

**Civil Air Patrol**  
**Communications Equipment**

**Table of Allowances (TA)**

V1.3  
29 January 2007

OPR: CAP MD

## Communications Table of Allowances

### Record of Changes

Version	Publish Date	Changes
V1	5 Aug 03	Original
V1.1	21 Aug 03	Changes variance request process
V1.2	15 Mar 04	Updates equipment cost figures and budgetary extrapolations
V1.3	29 Jan 07	Adjusted allocations to eliminate the double counting of Ground Teams, added LMR Mobiles for CAP/CC Staff, Region Staff and Wing Staff. Replaces DOK office symbol with NTC

# Communications Table of Allowances (TA)

## Introduction

This introduction to the Communications Table of Allowances consists of: Project Background; TA Structure; and the Implementation Procedures including the process for requesting/processing variance (waivers) to the TA.

## Background

The Communications Table of Allowances is the result of a project that began in 2001 in response to a new requirement in the CAP Statement of Work.

“...CAP shall develop and maintain communications requirement standards to substantiate acquisition, assignment, use, and disposal of a mobile land radio system to support Air Force-assigned missions. Requirement standards shall consider factors such as unit size, unit mission, response time, and the unit's area of operation to substantiate the number and type of communication required.”

In response to this direction, CAP and CAP-USAF began a joint process to develop these standards. CAP communications managers from across the country were given opportunity to comment and provide suggestions as were headquarters managers of programs which are customers to the communications system. These inputs were collected and compiled into a draft comm TA.

In May, 2002, the CAP-USAF Commander called together a two day CAP Communications Requirements Conference at Maxwell AFB. The conference was attended by communications managers from the Air Staff, Air Force Communications Agency, Air Education and Training Command, and Air University as well as CAP and CAP-USAF officials. During this conference the draft comm TA was refined and turned into a final document.

After one final coordination loop to all levels, CAP-USAF/CC approved the comm TA in September, 2002. In November 2002, CAP DO briefed the NEC on the final TA and resulting distribution plan and CAP NHQ began integrating TA derived requirements into the distribution plans and funding initiatives (AF POM process) and began planning for full implementation. To close the loop, the communications managers will be briefed on the final TA and implementation at the NB and Convention on 24 Aug 2003.

In addition, CAP Wing Compliance Inspection checklist have been updated to include questions intended to ensure AF supplied equipment is being distributed according to plans which support the AF mission

## **TA Structure**

The Communications TA consists of four parts.

Part I is the global or universal baseline assumptions that effect the number of "Mission Essential Units" (MEU's) (Incident Command Posts, Ground Teams, etc) in each wing the AF has agreed to support with communications equipment.

Part II is the source data upon which the TA calculations are based such as a wing's land mass, and number of CAP units and number of missions in the last complete calendar year. The number of missions is listed for reference purposes only and is not used in the TA calculations. It is listed only as an indicator which can be used when reviewing requests for variance from TA calculations.

Part III is the actual allowance tables which establish the communications equipment requirements for each MEU. At present there are two tables but others could be added later if needed. Table 1 supports "Tactical Communications," meaning those MEU's which directly support Emergency Services response operations. Table 2 supports "Command and Control Communications," which are primarily communications assets providing infrastructure and support to the tactical communications as well as point-to-point and unit-to-unit command and control communications (C3).

Part IV is the resulting requirements, wing by wing and region by region, of the calculations of Part I, Part II and Part III. This is where the total communications requirements are shown for the wing, region and nationally (Viewed Online).

## **Implementation**

Wings and Regions. Each wing and region communications staff must review the TA and become familiar with how their communications requirements are calculated. They should review closely their total communications requirements as determined in the TA and compare these figures with their current communications plans.

If there is significant disagreement between local planning and the TA it will be necessary to reconcile the two. This may require reaccomplishing local planning such as deployment of communications equipment in order to match TA distribution rules; it may require collection of data to justify an exception to the TA in specific mission areas or universally; or it may require a mixture of these two efforts. If it is determined to be in the best interest of the wing to process a request for a variance from the TA standards, the wing or region should follow the procedures laid out below.

The goal is to complete this implementation process by 1 October 2004. Wing and region communications managers should begin their review of the TA and implementation planning as soon as possible. All CAP-USAF approved variances to the TA (along with the justification) should have completed the process and be on file at CAP/NTC by that date.

Repeaters. The TA does not attempt to calculate the number of VHF/FM repeaters a wing may need. During development of the TA it was determined that it is not possible to write universal rules that could fairly and adequately establish requirements for repeaters in all situations. Therefore, it will be necessary for each wing to apply for AF support for the repeaters they require to perform the AF missions.

This provides the wings an opportunity to take a fresh look at their VHF infrastructure needs in light of their mission data and construct a repeater plan independent of the current system structure. At present there are no specific repeater requirements for any wing. These will be added as each wing completes the repeater planning process detailed below.

Changes to the TA. While every attempt has been made to make this initial publication of the TA as correct as possible, there remains the possibility that errors exist which will only be found after it is in widespread use. Inputs for changes to the TA should be submitted to CAP NTC.

