DEPARTMENTS OF THE AIR FORCE,
THE ARMY, THE NAVY
Washington DC 20330

AFR 55-44
AR 105-86
OPNAVINST 3430.1A
MCO 3430.1A
6 December 1978

Operations

PERFORMING ELECTRONIC COUNTERMEASURES IN THE UNITED STATES AND CANADA

This regulation gives frequency band letter designations for use in electronic warfare (EW). It gives frequency band authorizations, geographical restrictions, alerting requirements, and operational procedures governing active electronic countermeasures (ECM) in the United States and Canada. It sets up procedures for clearing frequencies for airborne, ground and shipboard operations not specifically authorized for ECM. It applies as shown in paragraph 2.

1. Policy on ECM. The Joint Chiefs of Staff Electronic Warfare Policy provides guidance for using ECM by the military services of the United States. This regulation implements that joint policy. ECM are vital to the missions of the North American Air Defense Command (NORAD) and the military services of the United States and Canada. ECM must not be suspended or curtailed unless absolutely necessary.

a. ECM may be stopped in the case of an emergency safety of flight situation or interference with the operations of a facility. Agencies requesting ECM be stopped must ensure that the ECM operator knows the identity of the requesting agency and the expected length of stoppage.

Supersedes AFR 55-44/AR 105-86/OPNAVINST 3430.9B/MCO 3430.1, 27 October 1964. (See signature page for summary of changes.)
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OPR:XOORI (Lt Col George LaFrance)
Approved by: Maj Gen Hoyt S. Vandenburg
Editor: S.J. Sattler
Distribution: (See page 7)

b. This regulation supersedes other directives on ECM, including frequency authorizations issued for ECM and all other frequency band designations used in EW.

2. Who This Regulation Applies To. This regulation applies to:

a. All military organizations engaged in surface or in-flight ECM in the United States and Canada.

b. All military organizations operating electromagnetic radiating or receiving equipment which may be subjected to intentional or unintentional interference from ECM.

c. Civilian contractors performing ECM in the United States (but not Canada), provided the contractor meets the following criteria:

(1) The contractor is currently under a military contract requiring ECM.

(2) The ECM equipment used by the contractor has been contracted for or is owned by the Government.

(3) A military resident representative is available to supervise the contractor on the use of this regulation.

d. ECM against communication systems may be conducted by attaching jamming signal simulators to organic communications equipment. Since this procedure uses assigned communications frequencies at the same power and bandwidth, no special clearance procedures are required. Commanders are encouraged to simulate an EW environment for training in this manner.

3. Explanation of Terms. Terms used in this regulation are explained as follows:

a. Surface ECM. All types of electronic jamming, deception, or chaff dispensing done by ground-based or shipboard equipment.

b. In-flight ECM: All types of electronic jamming, deception, or chaff dispensing done by aircraft or other vehicles in flight.

c. Small Scale ECM Mission. In-flight ECM done by a single aircraft or by two to six aircraft working as a unit.

d. Large Scale ECM Mission. In-flight ECM done by seven or more aircraft working as a unit.

e. Chaff. Strips of frequency-cut metal foil, wire, or metalized glass fiber used to reflect echoes for confusion purposes. It is usually dropped from aircraft or expelled from shells or rockets as a radar countermeasure.

f. Rope. An element of chaff consisting of a long roll of metallic foil or wire designed for broad, low-frequency response.

g. Rope Chaff. Chaff that contains one or more rope elements.

h. Big Photo. An unclassified general call sign for aircraft performing in-flight ECM. (Big Photo is used by civilian contractors during in-flight ECM when operating under provisions of paragraph 2c).

i. Ground Photo. An unclassified general call sign for ground radar stations intentionally engaged in in-flight ECM.

j. Buzzer. An unclassified brevity code word. It stands for electronic jamming or deception by ECM.

k. Stream. An unclassified brevity code word. It stands for chaff drops at short intervals. These appear on a radar scope as a continuous line of interference.

l. Burst. An unclassified brevity code word. It stands for chaff drops at sufficiently long enough intervals so they appear on a radar scope as individual target returns. (For purposes of this regulation, Burst is further explained as single chaff drops of not more than 3 seconds spaced not less than 90 seconds apart, with no more than four bursts in a 40 nautical mile (NM) radius of other chaff drops.)

m. Local Frequency Clearance. A clearance for ECM in a specific area. The clearance must be coordinated with the local agencies concerned.

n. United States. The United States, as referred to in this regulation, includes the Continental United States (CONUS) ECM Area, the State of Alaska ECM Area, the State of Hawaii ECM Area, the Island of Guam ECM Area, and the Island of Puerto Rico ECM areas as explained below.

(1) CONUS ECM Area. The 48 states and the District of Columbia, plus the area extending to the outer boundaries of the coastal Air Defense Identification Zones (ADIZ) or a perimeter 150 NM seaward from the coastal states, whichever is farther out, except where this infringes on territorial limits of other nations or states.

(2) State of Alaska ECM Area. The land mass of Alaska, including the Aleutian Chain, plus the area extending to the outer boundaries of the Alaskan Coastal ADIZ.

(3) State of Hawaii ECM Area. The area within a 200 NM radius of 21o20’N, 157o57’W (Hickham AFB, Hawaii).

(4) Island of Guam ECM Area. The area within a 200 NM radius of 133o40’N, 144o50’06"E (Anderson AFB, Guam).

(5) Island of Puerto Rico ECM Area. The area within a 200 NM radius of 18o15’N, 65o38’W (Atlantic Fleet Weapons Range, Roosevelt Roads, Puerto Rico).

o. Canada. Canada, as referred to in this regulation, includes the 10 Provinces, the Yukon and Northwest Territories; also the Arctic Islands and the waters surrounding them; the area extending to the outer boundaries of the Atlantic and Pacific Canadian ADIZ; and the Northern Domestic Airspace, or a perimeter 150 NM seaward from the coastal provinces and territories, whichever is farther out, except where this infringes on territorial limits of other nations or states.

p. Coherent Repeaters. Noncommunications coherent repeater jamming (angle deceivers and break lock techniques) may not have a significant effect on non victim receivers and does not require an ECM frequency clearance.

4. Frequency Band Designations. Attachment 1 gives the band designations of the radio frequency spectrum for use in electronic warfare. The bands are identified by the phonetic alphabet. The channels are identified by numbers 1 through 10. The attachments show those areas of the radio frequency spectrum where ECM may be used and those areas where ECM may be used only after getting proper coordination. Commanders must make sure ECM clearance is obtained and the ECM is held within the restrictions imposed by that clearance.

a. Those frequency channels marked "authorized" are available for ECM. In some cases, only a

part of the band may be authorized; if so, the frequencies authorized are shown in the attachments.

b. Except for specially approved tests or exercises, those frequency channels marked "restricted" are not available for ECM. (See attachment 2 for clearance procedures.)

c. Those frequency channels not marked as authorized or restricted are left blank or special coordinating instructions are entered. (See attachment 2 for procedures to get clearance for ECM in these channels.)

5. Geographical Restrictions on ECM. Surface and in-flight ECM are strictly prohibited in restricted geographical areas unless special authority is granted by the DOD area frequency coordinator of the controlling agency. Arrangements made between the operating organization and the controlling agency do not supersede requirements of paragraphs 7 and 8 or attachment 1.

Restricted Geographic Areas	Controlling Agency
Within 200 NM of White Sands Missile Range, New Mexico, 150 NM radius of Green River, Utah, and 150 Fort Windgate, New Mexico	DOD Area Frequency Coordinator White Sands Missile Range, New Mexico, 88002 Tel: 915-678-5417 NW radius of AUTOVON: 258-5417
Within 200 NM of Fort Huachuca, Arizona and 100 nautical miles Laguns AUTOVON: 879-5423	DOD Area Frequency Coordinator Fort Huachuca, Arizona, 85613 Tel: 602-538-6423 AAF, Arizona
Within 200 NM of Point Coordinator Mugu, California Tel: 805-982-8933	Western Area Frequency Point Mugu, California, 93042 AUTOVON: 873-7983/7981
Within 200 NM of Patrick Coordinator AFB, Florida Tel: 305-949-5366	Eastern Area Frequency Patrick AFB, Florida, 32925 AUTOVON: 854-5366
Within 200 NM of Eglin AFB, Florida	Gulf Area Frequency Coordinator Eglin AFB, Florida, 32542 Tel: 904-882-4416 AUTOVON: 872-4416
Nevada; Utah, west of 111 deg W Idaho, south of 44 deg N	Area Frequency Coordinator ATTN: TFWC/SMCO Nellis AFB, Nevada. 89191 Tel: 702-643-2945 AUTOVON: 682-2945
Within 200 NM of Agana, Guam, N.I.	CINCPACREP Guam
Within 200 NM of any island in Hawaii	CINCPAC HONOLULU HDJ6111

a. This restriction does not mean that ECM cannot be done in the restricted geographical areas. It does mean, however, the controlling agency has absolute control over all surface and in-flight ECM on frequencies required by the agency.

b. An organization whose normal operating area lies outside the restricted geographical areas should not perform or ask permission to perform ECM in the restricted area unless the ECM cannot be done elsewhere.

c. An organization whose normal operating area coincides with any of the restricted geographical areas must get frequency clearance authority (see attachment 2) before performing ECM in the area. The controlling agency must make every effort to work out satisfactory arrangements. It should not set up requirements that would make it difficult for the requesting organization to schedule operations.

