

THE ARRL BOARD OF DIRECTORS – HISTORICAL COMMITTEE

THE ARRL HERITAGE MUSEUM

Presents

THE HISTORIAN'S VIEW-PRESENTATION

Chapter nine
Revised 5/1/2017

THE CHRONICLE OF W1AW (C) SCRIPT CORRESPONDING TO POWER POINT

SLIDE #

- 1/2. **PROGRESSING FROM ONE HUNDRED YEARS OF ACCOMPLISHMENT THE LEAGUE IS ON THE THRESHOLD OF A NEW CENTURY**
3. **THIS INSTITUTION IS UNIQUE IN THAT SIGNIFICANT EVENTS AND IMPOSING PERSONALITIES HAVE ESTABLISHED ITS LEGACY AND CULTURE.**
4. **THESE INFLUENCES HAVE FRAMED THE DEVELOPMENT OF THE WORLD'S MOST RENOWNED AMATEUR RADIO STATION-W1AW...THE LEAGUE'S VOICE TO THE WORLD. WE PRESENT THE HISTORY OF W1AW AND THE EVENTS THAT SURROUNDED ITS GROWTH. A EVOLUTION ENTWINED WITHIN THE TECHNOLOGICAL PROGRESS OF AMATEUR RADIO AND OFTEN IN ITS VANGUARD**
5. **MAXIM THE LEADER OF AMERICAN AMATEURS ENVISIONED THE LEAGUE-A UNION WITH A VOICE TO BIND THE FLEDGLING RADIO ENTHUSIASTS TOGETHER.**
6. **THIS YOUNG COLLABORATOR WAS THE FIRST SECRETARY, QST PUBLISHER, AND LIKELY ORIGINATOR OF THE RELAY SCHEME - THE CORE CONCEPT OF THE LEAGUE.**
7. **THE RELAY CONCEPT WAS DEPICTED ON THIS MAP SHOWING THE FIVE TRUNK LINES PROVIDING COAST TO COAST RELAY TRANSMISSION OF MESSAGES.**

8. **THIS FIRST ISSUE OF THE LEAGUE JOURNAL- DECEMBER 1915. IT SOLIDIFIES THE FRATERNITY AND ADVANCES ALL ASPECTS OF AMATEUR RADIO AND ITS TECHNOLOGY WORLD WIDE.**
9. **QST CELEBRATED ITS 100th BIRTHDAY IN 2015. THIS PUBLICATION SERVED AS THE PRINCIPAL AND SOLE UNIFYING VOICE OF THE LEAGUE DURING THE FIRST THIRTEEN YEARS OF ITS EXISTENCE.**
10. **EARLY AMATEURS IN THE FIRST AND SECOND DECADES OF THE PAST CENTURY TRANSMITTED WITH SIMPLE DEVICES AND ARRANGEMENTS WHICH PRODUCED A SPARK GENERATING ELECTROMAGNETIC WAVES.**
11. **SPARK WAS THE SOLE METHOD UTILIZED BY AMATEUR AND COMMERCIAL STATIONS ALIKE. NO ALTERNATIVE METHODS WERE KNOWN UNTIL THE EARLY TWENTIES.**
12. **INITIALLY AMATEURS WERE LIMITED BY REGULATION TO THE SHORTER WAVE LENGTHS OF 200 METERS AND DOWN. AND, A MAXIMUM POWER OF ONE KILOWATT WHICH FURTHER LIMITED THE CAPABLE RANGE.**
13. **OLD BETSY HIRAM PERCY MAXIM'S PERSONAL ROTARY SPARK GAP TRANSMITTER WAS RATED AT ONE KILOWATT AND PRODUCED THE FIRST SIGNALS IDENTIFIED WITH THE CALL W1AW**
14. **AND EVEN WITH A ELABORATE ANTENNA TRANSMISSIONS WERE LIMITED TO A RANGE OF 50 MILES OR SO. HENCE AROSE THE CONCEPT OF RELAYING MESSAGES FROM ONE STATION TO ANOTHER.**
15. **BY 1922 TECHNOLOGY HAD ADVANCED TO THE DEGREE THAT U.S. AMATEURS ATTEMPTED TO HAVE THEIR SIGNALS HEARD ACROSS THE ATLANTIC. THE FIRST EFFORT FAILED BUT THE SECOND MONITORED BY THE LEAGUES PAUL F. GODLEY WAS SUCCESSFUL.**
16. **IN ALL EIGHT SPARK GAP AND EIGHTEEN U.S. CW STATIONS MADE IT ACROSS DURING THE TEST PERIOD.**
- 17/18. **THE LEADER WAS A SPECIALLY CONSTRUCTED CW STATION ASSEMBLED BY THE RADIO CLUB OF AMERICA IN GREENWICH, CONNECTICUT USING THE CALL 1BGD**

