THIS IS ARMY MARS

MARCH 2017

DISTRIBUTION RESTRICTION: Approved for public release. Distribution is unlimited.

**DEPARTMENT OF THE ARMY
MILITARY AUXILIARY RADIO SYSTEM
FORT HUACHUCA ARIZONA 85613-7070**

Message Through!

CONTENTS

IMPROVEMENTS

Chief Army MARS is the proponent of this publication. This manual is prepared at HQ, Army MARS.

Suggested corrections, or changes to this document, should be submitted through your State Director to the Regional Director. Any Changes will be made by the National documentation team.

DISTRIBUTION

Distribution is unlimited.

REFERENCES:

The following references apply to this manual:

1. DoDI 4650.02 – Military Auxiliary Radio System
2. AR 25-6 - Military Auxiliary Radio System (MARS) and Amateur Radio Program

INTRODUCTION

The U.S. Army Military Auxiliary Radio System (AMARS) is an elite group of dedicated citizen volunteers who support a Global High Frequency Enterprise Network (GHFEN) providing contingency radio communications to the Department of Defense (DoD) in a variety of circumstances, including complex catastrophes and cyber denied or impaired conditions. AMARS is the program that trains, organizes and tasks volunteer Amateur Radio operators to support DoD activities.

AMARS citizen-volunteers demonstrate the Army's values of Loyalty, Duty, Respect, Selfless-Service, Honor, Integrity and Personal Courage, freely and generously giving their time and resources as a reflection and measure of devotion to our nation. The world has changed dramatically since the MARS structure was first developed and implemented. What has not changed is the dedication of these citizens to serve our nation.

ARMY MARS TODAY

The US Army Network Enterprise Technology Command (NETCOM) is the Department of the Army (DA) executive agency for AMARS, headquartered at Fort Huachuca, AZ.   NETCOM is the Army's premier Information Technology Service Provider and cyber protection force that plans, engineers, installs, integrates, protects, defends and operates Army Cyberspace, enabling mission command through all phases of Joint, Interagency, Intergovernmental and Multinational operations.   NETCOM reports to US Army Cyber Command (ARCYBER).

AMARS today supports DoD activities of many types. For instance, a request for Defense Support to Civil Authorities (DSCA) may call for MARS stations to temporarily supplement the communication needs of Civil Authorities. Other activities may include: DoD directed international Humanitarian Assistance and Disaster Relief (HADR) activities, or supporting active, reserve or National Guard units. AMARS volunteers are Subject Matter Experts, and are often called upon to assist training of military and government personnel. These activities supplement AMARS' primary function to provide contingency communications support to the DoD, the combatant commands and their components.

THE 21ST CENTURY ARMY MARS VOLUNTEER

Individual citizen volunteers are located in communities throughout the United States and around the globe. In addition to the Amateur Radio Service, MARS stations operate on the same net with military and federal government entities. It takes a special kind of citizen to accomplish our mission.

Although an Amateur Radio license is required for AMARS membership, Amateur Radio experience alone is not sufficient to operate successfully in MARS. Individual member volunteers in AMARS are expected to take the initiative in expanding their existing foundation in electronics and radio communications

The 21 Century MARS member is a highly motivated individual with key skills to support the United States.

through independent study in the areas of Information Technology and telecommunications. AMARS volunteers improve their Amateur Radio station for operation on all frequencies between 2-30 MHz and utilize technology that is not normally used in Amateur Radio.

In 1925 when the Army Amateur Radio Service (AARS) was established, radio was a new technology and an understanding of radio was enough for citizen volunteers to be of value to military and

government operations. In the over 90 years since the AARS was founded, the requirement has evolved as radio and cyberspace have merged into a single telecommunications medium. The 21st century brings new challenges to AMARS and its volunteer corps. Radio is now only a small component of the larger cyber concept of operations. The modern MARS member must be an expert in RF communications, Information Technology, and the associated equipment for both.

The 21st Century MARS member is expected to mitigate risk in cyberspace, maintain operational and cyber security, recover quickly from a cyber-incident, utilize different types of encryption tools, as well as establish reliable, interoperable communications links using HF radio when access to cyberspace is impaired or denied.

AMARS AND THE AMATEUR RADIO OPERATOR

Amateur Radio operators represent the nation's reservoir of electronic experts. MARS is a military auxiliary that utilizes this resource for Defense. It is through the service of these citizen volunteers that AMARS is able to accomplish its mission.

AMARS looks to Amateur Radio to provide human resources that are knowledgeable and skilled in the following areas:

- Communicating effectively and concisely utilizing specific protocols and procedures; improvising and adapting existing guidance to new or unanticipated conditions.

- Utilizing the effects of the ionosphere to communicate over long and short distances; and applying techniques to maximize the potential of the radio frequency path between the desired communication points.

