



DEPARTMENT OF THE NAVY
NAVAL ELECTRONIC SYSTEMS COMMAND
WASHINGTON, D. C. 20360

NAVELEX INST 5711.2
ELEX 09F

30 MAR 1983

NAVELEX INSTRUCTION 5711.2

From: Commander, Naval Electronic Systems Command

Subj: NATO/Allied Standardization and Interoperability in Command, Control and Communications (C³) Systems and Equipment in NAVELEXSYSCOM

Ref: (a) SECNAVINST 5711.10A of 24 October 1980
(b) DoD Directive 4630.5 of 28 January 1967
(c) DoD Directive 5100.35 of 25 February 1972
(d) NAVELEXINST 5711.1A of 11 June 1981
(e) NAVMATINST 5711.70B of 10 May 1977
(f) OPNAVINST 5711.1C of 11 May 1976
(g) OPNAVINST 5711.95A of 19 August 1980
(h) NAVMATINST 2300.4B of 29 March 1982

Encl: (1) List of STANAGS and Review Coordination in the Allied Interoperability Program
(2) List of QSTAGS in the Interoperability Program

1. Purpose. To implement policy and establish responsibilities for assuring U.S. Navy/NATO-Allied interoperability of Command, Control and Communications (C³) systems and equipment within the Naval Electronic Systems Command.

2. Definitions. Terms pertaining to standardization interoperability and related matters are defined in enclosure (2) to reference (a).

3. Background.

a. Reference (a) provides guidance for implementation of the Department of Defense policy regarding standardization of weapon systems and equipment within NATO. This includes equipment procured for U.S. Forces deployed in Europe under the terms of the North Atlantic Treaty which should be standardized or at least interoperable with equipment of other members of NATO. Further, top priority is established for interoperability and standardization in command, control, and information systems, and it is emphasized that although many U.S. Forces are employed normally under national control, in time of conflict they operate as part of a NATO command.

b. In reference (b), the need for compatibility and commonality in tactical command, control and communications equipments is addressed at the DoD level.

c. Reference (c) prescribes the mission, function, responsibilities, authority, and administration of the Military Communications Electronics Board (MCEB) and its Chairman. Within the MCEB are panels that deal with actions or documents under consideration. The Equipment and Standardization Panel Charter states that the mission of this panel "is to propose, review, develop and coordinate studies, reports and DoD positions for consideration by the MCEB, in areas of compatibility, interoperability, interchangeability and standardization of communications/electronics systems, equipment and terminology, but

30 MAR 1983

excluding the development of standards under the cognizance of other standardization agencies." NAVELEX has been assigned responsibility for providing the U.S. Navy Panel member.

d. Navy guidance, responsibilities and procedures are provided in reference (d) for Navy participation in international standardization. In reference (e) responsibilities are delineated for Navy participation in the development of NATO Standardization Agreements (STANAGS), ASCC Air Standard (AIRSTDS), Quadripartite Standardization Agreements (QSTAGS) and Allied Publications (APs). Reference (e) specifically mentions the Standardization Agreements sponsored by the Military Agency for Standardization (MAS) Naval Board and matters sponsored by the MAS Army or Air Boards. Responsibility for coordination, ratification and implementation of the STANAGS in the 2000 and 4000 series was assigned to the Chief of Naval Material. AAP-4 "NATO Standardization Agreements and Allied Publications" identifies the sponsorship for STANAGS with the Defense Support Division responsible for the 4000 series. The Command Control and Communications Systems Division (CCCS) is responsible for the 5000 series. The reassignment of numbers in the 4000 series of STANAGS to previously issued 5000 series of STANAGS has resulted in a duplication of effort in the review process. Reference (d) implements references (e), (f), and (g) for the Naval Material Command and assigns responsibilities and procedures for international standardization in engineering and systems/equipment development and also establishes policy for NAVELEX participation in international standardization programs. Reference (h) establishes responsibilities and procedures, with the Naval Material Command, for review and control of Navy communications systems standards which are used by more than one Systems Command.

