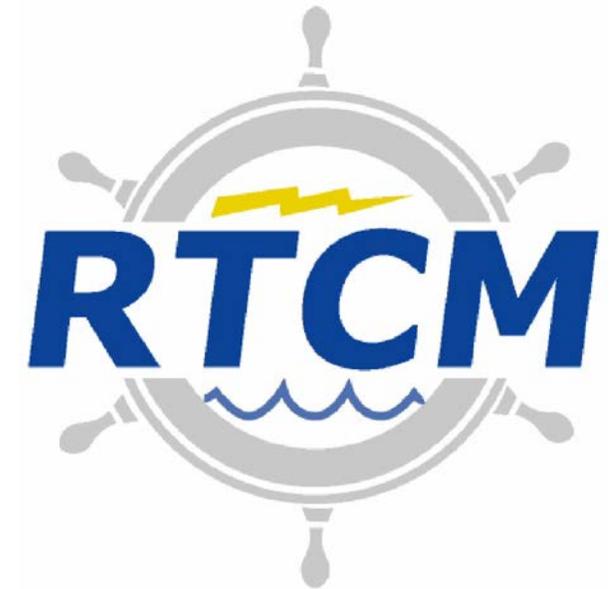


# RTCM at 75

Origin and the  
first 35 years

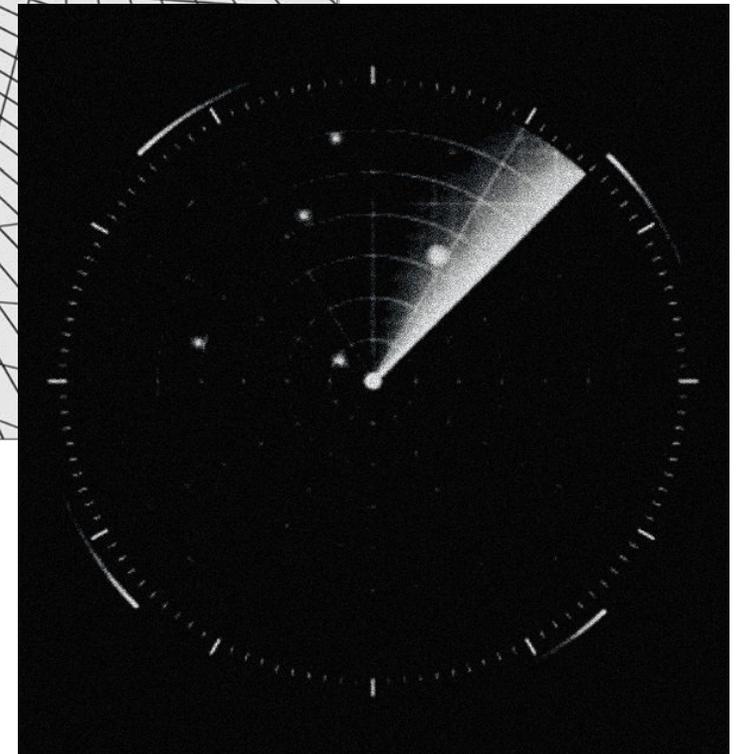
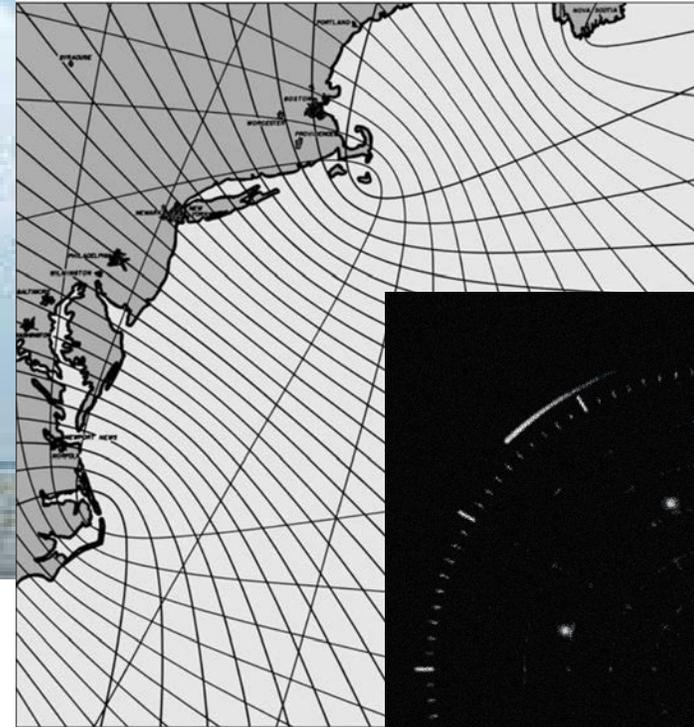


