CIVIL AIR PATROL
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Communications–Electronics

COMMUNICATIONS

This Communications Plan augments Civil Air Patrol Regulation 100-1 (28 August 2009, including change 1, 24 March 2010; change 2, 22 April 2010 and change 3, 22 July 2010) details communications policies and procedures that are specific to Oregon Wing. This plan also presents Oregon Wing's Emergency Communications Plan, Operations and Training Communications Plan and Repeater Plan. In addition, this plan presents the Oregon Wing Frequency Allocation Plan and the functions and procedures for incident communications units. Suggestions for modifications and improvements to this plan will be forwarded through the chain of command to HQ ORWG/DC.

NOTE: This entire document is UNCLASSIFIED, however all steps will be taken to prevent the disclosure of this document to unauthorized persons. Electronic versions of this document shall not be posted on any network which may be accessed by other than CAP members.

TABLES

ATTACHMENTS

Chapter 1

GENERAL

1-1. Overview.

This plan augments and amplifies CAP Regulation (CAPR) 100-1, Volume 1. In order to comply with this requirement, Oregon Wing has established policies regarding communications and the allocation of communications resources. This communications plan, in addition to setting forth those policies, provides guidance to implement them.

CAPR 100-1, Chapter 2 requires that each wing establish three communications plans:

(1) an emergency communications plan;

(2) an operations and training plan; and

(3) a repeater plan.

1-2. Factors That Impact On Communications and Emergency Services.

For purposes of this communications plan, the land surface of the State of Oregon is divided into two generalized regions: the urban area, having a flatter, less varied geographic terrain pattern, and the rural area that consists of extremes in land terrain variation. Most of the population of Oregon is found concentrated in urban areas, especially the following urban areas:

(1) the Willamette Valley;

(2) the lower Columbia Valley;

(3) the Bend/Redmond region east of the Cascade Range;

(4) the south central Klamath Falls region;

(5) the cities of Grants Pass, Medford and Ashland along the Interstate Highway 5 corridor; and

(6) in cities along the Pacific Coastline.

Most large aircraft and non-aviation disasters which have occurred, and may occur, in the state will most likely take place in and negatively impact the urban areas. The disaster may also impact on the ability to provide emergency services when the disaster impairs access to resources or destroys the resources. Such impaired access or damaged resources may be so extensive as to make any meaningful support impossible. A downed, small aircraft, for obvious reasons, is also more likely to be observed and quickly found in an urban area than in a rural area. The less populated central and eastern areas of the state, as well as portions of southern Oregon, are more likely to be locations requiring more intensive and extensive search operations. Searches for downed aircraft in a rural area require intensive implementation and coordination of communications systems, equipment, and personnel.

It is natural and inevitable that most of CAP's facilities, equipment, and personnel will be located in the urban areas. In consequence of this concentration, the quick provision of effective emergency services in support of locating and assisting small, downed aircraft becomes a matter of paramount importance.

Recent developments in homeland security also impose changes on the evolving communications support programs. These conditions require a vigilant, on-going assessment program maintained by Oregon Wing to ensure a flexible but firm, policy of effective communications response that can reach the entire state.

1-3. Definitions and Usage Of Terms.

a. Most technical words used in this communications plan are defined or described in other CAP regulations, especially CAPR 100-1.

b. Throughout this plan, unless the context requires otherwise, references to a Net Control Station (NCS) include an Alternate Net Control Station (ANCS) acting in place of the NCS.

1-4. General Requirements.

In order to properly and efficiently conduct radio communications, Wing personnel should have an understanding of the various channels, modes, and the purposes for which such channels and modes are used. To this end, Communications User Training is available to all CAP members in both Basic Communications User Training (BCUT) and Advanced Communications User Training (ACUT) courses. Units not able to support this training should request training by contacting the Wing Director of Communications.

Senior members must complete Level One and OPSEC (Operations Security Awareness Training) prior to BCUT or ACUT certification. Cadet members must complete the Curry Award along with OPSEC prior to BCUT or ACUT certification.

1-5. BCUT/ACUT Reporting Procedures

Communications officers and those involved in BCUT or ACUT training should follow the following procedure in reporting communications-related training activities.

A CAPF11 form listing the students' names should be sent to ORWG headquarters as an attachment to an email stating that the form should be forwarded to the communications inbox. A CAPF11 using electronic signatures is the best way to report these courses. As an option, the CAPF11 may also be mailed or faxed to HQ/ORWG using normal signatures. Do not scan this form as an attachment; a .pdf or .doc format should be utilized.

For ACUT courses the new ACUT test must be taken by all participants using the CAPF23 answer sheet. The top of the CAPF 23 answer sheet must be submitted to wing along with a copy of the CAPF11. Passing score is 80% with a 100% correctable score. The CAPT119 ROA test is no longer used. The CAPF23 may be scanned for the purpose of attachment to an email or, again, they may simply be mailed or faxed along with a CAPF11. 4. The course director's signature on the CAPF11 form is the final authority; the wing commander's signature is not required.

Any and all reports along with station applications should be forwarded to ORWG headquarters, attention DC; do not forward this correspondence to my personal email address.

Unit commanders should update the student's eServices entries for these classes which, can be found as ES specific achievements. ORWG does not automatically issue ROAs and station licenses solely on the basis of the completion of these courses.

1-6. Call Sign Assignment.

Assignment of station call signs will adhere to the following rules"

a. Wing staff member stations in the range of 001 – 099 with the following call signs reserved:
   (1) Wing commander - Beaver Fox 1
   (2) Deputy Commander - Beaver Fox 2
   (3) Chief of Staff - Beaver Fox 3
   (4) Director of Communications - Beaver Fox 4
   (5) Wing Chaplain -Beaver Fox 5

b. Member stations in the range of 100-999

c. Unit stations in the range of 1001–1999 comprised of the last three digits of the station charter number added to 1000. Wing HQ station would be Beaver Fox 1001 (charter 36001)

d. MASR stations in the range of 7001-7099

e. Local government stations in the range of 8000-8900

Members issued call signs in the wing staff group will be reassigned a member station group call sign upon termination of their wing staff assignments. Waivers to this assignment policy will be reviewed by the ORWG DC on a case by case basis. All call signs will be spoken as individual digits (i.e. 1001 would be "one zero zero one", etc.

Each ALE station has a unique call sign that is used by the radio software to identify the specific radio to the others in the ALE nets. The format for these call signs are:

- Call sign format has 9 characters
- First characters will be the numeric of the station call sign (BF004 would be 0004, BF9101 would be 9101)
- Second group is 2 or 3 characters of the Wing or Region
- The last 3 characters will be "CAP"

Examples: 9101ORCAP or 0004ORCAP

The ORWG Station Authorization Request Form (Attachment 5) will be used to request assignment of an ORWG call sign.

ORWG will be considering for each station license request, whether the individual actually has radio equipment. There is no reason to have a station license unless the member has CAP issued radio equipment or is furnishing their own (member furnished) compatible equipment.

1-7. Station License Usage

Table 1 provides guidance in the usage of station call signs from various types of CAP radio stations.

Table 1 - Station Usage Guidelines

	Operator has Station License	Operator does not have Station License
Member operating own radio equipment	Use operator's station license	Not Authorized
Member operating unit radio equipment	Use unit call sign May use operator's call sign but not recommended	Use unit call sign
Member operating CAP vehicle radio equipment	Use CAP vehicle call sign May use operator's call sign but not recommended	Use CAP vehicle call sign
Member operating another member's radio equipment. Equipment owner has a station license.	Use call sign of equipment owner May use operator's call sign but not recommended	Use call sign of equipment owner
Member operating another member's radio equipment. Equipment owner does not have a station license.	Use operator's station license	Not Authorized
Member operating another member's radio equipment. Neither operator nor owner has a station license.	Not Authorized	Not Authorized

1-8. Communications Equipment Management

a. *Safeguarding of Communications Equipment..* Unit commanders are responsible to insure that communications equipment assigned to their unit is properly safeguarded. To the extent practical, communications equipment should be stored in located rooms and/or cabinets with very limited distribution of keys or access information. Communications rooms and facilities should be kept locked when not occupied by authorized personnel. No equipment should be loaned out without either issuing it to the borrowing individual using the ORMS system or creating a CAPF37 hand receipt for the item. Commanders and their Communications Officers are to periodically check that all communication equipment assigned to their unit is accounted for and not wait for the annual physical inventory to check for all equipment.

b. Terminating members. Unit commanders are responsible to insure that communications equipment assigned to their unit and issued to unit members is recovered when a member terminates his/her

membership with CAP. ORMS provides a report of members whose membership is going to expire within a month. This report is shown when the commander (or unit communications officer) starts the ORMS application from eServices. Unit commanders are to be aware of the membership status of their members and monitor those members to protect CAP equipment issued to unit members.

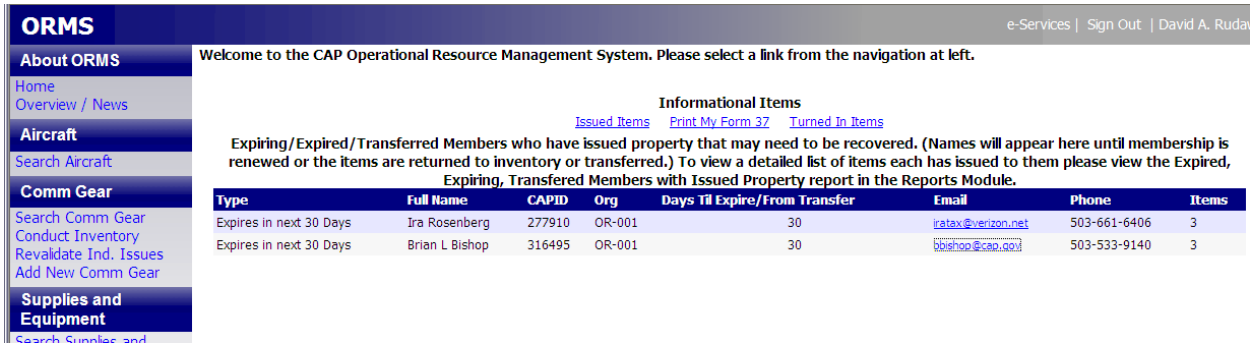


Figure 1 - ORMS screen shot showing membership expiring reports

c. *Transferring members* - When a CAP member transfers to another unit, the gaining and losing unit commanders, in consultation with the Wing DC, shall determine if the communications equipment assigned to the transferring member is to transfer to the new unit (and remain in the custody of the transferring member) or be retained by the member. In either case, the equipment is to be un-issued from the transferring member by the losing unit. If the equipment is to be retained by the losing unit, no further action is required with the exception of updating the location field in ORMS for each item or issuing items to other unit members. If the equipment is going to transfer, the Wing DC will transfer the equipment to the gaining unit in ORMS. The gaining unit will then issue the equipment back to the transferring member using ORMS.

d. *Lost, Missing or non-repairable communications equipment* - When a item of communications equipment is lost, missing or damaged to the point that it is unusable and non-repairable, it must be reported as such in ORMS. ORMS will automatically start the "Report of Survey" process. Before an item is identified in ORMS as lost, missing or damaged to the point that it is unusable and non-repairable, the unit commander or unit communications officer will contact the Wing DC by email and provide the particulars of the situation. Only after the Wing DC concurs, may the unit update ORMS to reflect this status for the item. In addition, the unit will be required to complete the ROS checklist form with as much information as possible. This is because the unit has the information and should run it all down and prepare it in the form. The ROS form and the supporting documents will be uploaded by the unit into the master record for the missing item.

e. *Units returning communications equipment to Wing* – When a unit returns communications equipment back to Wing, all cables, connectors and accessories associated with the equipment must be included. This is particularly critical for Johnson mobile radios as they have a very specific power cables and both sides (radio and power source) are needed. Units that do not return the vehicle side of the power cable will be asked to pay for the missing item.

f. *Installation of communications equipment in Corporate vehicles* – Units are not authorized to install any other radio equipment in a CAP Corporate vehicle without prior approval by the Wing DC.

g. *Modifications to radio equipment installed in Corporate vehicles* - Before attempting to make any modifications to the radio equipment installed in a CAP Corporate vehicle, units are to contact the Wing DC who will review the units requirements and advise the unit how to accomplish meeting their requirements.

h. *Issuing communications equipment to members* - Equipment in the possession of members for other than a short temporary period, must be issued to the member in ORMS and not just have the location of the item shown in ORMS as being with the member. Short term loans should be documented using the

new CAPF 37, a blank of which can be printed out from ORMS using the forms option. A scan of the signed CAPF 37 documenting that the member has assumed responsibility for the equipment is to be uploaded as an attached document to the master record for the item. Showing the location of an item with a member and not issuing that item to the member, does not transfer responsibility to the member for that equipment. The unit commander and communications officer are still responsible for the equipment and may be held financially accountable should the item be lost or damaged.