4. Scope. The requirements and procedures prescribed by this instruction apply throughout the Naval Electronic Systems Command, including field activities, in the research, planning, design, development, procurement, lease, construction, modification, installation, maintenance and operation of Command, Control and Communications systems and equipment under NAVELEX cognizance, for both the fleet and shore stations, including those intended for the Marine Corps.

5. Responsibilities.

a. The Chief of Naval Material administers and coordinates the overall NMC effort related to engineering practices and hardware in the following programs:

(1) American-British-Canadian-Australian Naval Quadripartite Standardization programs (ABCA-NAVY-FIELD-Z).

(2) North Atlantic Treaty Organization (NATO).

(3) Central Treaty Organization (CENTRO).

(4) Others as assigned by Chief of Naval Operations.

b. The Chief of Naval Material coordinates U.S. Navy liaison and cooperation in the associated functional areas of American-British-Canadian-Australian Armies' Quadripartite Standardization Program (Engineering Standards, see

30 MAR 1983

enclosure (2)) under the delineation of responsibilities set forth in reference (f).

c. The Commanders, Naval Systems Commands and their shore activities are required to participate in and perform international standardization project work for which they are technically and administratively responsible, or as otherwise assigned by Chief of Naval Material, including acting as custodian for specific projects/areas.

d. The Commander, Naval Electronic Systems Command serves as the Navy focal point for liaison with the action office (Army) for all standardization actions coming under the NATO AC/67 Group of Experts on Electronic Components.

e. The Commander, Naval Air Systems Command is responsible for action on behalf of NMC in matters relative to the Air Standardization Coordinating Committee (ASCC-AIR) Program; and the Commander, Naval Sea Systems Command has responsibilities in the hull/mechanical/electronic areas applicable to U.S. Navy ships, for Quadripartite programs.

f. It is the responsibility of the Systems Command and/or field activity assigned international standardization tasks within its area of cognizance to plan, fund and program such work into the total standardization workload and to assure adequate funding of domestic and foreign travel to periodic meetings and conferences when such are scheduled and will result in a real or potential benefit to the U.S. Navy and the allied navies.

6. Action. In accordance with reference (g), ELEX 09F is the NAVELEX focal point for interacting with CNO, NAVMAT and other external activities in processing NATO and other international standardization and interoperability documents. ELEX 09F will task various codes to ensure the coordination of technical responses within NAVELEX and will respond on behalf of the command vis-a-vis outside activities.

a. ELEX 09F will:

(1) Coordinate with the NATO Control Officer (ELEX 70512) on distribution of STANAGS, QSTAGS and other international standardization documents within NAVELEX and advise ELEX 70512 of required distribution of specific documents.

(2) Maintain lists (see enclosure (1)) of all NATO STANAGS, QSTAGS (see enclosure (2)) and other international standardization documents that pertain to NAVELEX electronics design, development, procurement and improvement activities and make these lists available to all personnel with a need to know. It is expected that the NATO list will consist primarily of the 4000 and the 5000-5999 series of STANAGS. The list will be kept current by means of the NATO AAP-4 (Series), NATO Military Standardization Agreements and Allied Publications, and other available references.

b. ELEX 623 will:

(1) Provide Navy representatives for the Military Communications Electronics Board. In performing this task, the MCEB representative will provide an updated status report to ELEX 09F concerning action items referred to the

30 MAR 1983

Navy by the Military Secretary of the MCEB. The MCEB representative will be responsible for coordination within NAVELEX to provide recommendations to the MCEB for the development of additional STANAGS and changes in existing STANAGS of the 4200 and 5000-5499 series of concern to and recommended in NAVELEX. ELEX 09F will be provided copies of correspondence forwarded to the MCEB.

(2) Provide the representative to the AUSCANZUKUS NAVCOMMS Permanent Steering Group (technical). In performing this task, the representative will inform ELEX 09F of actions relating to agreements being considered by the Board/Committee and Technical Working Group.