19. **KING SPARK WAS UNSEATED. CONTINUOUS WAVE ASCENDED THE THRONE AS THE MOST EFFICIENT TRANSMITTING METHOD AND RULED INTO THE DIGITAL AGE.**

20. **IN THE MID TWENTIES CW TRANSMITTER DESIGNS PROLIFERATED WITH VACUUM TUBES ADVANCING SOPHISTICATED CIRCUIT CONCEPTS. QUICKLY THE AIRWAVES ABOUNDED WITH CW SIGNALS AND THE RASP OF SPARK DIMINISHED TO A MERE WHISPER.**

21. **AMATEUR RADIO ENTERS AN ERA OF RAPID GROWTH WITH LEAPS IN TECHNOLOGY, MOVES TO SHORTER WAVE LENGTHS AND ON THE AIR CONTESTS CONSTANTLY ESTABLISHING NEW RECORDS. BUT HEADQUARTED IN OFFICE BUILDINGS THE LEAGUE DOES NOT HAVE A CLEAR ON THE AIR VOICE.**

22. **MAXIM ACQUIRES THE CALL LETTERS WHICH WERE TO BECOME LEGIONDARY - THE AMATEUR WORLD'S MOST RECOGNIZED.**

23. **LED BY MAXIM, THE BOARD AND GENERAL MANAGER KENNETH B. WARNER THE LEAGUE EXPANDS ITS INFLUENCE AND ADVOCACY FOR AMATEUR RADIO IN DOMESTIC AND INTERNATIONAL FORUMS. THE AMATEUR POSITION IN THE WORLD WIDE SPECTRUM IS SOLIDIFIED. BUT, IT DOES NOT YET HAVE A SIGNIFICANT ON THE AIR PRESENCE.**

24. **IN 1928 THE ON THE AIR VOICE OF THE LEAGUE BECAME LOUD. A NEW STATION WAS ERECTED IN A SUBURBAN LOCATION SUCCEEDING THE TWO PREVIOUS HEADQUATERS STATIONS LOCATED IN HARTFORD OFFICE BUILDINGS AND LIMITED TO 50 WATTS AND 80 METERS.**

25. **STATION 1MK AND LATER WIMK WAS EQUIPPED WITH THE MOST UP TO DATE EQUIPMENT AND ANTENNAS. THE INSTALLATION REFLECTED AMATEURS BEST PRACTICES INITIALLY RUNNING 500 WATTS ON 40 AND 80 METERS.**