Chapter 2

TYPES OF COMMUNICATIONS

2-1. Long-Range Communications Requirements.

i. *Table of long-range frequencies and modes*. The following table sets forth the long-range frequencies and modes in use by Oregon Wing:

Table 2 - Long-range frequencies and modes

Primary	Secondary
PA	PB

j. Conditions of usage and background information

(1) Incident Communications Unit Leaders (CUL) are authorized to use AD or AB if there is a level of noise or other interference that threatens effective communications on their incident.

(2) Radio propagation and geographic requirements favor the AD. AB range based upon the most commonly encountered conditions.

k. *ALE usage*. ORWG has been assigned a number of Micom 3 ALE (Automatic Link Establishment) radios programmed with the standard CAP HF frequencies and a set of ALE frequencies identified as a Command Net. This net can only be used for testing at this time. A PCR net frequency set will be distributed at a later date.

l. *NET control*. Incident communications units, Net Control Stations, and other Wing HF stations may participate in long-range communications. When an incident (actual or practice) is in progress, the incident command post (ICP) radio station functions as the Net Control Station. The other stations shall assist the mission base as needed.

m. *Ground-based mobile relays*. Communications personnel may establish a long-range, ground-based mobile relay between the ICP and a remote search site if a mission is conducted in a rural (remote) location. Personnel may use either air or ground resources to establish the relay and the equipment may include: communications vehicle mounted HF equipment, VHF equipment, and other equipment using specialized frequencies as needed.

2-2. Short-Range Communications Requirements.

a. *Purpose*. While an incident is being conducted, it is critical that communications personnel be able to effectively communicate between the ICP base, moving vehicles, and within UDF and ground teams.

b. *Table of short-range frequencies and modes*. The following table sets forth the short-range frequencies and modes to be used by Oregon Wing in VHF communications.

Table 3 - Short-range frequencies and modes

Usage	Mode/Frequency
Intra UDF or Ground Team	ISR
Within ICP	ISR
Flight line personnel	ISR
Flight line personnel to aircraft	TAC 1 (primary) AIR1 (secondary)
Field team to ICP or relay	TAC 1 (primary) VHF Repeater
Moving vehicles	TAC 1 (primary) VHF Repeater

a. *Antennas*. Communications personnel shall be able to erect a vertically-oriented, preferably collinear antenna, approximately twenty feet from the ground to the base of the antenna using equipment that can be carried by them to the site. The antenna may be part of the system used to support an HF dipole.

b. *Corporate vehicles*. All corporate vehicles shall be able to operate as a short-range relay station and conduct communications in voice mode. In order to meet this requirement, all corporate vehicles shall be equipped with high-power VHF radios and may use a ½-wave wide band, vehicle-mounted antenna.

c. *Portable and airborne repeaters*. In many areas in Oregon, no repeater system can be effective enough to cover all geographical areas. For an example, a mountain may shadow and thereby block effective communications. ORWG has three tactical repeaters that can be used as ground based or airborne repeaters. These repeaters can be deployed to provide VHF repeater coverage for areas not covered by the fixed repeater system. The tactical repeaters have 12 channels as provided by the National Standardized Frequency Plan. The channels are in two duplicate sets, one set with a 10 watt output for airborne use and one with 25 watts for ground based use. The repeaters can run on 12 VDC or 110 VAC. Attachment 6 provides details on the use of these repeaters. In order to provide continuous coverage for an airborne repeater, at least two, and preferably three aircraft should be assigned. The replacement aircraft should move on station before the aircraft it is replacing can be released in order to provide continuous coverage.

d. *Hand-held radios*. Ground teams will generally use hand-held radios only while dismounted. Hand-held radios are low powered, limited-range radios when used in ground-to-ground communications. Therefore, ground team vehicles shall be equipped with high-powered VHF radios with repeater capability for use in relaying messages to mission base or to other relay stations. When a ground team is dismounted, hand-held radios shall be continuously monitored unless another method of communicating through a repeater or relay team is available. A hand-held radio may be more effectively used from a vehicle if it is connected to an exterior antenna.

e. *ISR radios*. Ground team and UDF team members will each be equipped with an ISR radio for intra-team communications. ISR radios can be used between moving vehicles that are in close proximity. When more than one ground or UDF team are working in close proximity, each team should use separate frequency/tone assignments to avoid interference.

f. *Flight line*. Flight line personnel are to use ISR radios for intra-personal communications. VHF channel TAC1 should be used for flight line purposes to communicate to CAP aircraft on the ground.

g. *Airborne relay stations*. Airborne relay stations, (call sign HIGHBIRD) are recommended for use for incident communications as needed to overcome limitations of the ORWG repeater system coverage or the inability to establish a suitable ground based relay station. HIGHBIRD stations can provide radio relay for CAP aircraft, CAP ground resources and incident resources from other agencies. In order to provide continuous coverage for an airborne relay station, at least two, and preferably three aircraft should be assigned. The replacement aircraft should move on station before the aircraft it is replacing can be released in order to provide continuous coverage.

2-3. Air-To-Ground Communications Requirements.

Air-to-ground communications shall be conducted as follows:

a. *Typical incident*. One typical ORWG incidents, TAC1 or a suitable repeater will be used for air to ground communications. Simplex operations (TAC1 preferred) should be used whenever possible to avoid interference with communications in other areas and other wings.

b. *Large incidents*. On larger incidents, the CUL should consider moving all aircraft to AIR1 for air to ground communications to avoid communications interference with other incident assets that may be using TAC1 and/or repeaters.

c. *Aircraft AM frequencies*. Communications with non-corporate aircraft used in a search are restricted to 123.1 MHz (for actual incidents) and 122.9 MHz (for training). CAP aircraft are no longer authorized by the FAA to use aviation AM frequencies for air to ground communications with CAP stations. CAP ground stations may use 123.1 MHz to communicate with non-CAP aircraft participating only on actual incidents.

CAP no longer holds any CAP-specific authorizations for VHF-AM channels, so CAP's ability to use these frequencies is strictly limited by what the NTIA and FAA regulations allow. Aircraft can use a number of frequencies based on what is in 47CFR300 para 7.6 (the NTIA Redbook) which states: "aircraft stations of any Government agency may use any frequency in the bands 117.975-123.0875, 123.5875- 128.8125, and 132.0125-137.000 MHz for air traffic control, ground control, aeronautical advisory, aeronautical multicom, and flight service communication, as appropriate, only with aeronautical stations regularly serving the routes or areas to which those frequencies are authorized specifically." Note that this does NOT authorize communications by ground stations, nor does it authorize communications by CAP aircraft with CAP ground stations unless they are authorized as "aeronautical stations", which CAP is not authorized to have.

It is common practice for pilots to communicate with Unicom, fuel service, FSS, etc. using their VHF-AM handhelds while on the ground. This is being done under the authorization granted to the aircraft they are associated with, but CAP bases, vehicles, ground teams, etc. no such authority or authorization exists.

CAP does have authority under the Redbook para 7.5.4 2. to use 123.1 MHz by "stations of the aeronautical mobile service and by other mobile and land stations engaged in coordinated search and rescue operations" for "Coordinating Search and Rescue Operations" IAW the ITU Regulations governing their use (which limits the use of 123.1 to actual SAR). Note that this authorization does NOT include base stations and does NOT include training activities.

2-4. State SAR Frequencies And Their Requirements.

ORWG is authorized to use the Oregon SAR frequency 155.8050 MHz (wide band) VHF to communicate with non-CAP SAR units and to provide HIGHBIRD communications support as requested. All ORWG mobile, aircraft and hand-held radios are programmed for this frequency.

A revised State SAR frequency plan has been adopted by the Oregon Search and Rescue Policy Commission and submitted to the Oregon State Sheriff's Association (OSSA) for their adoption. This is expected in early 2012. This is the new plan that includes new narrow band channels. Effective 1 January 2013, the wide band channels may no longer be used. Oregon Wing VHF radios will be reprogrammed to include these channels during 2012 and then again in 2013 to remove the wide band channels.

Table 4 - Oregon State SAR Channel Plan

Frequency (MHz)	Designator	FCC Call Sign	CTCSS Hz (Xmit)	Remarks
155.805 (W)	ORSAR WFM	WQNV648	none	Wide band Oregon State SAR channel (through 12/31/12)
155.7975 (N)	ORSAR BRN	WQNV648	156.7	Training – Mission overflow
155.8050 (N)	ORSAR ORG	WPVS740	156.7	Narrow Band Oregon State SAR Primary Channel
155.8125 (N)	ORSAR GRN	WQNV648	156.7	Mission overflow
155.1525 (N)	ORSAR PRP	WQNV648	156.7	Training – Mission overflow
155.1600 (N)	NASAR NFM	WQNV648	none	National SAR channel and Washington State SAR channel
155.1675 (N)	ORSAR YLW	WQNV648	156.7	Mission overflow
123.1	AIR SARCOM			For aviation use

N - Narrow Band W - Wide Band

2-5. Oregon State Interoperability Channels.

Oregon State has established the Oregon Wireless Interoperability Network. This program has adopted the nation-wide VHF interoperability channels (see Table 5) below and recommends that all public safety and emergency services VHF radios be programmed for these channels. ORWG radios have these frequencies included IAW with this direction.

Table 5 - Oregon Interoperability Channels

Designator	Frequency and NIFOG Designator
VCALL	VCALL - 155.7525 MHz Narrow Band
VTAC 1	VTAC 11 - 151.1375 MHz Narrow Band
VTAC 2	VTAC 12 - 154.4525 MHz Narrow Band
VTAC 3	VTAC 13 - 158.7375 MHz Narrow Band
VTAC 4	VTAC 14 - 159.4725 MHz Narrow Band

2-6. Administrative Communications.

A major training opportunity for CAP personnel in radio operation procedure is participation in the administrative nets, where personnel may practice radio transmissions and learn proper voice transmission speed.

a. *Duties of Net Control Stations*. The Net Control Station (NCS) and Alternate Net Control Stations (ANCS) have the following duties:

(1) Ensure that radio communication is available on both HF and VHF.

(2) Facilitate the transfer of radio traffic between the HF and VHF nets;

(3) Maintain a paper or electronic copies of all general radio traffic; and

(4) Ensure that radio traffic reaches as many stations as possible, even when this means repeating the message on more than one night.

b. *Authority of NCS and monitor stations*. NCS has the following responsibilities:

(1) Control the movement of both mission and administrative radio traffic;

(2) Train communicators;

(3) Control the frequencies to carry out these responsibilities; and

(4) Represent the disciplinary authority when necessary, and, in that capacity, to report directly to the Director of Communications.

Chapter 3

INCIDENT COMMUNICATIONS UNITS

3-1. Incident Communications Unit.

The Communications Unit is responsible for developing plans for the use of incident communications equipment and facilities; installing and testing of communications equipment; supervision of the Incident Communications Center; and the distribution and maintenance of communications equipment.

An incident communications unit includes the personnel and equipment which is responsible to establish and provide incident communications at an incident command post (ICP), base or staging area. Incident communications units are led by a Communications Unit Leader (COML) who, in turn, reports to the Service Director who is part of the Logistics Section. Incidents may have one or more communications units as needed to support the communications needs of the incident. Note that the term "communications unit" as used in this communication plan, is used in context of the incident command system and not as a chartered unit of CAP.

3-2. Functions of a Communications Unit.

Each communications unit shall be able to:

(1) Provide all communications for a small, local incident;

(2) Serve as the nucleus for a mission base on a large mission or training exercise;

(3) Establish and operate a ground based radio relay site for VHF frequencies;

(4) Establish and monitor an ISR net(s) to interconnect IMT leadership;

(5) Use the IMU to record all messages and status information;

(6) Coordinate with other communications units to reinforce one another should a long-duration mission require additional equipment and/or personnel; and

(7) Provide radio relay using long-range HF and/or short-range VHF as required to communicate with incident resources.

3-3. Locations of Communications Units.

