

Military Auxiliary Radio System



Air Force MARS in 2017



Partners in Preparedness



We Are No Longer Your Fathers MARS, We Have Come A Long Way



Remembering Our Legacy

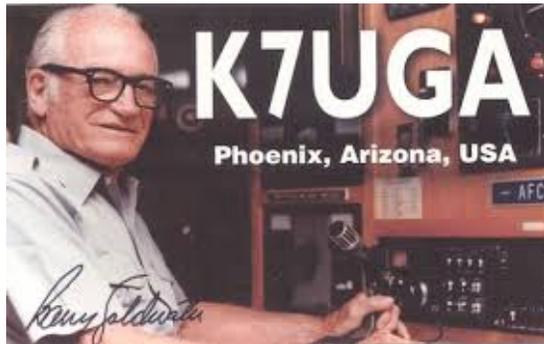
**MARS Program Photo on
the Cover of RTN in 1951**



Remembering Our Legacy

Senator Barry Goldwater, K7UGA

MARS Station Operator, Proponent
and Ambassador



1964-07-18-100011, ARIZONA: Barry Goldwater, an avid ham radio operator, talks with a friend in South America. He says he likes to talk with people in South America on the radio as it gives him a chance to practice his Spanish. UNITED PRESS





Headquarters Leadership
Scott AFB, IL



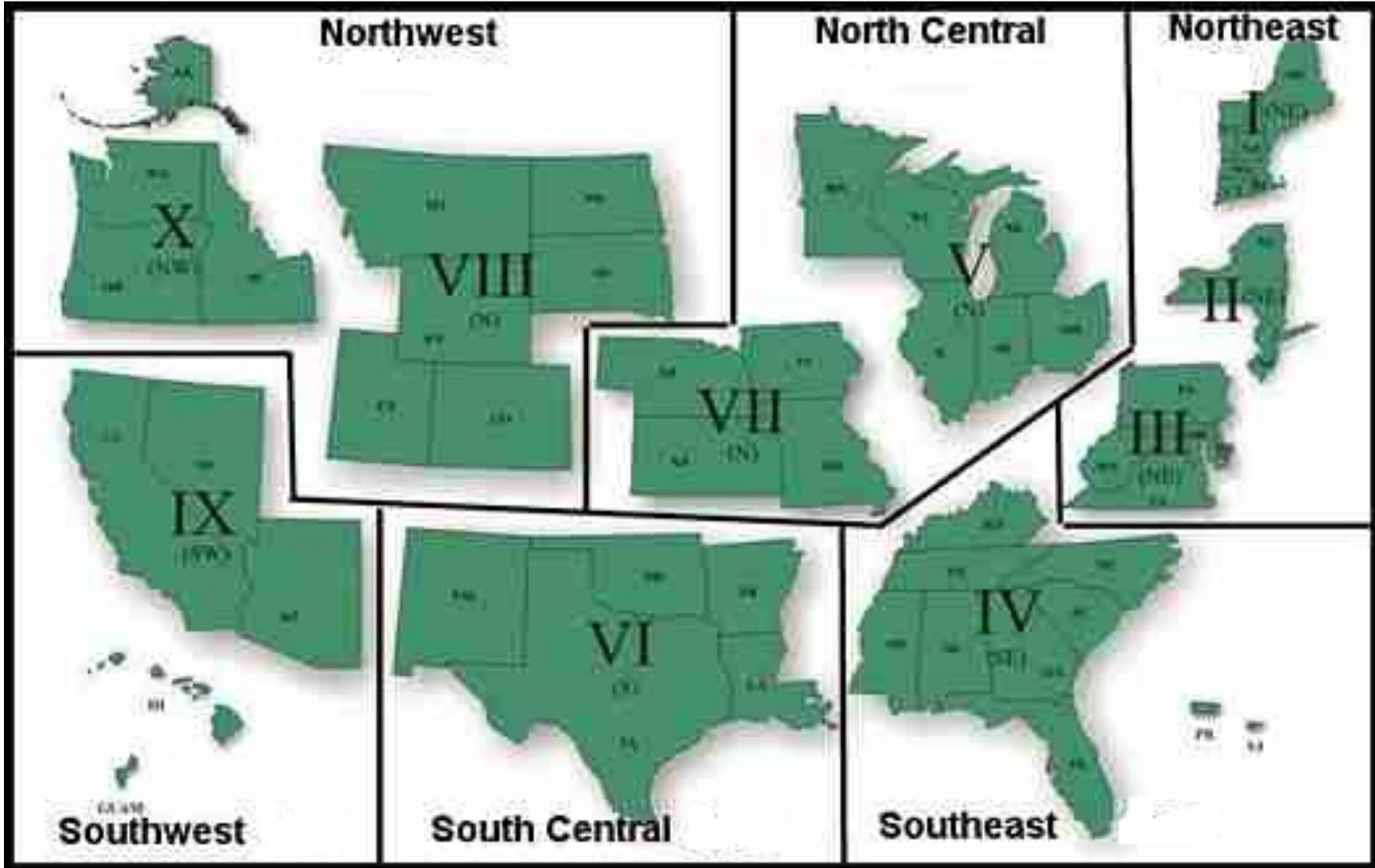
David J. Stapchuk
AGA5C / KD9DXM
Chief Air Force MARS