#### Variance (waivers)

The Communications TA establishes broad standards which should apply to the majority of field applications. However, there is no doubt that there will be some needs the TA simply does not cover. For this reason it is necessary that there be a variance process to allow wings to address requirements that are not covered by the TA.

Wings and regions may apply for variance to Part I, Part II or Part III of the TA. Changes to Part I and II affect the number and type of MEU's which will be supported with AF provided equipment. Changes to Part III affect the amount and type of equipment authorized for MEU's in that wing.

The variance process is as follows:

- A wing or region may request variance from Comm TA in either specific equipment distribution or in the global calculations which result in the wings equipment allowance.
- If a wing desires consideration for a variance, the wing commander will formally request the variance, with supporting justification data attached, through the appropriate CAP region to NHQ CAP/NTC. NTC will pass the requests to CAP-USAF for approval.
- If a region desires consideration for a variance, the region commander will formally request the variance, with supporting justification data attached, to NHQ CAP NTC. NTC will pass the requests to CAP-USAF for approval.
- At all levels, requests for variance will be judged as to whether or not they are required in order to support AF missions. While other uses of the communications system may be allowed, justification for AF funded portions of the communications system can only be based on direct support of the AF mission.

- When a variance is approved by CAP-USAF it will be forwarded to CAP NTC for entry into the TA and the Communications Equipment Management System, as necessary.

**Equipment not covered.** Requests for AF funding of communications equipment not covered in the TA will be submitted through the same process as described above.

**Repeaters.** The TA does not set specific requirements for repeaters except to state that each repeater must be justified as necessary for accomplishment of AF tasked missions. Therefore, all repeater requirements must be approved on a case by case basis. Key to this process will be the necessity that the wing or region show mission data and engineering/planning to demonstrate why each repeater is required in support of AF taskings.

A study should be performed of AF mission activity and the communications needs of operational units the communications system supports. The wing and/or region repeater plan should be amended as necessary to provide adequate mission justification for each repeater for which you are requesting AF funding. All pertinent engineering study and documentation should be included to demonstrate both the mission requirement for each requested repeater but also the technical engineering of each repeater showing its appropriateness as a solution to a demonstrated communications need.

This plan should be coordinated through the appropriate CAP region for concurrence/non-concurrence and forwarded to NHQ NTC. NTC will review the plan and pass to CAP-USAF for approval.

## Part I – Global Baseline

The following calculations apply universally as a base line allotment for numbers of each type of Mission Essential Unit (MEU). Some wings may have differing circumstances that require a variation from this baseline and such variances should be addressed via the procedures described in the introduction to the Communications Table of Allowances.

**Incident Command Posts:** One Incident Command Post (ICP) for every 25,000 square miles. This number is based on *one hour flying time* (C172) from ICP to search area. Each wing headquarters is assumed to be one of the ICPs. Minimum of one per wing.

**Incident Commanders:** Using a volunteer availability estimate of three to one, three radio-supported IC's are authorized per ICP. Mission data shows that radio-supported IC's handle over 95% of the SAR missions which are short duration (<4 hours) and do not require establishing a full ICP.

**Mobile ICP:** One mobile ICP to every 2 fixed ICPs. Mobile communications resources can provide support to a transportable ICP; they can serve as primary communications node for a fixed ICP in a communications stressed environment; or they can serve as deployed communications relay nodes from an ICP into a distant mission area. Minimum allotment of one per wing. Note: The Communications TA supports only the radio equipment necessary for a Mobile ICP. See the Transportation TA for vehicle support.

**Staging Bases:** Not used in the global calculation. It is assumed that Staging Bases will be handled out of other assignment categories (i.e. unit headquarters) or justified independently only in a few large states. Where justified, the Comm TA indicated allotments will be used.

**Ground Teams / Urban DF Teams:** One team for every 6300 square miles using *one hour drive time* as a basis. This area is smaller than the calculations for an ICP because, unlike aircraft, driving distance to a search area is seldom in a straight line. Using a volunteer availability estimate of three to one, each team area is allowed three radio-supported teams.

**National Operations Center:** 1

**Region Message Center:** 8 (1 per region)

**Wing HQ and Message Center:** 52 (1 per wing)

**Unit HQ:** Total number of units currently in CAPWATCH minus the 52 wings and 8 regions.

Part II – Source Data

Region	Wing	Square Miles	Units	Missions
<b>NER</b>				
	CT	4872	14	32
	ME	30995	12	46
	MA	7826	32	55
	NH	8992	15	12
	NJ	7468	36	55
	NY	47379	75	76
	PA	44892	61	68
	RI	1054	7	24
	VT	9273	10	1

<b>MER</b>				
	DE	1933	13	5
	MD	9838	33	57
	DC	63	12	3
	NC	48843	46	76
	SC	30207	28	61
	VA	39700	40	86
	WV	24124	18	19

<b>GLR</b>				
	IL	55646	56	44
	IN	35936	31	35
	KY	39674	21	17
	MI	56959	44	43
	OH	41004	60	62
	WI	54424	36	40

<b>SER</b>				
	AL	50766	29	47
	FL	54157	92	399
	GA	58060	45	98
	MS	47234	18	43
	PR	3435	58	1
	TN	41154	41	47

Region	Wing	Square Miles	Units	Missions
<b>NCR</b>				
	IA	55965	15	12
	KS	81783	16	47
	MN	79548	34	40
	MO	68945	36	47
	NE	76639	20	16
	ND	69299	12	10
	SD	75956	13	9