Communications units are typically assembled on an incident by incident basis. In some case, ORWG units may establish communications units comprised of members of their unit.

3-4. Communications Unit Leader (COML) Responsibilities.

(1) Advise on communications capabilities/limitations.

(2) Prepare and implement the Incident Radio Communications Plan (ICS Form 205).

(3) Establish and supervise the Incident Communications Center and Message Center.

(4) Establish telephone, computer links, and public address systems.

(5) Insure that radios in the Incident Communications Center are continuously monitored;

(6) Establish communications equipment distribution and maintenance locations.

(7) Oversee the installation and testing all communications equipment.

(8) Oversee distribution, maintenance and recovery of communications equipment, e.g., portable radios and FAX machines.

(9) Develop and activate an equipment accountability system.

(10) Provide technical advice on:

- Adequacy of communications system
- Geographical limitations
- Equipment capabilities
- Amount and types of equipment available

3-5. Incident Management Utility (IMU)sage.

ORWG uses the Incident Management Utility (IMU) software for incident management of all incidents regardless of size or location. The IMU communications functions are critical to the collection of incident asset status and position information. The incident management team (IMT) depends on the timely entry of data through the CAPF 110 feature of the IMU.

The IMU provides comprehensive support for communications which includes;

(1) message logging (CAPF 110);

(2) Incident Communications Plan (ICS 205); and

(3) unit logging (ICS 214)

Communications unit personnel will use the IMU for all communications functions. All data should be entered within one minute of its receipt. Paper logs may be used to facilitate data collection and entry support, however, data must be entered without undue delay. Paper logs are not a substitute for entering the data into the IMU. Field deployed radio relay operators may keep paper logs to assist in passing radio messages between field assets and the ICP. The IMU logs are the official communications logs for the incident.

The COML will use the unit logging feature of the IMU to record his/her unit log documentation his/her actions and activities of the communications unit. This log should include problems and their solutions; records of equipment failures and repairs; staff changes in the unit; unusual events, etc. The basic rule is if you have to think about whether or not to log something, then it should be logged.

3-6. Message Delivery.

Most of the radio traffic handled by the communications unit will be tactical in nature. Routine status reporting by air and ground sorties will be recorded using the IMU and generally will not require “delivery” to the air or ground branch respectively. These status reports will be reflected on the IMU status board which should be monitored by the CUL to insure that all messages have been properly entered into the IMU.

Tactical messages that require *immediate* delivery to the appropriate air or ground branch director or group supervisor include:

(1) Notification of a find of the target;

(2) ELT signal first heard;

(3) Accident or injury report;

(4) Request to return to base or change sortie instructions

(5) Unusual occurrence report

Sometimes a branch director or group supervisor may request notification of routine status messages. When an ISR net of the IMT has been established on the incident, it should be used to relay tactical messages. Written delivery of tactical messages is not required nor desired.

3-7. ICS Tactical Call Signs.

The COML will establish ICS compliant tactical call signs as needed for the incident. The call sign of the ICP shall be the local name or incident name and “Communications.” For example: “Medford Communications,” “Biscuit Communications” or “Aurora Communications.” Use of “Search Base” or “Mission Base” is not authorized

3-8 Communications Equipment

The following radio equipment is recommended for an incident communications unit:

Table 6 - Communications Unit Recommended Equipment List

Quantity	Item
1	HF radio with power supply and antennas
3	VHF FM radio with power supply and antennas
1	Auxiliary receiver for monitoring extra frequencies
1	Generator capable of supporting the radios and lighting for the radio room
1	Ground rod
3	Base mast with antennas
1	12 or 24-hour clock set to Zulu time
100 feet	110-volt 14/3 wire extension cord
1	Work light to use as an extra extension cord or lighting for the radio room, with spare bulb
As needed	Precut and prepared coax with connectors
As needed	RF adapters (N to PL-359, BNC to UHF, etc.)

3-9. Equipment Maintenance.

The Wing is not responsible for the cost of any repairs to or maintenance of member-furnished equipment. Field repair of CAP communications equipment should be avoided unless the repair is required to maintain emergency communications. .

3-10. Equipment Siting.

To ensure that communications equipment is able to be used adequately and safely at an incident, the following factors must be taken into account:

a. *Antennas*.

(1) All antennas should be so located that antenna radiation patterns are not unduly the blocked by metal buildings, fences and other structures;

(2) The COML is responsible for placement of antennas taking into consideration the advantages of the natural directionality of the antennas

b. *Power sources*. A local 110-volt power source should be available within the distance capabilities of the extension cords to avoid voltage drop.

c. *Fire and noise considerations*. A field generator shall be placed so as to avoid the possibility of fires. Considerations of this safety issue include: whether the area is free of dry grass and other combustible materials and yet as far away from incident facilities as possible for noise control purposes.

3-11. Telephone and Cellular Phone Usage.

Land line and cellular telephones are routinely used for incident communications due to their reliability, coverage and pervasiveness. Incident communications personnel will use telephones, as appropriate, to meet incident communications requirements. The communications unit will typically be required to answer the primary incident telephone(s) and then route the call to the appropriate IMT member. The IMT ISR radio net can be used to contact the IMT member that should pick up the phone call.

Instances do arise in which the use of cellular telephones is beneficial on a CAP mission however some guidelines should be observed. First, the use of cellular phones is illegal in airborne aircraft. This is not a CAP rule but that of the FCC and FAA. For ground use, cellular phones can provide a useful adjunct to other CAP communications systems however they are likely to be unavailable in times of disaster. For this reason CAP personnel may be able to make use of them for many SAR missions but should not plan on their availability for disaster response scenarios. Where they are used for support of an AF mission, the air time expense, if any, can be claimed as a communications expense for the mission in the normal manner.

3-12. ISR IMT Net.

The COML will establish a net local to the ICP to interconnect the IMT leadership staff. Each staff position is to be issued an ISR radio and will use their ICS position title as their tactical call sign. The communications unit will monitor this net at all times and use it to contact IMT staff and pass tactical messages.

3-13. Channels.

The Communications Unit Leader may use the following channels:

Table 7 - Incident Frequencies

Long-range	Medium Range	Short-range	Interagency
• PA primary • PB SSB secondary (This is also NEF) • AD • AB for use if primary and secondary are unusable	• Area repeater (various by location) • TAC1 Simplex, ground-to-ground • CC1 simplex Special purpose and local use (no air-to-ground) • AIR1 Simplex air-to-ground and air-to-air	• TAC1 simplex local use and air-to-ground • AIR1 Simplex air-to-ground and air-to-air • ISR radios (per plan)	• State: SAR 155.805 MHz FM for coordination with state and local agencies • National: 155.160 MHz FM for coordination with some local agencies • VCALL and VTAC channels for coordination with Federal, state and local agencies

Chapter 4

EMERGENCY COMMUNICATIONS PLAN

4-1. Purpose.

The emergency communications plan establishes the standards and requirements for a communications network which adequately supports and is immediately available to the Wing commander during an emergency. The plan allows for the capability to expand to include special mission base stations as needed. This chapter constitutes fulfillment of the requirement for a Wing emergency communications plan, as described in CAP Regulation (CAPR) 100-1, Volume 1, Chapter 2.

4-2. Scope.

The emergency communications plan establishes a system for control of all radio communications for units of the Wing during actual or simulated missions.

4-3. Network Organization.

The Director of Communications will select stations as Net Control Stations and Alternate Net Control Stations. These stations will manage the Wing emergency directed net.

4-4. State Of Oregon.

a. *Coordination with the State of Oregon*. In accordance with written agreements between the State of Oregon and the Wing, radio station facilities have been established at the Oregon Emergency Management Emergency Operations Center in Salem Oregon.

b. *State SAR Frequency (155.805 MHz Wide Band, VHF)*. The State of Oregon has developed a SAR coordination communications plan and has designated 155.805 MHz wide band as the State SAR frequency. This frequency is used for tactical SAR communications, direction, control and coordination between the various SAR organizations and agencies in the State of Oregon. ORWG has been authorized to use this frequency as needed when working with other SAR agencies in Oregon.

c. *State VHF Interoperability Frequencies.* Oregon State has established the Oregon Wireless Interoperability Network. This program has adopted the nation-wide VHF interoperability channels (see Table 5) below and recommends that all public safety and emergency services VHF radios be programmed for these channels. ORWG radios have these frequencies included IAW with this direction.

Table 8 - Oregon Interoperability Channels

Designator	Frequency and NIFOG Designator
VCALL	VCALL - 155.7525 MHz Narrow Band
VTAC 1	VTAC 11 - 151.1375 MHz Narrow Band
VTAC 2	VTAC 12 - 154.4525 MHz Narrow Band
VTAC 3	VTAC 13 - 158.7375 MHz Narrow Band
VTAC 4	VTAC 14 - 159.4725 MHz Narrow Band

d. *State SAR call signs*. ICS compliant tactical call signs will be used on the State SAR frequency by CAP stations. Operators will replace “Beaver Fox” with “CAP” with the numerical component of their CAP call sign if they do not have an ICS position specific call sign (such as “Operations,” “Portland Communications” or “Team One”). CAP aircraft will use their assigned CAP call sign (“CAP#”).

4-5. Station Selection and Location.

The Wing emergency directed net stations are selected to function as area NCS and ANCS on the basis of experience, proven proficiency, personnel availability, and geographic separation to assure the greatest capability of

alert notification. Each sector area NCS shall maintain a list of current telephone numbers and channels to be used to alert all units assigned within that sector. In addition, all unit commanders and unit communications officers shall maintain a list of current names and telephone numbers of the local telephone company contact persons responsible for the installation of emergency telephone equipment that is able to support mission needs.

4-6. Activation.

Upon notification that a major emergency, disaster relief or HLS incident has occurred, the Wing Commander, Director of Operations, or Director of Emergency Services shall contact the Wing Director of Communications to activate a Wing emergency directed net.

a. *Emergency Net Operation*.

(1) The emergency net is a directed net and is activated immediately when the notice above is provided to the Director of Communications. When the emergency net is activated, net alert will be thereafter be in effect until the emergency net is deactivated.

(2) Communications alert roster – See the Wing Emergency Services Resource Manual.

(3) Emergency directed net repeater and HF assignments are set forth in the following table:

Table 9 - Net Alert

Net Alert Initially Operates On	After Net Alert Has Been Called	Alternate Channels	NCS-To-NCS Coordination
• PA • PC • Primary Repeater in each area	• Primary frequency • for emergency net • operations — • PA • Primary Repeaters in each areas	• PB • TAC1	• PB • or as needed and available — AB, AD, PC, AE, A1

b. *Frequency utilization*. Upon activation of the Wing emergency directed net, all squadrons and flights involved shall alert mission personnel, monitor the appropriate HF SSB frequencies (PA and PB), copy all instructions and radio traffic, and utilize VHF for inter-unit radio traffic. Until emergency conditions no longer exist, all units shall continuously monitor HF frequencies in use.

c. *Monitoring*. Communications personnel shall make all reasonable effort to monitor all applicable frequencies. All Wing and area NCS shall continuously monitor PA and CAPGUARD insofar as is practical.

d. *Auxiliary power*. To the extent possible, stations should be equipped with emergency auxiliary power facilities, which shall be periodically checked to assure operational readiness when needed.

e. *Additional capabilities*. All NCS stations are encouraged to develop the capabilities available to CAP radio stations for fixed, mobile, and portable operations. All ANCS are encouraged to develop capabilities to operate on CAP HF frequencies and modes.

f. *Backup equipment*. Emergency communications personnel shall have adequate backup equipment available and ready for use.

g. *Circuit status*. Incident COMLs and each Wing and area NCS shall maintain status information (manually or electronically) showing the circuits available at their incident/facility. The status information should include:

(1) Repeaters available and their assignment

(2) HF frequencies available;

(3) current assignment for each station link maintained by the station;

(4) circuit conditions;

(5) call signs; and

(6) telephone numbers

h. *Ground Mobile Stations*. Stations will be alerted to standby status. Ground mobiles equipped with HF SSB capability shall monitor the Wing emergency directed net as soon as possible.

i. *Emergency tests*. Communications personnel shall perform periodic tests on the Wing alert notification system designed to determine response and operational readiness status of the Wing's mission stations. A maximum of 24-hours notice may be given.

Chapter 5

OPERATIONS AND TRAINING COMMUNICATIONS PLAN

5-1. Purpose.

The purpose of the operations and training communications plan is to provide the Wing with an efficient, organized means of operational control for both mission and administrative purposes.