6. Restrictions on Rope Chaff. There is a possibility that the rope unit of chaff could short circuit high voltage transmission lines and create hazards to life and property. To prevent this, aircraft must not dispense rope-chaff in peacetime unless special authorization is given by the major command headquarters having command jurisdiction over them. Special permission is required from the Canadian Forces Air Command before dispensing rope-chaff over Canada.

a. The major command may grant authority to dispense rope-chaff for tests, tactics, research, and development requirements. Rope-chaff dispensing on routine training sorties or Operational Readiness Inspections (ORI) must be approved by the cognizant military department.

b. When special authority is granted to dispense rope-chaff, the organizations concerned must take every precaution to make sure the rope-chaff falls on water or on land devoid of high-voltage electric power transmission lines. A "safe area" must be computed for each sortie. In so doing, organizations must consider the following:

(1) The geographical features of the area where the rope-chaff is to be dispensed.

(2) The influence winds may have on the rope-chaff during the time it descends from the dispensing altitude to the time it hits the ground or water.

(3) The rate of fall of rope-chaff.

(4) Allowances to compensate for error in figuring out "safe areas."

c. The final responsibility for dispensing rope-chaff during peacetime rests with the aircraft commander (AC). The AC makes sure rope-chaff is not dispensed unless the provisions of this paragraph are met.

7. ECM Notifications. The following procedures are set up to give certain agencies prior notification of ECM.

a. Surface ECM Notification. When ground-based or shipboard ECM are to be conducted, the

commander authorizing these operations makes sure all facilities subject to possible interference in the target area are notified of the place, time, and duration of the ECM. These facilities must be given adequate contact points so the ECM can stopped if it causes harmful interference.

b. Small Scale ECM Notifications. Special notification for small scale ECM is not required, except as may be directed by a missile or electronics test center under the provisions of paragraph 5. This does not negate ECM clearance requirements cited in paragraphs 5, 8, or attachment 2.

c. ECM Notification for Canada. The following information must be entered in the "Altitude Reservation Approval Request" for missions of more than one aircraft over Canada:

(1) Name of the general area or areas where ECM will be performed. Since the route is stated in the request, it is necessary to name only the start and stop points when a large area is to covered. In cases where ECM of short duration is contemplated, only the area is named as a reporting point in the flight plan, if possible.

(2) Type of activity and frequency band is shown by using the term "Buzzer" plus Band(s) and Channel(s) for electronic jamming, and "Stream" or "Burst" plus Band(s) when chaff is dispensed.

(3) Sample Entry: "REMARKS; Big Photo from Argyle VOR to North Bottom VOR; Buzzer in Delta 3; Burst in India."

d. Large Scale ECM Notifications:

(1) When large scale ECM are to be held over the United States or Canada, or both, the organizations conducting the mission prepares a Large Scale ECM Mission Notification Message. The message must be received by addressees at least 3 duty days before the mission is to be flown.

(2) Large Scale ECM Mission Notification messages are unclassified. Any classified information pertinent to the mission is sent separately and only to those agencies that have a need-to-know. The classification criteria above is required to make sure mission notification messages are received and distributed by non-military agencies.

(3) Large Scale ECM Mission Notification messages include the following information, (Message addressees are responsible for disseminating information in the message to fulfill their own requirements.)

TO: Messages are addressed to the following agencies: CINCNORAD PETERSON AFB, AFCS Communications Area (as applicable); DOD Area Frequency Coordinator (as applicable); see Attachment 5, FCC Wash DC/Freq Registration and Notification BR; United States Bureau ATTN: RADU, FOB, Weather Service, Washington, DC, ATTN: COMM OPS BRANCH. Each FAA Air Route Traffic Control Center, FAA Regional Freq Mgt OFC (see attachment 4) and each Transport Canada Area Control Center supervising air space within the ECM part of the mission. (NOTE: Coordinate with the appropriate FAA regional frequency manager for a listing of places and boundaries for FAA Air Route Traffic Control Centers.)
SUBJECT: Large Scale ECM Mission Notification (Nicknames may be included in the subject.)
TIME: Date (Day and Month), Start ECM (Time), Duration of ECM (Hours) (NOTE: All entries are in Greenwich Mean Time.)
ROUTE: Front (Frontal area occupied for mission aircraft expressed in nautical miles.)
START POINT: Start, Turn, and End points should be familiar landmarks, recognized navigation fixes, or VOR stations. Coordinates are only used over water or when no other choice is available.
TURN POINT:
END POINT:
FREQUENCY: List the bands and channels where electronic jamming will occur.
CHAFF: Indicate "NO" if there is not chaff activity. If Burst or Stream is shown, frequency bands affected must be indicated.
REMARKS: Use only when required. Information on restrictions and distribution to NORAD or other facilities for special missions should be entered in this section. Unclassified information pertinent to the mission and not included in the body of the mission format may also be included in the body of the mission format may also be included in the "Remarks" section at the end of the message.

