

**BY ORDER OF THE COMMANDER
BEALE AIR FORCE BASE**



**DEPARTMENT OF THE AIR FORCE
INSTRUCTION 17-220**

**BEALE AIR FORCE BASE
Supplement**

20 FEBRUARY 2024

Cyberspace Operations

SPECTRUM OPERATIONS

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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This instruction implements DAFI 17-220, *Spectrum Operations* and outlines responsibilities and rules for management of radio frequencies within the jurisdiction of Beale Air Force Base. This instruction applies to all units assigned, attached, and associated to the 9th Reconnaissance Wing and Beale AFB. Ensure all records generated as a result of processes prescribed in this publication adhere to AFI 33-322, *Records Management and Information Governance Program*, and are disposed in accordance with the Air Force Records Disposition Schedule, which is located in the Air Force Records Information Management System. Refer recommended changes and questions about this publication to the office of primary responsibility (OPR) using the DAF Form 847, *Recommendation for Change of Publication*; route DAF Forms 847 from the field through the appropriate functional chain of command. This publication may be supplemented at any level, but all supplements must be routed to the OPR of this publication for coordination prior to certification and approval. The authorities to waive wing, unit, delta or garrison level requirements in this publication are identified with a Tier (“T-0, T-1, T-2, T-3”) number following the compliance statement. Submit requests for waivers through the chain of command to the appropriate Tier waiver approval authority, or alternately, to the publication OPR for non-tiered compliance items. The use of the name or mark of any specific manufacturer, commercial product, commodity, or service in this publication does not imply endorsement by the Department of the Air Force.

1.1.1. (Added-BEALE) Commanders must manage assigned radio frequencies to meet key mission needs. Planning and coordination with proper command authority through the Installation Spectrum Manager (ISM) is essential for all radio frequency and electromagnetic compatibility matters to provide an environment free from interference. Beale ISM's contact phone number is (530) 634-8983.

3.1.1.1. **(Added-BEALE)** It is the responsibility of the organization attempting to procure a spectrum-dependent system, including a non-licensed device referenced in [paragraph 4.1](#), to have an approved Cyberspace Infrastructure Planning System (CIPS) request from 9 CS/SCXP before purchasing locally or by Government Purchase Card.

3.1.1.2. **(Added-BEALE)** When submitting a CIPS request, include as much information as possible about spectrum-dependent components (e.g., Federal Communications Commission (FCC) ID number, manufacturer, make, model number, frequency range, power level, etc.). Identify the owning/using organization, and the name and phone number of a point of contact.

4. (Added-BEALE) NON-LICENSED DEVICES.

4.1. **(Added-BEALE) Non-Licensed/Annex K Devices** . Section 7.8. of the National Telecommunications and Information Administration Manual outlines the purchase and use of Federal and FCC non-licensed devices. Examples of non-licensed devices are wireless routers, wireless or lapel microphones, Family Radio Service (FRS) radios, cell phone boosters and cordless telephones. The following caveats and warnings apply:

4.1.1. **(Added-BEALE)** DoD activities should not use non-licensed equipment for critical tactical or strategic command and control applications essential for mission success, protection of human life, or protection of high-value assets, as they offer no protection of spectrum use in support of operational requirements. Non-licensed devices operate on a non-interference basis, which includes accepting any interference from any federal or non-federal authorized radio station, other non-licensed device, or industrial, scientific, and medical equipment. Non-licensed devices must not cause interference to licensed stations.

4.1.2. **(Added-BEALE)** Upon notification by spectrum management personnel that the device is causing interference, the operator of the non-licensed device shall cease all transmissions from the device until it can be proven that further use will no longer cause interference.

4.1.3. **(Added-BEALE)** Users will not modify, modernize, enhance, or change the equipment's power, antenna, waveform, or information transfer characteristics in any manner that would cause it to violate the NTIA criteria for non-licensed devices or the device's FCC type certification.

4.2. **(Added-BEALE) Family Radio Service (FRS)** FRS is an FCC unlicensed low-powered service that provides coverage up to 2 miles using frequencies within the FRS frequency pool. FRS radios may be used on any of the 14 FRS channels (typically channels 8-14, check owner's manual for FRS channels), which are shared between all FRS users. This reduces confusion between multiple conversations on the same channel. Privacy codes allow the FRS users to

limit the transmissions received to those users on the same channel and privacy code (check owner's manual). Note that any FRS user can listen to any ongoing conversation and can legally break into that conversation.

4.2.1. **(Added-BEALE)** Federal government entities are authorized to purchase and operate radios certified by the FCC in the FRS pursuant to 47 Code of Federal Regulations (CFR) Part 95, Subpart B. Federal users will be afforded the same privileges as non-federal users. FRS users must share each channel and no user is assured protection from interference caused by another authorized user. FRS users may not purchase and operate FRS radios for planned communications operations that safeguard human life or property. FRS users must comply with the following conditions:

4.2.1.1. **(Added-BEALE)** The provisions of 47 CFR Part 95 and Section 7.5.8. of the NTIA Manual.

4.2.1.2. **(Added-BEALE)** Federal users and contractors are responsible for all communications using FRS radio equipment. Use must comply with federal, state, and local laws.

4.2.1.3. **(Added-BEALE)** The installation commander may prohibit FRS when interference to mission essential spectrum-dependent systems/spectrum-dependent equipment is anticipated, or to resolve a suspected interference problem.

4.2.1.4. **(Added-BEALE)** Federal users and contractors using FRS radios must relinquish channel use for emergency communication messages concerning the immediate safety of life or the immediate protection of property.

4.2.1.5. **(Added-BEALE)** Use only FCC-Certified FRS. Any modification to the equipment cancels the FCC certification and voids authority. Illegal FRS equipment is subject to confiscation.