(3) Provide the technical assistance to OP-942 and be responsible for the 5500-5999 series of STANAGS. Recommendations concerning the 5500-5999 series will be forwarded to the Navy member (OP-942) of the Joint Standardization Group for Tactical Command, Control and Communication Systems (JSG/TCCCS) of the JCS. Coordination assignment for review and comments will be established by ELEX 623 keeping 09F informed as to coordination assignments and resulting Navy response and determinations.

(4) Take for action, provide the technical assistance and coordinate the NAVELEX inputs to the other international standards and agreements relating to protocols, tactical data links, message standards, keeping ELEX 09F informed as to status of such actions.

(5) Provide to ELEX 7051 a list of STANAGS in the 5000-5999 series required in the repository of STANAGS as applicable to NAVELEX.

c. PME 109 will:

(1) Take STANAG 4175 for action.

d. PME 110 will:

(1) Provide the Navy representative to the MIL-STDS-188 Joint Steering Committee (JSC) and the Military Communication System Tactical Standards Committee (MCSTC).

(2) Take action to incorporate into MIL-STD-188 series documents the parameters and their values of those STANAGS and other Allied agreements that are of concern to the Navy. Information regarding the MIL-STD series is addressed in reference (h).

(3) Designate a focal point for coordination of the technical comments concerning proposed international agreements or changes thereto that are received by ELEX 09F or ELEX 623.

e. PME 154 will:

(1) Designate a focal point for coordination of the technical comments concerning proposed International Agreements or changes thereto that deal with Naval Sponsored Programs of Marine Corps interest forwarded by ELEX 09F or ELEX 623.

30 MAR 1983

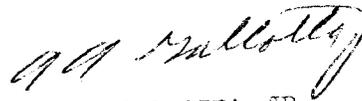
f. ELEX 0811 will:

(1) Review and comment on those STANAGS and QSTAGS which pertain to the Qualified Product Listing (QPL) program.

(2) Implement STANAG 4093 for NAVELEX.

g. ELEX 70512 (Control Officer) will distribute these documents in accordance with existing regulations to those elements and personnel of NAVELEX with a need to know in connection with their duties, coordinating with ELEX 09F as the method of distribution and the distribution lists for each document. Transmittal shall be in accordance with the provisions of the Defense Standardization Manual (4120.3M).

h. ELEX 7053 (NAVELEX Library) will maintain a repository of the STANAGS, QSTAGS, and other international standardization documents designated by ELEX 09F and ELEX 623 as pertaining to NAVELEX functions in the design, development, procurement and improvement of electronic system and equipment.



A. A. GALLOTTA, JR.
Vice Commander

DISTRIBUTION:

NAVELEX LIST 5

SNDL PART II:

FKA1 (SYSCOMS - less FKAIB)
FKQ (All NAVELEX Field Activities)

COPY TO:SNDL PART II:

C37E (NPPSDO, NDW - 2 copies)
C37F (NAVMATDATASYGRU)

Stocked:

ELEX 70511

30 MAR 1983

TELECOMMUNICATIONS RELATED NATO
STANDARD AGREEMENTS (STANAGS) (Continued)

- 5063 The NATO Multi-Channel Tactical Digital Gateway - COMSEC
- 5064 The NATO Multi-Channel Tactical Digital Gateway - Data Transmission Standards
- 5500 NATO Message Text Formatting System (FORMETS)
- 5501 Point-To-Point Digital Data Link-Link 1
- 5504 Tactical Data Link for the Control Aircraft - Link 4
- 5506 Link 6 SAM/NADGE Link
- 5507 Link 7 Airspace/Air Traffic Control
- 5510 Maritime Tactical Data Exchange - Link 10
- 5511 Tactical Data Exchange - Link 11
- 5516 Tactical Data Exchange - Link 16
- 5601 Standards for Interface of NATO Data - Link 1, 11, 14

ENCLOSURE (1)