(4) The Large Scale Mission Notification (teletype message) is prepared and sent in the format shown in the following example:

```
FM:  7BW CARSWELL AFB TX/DOTO
TO:  CINCNORAD PETERSON AFB CO/DOKE
     HQ SAC OFFUTT AFB NE/DO
     8AF BARKSDALE AFB LA/DO
     SOUTH COMM AREA OKLAHOMA CITY
     AFS OK/DO
     FCC WASH DC/FREQ REGISTRATION
     AND NOTIFICATION BR
     FAA SW RGN FT WORTH TX/ASW-406
     FAA ARTCC HOUSTON TX
     FAA ARTCC ALBUQUERQUE NM
     FAA ARTCC FT WORTH TX
UNCLASSIFIED/DOTO
SUBJECT:      LARGE SCALE ECM MISSION
              NOTIFICATION (BIG BLAST).
TIME:         4 JAN/START 0800/DURA-
              TION 1+30.
ROUTE:        FRONT 60/START 27o36'N,
              93o30'W TO GALVESTON
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VOR TO ARDMORE VOR TO
OKLAHOMA CITY VOR TO
RUSSEL VOR END.
FREQUENCY: A-9, D-3, D-4, E-8 THRU F-5.
CHAFF: BURST-I, STREAM-C THRU E.
REMARKS: DO NOT PASS TO 32 NORAD
REGION RADAR.

8. Procedures for In-Flight ECM:

a. In-Flight ECM Clearance. ECM clearance must be obtained from the NORAD agency having air defense jurisdiction over the involved air space. In cases where NORAD is out of radio range aircrews should contact the FAA/Transport Canada Center and request their ECM clearance be passed to NORAD. Clearance to start airborne ECM can normally be granted in flight. ECM clearances should be requested as early as possible before starting the ECM. In-flight clearances are not required if prior coordination and agreement have been set up with the proper NORAD agency. Clearance requests include:

(1) Aircraft call sign and altitude.
(2) Type of ECM--that is, Buzzer, Stream, or Burst.
(3) Frequency bands and channels affected (see attachment 1).
(4) Area and duration of ECM. (Chaff fall rate and wind factors are used to determine area of Burst or Stream activity).

Example: "East Texas, this is Oil Well 23 at flight level 350. Request ECM clearance for Buzzer in Delta 4 and India with Burst in India. We will be Big Photo between Paris VOR and Spring VOR from 2113 Zulu to 2146 Zulu."

Note: In the open area as defined in FAA Handbook 7610.4d (para 739b), aircrews will obtain ECM clearance from appropriate ARTCC.

b. Emergency Guard Frequency. During in-flight ECM, all ECM aircraft must monitor the emergency guard frequency continuously (either 243.0 MHz or 121.5 MHz) in addition to the frequency used for other communication purposes.

c. In-Flight ECM Planning. Even when electronic jamming is stopped on request of the air traffic control radar facility, the interference due to chaff remains for some time after dispensing has ceased. To minimize the amount of interference in dense air traffic areas and reduce the number of ECM terminations, every effort should be made to conduct ECM in relatively "open" areas. Prior coordination with appropriate FAA regional frequency managers (see attachment 4) should be effected to identify FAA radar facilities and minimize interference effects of electronic jamming in bands D-3, D-4, E-8, E-9, and I-6.

d. The following information should be included in the "Remarks" section of the flight plan when it is planned to conduct airborne ECM in Canada:

(1) The type of ECM (electronic or mechanical); if chaff, specify whether stream or burst drop. If a stream drop is to be made, identify the start and stop points. Omit chaff comments if only I band will be dropped;
(2) The alphabetical band nomenclature of the frequency band to be jammed; and
(3) The portion of the route during which jamming will be conducted, (omit if jamming of the complete route). A warning should be included to the effect that stream drops should not be planned parallel to an airway when the upper level winds could carry the chaff over the airway.

9. Procedures for Processing ECM Clearances. NORAD agencies getting requests for in-flight ECM clearances use the following procedures:

a. When an in-flight clearance is requested for Buzzer, the NORAD agency notifies the concerned FAA/Transport Canada Centers:

(1) If Buzzer affects bands D-3, D-4, E-8, E-9, I-3, I-4, I-5, I-6, I-7, I-8, K-2 or K-3.
(2) If Buzzer affects FAA/NORAD joint-use radars.
(3) If spot jamming of NORAD height finders is approved.

b. When an in-flight clearance is requested for Stream or Burst, the NORAD agency, prior to clearance approval:

(1) Notifies the concerned FAA or Transport Canada Center if Burst chaff drops are within 40 NM of FAA or 50 NM of Transportation Canada terminal facilities.
(2) Gets FAA or Transport Canada concurrence if Stream chaff drops are:

(a) Within 40 NM of FAA terminal facilities.
(b) Within 50 NM of Transport Canada terminal facilities or Transport Canada controlled air space.
(c) Within 150 NM of FAA/Transport Canada Air Route Surveillance Radars.

c. Notification and clearance with FAA/Transport Canada is not required when in-flight ECM clearance is requested for:

(1) Buzzer activity in authorized bands other than those listed in 9a(1) above.
(2) Buzzer activity approved by prior coordination in local or restricted bands.

(3) Burst or Stream activity using only I Band-type chaff.

(4) Burst or Stream activity outside FAA/Transport Canada sensitive areas shown in a and b above. (Fall rate and existing wind factors are used to determine if dispensed chaff will intrude these areas.)

10. Procedures for Suspending In-Flight ECM. Facilities that are not involved in ECM exercises but are affected by ECM will make every possible effort to operate through the interference. However, if the ECM interferes heavily with the operational use of the facility or creates an emergency safety of flight situation, the ECM must be suspended immediately upon request. The following procedures are set up to control ECM interference:

a. Nonemergency STOP ECM Procedures. When ECM interferes heavily with the operational use of a facility, the ECM may be stopped by the NORAD agency in whose area the mission is being held even though the ECM is not causing an emergency safety of flight situation.

(1) The affected facility contacts the responsible NORAD agency and requests suspension of ECM. This STOP request includes identification of facility, type of activity, band(s) affected, and expected duration of suspension. (EXAMPLE: "Boston Sector, this is Boston Center Request STOP BUZZER in Echo 8 for 5 minutes.")

(2) The NORAD agency immediately passes the STOP request to ECM aircraft giving type of activity, band(s) affected, and duration of suspension. (EXAMPLE: "Trolley 31 this is Boston Sector. STOP BUZZER in Echo 8 for 5 minutes.")

(3) Aircraft acknowledges STOP ECM requests and complies immediately.

b. Emergency STOP ECM Procedure. At any time an emergency safety of flight situation evolves, STOP ECM requests are broadcast directly to the ECM aircraft by the affected facility.

(1) The radar facility contacts the ECM aircraft on the frequency in use or emergency guard channel and requests ECM be stopped. This request includes identification of the facility, type of ECM, band(s) affected, and expected duration of stoppage. (EXAMPLE: "Big Photo this is Boston Center. STOP BUZZER and BURST in Delta 4 for 3 minutes.")

