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Medical Services
ARMY HEARING PROGRAM

FOR THE COMMANDER:

OFFICIAL:

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History. This publication has major revisions.

Summary. This regulation establishes the purposes, objectives, and responsibilities of the Fort Leonard Wood, (FLW) Army Hearing Program.

Applicability. This regulation applies to all units on FLW to include tenant units and service units in the area immediately surrounding FLW.

Proponent and execution authority. The proponent agency of this regulation is the Preventive Medicine Division.

Supplementation. Supplementation of this regulation is prohibited without prior approval by Headquarters, United States Army Maneuver Support Center of Excellence (MSCoE).

Suggested Improvements. Users are invited to send comments and suggested improvements on DA Form 2028 (Recommended Changes to Publications and Blank Forms) to Commander, MSCoE (ATZT-OP), Fort Leonard Wood, MO 65473-5000.

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*This regulation supersedes FLW Reg 40-7, 10 July 2007.

Summary of Changes

To

FLW Reg 40-7, Army Hearing Program

FLW Reg 40-7, 10 Jul 07, has undergone major revisions.

- Changes the title from Hearing Conservation Program to Army Hearing Program (AHP) (cover).
- Chapter 2 added to outline the functions needed to implement the AHP.
- Chapter 3 and 4 added to describe the Industrial Hygiene Program's role in noise hazard identification and implementing Engineering Controls.
- Chapter 5 added to outline appropriate issue, use, and requisition of Hearing Protectors.
- Chapter 6 added to define Hearing Readiness and Monitoring Audiology requirements for Soldiers and noise-exposed Civilians.
- Chapter 7 added to define and explain requirements for annual Hearing Health Education.
- Chapter 8 added to define and explain program Enforcement and Compliance measures.
- Chapter 9 added to outline the internal and external reporting measures for program evaluation.
- Chapter 10 added to define and explain requirements for the Operational Hearing Services component.
- Chapter 11 added to describe Garrison Nuisance Noise.
- Chapter 12 added to summarize Hearing Program Services.
- Appendix A changes to References.
- Appendix B changes to describe noise values.
- Appendix C added to describe examples of hazardous exposures.
- Appendix D added to describe earplug requisition information.
- Appendix E added to describe earplug requisition information.
- Appendix F added to describe the Hearing Readiness Classification (HRC) system.

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Chapter 1

INTRODUCTION

1-1. Purpose.

To provide guidance and requirements for implementing the U.S. Army Hearing Program (AHP) at FLW while incorporating additional initiatives which have a direct and positive impact on program effectiveness.

1-2. References and forms.

Required and related references and prescribed forms are listed in appendix A.

1-3. Explanation of acronyms, abbreviations, and special terms.

The acronyms, abbreviations, and special terms used in this regulation are explained in the glossary.

1-4. General.

a. Army Hearing Program: The AHP represents leadership policies, strategies and processes to prevent noise induced hearing loss among military and Department of Defense (DoD) civilian personnel. The AHP has four major elements: hearing readiness, clinical hearing services, operational hearing services, and hearing conservation. Good hearing enables a Soldier and/or civilian employee to maintain critical situational awareness and effective communication in any environment (i.e. garrison, industrial, training, operational and combat missions). This is accomplished by: 1) preventing both temporary and permanent hearing loss, and 2) improving communication in noise (signal-to-noise or S/N ratio). Civilian personnel will be enrolled in a comprehensive hearing conservation program (HCP) when duties require exposure to hazardous noise or suspected ototoxins (ear poisons). DA Pam 40-501, Army Hearing Program, para 3-3 provides definitions of hazardous exposures. Appendix D provides examples of typical exposures that meet the criteria for enrollment in a comprehensive HCP. All Soldiers on FLW, due to military training requirements known to be noise hazardous, are automatically enrolled in the HCP.

b. Hearing loss degrades combat readiness and effectiveness. On today's advanced technology battlefield, Soldiers must be prepared to communicate effectively and perform optimally, which requires essentially normal hearing sensitivity. Good hearing is a proven combat multiplier, preserving the lethality and survivability of the war fighter.

c. Noise-induced hearing loss is one of the most prevalent injuries among military and civilian personnel, representing a significant portion of the annual cost for service-connected disability compensation. Hearing loss and/or its associated symptoms (i.e.; tinnitus) result in permanent disability, which in most cases is preventable. It is imperative that emphasis on hearing conservation and preventive measures be maintained. The primary goal of the Army Medical Department is Force Health Protection. Hearing loss prevention is consistent with the goal to prevent or eliminate disease and non-battle related injuries.

d. Nuisance noise is defined as any unwanted sound that interferes with communication or the ability to achieve restful sleep periods. It capitalizes on the non-auditory effects of noise, creating stress and fatigue in dangerous combinations for Soldiers and civilians. Acceptable noise levels are task-specific, for example, the amount of tolerable ambient noise is greater for a

Tactical Operations Center (TOC) than for a sleep tent. The presence of unwanted or intrusive noise has been heavily researched and the resulting insights can assist in short and long-term care of deployed Soldiers at all ranks. Preservation of communication ease, including face-to-face briefings or radio communications, significantly reduces stress levels and increases the operating efficiency of all personnel. In addition, sufficient sleep cycles in the rest areas 1) increases the immune system's ability to fight disease, 2) sustains keen perception ability, and 3) preserves higher mental abilities and motor skills. In essence, an alert, combat-ready Soldier is restored. Finally, nuisance noise common to the Garrison community potentially interferes with the ability to hear warning sirens or emergency signals, potentially jeopardizing the safety of all installation personnel.

e. The essential elements of the FLW Hearing Program are listed below with general details provided in DA Pam 40-501, chapters 4-10 and FM 4-02.17, Preventive Medicine Services, Appendix C. Procedures and services pertaining specifically to FLW are provided in the following paragraphs:

- (1) Noise Hazard Identification (para 6).
- (2) Engineering Controls (para 7).
- (3) Hearing Protectors (para 8).
- (4) Monitoring Audiometry & Hearing Readiness (para 9).
- (5) Health Education (para 10).
- (6) Enforcement (para 11).
- (7) Program Evaluation (para 12).
- (8) Operational Hearing Services (para 13).
- (9) Garrison Nuisance Noise (para 14).

Additional Hearing Services available to installation units are outlined in para 15 with contact information provided.

Chapter 2

RESPONSIBILITIES AND IMPLEMENTATION

2-1. Commanding General

- a. Ensures that the installation meets the requirements of AR 40-5, Preventive Medicine, and AR 385-10, The Army Safety Program.
- b. IAW DA PAM 40-501 para 3-2, Issues a command emphasis letter endorsing the AHP at FLW.
- c. Includes the FLW, AHP as an item of interest for the installation inspection program.

2-2. Installation Medical Authority.

- a. Facilitates medical surveillance and provides staffing oversight for hearing conservation services afforded to all military and identified civilians exposed to hazardous noise in accordance with (IAW) AR 40-5 and DA Pam 40-501.
- b. Appoints on orders a military audiologist to act as the FLW Hearing Program Manager (HPM) for FLW, with tasks outlined in Paragraph 2-3.
- c. Appoints an individual to act as the Industrial Hygiene Program Manager (IHPM) with responsibilities outlined in Paragraph 2-5.

2-3. FLW Hearing Program Manager (HPM)

Manages and coordinates all aspects of the AHP outlined in this regulation for FLW these responsibilities include:

- a. Supervision of staff providing hearing examinations (monitoring audiometry) services at least annually (to include pre- and post-deployment evaluations) for all noise-exposed personnel. Uses authorized Defense Occupational Environmental Health and Readiness System-Hearing Conservation (DOEHRS-HC) audiometric instruments, computers, and guidance IAW DA Pam 40-501 Chapter 7.
- b. Ensures audiometric testing records are maintained using authorized DD Form(s) 2215, Reference Audiogram and DD Form 2216, Hearing Conservation Data, which are generated by DOEHRS-HC system. Ensures all audiometric records are included in the medical record per AR 40-66, Medical Records Administration and Health Care Documentation.
- c. Ensures notification of appropriate personnel (commanders, civilian supervisors, safety and occupational health managers) when an individual has sustained a positive significant threshold shift (STS) or permanent hearing loss that may endanger the individual and others. Notification can include the need for STS follow up, a diagnostic evaluation, a DA 3349, Physical Profile (with appropriate recommendations for maximum remediation of risks), and/or a written confirmation of a permanent hearing shift.
- d. Provides operational hearing education at least annually for all noise-exposed personnel, to include Initial Entry Training (IET), Advanced Individual Training (AIT), and critical leadership courses.
- e. Provides hearing program training for installation-directed courses, to include (but not limited to) the Safety and Field Sanitation Team (FST) Certification Courses.
- f. Ensures that medically certified personnel fit noise-exposed individuals with approved earplugs, and ensures that the condition and fit of earplugs are examined at least annually.
- g. Conducts announced site assistance visits and, in coordination with the commander, unannounced inspections of hazardous noise areas to ensure compliance with engineering and administrative noise controls, proper hearing protection use, and hearing health education training records.