- Operating and maintaining telecommunications technology, including HF radio equipment and antennas.

- Exhibits a high level of competence utilizing computer equipment in conjunction with radio transceivers; installing, maintaining and updating of software, soft-modems, operating systems; and maintaining and securing computer systems without assistance.

Many people think of Amateur Radio as a hobby. Volunteer service in AMARS is a commitment to serve the United States with time, knowledge, experience and equipment. Individual volunteer AMARS members are serious about this commitment and do their part when, where and how they are called upon to support their country.

Each respective MARS service provides an authorization to operate and assigns a military call sign to the individual's Amateur Radio station so it can operate as a military station. MARS operation is a federal military activity operating on assigned military spectrum authorized by

AMARS member demonstrating how to tune an antenna to WY Army National Guardsmen

the National Telecommunications and Information Administration (NTIA), and is not regulated under 47 CFR Part 97 and the Federal Communications Commission.

THE AMARS MISSION

The AMARS Mission is to support a Global HF Network in cyber impaired or denied environments on behalf of the Department of the Army, Department of Defense, in order to support the objectives of the United States.

The Global High Frequency Enterprise Network (GHFEN) is designed to deliver unclassified messages primarily using High Frequency (HF) radio. The GHFEN supports US military activities providing long haul text message relay, point to point teletype and voice message circuits, and Phone Patch/Radio Wire Integration (RWI), compliant with the procedures outlined in the Allied Communications Publications and technology described in US Military Standards.

Many AMARS capabilities are provided by organized volunteer amateur radio operators and their operating facilities under the appropriate Service authorities as directed by and coordinated within the Department of Defense and Service Channels.

The AMARS mission consists of three primary tasks:

1) Provide radio communications support to the DoD by staffing the GHFEN. The GHFEN provides enterprise-level HF radio connectivity across the Army in the event of a denial of cyberspace.

2) Support DoD Humanitarian Assistance and Disaster Relief (HADR) efforts by interfacing with Amateur Radio stations in disaster areas, or other Amateur Radio stations that are in contact with Amateur stations in the disaster area, to obtain information concerning the conditions, impact of the disaster, and other information pertinent to coordinating a U.S. HADR response.

3) Provide temporary disaster communications support to State and Local Civil Authorities, when requested and authorized by the DoD, until those Civil Authorities are able to serve their citizens without additional military support.

AMARS also supports the DoD in other areas secondary to the primary mission, which include:

1) Training cadets, Soldiers and guardsman in HF radio fundamentals. As subject matter experts in HF radio techniques, MARS citizen-volunteers are uniquely qualified to provide this service, and contribute to improving the effectiveness of these military units.

2) Processing Morale, Welfare and Recreation (MWR) related messages and telephone calls to or from U.S. servicemen and women located throughout the world. This activity was commonly referred to as "MARSGRAMS".