Partners in Preparedness





MARS operating regions are aligned with FEMA regions





USAF MARS DoD Operating Authority

- MARS is governed by DoD Instruction 4650.02, which declares that MARS “shall provide contingency radio communications support to the DoD Components” and “to civil authorities at all levels”
 - This recognizes the growing role of MARS in emergency preparedness
- DoDI 4650.02 also says that MARS “shall provide health, morale, and welfare radio communications support to military members, civilian employees and contractors of DoD Components, and civil agency employees and contractors, when in remote or isolated areas, in contingencies or whenever appropriate”
- A revised and updated DoDI is currently being drafted
 - Policy oversight now resides with Deputy Chief Information Officer for C4 and Information Infrastructure (DCIO C4IIC) within Office of the DoD CIO



Department of Defense
INSTRUCTION

NUMBER 4650.02
December 23, 2009
ASD(NII)/DoD CIO

SUBJECT: Military Auxiliary Radio System (MARS)

References: See Enclosure 1

1. PURPOSE. This Instruction reissues DoD Directive (DoDD) 4650.2 (Reference (a)) as a DoD Instruction (DoDI) in accordance with the guidance in DoDI 5025.01 (Reference (b)) and the authority in DoDD 5144.1 (Reference (c)) to establish policy, assign responsibilities, and provide procedures for MARS (formerly the Military Affiliate Radio System) and update its organization, membership, and functions.
2. APPLICABILITY. This Instruction applies to OSD, the Military Departments, the Office of the Chairman of the Joint Chiefs of Staff and the Joint Staff, the Combatant Commands, the Office of the Inspector General of the Department of Defense, the Defense Agencies, the DoD Field Activities, and all other organizational entities within the Department of Defense (hereafter referred to collectively as the “DoD Components”).
3. DEFINITIONS. Unless otherwise noted, these terms and their definitions are for the purposes of this Instruction.
 - a. contingency radio communications support. The provision of radio-based transfer or exchange of information to assist with DoD or civilian authorities’ operations during, or responses to, any major disruption of DoD or other communications networks, such as those associated with official national security or emergency preparedness events or activities.
 - b. military auxiliary. An organized body of volunteers prepared to supplement the uniformed services or any designated civilian authorities by provision of specialized autonomous services when called upon or when situations warrant (e.g., Civil Air Patrol, U.S. Coast Guard Auxiliary).





Partnering in Preparedness

- Air Force MARS has roughly 1,100 volunteer members (operators)
 - A highly motivated, technically competent cadre of radio operators
 - Members donate their time, resources, and equipment to the MARS program and provide a contingency communications capability at no cost to the Government
- Air Force MARS continues to build relationships with the active duty military units, reserves, and National Guard
 - There are currently 32 licensed Air Force MARS Base Stations at active military installations in continental US
 - There are many licensed Air Force MARS Base Stations at National Guard installations in continental US
- Greater integration of MARS with National Military Command Center within Pentagon
 - Air Force MARS participating in growing number of military communications exercises
- Through training, exercises, situational awareness, and incident reporting, MARS members help the nation prepare for, and respond to, crises and emergencies