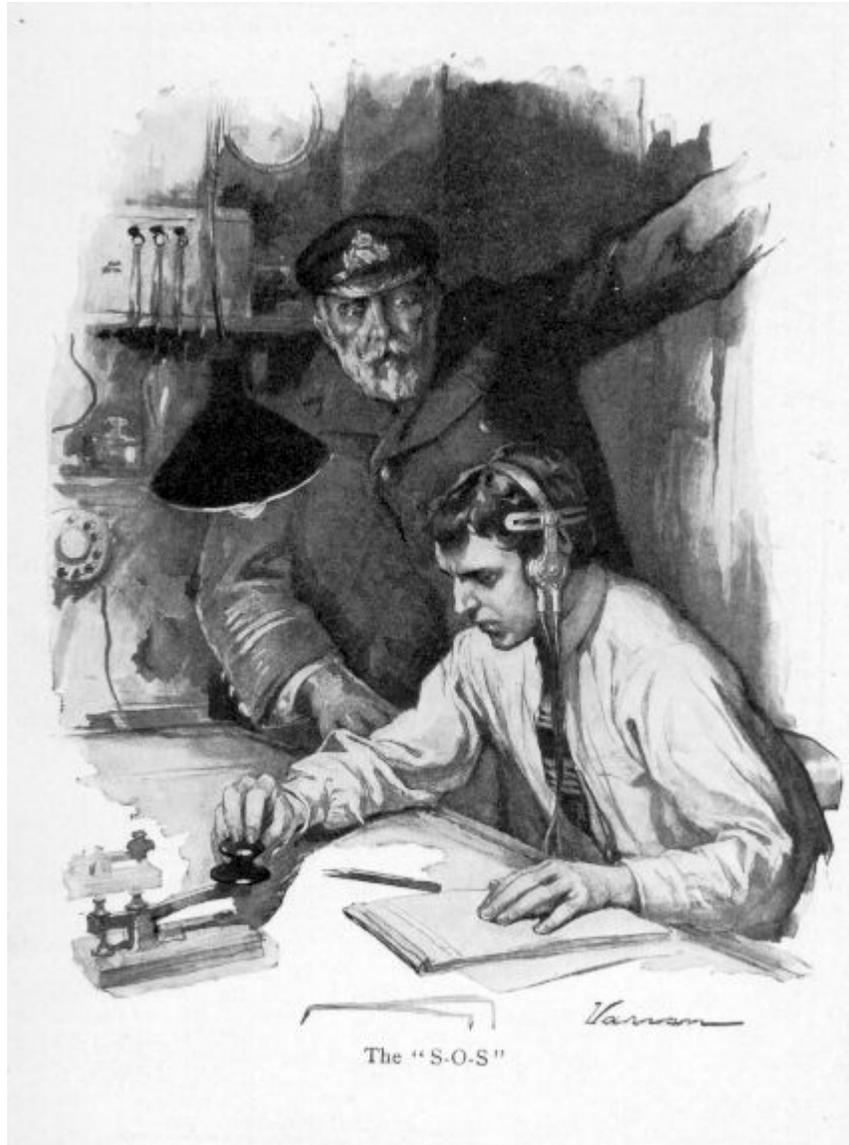
Bob Markle  
bob@markle.com





## *Radar and Loran for merchant ships*





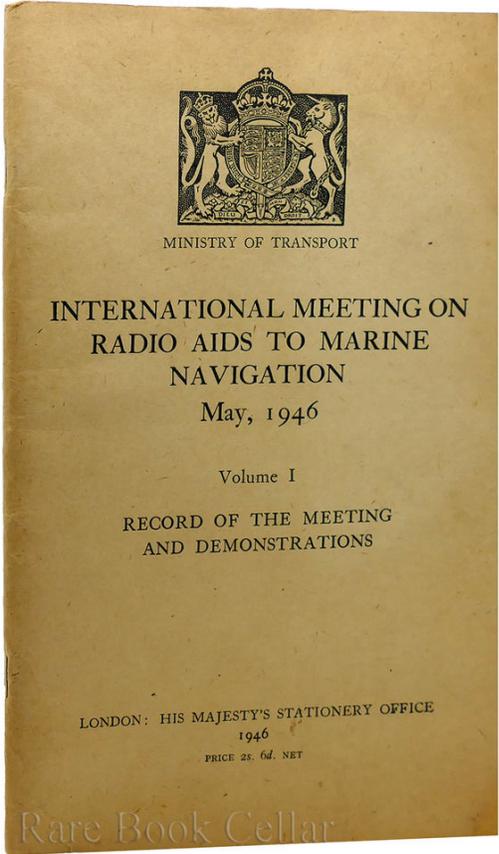
The "S-O-S"

## Emergence of radiotelephony



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## International Meeting - May 1946 Radio Aids to Marine Navigation (IMRAMN)

- 23 nations – 105 delegates
- Organized by UK – met in London
- European focus
- Developed plans for a postwar international marine radio service

- U.S. sent delegation
- Hastily assembled
- Limited participation rights
- No defined positions
- All-nighter to organize





May 1947 - Second IMRAMN – New York and New London  
ITU International Telecommunications and Radio Conference – Atlantic City



## Planning for the 1947 Conferences

November 20, 1946 – State Department meeting with relevant government agencies, the maritime industry and radio manufacturers

