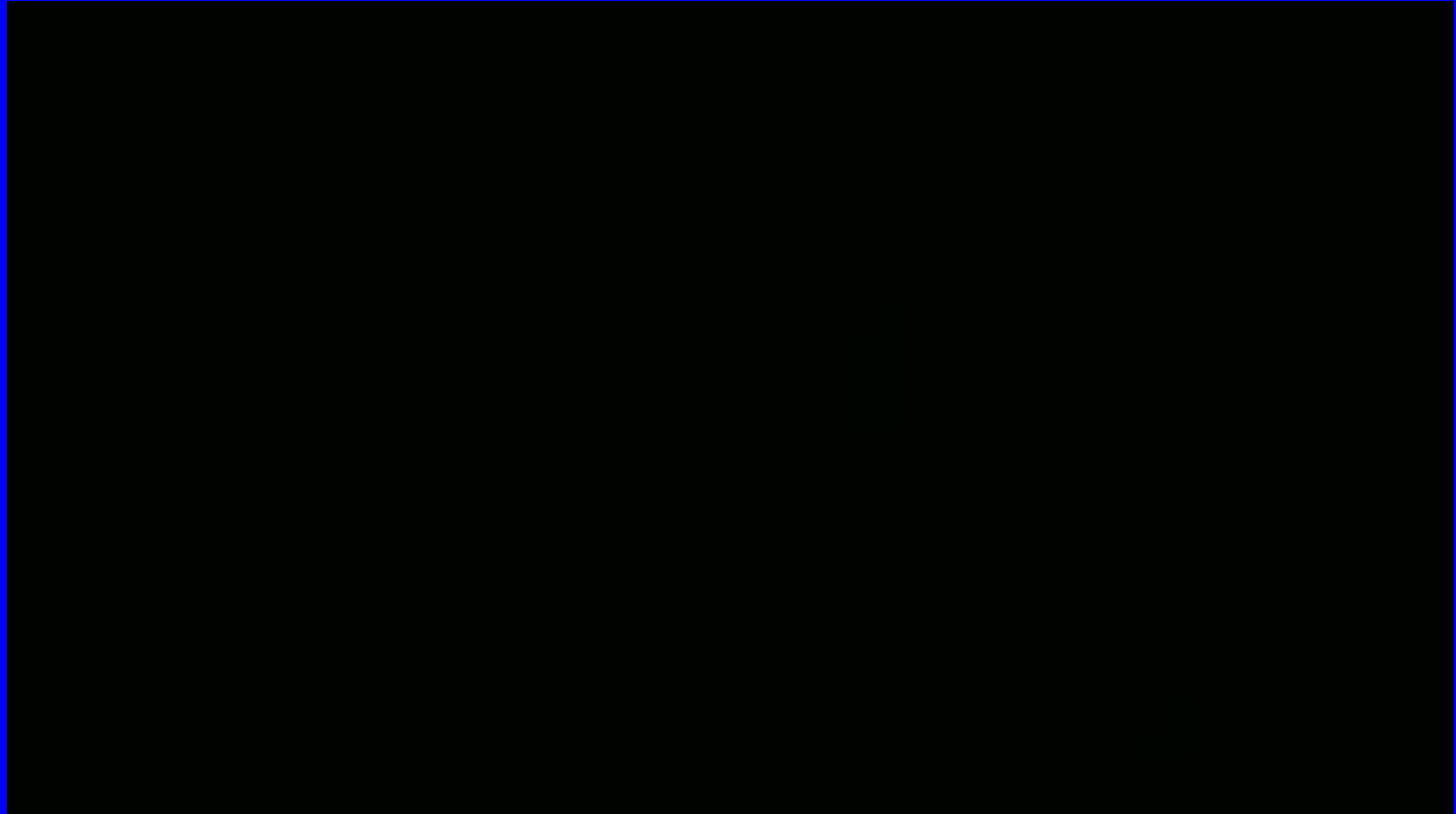
W60WP

Transradio Press Service – 39 WPM

WORLD WAR II ENDS



The Most Trusted Man In America -- KB2GSD



Another Day That Will Live In Infamy

Our Nation Held Its Breath

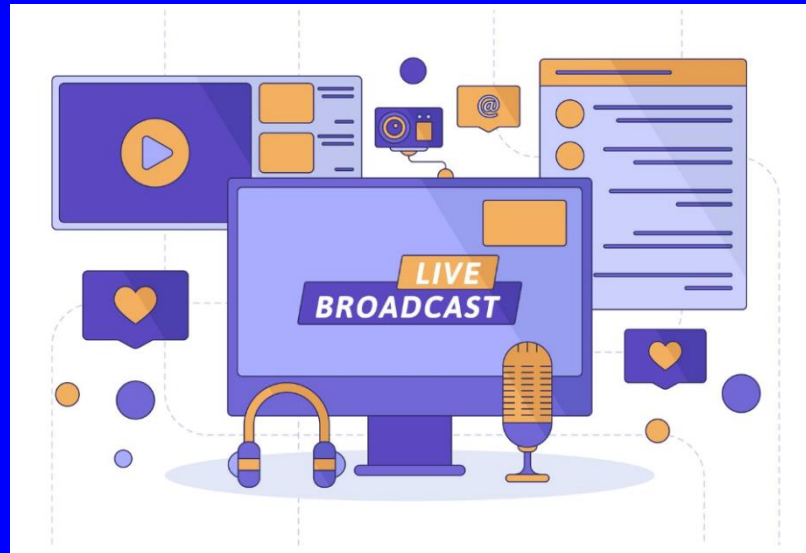


The Problem Of Interoperability

**WE STARTED IT
THE COUNTRY RELIES ON IT**



**RADIO & TV TODAY GREW
FROM OUR CREATIVITY**



YES, IT ALL BEGAN WITH AMATEUR RADIO !



We were the
Pioneers !!



Thank you !

K5MGR

Mike Langner