Leadership, Resources, Priorities

- Chief, USAF MARS, Dave Stapchuk assumed command in Aug 2013, based at Scott AFB, IL.
 - Extensive reliance on volunteer USAF MARS members essential (i.e., “highly streamlined bureaucracy”)
- Desire is for greater interoperability, coordination, and collaboration among MARS entities
 - USAF MARS frequencies, net information available to other MARS branches
 - Encouragement of participation in joint MARS exercises
 - New interoperability agreements with DHS – SHARES radio program
 - Realignment with sister service Army MARS to promote better interoperability and mission recognition with the DOD
 - Establishment and participation in joint exercises on a quarterly basis





It's A Digital World – MARS is Part of It.





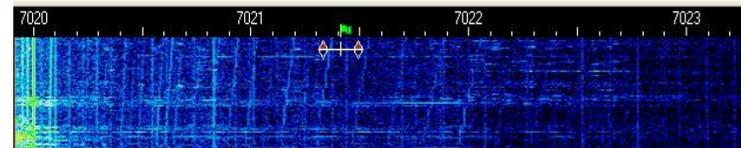
Multiple Communications Modes

- In addition to voice modes on HF and VHF, MARS operators now communicate using multiple digital modes, including M110A, Pactor and MT-63
 - Air Force MARS also uses Automatic Link Establishment (ALE), which allows all radios in a network to decide the best frequency for operation
- Air Force MARS operators can train and exercise on digital nets to gain experience in these transmission modes
 - This improves interoperability with government agencies that also use these modes of communication
- Air Force MARS also uses the WinLink 2000 (WL2K) system to transmit e-mail and emergency information instantaneously via a global linked network of radio nodes – especially useful if the internet goes down

QSO	Mode	Freq	Date	UTC	Call	Name	QTH	RST_Sent	RST_Recv	Notes
QSO										
QSO										
QSO										
QSO										
1	AMTOF	7021.4	06/10/2009	13:39:03				599	599	

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CQ CQ CQ DE AFA3TR AFA3TR AFA3TR  
CQ CQ CQ DE AFA3TR AFA3TR AFA3TR  
PSE K
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CQ CQ CQ DE AFA3TR AFA3TR AFA3TR  
CQ CQ CQ DE AFA3TR AFA3TR AFA3TR  
PSE K
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Digital Standards

- Interoperability is here today.
- By DoD directive, all MARS services have migrated to M110A for official data transport uses.
- Greater emphasis being placed on encryption and secure data handling methods.





What Air Force MARS Does

- **Provides** contingency communications capability and augments normal modes of HF and VHF voice communication in emergencies
- **Relays** phone patches between military aircraft and ground stations/personnel
- **Transmits** emergency situation reports via HF radio using voice and digital modes
- **Trains** for interoperability & disaster preparedness agencies
- **Participates** in communications continuity exercises with DoD, DHS, FEMA, and local civilian ARES/RACES organizations





What Air Force MARS Does

- **Assists** military units with communications support needs, including on-the-air testing of communications equipment and conducting training seminars
- **Participates** in daily state and regional HF and VHF voice and digital message traffic and information nets
- **Supports** government agencies on Internet-independent RF voice and digital modes
- **Partners** with Army MARS to provide coordinated communications support to customer agencies
- **Reflects** the “can-do” patriotic spirit of its volunteer members





Air Force MARS in Action

- Examples of Air Force MARS activities:
 - Supporting DoD and DHS entities through training seminars on HF and VHF communications techniques (with active duty military)
 - Supporting DoD and DHS entities through practicing the set-up and operations of equipment and on-the-air testing
 - Forming a joint Base Support Team's to create a joint communications node tying together all MARS voice and data communications nets in CONUS and OCONUS
 - Establishing a multi-mode digital training net to teach Air Force MARS and government operators digital transmission techniques





Air Force MARS in Action

- MARS also:
 - Participates in annual multi-agency exercises and multiple command post and field training exercises (e.g., “Red Dragon,” “Vibrant Response,” “Vigilant Shield”), as well as in Joint MARS communications exercises
 - Provides backup communications support on a local and regional basis in the event of severe weather emergencies, power outages, and in support of other contingencies (e.g., Tropical Storm Irene, Superstorm Sandy)
 - Provides communications training and support to civilian government agencies under the Defense Support of Civil Authorities (DSCA) protocol