h. Conducts noise surveys in field training environments (TOC, rest and common areas), training Soldiers to understand the non-auditory effects of nuisance noise and to utilize effective noise abatement strategies.

i. Reports program participation and quality assurance through Chief, Preventive Medicine, to the Installation Medical Authority at least annually.

j. Provides training, guidance, and technical support for unit-appointed Hearing Program Officers/Non-Commissioned Officers (HPOs) in their appointed responsibilities (outlined in Paragraph 2-3h) for managing their unit hearing programs.

k. Provides training for unit medical assets or support personnel in obtaining national certification as Army hearing technicians. Training requirements must meet standards of the Counsel for Accreditation in Occupational Hearing Conservation (CAOHC). These individuals will serve as the unit or school's subject matter expert on hearing conservation and support the unit with annual hearing readiness and operational requirements.

l. Provides courses for battalion, company, and school level HPOs on a regular basis, instructing Soldiers in the requirements and procedures for maintaining/monitoring unit hearing readiness, proper use of hearing protection for training and deployments, nuisance noise abatement strategies, and methods for prevention of acoustic trauma while maintaining critical communication ability. Additionally, this course will cover all aspects of the hearing portion of the installation inspection program.

m. Upon request, embeds with installation units during field and range exercises to determine practical solutions for difficult hearing protection and communication requirements, using various equipment combinations and strategies.

n. Oversees AHP section staff participation in the installation inspection programs, maintaining relevant checklists, supporting documents and consistent review procedures for installation units and schools. Simultaneously assists unit personnel with achieving installation standards for operational and hearing readiness requirements.

o. Coordinates with the Installation Compensation Program Administrator (ICPA) to review claims for occupational hearing loss. Provides consultation and submits written comments through the ICPA to the Department of Labor.

2-4. Installation Compensation Program Administrator (ICPA).

Reports Office of Workers' Compensation Program (OWCP) claims and awards for hearing loss and STS follow-up compliance to the Commanding General semi-annually.

2-5. Industrial Hygiene Program Manager (IHPM).

a. Performs survey of all known and suspected noise-hazardous areas and equipment and ototoxic exposures, and repeats survey within 30 days of any reported changes in equipment or work-site operation using approved and calibrated equipment.

b. Maintains current inventory of all noise-hazardous areas using DD Form 2214, Noise Survey or 2214C, Noise Survey (Continuation Sheet).

c. Identifies noise and ototoxic-exposed personnel, and the magnitude of their noise exposure. Provides a survey report with pertinent recommendations for appropriate personnel (commanders, supervisors and safety managers) following initial evaluations, re-evaluations or upon request).

d. Provides the HPM with the number of noise-exposed and ototoxic-exposed civilian personnel for the specific calendar year on an annual basis. This is required to determine HCP participation rates.

2-6. Chief, Occupational Health (OH).

a. Coordinates with the IHPM and HPM to identify and maintain a database of all noise-exposed DoD civilians that are exposed to ototoxins and high intensity noise for the HCP.

b. Arranges placement, periodic and termination audiometric evaluations for noise-exposed DoD civilian personnel exposed to hazardous noise.

c. Coordinates with HPM to ensure that appropriately trained personnel fit noise-exposed DoD civilians with proper size and types of hearing protective devices.

d. Coordinates with HPM to ensure that appropriately trained personnel incorporate hearing program education classes in conjunction with ongoing health education as required to promote individual understanding of hearing loss prevention.

e. Refers individuals for further testing and evaluation as appropriate.

2-7. Installation Safety Program Manager (per AR 385-10).

a. Evaluates hearing program compliance during Standard Army Safety and Occupational Health Inspections.

b. Records and monitors incidence of OSHA Reportable Hearing Loss as occupational illness (repetitive trauma) or as a one-time acoustic trauma on the OSHA log of injury and illness, except OSHA reportable hearing lost directly contributed to combat.

c. Coordinator for safety issues related to hearing conservation.

d. Ensures HPM is a member of the installation safety council.

2-8. Commanders, Directors and Supervisors of noise-exposed personnel.

a. Appoint on orders an individual (officer, NCO, or civilian staff) to act as the unit Hearing Program Officer (HPO) as his/her primary appointed duty, to manage the unit hearing program with responsibilities outlined in Paragraph 2-10. Ensures HPO completes installation-required training for hearing conservation activities.

b. Stress the importance of preventive measures with a unit-level hearing conservation emphasis letter and a unit Standard Operating Procedures (SOP) detailing the hearing program.

c. Posts and maintain noise hazard danger and caution signs and decals for all identified areas and equipment IAW AR 420-1, Army Facilities Management and the Safety Color Code Markings, Signs and Tags Information Guide.

d. Enforces the mandatory use of hearing protectors for all personnel when around noise hazard areas and takes administrative action as appropriate for non-compliance. Requires all Soldiers and noise-exposed personnel to maintain earplugs and the earplug carrying case as an item of individual equipment. Permanent party Soldiers will have the earplug case, with earplugs, readily accessible at all times and worn when exposed to hazardous noise levels of impulse/impact noises (such as explosions and weapons firing) and/or steady-state noises (such as military vehicles, aircraft, and/or generators). IET and AIT Soldiers will carry their earplugs and earplug case in the left arm pocket of the Service Uniform top to prevent loss during training/corrective exercises.

e. Consults with the HPM for noise-hazardous missions requiring preservation of critical communication ability using tactical communication and protective systems (TCAPS). Ensures Soldiers are adequately trained with nonlinear systems as required.

f. Ensures medical threat briefings provided prior to unit deployments include noise hazard descriptions and preventive measures (i.e.; hearing protection and noise abatement strategies) for troops.

g. Coordinates with the IHPM to properly identify noise-hazardous personnel, areas, and positions for annotation on job descriptions when appropriate. Ensures that annotated job descriptions include requirement to wear personal protective equipment, for example, hearing protectors and noise-survey dosimeters when requested, and to report for scheduled medical examinations as required.

2-9. Commanders, Commandants and Leadership for Initial Entry Training and Military Courses.

a. Endorses the Commanding General's emphasis letter for the FLW, AHP and stress the importance of preventive measures with a school hearing conservation emphasis letter.

b. Ensures training requirements for course itinerary includes operational hearing education class that describes the risks of noise to hearing, mitigation strategies for hearing loss prevention, the proper use and fit of hearing protection, and an introduction to tactical communication and preventive devices. Course instruction can be coordinated through the HPM to provide subject matter experts for instruction.

c. Enforces the mandatory use of hearing protectors for all Soldiers and cadre when around noise hazard areas (i.e. weapons firing, tactical vehicles and motor pools, simulated training exercises [including when firing blanks and/or simulating IED explosions], generators, etc.) and takes administrative action as appropriate for non-compliance. Requires all Soldiers and cadre to maintain earplugs and the earplug carrying case as an item of individual equipment. Permanent party Soldiers and cadre will have the earplug case, with earplugs, easily accessible at all times and worn when exposed to hazardous noise levels of impulse/impact noises (such as explosions and weapons firing and/or steady-state noises [such as military vehicles, aircraft, and/or generators]). IET and AIT Soldiers will carry their earplugs and earplug case in the left arm pocket of the Service Uniform top to prevent loss during training/corrective exercises.

d. Ensures IET Soldiers receive their in-processing hearing readiness evaluation and earplug fitting/briefing prior to shipping for basic training. Ensures Soldiers identified with hearing loss are returned to the AHP Section (43rd AG BN Hearing) for diagnostic evaluation as scheduled prior to shipping for basic training.

2-10. Unit Hearing Program Officers/NCOs (HPOs).

a. Contacts the FLW, HPM for guidance and technical support for implementing a comprehensive hearing conservation program for the unit.

b. Functions as POC for the AHP. Maintains copies of all pertinent regulations, unit education records, and unit hearing readiness tracking records. (See Appendix F for Hearing Program Checklist).

c. Coordinates annual, pre- and post-deployment hearing examinations for all Soldiers and noise-exposed civilian personnel (may schedule entire unit if appropriate) by contacting the Soldier Readiness Center (SRC) at FLW. Testing can also be completed on a walk-in basis at the Hearing Conservation clinic in the basement of General Leonard Wood Army Community Hospital (GLWACH) or SRC.

d. Ensures hearing examinations are provided using the authorized DOEHRS-HC audiometer equipment. Ensures appropriate DD Form 2215 and 2216 hearing test records are maintained in the individual's medical records.

e. May utilize appropriately trained individuals within the unit who are certified by CAOHC as hearing conservation technicians to assist with unit hearing examinations. Contacts the FLW HPM for technician certification course schedules.

f. Ensures all in-processing personnel receive a hearing examination, to include hearing protection check, fit, and initial installation hearing health education.

g. Maintains tracking system through the Medical Protection System (MEDPROS) for monitoring the Hearing Readiness Classification (HRC) of unit personnel. Reports unit compliance and hearing readiness rates to unit Commander. Ensures Class 4 Soldiers complete required DOEHRS-HC hearing tests and Class 3 Soldiers complete diagnostic evaluations with an installation audiologist in a timely manner.

h. Ensures all Soldiers and noise-exposed civilian personnel receive operational hearing education at least annually and maintains training roster as documentation. Coordinates with FLW HPM for health education course.