26. **EVEN THE POWER SUPPLIES WERE IMPRESSIVE-2000 VOLT MOTOR GENERATORS WITH FOOT LONG FUSES.**
27. **THE STATION WAS MANNED DAILY. AN ACTIVE LINK IN THE RELAY SYSTEM, THIS CW STATION REGULARLY BROADCAST BULLETINS WITH THE PREFACE...QST –CALLING ALL RADIO AMATEURS . THAT IS UNTIL MARCH OF 1936. HEAVY RAIN STORMS IN NEW ENGLAND CAUSED THE STILL ICE BEARING CONNECTICUT RIVER TO RISE BEYOND FLOOD STAGE.**
28. **NOT ADEQUATELY PROTECTED BY DIKES THE LOW LYING AREA BORDERING THE RIVER WHERE THE STATION WAS LOCATED WAS QUICKLY INUNDATED. INITIALLY THE AREA WAS ONLY TRAVERSABLE BY BOAT.**
29. **TO COMPLETE THE DEVASTATION OIL FROM BURST TANKS NEARBY COMBINED WITH THE WATER TO FORM A PARTICULARLY DESTRUCTIVE FLUID.**
30. **ALL THE IMMERSSED EQUIPMENT WAS RUINED. INTREPID STAFFERS IN HIP BOOTS WERE ABLE TO SALVAGE ONLY THE FEW ITEMS OF EQUIPMENT WHICH HAD BEEN ELEVATED.**
31. **THE INCIDENT WAS NOT THAT AMUSING OCCUPYING THE HQ STAFF FOR A TIME AND CAUSING DELAYS IN THEIR OTHER ACTIVITIES.**
32. **THE VOICE OF THE LEAGUE WAS TEMPORARLY SILENT. ITS LINK IN THE RELAY SYSTEM WAS FILLED BY LOCAL STATIONS BUT NO OFFICIAL BULLETINS WERE AIRED.**
33. **A TEMPORARY STATION WAS HASTILY ASSEMBLED IN THE ATTIC OF THE WEST HARTFORD HQ OFFICE BUILDING USING THE SALVAGED TRANSMITTER COMPONENTS AND THE RECEIVER. THIS STATION USED THE CALL W1INF WHICH HAD BEEN THE CALL OF THE STAFFERS CLUB. THE LEAGUE WAS AGAIN HEARD WITH OFFICIAL BULLETINS,**
34. **ON FEBRUARY 17, 1937 THE OFFICE BUILDING STATION BEGAN TO BROADCAST FOR THE FIRST TIME WITH HIRAM PERCY MAXIM'S SPECIALLY ASSIGNED CALL LETTERS W1AW. THE DATE WAS THE FIRST ANNIVERSARY OF MAXIMS DEATH. THE DEDICATION WAS A REFLECTION OF THE ESTEEM IN WHICH THE LEADER WAS HELD.**
35. **W1AW CONTINUED TO OPERATE FROM THE WEST HARTFORD OFFICES WHILE THE SEARCH FOR A MORE SUITABLE LOCATION WAS CONDUCTED BY A BOARD OF DIRECTIONS COMMITTEE.**

36. **EVOLVING FROM A 50 WATT SPARK GAP ON AN ATTIC DESK TOP W1AW IS TO BECOME THE MOST PRESTIGIOUS AND RESPECTED STATION IN THE AMATEUR WORLD !**
37. **THE BOARD DETERMINED TO BUILD A UNIQUE STATION AS A MEMORIAL TO HIRAM PERCY MAXIM. A SEVEN AND ONE HALF ACRE SITE WAS PURCHASED IN THE TOWN OF NEWINGTON FOUR AND ONE HALF MILES SOUTH OF THE HQ OFFICES.**
38. **INCLUDED IN THE PLAN WAS THE ERECTION OF AN ANTENNA SYSTEM FEATURING A MULTI BAND ROMBIC WHICH WOULD RADIATE PREDOMINATELY TO THE WEST.**
39. **THE SITE WAS SITUATED IN A THEN SPARCELY POPULATED RURAL AREA. THE DESIGN CALLED FOR QUALITY CONTEMPORARY CONSTRUCTION MATERIALS AND A BRICK EXTERIOR.**
40. **THE BUILDING WAS PLANNED TO ACCOMMODATE AT LEAST FIVE RACKS EACH CONTAINING A ONE KILOWATT TRANSMITTERS AND THE CONTROLS AND AUXILIARIES TO OPERATE THEM.**
41. **THE RESULTANT DESIGN WAS OF A 26 FOOT BY 42 FOOT BUILDING, FACING EAST, SITUATED 65 FEET BACK FROM THE HIGHWAY.**
42. **THE RHOMBIC ANTENNA AND FOUR OTHER ANTENNAS FOR INDIVIDUAL BANDS WERE SUPPORTED BY FIVE SIXTY FIVE FOOT HIGH SELF SUPPORTING CEDAR MASTS FOUND IN OREGON.**
43. **PLACED SEVEN FEET INTO THE GROUND THE MASTS WERE STEPPED FOR EASE OF CLIMBING.**
44. **A DOZEN SUPPORTS BROUGHT THE FREEDLINES TO THE REAR OF THE STATION. FEEDLINES ARE WIDELY SPACED TO MINIMIZE COUPLING BETWEEN LINES.**
45. **FIVE ANTENNAS IN ALL PROVIDED COVERAGE OF THE 80 METER THROUGH 10 METER BANDS WITH DIRECTIVITY EAST-WEST.**
46. **LARGE DIAMETER COPPERWELD WIRE WAS USED THROUGH OUT THE SYSTEM COMPRISING FOURTEEN HUNDRED FEET OF WIRE.**
- 47/48. **THE COMPLEX, STATE OF THE ART ANTENNA SYSTEM DOMINATES THE STATION SITE.**