<b>SWR</b>				
	AZ	113510	36	110
	AR	52082	14	26
	LA	44520	26	75
	NM	121336	20	24
	OK	68656	23	33
	TX	262015	88	240

<b>RMR</b>				
	CO	103598	43	42
	ID	82413	12	38
	MT	145388	13	7
	UT	82076	26	41
	WY	96988	11	15

<b>PACR</b>				
	AK	570833	21	171
	CA	156297	93	305
	HI	6427	10	0
	NV	109895	16	26
	OR	96187	26	52
	WA	66512	37	53



## Resources

Region	Wing	GTM	ICP	IC
<b>NER</b>				
	CT	3	1	3
	ME	15	1	3
	MA	3	1	3
	NH	3	1	3
	NJ	3	1	3
	NY	24	2	6
	PA	21	2	6
	RI	3	1	3
	VT	3	1	3

<b>MER</b>				
	DE	3	1	3
	MD	6	1	3
	DC	3	1	3
	NC	24	2	6
	SC	15	1	3
	VA	18	2	6
	WV	12	1	3

<b>GLR</b>				
	IL	27	2	6
	IN	18	1	3
	KY	18	2	6
	MI	27	2	6
	OH	21	2	6
	WI	27	2	6

<b>SER</b>				
	AL	24	2	6
	FL	27	2	6
	GA	27	2	6
	MS	21	2	6
	PR	3	1	3
	TN	21	2	6

Region	Wing	GTM	ICP	IC
<b>NCR</b>				
	IA	27	2	6
	KS	39	3	9
	MN	39	3	9
	MO	33	3	9
	NE	36	3	9
	ND	33	3	9
	SD	36	3	9

<b>SWR</b>				
	AZ	54	5	15
	AR	24	2	6
	LA	21	2	6
	NM	57	5	15
	OK	33	3	9
	TX	126	10	30

<b>RMR</b>				
	CO	48	4	12
	ID	39	3	9
	MT	69	6	18
	UT	39	3	9
	WY	45	4	12

<b>PACR</b>				
	AK	273	23	69
	CA	75	6	18
	HI	3	1	3
	NV	51	4	12
	OR	45	4	12
	WA	33	3	9

<b>Total</b>		<b>1698</b>	<b>150</b>	<b>450</b>
<b>Average</b>		<b>33</b>	<b>3</b>	<b>9</b>
<b>Volunteer Force Multiplier: 3</b>				

Part III - Tables

Tactical Communications										
Civil Air Patrol Communications Table of Allowances			Mission Critical			Mission Essential				
			A	B	D	E	F	G	H	I
			Incident Commander (IC)	Ground / Urban DF Team	Mobile ICP Package (e.g. Mobile Command Post)	Incident Command Post (ICP), Independently Located	Incident Command Post (ICP), Colocated with Wing HQ	Staging Base, Independently Located	Staging Base, Colocated with Wing HQ	Staging Base, Colocated with Unit HQ
Line	Item	Description								
A	Section A - Fixed Station Radios									
A1	Radio, Base, VHF/FM, LMR	Radio transceiver, VHF-FM, 138 - 174 mHz, 100+ channel, 40+ watt, alphanumeric display. Includes speaker, microphone and manual. Requires Antenna, VHF LMR, Fixed (line D13) and Power Supply (line D1). If procured after 1 August 2001, must be compliant with or upgradable to Project 25 digital modulation and DES-XL/DES-OFB encryption.	1		2	2	1	1		
A2	Radio, Base, HF/ALE	Radio transceiver, HF/SSB, 100+ watt output, 100+ channel memory, MIL-STD-188-141A compliant ALE. Includes speaker, microphone, and operations manual. Requires Power Supply (line D2), and Antenna Kit, HF, Fixed (line D4 or D6).	1 (Note A)		1 (Note A)	1		1		
A3	Radio, Base, HF	Radio transceiver, HF/SSB, 100+ watt, 100+ channel memory. Includes speaker, microphone, and operations manual. Requires Power Supply (line D2) and Antenna, HF, Fixed (line D4 or D6).	Note B		Note B	Note B		Note B		
A4	Radio, Base, VHF/AM (Aviation Band)	Radio transceiver, VHF/AM, 108 - 138mhz. Includes speaker, microphone and operating manual. Requires Antenna, VHF Aviation Band, Fixed (line D9) and power supply (line D1).			1	1	1	1 (Note C)	1 (Note C)	1 (Note C)