i. Provides input to deployment medical threat briefings, and/or to preventive medicine assets, in regards to noise hazards, hearing protection, communication enhancement, and noise abatement strategies relevant to the projected threat of the intended theater of operations.

j. Requisitions and maintains an adequate supply of approved hearing protectors, including helmets, noise muffs, or preformed (triple-flange, quad-flange or combat arms types) earplugs in preparation for training exercises and deployments. Earplug requisition information is provided DA Pam 40-501, table 6-1, or in Appendix E.

k. Must maintain an adequate supply of approved hand-formed (Sound Guard NSN: 6515-00-137-6345 are the only foam earplugs approved for DoD purchase) earplugs for visitors or personnel not possessing preformed earplugs.

l. Ensures that approved earplugs are selected and fitted by a hearing conservation technician or appropriately trained personnel. Ensures these earplugs are examined at least annually to ensure proper fit and condition. Coordinate with FLW, HPM for earplug fitting training.

m. Ensures aviation or Combat vehicle crewman's (CVCs) type helmets and noise muffs are examined for proper fit and condition at least semi-annually.

n. May obtain noise muffs through commercial sources as well as through the Federal Supply System.

o. Ensures approved earplugs carrying case is provided, free of charge, to personnel exposed to noise hazards. Ensures appropriate wear of earplugs and earplug case by unit Soldiers. (See Appendix E for order information)

p. Prepares a unit SOP detailing Hearing Program implementations at unit level. Reviews unit range SOP for inclusion of hearing conservation procedures. Contacts FLW, HPM for assistance with preparing a unit SOP.

2-11. Soldiers and Noise-Exposed Civilian Personnel.

a. Report for in-/out-processing, pre-/post-deployment, and annual hearing examinations.

b. Maintain a pair of preformed earplugs and an earplug carrying case as an item of personal protective equipment, and keeps earplugs and carrying case in their possession as part of their Service Uniform as directed.

c. Correctly wear approved and properly fitted hearing protectors when exposed to hazardous noise (i.e. weapons firing, tactical vehicles, power tools, MOUT, etc.).

d. Report for hearing education at least annually.

e. Immediately reports suspected hearing loss following weapons firing or exposure to blasts/explosions in the combat or training environment to their supervisor for appropriate medical attention.

f. Provide all pertinent information regarding noise exposure and use of hearing protective devices in noise hazardous areas. Soldiers and noise exposed civilian personnel will ensure their best effort is put forth when taking a DOEHS-HC or diagnostic hearing test.

Chapter 3

NOISE HAZARD IDENTIFICATION

3-1. Industrial Hygiene Program.

- a. Conducts noise surveys of all suspected noise-hazardous areas, vehicles, and equipment at least once and within 30 days of any change in operations.
- b. Determines the Time Weighted Average (TWA) for all DoD civilian employees routinely working in hazardous noise areas, and military personnel working in hazardous noise industrial-type operations at least once and within 30 days of any change in operations affecting noise levels.
- c. Supervises and ensures industrial hygiene staff complete visits to each potentially noise-hazardous area at least once a year to fulfill requirements of AR 385-10.
- d. Industrial hygiene technicians or personnel trained in the use of noise measurement equipment-
 - (1) Will perform noise surveys as required. Details for survey equipment and calibration guidelines are outlined in DA Pam 40-501, para 4-2.
 - (2) Noise surveys will be completed and documented using the DOEHRS-HC DD Form 2214 and/or DD form 2214C to identify hazardous noise survey results. Reports will be distributed and maintained IAW DA Pam 40-501, para 4-5.
- e. Military and DoD civilian personnel may request a noise survey any time potentially noise-hazardous equipment is purchased or following any change in operations. In addition, previous noise survey records for specific locations can be requested. Record and survey requests can be directed to the IHPM at 596-4913 or by reporting to Preventive Medicine Division, GLWACH.

3-2. Posting.

- a. The unit Commander or supervisor ensures that danger, caution signs and decals are posted at entrances to, on the periphery of, and on noise-hazardous equipment and vehicles accordance with the Safety Color Code Markings, Signs and Tags Information Guide. In addition, 29 CFR 1910.95 must be posted in all industrial, noise-hazardous areas.
- b. The IHPM ensures applicable 85 dBA and 140 dBP noise contours are established and advises the unit Commander or supervisor where to locate contour signs.

Chapter 4

ENGINEERING CONTROLS

- a. The most desirable hearing conservation measure is reducing noise levels at their source and eliminating harmful health effects. Implementation is generally feasible, if technologically and operationally practicable and cost effective. Procuring new equipment, vehicles or facilities offers the ideal opportunity to implement noise controls. The objective is to review all acoustic specification before purchase to ensure, if possible, a steady-state level less than 85 dBA at all personnel work locations during normal operations.

b. Control measures for existing equipment and facilities to reduce steady-state noise levels below 85 dBA and impulse noise levels below 140 dBP should be employed to the maximum extent possible. In some instances, the implementation of engineering controls requires funding which is rank ordered on the installation hazard abatement plan per AR 385-10 and DA PAM 40-503, The Army Industrial Hygiene Program. In other instances, simple maintenance of the equipment, vehicles, or facilities will eliminate or control the hazard. Details for effective maintenance noise-control measures can be found in DA Pam 40-501, para 5-2.

c. An industrial hygienist from the Department of Preventive Medicine, GLWACH, can be consulted for engineering control recommendations and follow-up measures. The section can be contacted at 596-4913.

Chapter 5

HEARING PROTECTORS

a. All personnel working within or visiting potentially noise-hazardous areas must have hearing protectors with them at all times. Permanent party military personnel will have the earplug case, with earplugs, readily accessible at all times and worn when exposed to hazardous noise levels of impulse/impact noises (such as explosions and weapons firing) and/or steady-state noises (such as military vehicles, aircraft, and/or generators). IET and AIT Soldiers will carry their earplugs and earplug case in the left arm pocket of the Service Uniform top to prevent loss during training/corrective exercises

b. Hearing protection devices (HPDs) consist of earplugs, noise muffs, ear canal caps, noise-attenuating helmets, or a combination of these. A list of approved hearing protection devices for government purchase can be found in Appendix E, which includes an example of a typical HPD purchase for a military unit. Personnel may select the type of protector desired, unless the selection is medically contraindicated or inappropriate for a particular noise-hazardous environment. In-depth descriptions and maintenance recommendations of approved HPDs can be found in DA Pam 40-501, paras 6-3 and 6-5.

c. HPDs are issued at no charge to all military personnel and to all civilians working in potentially noise-hazardous areas. An earplug carrying case must also be provided at no charge with each set of preformed earplugs. This case can also be used for hand-formed earplugs. HPDs are considered required personal protective equipment for military deployments.

d. Initial Fittings & Annual Integrity Checks. Medically-certified preformed earplug fittings will be completed during in-processing activities at Soldier Readiness Processing (SRP, Bldg 470, Room 1109) for permanent party military, at the 43rd AG BN Hearing Program for trainees, and as required during the Occupational Health Services entry physical for DoD civilians at GLWACH Hearing Conservation. Earplug re-fits and integrity checks can be completed during annual, pre-, or post-deployment hearing evaluations. Organic unit assets that are CAOHC certified hearing technicians and/or HPOs who have been issued a certificate of completion from the FLW Program are qualified to complete integrity checks. Units without certified technicians may request support from the FLW, HPM at the 43rd AG BN at extension 596-4542.

e. Requisition. HPOs must requisition HPDs through their Medical Supply Officers (MSOs) using appropriate national stock numbers (Appendix E).

f. Protector Requirements. Civilians and military personnel must wear appropriate HPDS when working with or around equipment, tactical vehicles or weapons that produce hazardous levels of noise. Definitions of hazardous noise are listed below. Examples of steady-state and impulse noise levels produced by common military equipment are included in Appendix B.

(1) *Steady-state noise levels of ≥ 85 dBA* (regardless of duration) – requires single hearing protection.

(2) *Steady-state noise levels of ≥ 103 dBA* (regardless of duration) – requires double HPD (i.e.; earplugs and helmets or earplugs and noise muffs).

(3) *Steady-state noise exposure > 108 dBA* – exposure is not permitted.

(4) *Impulse noise levels of ≥ 140 dBP* – requires single hearing protection.

(5) *Impulse noise levels > 165 dBP, but less than or equal to curve Z* per MIL-STD 1474D, requirement four, figure 4-1, personnel must wear earplugs in combination with noise muffs or a noise-attenuating helmet.

(6) *Impulse noise levels greater than curve Z*, the Surgeon General must approve exposure.

(7) *Combat scenarios and HPDs.* In combat, Soldiers should wear hearing protectors, especially when firing weapons or riding in tactical vehicles or aircraft. HPDs improve readiness and prevent permanent or temporary threshold shifts which impair the ability to communicate and to detect and localize quiet or low level combat sounds.

(8) *Combat scenarios and communication requirements.* In combat, Soldiers should use appropriately fitted nonlinear HPDs (i.e.; combat arms earplugs) or communication enhancement systems when impairment to hearing is detrimental to mission requirements (i.e.; dismounted infantry operations).