5-2. Scope.

The operations and training communications plan covers the establishment of a comprehensive radio communications system, consisting of fixed, mobile and air mobile radio stations that applies to the use of HF ALE, HF, and VHF FM. The plan also calls for weekly operation in administrative nets to provide administrative functions for the Wing while also serving to train radio operators and test networking.

5-3. Wing Network Organization.

The following radio networks shall be organized and maintained in the Wing as resources and conditions permit:

Table 10 - Wing Network Organization

Wing Nets	Area Nets
Wing NCS All Wing ANCS All Wing staff stations All group stations All squadron stations Other Wing stations	Area NCS All squadron stations Stations from other areas Due to terrain challenges, area nets shall be based upon repeater coverage, rather than unit boundaries.

5-4. Wing Directed Net Organization.

The Wing Net Control Officer will establish directed nets as necessary to support administration, operations and training requirements. Net times, frequencies and other directions will be distributed to all radio stations as required.

5-5. NCS Readiness.

Each NCS and ANCS shall maintain operational readiness on all authorized channels and shall ensure that auxiliary power is available when needed.

5-6. Frequency Management.

Limited frequencies and multiple uses of them require effective management of those frequencies.. Maximum utilization of local radio relay and repeater stations for local communications is encouraged.

5-7. Net Participation.

a. *Wing headquarters*. Except for unforeseen or unusual circumstances, the Wing station shall be on the air on days which are scheduled for Wing staff meetings and at other times when the Wing office is staffed. This allows conference radio traffic between personnel and the appropriate Wing staff personnel.

b. *All stations.* All stations should participate in their appropriate weekly nets.

c. *Failure to meet requirements*. Failure to meet participation requirements could result in license cancellation and, in the event the station has CAP-owned equipment, the recall and reallocation of such equipment.

5-8. Net Operations.

The Wing operations and training net shall be conducted in the following manner:

a. *Net operations and activation*.

(1) The Wing net shall be conducted as a directed net.

(2) The Wing NCS shall activate the net by notice weekly according to the established schedules

(3) A roll call of stations shall be made per a prescribed list prepared and updated by the NCS.

(4) The Wing NCS shall request that each station called provide the nature and destination of any formal, informal, or administrative radio traffic being held for transmission.

(5) The Wing NCS shall send and receive radio traffic according to precedence.

a. Emergency or priority traffic shall be accepted from subordinate stations first.

b. All other radio traffic shall be accepted in roll call order.

c. Upon completion of the formal radio traffic exchanges, the NCS shall then handle informal and administrative radio traffic in roll call order.

(6) NCS shall maintain control of the net until the net is officially secured.

(7) All stations shall monitor the net until the NCS secures the net. Special requests for individual stations to secure and leave the net early shall be considered by the NCS on a case by case basis.

(8) The NCS has absolute control over the net operations at all times.

b. *Net Control Station*s. The Wing Director of Communications shall appoint a Wing Net Control Station (NCS). The Wing NCS shall act as the coordinator for all unit nets to be scheduled.

c. *Alternate Net Control Station*s. The Wing NCS shall appoint Alternate Net Control Stations (ANCS) in consultation with the Director of Communications and periodically publish a schedule of all ANCS and their backups.

d. *Area and Squadron Nets*. Before a proposed area and squadron net may be activated, its proposal must have been first coordinated with the Wing Director of Communications and Wing NCS.

e. *Channels*. The following channels shall be used to conduct the Wing nets:

Table 11 - Communications Operations and Training Nets Frequencies and Schedule

Net	Frequency/ Repeater	Schedule
State HF	PA	1930 local, Thursday
North VHF	R44	1930 local, Thursday
Central VHF	R20	1930 local, Monday, Tuesday, Wednesday and Friday
East VHF	R24	1930 local, Monday
South VHF	R38	1930 local, Wednesday

f. *Training*. Communications training nets have been established to support Wing training requirements. These nets are conducted in accordance with the schedule shown in Table 11. The purpose of these nets is to allow all cadet and senior members the opportunity to transmit and receive radio traffic over the air. All units are encouraged to participate in these training nets so they may expand their qualified operator pool.

g. *Net assignment*. See Attachment 1, “Oregon Wing Net Roll Call”. This format will be used for all HF and VHF nets.

h. *Net schedules.* Table 11 sets forth the frequencies and use times for the Wing Operations and Training nets.

5-9. Auxiliary Power.

All fixed-base stations encouraged to be equipped with an emergency power source in good working order. The Wing NCS is particularly encouraged to have such capability. Periodic tests shall be conducted to ensure operational reliance of the auxiliary power systems.

5-10. Inter-Wing and Inter-Region Radio Traffic.

Radio communications within the Wing between all region and wing NCS during free time periods may be conducted on:

a. PA;

b. PB provided no common primary frequency assignment exists between the region or wing net control stations concerned.

Chapter 6

VHF FM COMMUNICATIONS REPEATER PLAN

6-1. Purpose.

The purpose of this VHF FM communications repeater plan is to provide an organized, effective, and reliable scheme for the development of the VHF repeater network for the Wing in support of all missions of the Wing and all units within the Wing.

6-2. Scope.

This VHF FM communications repeater plan pertains to the establishment and maintenance of all VHF repeaters (including mobile and airborne repeaters) within the Wing. Wing personnel are to use such repeaters on a daily basis for unit operational matters, communications nets, training, and to support such emergency needs as they may arise.

6-3. Responsibility.

The Director of Communications is the final authority in Oregon Wing, for coordination of repeater locations and for the technical, mechanical, and electrical configuration of all VHF repeaters for the Wing. All repeaters and repeater installations must be coordinated and approved by the Director of Communications. No Wing personnel may make any changes, additions, deletions, or other modifications to any repeater without first consulting with and obtaining approval from the Director of Communications or designee. The location of repeaters shall be determined to ensure the widest possible coverage with overlapping areas.

6-4. Coordination.

Installation of a VHF repeater requires coordination with the region Director of Communications and the National Repeater Coordination Group prior activation of the repeater. Coordination elements include, but are not limited to: frequencies, sub-audible tones, locations, output power and antenna gain,

6-5. Network.

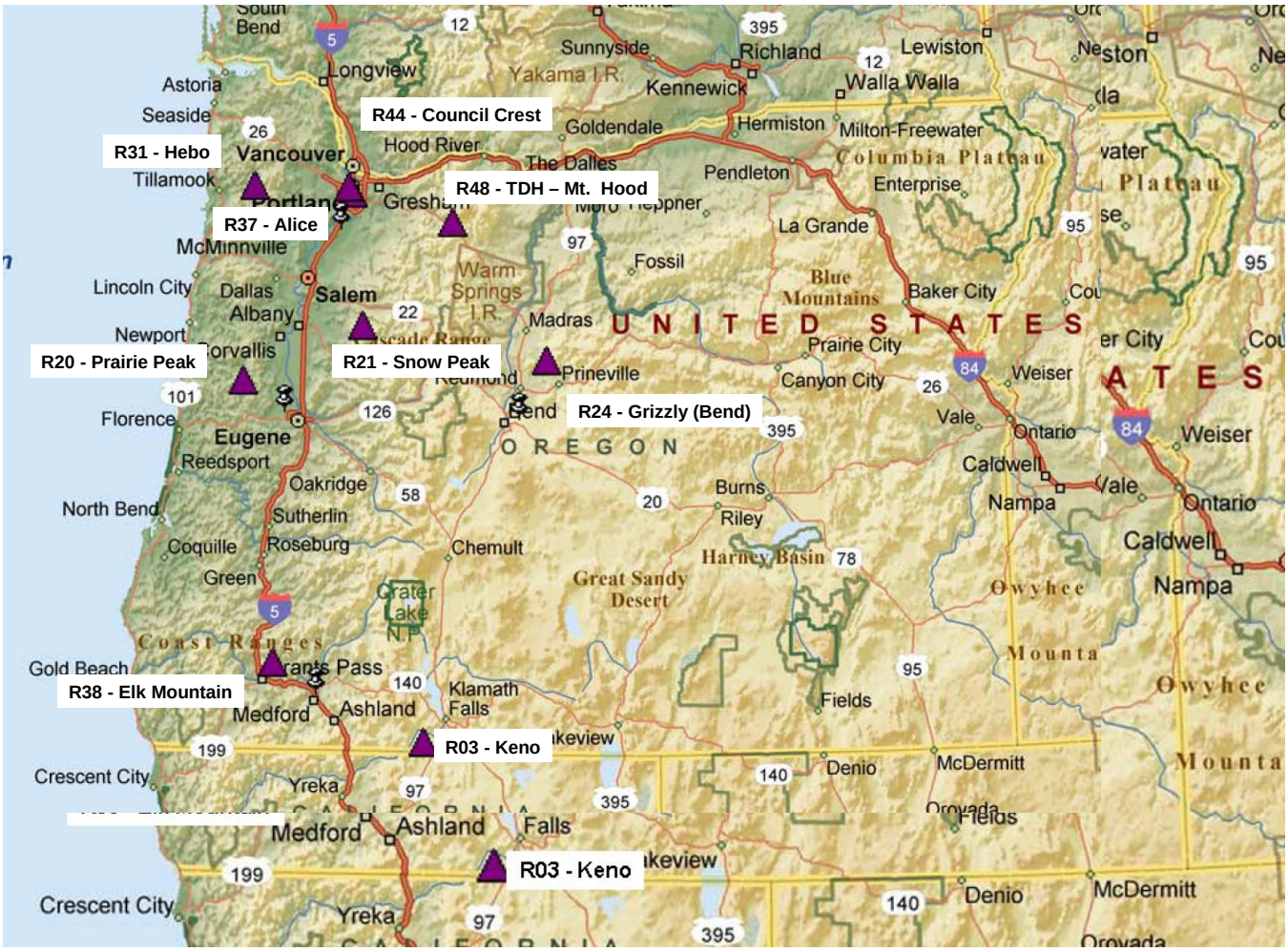
The VHF repeater network for the Wing currently consists mainly of local, limited coverage repeaters. All repeaters shall adhere to strict technical standards as set forth in the CAPR100-1.

6-6. Repeater Locations.

Table 12 - ORWG Repeaters

Designator	Repeater Name	Coverage
R44	Council Crest	Portland
R38	Elk Mountain	Medford, Grants Pass, and Klamath Falls
R48	TDH – Mt. Hood	Portland, Highway 20
R20	Prairie Peak	Willamette Valley, Central Coast
R21	Snow Peak	Salem (Willamette Valley)
R37	Alice	Portland
R31	Hebo	Tillamook, Astoria, NW coast
R03	Keno	Klamath Falls and Medford
R24	Grizzly (Bend)	Bend and Madras

Figure 2 - Map of Oregon Wing Repeaters



Chapter 7

OREGON WING FREQUENCY ALLOCATION PLAN

7-1. Purpose.

The purpose of the Wing frequency allocation plan is to set forth the manner in which certain communications frequencies are allocated and the proper procedure in which they may be used.

7-2. Application.

This frequency allocation plan supersedes all previous allocation plans issued by the Wing before the effective date of this plan. All units shall immediately inform the Director of Communications, in writing, of any matter that may limit or prevent the execution of this plan, and of any subsequent changes in status of the unit's equipment and/or personnel that may adversely affect this plan.

7-3. Single Side Band (4 MHz range) Frequencies.

a. *Primary*. Wing personnel shall conduct inter-unit communications on the primary frequency PA. All Wing net operations shall be conducted on this frequency, unless otherwise announced. Priority on this frequency shall be given in all instances for the purpose of supporting an emergency mission.

b. *Alternate and National Emergency and Calling Frequency (NEF)*. The frequency PB shall be used as the National Emergency and Calling Frequency. It shall also be used in the case of an emergency and in a disaster situation. Authority for unit or individual stations to operate on this frequency must have been authorized according to CAPR 100-1, the published Wing policy, or by special directives.