<b>A5</b>	Radio, Base, Liaison	Radio transceiver in any of several possible federal or civil public service bands for liaison communications with outside agencies. Some bands require equipment meeting FCC Type Acceptance requirements. Requestor must specify required operating parameters.	<b>Note D</b>		<b>Note D</b>	Note D	Note D	Note D	Note D	Note D
<b>B</b>	<b>Section B - Mobile Radios</b>									
<b>B1</b>	Radio, Mobile, VHF/FM, LMR	Radio transceiver, 138 - 174 mHz, 40+ watts, 100+ channel, alpha-numeric display. Includes mounting bracket, speaker, microphone, operating manual and installation kit. Requires Antenna, VHF/FM LMR, Mobile (line D14). If procured after 1 August 2001, must be compliant with or upgradable to Project 25 digital modulation and DES-XL/DES-OFB encryption.	<b>1</b>	<b>1 (Note L)</b>	<b>1 (Add Note on necessity)</b>					
<b>B2</b>	Radio, Mobile, HF/ALE	Radio transceiver, 100+ watts, 100+ chan, MIL-STD-188-141A compliant ALE. Includes shock mounting bracket, speaker, installation kit, microphone and operations manual. Requires Antenna, HF, Mobile (line D7) and Antenna Coupler HF, Automatic (line D15).		<b>1 (Note A)</b>	<b>1</b>					
<b>B3</b>	Radio, Mobile, HF	Radio transceiver, HF/SSB, 100+ watts, 100+ channel. Includes shock mounting bracket, speaker, installation kit, microphone and operations manual. Requires Antenna, HF Mobile (line D7) and Antenna Coupler HF, Automatic (line D15).		<b>Note F</b>	<b>Note F</b>					
<b>B4</b>	Radio, Mobile, VHF/AM, Aviation Band	Radio transceiver, VHF/AM, 108 - 138mhz, 760 channel 10 watt. Includes mounting bracket, installation kit, speaker, microphone and operations manual. Requires Antenna, VHF Aviation Band, Mobile (line D10).		<b>1</b>						
<b>B5</b>	Radio, Mobile, Liaison	Radio transceiver in any of several possible federal or civil public service bands for liaison communications with outside agencies. Some bands require equipment meeting FCC Type Acceptance requirements. Requestor must specify required operating parameters.		<b>Note D</b>	<b>Note D</b>					

<b>B6</b>	Repeater, Mobile, VHF/FM, LMR	Radio Repeater, VHF/FM, 138 - 174mhz, low power (<25 watt). Includes speaker, microphone, mag mount antenna, installation kit, duplexer and ferrite isolator. If not initially equipped, must be capable of upgrade to Project 25 Digital and Transparent Encryption.			<b>1</b>					
<b>B7</b>	Tactical HF E-Mail System	Complete deployable package in transit case. Provides electronic mail capability to response personnel in areas where commercial infrastructure is not available. Requires Rockwell Collins HF Messenger Software, P3 Computer Server; HF Modem {special configuration}; HF ALE radio {special configuration} (line A2); Power Supply (line D3); Transportable Antenna (line D6); Antenna Install Kit (line E1). Interoperable with USAF SCOPE Command Network. Configuration controlled item. Local reproduction is not authorized. NTC is system manager.								
<b>B8</b>	Tactical Video Imaging System	Complete deployable package in transit case. Provides the capability of transmission of high resolution single-frame video images over narrow-bandwidth voice-grade radio circuits. Images may be captured from multiple sources including NTSC video or digital cameras. GPS with appropriate interface required to provide Lat/Long plus Date/Time on captured images. Ruggedized laptop computer required for image manipulation and enhancement.								
<b>C</b>	<b>Section C - Handheld Radios</b>									
<b>C1</b>	Radio, HH, VHF/FM, LMR	VHF/FM handheld transceiver, 138 - 174mhz, 5watt output. Includes flexible antenna, rechargeable battery, AC charger and operations manual. If procured after 1 August 2001, must be compliant with or upgradable to Project 25 digital modulation and DES-XL/DES-OFB encryption.		<b>2</b>						