Chapter 6

HEARING READINESS & MONITORING AUDIOMETRY

a. Monitoring audiometry detects changes in an individual's hearing sensitivity. This information identifies individuals who are highly susceptible to noise-induced hearing loss, allows for early identification of and intervention for hearing loss, and evaluates the effectiveness of the hearing conservation program. Hearing Readiness (HR) specifically focuses on ensuring Soldiers have the required physical capabilities, personal protective equipment (i.e.; HPDs) and medical equipment that are needed to deploy. The main component of HR is monitoring audiometry. All hearing evaluations are to be completed on the DOEHRS-HC audiometer with results recorded on DD Forms 2215 and 2216.

b. DoD Civilians. Reference audiograms for new civilian personnel with a potential for hazardous noise exposure must be performed as soon as possible but not later than 30 days after initial exposure. Civilians will receive hearing tests administered by the CAOHC certified technicians in the Hearing Conservation Section at GLWACH.

c. All noise-exposed and/or ototoxically exposed civilian personnel must receive reference, 90-day, annual, and termination audiograms. Follow-up hearing tests, 1 and 2, must also be

completed, if required. Deaf civilians working in noise-hazardous areas must have reference and termination audiograms.

d. Termination audiograms must be conducted as part of out-processing or when a worker is going to stop working in a designated noise-hazardous area.

e. Soldiers. ALL Soldiers, regardless of potential noise exposure, must receive reference, pre-/post-deployment, annual and termination audiograms IAW DA PAM 40-501. Audiograms are required every 12 months.

f. Deployable Status. In order to be deployable, Soldiers must maintain a Hearing Readiness Classification (HRC) of Class 1 or Class 2. Appendix F provides the four basic HRC categories with definitions. To meet hearing readiness requirements, HPOs may schedule unit Soldiers for their DOEHRS- HC hearing tests by Company, Battalion or Brigade by contacting the HPM at 596-4542.

g. Recordkeeping. All DOEHRS-HC data will be forwarded to the DOEHRS-Data Repository (DR), maintained at Aberdeen Proving Grounds, on at least a weekly basis (daily uploads are strongly recommended). Soldiers and DoD civilians will have a copy of all hearing test results uploaded in to their medical record. Copies of the hearing test can be obtained, by request, at the patient Administration Department of GLWACH.

h. MEDPROS. The Medical Protection System (MEDPROS) HR module is used to track and monitor individual and unit level HR. D2215 and 2216 audiograms are stored in the DOEHRS-DR and are used to calculate the HR status for MEDPROS. The DOEHRS-DR feeds the MEDPROS system on a weekly basis. HPOs can obtain unit HR reports through the MEDPROS Hearing Readiness Reporting Options function. Soldiers and HPOs can obtain copies of test results through personal Army Knowledge Online (AKO) accounts and through the MEDPROS Web Data Entry portal. In summary:

(1) Soldiers with an HRC of Class 1 or 2 are deployable.

(2) Soldiers with an HRC of Class 3A-C are non-deployable and require a referral to an audiologist for the completion of a diagnostic evaluation, profile and/or MAR2 (required for H3 profiles).

(3) Soldiers with an HRC of Class 3D-E are non-deployable and require either a hearing aid fitting and/or a 6 month supply of batteries for issued hearing aid(s).

(4) Soldiers with an HRC of Class 4A require an annual DD2215/16 hearing evaluation. Class 4B indicates a significant threshold shift (STS) was detected on the annual hearing evaluation and requires a follow-up with the AHP technicians within 30 days.

i. The HPM will ensure installation test equipment, test methods, clinical services, diagnosis, medical and MEDPROS coding, referrals and notification processes (including OSHA reportable hearing losses) are in compliance with DA Pam 40-501, para 7-3 through 7-7.

Chapter 7

HEALTH EDUCATION

The HPM or designee must provide hearing conservation health education at least annually to ALL military and noise-exposed civilian personnel. Instruction requirements and educational materials are detailed in DA Pam 40-501, paras 8-1 and 8-2. Unit HPOs are required to track annual unit requirements, coordinate instruction blocks with HPM by calling 596-4542, and maintain documentation of course completion (i.e.; sign-in rosters).

Chapter 8

ENFORCEMENT

a. Command Emphasis. The unit commander or supervisor of civilian personnel working in noise-hazardous areas must endorse the installation commander's command emphasis letter explaining the importance of the AHP, the FLW AHP, and the wearing of the earplug carrying case with appropriately fitted, authorized, pre-formed earplugs inside the case, that are readily accessible at all times and ready for use.

b. Compliance Measures.

(1) Military and civilian supervisors of noise-hazardous areas must enforce the mandatory use of hearing protectors and take administrative action (i.e.; counseling statements) as appropriate for non-compliance. Commanders must enable unit safety officers and HPOs to bring units into compliance with the FLW AHP.

(2) The HPM will conduct unannounced inspections of noise-hazardous areas (including motorpools, ranges, etc.) to ensure compliance with both the AHP and with hearing protective devices requirements. Inspection results will be reported through command channels as appropriate.

(3) The IHPM will inspect noise-hazardous areas to ensure compliance with the Hearing Program and HPD requirements during both announced and unannounced surveys.

Chapter 9

PROGRAM EVALUATION

The Hearing Program will be evaluated using both external and internal reports IAW DA Pam 40-501, paras 10-2 and 10-3. Program effectiveness, quality assurance, and compliance indicators will be forwarded to the MEDDAC Commander as required.

Chapter 10

OPERATIONAL HEARING SERVICES (OHS)

a. The primary objective of operational hearing services is to enhance Soldier survivability. Hearing is a critical sense that directly affects mission success. Activities in garrison are geared towards preserving the ability to hear in a deployed, combat environment to enable the Soldier to detect the enemy and communicate effectively in noise. Garrison OHS includes communication enhancement/protection devices, hearing loss prevention tactics and noise surveillance/abatement strategies.

b. Tactical Communication and Protective Systems (TCAPS).

(1) TCAPS are systems designed to protect hearing in the combat environment while *enhancing* the ability to hear on radios and among dismounted team members during missions.

(2) Contact the FLW, HPM for information regarding TCAPS use and procurement by calling 596-4542 (see Appendix G). Subsequent unit purchases of TCAPS will be assisted by HPM to ensure appropriate procurement of accessories and maximization of funds.

(3) Commanders must ensure their units are provided the opportunity to train with TCAPS and understand the use and importance of these devices in maintaining effective communication and situational awareness. Upon procurement, it is recommended that TCAPS are distributed on DA Form 2062, hand receipt for accountability as a non-expendable item.

c. Noise Surveillance and Abatement. For suspected hazardous noise levels, refer to section 6 for standard procedures. For nuisance noise abatement, contact the FLW, IHPM or HPM for training and assistance. Field environments, including TOCs, rest areas and motor pools, will be assessed with strategies for effective abatement outlined in verbal and written reports. HPOs will be trained in abatement during required operational and hearing readiness training courses, and are responsible for implementing recommendations. Nuisance noise is not normally recognized, addressed or limited, but its effects (stress, fatigue) can be devastating on the Soldier, the unit, and the mission.

(1) Ideal Noise Levels. Ideal noise levels for the field environment that allow for maximum efficiency:

(a) TOCs and common areas – noise levels not exceeding 55 dBA SIL preserve the ability to communicate comfortably at distances up to 15 feet.

(b) Sleep Areas – steady-state noise levels of <40 dBA allow for sufficient sleep cycles. In noisy environments, however, ‘maskers’ or broadband noise (such as a fan) may be required to eliminate the negative effects of relatively low-level intrusive noise (i.e.; intermittent field radio communications). The impact of intrusive noise varies (i.e.; intermittent landings of rotary and fixed-wing aircraft or tactical vehicles entering/leaving the compound). The sound level will depend on the engine type and distance from the source. For example, a UH-60 helicopter will produce up to 90 dBA of intrusive noise inside a sleeping tent located 150 yards from the landing pad. This level of intrusive noise can be expected to awaken approximately 40% of tent occupants. The use of disposable foam earplugs is the best remedy for situations involving regular intrusive noise.

(2) Basic Abatement Strategies. Basic strategies for nuisance noise abatement in the field are as follows:

(a) Move generators away from tents and use air conditioner extension hoses whenever feasible. The Inverse square law predicts that doubling the distance from a sound source decreases intensity levels by 6dB.

(b) Place generators behind natural berms or enclose three sides of generators with sand bags, leaving room for proper ventilation. Point vented side of generator (normally the loudest side of equipment) away from tents.

(c) Design the TOC layout for maximum efficiency (i.e.; provide briefing areas away from radios). Determine which strategies work in the field environment *before* deployment.

(d) Provide foam earplugs (Sound Guard NSN 6515-00-137-6345 size medium, Aearo SuperFit 30 #310-1009 size small, and Aearo SuperFit 33 #310-1008 size large) for sleep tents to reduce effects of intrusive noise and ensure maximum ability to achieve REM sleep for Soldiers.