7-4 VHF FM Frequencies.

a. *Simplex*. Simplex operation on repeater outputs is no longer supported as the initial contact. Local area repeaters should be used to establish contact. CAPGUARD is the designated simplex guard channel and can be used to attempt to contact a station when repeater contact can not be established.

b. *Repeater input*. Absolutely no simplex operation is permitted on any repeater inputs.

c. *Repeater talk*-around – Repeater talk-around, simplex operation on a repeater output is only authorized as a means to attempt to contact a station if all other options have not been successful. Tactical operations on a repeater output is strictly prohibited.

d. *Air-to-ground simplex*. The COML will designate a channel to use for air to ground simplex operation. In the absence of any specific direction, TAC 1 will be used for this purpose.

e. *Tactical frequencies*. In the absence of specific direction, TAC 1 is used as a tactical frequency typically for ground and UDF team personnel for inter and intra team communications as required.

f. *Emergency communications*. Emergency communications *always* have absolute priority over any other radio traffic.

g. *Aircraft*. All aircraft communications personnel are authorized to use VHF FM frequencies according to this plan and all other communications plans published by the Director of Communications or the COML during an emergency services mission, subject to the following limitations:

(1) Maximum power output for all aircraft on CAP VHF frequencies is 10 watts;

(2) The antenna used shall be unity gain and must be externally mounted on all aircraft with a metal skin (e.g., a quarter wave "spike"); AND

(3) The antenna should be mounted on the belly of the aircraft to maximize effective communications with ground forces.

7.5. ISR/FRS Radio Communications.

a. Inter-Squad Radios (ISR) are authorized for all CAP units' activities, except that they should not be utilized in flight. Only radios specifically manufactured for the ISR service are authorized and they may not be modified in any way, including the addition of external antennas or amplifiers. Because these radios operate only on federal frequencies, personal use of ISR radios is prohibited.

b. All ground team and UDF personnel are required to be individually issued a personal ISR radio so that it will be available at all times. These ISR radios will be used for intra-team communications and all team members must be so equipped.

c. Family Radio Service (FRS) radios are authorized for all CAP units and activities EXCEPT for communications directly supporting Emergency Services (actual missions and training) and any other activity directly involving emergency/disaster response, medical communications, or command and control communications. When on actual Emergency Services missions, in direct support of lifesaving activity, provided other means of communications with possible subjects is not available or possible, use of FRS radios by CAP personnel is authorized.

d. Operations with both ISR and FRS radios is informal and tactical. CAP call signs, member names and functional call signs may be utilized as appropriate and expedient.

e. To operate either FRS or ISR without supervision, operators must have completed Basic Communications User Training (BCUT) and possess a valid CAPF 76 Radio Operator Authorization.

f. ISR radios have 14 channels (different UHF radio frequencies) and 38 CTCSS (Continuous Tone Coded Squelch System) tones or “modes.” Channel changing is independent from mode setting so there are 532 combinations possible. ISR radios are low powered with a maximum range less than 2 miles under optimum conditions and a clear line of sight between users. These radios are used in simplex mode only.

g. The following channel plan will be used minimize interference and confusion. For the typical type 4 or 5 incident, all ISR operations may be conducted on the command net. As the size and use of ISR radios on an incident escalates, the CUL can expand the net usage assignments following the plan in table 7-2.

Table 13 - ISR Channel Plan

CH	MODE	ASSIGNMENT
1	36	Command Net
2	36	Operations Net
3	36	Flight Line Operations
4	36	Planning Net
5	36	Finance/Admin Net
6	36	Logistics Net
7	36	Logistics Support
8	36	Spare
9	36	Spare
10	36	Spare
11	36	Ground Operations
12	36	Ground Operations
13	36	Spare
14	36	Emergency Net

7-6. HF SSB Frequencies (2, 7, 11, 14, and 20 MHz).

Fixed-base stations may make limited use of AB, AD, PC, AE, and AG. The Wing Director of Communications, the region Director of Communications, and HQ CAP-USAF/DOK coordinate all authorizations for these frequencies. All wing NCS, ANCS, and emergency sector stations are encouraged to develop this multi-band capability and apply to the Director of Communications for authorization.

7-7. 26 MHz Frequencies.

a. AI and AH frequencies. May be used as medium range frequencies in the Wing. The power is limited to 150 watts.

b. 26.260 MHz AM is limited to 50 watts.

7-8. Frequency Priority in Emergencies.

Search and rescue, disaster relief, and other emergency missions always have priority over all other operations and use of all frequencies. Voice and digital modes may be used as needed.

7-9. Power Limitations.

Communications personnel shall conduct communications using the absolute minimum amount of power required to establish and maintain contact. Maximum power authorizations for all CAP radio stations are set forth in CAPR 100-1, and are to be followed, except where further limited by this or any other communications plan published by the Director of Communications. Due to the effects of altitude on area of coverage and the effects on directional finding arrays, 10 watts shall be the maximum allowable transmitter power for aircraft use.

7-10. Frequency Utilization.

Communications personnel should make maximum utilization of all frequencies during all free (unscheduled) time on a first-come, first-served, non-interference basis. Such use is limited to CAP business and training.

OFFICIAL

David A Rudawitz, Major, CAP

Director of Communications

Oregon Wing CAP

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ORWG Units - 1

OREGON WING NET ROLL CALL PLAN

This and the following two pages outline the basic instructions and 'on air' text for use by Net Control and Alternate Net Control stations. NCS and ANCS will use the same terminology (Net Control) when identifying their function.

Nets operated on HF are direct simplex. Owing to the nature of radio propagation in the high frequency spectrum, relays may be necessary to assist the NCS. Nets operated on VHF will use such repeaters as the NCS can effectively hold. If no repeaters are functional or within range, local area simplex nets may be operated with limited success.

It should be noted that all nets, whether training or actual emergency, observe the same protocol. **Emergency traffic will be handled immediately**, setting aside all other operations that may be in place at the time. When all emergency traffic has been handled, other matters, thus interrupted, may be continued.

Operators of Wing nets may modify the roll calls by adding such stations in their rosters as may be prudent or required, based upon mission requirements. Examples to consider, but not limited to these, are: 1) Addition of stations assigned a particular function for a temporary period, such as named Mission Bases during exercises; 2) Elimination from the usual roll call of units known to be temporarily out of service. Common sense will dictate the actions deemed necessary.

Alternate Net Control Station operators should contact the primary Wing Net Control (Beaver Fox 128) for guidance.

OREGON WING HF NET ROLL CALL

Director of Communications: Beaver Fox 4

Net Control Station, Oregon Wing: Beaver Fox 128

Alternate Net Control Stations, Oregon Wing:

Beaver Fox 37, Beaver Fox 45, Beaver Fox 110, Beaver Fox 165

(NET OPENING):

ATTENTION: All stations, Oregon Wing. This is_____ , Net Control Station, opening the Oregon Wing net at _____ Zulu. This is a directed net. All stations report as called signifying the precedence and destination of all formal, informal or administrative traffic.

Roll is being called in accordance with the Oregon Wing Emergency Communications Plan. No interruption of roll call will be made, except for emergency traffic. Stations with emergency traffic may interrupt the roll call by using their call sign. All stations will remain on frequency until the net is secured.

We will take a short standby for any station holding **Emergency** traffic. *(Break)*

This station *(is or is not)* holding any traffic for the net. *(List type if holding traffic)*

Roll Call Follows:

{get current list of stations from the NCS}

Are there any other Wing Staff Stations? Are there any relays?

Are there any late or missed Oregon Wing Stations? Are there any relays?

This is BF_____ calling California; Nevada; Washington; Pacific Region; National. Are there any relays?

Is there any station with traffic only wishing to check into the Oregon Wing Net at this time?

NOTE: (ALL ROUTINE TRAFFIC IS HANDLED AT THIS TIME)

(NET CLOSING):

This is BF____ , Net Control Station, securing the Oregon Wing Net at ____ Zulu, thanking all stations for checking in and granting all stations permission to secure. This station will continue monitoring until ____ Zulu. The channel is now released for general use. BF____ out.

OREGON WING VHF NET ROLL CALL

(Revised February, 2008)

Director of Communications: Beaver Fox 4

Net Control Station, Oregon Wing: Beaver Fox 128

Alternate Net Control Stations, Oregon Wing:

Beaver Fox 37, Beaver Fox 45, Beaver Fox 110, Beaver Fox 165

(NET OPENING):

ATTENTION: All stations, Oregon Wing. This is_____ , Net Control Station, opening the Oregon Wing net at _____ Zulu. This net is being conducted on the _____ repeater. This is a directed net. All stations report as called signifying the precedence and destination of all formal, informal or administrative traffic.

Roll is being called in accordance with the Oregon Wing Emergency Communications Plan. No interruption of roll call will be made, except for emergency traffic. Stations holding emergency traffic may interrupt the roll call by using their call sign. All stations will remain on frequency until the net is secured.

We will take a short standby for any station with **Emergency** traffic. *(Break)*

This station (is or is not) holding any traffic for the net. *(List type if holding traffic)*

Roll Call Follows:

{get current list of stations from the NCS}

Are there any other Wing Staff Stations desiring to check in on the _____ repeater

(NOTE: Net Control Stations may edit the following alphabetically ordered list by crossing out or bypassing those units that are not likely to be covered by the repeater in use.)

Angel Falls , Ashland Senior , Aurora Cadet , Camp Adair , Central Coast Composite , Columbia Composite , Grants Pass Composite , High Desert Composite , John Day , Klamath Falls Composite , Linn-Benton Composite , Mahlon Sweet Composite , McMinnville Composite , Medford Composite , Metropolitan Senior , Northwest Coastal Comp , Salem Composite , South Coast Composite , Washington County Composite , Are there any late or missed Oregon Wing Stations?

NOTE: (ALL ROUTINE TRAFFIC IS HANDLED AT THIS TIME)

Are there any Oregon Wing Stations desiring to check in using the _____ repeater?

Is there is any station wishing to check into the Oregon Wing Net?

(NET CLOSING):

This is BF____ , Net Control Station, securing the Oregon Wing Net at ____ Zulu, thanking all stations for checking in and granting all stations permission to secure. This station will continue monitoring until ____ Zulu. The channel is now released for general use. BF____ out.

ICS COMPLIANT TACTICAL CALL SIGNS

ICS Position	ICS Tactical Call Sign
Incident Commander	COMMAND
Chaplain	CHAPLAIN
Public Affairs Officer	PUBLIC AFFAIRS
Safety Officer	SAFETY
Liaison Officer	LIAISON
Operations Section Chief (OSC)	OPERATIONS
Air Operations Branch Director (AOBD)	AIR BRANCH
Ground Operations Branch Director (AOBD)	GROUND BRANCH
Flight Line Supervisor	FLIGHT LINE
Planning Section Chief (PSC)	PLANNING
Finance/Admin Section Chief (FASC)	FINANCE/ADMIN
Logistics Section Chief (LSC)	LOGISTICS
Service Director	SERVICE
Communications Unit Leader	COMMUNICATIONS
Medical Unit Leader	MEDICAL
Support Director	SUPPORT
Facilities Unit Leader	FACILITIES
Ground Support Leader	GROUND SUPPORT
Supply Unit Leader	SUPPLY

PROCEDURE HANDLING DEFECTIVE EF JOHNSON VHF/UHF AND MICOM HF RADIOS

Defective EF Johnson VHF/UHF and Micom HF radios are sent back to the NTC for evaluation, repair and/or replacement. Repairs to all CAP EF Johnson and Motorola Radios are performed by the NTC and are not to be done by the Wing, units, members, non-members or commercial communications repair facilities.

The following procedure will be followed.

1. Radio custodian determines that the radio is not functioning or has other problems requiring repair/replacement.

2. Radio custodian will report the problem to his/her unit communications officer.

3. Unit communications officer will update the ORMS master record with a description of the problem with the radio added to the remarks field.

4. The unit communications officer will log into the NTC communications website (https://ntc.cap.af.mil) and then select the Repair Service & Accessories Request System Option. The unit communications officer will initiate a repair request. Instructions are provided as a screen of the application. This system will automatically notify the ORWG Wing DC.

5. Unit communications officer will contact the ORWG DC by email confirming the action in step 4 and include the following information:

   - ORMS PCN
   - CAP property tag number
   - Brief description of the problem

6. The ORWG DC or designated member of the DC staff, will work with the radio custodian and his/her unit communications officer to determine if the radio will be sent to the NTC directly from the radio custodian or back to wing and then to the NTC. Shipping details will be worked out at this time.

ORWG Station Authorization Request Form

ORWG Station Authorization Request Form

Requestor

Name	Grade	CAPID	Unit Charter No.