30 MAR 1983

TELECOMMUNICATIONS RELATED NATO
STANDARD AGREEMENTS (STANAGS)

- 1063 Allied Naval Communications Exercises
- 1074 Minimum Standard Characteristics of Underwater Telephones for Use in Submarines and Surface Ships of NATO Nations
- 3347 Aircraft Electrical Circuit Identification
- 3350 Video Standard for Aircraft Systems Application
- 3374 Flight Inspection of NATO Radio/Radar Navigation and Approach Aids
- 3516 Electromagnetic Compatibility for Aircraft Electrical and Electronic Equipment
- 3731 Design Guide for Electromagnetic Compatibility
- 3764 Exchange of Imagery
- 3794 Identification of Aircraft Electrical Cables.
- 3817 R/T Phraseology to be Used with Instrument Approach and Departure Procedures
- 3838 Digital Time Division Command/Response Multiplex Data Buss
- 3839 A Compilation of Standards for Computer Programming Languages, Software Design, Software Documentation and Software Testing
- 3855 Lightning Qualification Test Techniques for Aircraft and Hardware
- 3857 Measurement of RFP Power
- 3873 Electronic Warfare (EW)
- 3909 Discrete Signal Interface Standards
- 3910 Fibre Optic Data Transmission Standards
- 3911 Digital Avionics Systems Architecture
- 3912 Standardization of a Real Time High Order Computer Programming Language for Avionics Systems Applicable

ENCLOSURE (1)

30 MAR 1983

TELECOMMUNICATIONS RELATED NATO
STANDARD AGREEMENTS (STANAGS) (Continued)

- 3913 Avionics Computer Standardization
- 3914 Standard Data Buss Formats for Avionics Parameters
- 3916 Study of the Field of Application and Implementation Procedures to be Used for Built-In-Test (BIT) of Avionics Systems
- 4138 Vibration Resistant Equipment Requirements
- 4141 Shock Testing of Equipment for Surface Ships
- 4142 Shock Resistance Analysis of Equipment for Surface Ships
- 4145 Nuclear Survivability Criteria for Armed Forces Material and installations
- 4146 Interim Specifications for Input-Output Interfaces in NATO Naval Data Handling Equipment
- 4153 A Serial Point-to-Point Input-Output Interface for NATO Naval System
- 4156 Standard Specification for a Synchronous Input/Output Interface for Multiplex Terminals on Shipborne General Purpose Data Base Systems
- 4175 Multifunctional Information Distribution System (MIDS)
- 4185 Standard Specification for Fiber Optic Interface parameters to be Used in Naval Systems Digital Links
- 4186 Interim Standard Specification for a Parallel Digital Interface Between User Units and a Ship Distribution Network for Voice Communication
- 4202 Transmission Envelope Characteristics for High Reliability Data Exchange over Tactical Single Channel Radio Links
- 4203 Technical Standards for Single Channel - HF Radio Equipment
- 4204 Technical Standards for Single Channel - VHF Radio Equipment
- 4205 Technical Standards for Single Channel - UHF Radio Equipment
- 4206 The NATO Multi-Channel Tactical Digital Gateway - System Standards

ENCLOSURE (1)

30 MAR 1983

TELECOMMUNICATIONS RELATED NATO
STANDARD AGREEMENTS (STANAGS) (Continued)