(2) The ECM aircraft immediately stops the ECM activity and notifies the requesting facility of termination. (EXAMPLE: "Boston Center, this is Trolley 31. STOP BUZZER and BURST in Delta 4 at 1705 Zulu.")

(3) If the radar facility cannot contact Big Photo directly, contact may be made through the NORAD agency having air defense jurisdiction over the air space.

c. Reinstatement of ECM. Facilities requesting suspension of ECM must allow restarting of the ECM as soon as possible. In addition, and just as important, Big Photo aircraft must be kept informed of the expected duration of the suspension.

d. Records of Suspended ECM. Aircrews of Big Photo aircraft that receive an ECM suspension request record the time of suspension, duration, type of activity (Buzzer, Stream or Burst), band(s) or channel(s) affected, and identification of requesting facility. NORAD agencies involved in ECM suspension requests record time of request, time of suspension, duration of suspension, type of ECM bands affected, identification of Big Photo, and identification of facility requesting suspension. The ECM aircrew's unit and the NORAD agency keeps this information as specified by appropriate service directives governing control logs.

11. Local Frequency Clearances. Local frequency clearance is required for in-flight, ground, and shipboard operation of ECM equipment on those frequencies designated "Local" in attachment 1. Attachment 2 sets up the procedures for clearing frequencies on a local basis.

BY ORDER OF THE SECRETARIES OF THE AIR FORCE, THE ARMY, AND THE NAVY

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SUMMARY OF CHANGES

This revision adds new subparagraph 2d; revises explanation of terms (paragraphs 3a, 3n, and 3n(3)); adds subparagraphs 3n(4) and 3n(5); changes paragraph 4b to read in the positive; updates controlling agency column entries in paragraph 5; updates action addresses in paragraph 5; updates action addresses in paragraphs 7d(3) and (4); adds new subparagraph 8d. It deletes paragraph 12; changes distribution lists; updates terminology in attachment 1; provides proper procedures and routing instructions for local frequency coordination in paragraph 2a of attachment 2; provides proper procedures and routing instructions for clearance of restricted frequencies in paragraph 3 of attachment 2; adds a new format for clearance requests in paragraph 4, attachment 2; deletes attachments 3 and 6; redesignates attachments 4 and 5; and updates material in these new attachments 3 and 4. It adds a new attachment 5 (Miscellaneous Frequency Coordinator addresses); and adds a new attachment 6 (NORAD Air Divisions).

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USCINCRED, MacDill AFB FL 33608	6
Department of Agriculture, Branch Chief, Communications and Electronics, Forest Service Electronics Centerm Beltsville MD 20705	5
Department of Commerce, Director, Radio Frequency Management, Room 3128, Dept of Commerce Bldg, Wash DC 20230	10
Department of Interior, Communications Engineer, Telecommunications Staff Office, Office of Management Operations, Office of the Secretary, Wash DC 20240	5
Department of Justice, IRAC Representative, Wash DC 20537	5
Federal Aviation Administration, Chief Spectrum Management Staff, 2100 Second Street SW, Wash DC 20591	100
Federal Communications Commission, Assistant Chief Engineer in Charge of International and Operations Division, 1919 M Street NW, Wash DC 20554	35
National Aeronautics and Space Administration, Communications and Frequency Management, Code TN, FOB-10-B, 600 Independence Avenue SW, Wash DC 20546	10
Canadian Joint Staff (Air Member), 2450 Massachusetts Avenue NW, Wash DC 20008	50

Army:

Active Army, ARNG, USAR: To be distributed in accordance with DA Form 12-9A requirements for AR Communications-Electronics-D.

Navy:

SNDI
A3 (Chief of Naval Operations)
A4A (Chief of Naval Material)
21A (Fleet Commanders in Chief) (less CINCUSNAVEUR)
22A (Fleet Commanders) (less COMSEVENTHFLT and COMSIXTHFLT)
24 (Type Commanders) (2)
26A1 (Amphibious Group LANT) (2)

26F (Operational Test and Evaluation Force Command and Detachment) (2)
26H (Fleet Training Group) (less COMFLETRAGRU WESTPAC) (2)
26JJ (Fleet Area Control and Surveillance Facility) (2)
2600 (Fleet Electronic Warfare Support Group and Detachment) (2)
28A (Carrier Group) (less Carrier Group 2 and Carrier Group 5) (2)
28B (Cruiser-Destroyer Group)
29B (Aircraft Carrier) (less USS MIDWAY) (2)
42B2 (Functional Wing Commander PAC) (COMMATVAQWINGPAC only) (2)
42J (Carrier Air Wing) (1)
42K (Attack Squadron) (1)
42L (Fighter Wing, Squadron and Weapons School) (1)
42Z (Tactical Electronic Warfare Squadron) (1)
42DD (Airborne Early Warning Wing and Squadron) (1)
C2 (Naval Officers at Air Force Activities) (FAA Regional Representatives only) (1)
FKA1A (Air Systems Command Headquarters) (10)
FKA1B (Electronic Systems Command Headquarters) (10)
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Attachment 1
ECM FREQUENCY AUTHORIZATIONS

1. Operational Band and Channel Codes. The following bands and channels are set up to give one standard system of frequency band designations for ECM operations and to facilitate the operational control of ECM. The bands are identified in alphabetical sequence. Each band is divided into 10 numerical channels. The phonetic alphabet and numerical channel numbers are used to identify the frequency of ECM. During airborne operations when it becomes necessary to identify an exact frequency, the frequency is specified as a Band-Channel base (lowest frequency in any channel) plus frequency in megacycles above the base frequency. Example: 1315 MHz would be "Delta 4 plus 15."

Band	Frequency MHz	Channel Width MHz
A	0-250	25
B	250-500	25
C	500-1000	50
D	1000-2000	100
E	2000-3000	100
F	3000-4000	100
G	4000-6000	200
H	6000-8000	200
I	8000-10,000	200
J	10,000-20,000	1000
K	20,000-40,000	2000
L	40,000-60,000	2000
M	60,000-100,000	4000

2. Frequency Authorization. The following list of frequencies has been coordinated at the national level. The status of the frequency bands for active ECM in the United States and Canada is:

a. Authorized. Frequency may be used for ECM operations without further clearance action.

b. Restricted. ECM is authorized only when cleared by the cognizant military department with the Washington, DC office of the FCC and with any Government agencies operating within theses frequency bands.

c. Local (FAA) or (FCC). Frequency requires local clearance in accordance with attachment 2. In addition, coordination with primary interest agency shown in parenthesis is mandatory.

d. Auth Tac Only. Cleared for ECM only on the frequency(ies) assigned for tactical use within the band, and then only with concurrence of the using agency. Nontactical use frequencies within the band are Restricted.

NOTE: In the FREQUENCY LIST under Canada, only frequencies approved for ECM are listed. ECM is prohibited in blank frequency bands.

Frequency List

Band and Channel	Frequency in MHz	United States	Canada
A-1	0-25	Restricted	
A-2	25-50	Restricted	
A-3	50-75	50-54 Authorized 54-73 Local(FCC) 73-75 Restricted	