ORGANIZATION

AMARS has citizen-volunteer members in communities throughout the United States, and abroad where there is a U.S. presence. These citizen-volunteers are organized according to the 10 FEMA regions in the continental U.S., with the exception of PR/VI which are assigned to Region 4 in AMARS. OCONUS (Outside continental United States) areas are organized generally according to the Geographic Combatant Command Area of Operations.
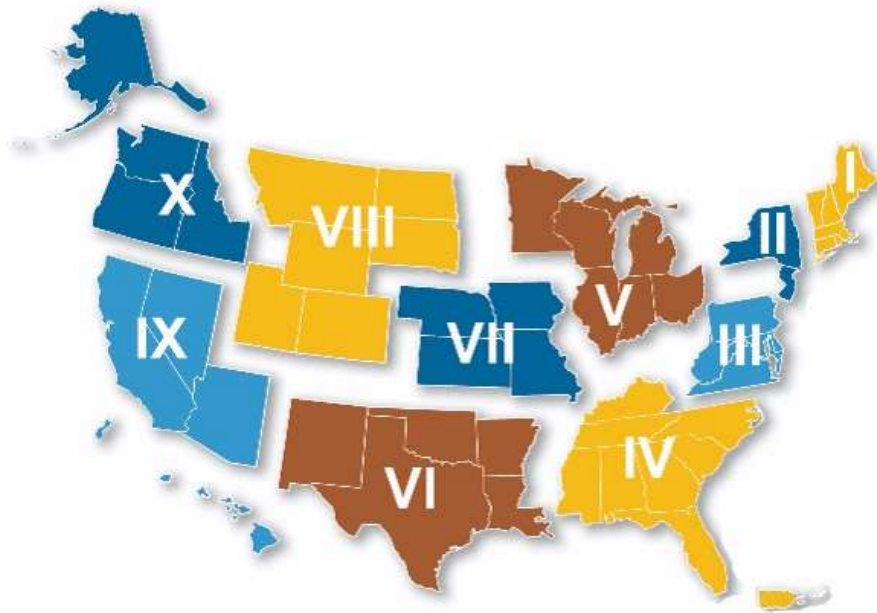
Each Region or Area of Operation (AOR) has a citizen-volunteer Region Director (RD), who oversees a staff and state directors also comprised of citizen volunteer MARS members. Individual MARS members are expected to take direction and training from these volunteer leaders who organize and oversee the volunteer corps.
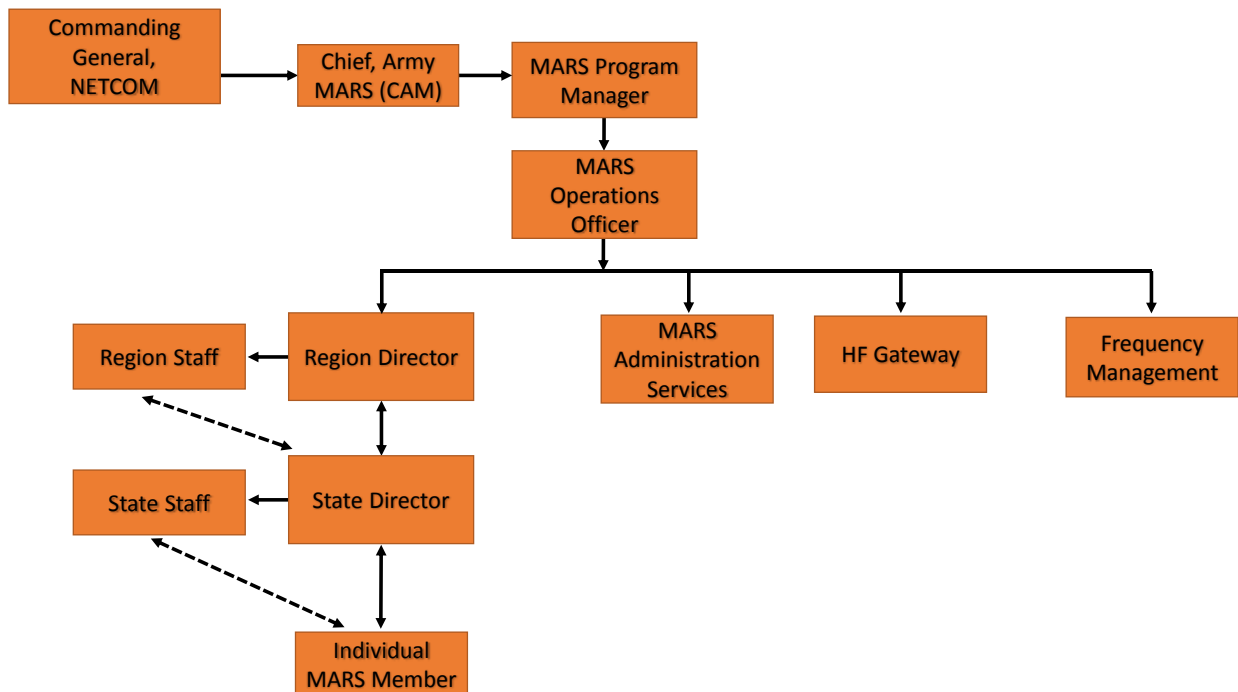
APPENDIX A. AMARS MEMBERSHIP

Army Regulations (AR 25-6) describes five types of AMARS membership. The Individual Membership type is open to civilian, volunteer Amateur Radio operators who desire to support United States Defense activities utilizing their Amateur Radio station.   Individual Membership is open to those who meet the following qualifications:

A.1. QUALIFICATIONS

Individuals applying for AMARS membership must meet the following minimum requirements:

1) Eighteen Years of age or older

2) Citizen of the United States

3) Hold an FCC Amateur Radio license

4) Agree to follow all rules and procedures prescribed by the Army and have a desire to provide voluntary communications support to the defense of the United States.

5) Able to pass a background check, ie: Of good moral character, no felony convictions, or under indictment or information in any court for a felony, no associations with known terrorist organizations, not an unlawful user of illicit drugs, has not been discharged from the Armed Forces for other than honorable conditions, has not been terminated for cause by any MARS service, and has not been declared mentally incompetent.

A.2. TRAINING

Once accepted to AMARS, new members must complete a training course in their first six months of membership. Training is mentored by another AMARS volunteer, who will guide the trainee to becoming proficient as a MARS member.

1) Hands On training is done on-the-air using the trainee's radio equipment. Trainees must complete a task list demonstrating proficiency.

2) Complete two on line classes to familiarize the new member with the function of the National Incident Management System (NIMS). Certificate of Completion for ICS-100 and ICS- 200 is issued by FEMA.

3) Trainees who have not achieved a General, Advanced or Extra class Amateur Radio license will be required to upgrade to at least a General class license within one year of joining.