Chapter 11

GARRISON NUISANCE NOISE

Nuisance noise produced by vehicles (i.e.; excessive engine noise or stereo volume levels) and in post housing must be kept to a minimum to avoid interference with the detection of warning sounds or emergency vehicle signals. Nuisance noise is a citable offense IAW local ordinances. Car stereos detectable at distances of ≥ 20 feet from the vehicle is excessive with violators subject to appropriate administrative action.

Chapter 12.

HEARING SERVICES

a. Maintaining good hearing is an individual and organizational responsibility. All commanders are encouraged to utilize the resources of the FLW, HPM and GLWACH, Department of Preventive Medicine for the development and maintenance of their unit level hearing program.

b. Additional operational hearing services, including range and worksite consultations, custom hearing protection services, and hearing certification workshops are available to installation units.

c. Contact the FLW AHP at extension 596-4542 or for more information and/or assistance.

APPENDIX A REFERENCES

1. AR 40-5, Preventive Medicine - Rapid Action Revision (RAR), 25 May 2007.
2. AR 40-66, Medical Record Administration and Health Care Documentation, 17 June 2008.
3. AR 40-501, Standards of Medical Fitness - Rapid Action Revision (RAR), 27 June 2019.
4. AR 420-1, Army Facilities Management – Rapid Action Revision (RAR), 12 February 2008.
5. AR 385-10, Army Safety Program, 24 February 2017.
6. CHPPM Form 326, Assessing the Effects of Sound on Sleep, 01 November 2005.
7. DA PAM 40-501, Army Hearing Program, 08 January 2015.
8. DD Form 2214, Noise Survey, 1 January 2000.
9. DD Form 2214C, Noise Survey Continuation Sheet, 1 January 2000.
10. DD Form 2215, Reference Audiogram, 1 January 2000.
11. DD Form 2216, Hearing Conservation Data, 1 January 2000.
12. ATP 4-02.8, Force Health Protection, 9 March 2016.
13. MIL-STD-1472F, DoD Design Criteria Standard Human Engineering, 31 March 1998.
14. Safety Color Code Markings, Signs and Tags Information Guide. (Copies are available from the USARMY Safety Center, ATTN: CSSC-SM, Fort Rucker, AL 36362-2563).
15. TB MED 503, The Army Industrial Hygiene Program.
16. 29 CFR 1910.95, Occupational Noise Exposure (Copies are available from the Superintendent of Documents, U.S. Government Printing Office, WASH, DC 20402).





APPENDIX B NOISE LEVELS

The sound levels listed in tables B-1 and B-2 are the highest typical measured values under normal operation. For most items of equipment there may be several normal operating conditions. Each condition generates a different noise level. For example, there is a 5 to 10 dB difference in noise at the driver position of a truck depending on window closure and auxiliary equipment such as heater fans. There can also be some variation among individual units of the same type of equipment. Different test reports may list somewhat different levels.






Section B-1
STEADY-STATE NOISE

Photo	Model	Name, Condition		Location	Speed km/hr (mph)or	Sound Level dB(A)
	M966, also: M996 M997 M998 M1037 and other non-heavy	High mobility multi-wheeled vehicle (HMMWV), at 2/3 payload		Crew positions	0(idle)	78
					48(30)	84
					88(55)	94
	M996 M997	HMMWV mini and maxi ambulance, at 2/3 payload		Patient areas	up to 88 (55)	less than 85
	M1097 M1097A2 M1113 M1114	HMMWV heavy variants, at 2/3 payload		Crew positions	up to 50 (31)	less than 85
	64(40)				88	
	80(50)				92	
	96(60)				98	
	M1097	HMMWV heavy variant, at full payload		Crew positions	up to 40 (25)	less than 85
					96(60)	100
	M1080 chassis, includes M1078 M1079 M1081	Light medium tactical vehicles (LMTV 2 1/2 ton trucks), 2/3 payload	In cab	0 idle		80
				72(45)		84
				75(46)		85
				88(55)		89
	M1092 and M1096 chassis, except M1089 wrecker	Medium tactical vehicles (MTV 5 ton trucks), 2/3 payload	In cab	0 idle		80
				72(45)		84
				75(46)		85
				88(55)		89

Photo	Model	Name, Condition	Location	Speed km/hr (mph)or		Sound Level dB(A)	
	M1089	5 ton wrecker, towing, 2/3 payload	In cab	up to 48 (30) 56(35)		less than 85 87	
	M984E1	Heavy Expanded Mobility Tactical Truck (HEMTT)	In cab	64(40) and below 72(45)		below 85 93.1	
	M1070	Heavy Equipment Transporter (HET), loaded	In cab	All speeds		Below 85	
	M1074 M1075	Palletized load system, 16.5 tons	In Cab , window closed	All speeds		85 or below	
			Windows open	88(55)	87		
				below 88(55)	below 85		
	M113A3 family including M106A2 M1064A3 M1059A3 M58A3 M730A2 M901A3 M981A3	Armored Personnel Carrier A3 version. M113, M113A1, M113A2, OSV(BMP2) have similar noise levels			Idle	85-92	
					16(10)	106	
					32(20)	109	
					48(30)	114	
					63(40)	118	
	M1A2,	Abrams tank	In vehicle		Idle	93	
	M1, M1A1				Tac idl	103	
	M1 chassis similar	Grizzly breacher, Wolverine Heavy assault bridge (HAB)			16(10)	108	
					48(30)	114	
					63(40)	117	

Photo	Model	Name, Condition	Location	Speed km/hr (mph)or	Sound Level dB(A)
	M2A2	Bradley Fighting Vehicle	In vehicle	Idle	74-95
	M2, M3, M2A1, M3A1, M3A2 similar			16(10)	110
				32(20)	115
				61(38)	115
	M88A2	Hercules recovery vehicle	In vehicle	various	89 to 106
	M270	Multiple Launch Rocket System (MLRS) vehicle	In vehicle	Idle Moving, various speeds	83-98 99 to 111
	M109A3E2 other versions similar	Paladin, 155 mm self-propelled howitzer	In vehicle	Idle Moving, various speeds	83-98 99 to 111
	MEP-802A	5 kW Tactical Quiet Generator(TQG)	Operator panel	Rated load	80

	MEP-803A	10 kW TQG	Op panel	Rated load	81
	MEP-804A	15 kW TQG	Op panel	Rated load	84
	MEP-805A	30 kW TQG	Op panel	Rated load	84

Photo	Model	Name, Condition	Location	Speed km/hr (mph)or	Sound Level dB(A)
	MEP-806A	60 kW TQG	Op panel	Rated load	87
	CH-47D	Chinook helicopter	Cockpit		102.5
	UH-60A	Blackhawk helicopter	Pilot copilot		106 106
	YAH-64	Apache helicopter	Pilot copilot		104 101.3
	OH-58D	Kiowa helicopter	Right seat Left seat		101.6 100.3

Section B-2

IMPULSE NOISE

Photo	Model	Name	Location	Sound Level dB(P)
	M16A2	5.56mm rifle	Shooter	157
	M9	9mm pistol	Shooter	157
	M249	5.56mm Squad Automatic Weapon (SAW) fired from a HMMWV	Gunner	159.5
	M60	7.62mm machine gun fired from a HMMWV	Gunner	155
	M2	0.50 caliber machine gun fired from a HMMWV	Gunner	153
	MK 19 Mod 3	machine gun fired from a HMMWV	Gunner	145
	M26	Grenade	At 50 ft	164.3
	M3	MAAWS recoilless rifle	Gunner	190
	M72A3	Light Antitank Weapon (LAW)	Gunner	182
		JAVLIN	Gunner open Position	159.9
			Gunner enclosed position & Gunner fighting position	166.2
				172.3

Photo	Model	Name	Location	Sound Level dB(P)
	M119	105MM towed howitzer at charge 8	Gunner	183
	M198	155mm towed howitzer firing M203 propellant	Gunner	178
	M109A5/6	Paladin, 155mm self-propelled howitzer firing M4A2 zone 7 charge	In fighting compartment, hatches open except driver's	166.1
	M110A2	8-inch self-propelled howitzer firing M106 projectile with a M188A1 zone 9 propelling charge,	Gunner	176.9
	M224	60mm mortar, M888 round, charge 4, QE 800 mil	0.5 m from the muzzle, 0.9 m above ground, 105 degree azimuth	185
		TOW II Missile from HMMWV	Gunner	179.4
	M29A1	81 mm mortar, M374A3 round with charge 4	1 m from the muzzle, 0.9 m above ground, 135 degree azimuth	178.8

Section B-3

CHARACTERISTICS OF INDIVIDUAL EQUIPMENT NOISE

The following paragraphs summarize additional noise exposure considerations for common Army equipment:

a. *Trucks and High Mobility Multi-wheeled Vehicles (HMMWV)*. Noise levels increase with increasing speed and, for the HMMWV, with increasing load. The levels are below 85 dBA at low to medium speeds and can be over 100 dBA at top speed for some models. When driven mostly at low speeds for short periods at moderate or high speed, trucks and HMMWVs are not hazardous. They can be hearing hazards to unprotected Soldiers if operated for long time periods at high speed.

b. *Bradley Fighting Vehicle (BFV) and derivatives*. The major noise source is the drive train, particularly the action of the track links as they round over the sprockets, idlers and wheels. For this reason, high noise levels (101 to 115 dBA) occur when the vehicle is in motion. The crew wears the CVC helmet which has integral hearing protectors. A CVC with active noise reduction (ANR) providing added noise protection is available on newer models. The passengers (infantry squad) must rely on their own hearing protectors such as earplugs. These are less effective than the CVC with ANR. For training, the exposure time in moving carriers is restricted depending on the hearing protectors worn and the speed of the vehicle. The severest restriction is on exposure of passengers wearing the less effective earplugs.

c. *M113 Armored Personnel Carrier and derivative vehicles*. Among the loudest of Army equipment. Noise sources and hearing protection are similar to the BFV. Levels are very high when moving.

d. *Abrams Tank and derivative vehicle (Wolverine and Grizzly)*.