49. **THE BRICK AND STONE COLONIAL DESIGN BUILDING WITH THE ANTENNA MASTS AND FEED LINE SUPPORTS DOMINATED THE AREA WHICH GREW UP AROUND IT.**
50. **THE BUILDING WAS FORMELY DEDICATED ON SEPTEMBER 2, 1938 THE HONOREE'S DATE OF BIRTH. MANY LEAGUE AND GOVERNMENT DIGNATARIES PARTICIPATED IN THE CEREMONY WHICH WAS BROADCAST NATIONALLY ON THE CBS RADIO NETWORK.**
51. **THE INCUMBENT ARRL PRESIDENT PRESIDED AND UNCOVERED THE DEDICATION PLAQUE WHICH WAS HUNG IN THE FRONT ENTRANCE HALL OF THE BUILDING.**
52. **THE OPERATING EQUIPMENT HAD BEEN INSTALLED IN THE BUILDING PRIOR TO THE DEDICATION. THE FIRST EVENING IT OPERATED IN A SPECIAL EVENT -THE MAXIM MEMORIAL RELAY. MANY MEMBERS THROUGH OUT THE COUNTRY PARTICIPATED.**
53. **AMATEURS WORLD WIDE WERE ANXIOUS TO CONTACT THE NEW STATION. THOSE THAT DID WERE REWARDED WITH A UNIQUE CARD.**
54. **A SMALL LOBBY PROVIDED A SETTING FOR SOCIALIZING AND THE DISPLAY OF A FEW ARTIFACTS. IT SEPARATED VISITORS FROM THE OPERATIONS IN THE MAIN ROOM. THE THREE MAN CREW WAS W.MATCHETT, W1KKS; J.T. RAMEIKA, W1JJR; AND J.E.WHITE, W1PHW.**
55. **TO THE GREATEST EXTENT POSSIBLE THE TRANSMITTERS WERE CONSTRUCTED ON SITE BY THE STAFF AND RACK MOUNTED IN PAIRS.**
56. **THE STATION WAS ARRANGED TO ENABLE THE BROADCAST OF OFFICIAL BULLETINS BY CW UTILIZING EACH OF THE FIVE TRANSMITTERS INDIVIDUALLY OR SIMULTANEOUSLY. PHONE TRANSMISSIONS WERE LIMITED TO ONE TRANSMITTER AT A TIME.**
- 57/58. **THE INDIVIDUAL TRANSMITTERS OPERATED ON THE FIVE AMATEUR BANDS OF 10, 20, 40, 80 AND 160 METERS. EACH HAD ITS OWN POWER SUPPLY AND WAS RATED FOR ONE KILOWATT POWER INPUT. A SIX METER TRANSMITTER WAS ADDED LATER**