New Members are issued a provisional Authorization To Operate (ATO) that expires in one year from date of issue. Completion of all initial training goals is required to renew the ATO.

A.3. FCC LICENSE

The license issued to an Amateur Radio operator by the FCC is not used on MARS frequencies nor can the MARS ATO be utilized for Amateur Radio purposes. They are mutually exclusive.

The Radio Amateur is recognized as having expert knowledge in the field of radio communications. The General, Advanced or Extra Amateur Radio license is required because there is a high expectation of competency in operating HF radio communications equipment, utilizing the ionosphere for long haul communications, and interfacing computer and radio equipment.

A.4.   ACTIVITY REPORTING

As a unique cadre of experienced volunteers, individual members are expected to meet a minimum training requirement to retain their skills.

To assess readiness, monthly reports are required from all members. These reports indicate the status of the members AMARS station, and time spent training for MARS activity.

- A minimum of 12 hours over a consecutive 3 month period, 6 of which must be on the air in HF radio operations, is required of Individual MARS members to retain membership.   Amateur Radio activity does not meet this requirement.

Non-participation of three consecutive months is considered abandonment, and will result in a cancellation of the MARS authorization to operate. Temporary exemptions and leave of absences up to 90 days are granted on a case by case basis through the State Director. Leaves of absence or extensions over 90 days must be approved by the Region Director.

A.5.   EQUIPMENT AND TASKS

The Department of the Army requires that its MARS members have access to equipment suitable to accomplish the tasks the Army requires of its MARS stations. The member need not own the equipment, or have it in their house, but must have unrestricted access to the equipment so they can train for and contribute to the mission of the Department of the Army on a regular and ongoing basis. The following are required:

1) A radio station capable of transmitting and receiving in all ITU Fixed Service Bands between 2-30 MHz on both SSB voice and MIL-STD digital modes. The transmitting equipment must meet minimum technical parameters required by the NTIA.   (ref NTIA Manual section 7.3.9)

2) A terminal or computer system connected to the radio equipment so that text based messages sent or received may be drafted or displayed. AMARS provides windows based software to aid in the drafting of messages using Military Standard (MIL-STD) formats.

3) An internet connection with email and web is required for administration and training.

On an ongoing basis, AMARS members will be required to perform the following tasks:

1) Check into a MARS net. Most members check into their State or Region MARS net at least once per week. National nets train twice a week.

2) Maintain a radio station log of all on-air MARS activities.

3) Receive and Send messages using MIL-STD waveforms and message text formats.

4) Encode and Decode messages

5) Train in at least one national level DoD exercise annually. There are at least four national level exercises each year that support the Defense of the United States.

A.6.   MEMBERSHIP TERM

The Authorization to Operate (ATO) expires on the same date as the members Amateur Radio license. Members are expected to keep current their membership record with the AMARS Headquarters (U.S. Army NETCOM ITSMD); and report of any change in address, telephone number or email.

APPENDIX B.   DEFINITIONS

B.1. 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.2. CYBERSPACE

Domain characterized by the use of electronics and the electromagnetic spectrum to store, modify and exchange data via networked systems and associated physical infrastructure.

B.3. CYBER DENIED / CYBER IMPAIRED

Cyber Denied refers to a condition when cyberspace is unavailable to its intended users.

Cyber Impaired refers to a condition where the use of cyberspace is adversely affected so that it impacts a function or mission.

B.4. MILITARY AUXILIARY

An organized and trained body of volunteers prepared to supplement the DoD, components or civilian authorities' requirement for contingency communications.

B.5. DEFENSE SUPPORT OF CIVIL AUTHORITIES

Support provided by U.S. Federal military forces, DoD civilians, DoD contract personnel, DoD Component assets, and National Guard forces (when the Secretary of Defense, in coordination with the Governors of the affected States, elects and requests to use those forces in title 32, U.S.C., status) in response to requests for assistance from civil authorities for domestic emergencies, law enforcement support, and other domestic activities, or from qualifying entities for special events. Also known as civil support. (Defined in DODD 3025.18, 42 USC 5185 and 42 USC 5170b).

B.6. CIVIL AUTHORITY

Civil Authorities are those elected and appointed officers and employees who constitute the government of the United States, the governments of the 50 states, the District of Columbia, the Commonwealth of Puerto Rico, United States possessions and territories, and political subdivisions thereof. (ref JP 1-02).

B.7. COMPLEX CATASTROPHE

Any natural or manmade incident, including cyberspace attack, power grid failure, and terrorism, which results in underlined cascading failures of multiple, interdependent, critical, life-sustaining infrastructure sectors and causes extraordinary levels of mass casualties, damage, or disruption severely affecting the population, environment, economy, public health, national morale, response efforts, and/or government functions.