<b>C2</b>	Radio, HH, Aircraft Band	VHF/AM handheld transceiver, 108 - 138 mHz, 760 channel. Includes flexible helical antenna, speaker microphone, rechargeable battery, AC charger and operations manual.		<b>1</b>		1	1	1 (Note C)	1 (Note C)	1 (Note C)
<b>C3</b>	Radio, HH, Liaison	Radio transceiver in any of several possible federal or civil public service bands for liaison communications with outside agencies. Some bands require equipment meeting FCC Type Acceptance requirements. Requestor must specify required operating parameters.		<b>Note D</b>						
<b>C4</b>	Radio, ISR	UHF/FM Inter Squad Radio (ISR), 14 channels, 397 - 400mhz. Includes battery, AC charger and opations manual.		<b>5</b>	<b>5</b>	<b>5</b>				
<b>D</b>	<b>Section D - Support Equipment</b>									
<b>D1</b>	Power Supply	12 amp	<b>1 per A1, A4, A5</b>			1 per A1, A4, A5	1 per A1, A4, A5	1 per A1, A4, A5	1 per A1, A4, A5	1 per A1, A4, A5
<b>D2</b>	Power Supply	35 amp	<b>1 per A2, A3</b>			1 per A2, A3	1 per A2, A3	1 per A2, A3	1 per A2, A3	1 per A2, A3
<b>D3</b>	Power Supply, Heavy Duty	50 amp, rack mountable	<b>Note G</b>			Note G	Note G	Note G	Note G	Note G
<b>D4</b>	Rapid Charger, HH (Gang)	Rapid charger , 6 radio capacity, specify manufacturer and model								
<b>D5</b>	Antenna, HF, Fixed (Folded Dipole)	Broadband folded dipole, 1.8 - 30mhz. Requires Installation Kit, Antenna, Fixed (line E2).	<b>1 per A2, A3</b>		<b>1 per A2, A3</b>	1 per A2, A3	1 per A2, A3	1 per A2, A3	1 per A2, A3	1 per A2, A3
<b>D6</b>	Antenna, HF, NVIS	HF NVIS Antenna. Can be used for fixed or portable applications. Requires Antenna Coupler HF, Automatic (line D15).	<b>Note H</b>		<b>Note H</b>	Note H	Note H	Note H	Note H	Note H
<b>D7</b>	Antenna, HF, Mobile	HF Mobile Whip. Includes ball mount and spring. Requires Antenna Coupler HF, Automatic (line D15).		<b>1 per B2, B3</b>	<b>1 per B2, B3</b>					
<b>D8</b>	Antenna, VHF Aviation Band, Fixed	VHF fixed station antenna, 108 - 138mhz. Includes mounting bracket. Requires Installation Kit, Antenna, Fixed (line E1).				1 per A4	1 per A4	1 per A4	1 per A4	1 per A4
<b>D10</b>	Antenna, VHF Aviation Band, Mobile	VHF mobile antenna, 108 - 138mhz. Includes NMO mounting kit with cable and RF connector.		<b>1 per B4</b>	<b>1 per B4</b>					

<b>D11</b>	Antenna, Liaison, Fixed	Matching antenna for any of the following Public Service bands: 30 - 88mhz, 150 - 174mhz, 225 - 400mhz, 406 - 512mhz, 806 - 870mhz or 896 - 941mhz. For liaison communications with outside agencies. Wing must specify required operating parameters.	<b>1 per A5</b>			1 per A5	1 per A5	1 per A5	1 per A5	1 per A5
<b>D12</b>	Antenna, Liaison, Mobile	Matching antenna for any of the following Public Service bands: 30 - 88mhz, 150 - 174mhz, 225 - 400mhz, 406 - 512mhz, 806 - 870mhz or 896 - 941mhz. For liaison communications with outside agencies. Wing must specify required operating parameters.		<b>1 per B5</b>	<b>1 per B5</b>					
<b>D13</b>	Antenna, VHF LMR, Fixed	VHF fixed station antenna, 138 - 174mhz. Includes mounting bracket. Requires Installation Kit, Antenna, Fixed (line E1).	<b>1 per A1</b>			1 per A1	1 per A1	1 per A1		
<b>D14</b>	Antenna, VHF LMR, Mobile	VHF mobile antenna, 138 - 174mhz, Includes NMO mounting kit with cable and RF connector.	<b>1 per B1</b>	<b>1 per B1</b>	<b>1 per B1</b>					
<b>D15</b>	Antenna Coupler HF, Automatic	Automatic HF Antenna Coupler, 2 - 30 MHz. Includes mounting bracket and installation kit.	<b>1 per D6</b>	<b>1 per B2, B3, D6</b>	<b>1 per B2, B3, D6</b>	1 per D6	1 per D6	1 per D6	1 per D6	1 per D6
<b>D16</b>	RF Amplifier, HF, 500 watt	RF amplifier, HF, 2 - 30 mHz, 500 watt output	<b>Note I</b>	<b>Note I</b>	<b>Note I</b>	Note I		Note I		
<b>D17</b>	RF Amplifier, HF, 1kw	RF amplifier, HF, 2 - 30 mHz, 1000 watt output	<b>Note J</b>			Note J		Note J		
<b>D18</b>	Mast, Telescoping	Includes guy lines, anchors, base plate			<b>2</b>					
<b>D19</b>	Generator, 115VAC.	115VAC, 2500+ watt gas engine generator. Includes operations manual.			<b>2</b>	2 (Note K)	2 (Note K)	1 (Note K)	1 (Note K)	1 (Note K)
<b>E</b>	<b>Section E - Miscellaneous Kits</b>									
<b>E1</b>	Installation Kit, Antenna, Fixed	Includes 100ft RG-213 coax (or equivalent) and coax connectors	<b>1 per A1, A2, A3, A4, A5</b>			1 per A1, A2, A3, A5	1 per A1, A2, A3, A4, A5	1 per A1, A2, A3, A4, A5	1 per A1, A2, A3, A4, A5	1 per A1, A2, A3, A4, A5
<b>E2</b>	Direction Finder, Radio	Hand-carried, battery powered device capable of operating on 121.5, 121.775, 243.0 and 243.55mhz VHF and UHF distress frequencies. Equipped with internal antenna system.		<b>1</b>						