- 4207 The NATO Multi-Channel Tactical Digital Gateway - Multiplex Group Framing Standards
- 4208 The NATO Multi-Channel Tactical Digital Gateway - Signalling Standards
- 4209 The NATO Multi-Channel Tactical Digital Gateway - Standards for Analog to Digital Conversion of Speech Signals
- 5000 Technical Characteristics for Interoperability of Tactical Digital Facsimile Equipment (Type 1)
- 5004 Military Characteristics for Field Telephone Sets Telephone Sets (Minimum Standard)
- 5009 Military Characteristics of Radio Equipment for Naval Gunfire Support of Shore Forces
- 5010 Minimum Scale of Fitting of the IFF Mark 10 Naval Ships and Maritime Aircraft of NATO Assigned Forces
- 5011 Characteristics of Teleprinters for Combined Use
- 5013 Data Transmission for Radar Doppler Navigation Systems
- 5017 Military Characteristics of IFF Systems
- 5018 NATO Manual Interface Between the Manual Switched Telecommunications Systems of the Combat Zone
- 5020 Interoperability of Aircraft UHF Multi-Frequency Transceiver Installation and Compatible Ground Transmitters and Receivers
- 5021 Military Characteristics for Ground and Surface UHF Direction Finding Equipment
- 5026 Military Characteristics for Analog Facsimile Equipment to Meet Meteorological Requirements
- 5028 Significant Telegraph Signalling Conditions In Automatic Telegraphy (Morse and International Alphabet (IA) No., 2)

ENCLOSURE (1)

30 MAR 1983

TELECOMMUNICATIONS RELATED NATO
STANDARD AGREEMENTS (STANAGS) (Continued)

- 5030 Single Channel VLF Ratt On-Line Broadcast System
- 5031 Introduction of Modern Radio Equipment For Naval HF-MF and LF Shore to Ship Broadcasts
- 5032 Basic Technical Characteristics for SSB Single Channel Voice Communications Between 1.5 and 30 MHz in the Mobile Service
- 5033 Basic Technical Characteristics for Single Channel Telegraphy Communications Between 1.5 and 30 MHz with Wide Frequency Shift in the Mobile Service
- 5034 TACAN Policy
- 5035 Introduction of an Improved System For Maritime Air Communications on HF, LF and UHF
- 5036 Parameters and Practices for the Use of the NATO 7-BIT Code
- 5037 Future Requirements for Number of Morse Operators in NATO Naval Ships
- 5038 Interoperability of Ship UHF Transmitting and Receiving Systems
- 5039 Guidelines on Inter-Connection Between NATO Systems and PTT Facilities
- 5040 Recommendation for NATO Automatic and Semi-Automatic Interfaces Between the National Telecommunications Systems of the Combat Zone and Between These and the NATO Integrated Communications System (197501990)
- 5041 Minimum Technical Requirements for Single Channel Analogue Voice and Single Channel Telegraph HF SSB Communications Equipment For Mobile Stations
- 5042 Military Telecommunications Diagram Symbols
- 5043 Wideband Digital Transmission Interconnection
- 5045 Interoperability Characteristics for Teleprinters Using the NATO 7-BIT Code
- 5046 The NATO Military Communications Directory System
- 5047 Characteristics for Selective Calling Devices

ENCLOSURE (1)

30 MAR 1983

TELECOMMUNICATIONS RELATED NATO
STANDARD AGREEMENTS (STANAGS) (Continued)

- 5048 Principles and Procedures for Establishing the Minimum Scale of Communications for the Use of NATO Land Forces
- 5050 NATO Automatic and Semi Automatic Interface for Data Transmission on a Single Channel Basis between the National Switched Telecommunications Systems of the Combat Zone and between these Systems and the NICS - Period from 1980-1995
- 5051 The NATO Multi-Channel Tactical Digital Gateway - Systems Requirements (See 4206)
- 5052 The NATO Multi-Channel Tactical Digital Gateway - Training Requirements (See 4207)
- 5053 The NATO Multi-Channel Tactical Digital Gateway - Signalling Requirements (See 4208)
- 5054 The NATO Multi-Channel Tactical Digital Gateway - Standards for Analogue to Digital Conversion of Speech Signals (See 4209)
- 5055 The NATO Multi-Channel Tactical Digital Gateway - Standards for the Cable Interface (See 4210)
- 5056 The NATO Multi-Channel Tactical Digital Gateway - Control Requirements (See 4211)
- 5057 Interoperability of UHF Radio Relay to Be Used in Tactical Military Communications Networks
- 5058 NATO Tactical Communications Requirements - Post 1985
- 5059 Interoperability of the Telebriefing Systems
- 5060 Interoperability Standards for HF Tactical Communications Radio Equipment (See 4203)
- 5061 Interoperability Standards for VHF Tactical Communication Radio Equipment (See 4204)
- 5062 Interoperability Standards for UHF Tactical Communications Radio Equipment (See 4205)