Air Force MARS provides trained operators, national and international frequencies, and daily regional, CONUS, and worldwide communications networks to support DoD, civil agencies, and homeland security requirements





Air Force MARS in 2017

- Significant events occurring in CY 2017:
 - A major inter-service operating exercise in each calendar quarter of 2017 – the COMEX (Communications Exercise)
 - Involves participation of all MARS members
 - Many collateral agencies / programs involved
 - SHARES / DHS
 - Civil Air Patrol
 - National Guard
 - Pentagon
 - Other Department operational units





Air Force MARS Collateral Partner Programs & Agencies





SHARES HF Radio Program

- Air Force MARS operators also participate in the National Shared Resources (SHARES) HF Radio Program
- SHARES operates under the auspices of the DHS Office of Emergency Communications* and helps ensure critical connectivity between government agencies during crisis situations
 - Many Federal departments and agencies use HF radio communication systems to support their mission responsibilities
 - These systems and the favorable propagation characteristics of the HF spectrum can be valuable assets during National Security and Emergency situations when regular communications links may be disrupted or destroyed



* On July 6, 2012, President Barack Obama issued Executive Order 13618, which dissolved the National Communications System as a consortium of Federal Departments and Agencies. Although many of the NCS programs will continue to support NS/EP communications, many of these programs have been absorbed by the Department of Homeland Security's Office of Emergency Communications (OEC), where SHARES oversight now resides.





AF MARS and the National Guard



- At the invitation of then-BG David Harris, Director of Domestic Operations and Force Development for the National Guard, MARS was invited to exhibit its capabilities at the Guard's annual and Domestic Operations (DOMOPs) conference.

- At the exhibit, VHF and HF communications links were established with the Pentagon, an Air National Guard Wing, and other locations

- More than 2,000 personnel representing all of the Guard's domestic operations community attended the event in the National Capital Region

- MARS was able to showcase its contingency radio communications capabilities to a wide variety of National Guard units both within and outside CONUS stretching from Hawaii to the Virgin Islands.

- All of MARS' voice and digital capabilities to provide contingency radio communications support to U.S. Government operations were highlighted





AF MARS and the National Guard



Brigadier General David L. Harris
Director, Domestic Operations &
Force Development
National Guard Bureau

“I appreciate the support that the Military Auxiliary Radio System (MARS) program has provided to the Department of Defense and the National Guard Bureau over the years. The most recent MARS addition to the Joint Incident Site Communications Capability (JISCC) program will be very beneficial... [MARS] has proven to be a valuable asset to both military and civilian authorities.

“I look forward to the MARS program and the NGB relationship development in future training exercises and contingency operations.”





Air Force MARS Major Operational Missions & Efforts





Air Force MARS HF Nets



- Regional Traffic Nets (daily)
- State Administrative Nets (weekly)
- TRANSGLOBAL: Voice and Digital Nets (daily)
- TRANSGLOBAL : WinLink and ALE Networks (24/7/365)
- Phone Patch Net (24/7/365)
- Mission Support Net (daily)
- Training Nets (weekly)
- ECOM Emergency Nets (quarterly exercises and actual incidents)
- Joint Service Interoperability Nets (weekly)





AF MARS Phone Patch Net

- The Air Force MARS Phone Patch Net provides HF radio telephone service to aircraft from all branches of the U.S. military, Coast Guard, and the Department of Homeland Security
- The net is staffed 24/7 by trained amateur radio volunteers who are members of the Air Force MARS program
- Air Force MARS operators facilitated well over 2,000 phone patches – nearly 200 a month – with more than 60 percent handling official business in support of operational activities over the last few years
- More information can be found at www.afmarsphonepatch.net





Mission Support Net

- Created by Air Force MARS in 2010 to provide contingency communications support in both voice and digital modes to contemporary military operations, homeland security and homeland defense activities, as well as CONUS and OCONUS disaster relief missions
- Supersedes the TRANSCON Space Support Net, which supported Space Shuttle launch and recovery operations
- Is available to support other U.S. Government operations, including space activities