Notes	
<b>A</b>	If needed based on a requirement to frequently communicate over distances beyond VHF range. Wing must show supporting mission data as justification.
<b>B</b>	Can be substituted for item A2 if unavailable. Use until current supply exhausted or replaced by Item A2.
<b>C</b>	If located on an airfield and used for staging aircraft.
<b>D</b>	If required for liaison communications with outside agencies. Wing must demonstrate mission need and frequency approval through formal agreements with outside agencies (e.g., MOU, MOA). Wing must specify operating parameters.
<b>F</b>	Can be substituted for item B2 if unavailable. Use until current supply exhausted or replaced by Item B2.
<b>G</b>	As needed to consolidate power sources of multiple authorized devices such as in a radio--comm center.
<b>H</b>	May be substituted for D4, broadband folded dipole.
<b>I</b>	1 per A2, A3, B2, B3 were necessary for effective communications. Requesting unit must demonstrate need.
<b>J</b>	1 per A2, A3 were necessary for effective communications. Requesting unit must demonstrate need.
<b>K</b>	Unless located in a building providing emergency backup power.
<b>L</b>	Unless team has an assigned corporate vehicle. Corporate vehicles should be used as a priority over personally owned vehicles if at all possible.

Command and Control Communications													
Civil Air Patrol Communications Table of Allowances			Mission Critical				Mission Essential						
			A	B	C	D	E	F	G	H	I	J	K
			National Operations Center	Region Message Center (Note X)	Wing Message Center (Note X)	Wing Communications System (Note Z)	National Technology Center	Wing HQ (Note Y)	Unit HQ (Note Y)	NHQ Staff	Region Staff	Wing Staff	Unit Staff
Line	Item	Description											
A	Section A - Fixed Station Radios												
A1	Radio, Base, VHF/FM, LMR	Radio transceiver, VHF-FM, 138 - 174 mHz, 100+ channel, 40+ watt, alphanumeric display. Includes speaker, microphone and manual. Requires Antenna, VHF LMR, Fixed (line D13) and Power Supply (line D1). If procured after 1 August 2001, must be compliant with or upgradable to Project 25 digital modulation and DES-XL/DES-OFB encryption.	1	1(Note AB)	1 (Note AB)		1 plus Note Q	1	Use Mobile	Use Mobile	Use Mobile	Use Mobile	Use Mobile
A2	Radio, Base, HF/ALE	Radio transceiver, HF/SSB, 100+ watt output, 100+ channel memory, MIL-STD-188-141A compliant ALE. Includes speaker, microphone, and operations manual. Requires Power Supply (line D2), and Antenna Kit, HF, Fixed (line D4 or D6).	2	2	1	1	2		1 (note: must be separated by ?? Distance)	2	1	1	
A3	Radio, Base, HF	Radio transceiver, HF/SSB, 100+ watt, 100+ channel memory. Includes speaker, microphone, and operations manual. Requires Power Supply (line D2) and Antenna, HF, Fixed (line D4 or D6).	Note B	Note B	Note B	Note B	Note B	Note B	Note B	Note B	Note B	Note B	Note B
A4	Radio, Base, VHF/AM (Aviation Band)	Radio transceiver, VHF/AM, 108 - 138mhz. Includes speaker, microphone and operating manual. Requires Antenna, VHF Aviation Band, Fixed (line D9) and power supply (line D1).	1				1 plus Note Q	(1 unless Note R)	1 (Notes C and R)				
A5	Radio, Base, Liaison	Radio transceiver in any of several possible federal or civil public service bands for liaison communications with outside agencies. Some bands require equipment meeting FCC Type Acceptance requirements. Requestor must specify required operating parameters.	Note D				Note D and Note Q						



A6	Repeater Station, Radio	Radio Repeater, 138 - 150 MHz, full-duplex channel, 100 watt. Includes speaker, microphone, power supply and installation manual. Requires duplexer (D20), antenna (D21 or D22), transmission line (E2 or E3), and Interconnect Cable Kit (E4). If not initially equipped, must be capable of upgrade to Project 25 Digital and Transparent Encryption. Can be equipped with optional ferrite isolator (line D23) if required.	1			9.2 (Note AA)							
B	Section B - Mobile Radios												
B1	Radio, Mobile, VHF/FM, LMR	Radio transceiver, 138 - 174 mHz, 40+ watts, 100+ channel, alpha-numeric display. Includes mounting bracket, speaker, microphone, operating manual and installation kit. Requires Antenna, VHF/FM LMR, Mobile (line D14). If procured after 1 August 2001, must be compliant with or upgradable to Project 25 digital modulation and DES-XL/DES-OFB encryption.	2			1 per corporate vehicle (Note S)	2			10	10	20	1 (Based on mission requirements)
B2	Radio, Mobile, HF/ALE	Radio transceiver, 100+ watts, 100+ chan, MIL-STD-188-141A compliant ALE. Includes shock mounting bracket, speaker, installation kit, microphone and operations manual. Requires Antenna, HF, Mobile (line D7) and Antenna Coupler HF, Automatic (line D15).											
B3	Radio, Mobile, HF	Radio transceiver, HF/SSB, 100+ watts, 100+ chan. Includes shock mounting bracket, speaker, installation kit, microphone and operations manual. Requires Antenna, HF Mobile (line D7) and Antenna Coupler HF, Automatic (line D15).											
B4	Radio, Mobile, VHF/AM, Aviation Band	Radio transceiver, VHF/AM, 108 - 138mhz, 760 channel 10 watt. Includes mounting bracket, installation kit, speaker, microphone and operations manual. Requires Antenna, VHF Aviation Band, Mobile (line D10).											