Address		

City	State	Zip Code

Station Information

☐ Mobile ☐ Base

Latitude	**Address of Stations** Address		

Longitude	City	State	Zip Code

Generic Name for Antenna (collinear, whip, dipole, dipole array, beam, etc.)	Antenna DB gain	Altitude

Operational Frequency Bands and Modes (check all that apply)

☐ VHF FM ☐ VHF AM (airband) ☐ HF SSB ☐ HF Digital ☐ Training ELT

FAA Coordination

a. Will the Antenna be over 500 feet above the ground ☐ Yes ☐ No

b. If the antenna is within 3 NM of an airport (border) will the antenna be at or above 200 feet above the airport elevation ☐ Not Applicable ☐ Yes ☐ No

Note: If you have answered YES to either a or be above, FAA coordination will be required

Federal Lands Coordination (If antenna is located on Federal Lands)

Agency Name

Federal installation Frequency Manager's Name

Approvals

Date of Request	Requestor Signature	Unit Approval	Date Approved

ORWG Approval Name	ORWG Approved Signature	Date Approved

ORWG Station Authorization Request Form Feb 2008

Communications Equipment Assignment Request

Communications Equipment Assignment Request

Name	CAPID	Grade	Unit
Duty Assignment(s)		Specialty Track(s)	
ES Qualifications / Achievements			
Communications Training _____ BCUT Date _____ ACUT _____ IMU for MRO Date			
Equipment Requested __ VHF Mobile __ VHF Base __ VHF HT __ ISR __ HF Base __ HF Antenna __ Other (see below)			
Mission Participation [list mission number or date for missions you participated in over the last two years, list no more than 10]			
Fixed Base Equipment Justification [Items considered, but not limited to, are location, elevation, member supplied antenna, Internet Access, intent to participate in distributed missions from home, etc.]			
Mobile Equipment Justification [Items considered, but not limited to, are intent to participate in ground and/or UDF operations, vehicle type, open SQTR's if not listed as completed above, current member of a ground team, etc.]			
Other:			

ORWG Communications ORCF2

Portable Tactical Repeater PDR-3500

Total Weight: 70lbs

PDR-3500 (46lbs) SHIPPING CONTAINER (24lbs)

THE PDR-3500 PORTABLE REPEATER KIT CONTAINS THE FOLLOWING COMPONENTS:

- Aircraft Power Cord
- 12 VDC Power Cord
- 120Vac Power Cord
- ¼ Wave Whip antenna and Magnetic Mount
- Adapter N-Male to UHF (PL259)
- Aircraft Antenna Cable Jumper 3' (N to BNC)

Individuals who sign this equipment out are responsible to ensure that all the components are back in the kit upon return.

AIRBORNE USE CHANNELS (10 WATTS)

Rpt Ch	Designator	Name	Comment
CH 1	R-63	TAC-5	FREQ PAIR "A"
CH 2	R-64	TAC-6	FREQ PAIR "B"
CH 3	R-67	TAC-1	FREQ PAIR "C"
CH 4	R-68	TAC-2	FREQ PAIR "C"
CH 5	R-69	TAC-3	FREQ PAIR "C"
CH 6	R-70	TAC-4	FREQ PAIR "C"

GROUND USE CHANNELS (25 WATTS)

Rpt Ch	Designator	Name	Comment
CH 7	R-63	TAC-5	FREQ PAIR "A"
CH 8	R-64	TAC-6	FREQ PAIR "B"
CH 9	R-67	TAC-1	FREQ PAIR "C"
CH 10	R-68	TAC-2	FREQ PAIR "C"
CH 11	R-69	TAC-3	FREQ PAIR "C"
CH 12	R-70	TAC-4	FREQ PAIR "C"

NOTE: All channels are configured Mixed-Mode: Analog and Digital

Frequency Pair "A" and "B" are the same as the fixed ground based repeaters (R01-R64)

Frequency Pair "C" is a separate pair and is not the same as ground based repeaters

Power On Initialization will take about 45 seconds. LEDS will go through a sequence-even station fail-and then normal ops LEDS will be: Station On-Steady Aux LED-Flashing

ORWG NARROW BAND PROGRAMMING

CAP Designator	Johnson					Technisonic			Tait			Usage/Remarks	Band
	Zone #	Zone Display	CH	Display	Mode	CH	Display	Mode	CH	Display	Mode		
CC1	1	ZONE 1	1	CC1	DA	001	CC 1	A	1	CC 1	A	Command & Control	N
CC2	1	ZONE 1	2	CC2	DA	002	CC 2	A	2	CC 2	A	Command & Control	N
AIR1	1	ZONE 1	3	AIR1	DA	003	AIR 1	A	3	AIR 1	A	Air to Ground	N
AIR2	1	ZONE 1	4	AIR2	DA	004	AIR 2	A	4	AIR 2	A	Air to Ground	N
CAPGUARD	1	ZONE 1	5	CAPGUARD	DA	G1	CAPGUARD	A	5	CAPGUARD	A	Guard	N
TAC 1	1	ZONE 1	6	TAC 1	DA	005	TAC 1	A	6	TAC 1	A	Tactical simplex	N
R65	1	ZONE 1	7	R65	DA							Comman Access Tone (CAT) Repeater	N
R66	1	ZONE 1	8	R66	DA							Comman Access Tone (CAT) Repeater	N
R67	1	ZONE 1	9	R67	DA	006	R67	A	9	R67 TAC1	A	Tactical Repeater CH3 Air CH9 Gnd	N
R68	1	ZONE 1	10	R68	DA	007	R68	A	10	R68 TAC2	A	Tactical Repeater CH4 Air CH10 Gnd	N
R69	1	ZONE 1	11	R69	DA	008	R69	A	11	R69 TAC3	A	Tactical Repeater CH5 Air CH11 Gnd	N
R70	1	ZONE 1	12	R70	DA	009	R70	A	12	R70 TAC4	A	Tactical Repeater CH6 Air CH12 Gnd	N
R63	1	ZONE 1	13	R63	DA	010	R63	A	13	R63 TAC5	A	Tactical Repeater CH1 Air CH7 Gnd	N
R64	1	ZONE 1	14	R64	DA	011	R64	A	14	R64 TAC6	A	Tactical Repeater CH2 Air CH8 Gnd	N
	1	ZONE 1	15	RESERVED								Not used	
	1	ZONE 1	16	RESERVED								Not used	
CC1	2	ORWG NARRW	1	CC1	DA	001	CC 1	A	1	CC 1	A	Command & Control	N
CC2	2	ORWG NARRW	2	CC2	DA	002	CC 2	A	2	CC 2	A	Command & Control	N
AIR1	2	ORWG NARRW	3	AIR1	DA	003	AIR 1	A	3	AIR 1	A	Air to Ground	N
AIR2	2	ORWG NARRW	4	AIR2	DA	004	AIR 2	A	4	AIR 2	A	Air to Ground	N
CAPGUARD	2	ORWG NARRW	5	CAPGUARD	DA	G1	CAPGUARD	A	5	CAPGUARD	A	Guard	N
TAC1	2	ORWG NARRW	6	TAC1	DA	005	TAC 1	A	6	TAC 1	A	Tactical simplex	N
R64 TR6	2	ORWG NARRW	7	R64 TR6	DA	011	R64	A	14	R64 TAC6	A	Tac Repeater 6	N
R03	2	ORWG NARRW	8	R03 KENO	DA	78	R03 KENO	A	103	R03 KENO	A	Keno (Klamath Falls) no tone on receive for TDFM	N
R20	2	ORWG NARRW	9	R20 PRPK	DA	84	R20 PRPK	A	120	R20 PRPK	A	Prairie Peak (Eugene) no tone on receive for TDFM	N
R21	2	ORWG NARRW	10	R21 SNOW	DA	79	R21 SNOW	A	121	R21 SNOW	A	Snow Peak (Albany) no tone on receive for TDFM	N
R24	2	ORWG NARRW	11	R24 BEND	DA	85	R24 BEND	A	124	R24 BEND	A	Grizzly Peak (Bend) no tone on receive for TDFM	N
R31	2	ORWG NARRW	12	R31 COOS	DA	80	R31 COOS	A	131	R31 COOS	A	Signal Tree (Coos Bay) no tone on receive for TDFM	N
R37	2	ORWG NARRW	13	R37 ALCE	DA	81	R37 ALICE	A	137	R37 ALCE	A	Alice (Portland) no tone on receive for TDFM	N
R38	2	ORWG NARRW	14	R38 ELK	DA	86	R38 ELK	A	138	R38 ELK	A	Elk (Medford) no tone on receive for TDFM	N
R44	2	ORWG NARRW	15	R44 CRST	DA	87	R44 CREST	A	144	R44 CRST	A	Council Crest (Portland) no tone on receive for TDFM	N
R48	2	ORWG NARRW	16	R48 TDH	DA	88	R48 TDH	A	148	R48 TDH	A	TDH (Government Camp) no tone on receive for TDFM	N
						77	OR RTA1	A				Repeater Talk Around Channel 1	N
						83	OR RTA2	A				Repeater Talk Around Channel 2	N
						076	OR GUARD	A			A	Guard ORWG ONLY	N
	3	OR LIAISON	1	OR SAR	A	028	OR SAR	A	27	OR SAR	A	OREGON SAR - 155.805 MHz	W
	3	OR LIAISON	2	OR FIRENET	A	029	FIRENET	A	28	FIRENET	A	VFIRE21W, CA Fire White - 154.280 MHz	W
	3	OR LIAISON	3	OR OPEN	A	030	OR OPEN	A	29	OR OPEN	A	NALEMARS, VLAW31W - 155.475 MHz	W
	3	OR LIAISON	4	DESCHTS CO	A	031	DESCHTS	A			A	Deschutes SAR DC LOGS Direct - 155.895 MHz	W
	3	OR LIAISON	5	HEAR	A	033	HEAR	A	24	HEAR	A	VMED28W, HEAR - 155.340 MHz	W
	3	OR LIAISON	6	NASAR 1	A	032	NASAR 1	A	30	NASAR 1	A	SAR WFM - 155.160 MHz	W