59. THE TRANSMITTERS WERE CONTROLLED FROM A CENTRAL OPERATING DESK WITH CABLES RUN THROUGH CONDUITS IN THE FLOOR. THE DESK CARRIES THE RECEIVER, MICROPHONE , KEY AND OTHER OPERATING ACCESSORIES.
60. EACH TRANSMITTER HAD ITS OWN ANTENNA WITH A TUNER. THE LEAD- INS ENTERED DIRECTLY BEHIND EACH TRANSMITTER THROUGH BRASS RODS PLACED THROUGH THE WINDOW GLASS. A MANUAL SWITCHING SYSTEM PERMITTED THE INTERCHANGE OF ANTENNAS BETWEEN TRANSMITTERS. THIS REQUIRED AN OPERATOR TO MOVE BEHIND THE TRANSMITTER RACKS.
61. WITH THE ADVENT OF TELETYPE A OPERATING POSITION WAS SET UP IN THE BASEMENT WITH A MODEL 19 TELEPRINTER AND NATIONAL HRO RECEIVER.
62. THE CENTRAL OPERATING DESK WAS A IDEAL PLACE TO PREVIEW AND OBSERVE THE PERFORMANCE OF DIFFERENT MAKES AND MODELS OF RECEIVERS.
63. AND, CHECK OUT OTHER NEW GEAR...
64. WAR BROKE OUT IN EUROPE IN SEPTEMBER OF 1939. THE U.S. DECLARED WAR ON GERMANY AND JAPAN IN SEPTEMBER OF 1941 AND AMATEUR RADIO WAS SILENCED. OF THE MORE THAN FIFTY THOUSAND LICENSED AMATEURS APPROXIMATELY ONE THIRD SERVED IN THE MILITARY AND UNCOUNTED OTHERS ENGAGED IN WAR RELATED ACTIVITIES.
65. COMMUNICATIONS WERE RECOGNIZED AS AN ESSENTIAL INGREDIENT OF THIS MODERN WAR AND AMATEURS WERE THERE TO FILL THE NEED. SKILLED OPERATORS WERE HIGHLY SOUGHT AFTER.
WITH PEACE WIAW RETURNS TO THE AIR AND BECAUSE OF THEIR EFFORTS AND ACCOMPLISHMENTS AMATEURS FIND THEIR HOBBY FAVORABLY STRENGTHENED IN THE EYES OF THE WORLD. SIGNIFICANT EVENTS LIE AHEAD,
66. THIS POST WAR PERIOD SAW THE LAUNCHING OF THE FIRST AMATEUR RADIO SATELLITE. IN A LOW EARTH ORBIT THE BATTERY OPERATED 140MW TRANSMITTER ABOARD SENT OUT THE BEACON SIGNALFOR THREE WEEKS TO LISTENERS AROUND THE GLOBE.
67. THREE MODELS WERE BUILT. ONE WENT IN TO SPACE, ONE IS EXHIBITED AT THE SMITHSONIAN AND THE THIRD IS IN THE ARRL COLLECTION.

68. **NEW FCC REGULATIONS BROUGHT THOUSANDS OF NEW AMATEURS INTO THE HOBBY. THESE NEWCOMERS ACCELERATED THE GROWTH OF EVERY ASPECT OF THE FRATERNITY.**
69. **MAY 17, 1964 MARKED THE 50TH ANNIVERSARY OF THE FRATERNITY OF AMATEUR RADIO OPERATORS WHO HAD COME A LONG WAY AND HAD A GREAT FUTURE. THE ISSUANCE OF A SPECIAL STAMP COMMEMORATED THE OCCASION.**
70. **THE LEAGUE OUTGREW THE RENTAL OFFICE SPACE IN WEST HARTFORD. SERVING MORE THAN 100,000 MEMBERS THE ARRL HEADQUARTERS STAFF OF 65 WAS CROWDED INTO AN OFFICE SPACE OF 14,000 SQUARE FEET.**
71. **THE BOARD OF DIRECTORS RESOLVED TO BUILD A NEW EXPANDABLE FACILITY TO SERVE PRESENT AND FUTURE NEEDS. A DRIVE WAS BEGUN TO RAISE THE \$ 250,000 NEEDED FOR THE CONSTRUCTION.**
72. **THE MULTI STORY BUILDING WAS CONSTRUCTED OF RED BRICK IN A BASIC CONSERVATIVE STYLE. THE INTERIOR WAS PLANNED FOR OPTIMUM FLEXIBILITY IN LOCATING DEPARTMENT OFFICES AND EXPANSION.**
73. **THE BUILDING WAS SITUATED FACING EAST AT THE CENTER OF THE W1AW MEMORIAL STATION PROPERTY. IT SITS WITHIN THE LEGS OF THE ROMBIC ANTENNA AND IS VISIBLE FROM MAIN STREET.**
74. **THE STAFF OCCUPIED THE 25,000 SQUARE FOOT BUILDING IN AUGUST OF 1963. ALL DEPARTMENTS WERE AMPLY ACCOMODATED AND THE PERFORMANCE OF ESSENTIAL FUNCTIONS WAS ENHANCED.**
75. **THIS SKYLAB SCIENTIST AND ASTRONAUT CONDUCTED THE FIRST TWO WAY AMATEUR RADIO CONTACTS FROM SPACE. WHAT FOLLOWS IS TODAYS ARISS - AMATEUR RADIO ON THE INTERNATIONAL SPACE STATION PROGRAM- BRINGING AMATEUR RADIO OPERATORS IN SPACE INTO THE CLASSROOM.**
76. **DURING THE ERA ALWAYS AT THE FOREFRONT THE UNIQUE W1AW STATION CONTINUES TO DEMONSTRATE THE BEST OF AMATEUR RADIO PRACTICES. RENOVATIONS AND UPGRADES MAINTAIN THE TECHNOLOGICAL LEADERSHIP.**