A-4	75-100	75-76 Local (FAA) & (FCC) 76-100 Local (FCC)	
A-5	100-125	100-108 Local (FCC) 108-125 Restricted	
A-6	125-150	Restricted	
A-7	150-175	Restricted	
A-8	175-200	Local (FCC)	
A-9	200-225	200-216 Local (FCC) 216-225 Authorized	
A-10	225-250	225-242.5 Auth Tac Only 242.5-243.5 Restricted 243.5-250 Auth Tac Only	225-242.5 Auth Tac Only 243.5-250 Auth Tac Only
B-1	250-275	Auth Tac Only	Auth Tac Only
B-2	275-300	275-282.3 Auth Tac Only 282.3-283.3 Restricted 283.3-300 Auth Tac Only	Auth Tac Only Auth Tac Only Auth Tac Only
B-3	300-325	Auth Tac Only	AuthTac Only
B-4	325-350	325-328.6 Auth Tac Only 328.6-335.4 Restricted 335.4-350 Tac Only	325-328.6 Auth Tac Only 335.4-350 Auth Tac Only
B-5	350-375	Auth Tac Only	AuthTac Only
B-6	375-400	375-381.3 Auth Tac Only 381.3-382.3 Restricted 382.3-400 Auth Tac Only	Auth Tac Only AuthTac Only AuthTac Only
B-7		400-425 Restricted 420-425 Authorized	400-420
B-8	425-450	Authorized	
B-9	450-475	450-470 Restricted 470-475 Local (FCC)	

Band and Channel	Frequency in MHz	United States	Canada
B-10	475-500	Local (FCC)	
C-1	500-550	Local (FCC)	
C-2	550-600	Local (FCC)	
C-3	600-608	Local (FCC)	
	608-614	Restricted	
	614-650	Local (FCC)	
C-4	650-700	Local (FCC)	
C-5	700-750	Local (FCC)	
C-6	750-800	Local (FCC)	
C-7	800-850	Local (FCC)	
C-8	850-900	850-890 Local (FCC) 890-900 Authorized	
C-9	900-950	900-942 Authorized	
	942-950	Restricted	
C-10	950-1000	Restricted	
D-1	1000-1100	Restricted	
	1075-1100	Auth	
D-2	1100-1200	Restricted	
	1100-1105	Auth	
D-3	1200-1300	1200-1215 Restricted	
	1215-1300	Authorized	1215-1300 Auth
D-4	1300-1400	Authorized	1300-1365 Auth
D-5	1400-1500	1400-1429 Restricted	
	1429-1435	Authorized	
	1435-1500	Restricted	
D-6	1500-1600	1500-1540 Restricted 1540-1600 Authorized	
D-7	1600-1700	1600-1660 Authorized 1660-1700 Restricted	
D-8	1700-1800	Restricted	
D-9	1800-1900	Restricted	
D-10	1900-2000	Restricted	
E-1	2000-2100	Restricted	
E-2	2100-2200	Restricted	
E-3	2200-2300	Restricted	
E-4	2300-2400	Authorized	
E-5	2400-2500	2400-2450 Authorized 2450-2500 Restricted	
E-6	2500-2600	Restricted	
E-7	2600-2700	Restricted	
E-8	2700-2800	Authorized	Authorized
E-9	2800-2900	Authorized	Authorized
E-10	2900-3000	Authorized	Authorized
F-1	3000-3100	Authorized	Authorized
F-2	3100-3200	Authorized	Authorized
F-3	3200-3300	Authorized	Authorized
F-4	3300-3400	Authorized	Authorized
F-5	3400-3500	Authorized	Authorized
F-6	3500-3600	Authorized	
F-7	3600-3700	Authorized	
F-8	3700-3800	Restricted	
F-9	3800-3900	Restricted	
F-10	3900-4000	Restricted	

Band and Channel	Frequency in MHZ	United States	Canada
G-1	4000-4200	Restricted	
G-2	4200-4400	Authorized	
G-3	4400-4600	Authorized	
G-4	4600-4800	Authorized	
G-5	4800-5000		
		4800-4990 Authorized	
		4990-5000 Restricted	
G-6	5000-5200	Authorized	
G-7	5200-5400	Authorized	
G-8	5400-5600	Authorized	
G-9	5600-5800	Authorized	
G-10	5800-6000	5800-5925 Authorized	
		5925-6000 Restricted	
H-1	6000-6200	Restricted	
H-2	6200-6400	Restricted	
H-3	6400-6600	Restricted	
H-4	6600-6800	Restricted	
H-5	6800-7000	Restricted	
H-6	7000-7200	Restricted	
H-7	7200-7400	Restricted	
H-8	7400-7600	Restricted	
H-9	7600-7800	Restricted	
H-10	7800-8000	Restricted	
I-1	8000-8200	Restricted	
I-2	8200-8400	Restricted	
I-3	8400-8600	8400-8500 Restricted	
		8500-8600 Authorized	8500-8600 Auth
I-4	8600-8800	Authorized	8500-8600 Auth
I-5	8800-9000	Authorized	Authorized
I-6	9000-9200	Authorized	Authorized
I-7	9200-9400	Authorized	9200-9320 Auth
I-8	9400-9600	Authorized	9500-9600 Auth
I-9	9600-9800	Authorized	
I-10	9800-10,000	Authorized	
J-1	10,000-11,000	10,000-10,550 Authorized 10,550-10,680 Local (FCC) 10,680-11,000 Restricted	
J-2	11,000-12,000	11,000-11,700 Restricted 11,700-12,000 Local (FCC)	
J-3	12,000-13,000	Local (FCC)	
J-4	13,000-14,000	13,000-13,250 Local (FCC) 13,250-14,000 Authorized	
J-5	14,000-15,000	Authorized	
J-6	15,000-16,000	15,000-15,250 Authorized 15,250-15,400 Restricted 15,400-16,000 Authorized	
J-7	16,000-17,000	Authorized	
J-8	17,000-18,000	17,000-17,700 Authorized 17,700-18,000 Local (FCC)	

Band and Channel	Frequency in MHZ	United States	Canada
J-9	18,000-19,000	Local (FCC)	
J-10	19,000-20,000	19,000-19,300	
		Local (FCC)	
		19,300-19,400	
		Restricted	
		19,400-19,700	
		Local (FCC)	
		19,700-20,000	
		Authorized	
K-1	20,000-22,000	Authorized	
K-2	22,000-24,000	Authorized	
K-3	24,000-26,000	Authorized	
K-4	26,000-28,000	26,000-27,525	
		Authorized	
		27,525-28,000	
		Local (FCC)	
K-5	28,000-30,000	Local (FCC)	
K-6	30,000-32,000	30,000-31,300	
		Local (FCC)	
		31,300-31,800	
		Restricted	
	31,800-32,000	Authorized	
K-7	32,000-34,000	Authorized	
K-8	34,000-36,000	Authorized	
K-9	36,000-38,000	Authorized	
K-10	38,000-40,000	38,000-38,600	
		Authorized	
		38,600-40,000	
		Local (FCC)	
L-1	40,000-42,000	Authorized	
L-2	42,000-44,000	Authorized	
L-3	44,000-46,000	Authorized	
L-4	46,000-48,000	Authorized	
L-5	48,000-50,000	Authorized	
L-6	50,000-52,000	Authorized	
L-7	52,000-54,000	Authorized	
L-8	54,000-56,000	Authorized	
L-9	56,000-58,000	Authorized	
L-10	58,000-60,000	Authorized	
M-1	60,000-64,000	Authorized	
M-2	64,000-68,000	Authorized	
M-3	68,000-72,000	Authorized	
M-4	72,000-76,000	Authorized	
M-5	76,000-80,000	Authorized	
M-6	80,000-84,000	Authorized	
M-7	84,000-88,000	Authorized	
M-8	88,000-92,000	88,000-90,000	
		Restricted	
		90,000-92,000	
		Authorized	
M-9	92,000-96,000	Authorized	
M-10	96,000-100,000	Authorized	

LOCAL/RESTRICTED FREQUENCY CLEARANCE PROCEDURES This attachment has procedures to get clearance for using other than authorized ECM frequencies in a specified area of the United States. This local clearance expedites normal clearance procedures and gives greater control of the local area to the agencies most concerned with ECM. This procedures applies to clearance for the operation and testing of ground-based and shipboard ECM equipment, radar simulators used in conjunction with ECM, ground operation of airborne ECM equipment, and in-flight operation of airborne ECM equipment requiring Local or Restricted clearance as shown in attachment 1. Whenever possible, the clearance request should be started at least 45 days before the desired starting date to allow for completion of coordination. ECM is never allowed to start before major command approval.

1. Who This Attachment Applies To. This attachment concerns clearances in the United States only. It applies to:

a. All military organizations of the United States.

b. Civilian contractors performing ECM testing or operations in the United States, provided the contractor meets the following criteria:

(1) The contractor is currently under a military contract that requires the operation of ECM transmitters in an unshielded environment.

(2) The ECM equipment used by the contractor has been contracted for or is owned by the Government.

(3) A copy of the completed local clearance is on file with the agency administering the contract.

(4) ECM operations will not be performed unless a military resident representative is available to insure contractor compliance with the provisions of this regulation.

