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MILITARY TRAINING

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The United States Military is the main source of radio traffic in the 225 to 400 Mhz. range. The aircraft, when operating at high altitudes, can be heard for hundreds of miles.

The Boeing E-3A Airborne Warning and Control System (AWACS) aircraft (based on a KC-135/707) is identifiable by the distinctive top mounted airdome that encloses its RF electronic hardware. The AWACS aircraft has the ability to radar track a multitude of airborne targets and display the data locally (at aircraft-located operator consoles) or remotely via digital RF links with ground based facilities. This capability lends itself readily to utilization in training exercises where the AWACS aircraft are used as the controller to an airborne simulated attack and defense posture network. As a result, the aircraft are used extensively during training exercises in southern Alabama and the Gulf of Mexico.

The AWACS will direct one group of fighters, designated as the defenders, against a simulated hostile force of fighters, known as the aggressors. The AWACS controller is in constant communication with the defender force informing them of the range, bearing and formation of the aggressor force during the exercise.

The AWACS role in an active setting is similar to that of the training exercise. The AWACS data, in conjunction with ground based IFF (Identify Friend or Foe) radar, would permit the detection, identification and tracking of all aircraft approaching or entering into the airspace being monitored. A commander, based upon his evaluation of aircraft not identified by IFF or from prefiled flight plans, can direct a defender fighter force to intercept unidentified aircraft for visual identification and defensive actions if required.

The training exercises are quite interesting to monitor and have been confirmed on the following frequencies (note all frequencies are in Mhz. AM mode unless otherwise noted):

225.800, 226.000, 235.200, 239.400, 261.200, 284.800, 308.000, 313.000, 313.600, 371.000, 398.200

Kc-135s are widely deployed aerial refueling aircraft or simply

stated-tankers. The KC-135s are based on Boeing 707 type commercial aircraft. Another commonly deployed tanker is the KC-10 which is based on the McDonnel-Douglas DC-10. The tankers provide the fuel- station-in-the-sky for fighter and communications between tankers and fueling aircraft are quite imperative if the job is to be done without incident. The boom operator (a boom is used to connect the tanker with refueling aircraft and provide the path for the fuel transfer) needs to communicate with the pilot of the tanker as well as the aircraft being fueled. Table one presents the frequencies utilized during aerial refueling communications.

Table One Aerial Refueling Frequencies

267.900	Pine Hill MOA (Military Operating Area)--Alabama
280.100	"
349.200	"
354.400	"
373.100	"
359.200	Gulf of Mexico
373.200	"
373.300	"
238.900	Mississippi
289.700	"
235.100	Birmingham (AL) Primary
366.300	" Secondary
139.870	" VHF Primary
260.200	Mobile (AL) to Alexandria (LA) AR tract 302
143.800	Tanker-to-tanker, Air National Guard-Knoxville, TN

Aircraft from two wings and three groups--the 33rd TFW (Tactical Fighter Wing) at Eglin AFB (FL); the 159th TFG (Tactical Fighter Group) at New Orleans Naval Air Station; the 187th TFG at Dannelley Field, Montgomer ANG (AL) and the 186th TRG at Key Field, Meridian ANG (MS)-- are on the air on a daily basis.

Aircraft operating from a base or in route to a base will often utilize a Command Post channel. The Command Post (CP) channel is used by aircraft to report crew and fuel status and requests for maintenance or V.I.P. treatment when a dignitary or high ranking officer is aboard. Aircraft will also report emergencies over the CP channel informing of the nature of the emergency and special circumstances, if any, concerning the aircraft or crew. The CP fequencies and primary aircraft operating from the given location are listed as follows:

267.800	159th TFG; F-15s
286.500	187th TFG "Bama Control"; F-4Ds
287.300	117th TRW; RF-4Cs

290.900 33rd TFW "Mission Control"; F-15s
292.300 186th TRG; RF-4Cs

The CP channels are usually referred to as channel one and the remaining nineteen channels of the twenty channel UHF radios are used for approach/departure, FAA centers and operational channels. Table two lists the channel and frequency designators for the 187th TFG at Dannelly Field, Montgomery, AL.

Table Two 187th TFG

CH.		
1	286.500	CP--Bama Control
2	270.300	Clearance Delivery
3	348.600	Ground Control
4	257.600	Tower
5	319.900	Approach/Departure South
6	369.200	" " North
7	291.000	Approach
8	351.900	Atlanta Center
9	262.300	Elgin Mission Control
10	291.800	C-62 RCO Shoulder
11	347.300	C-52 Darken
12	291.600	Houston Center
13	297.100	Shelby Bombing Range (MS)
14	276.100	Sentry Standard Aerial Refueling Primary
15	287.400	Have Quick (refer to text)
16	297.600	Have Quick
17	314.300	Have Qucik
18	359.100	Have Quick
19	376.000	Have Quick

Have Quicks, also referred to as Active Nets or active Manuals, are a scrambled form of communications via a frequency hopping scheme. The voice text is transmitted over a series of the listed Have Quick frequencies several times a second. The Have Quick frequencies listed are used by the 33rd TFW, 186th TRG and 187th TFG.

The aircraft from the above-mentioned bases operate and patrol in resticted airspace on a routine basis. Warning areas are protective air space that are monitored and patrolled by the U.S. Four warning areas cover the northern half of the Gulf of Mexico, off the coasts of Louisiana, Mississippi, Alabama and Florida and are designated as W-543, W-155, W-151 and W-470 respectively. These four areas cover over 44,000 square miles of the Gulf of Mexico. The frequencies utilized by aircraft operating in the warning areas are as follows:

W-453 228.800, 251.000, and 277.400
W-151 261.100, 286.200, 327.700, 337.700, 344.500 and 351.400
W-470 261.000, 271.200, 287.500, 301.700, 311.200, and 351.300

The 33rd TFW at Eglin AFB utilizes many discrete frequencies-- frequencies that are not assigned or issued by any ARTCC (centers). The discrete frequencies, along with the Have Quick frequencies, comprise the frequencies used during training and operational missions. The discrete frequencies are as follows:

232.150, 234.100, 237.400, 239.400, 252.525, 279.700, 292.200, 294.500, 299.500, 308.000, 314.200, 315.200, 323.200, 325.500, 333.550, 349.500, 351.050, 354.200, 357.300, and 399.750

Table three presents the 33rd TFW frequencies and usages at Eglin AFB. Table four lists frequencies used in MOAs in southern U.S.

Table Three Eglin AFB UHF AC Operations

280.500	Emergency Nomad 6
290.900	Mission Control
291.900	Hurlburt Field
322.600	Approach/Departure
335.800	Ground Control
348.100	Tower
358.300	Approach/Departure
381.300	Raymond 11-TAC Net
388.900	Clearance
398.200	Radar Control

Table Four MOAs in southern U.S.

Birmingham 1 and 2 MOAs	252.900 and 352.800
Bull Dog MOA	352.400
Camden Ridge MOA	267.900, 280.100, 339.100
Pine Hill MOA	267.900, 280.100, 339.100
Rose Hill MOA	288.300
Snow Bird MOA	288.800, 297.800, 315.100