77. **THE ROMBIC ANTENNA AND ITS SUPPORTS WERE REMOVED IN 1987. DURING THIS PERIOD TOWER MOUNTED YAGI ANTENNAS WERE MOUNTED FOR THE HIGHER FREQUENCY BANDS AND DIPOLES ARE USED ON THE LOWER BANDS. PROVIDING THE STATION THE ABILITY TO BE HEARD ON ----**
78. **ALL AMATEUR BANDS**
79. **IN ALL AMATEUR MODES**
80. **LOCALLY**
81. **AND ANYWHERE AROUND THE GLOBE**
82. **THE STATION ARRANGEMENT EVOLVED TO RECEIVERS AND EXCITERS CONVENIENTLY LOCATED AT THE OPERATING POSITION WITH THE STATION CONTROLS.**
83. **TRANSMITTERS AND AMPLIFIERS WERE RACK MOUNTED.**
84. **THE BUILDING WAS RENOVATED IN 1989. THE STATION EQUIPMENT WAS UPDATED TO PROVIDE THE SERVICES THAT ARE STILL BROADCAST TODAY.**
85. **BY SPECIAL RULING OF THE FCC THE STATION IS PERMITTED TO MAKE ONE WAY TRANSMISSIONS TO AMATEURS PROVIDED THAT IT TRANSMITS ON SIX BANDS SIMULTANEOUSLY. CODE PRACTICE SESSIONS ARE A SIGNIFICANT PART OF THE W1AW DAILY SCHEDULE.**
86. **IN THE SEVENTIES AND EIGHTIES TRANSMISSION OF OFFICIAL BULLETINS WERE CONDUCTED IN VOICE, CW AND RTTY. THE MODERN STATION ALSO CURRENTLY BROADCASTS IN THE DIGITAL MODES.**
87. **PRINCIPAL CONTROL POSITION FOR TRANSMISSION OF TAPED CONTENT.**
88. **A PRE-PREPARED BULLETIN BEING TRANSMITTED AS SEEN ON THE TELETYPE MONITOR.**
89. **W1AW TODAY IS THE EMBLEM OF THE UNIQUE FRATERNITY THAT IT SERVES. IT IS ADVANCED IN EVERY OPERATIONAL ASPECT OF THE AMATEUR MEDIUM.**
90. **THE STATION IS THE MODERN EMBODIMENT OF ONE OF FOUNDING PRINCIPLES OF THE LEAGUE- TO CONVEY INFORMATION TO THE GREATEST DISTANCE POSSIBLE.**

91. **THREE STUDIOS ARE SET UP TO PERMIT VISITING AMATEURS TO OPERATE ON THE AIR. THIS IS THE FULFILLMENT OF MANY AN AMATEURS AMBITION.**
92. **MUCH SOUGHT AFTER THE STATION IS ACTIVE ON EVERY AMATEUR BAND AND IS CAPABLE OF OPERATING IN EVERY AMATEUR MODE-CW, DIGITAL AND SSB.**
93. **AMATEURS WORLD WIDE RESPOND TO THE CALL W1AW AND THE PREFACE TO INFORMATIONAL TRANSMISSIONS-QST.**
94. **W1AW TRANSMITS FOR EIGHT HOURS EACH WEEK DAY ALTERNATING BETWEEN CODE PRACTICE SESSIONS AND TELEPRINTER BULLETIN TRANSMISSIONS.**

- 95/96. **AMONG ALL THE ASPECTS OF AMATEUR RADIO THAT HAVE ENDURED OVER THE CENTURY ONE ELEMENT HAS SIGNIFICANTLY PREVAILED...THE SPIRIT OF VOLUNTEERISM! THANK YOU TO OUR EIGHT THOUSAND PLUS VOLUNTEERS WHO HAVE MADE AND MAKE THE LEAGUE WHAT IT IS TODAY.**

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