2. Clearance of Local Frequencies. Special clearance is required for ECM in those bands marked "local" in attachment 1. This insures the operation of ECM equipment and simulators does not interfere with established services of the agency using the frequency(ies). ECM clearances for civilian contractors are obtained in accordance with this attachment by the military command exercising contract responsibility. Civilian contractor requests for ECM clearance are sent to the responsible military command through the military resident representative. The following procedures and routing instructions are used when processing local ECM frequency clearance requests:

a. All local ECM clearance requests are sent to an appropriate military service frequency coordinator (AF Major Command Frequency Management Office, Army Frequency Coordinator, or the Naval Area Frequency Coordinator) as an action addressee with information copies to:

(1) NORAD Region (see attachments 5 and 6).

(2) DOD Area Frequency Coordinator (as shown in paragraph 5, see attachment 5 for addresses).

(3) FCC District Office (if applicable, see attachment 3).

(4) FAA Regional Frequency Management Office (if applicable, see attachment 4).

(5) Other military and non-military government agencies having a primary interest.

b. The military service frequency coordinator is the focal point for the ECM frequency clearance request. Thee offices:

(1) Review all ECM frequency clearance requests, ensure accuracy, completeness, and compliance with this regulation.

(2) Send ECM frequency clearance requests or request appropriate agencies to take requests for action (if provided information copy of request).

(3) Compile coordination comments and resolve any conflicts.

(4) Send response to requesting activity with information copies to addressees shown in 2a above.

c. Frequencies to be cleared under the provisions of this attachment are cleared only when operation of the equipment on the proposed frequency(ies) will not interfere with established government and non-government services operating in the frequency bands being proposed for ECM. If there is harmful interference, the ECM is immediately stopped upon receipt of notification of the interference by the requesting unit or the requesting command.

d. The agency requesting a frequency clearance prepares a complete list of the frequencies to be jammed and the general geographical area affected by the jamming. This list must have the appropriate security classification according to content. The summary must be available for reference and review during coordination and is attached to the complete coordination when requested by an agency. Prior to coordinating with FCC district offices, the requesting unit makes sure the proposed ECM have a good chance of being compatible with other users of the frequency band(s).

3. Clearance of Restricted Frequencies. In the interest of national defense, special tests and exercises

requiring ECM in "Restricted" frequency bands are necessary. However, since these bands are allocated to highly sensitive operations, it is imperative that ECM must not be performed in these bands unless clearance has been approved at the national level. If requested, the major command must be prepared to brief the operation to agencies from whom clearance is required. If the operation is approved, the responsible major command makes sure the operation is conducted within the specific limits and parameters of the clearance. The following procedures and routing instructions are used when processing restricted band ECM frequency clearances:

a. All restricted band ECM frequency clearance requests are sent to the appropriate military service frequency coordinator (AF Major Command Frequency Management Office, Army Frequency Coordinator, or the Naval Area Frequency Coordinator) as an action addressee with information copies to:

(1) NORAD Region (see attachments 5 and 6).
(2) DOD Area Frequency Coordinator, if applicable. See paragraph 5 and attachment 5 for addresses.
(3) Washington, DC Service Headquarters, Frequency Management Office.
(4) FAA Regional Frequency Management Office (if applicable, see attachment 4).

b. The military service frequency coordinator will again be the focal point for the ECM frequency clearance requests. These offices:

(1) Review ECM frequency clearance requests to ensure accuracy, completeness, and compliance with this regulation.
(2) Request appropriate info addressees to take request for action and forward comments to the Washington, DC Service Headquarters.

c. The Washington, DC Service Headquarters Frequency Management Office:

(1) Coordinate requests at the national level with other government and non-government agencies, as required.

(2) Compile national level coordination comments along with the coordination comments received per 3b(2) above.
(3) Send responses with information copies to requesting unit, NORAD Region and DOD AFC.

4. **Clearance Request Format.** Local or restricted band ECM frequency clearance requests will be submitted in the following format:

SUBJECT: LOCAL/RESTRICTED BAND ECM FREQUENCY CLEARANCE

REQUEST (Designate, as appropriate, local or restricted.)

1. a. Requesting Unit. (Enter unit designator, name of contact point, commercial and AUTOVON telephone number.)
   b. Military Service.
2. ECM clearance request control number. (This control number will consist of unit designation abbreviation, the calendar year number followed by a hyphen, and an arabic number assigned consecutively, for example,ICEVG 78-1.)
3. Frequency(ies) Requested. (Enter frequency(ies) in megahertz (MHz).)
4. a. ECM equipment nomenclature.
   b. Power.
   c. Bandwidth and emission type.
   d. Antenna gain and antenna name (for example, 20G PARABOLIC).
   e. Pulse duration. (For pulse emissions only)
   f. Pulse repetition rate. (For pulse emissions only)
5. Area of Operation. Indicate the area or geographical location in which the equipment will be operated. Names of towns and military installations and geographical coordinates will be used to indicate location of ground operated equipment. Airborne or shipboard usage will be indicated from a central point (identified by name and geographical coordinates) to the radius of operation. EXAMPLES: Ground Operation--Bolling AFB, Washington, D.C. (38o50’N, 77o01’W). Airborne Operation--Within 150 NM of Bolling AFB, Washington, D.C. (38o50’N, 77o01’W).
6. a. Required date(s) or period(s); (Enter the required operation date(s). Frequency clearance will automatically terminate on the latest date indicated unless coordinated by approving authority. When a termination date is extended, the holders of all copies of the clearance will be notified by the major command concerned. Duration of a clearance will not exceed one year.)
   b. Time(s). (Indicate Greenwich Mean Time (GMT) and local time.)
   c. Expected usage per activity.(Indicate, in minutes expected duration of ECM equipment activation. This time figure is generally short in duration and sometimes greatly enhances clearance approval due to the remote possibility of causing harmful interference.)
7. a. Operational/Training scenario. (Indicate a brief description.)