(1) Steady noise levels range from 96 to 117 dBA when moving. The crew wears the CVC helmet which has integral hearing protectors.

(2) On the tank, impulse noise levels at exterior commander and loader positions are above or just below the limit of hearing protector effectiveness for training depending on caliber (105 or 120 mm), cartridge model, and tube elevation. The drivers hatch should be closed at all times when firing the main gun. Training with crew heads above the hatch plane is not permitted per the user manuals for certain defined conditions. These restrictions are not applicable to battle situations.

e. *Helicopters*. In flight, helicopter crews wear the helicopter crew helmets which have integral hearing protectors. Passengers must rely on their own hearing protectors such as earplugs or ones supplied by the air operations. Training restrictions on exposure time apply, as discussed for the BFV.

f. *Generators*. Diesel powered generators form the Tactical Quiet Generator (TQG) series are quiet at the operator panel and other close-in areas if the covers are in place. Older generators have been loud with levels above 100 dBA at the panel and above 85 dBA up to several meters away. High levels are generated by TQG if the covers are removed.

g. *Impulse noise from weapons.* All firearms produce impulse noise levels requiring hearing protection at crew positions for training. Some produce levels under certain conditions, which exceed the safe training limit for crews wearing hearing protectors.

(1) Small arms- rifles pistols, machine guns, and 40 mm grenades. Noise levels at gunner positions are low to moderate. The hazard can be serious because of the large number of rounds that can be fired by the individual shooter. Noise levels are higher in front and to the side of the muzzle than to the rear. For small arms levels at about 5 feet to the side can be higher than at the shooter position. Except very near the muzzle, all levels are within the mitigation capability of hearing protectors.

(2) Mortars. Noise levels range from low to very high because of the wide variation in charge increments and head locations. The requirement to load the cartridge through the muzzle places the head close to the muzzle, which is the source of the impulse. For the top charge on the large ground mount mortars, a safe noise level for training occurs only at 2 m from the muzzle, no higher than 0.9 m above ground. Some mortars include a funnel-shaped blast-attenuating device on the muzzle.

(3) Howitzers without fighting compartments. For the 155 mm towed and 8-inch self-propelled howitzers the levels are medium to high depending on the charge increment, but are below the training exposure limit for protected Soldiers.

(4) Howitzers with fighting compartments. For the 155 mm self-propelled howitzers the walls of the fighting compartment tend to attenuate the peak levels but the reverberation within the compartment aggravate the noise exposure. For some higher charges the front, top, and side hatches should be closed during training fire.

(5) Tanks. The levels above the turret hatches can be very high for some cartridges and at some tube elevations. For these, training fire with crew heads above the hatch plane is not recommended. Levels below the hatch plane, even with the hatch open, are lower.

(6) Rocket launcher vehicles. Impulse noise in the MLRS, Avenger, and FOG-M launchers are low to medium.

APPENDIX C

EXAMPLES OF HAZARDOUS EXPOSURES

The following provides examples of typical exposures that meet the criteria for enrollment in a comprehensive Hearing Conservation Program:

1. Impulse & impact noise >140 decibels peak measurement (dBP):
 - a. All weapons firing, including blanks (annual or periodic).
 - b. 9-mm through 28 50-Caliber Ammunition
 - c. Grenades
 - d. Mortar fire
 - e. Artillery fire
 - f. Armament from all tracked and wheeled combat vehicles
 - g. Demolition with explosives
 - h. Most training rounds and simulators
2. TWA of >85 A-weighted decibels (dBA):
 - a. Operating, occupying or maintenance operations of tactical vehicles that require hearing protection (per TM/FM or operator's manual).
 - b. Operating, occupying or maintenance operations of aircraft that require hearing protection (per TM/FM or operator's manual).
 - c. Operating on or around heavy equipment or noisy machinery requiring hearing protection (per TM/FM or operator's manual).
3. Known or suspected ototoxins (ear poison):
 - a. Arsenic
 - b. Carbon disulfide
 - c. Carbon monoxide*
 - d. Cyanide
 - e. Lead and derivatives
 - f. Manganese
 - g. Mercury and derivatives
 - h. N-hexane
 - i. Stoddard solvent
 - j. Styrene*
 - k. Trichlorethylene*
 - l. Toluene*
 - m. Xylene*

*High-priority ototoxin

APPENDIX D
EARPLUG AND CARRYING CASE REQUISITION INFORMATION

STANDARD ITEMS

Type & Size	Nomenclature	NSN	Fitting Requirements
Triple-flange (small) \$3.88 / package	Earplug, hearing protection, triple-flange 24 ea. / package (12 pair)	6515-00-442-4821	Small size fits (~10%) Size fitting <u>REQUIRED</u> (contact fitting POC below)
Quad-flange (regular size - fits most) \$69.97 / box	Earplug, hearing protection, quad-flange, 100 pair / box	6515-01-492-0443	Reg size fits most (~90%) Size fitting <u>REQUIRED</u> (contact fitting POC below)
Triple-flange (large) \$3.93 / package	Earplug, hearing protection, triple-flange 24 ea. / package (12 pair)	6515-00-467-0092	Large size fits (~5%) Size fitting <u>REQUIRED</u> (contact fitting POC below)
Sound Guard Foam Earplugs Hand-formed \$29.58 / box	Earplug, hearing protection, Foam, 200 pair / box (orange/green color)	6515-00-137-6345	One size fits most. Orange color <u>must not</u> show after insertion Disposable "back-up" use
Aearo SuperFit 30 Foam Earplugs Hand-Formed \$25.00 / box	Earplug, hearing protection, Foam, 200 pair / box (yellow / orange / yellow color)	Aearo#310-1009 www.GSAAdvantage.gov	For small ear canals. Orange fitting ring <u>must</u> <u>not show</u> after insertion. Disposable "back-up" use.
Aearo SuperFit 33 Foam Earplugs Hand-Formed \$27.00 / box	Earplug, hearing protection, Foam, 200 pair / box (yellow / orange / yellow color)	Aearo#310-1008 www.GSAAdvantage.gov	For large ear canals. Orange fitting ring <u>must</u> <u>not show</u> after insertion. Disposable "back-up" use.
Earplug Carrying Case \$7.61 / package	Earplug carrying case 20 / package	6515-01-100-1674	

OPTIONAL ITEMS

Combat Arms (regular) \$369.77 / package	Combat Arms Earplug, (Double-ended) 100 ea. / package (50 pair) Requires user instruction sheet	6515-01- 466-2710	Reg size fits most (~80%) Size fitting & Instruction sheet <u>REQUIRED</u>
Quad-flange (small) \$139.93 / package	Earplug, hearing protection, 4-flange, 200 ea. / package (100 pair)	6515-01- 461-7931	Option for all small ears Size fitting <u>REQUIRED</u>
Combat Arms Earplugs (GEN4 – size small)	Corded earplug with adjustable Filter (olive drab green, size small) 50 pair per box	6515-01- 576-8837	Size fitting <u>REQUIRED</u>
Combat Arms Earplugs (GEN4 – size med)	Corded earplug with adjustable Filter (desert tan, size regular) 50 pair per box	6515-01- 576-8861	Size fitting <u>REQUIRED</u>
Combat Arms Earplugs (GEN4 – size large)	Corded earplug with adjustable Filter (coyote brown, size large) 50 pair per box	6516-01- 576-8869	Size fitting <u>REQUIRED</u>
Skull Screws (one size fits most)	Latest technology for foam Earplugs. 200 pair per box	6515-01- 576-8796	Hands don't have to be clean. They don't have to be rolled down for insertion. Just "screw" them in.

Point of Contact: Earplug Fitting and Instructions: Contact Fort Leonard Wood Hearing Program Manager at 596-4542.

