

MIL-STD-188-322  
 NOTICE 1  
 2 FEBRUARY 1984

MILITARY STANDARD

SUBSYSTEM DESIGN/ENGINEERING AND EQUIPMENT

TECHNICAL DESIGN STANDARDS FOR

LONG HAUL LINE OF SIGHT (LOS) DIGITAL

MICROWAVE RADIO TRANSMISSION

TO ALL HOLDERS OF MIL-STD-188-322:

1. THE FOLLOWING PAGES OF MIL-STD-188-322 HAVE BEEN REVISED AND SUPERSEDE THE PAGES LISTED:

NEW PAGE	DATE	SUPERSEDED PAGE	DATE
25	1 NOVEMBER 1976	(REPRINTED WITHOUT CHANGES)	
26	2 FEBURARY 1984	26	1 NOVEMBER 1976
APPENDIX D	2 FEBRUARY 1984	NONE	
D-1	2 FEBRUARY 1984	NONE	

2. RETAIN THIS NOTICE AND INSERT BEFORE TABLE OF CONTENTS.

3. Holders of MIL-STD-188-322 will verify that page changes and additions indicated above have been entered. This notice page will be retained as a check sheet. This issuance, together with appended pages, is a separate publication. Each notice is to be retained by stocking points until the Military Standard is completely revised or cancelled.

Custodians:

Army - SC  
 Navy - EC  
 Air Force - 90

Preparing activity:

Air Force - 90

Review activities:

Army - SC, EL  
 Navy - AS, YD  
 Air Force - 1, 11, 13, 17, 89, 90, 99

(Assignee Activity - DC)

(Project SLHC 3220)

User activities:

Army - SC, EL  
 Navy - YD  
 Air Force - 90

Other interest:

JCS - J6  
 NSA - NS  
 TRI-TAC

FSC SLHC

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1 November 1976

5.12.2 Human Engineering Design. The radio and radio terminal shall be designed in accordance with those requirements of MIL-STD-1472 specified by the procuring agency.

5.12.3 Environmental Test Methods. The radios shall be designed to meet those environmental test methods of MIL-STD-810 specified by the procuring agency.

5.12.4 Climatic Extremes. All radios shall be designed to meet those climatic conditions of MIL-STD-210 specified by the procuring agency.

5.12.5 Reliability.

5.12.5.1 Quantitative Reliability. The radio configuration as defined in paragraph 5.10 shall be designed to provide a specified mean-time-between-failures (MTBF) of no less than 1600 hours. Tested to meet requirements of MIL-STD-781 and program conducted in accordance with MIL-STD-785.

5.12.5.2 Radio Reliability. The radio shall demonstrate a Mean-Time-Between outage (defined as loss of MBS(s)) for greater than 100 milliseconds (ms) of 100,000 hours. This shall be determined based upon MTBF, MTR, and fault sensing, switching and alarm circuitry.

5.12.5.3 Reliability-Definitions of Failure. A failure is defined as any malfunction which causes the radio to cease operating within specified limits, or for which maintenance action is required.

5.12.6 Maintainability. Quantitative maintainability values. The radio shall possess a mean-corrective-maintenance-time ( $M_{ct}$ ) of no greater than 30 minutes and maximum-corrective-maintenance time ( $M_{maxct}$ ) of no greater than 90 minutes (95th percentile) when repaired by maintenance technicians of skill level 5 or equivalent. Test methods in accordance with MIL-STD-471 and program conducted in accordance with MIL-STD-470.

5.12.7 General Requirements. The standard general requirements of MIL-STD-454 shall apply in the design of the multi-link subsystem.

5.13 Input Power. The radio equipment shall operate and provide specified performance when connected to any one of the following sources of primary power.

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- a. A direct current (dc) power source having any output voltage from 44 to 56 volts, with any variation therein, negative (positive ground), with noise and ripple not to exceed 1 volt peak-to-peak and 100 millivolts RMS respectively over the frequency range of 10 Hz to 14 MHz.
- b. An alternating current (ac) power source which shall conform to MIL-E-4158, Table V, Condition I, and shall have the following nominal steady-state ratings:
  - (1) Input voltage - 117/220 volts ac +10 percent, single phase.
  - (2) Input frequency - 47 to 420 Hz.

5.13.1 Reverse Polarity Protection. The radio terminal equipment shall suffer no damage from and shall provide specified performance after removal of a reversed polarity condition.

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APPENDIX D

MANDATORY USE OF MILITARY STANDARDS IN THE 188 SERIES.

MEMORANDUM FROM THE UNDER SECRETARY OF DEFENSE FOR RESEARCH AND ENGINEERING, 16 AUGUST 1983, SUBJECT: MANDATORY USE OF MILITARY TELECOMMUNICATIONS STANDARDS IN THE MIL-STD-188 SERIES.

THIS APPENDIX CONTAINS INFORMATION RELATED TO MIL-STD-188-322. APPENDIX D IS A MANDATORY PART OF THIS STANDARD.

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RESEARCH AND  
ENGINEERING

THE UNDER SECRETARY OF DEFENSE  
WASHINGTON, D.C. 20301

16 AUG 1983

MEMORANDUM FOR ASSISTANT SECRETARY OF THE ARMY (INSTALLATIONS, LOGISTICS &  
FINANCIAL MANAGEMENT)  
ASSISTANT SECRETARY OF THE NAVY (SHIPBUILDING & LOGISTICS)  
ASSISTANT SECRETARY OF THE AIR FORCE (RESEARCH DEVELOPMENT  
& LOGISTICS)  
COMMANDANT OF THE MARINE CORPS  
DIRECTOR, DEFENSE COMMUNICATIONS AGENCY  
DIRECTOR, NATIONAL SECURITY AGENCY

SUBJECT: Mandatory Use of Military Telecommunications Standards in the  
MIL-STD-188 Series

On May 10, 1977, Dr. Gerald Dinneen, then Assistant Secretary of Defense (C3I), issued the following policy statement regarding the mandatory nature of the MIL-STD-188 series telecommunications standards:

"...standards as a general rule are now cited as 'approved for use' rather than 'mandatory for use' in the Department of Defense.

This deference to the judgment of the designing and procuring agencies is clearly appropriate to standards dealing with process, component ruggedness and reliability, paint finishes, and the like. It is clearly not appropriate to standards such as those in the MIL-STD-188 series which address telecommunication design parameters. These influence the functional integrity of telecommunication systems and their ability to efficiently interoperate with other functionally similar Government and commercial systems. Therefore, relevant military standards in the 188 series will continue to be mandatory for use within the Department of Defense.

To minimize the probability of misapplication of these standards, it is incumbent upon the developers of the MIL-STD-188 series to insure that each standard is not only essential but of uniformly high quality, clear and concise as to application, and wherever possible compatible with existing or proposed national, international and Federal telecommunication standards. It is also incumbent upon the users of these standards to cite in their procurement specifications only those standards which are clearly necessary to the proper functioning of the device or systems over its projected lifetime."

This statement has been reviewed by this office and continues to be the policy of the Department of Defense.