B5	Radio, Mobile, Liaison	Radio transceiver in any of several possible federal or civil public service bands for liaison communications with outside agencies. Some bands require equipment meeting FCC Type Acceptance requirements. Requestor must specify required operating parameters.											
B6	Repeater, Mobile, VHF/FM, LMR	Radio Repeater, VHF/FM, 138 - 174mhz, low power (<25 watt). Includes speaker, microphone, mag mount antenna, installation kit, duplexer. If not initially equipped, must be capable of upgrade to Project 25 Digital and Transparent Encryption.				1	Note Q						
B7	Tactical HF E-Mail System	Complete deployable package in transit case. Provides electronic mail capability to response personnel in areas where commercial infrastructure is not available. Requires Rockwell Collins HF Messenger Software, P3 Computer Server; HF Modem (special configuration); HF ALE radio (special configuration) (line A2); Power Supply (line D3); Transportable Antenna (line D6); Antenna Install Kit (line E1). Interoperable with USAF SCOPE Command Network. Configuration controlled item. Local reproduction is not authorized. NTC is system manager.				Note T	Note Q and U						
B8	Tactical Video Imaging System	Complete deployable package in transit case. Provides the capability of transmission of high resolution single-frame video images over narrow-bandwidth voice-grade radio circuits. Images may be captured from multiple sources including NTSC video or digital cameras. GPS with appropriate interface required to provide Lat/Long plus Date/Time on captured images. Ruggedized laptop computer required for image manipulation and enhancement.				Note V	Note Q						
C	Section C - Handheld Radios												
C1	Radio, HH, VHF/FM, LMR	VHF/FM handheld transceiver, 138 - 174mhz, 5watt output. Includes flexible antenna, rechargeable battery, AC charger and operations manual. If procured after 1 August 2001, must be compliant with or upgradable to Project 25 digital modulation and DES-XL/DES-OFB encryption.	2				2 and Note Q				10		

<b>C2</b>	Radio, HH, Aircraft Band	VHF/AM handheld transceiver, 108 - 138 mHz, 760 channel. Includes flexible helical antenna, speaker microphone, rechargeable battery, AC charger and operations manual.	<b>1</b>				1						
<b>C3</b>	Radio, HH, Liaison	Radio transceiver in any of several possible federal or civil public service bands for liaison communications with outside agencies. Some bands require equipment meeting FCC Type Acceptance requirements. Requestor must specify required operating parameters.					Note Q						
<b>C4</b>	Radio, ISR	UHF/FM Inter Squad Radio (ISR), 14 channels, 397 - 400mhz. Includes battery, AC charger and opations manual.	<b>5</b>			<b>Note W</b>	2 and Note Q	4 (Note R)	2 (Note R)				
<b>D</b>	<b>Section D - Support Equipment</b>												
<b>D1</b>	Power Supply	12 amp	<b>1 per A1, A4, A5</b>				1 per A1, A5, A5	1 per A1, A4	1 per A1, A4	1 per A1	1 per A1	1 per A1	1 per A1
<b>D2</b>	Power Supply	35 amp	<b>1 per A2, A3</b>				1 per A2, A3	1 per A2, A3	1 per A2, A3	1 per A2, A3	1 per A2, A3	1 per A2, A3	1 per A2, A3
<b>D3</b>	Power Supply, Heavy Duty	50 amp, rack mountable	<b>Note G</b>				Note G	Note G	Note G				
<b>D4</b>	Rapid Charger, HH (Gang)	Rapid charger , 6 radio capacity, specify manufacturer and model											
<b>D5</b>	Antenna, HF, Fixed (Folded Dipole)	Broadband folded dipole, 1.8 - 30mhz. Requires Installation Kit, Antenna, Fixed (line E2).	<b>1 per A2, A3</b>	<b>1 per A2, A3</b>	<b>1 per A2, A3</b>	<b>1 per A2, A3</b>	1 per A2, A3	1 per A2, A3	1 per A2, A3	1 per A2, A3	1 per A2, A3	1 per A2, A3	1 per A2, A3
<b>D6</b>	Antenna, HF, NVIS	HF NVIS Antenna. Can be used for fixed or portable applications. Requires Antenna Coupler HF, Automatic (line D15) and Installation Kit, Antenna, Fixed (line E1).	<b>Note H</b>	<b>Note H</b>	<b>Note H</b>	<b>Note H</b>	Note H	Note H	Note H	Note H	Note H	Note H	Note H
<b>D7</b>	Antenna, HF, Mobile	HF Mobile Whip. Includes ball mount and spring. Requires Antenna Coupler HF, Automatic (line D15).											
<b>D8</b>	Antenna, VHF Aviation Band, Fixed	VHF fixed station antenna, 108 - 138mhz. Includes mounting bracket. Requires Installation Kit, Antenna, Fixed (line E1).	<b>1 per A4</b>				1 per A4	1 per A4	1 per A4				
<b>D10</b>	Antenna, VHF Aviation Band, Mobile	VHF mobile antenna, 108 - 138mhz. Includes NMO mounting kit with cable and RF connector.											