ORWG NARROW BAND PROGRAMMING

CAP Designator	Johnson					Technisonic			Tait			Usage/Remarks	Band
	Zone #	Zone Display	CH	Display	Mode	CH	Display	Mode	CH	Display	Mode		
	3	OR LIAISON	7	VCALL	A	034	VCALL	A			A	VCALL - 155.7525 MHz	N
	3	OR LIAISON	8	VTAC 1	A	035	VTAC 1	A	25	VTAC 1	A	VTAC 11 - 151.1375 MHz	N
	3	OR LIAISON	9	VTAC 2	A	036	VTAC 2	A			A	VTAC 12 - 154.4525 MHz	N
	3	OR LIAISON	10	VTAC 3	A	037	VTAC 3	A	26	VTAC 3	A	VTAC 13 - 158.7375 MHz	N
	3	OR LIAISON	11	VTAC 4	A	038	VTAC 4	A			A	VTAC 14 - 159.4725 MHz	N
	3	OR LIAISON	12	CLEMARS	A	040	CLEMARS	A			A	California CLEMARS - 154.9200 MHz	W
	3	OR LIAISON	13	CALCORD	A	041	CALCORD	A			A	California CALCORD - 156.075 MHz	W
	3	OR LIAISON	14	USCG AUX	A							USCG Auxillary Portland Repeater	W
	3	OR LIAISON	15		A							Not used	
	3	OR LIAISON	16		A							Not used	
CC1	4	WAWG NARROW	1	CC1	DA	001	CC 1	A	1	CC 1	A	Command & Control	N
TAC 1	4	WAWG NARROW	2	TAC 1	DA	005	TAC 1	A	6	TAC 1	A	Tactical simplex	N
	4	WAWG NARROW	3	WA SAR	A								
	4	WAWG NARROW	4	LERN	A								
CAPGUARD	4	WAWG NARROW	5	CAPGUARD	DA	G1	CAPGUARD	A	5	CAPGUARD	A	Guard	N
R01	4	WAWG NARROW	6	R01 TRICTY	DA	101	R01	A	101	R 01	A	CH 1 Repeater Dual Mode	N
R11	4	WAWG NARROW	7	R11 SEA W	DA	111	R11	A	111	R 11	A	CH 1 Repeater Dual Mode	N
R16	4	WAWG NARROW	8	R16 SPOKANE	DA	116	R16	A	116	R 16	A	CH 2 Repeater Dual Mode	N
R20	4	WAWG NARROW	9	R20 WENATC	DA	120	R20	A	120	R20 PRPK	A	Prairie Peak (Eugene) Dual Mode	N
R24	4	WAWG NARROW	10	R24 TACOMA	DA	124	R24	A	124	R24 BEND	A	Grizzly Mt. (Bend) Dual Mode	N
R25	4	WAWG NARROW	11	R25 OLYMPA	DA	125	R25	A	125	R 25	A	CH 1 Repeater Dual Mode	N
R46	4	WAWG NARROW	12	R46 OMAK	DA	146	R46	A	146	R 46	A	CH 2 Repeater Dual Mode	N
R49	4	WAWG NARROW	13	R49 ANATNE	DA	149	R49	A	149	R 49	A	CH 1 Repeater Dual Mode	N
R50	4	WAWG NARROW	14	R50 PULLMN	DA	150	R50	A	150	R 50	A	CH 2 Repeater Dual Mode	N
R62	4	WAWG NARROW	15	R62 YAKIMA	DA	162	R62	A	162	R 62	A	CH 2 Repeater Dual Mode	N
R68	4	WAWG NARROW	16	R68 SEDWLY	DA	007	R68	A	10	R68 TAC2	A	Tactical Repeater CH4 Air CH10 Gnd	N
CAPGUARD	5	CAWG NARROW	1	CAPGUARD	DP	G1	CAPGUARD	A	5	CAPGUARD	A	Guard	N
TAC 1	5	CAWG NARROW	2	TAC 1	DP	005	TAC 1	A	6	TAC 1	A	Tactical simplex	N
R02	5	CAWG NARROW	3	R02 DIABLO	DP	102	R02	A	102	R 02	A	CH 2 Repeater Dual Mode	N
R04	5	CAWG NARROW	4	R04 CAHTO	DP	104	R04	A	104	R 04	A	CH 2 Repeater Dual Mode	N
R05	5	CAWG NARROW	5	R05 MEADOW	DP	105	R05	A	105	R 05	A	CH 1 Repeater Dual Mode	N
R08	5	CAWG NARROW	6	R08 TAMALP	DP	108	R08	A	108	R 08	A	CH 2 Repeater Dual Mode	N
R09	5	CAWG NARROW	7	R09 MT VACA	DP	109	R09	A	109	R 09	A	CH 1 Repeater Dual Mode	N
R20	5	CAWG NARROW	8	R20 SANEL	DP	120	R20	A	120	R20 PRPK	A	Prairie Peak (Eugene) Dual Mode	N
R23	5	CAWG NARROW	9	R23 INSKIP	DP	123	R23	A	123	R 23	A	CH 1 Repeater Dual Mode	N
R23	5	CAWG NARROW	10	R23 KELSO	DP	123	R23	A	123	R 23	A	CH 1 Repeater Dual Mode	N
R26	5	CAWG NARROW	11	R26 HELENA	DP	126	R26	A	126	R 26	A	CH 2 Repeater Dual Mode	N
R29	5	CAWG NARROW	12	R29 HEDRIN	DP	129	R29	A	129	R 29	A	CH 1 Repeater Dual Mode	N
R32	5	CAWG NARROW	13	R32 UMUNUN	DP	132	R32	A	132	R 32	A	CH 2 Repeater Dual Mode	N
R34	5	CAWG NARROW	14	R34 HORSE	DP	134	R34	A	134	R 34	A	CH 2 Repeater Dual Mode	N
R39	5	CAWG NARROW	15	R39 DIABLO	DP	139	R39	A	139	R 39	A	CH 1 Repeater Dual Mode	N

ORWG NARROW BAND PROGRAMMING

CAP Designator	Johnson					Technisonic			Tait			Usage/Remarks	Band
	Zone #	Zone Display	CH	Display	Mode	CH	Display	Mode	CH	Display	Mode		
R46	5	CAWG NARROW	16	R46 SUTTER	DP	146	R46	A	146	R 46	A	CH 2 Repeater Dual Mode	N
CC1P	6	ORWG P25	1	CC1P	DP	014	CC1P	DP				Command & Control Digital	N
CC2P	6	ORWG P25	2	CC2P	DP	015	CC2P	DP				Command & Control Digital	N
AIR1P	6	ORWG P25	3	AIR1P	DP	016	AIR1P	DP				Air to Ground Digital	N
AIR2P	6	ORWG P25	4	AIR2P	DP	017	AIR2P	DP				Air to Ground Digital	N
GUARD1P	6	ORWG P25	5	GUARD1P	DP	018	GUARD1P	DP				Guard Digital	N
TAC1P	6	ORWG P25	6	TAC1P	DP	019	TAC1P	DP				Tactical simplex Digital	N
R64P	6	ORWG P25	7	R64P TR6	DP							Tactical Repeater CH2 Air CH8 Gnd	N
R03P	6	ORWG P25	8	R03P KENO	DP							Keno (Klamath Falls) P25 Digital	N
R20P	6	ORWG P25	9	R20P PRPK	DP							Prairie Peak (Eugene) P25 Digital	N
R21P	6	ORWG P25	10	R21P SNOW	DP							Snow Peak (Waldo Peak) P25 Digital	N
R24P	6	ORWG P25	11	R24P BEND	DP							Grizzly Mt. (Bend) P25 Digital	N
R31P	6	ORWG P25	12	R31P COOS	DP							Signal Tree (Coos Bay) P25 Digital	N
R37P	6	ORWG P25	13	R37P ALICE	DP							Alice (Portland) P25 Digital	N
R38P	6	ORWG P25	14	R38P ELK	DP							Elk (Medford) P25 Digital	N
R44P	6	ORWG P25	15	R44P CREST	DP							Council Crest (Portland) P25 Digital	N
R48P	6	ORWG P25	16	R48P TDH	DP							TDH (Government Camp) P25 Digital	N
CG06	7	LIAISON	1	CG06	A	090	USCG 6	A	31	USCG 06	A	156.300 Intership Safety, SAR, USCG	W
CG16	7	LIAISON	2	CG16	A	091	USCG 16	A	32	USCG 16	A	156.800 Distress, Calling, & Safety	W
CG21A	7	LIAISON	3	CG21A	A	092	USCG 21A	A	33	USCG 21A	A	157.05	W
CG22A	7	LIAISON	4	CG22A	A	093	USCG 22A	A	34	USCG 22A	A	157.100 Liaison (USCG-Public)	W
CG23A	7	LIAISON	5	CG23A	A	094	USCG 23A	A	35	USCG 23A	A	157.15	W
CG81A	7	LIAISON	6	CG81A	A	095	USCG 81A	A	36	USCG 81	A	157.075 U.S. Gvmnt only - Environmental protection opera	W
CG82A	7	LIAISON	7	CG82A	A	096	USCG 82A	A	37	USCG 82	A	157.125	W
CG83A	7	LIAISON	8	CG83A	A	097	USCG 83A	A	38	USCG 83	A	157.175	W
	7	LIAISON	9									Not used	
	7	LIAISON	10									Not used	
	7	LIAISON	11									Not used	
	7	LIAISON	12									Not used	
	7	LIAISON	13									Not used	
	7	LIAISON	14									Not used	
	7	LIAISON	15									Not used	
	7	LIAISON	16									Not used	
R01	8	R01-R16	1	R01	DA	101	R01	A	101	R 01	A	CH 1 Repeater Dual Mode	N
R02	8	R01-R16	2	R02	DA	102	R02	A	102	R 02	A	CH 2 Repeater Dual Mode	N
R03	8	R01-R16	3	R03	DA	103	R03	A	103	R03 KENO	A	Keno (Klamath Falls) Dual Mode	N
R04	8	R01-R16	4	R04	DA	104	R04	A	104	R 04	A	CH 2 Repeater Dual Mode	N
R05	8	R01-R16	5	R05	DA	105	R05	A	105	R 05	A	CH 1 Repeater Dual Mode	N
R06	8	R01-R16	6	R06	DA	106	R06	A	106	R 06	A	CH 2 Repeater Dual Mode	N
R07	8	R01-R16	7	R07	DA	107	R07	A	107	R 07	A	CH 1 Repeater Dual Mode	N
R08	8	R01-R16	8	R08	DA	108	R08	A	108	R 08	A	CH 2 Repeater Dual Mode	N

ORWG NARROW BAND PROGRAMMING

CAP Designator	Johnson					Technisonic			Tait			Usage/Remarks	Band
	Zone #	Zone Display	CH	Display	Mode	CH	Display	Mode	CH	Display	Mode		
AIR2P	16	P25 SIMPLEX	4	AIR2P	DP	017	AIR2P	DP				Air to Ground Digital	N
GUARD1P	16	P25 SIMPLEX	5	GUARD1P	DP	018	GUARD1P	DP				Guard Digital	N
TAC1P	16	P25 SIMPLEX	6	TAC1P	DP	019	TAC1P	DP				Tactical simplex Digital	N
R65	16	P25 SIMPLEX	7	R65	DA							Comman Access Tone (CAT) Repeater	N
R66	16	P25 SIMPLEX	8	R66	DA							Comman Access Tone (CAT) Repeater	N
R67P	16	P25 SIMPLEX	9	R67P	DP	020	R67P	DP				Digital Tactical Repeater CH3 Air CH9 Gnd	N
R68P	16	P25 SIMPLEX	10	R68P	DP	021	R68P	DP				Digital Tactical Repeater CH4 Air CH10 Gnd	N
R69P	16	P25 SIMPLEX	11	R69P	DP	022	R69P	DP				Digital Tactical Repeater CH5 Air CH11 Gnd	N
R70P	16	P25 SIMPLEX	12	R70P	DP	023	R70P	DP				Digital Tactical Repeater CH6 Air CH12 Gnd	N
R63P	16	P25 SIMPLEX	13	R63P	DP	024	R63P	DP				Digital Tactical Repeater CH1 Air CH7 Gnd	N
R64P	16	P25 SIMPLEX	14	R64P	DP	025	R64P	DP				Digital Tactical Repeater CH2 Air CH8 Gnd	N
	16	P25 SIMPLEX	15	RESERVED									N
	16	P25 SIMPLEX	16	RESERVED									N