Air Force MARS Training Nets

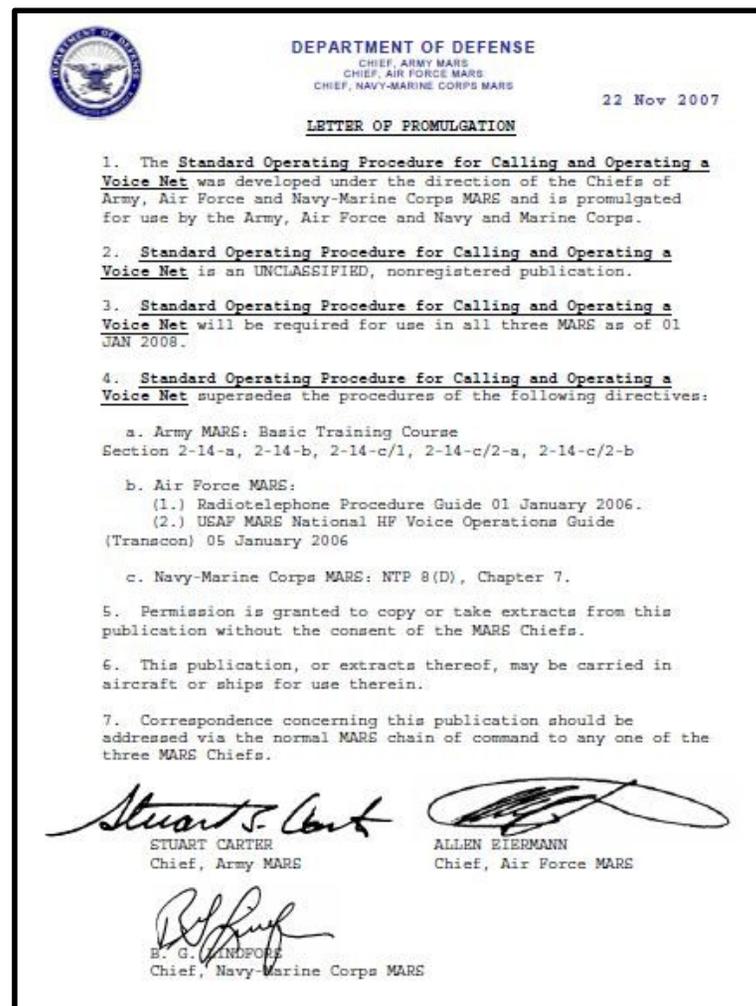
- Air Force MARS members operate on military (not amateur radio) frequencies, use military call signs, and are trained and tested in military communications protocols and procedures
- Training is continuous – it doesn't end when you get your MARS license
 - Net participation provides “on-the-air” experience in utilizing proper procedures
 - Air Force MARS members are ready to serve in emergencies





Cross - Service Collaboration

- The need for greater coordination, collaboration and a single MARS mission, among entities means that Air Force MARS members may check into nets and operate on frequencies assigned to Army MARS services and vice versa.
 - Standardized procedures for voice nets have been promulgated
 - Similar standardization procedures for digital nets are being considered
 - Joint participation daily nets and quarterly exercises





Air Force MARS at the Pentagon

- The Pentagon MARS station operates under multiple call signs, including the Air Force MARS call sign AGA3DC, Army MARS call sign AAN3PNT, and Department of Defense call sign WAR
- Air Force MARS members operating at the Pentagon MARS Station have participated in communications exercises with DoD airborne assets, receiving off-line encrypted messages and delivering them to the National Military Command Center for decoding and action





To Summarize..

Air Force MARS members are:

- Volunteers
- Communicators
- Responders
- Experimenters
- Trainers
- Mentors
- Deployers
- Reporters
- Testers
- Facilitators
- Exercisers
- Partners
- Leaders
- In short... "Do'ers"



Does this sound like YOU?





For More Information

- Contact U.S. Air Force MARS National Recruiting
- email join@afmars-mil.us
- Call (888) 778-6277 for recorded program information and requirements to join





Thank you for your interest
Any questions?