- ◇ Decided to form new non-profit organization to
  - Coordinate government and industry views
  - Formulate appropriate recommendations
- ◇ Subcommittee to draft constitution and bylaws

November 29, 1946 – Meeting reconvenes to finalize organization

- ◇ Modeled on Radio Technical Commission for Aeronautics (RTCA)
- ◇ Named Radio Technical Commission for Marine Services (RTCM)
- ◇ Established interim Executive Committee



Hotel Ambassador in Atlantic City, New Jersey  
1947 ITU Plenipotentiary Conference venue



# The 1947 Conferences and Founding of RTCM

April 28 - May 9, 1947 – Second IMRAMN: New York and New London

May 12, 1947 - RTCM First Assembly Meeting and Formal Establishment: Washington, DC

May 16 – October 2, 1947 - ITU International Telecommunication and Radio Conferences: Atlantic City

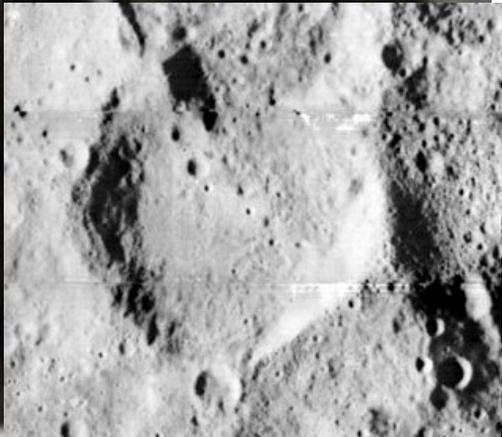
## First RTCM Assembly

45 representatives from five different groups:

- Radiocommunication users and associations
  - Marine electronics manufacturers and associations
  - Radio and telephone communication companies
  - Radio operator associations
  - Government agencies concerned with maritime affairs
- (The British Embassy also sent a representative)



Selected permanent Executive Committee carefully allocated to represent interest groups.  
Elected first Chairman and Vice Chairman of Executive committee



## • Dr. John H. Dellinger

- RTCM Executive Committee Chair – 1947-1956
- RTCA Executive Committee Chair – 1941-1956
- National Bureau of Standards Physicist – 1907-1948
- FRC Chief Engineer – 1928-1929
- Commerce Dept. rep on IRAC – 1922-1948
- VP International Scientific Radio Union – 1934
- Dellinger Effect (of solar flares on radio) – 1935
- Institute of Radio Engineers Director – 1924-1927
- Institute of Radio Engineers Medal of Honor – 1938
- Dellinger Crater



- Edward M. Webster (USCG Commodore)
- RTCM Executive Committee Vice Chair – 1947-1956
- RTCM Executive Committee Chair – 1957-1964
- USCG Chief Communications Officer – 1923-1934
- USCG Chief Communications Officer – 1942-1946
- Telecommunications Director National Federation of American Shipping – 1946-1947
- FCC Commissioner – 1947-1956
- Western Union Telecommunications Consultant – 1956-196?
- Legion of Merit – 1945
- Radio Committee Chair – 1948 SOLAS Conference



## Getting to Work

### Subcommittee under the 1946 interim Executive Committee

- Report recommended FM vs. AM on 30 Mc-300Mc VHF frequencies
- Resulted in VHF-FM adoption for Region 2 at 1947 conference
- VHF-FM later adopted worldwide

### Establishment of Special Committees

- Issues assigned by Executive Committee
- Government and industry representatives prepare recommendations and reports
- Special Committees disbanded when report approved by Executive Committee
- 81 Special Committees would be formed between 1947 and 1982



## The First Special Committees

### SC-1 - Air-Sea Distress Communications

- Formed before official establishment of RTCM
- Joint study with RTCA (RTCA SC-10)
- Reported out November 1947

### SC-2 - LF Omni vs LF Loran

- Formed before official establishment of RTCM
- Joint study with RTCA
- Reported out October 1948

### SC-3 - Study of AM vs FM on VHF non-Government Marine Radiotelephone Frequencies

- (Official designation of the interim subcommittee)
- Reported out April 1947



## Notable Special Committees – VHF-FM

### SC-3 - Study of AM vs FM on VHF non-Government Marine Radiotelephone Frequencies

- Recommended FM on VHF frequencies

### SC-7 - VHF Marine Requirements and Utilization

- Specified basic requirements for practical marine VHF system
- Resulted in FCC rulemaking in coordination with USCG



### SC-13 - Difficulties which would Result from a Failure to Standardize Internationally on FM for Marine Comms

### SC-20 - Progress Report on the Development and Use of VHF (FM) in the Maritime Mobile Service in the U.S.

- Instrumental in the adoption of FM for maritime VHF worldwide

### SC-18 - The Standardization of Marine Radiotelephone Channel Designators

- Voluntary U.S. channel numbering plan
- Evolved into the international standardization of marine radiotelephone channel designators

### SC-19 - Study of Reliable Short Range Radiotelephone System

- Recommended working frequency for non-commercial boats
- VHF equipment should revert automatically to receive 156.8 MHz (Channel 16) for during standby operation



## Notable Special Committees

SC-64 - MF, HF, and VHF Maritime Radioteleprinter and Data Systems and Operations

- Basis for U.S. CCIR positions on narrow band direct printing and digital selective calling systems

SC-65 - Ship Radar

SC-70 - Minimum Performance Standards for Marine Loran-C Receiving Equipment

- First products identified as “standards”
- Relevance to OMB Circular A-119 – Use of voluntary consensus standards