4.2.1.6. **(Added-BEALE)** Units may use FRS devices to communicate with non-government users during Air Force supported or sponsored community activities, e.g., scouts, Special Olympics, youth activities/sporting events, civil disasters, funeral details for deceased military veterans, etc. In addition, FRS radios may be used for administrative purposes when communicating in warehouses, commissaries, base exchanges, billeting areas, work crews, etc.

4.2.1.7. **(Added-BEALE)** Under no circumstance will FRS radios be permitted for use in controlled areas without express written consent of the installation commander and full compliance with all security directives.

4.3. **(Added-BEALE) Consumer Signal Booster (Cell Repeater)** Consumer signal boosters are permitted on Beale AFB; however, ISM approval must be granted prior to any contractual agreements with service providers. In addition, a Joint Spectrum Center (JSC) study must be performed to ensure there is no radio frequency (RF) interference to federal systems. If no harmful interference is predicted in the JSC study, use of a consumer signal booster is permitted at the discretion of the ISM provided the power levels are maintained at/below FCC class B **Part 15** requirements and are acquired from wireless providers. The repeater may not be modified from the manufacturer's specifications. Use/location of repeaters must be approved by the 9th Communication's Squadron Wing Cybersecurity Office.

Repeaters do not require certification and are provided no protection from interference other than what may be experienced in the non-federal bands.

4.3.1. **(Added-BEALE)** These devices can only be used if the following conditions are met:

4.3.1.1. **(Added-BEALE)** The subscriber obtains some form of licensee consent to operate the booster.

4.3.1.2. **(Added-BEALE)** The booster is registered with its provider.

4.3.1.3. **(Added-BEALE)** The booster meets the Network Protection Standard.

4.3.1.4. **(Added-BEALE)** The booster is FCC certified.

4.3.1.5. **(Added-BEALE)** The booster is operated on a secondary, non-interference basis and must be shut down if it causes harmful interference to a licensed station.

4.3.1.6. **(Added-BEALE)** Cellular boosters need to be entered into an FCC database. The owning organization must obtain the account required to register the equipment as part of registering the equipment and should be identified in the CIPS approval process, so they are aware of the registration requirement.

5. **(Added-BEALE) AMATEUR RADIO SERVICE.**

5.1. **(Added-BEALE)** Amateur Radio Service operations are permitted only in Beale AFB Lodging areas (Dorms, TLF, Inns, Fam Camp, Main Housing) under the following conditions.

5.1.1. **(Added-BEALE)** All licensed Amateur radio operators are required to ensure their license is current, with a current address listed in the FCC's Universal Licensing System database.

5.1.2. **(Added-BEALE)** The 70cm band defined as 420 MHz through 450 MHz is prohibited on BAFB.

5.1.3. **(Added-BEALE)** In the bands of 2M, 1.25M, 33cm, and 23cm, a 25-watt limit is imposed. This limit can be rescinded on a per station basis upon an inspection by the ISM certifying that proper safeguards are in effect and a higher power limit will not cause undue interference to licensed users outside of the Amateur radio bands.

5.1.4. **(Added-BEALE)** In the bands of 6M, 10M, 12M, 15M, 17M, 20M, 30M, 40M, 80M, 160M, 630M, and 2200M, a 100-watt limit is imposed. This limit can be rescinded on a per station basis upon an inspection by the ISM certifying that proper safeguards are in effect and a higher power limit will not cause undue interference to licensed users outside of the Amateur radio bands.

6. (Added-BEALE) Review Of Memorandum Of Agreement (Moa) And Memorandum Of Understanding (Mou)

6.1. **(Added-BEALE)** Review of memoranda of understandings or memoranda of agreements that pertain to the use of spectrum-dependent systems between user organization and ISM.

6.1.2. **(Added-BEALE)** The ISM will review MOUs and MOAs that pertain to the use of spectrum-dependent systems during the annual plans review or when initiated by the 9th Communications Squadron Commander. At a minimum, MOUs and MOAs should identify frequencies, FCC license IDs, call signs, and the owning unit so the ISM can verify FCC licenses are current and accurate within the FCC's database.

GEOFFREY I. CHURCH, Colonel, USAF
Commander, Beale Air Force Base

Attachment 1**GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION*****References***

DAFI 17-220, *Spectrum Operations*, 8 June 2021

AFI 33-322, *Records Management and Information Governance Program*, 23 March 2021
incorporating Change 1, 28 July 2021

DoDI 3222.03, *DoD Electromagnetic Environmental Effects (E3) Program*, 25 Aug 2014,
Incorporating Change 2, 10 Oct 2017

Prescribed Forms

None

Adopted Forms

AF Form 847, *Recommendation for Change of Publication*

Abbreviations and Acronyms

DAFI—Department of the Air Force Instruction

DAFMAN—Department of the Air Force Manual

DOD—Department of Defense

OPR—Office of Primary Responsibility

Office Symbols

9 CS/CC—9th Communications Squadron Commander

9 CS/SCOT—9th Communications Squadron office of RF Transmissions

9 CS/SCXP—9th Communications Squadron office of Plans and Implementation

Terms

Accountable Forms—Forms that the Air Force stringently controls, and which cannot be released to unauthorized personnel, since their misuse could jeopardize DOD security or result in fraudulent financial gain or claims against the government.

Administrative Change—Change that does not affect the subject matter content, authority, purpose, application, and/or implementation of the publication (e.g., changing the POC name, office symbol(s), fixing misspellings, etc.)

Approval Authority—Senior leader responsible for contributing to and implementing policies and guidance/procedures pertaining to his/her functional area(s) (e.g., heads of functional two-letter offices).

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