   b. Topographical layout. (Terrain features can sometimes enhance electromagnetic compatibility.)
   c. Airborne ECM Flight Level. (Indicate MSL and AGL.)
   d. Types of Jamming (for example, Repeater, Spot, Sweep, Barrage, etc.)
8. Security Classification Instructions. (Classify LAW DOD 5200.1R). Enter statement indicating what item entries singularly or collectively make the request classified.

FCC DISTRICT OFFICES AND AREAS OF RESPONSIBILITY

District Number	Office Location	States	Counties
1	Engineer in Charge Federal Communications Commission 1600 Custom House Boston Mass 02109 Phone: (617) 223-0689	Connecticut... Maine..... Massachusetts. New Hampshire. Rhode Island.. Vermont.....	All counties. All counties. All counties. All counties. All counties. All counties.
2	Engineer in Charge Federal Communications Commission 748 Federal Building 201 Varick Street New York, NY 10014 Phone: (212) 620-3437	New Jersey.... New York.....	Bergen, Essex, Hudson, Huterdon, Mercer, Middlesex, Monmbuth, Morris, Passaic, Somerset, Sussex, Union, Warren. Albany, Bronx, Columbia, Delaware, Dutchess, Greene, Kings, Nassau, New York, Orange, Putnam, Queens, Rensselaer, Richmond, Rockland, Schenectady, Suffolk, Sullivan, Ulster, Westchester.
3	Engineer in Charge Federal Communications Commission 11425 James A. Byrne Federal Courthouse 601 Market St. Philadelphia PA 19106 Phone: (215) 597-4411	Delaware..... New Jersey..... Pennsylvania..	New Castle Atlantic, Burlington, Camden, Cape May, Cumberland, Gloucester, Ocean, Salem. Adams, Berks, Bucks, Carbon, Chester, Cumberland, Dauphin, Delaware, Lancaster, Lebanon, LeHigh, Monroe, Montgomery, Northampton, Perry, Philadelphia, Schuylkill, New York.
4.	Engineer in Charge Federal Communications Commission 819 Federal Building 31 Hopkins Plaza Baltimore MD 21201 Phone: (301) 962-2727	Delaware..... Maryland..... Virginia.....	Kent and Sussex. All except District 24. Clarke, Fairfax, All except District 24, Fauquier, Frederick, Loudoun, Page, Prince William, Rappahannock, Shenandoah, Warren. West Virginia. Barbour, Berkeley, Grant, Hampshire, Hardy, Harrison, Jefferson, Lewis, Marion, Mineral, Monongalia, Morgan, Pendleton, Preston, Randolph, Taylor, Tucker, Upshur.
5	Engineer in Charge Federal Communications Commission Military Circle 870 N. Military Highway Norfolk VA 23502 Phone: (804) 441-6472	North Carolina Virginia.....	All except District 6. All except Districts 4 and 24.
6	Engineer in Charge Federal Communications Commission Rm 440 Massell Bldg	Alabama..... Georgia..... North Carolina	All except District 8. All counties. Ashe, Avery, Buncombe, Burke, Caldwell,

District Number	Office Location	States	Counties
	1365 Peachtree St. NE Atlanta GA 30309 Phone: (404) 881-3084		Cherokee, Clay, Cleveland, Graham, Haywood, Henderson, Jackson, McDowell, Macon, Madison, Mitchell, Polk, Rutherford, Swain, Transylvania, Watauga, Yancey.
7	Engineer in Charge Federal Communications Commission Room 919 51 Southwest First Avenue Miami FL 33130 Phone: (305) 350-5541	South Carolina Tennessee Florida	All counties. All counties. All except District 8.
8	Engineer in Charge Federal Communications Commission 829 Federal Office Building 600 South Street New Orleans LA 70130 Phone: (504) 589-2094	Alabama Arkansas Florida Louisiana Mississippi Texas	Baldwin and Mobile. All counties. Escambia. All counties. All counties. and parishes. City of Texarkana only.
9	Engineer in Charge Federal Communications Commission New Federal Office Building 515 Rusk Avenue Room 5636 Houston TX 77002 Phone: (713) 226-4306	Texas	Angelina, Aransas, Atascosa, Austin, Bandera, Bastrop, Bee, Bexar, Blanco, Brazoria, Brozos, Brooks, Burleson, Caldwell, Calhoun, Cameron, Chambers, Colorado, Comal, DeWitt, Dimmit, Duval, Edwards, Fayette, Fort Bend, Frio, Galveston, Gillespie, Goliad, Gonzales, Grimes, Guadalupe, Hardin, Harris, Hays, Hidalgo Jackson, Jasper, Jefferson, Jim Hog, Jim Wells, Karnes, Kendall, Kenedy, Kerr, Kinney, Kleberg, LaSalle, Lavaca, Lee, Liberty, Live Oak, Madison, Matagorda, Maverick, McMullen, Medina, Montgomery, Nacogdoches, Newton, Nueces, Orange, Polk, Real, Refugio, Sabine, San Augustine, San Jacinto, San Patricio, Starr, Travis, Trinity, Tyler, Uvalde, Val Verde, Victoria, Walker, Washington, Webb, Wharton, Willacy, Williamson, Wilson, Zapata, Zavals. Patricio, Starr, Travis, Trinity, Tyler, Uvalde, Val Verde, Victoria, Walker, Waller, Washington, Webb, Wharton, Willacy,
10	Engineer in Charge Federal Communications Commission Earle Cabell Federal Bldg US Courthouse Rm 13E7, 1100 Commerce St. Dallas, TX 75242 Phone: (214) 749-1719	Oklahoma Texas	All counties. All except District 9 and the city of Taxarkana.

District Number	Office Location	States	Counties
11	Engineer in Charge Federal Communications Commission 3711 Long Beach Boulevard Rm 501 Long Beach CA 90807 Phone: (213) 425-4451	Arizona	All counties.
		California . .	Imperial, Inyo, Kern, Los Angeles, Orange, Riverside, San Bernardino, San Diego, San Luis Obispo, Santa Barbara, Ventura.
		Nevada	Clark.
12	Engineer in Charge Federal Communications Commission 323-A Customhouse 555 Battery Street San Francisco CA 94111 Phone: (415) 556-7700	California	All except District 14.
		Nevada	All except Clark.
13	Engineer in Charge Federal Communications Commission 1782 Federal Office Bldg 1220 S. W. 3rd Ave. Portland OR 97204 Phone: (503) 221-309	Idaho	All except District 14.
		Oregon	All counties.
		Washington	Clark, Cowlitz, Klickitat, Skamania, Wahkinkum.
14	Engineer in Charge Federal Communications Commission 3256 Federal Bldg 915 Second Avenue Seattle WA 98174 Phone: (206) 442-7653/4	Idaho	Benewah, Bonner, Boundary, Clearwater, Idaho, Kootenai, Latab, Lewis, Nez Perve, Shoshone.
		Montana	All counties.
		Washington	All except District 13.
15	Engineer in Charge Federal Communications Commission Suite 2925, The Executive Tower 1405 Curtis Street Denver CO 80202 Phone: (303) 867-4054	Colorado	All counties.
		Utah	All counties.
		Wyoming	All counties.
		Nebraska	Banner Box, Butte, Cheyenne, Dawes, Deuel, Garden, Kimball, Morrill, Scotts Bluff, Sheridan, Sioux.
		New Mexico	All counties.
		South Dakota	Butte, Custer, Fall River, Lawrence, Meade, Pennington, Shannon, Washabaugh.
16	Engineer in Charge Federal Communications Commission 691 Federal Bldg and US Courthouse 316 N. Robert Street St Paul MN 55101 Phone: (612) 725-7819	Minnesota	All counties
		Michigan	Alger, Baraga, Chippewa, Delta, Dickinson, Gogebic, Houghton, Iron, Keweenaw, Luce, Machinaw, Marquette, Menominee, Ontonagon, Schoolcraft.
		South Dakota	All counties except District

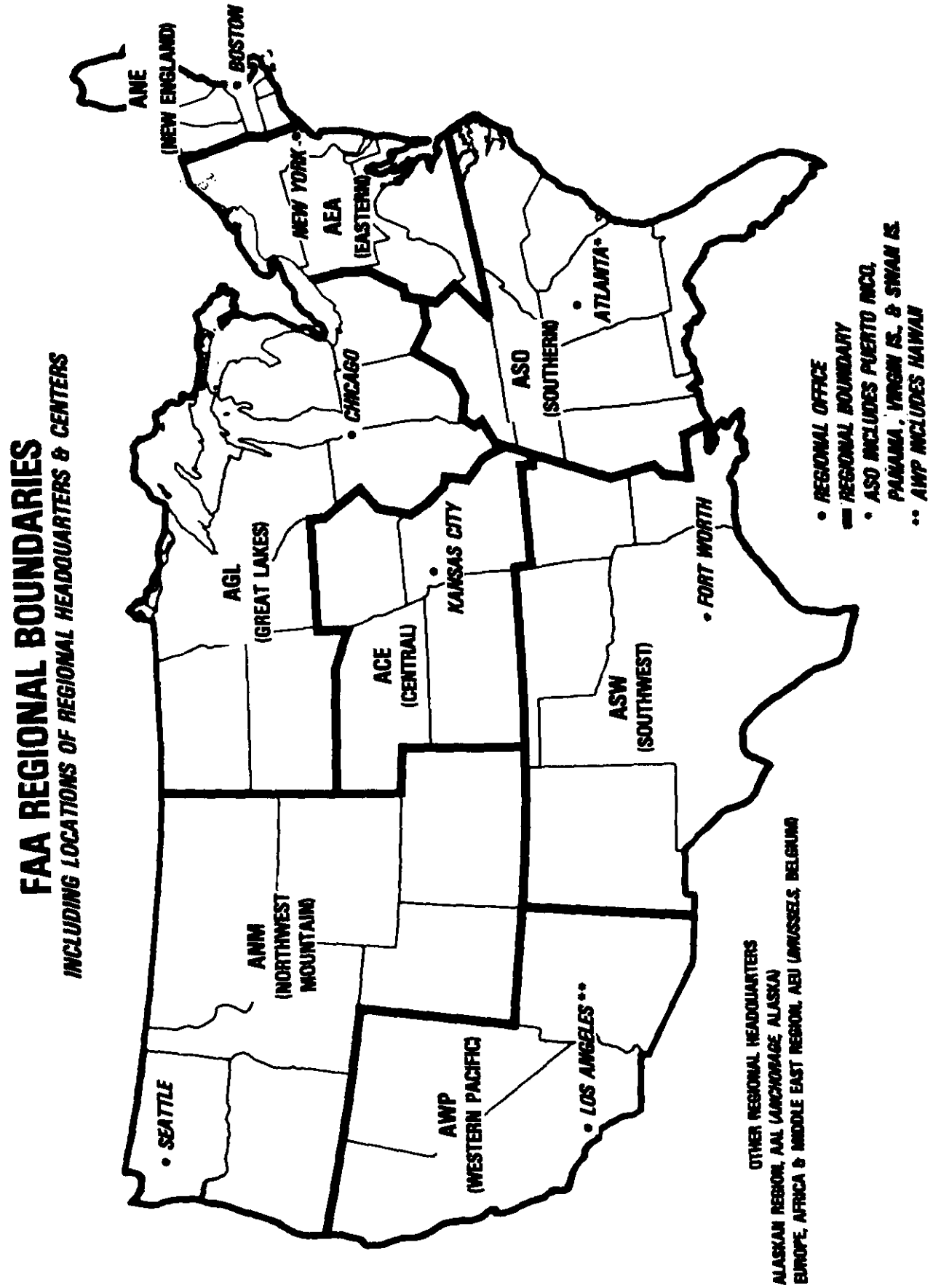
District Number	Office Location	States	Counties
17	Engineer in Charge Federal Communications Commission 1703 Federal Bldg 601 E. 12th Street Kansas City MO 64106 Phone: (816) 374-5526/7	Iowa Kansas Missouri Nebraska	All except District 18. All counties. All counties. All except District 15.