# Broadening the Focus – First International Associates

Cunard Line - 1981



Japan Radio Company - 1982





## Advisory Committee and Transition

### Federal Advisory Committee Act

- FCC sponsorship required every two years
- Oversight by White House Office of Management and Budget
- FY 1982 FCC budget zeroed out RTCM support
- FCC extended charter only to October 1, 1982

### Reorganization Plan

- RTCM to become non-profit corporation
- Move to commercial office space
- All operating expenses to be paid by member dues

Federal advisory  
committee act (Public  
Law 92-463)

Anonymous



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## The new organization

Date of Birth: October 1, 1982

Radio Technical Commission for **Marine** Services → Radio Technical Commission for **Maritime** Services

FCC office space and support → Commercial office space and 100%-member support

Executive Committee → Board of Directors (Elects Chair, Vice Chair, Secretary, Treasurer)

Final Executive Committee meeting September 16, 1982 (breakfast meeting with *open bar*)

Executive Secretary (W.T. (Bill) Adams) → President (W.T. Adams elected by Board)

Existing Special Committees closed except:

SC-74 Digital Selective Calling → SC-101 Digital Selective Calling

SC-81 FCC VHF/FM Maritime Rules Review → SC-102 Review of VHF-FM Maritime Mobile Operations

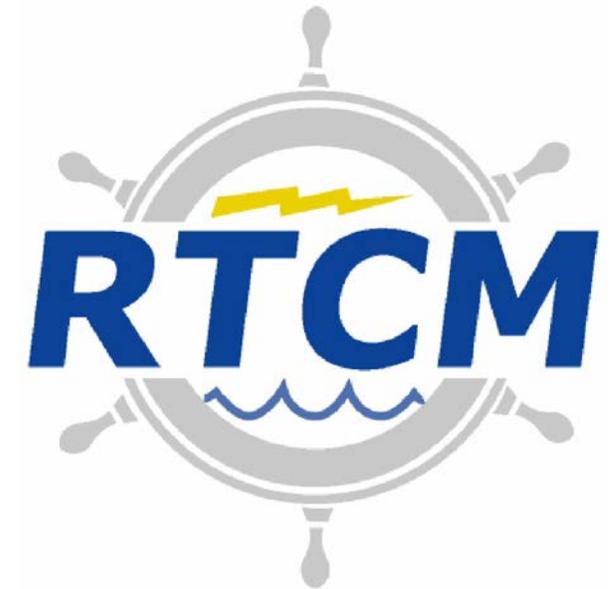
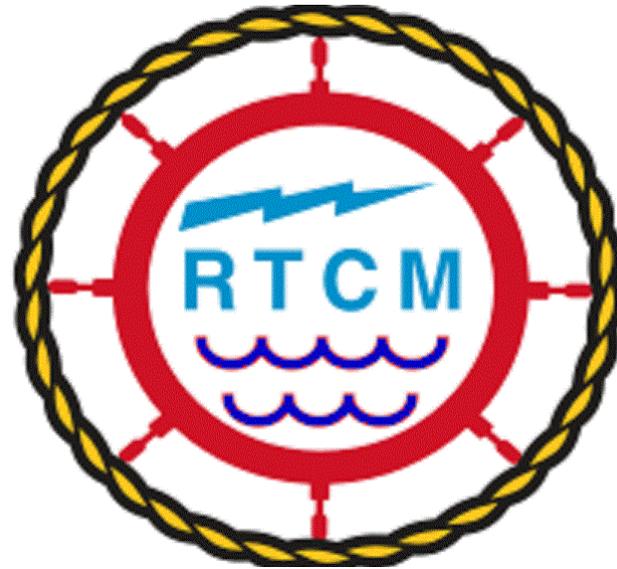
SC-65 Ship Radar → SC-103 Marine Radar

Adoption of logo:



# RTCM at 75

Origin and the  
first 35 years



Bob Markle  
bob@markle.com