ENCLOSURE (1)

30 MAR 1983

TELECOMMUNICATIONS RELATED QUADRIpartite
STANDARD AGREEMENTS (QSTAGS)

- 28 Switchboard SB-22()/PT
- 35 Teletypewriter Set AN/PGC-1()
- 69 Telephone Set TA-43()/PT Telephone Set Ta-312()/PT and Telephone Set Ta-5003/U
- 161 Radio Sets, An/VRC-12 Series
- 203 Cables, Coaxial and Twin Conductor, for Radio Frequency
- 204 Connector, Military Power and Lighting
- 209 Definition of Weight of A Standard Manpack Radio Station
- 228 Connectors for Multipair Field Telephone Cables
- 229 Abbreviations for Use On Drawings
- 233 Radio Set, AN/GRC-103 (Edition No. 2)
- 238 Minimum Criteria for Lower Echelon (Unit) Level 2 - Wire Magneto Field Telephone Sets
- 246 Radiotelephone Procedures for the Conduct of Artillery Fire
- 263A Standards to Achieve Interoperability of ABCA Armies High Frequency Combat Net Radio Equipments
- 263B Standards to Achieve Interoperability of ABCA Armies Very High Frequency Combat Net Radio Equipments
- 263C Standard to Achieve Interoperability of ABCA Armies Ultra High Frequency Combat Net Radio Equipments
- 267 Standard Character by Character Meteorological Message Format
- 275 Graphical Symbols for Electrical and Electronic Diagrams (Edition No. 2)
- 298 Electrical Characteristics of Rotating 28 Volt DC Generating Sets for Field Army Use
- u99 Electrical Characteristics of Rotating Alternating Current Generating Sets for Field Army Use

30 MAR 1983

TELECOMMUNICATIONS RELATED QUADRIPARTITE
STANDARD AGREEMENTS (QSTAGS) (Continued)

- 300 Telegraph and Data Transmission Rates
- 304 Operational Meteorological Messages and Forecasts
- 307 Characteristics of 28V DC Electrical Systems in Military Vehicles
- 312 Radio Receiving Set, AN/ARN-82
- 313 Direction Finder SET, AN/89
- 332 Standard Ballistic Meteorological Message
- 360 Climatic Environmental Conditions Affecting the Design of Military Materiel
- 361 Fungal Contaminants Affecting the Design of Military Materiel
- 364 Handling and Transport Shock and Vibration Conditions Affecting Design Criteria
- 365 The Fire Environmental Conditions Affecting Design Criteria
- 386 Standard Format of Request for Meteorological Messages
- 389 Standard Target Acquisition Meteorological Messages
- 399 Aircraft Communications Radio Set, AN/ARC-114 Series
- 400 Aircraft Communications Radio Set, AN/ARC-115
- 401 Aircraft Communications Radio Set, AN/ARC-116
- 448 Comparison of ABCA Armies ECM Standards
- 467 Radio Set AN/PRC-77
- 512 Marking of Military Vehicles
- 582 Common Electrical Definitions and Terms Electrical Power Supplies
- 594 Electrical Characteristics of Digital Interface Circuits
- 642 Codification of Equipment - Uniform System of Item Identification

ENCLOSURE (2)

30 MAR 1983

TELECOMMUNICATIONS RELATED QUADRIpartite
STANDARD AGREEMENTS (QSTAGS) (Continued)

- 675 Data Information, Principles for the Automated Transfer of Between Tactical Command and Control Systems
- 676 Rules for Achieving Subsystems Interoperability Between the Automated Tactical Command and Control Systems of ABCA Armies
- 680 Codification of Equipment - Uniform System of Supply Classification

ENCLOSURE (2)