APPENDIX E
HEARING READINESS CLASSIFICATION SYSTEM

CLASS I	Soldier's unaided hearing is within H-1 standards for both ears. No corrective action is required. (Standards are described in AR 40-501).
CLASS II	Soldier's unaided hearing is within H-2 or H-3 standards. Soldier has a current hearing profile assigned (H-2 or H-3), and a completed MOS/Medical Retention Board (MMRB) (H-3) with no active middle ear disease or medical pathology in the ear. If a Soldier wears hearing aids, he must have hearing aids appropriate for hearing loss and a six month supply of batteries. No corrective action is required.
CLASS III	Soldiers who do not meet hearing readiness standards: Soldier's unaided hearing is within H-2 or H-3 standards and no current hearing profile assigned. Comprehensive audiologic examination is required to establish profile and/or need for hearing aids.
CLASS IV	Soldiers who do not have a DOEHS-HC audiogram in their medical record within one year. Soldier requires a hearing examination. This includes Soldiers without a reference baseline audiogram (DD Form 2215) or whose last periodic audiogram (DD Form 2216) is greater than one year old. Hearing readiness classification is unknown.
Table Note: Soldiers in Class 1 and Class 2 will be considered fully ready. Soldiers in Class 3 or Class 4 are deficient. Soldiers in Class 3 or 4 at the time of medical record screening will immediately be reclassified in MEDPROS after obtaining corrective hearing/hearing aid services.	

APPENDIX F TACTICAL COMMUNICATION AND PROTECTIVE SYSTEMS

IN-THE-EAR TACTICAL COMMUNICATION AND PROTECTIVE SYSTEMS

F-1. A variety of In-the-Ear Tactical Communications and Protective Systems (ITETCAPSs) are currently available. All have the same components, which include a housing body, microphone, cables, in-the-ear inserts. An example of an ITETCAPS is shown in Figure F-1.

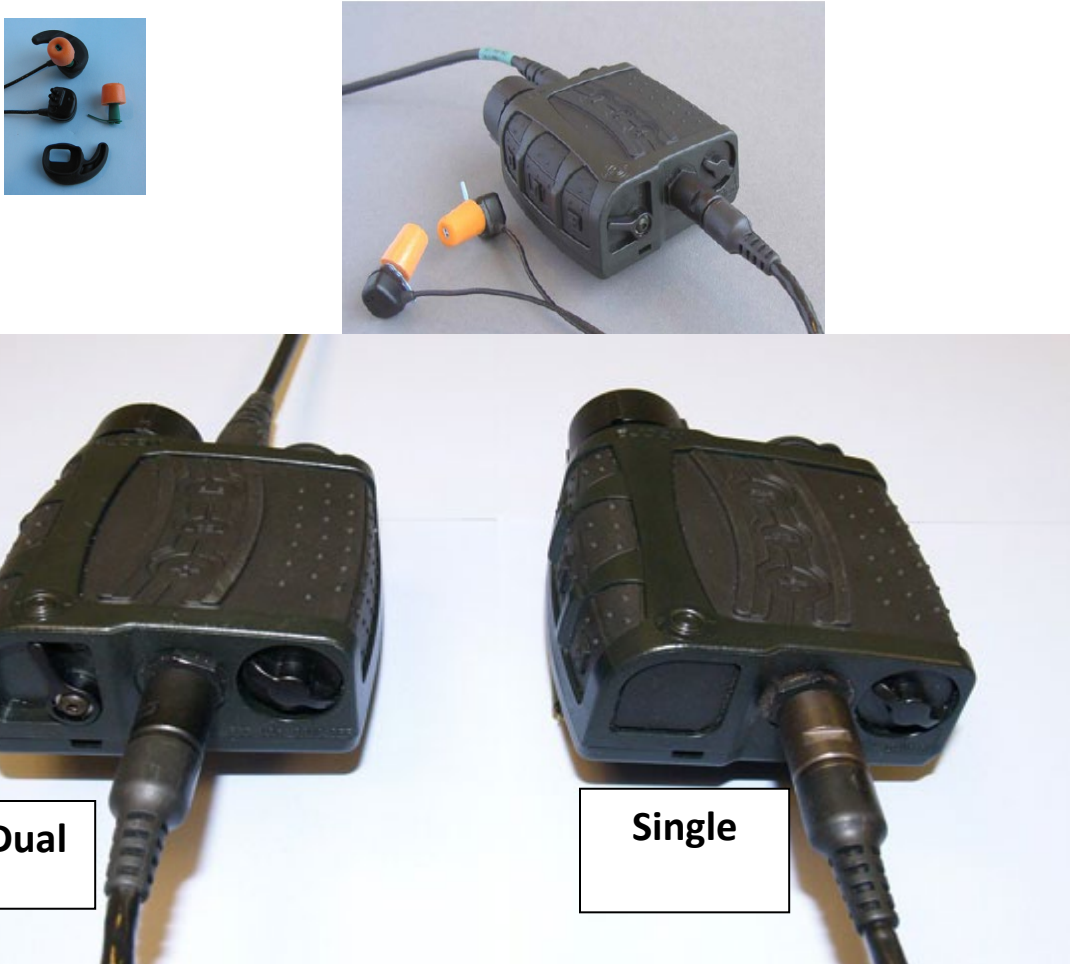


Figure F-1. In-the-Ear Tactical Communication and Protective Systems

F-2. Donning/doffing.

- See manufacturer specific instructions.

F-3. Controls—

- For device specific controls, refer to manufacturer's information. An example of common controls and brief description of controls is included below.

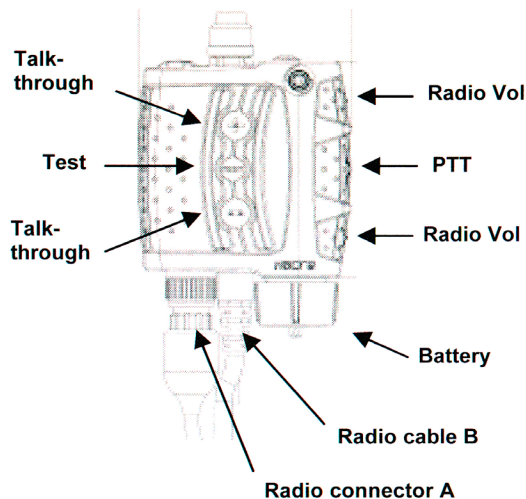


Figure F-2. Common Controls

- All devices contain a volume control similar to the graphics below. The manufacturers recommend using the lowest volume setting for the radio since an increase could cause distortion and hazardous noise levels.

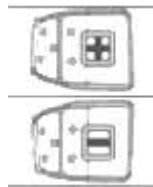


Figure F-3. Volume Control

- The push-to-talk (PTT) feature transmits the user's voice over the intercom or radio. This mode will continuously transmit in this mode as long as this mode is selected.



Figure F-4. Push-to-Talk Mode

- The voice-activated microphone (VOX) mode will detect when the user talks and transmit the signal. This is a non-continuous alternative to the PTT mode. The manufacturers recommend that in quiet environments, the volume is set to the lowest level because surrounding sounds can trigger the VOX to transmit these sounds over the radio. The VOX mode will remain on for 1 sec after the user speaks. If this results in interrupted conversation, use the PTT feature. The PTT button will override the VOX mode.
- Open microphone (O.Mic). This mode is intended for use with an intercom; however, this mode will also transmit surrounding environmental sounds. To avoid transmission of environmental sounds over radio transmission, use the VOX mode. The O.Mic mode is not recommended for use with the radio since it will constantly transmit in this

mode, which can result in damage to the radio. Constant transmission will also interfere with radios on the same channel.

F-4. When connecting radios it is imperative that the user ensure that their radios are compatible with the selected ITETCAPS. Refer to the manufacturer information for compatibility information.

F-5. All devices utilize a leak test to ensure a proper ear canal seal is obtained. Active Noise Control cannot be utilized without a proper ear canal seal.

OVER-THE-EAR TACTICAL COMMUNICATION AND PROTECTIVE SYSTEMS (OTETCAPS) PELTOR COMTAC ACH HEADSET

F-6. The COMTAC A-C-H is a circumaural headset designed to fit under the Army combat helmet (ACH). The headset allows for talk-through communication and can connect to up to 2 radios or one radio and an intercom. This device can be ordered in a 1, 2 or no channel configuration. The microphones are spatially separated microphones, which preserves some auditory localization cues. The headset provides both passive and active methods for reducing noise. The system is also equipped with a boom microphone that can be mounted on either ear and a PTT box, optional hard-wired remote PTT and a tactical keypad. System offers COMTAC MICH Kits which are field-proven substitutes to the existing MICH system. Throat microphones are also an optional feature.



Figure F-5. Peltor COMTAC II Headset

F-7. Donning/doffing.

- Pull up on headband while grasping the ear cups.

F-8. Place the device over the head and adjust the height of the cups while holding the headband in place and moving the ear cup. Ensure that the ear cup microphones are facing forward.

F-9. To remove the device, remove the headset, press the cups together and collapse the ear cups into the headband.

TRIPOST TACTICAL HEADSET or INFANTRY TACTICAL HEADSET

F-10. The Triport tactical headset (TTH)/infantry tactical headset (ITH) was designed for infantry passengers in combat vehicles, which is compatible for use with the ACH. The TTH allows for talk-through communications and was designed for infantry passengers in combat vehicles, which is compatible for use with the ACH. The TTH allows for talk-through communications and push-to-talk capabilities with an intercom and/or radios. The talk-through microphones are spatially separated, which preserves some localization cues. TTH uses a headset that is anchored by hook and loop straps that fit over the helmet and around the back of the neck. The ear cups also house ANR circuits. The microphone contains a noise-cancelling microphone that can be worn on either ear cup. The headset can be worn in a dismounted situation and is compatible with the M42 nuclear-biological-chemical (NBC) masks. The neck band and the over-the-helmet strap were designed for quick removal if the user dismounted the vehicle and wanted to replace the headset with another form of hearing protection. Cables are available to interface the TTH with two radios or a radio and an intercom.