18	Engineer in Charge Federal Communications Commission 1872 Everett McKinley Dirksen Building 219 S. Dearborn St. Chicago IL 60604 Phone: (312) 353-0195	Illinois Indiana Iowa Wisconsin	All counties. All counties. Allamakee, Buchanand, Cedar Clayton, Clinton, Delaware, Des Moines, Dubuque, Fayette, Henry, Jackson, Johnson, Jones, Lee, Linn, Louisa, Muscatine, Scott, Washington, Winneshief. Brown, Calument, Columbia, Crawford, Dane, Dodge, Door, Fond du Lac, Grant, Green, Iowa, Jefferson, Kenosha, Kewaunee, Lafayette, Maintowoc, Marinette, Milwaukee, Ocant, Outgamie, Oazukee, Racine, Richland, Rock, Sauk, Sheboygan,
19	Engineer in Charge Federal Communications Commission 1054 Federal Bldg Washington Blvd and Lafayette Street Detroit MI 48226 Phone: (313) 226-6078	Kentucky	Bath, Bell, Boone, Bourbon, Boyd, Bracken, Breathitt, Compbell, Carter, Clark, Clay, Elliott, Estill, Fayette, Fleming, Floyd, Franklin. Gallatin, Garrad,Grant, Greenup, Darlan, Harrison, Harrison, Jackson, Jessmine, Johnson, Kenton, Knott, Knox, Laure!, Lawrence Lee, Leslie, Letcher, Lewis, Lincoln, Madison, Magoffin, Martin, Mason, McCreary, Menifee, Montgomery, Morgan, Nicholas, Owen, Owsley, Pendleton, Perry, Pike, Pike, Powell, Pulask, Robertson, Rockcastle, Rowan, Sctt, Wayne, Whitley, Wolf, Woodford.
20	Engineer in Charge Federal Communications Commission 1307 Federal Bldg 111 W. Huron Street Buffalo NY 14203 Phone: (716) 842-3216/7	New York Pennsylvania	All except District 2. All except District 3.
21	Engineer in Charge Federal Communications Commission 502 Federal Bldg P.O. Box 1021	Hawaii and outlying Pacific possessions.	

District Number	Office Location	States
	Honolulu HI 96898 Phone: (808) 546-5640	
22	Engineer in Charge Federal Communications Commission Rm 747, Federal Bldg Hato Rey PR 00918 Phone:(809) 753-4008	Puerto Rico Virgin Islands
23	Engineer in Charge Federal Communications Commission P.O. Box 644, Rm G-63 US Post Office and Courthouse Bldg Anchorage AK 99510 Phone: (909) 272-1822	Alaska
24	Engineer in Charge Federal Communications Commission Rm 411, 1919 M St NW Wash DC 20554 Phone: (202) 632-8834	District of Columbia and 10 miles beyond the boundary of the District of Columbia in each direction.

FAA REGIONAL OFFICES AND AREAS OF RESPONSIBILITY

Region	Address	Area of Responsibility
*Northwest Mountain	Federal Aviation Administration Frequency Management Officer, ANM-421 FAA Bldg., Boeing Field 9010 East Marginal Way S. Seattle WA 98108 Phone: (206) 767-2653 MSG: FAA NORTHWEST MTN RGN SEATTLE WA// ANM-421//	Idaho; Oregon; Washington; Montana; Wyoming; Utah; Colorado
*Western Pacific	Federal Aviation Administration Frequency Management Officer, AWP-406 P.O. Box 92007, Worldway Center Los Angeles CA 90009 Phone: (213)536-6164 MSG: FAA WESTERN PACIFIC RGN LOS ANGELES CA//AWP-406//	Arizona; California, including all off-shore islands; Nevada, Hawaii, & U.S. possessions in the Pacific
*Central	Federal Aviation Administration Frequency Management Officer, ACE-432 601 E. 12th Street Kansas City MO 64106 Phone: (816) 374-5647 MSG: FAA CENTRAL RGN KANSAS CITY MO// ACE-432//	Iowa; Kansas, Missouri; Nebraska
Southwest	Federal Aviation Administration Frequency Management Officer, ASW-406 P.O. Box 1689 Fort Worth TX 76101 Phone: (817) 624-4911 Ext. 374 MSG: FAA SOUTHWEST RGN FT WORTH TX/ ASW-406//	Arkansas; Louisiana; New Mexico; Oklahoma; Texas
*Great Lakes	Federal Aviation Administration Frequency Management Officer, AGL-437 2300 E. Devon Ave. Des Plaines IL 60018 Phone: (312) 694-7332 MSG: FAA GREAT LAKES RGN DES PLAINES IL //AGL-437//	Illinois; Indiana; Michigan; Minnesota; Ohio; Wisconsin; North Dakota; South Dakota;
*Southern	Federal Aviation Administration Frequency Management Officer, ASO-434 P.O. Box 20636 Atlanta GA 30320 Phone: (404) 763-7386 MSG: FAA SOUTHERN RGN ATLANTA GA//ASO-434//	Alabama; Florida; Georgia; Kentucky; Mississippi; North Carolina, South Carolina Puerto Rico; Tennessee; U.S.

Region	Address	Area of Responsibility
Eastern	Federal Aviation Administration Frequency Management Officer, AEA-426 JFK International Airport New York NY 11430 Phone: (212)995-3340 MSG: FAA EASTERN RGN NY NY// AEA-426//	Delaware; District of Columbia; Maryland; New Jersey; New York; Pennsylvania; Virginia; West Virginia
*New England	Federal Aviation Administration Frequency Management Officer, ANE-423 12 New England Executive Park Burlington MA 01803 Phone: (617) 273-7256 MSG: FAA NEW ENGLAND RGN BURLINGTON MA //ANE-423//	Connecticut; Maine; Massachusetts; New Hampshire; Rhode Island; Vermont
*Alaskan	Federal Aviation Administration Frequency Management Officer, AAL-430A 632 Sixth Avenue Anchorage AK 99401 Phone: (907) 271-5341 MSG: FAA ALASKAN RGN ANCHORAGE AL// AAL-430B//	Alaska
*Headquarters	Federal Aviation Administration Frequency Engineering Branch, AAF-730 800 Independence Ave., S.W. Washington DC 20591 Phone: (202) 426-3597 MSG: FAA HEADQUARTERS WASHINGTON DC //AAF-730//	


FAA REGIONAL BOUNDARIES
INCLUDING LOCATIONS OF REGIONAL HEADQUARTERS & CENTERS
ANE
(NEW ENGLAND)
BOSTON
NEW YORK
AEA
(EASTERN)
CHICAGO
AGL
(GREAT LAKES)
KANSAS CITY
ACE
(CENTRAL)
ASO
(SOUTHERN)
ATLANTA
FORT WORTH
ASW
(SOUTHWEST)
ANM
(NORTHWEST
MOUNTAIN)
AWP
(WESTERN PACIFIC)
SEATTLE
LOS ANGELES
REGIONAL OFFICE
REGIONAL BOUNDARY
ASO INCLUDES PUERTO RICO,
PANAMA, VIRGIN IS., & SWAN IS.
AWP INCLUDES HAWAII
OTHER REGIONAL HEADQUARTERS
ALASKAN REGION, AAL (ANCHORAGE, ALASKA)
EUROPE, AFRICA & MIDDLE EAST REGION, AEU (BRUSSELS, BELGIUM)

MISCELLANEOUS FREQUENCY COORDINATION ADDRESS

NORAD Regions	**Location/OFC**
20th NORAD Region	Ft Lee AFS VA/DOK
21st NORAD Region	Hancock Fld NY/DOK
22nd NORAD Region	North Bay, Ontario CN/OGE
24th NORAD Region	Malmstrom AFB MT/DOK
25th NORAD Region	McChord AFB WA/DOK
26th NORAD Region	Luke AFB AZ/DOK

DOD AFC	**MSG Address**
WSMR	DOD AFC WSMR NM
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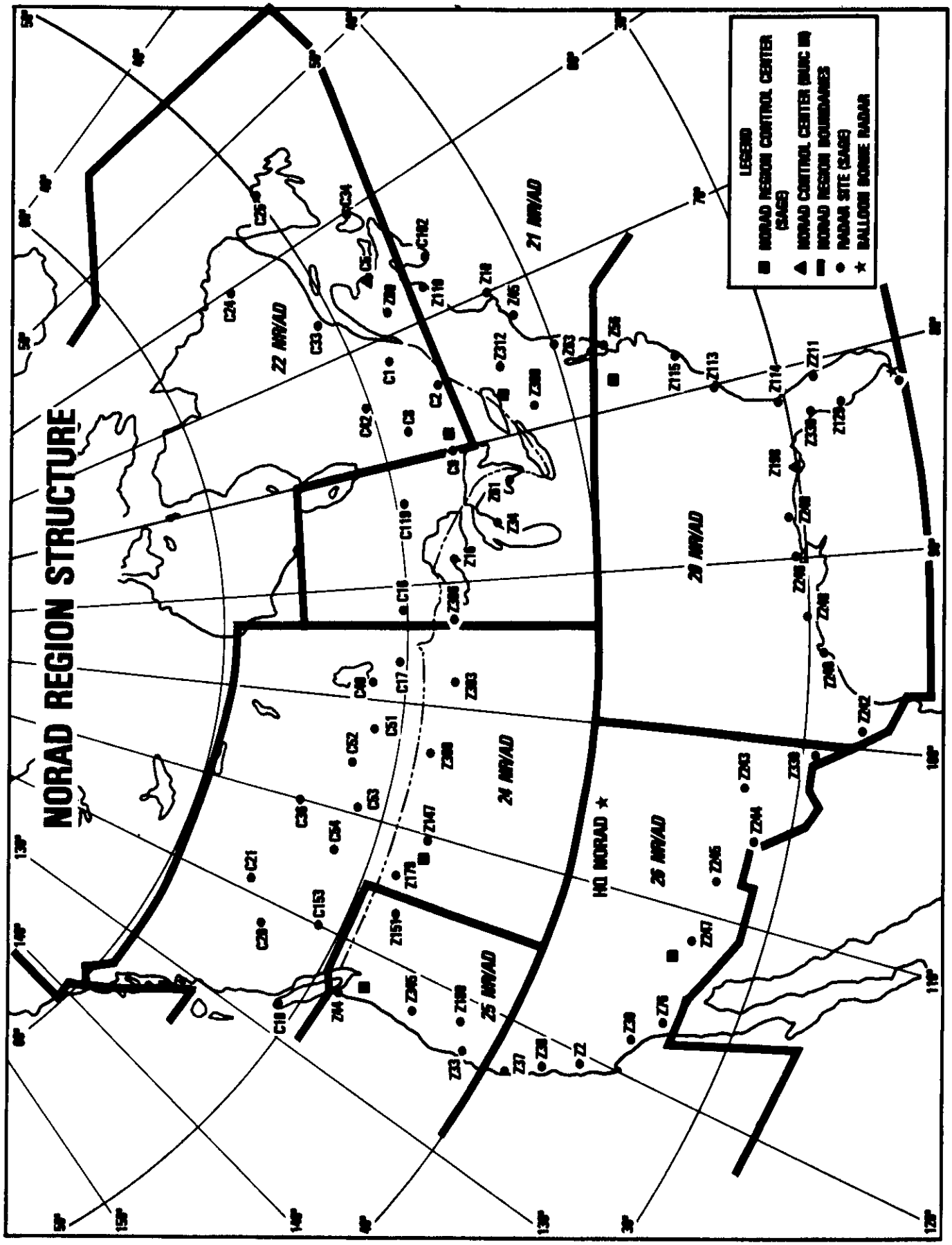

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AFR 55-44 (C12)
C1, AR 105.86
OPNAVINST 3430.9C CH-1
MCO 3430. 1 A Ch-1
3 July 1980

Operations

PERFORMING ELECTRONIC COUNTERMEASURES IN THE UNITED STATES AND CANADA

AFR 55-44/AR 105-86/OPNAVINST 3430.9C/MCO 3430.1A, 6 December 1978, is changed as follows:

Write-In Changes:

Page	Paragraph	Line	Action
4	7d(3)	10	Change "United States Weather Bureau, ATTN: RADU; Federal Office Building, Kansas City, Missouri" to "United States Bureau, ATTN: RADU, FOB, Weather Service, Washington, DC, ATTN: COMM OPS BRANCH."
5	8a(4)	8	Add note: In the open area as defined in FAA Handbook 7610.4d(para 739b), aircrews will obtain ECM clearance from appropriate ARTCC.
6	10	3	Change "EMC" to "ECM."
10	2d	10	Change "G-10 5925-6000 authorized to "G-10 5925-6000 restricted."
11	2d	13	Change "K-426000-27535" to "K-4 26000-27525."

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17 August 1983

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1. Page Insert Changes. New or revised material is indicated by a *.

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Page	Paragraph	Line	Action
2	3m	2	Change "specxific" to "specific."
3	6	3	Change "creat" to create."
4	7d(3)	40	Change "MORAD' to "NORAD."
6	10d	12	Change "for 6 months" to "as specified by appropriate service directives governing control logs."

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