ORWG NARROW BAND PROGRAMMING

CAP Designator	Johnson					Technisonic			Tait			Usage/Remarks	Band
	Zone #	Zone Display	CH	Display	Mode	CH	Display	Mode	CH	Display	Mode		
R09	8	R01-R16	9	R09	DA	109	R09	A	109	R 09	A	CH 1 Repeater Dual Mode	N
R10	8	R01-R16	10	R10	DA	110	R10	A	110	R 10	A	CH 2 Repeater Dual Mode	N
R11	8	R01-R16	11	R11	DA	111	R11	A	111	R 11	A	CH 1 Repeater Dual Mode	N
R12	8	R01-R16	12	R12	DA	112	R12	A	112	R 12	A	CH 2 Repeater Dual Mode	N
R13	8	R01-R16	13	R13	DA	113	R13	A	113	R 13	A	CH 1 Repeater Dual Mode	N
R14	8	R01-R16	14	R14	DA	114	R14	A	114	R 14	A	CH 2 Repeater Dual Mode	N
R15	8	R01-R16	15	R15	DA	115	R15	A	115	R 15	A	CH 1 Repeater Dual Mode	N
R16	8	R01-R16	16	R16	DA	116	R16	A	116	R 16	A	CH 2 Repeater Dual Mode	N
R17	9	R17-R32	1	R17	DA	117	R17	A	117	R 17	A	CH 1 Repeater Dual Mode	N
R18	9	R17-R32	2	R18	DA	118	R18	A	118	R 18	A	CH 2 Repeater Dual Mode	N
R19	9	R17-R32	3	R19	DA	119	R19	A	119	R 19	A	CH 1 Repeater Dual Mode	N
R20	9	R17-R32	4	R20	DA	120	R20	A	120	R20 PRPK	A	Prairie Peak (Eugene) Dual Mode	N
R21	9	R17-R32	5	R21	DA	121	R21	A	121	R21 SNOW	A	Snow Peak (Albany) Dual Mode	N
R22	9	R17-R32	6	R22	DA	122	R22	A	122	R 22	A	CH 2 Repeater Dual Mode	N
R23	9	R17-R32	7	R23	DA	123	R23	A	123	R 23	A	CH 1 Repeater Dual Mode	N
R24	9	R17-R32	8	R24	DA	124	R24	A	124	R24 BEND	A	Grizzly Mt. (Bend) Dual Mode	N
R25	9	R17-R32	9	R25	DA	125	R25	A	125	R 25	A	CH 1 Repeater Dual Mode	N
R26	9	R17-R32	10	R26	DA	126	R26	A	126	R 26	A	CH 2 Repeater Dual Mode	N
R27	9	R17-R32	11	R27	DA	127	R27	A	127	R 27	A	CH 1 Repeater Dual Mode	N
R28	9	R17-R32	12	R28	DA	128	R28	A	128	R 28	A	CH 2 Repeater Dual Mode	N
R29	9	R17-R32	13	R29	DA	129	R29	A	129	R 29	A	CH 1 Repeater Dual Mode	N
R30	9	R17-R32	14	R30	DA	130	R30	A	130	R 30	A	CH 2 Repeater Dual Mode	N
R31	9	R17-R32	15	R31	DA	131	R31	A	131	R31 COOS	A	Signal Tree (Coos Bay) Dual Mode	N
R32	9	R17-R32	16	R32	DA	132	R32	A	132	R 32	A	CH 2 Repeater Dual Mode	N
R33	10	R33-R48	1	R33	DA	133	R33	A	133	R 33	A	CH 1 Repeater Dual Mode	N
R34	10	R33-R48	2	R34	DA	134	R34	A	134	R 34	A	CH 2 Repeater Dual Mode	N
R35	10	R33-R48	3	R35	DA	135	R35	A	135	R 35	A	CH 1 Repeater Dual Mode	N
R36	10	R33-R48	4	R36	DA	136	R36	A	136	R 36	A	CH 2 Repeater Dual Mode	N
R37	10	R33-R48	5	R37	DA	137	R37	A	137	R37 ALCE	A	Alice (Portland) Dual Mode	N
R38	10	R33-R48	6	R38	DA	138	R38	A	138	R38 ELK	A	Elk (Medford) Dual Mode	N
R39	10	R33-R48	7	R39	DA	139	R39	A	139	R 39	A	CH 1 Repeater Dual Mode	N
R40	10	R33-R48	8	R40	DA	140	R40	A	140	R 40	A	CH 2 Repeater Dual Mode	N
R41	10	R33-R48	9	R41	DA	141	R41	A	141	R 41	A	CH 1 Repeater Dual Mode	N
R42	10	R33-R48	10	R42	DA	142	R42	A	142	R 42	A	CH 2 Repeater Dual Mode	N
R43	10	R33-R48	11	R43	DA	143	R43	A	143	R 43	A	CH 1 Repeater Dual Mode	N
R44	10	R33-R48	12	R44	DA	144	R44	A	144	R44 CRST	A	Council Crest (Portland) Dual Mode	N
R45	10	R33-R48	13	R45	DA	145	R45	A	145	R 45	A	CH 1 Repeater Dual Mode	N
R46	10	R33-R48	14	R46	DA	146	R46	A	146	R 46	A	CH 2 Repeater Dual Mode	N
R47	10	R33-R48	15	R47	DA	147	R47	A	147	R 47	A	CH 1 Repeater Dual Mode	N
R48	10	R33-R48	16	R48	DA	148	R48	A	148	R48 TDH	A	TDH (Government Camp) Dual Mode	N
R49	11	R49-R64	1	R49	DA	149	R49	A	149	R 49	A	CH 1 Repeater Dual Mode	N

ORWG NARROW BAND PROGRAMMING

CAP Designator	Johnson					Technisonic			Tait			Usage/Remarks	Band
	Zone #	Zone Display	CH	Display	Mode	CH	Display	Mode	CH	Display	Mode		
R50	11	R49-R64	2	R50	DA	150	R50	A	150	R 50	A	CH 2 Repeater Dual Mode	N
R51	11	R49-R64	3	R51	DA	151	R51	A	151	R 51	A	CH 1 Repeater Dual Mode	N
R52	11	R49-R64	4	R52	DA	152	R52	A	152	R 52	A	CH 2 Repeater Dual Mode	N
R53	11	R49-R64	5	R53	DA	153	R53	A	153	R 53	A	CH 1 Repeater Dual Mode	N
R54	11	R49-R64	6	R54	DA	154	R54	A	154	R 54	A	CH 2 Repeater Dual Mode	N
R55	11	R49-R64	7	R55	DA	155	R55	A	155	R 55	A	CH 1 Repeater Dual Mode	N
R56	11	R49-R64	8	R56	DA	156	R56	A	156	R 56	A	CH 2 Repeater Dual Mode	N
R57	11	R49-R64	9	R57	DA	157	R57	A	157	R 57	A	CH 1 Repeater Dual Mode	N
R58	11	R49-R64	10	R58	DA	158	R58	A	158	R 58	A	CH 2 Repeater Dual Mode	N
R59	11	R49-R64	11	R59	DA	159	R59	A	159	R 59	A	CH 1 Repeater Dual Mode	N
R60	11	R49-R64	12	R60	DA	160	R60	A	160	R 60	A	CH 2 Repeater Dual Mode	N
R61	11	R49-R64	13	R61	DA	161	R61	A	161	R 61	A	CH 1 Repeater Dual Mode	N
R62	11	R49-R64	14	R62	DA	162	R62	A	162	R 62	A	CH 2 Repeater Dual Mode	N
R63	11	R49-R64	15	R63	DA	163	R63	A	13	R63 TAC5	A	Tactical Repeater CH1 Air CH7 Gnd	N
R64	11	R49-R64	16	R64	DA	164	R64	A	14	R64 TAC6	A	Tactical Repeater CH2 Air CH8 Gnd	N
R01P	12	R01P-R16P	1	R01P	DP							CH 1 Repeater P25 Digital	N
R02P	12	R01P-R16P	2	R02P	DP							CH 2 Repeater P25 Digital	N
R03P	12	R01P-R16P	3	R03P	DP							Keno (Klamath Falls) P25 Digital	N
R04P	12	R01P-R16P	4	R04P	DP							CH 2 Repeater P25 Digital	N
R05P	12	R01P-R16P	5	R05P	DP							CH 1 Repeater P25 Digital	N
R06P	12	R01P-R16P	6	R06P	DP							CH 2 Repeater P25 Digital	N
R07P	12	R01P-R16P	7	R07P	DP							CH 1 Repeater P25 Digital	N
R08P	12	R01P-R16P	8	R08P	DP							CH 2 Repeater P25 Digital	N
R09P	12	R01P-R16P	9	R09P	DP							CH 1 Repeater P25 Digital	N
R10P	12	R01P-R16P	10	R10P	DP							CH 2 Repeater P25 Digital	N
R11P	12	R01P-R16P	11	R11P	DP							CH 1 Repeater P25 Digital	N
R12P	12	R01P-R16P	12	R12P	DP							CH 2 Repeater P25 Digital	N
R13P	12	R01P-R16P	13	R13P	DP							CH 1 Repeater P25 Digital	N
R14P	12	R01P-R16P	14	R14P	DP							CH 2 Repeater P25 Digital	N
R15P	12	R01P-R16P	15	R15P	DP							CH 1 Repeater P25 Digital	N
R16P	12	R01P-R16P	16	R16P	DP							CH 2 Repeater P25 Digital	N
R17P	13	R17P-R32P	1	R17P	DP							CH 1 Repeater P25 Digital	N
R18P	13	R17P-R32P	2	R18P	DP							CH 2 Repeater P25 Digital	N
R19P	13	R17P-R32P	3	R19P	DP							CH 1 Repeater P25 Digital	N
R20P	13	R17P-R32P	4	R20P	DP							Prairie Peak (Eugene) P25 Digital	N
R21P	13	R17P-R32P	5	R21P	DP							Snow Peak (Waldo Peak) P25 Digital	N
R22P	13	R17P-R32P	6	R22P	DP							CH 2 Repeater P25 Digital	N
R23P	13	R17P-R32P	7	R23P	DP							CH 1 Repeater P25 Digital	N
R24P	13	R17P-R32P	8	R24P	DP							Grizzly Mt. (Bend) P25 Digital	N
R25P	13	R17P-R32P	9	R25P	DP							CH 1 Repeater P25 Digital	N
R26P	13	R17P-R32P	10	R26P	DP							CH 2 Repeater P25 Digital	N

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ORWG NARROW BAND PROGRAMMING

CAP Designator	Johnson					Technisonic			Tait			Usage/Remarks	Band
	Zone #	Zone Display	CH	Display	Mode	CH	Display	Mode	CH	Display	Mode		
R27P	13	R17P-R32P	11	R27P	DP							CH 1 Repeater P25 Digital	N
R28P	13	R17P-R32P	12	R28P	DP							CH 2 Repeater P25 Digital	N
R29P	13	R17P-R32P	13	R29P	DP							CH 1 Repeater P25 Digital	N
R30P	13	R17P-R32P	14	R30P	DP							CH 2 Repeater P25 Digital	N
R31P	13	R17P-R32P	15	R31P	DP							Signal Tree (Coos Bay) P25 Digital	N
R32P	13	R17P-R32P	16	R32P	DP							CH 2 Repeater P25 Digital	N
R33P	14	R33P-R48P	1	R33P	DP							CH 1 Repeater P25 Digital	N
R34P	14	R33P-R48P	2	R34P	DP							CH 2 Repeater P25 Digital	N
R35P	14	R33P-R48P	3	R35P	DP							CH 1 Repeater P25 Digital	N
R36P	14	R33P-R48P	4	R36P	DP							CH 2 Repeater P25 Digital	N
R37P	14	R33P-R48P	5	R37P	DP							Alice (Portland) P25 Digital	N
R38P	14	R33P-R48P	6	R38P	DP							Elk (Medford) P25 Digital	N
R39P	14	R33P-R48P	7	R39P	DP							CH 1 Repeater P25 Digital	N
R40P	14	R33P-R48P	8	R40P	DP							CH 2 Repeater P25 Digital	N
R41P	14	R33P-R48P	9	R41P	DP							CH 1 Repeater P25 Digital	N
R42P	14	R33P-R48P	10	R42P	DP							CH 2 Repeater P25 Digital	N
R43P	14	R33P-R48P	11	R43P	DP							CH 1 Repeater P25 Digital	N
R44P	14	R33P-R48P	12	R44P	DP							Council Crest (Portland) P25 Digital	N
R45P	14	R33P-R48P	13	R45P	DP							CH 1 Repeater P25 Digital	N
R46P	14	R33P-R48P	14	R46P	DP							CH 2 Repeater P25 Digital	N
R47P	14	R33P-R48P	15	R47P	DP							CH 1 Repeater P25 Digital	N
R48P	14	R33P-R48P	16	R48P	DP							TDH (Government Camp) P25 Digital	N
R49P	15	R49P-R64P	1	R49P	DP							CH 1 Repeater P25 Digital	N
R50P	15	R49P-R64P	2	R50P	DP							CH 2 Repeater P25 Digital	N
R51P	15	R49P-R64P	3	R51P	DP							CH 1 Repeater P25 Digital	N
R52P	15	R49P-R64P	4	R52P	DP							CH 2 Repeater P25 Digital	N
R53P	15	R49P-R64P	5	R53P	DP							CH 1 Repeater P25 Digital	N
R54P	15	R49P-R64P	6	R54P	DP							CH 2 Repeater P25 Digital	N
R55P	15	R49P-R64P	7	R55P	DP							CH 1 Repeater P25 Digital	N
R56P	15	R49P-R64P	8	R56P	DP							CH 2 Repeater P25 Digital	N
R57P	15	R49P-R64P	9	R57P	DP							CH 1 Repeater P25 Digital	N
R58P	15	R49P-R64P	10	R58P	DP							CH 2 Repeater P25 Digital	N
R59P	15	R49P-R64P	11	R59P	DP							CH 1 Repeater P25 Digital	N
R60P	15	R49P-R64P	12	R60P	DP							CH 2 Repeater P25 Digital	N
R61P	15	R49P-R64P	13	R61P	DP							CH 1 Repeater P25 Digital	N
R62P	15	R49P-R64P	14	R62P	DP							CH 2 Repeater P25 Digital	N
R63P	15	R49P-R64P	15	R63P	DP							Tactical Repeater CH1 Air CH7 Gnd	N
R64P	15	R49P-R64P	16	R64P	DP							Tactical Repeater CH2 Air CH8 Gnd	N
CC1P	16	P25 SIMPLEX	1	CC1P	DP	014	CC1P	DP				Command & Control Digital	N
CC2P	16	P25 SIMPLEX	2	CC2P	DP	015	CC2P	DP				Command & Control Digital	N
AIR1P	16	P25 SIMPLEX	3	AIR1P	DP	016	AIR1P	DP				Air to Ground Digital	N