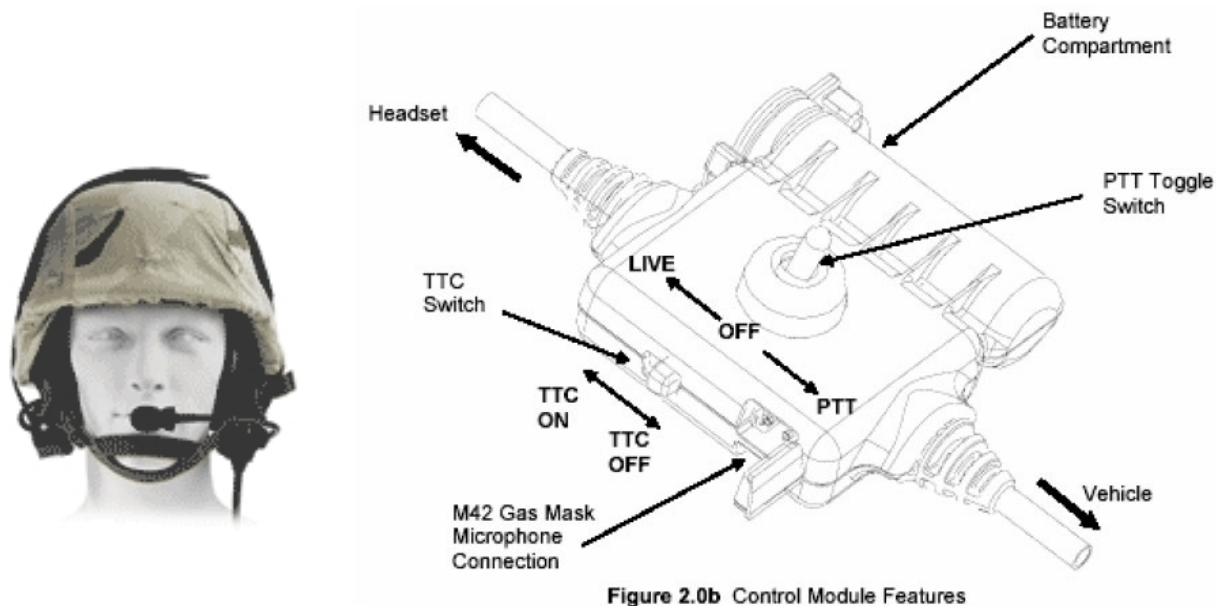


Figure F-6. Triport Tactical Headset or Infantry Tactical Headset

PRODUCT IMPROVED COMBAT VEHICLE CREWMAN (PICVC) HELMET

F-11. The PICVC helmet was designed to provide ballistic protection, intercom communication, talk-through capabilities, and hearing protection for Soldiers in combat vehicles. The ear cups pass the windblown rain test. The underlying difference between the PICVC and the CVC is that the CVC does not have talk-through microphones. The PICVC is qualified for use with the vehicle intercoms. The noise attenuation of this device is negatively affected by the use of eyewear. The liners fit from 1st percentile of female to 99th percentile of males.

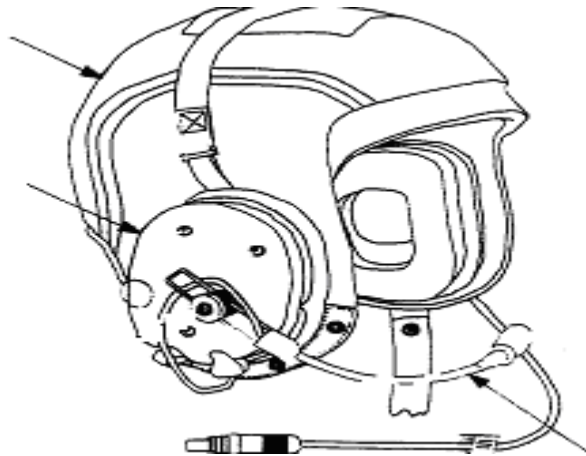


Figure F-7. Improved Combat Vehicle Crewman Helmet

F-12. Donning/doffing.

- Place the lining inside the protective shell.
- Make sure the hook and loop closure on the inside of the shell is firmly attached to the lining.
- Attach the tabs at the temples and snapped to the ear cups.
- Attach the rear snaps on the shell to the rear tab on the lining
- Move the microphone to the side and grasp each ear cup and pull out and down.
- Press down on the top of the helmet.
- Fasten the chinstrap ensuring that the helmet fits snugly.
- Adjust the nape strap.
- Position the microphone.

GLOSSARY ACRONYMS, ABBREVIATIONS, AND SPECIAL TERMS

1. Terms.

- a. Decibel - unit of measurement for sound, abbreviated dB.
- b. Frequency - is perceived by the listener as pitch. The unit of measure for frequency is Hertz (Hz). Humans can detect pitches ranging from 20-20,000 Hz.
- c. Intensity- is perceived by the listener as loudness. Intensity is measured in decibels (dB). Decibels are normally referenced to a scale, such as dBA or dBHTL. The A scale is used for measuring noise, the HTL scale is used for measuring individual hearing ability.
- d. SIL - indicates the speech interference level of background noise.
- e. Threshold- Represents the softest sound level a listener can detect about 50% of the time the sound is presented. Human hearing is measured with an audiometer. The unit of measure for human hearing is dB (HTL) (Hearing Threshold Level). Audiometers usually measure hearing from 0 to 110 dB. 0 dB does not mean the absence of sound. It represents a reference of the softest sound level the human hearing mechanism can detect.
- f. Ranges of Hearing
 - 10 - 25 dB HTL Normal hearing
 - 26 - 40 dB HTL Mild hearing loss
 - 41 - 55 dB HTL Moderate hearing loss
 - 56 - 70 dB HTL Moderately severe hearing loss
 - 71 - 90 dB HTL Severe hearing loss
 - 91 + dB HTL Profound hearing loss
- g. Audiogram- A written representation of human hearing. Audiograms may be written in graph or serial format.
 - Serial – Uses numbers in a table to depict thresholds. The forms used to record hearing thresholds for hearing conservation are serial audiograms.
DD2215 Reference audiogram, also called a baseline audiogram
DD2216 Periodic, Annual, Pre-/Post-deployment, 90-Day, Follow-up, Termination or Other audiograms.
 - Graph - Uses a graph to depict threshold.

2. ACRONYMS

AHP - Army Hearing Program (as redefined in the RAR of AR 40-5)

AIT - Advance Individual Training

AKO – Army Knowledge Online

ANR – Active noise reduction

BMSOs – Brigade Medical Supply Officers

CAOHC – Council for the Accreditation in Occupational Hearing Conservation. Board certification (or military course equivalent) required for hearing technicians

CEPD – Communication Enhancement/Protection Device

CVC – Combat Vehicle Crewman

DOD – Department of Defense

DOEHRS-DR – Defense Occupational Environmental Health and Readiness System-Data Repository

DOEHRS-HC – Defense Occupational Environmental Health and Readiness System-Hearing Conservation

FLW – Fort Leonard Wood

FST – Field Sanitation Team

GLWACH – General Leonard Wood Army Community Hospital

HPOs – Hearing Program Officers/Non-Commissioned Officers, appointed by commanders at the unit level (i.e. BDE, BN, CO)

HCP – Hearing Conservation Program

HCS – Hearing Conservation Services

HOs - Hearing Officers

HPDs – Hearing Protection Devices, traditional earplugs, ear muffs, canal caps, etc.

HPM – Hearing Program Manager

HR – Hearing Readiness

HRC – Hearing Readiness Classification

IAW – In Accordance With

ICPA – Installation Compensation Program Administrator

IET – Initial Entry Training

IHPM – Industrial Hygiene Program Manager

ITH – Infantry Tactical Headset

MEDPROS – Medical Protection System

MSCoE – Maneuver Support Center of Excellence

MSOs – Medical Supply Officers

REM Sleep – Rapid eye movement sleep, a state of sleep that recurs cyclically several times during a normal period of sleep and that is characterized especially by increased neuronal activity of the forebrain and midbrain, depressed muscle tone, dreaming, and rapid eye movements

OH –Occupational Health

OSHA – Occupational Safety and Health Administration

OWCP – Office of Workers Compensation Program

PICVC – Product Improved Combat Vehicle Crewman

SOP – Standard Operating Procedure

SRP – Soldier Readiness Processing

STS – Significant Threshold Shift - a change in an individual's hearing levels. Can be positive (hearing has worsened) or negative (hearing has improved).

TCAPS – Tactical Communication and Protective Systems

TOC – Tactical Operations Center

TSG – The Surgeon General

TTH – Triport Tactical Headset

TWA – Time Weighted Average

USACHPPM –TG - US Army Center for Health Promotion & Preventive Medicine –Technical Guide