<b>D11</b>	Antenna, Liaison, Fixed	Matching antenna as required for liaison communications in any of severa possible federal or civil public service bands. Wing must justify and specify required operating parameters.	<b>1 per A5</b>					1 per A5						
<b>D12</b>	Antenna, Liaison, Mobile	Matching antenna as required for liaison communications in any of severa possible federal or civil public service bands. Wing must justify and specify required operating parameters.												
<b>D13</b>	Antenna, VHF LMR, Fixed	VHF fixed station antenna, 138 - 174mhz. Includes mounting bracket. Requires Installation Kit, Antenna, Fixed (line E1).	<b>1 per A1</b>	<b>1 per A1</b>	<b>1 per A1</b>	<b>1 per A1</b>		1 per A1	1 per A1	1 per A1	1 per A1	1 per A1	1 per A1	1 per A1
<b>D14</b>	Antenna, VHF LMR, Mobile	VHF mobile antenna, 138 - 174mhz, Includes NMO mounting kit with cable and RF connector.	<b>1 per B1</b>			<b>1 per B1</b>		1 per B1			1 per B1	1 per B1	1 per B1	1 per B1
<b>D15</b>	Antenna Coupler HF, Automatic	Automatic HF Antenna Coupler, 2 - 30 mHz. Includes mounting bracket and installation kit.	<b>1 per D6</b>	<b>1 per D6</b>	<b>1 per D6</b>	<b>1 per B2, B3, D6</b>		1 per D6	1 per D6	1 per D6	1 per D6	1 per D6	1 per D6	1 per D6
<b>D16</b>	RF Amplifier, HF, 500 watt	RF amplifier, HF, 2 - 30 mHz, 500 watt output	<b>Note I</b>	<b>Note I</b>	<b>Note I</b>	<b>Note I</b>		Note I	Note I	Note I				
<b>D17</b>	RF Amplifier, HF, 1kw	RF amplifier, HF, 2 - 30 mHz, 1000 watt output	<b>Note J</b>	<b>Note J</b>	<b>Note J</b>	<b>Note J</b>		Note J	Note J	Note J				
<b>D18</b>	Mast, Telescoping	Includes guy lines, anchors, base plate												
<b>D19</b>	Generator, 115VAC.	115VAC, 2500+ watt gas engine generator. Includes operations manual.		<b>1 (Note K)</b>	<b>1 (Note K)</b>				1 (Note K)					
<b>D20</b>	Duplexer, Repeater	Duplexer, Bandpass-Reject, frequency range 138-150 MHz or greater; frequency separation 0.5 MHz; max power input 400 watts. Decibel DB-4060 or equivalent.	<b>1 per A6</b>											
<b>D21</b>	Antenna, Repeater, Unity Gain; fiberglass radome	Antenna, VHF, Fiberglass, Unity gain, 138-150 MHz or greater; max power input 200 watts or greater. Must support full-band coverage to accommodate new assignments. Celwave BA-1010-7 or equivalent.	<b>1 per A6</b>											
<b>D22</b>	Antenna, Repeater, 6dB Gain, Exposed Elements	Antenna, VHF, 6 dB gain, 138-150 MHz or greater; max power input 200 watts or greater. Must support full-band coverage to accommodate new assignments. Decibel DB-224E or equivalent.	<b>Note M</b>											

D23	Isolator, ferrite	Dual stage ferrite isolator with harmonic filter. Must be capable of handling twice the maximum output power of the repeater in its operating range.	Note N										
E	Section E - Miscellaneous Kits												
E1	Installation Kit, Antenna, Fixed	Includes 100ft RG-213 coax (or equivalent) and coax connectors.	1 per A1, A2, A3, A4, A5	1 per A1, A2, A3, A4, A5	1 per A1, A2, A3, A4, A5	1 per A1, A2, A3	1 per A1, A2, A3, A4, A5	1 per A1, A2, A3, A4, A5	1 per A1, A2, A3, A4, A5	1 per A1, A2, A3	1 per A1, A2, A3	1 per A1, A2, A3	1 per A1, A2, A3
E2	Transmission Line Kit, <200ft	1/2" Jacketed Coaxial Cable with 2 ea Type N female connectors. Andrew LDF 4-50A or equivalent.	Note O										
E3	Transmission Line Kit, >200ft	7/8" Jacketed Coaxial Cable with 2 ea Type N female connectors. Andrew LDF 5-50 or equivalent.	Note P										
E4	Interconnect Cable Kit, Coaxial	RG-214, double-shielded coax cable assembly; 8 feet long with Type N male connectors on both ends. Decibel DB-11391 or equivalent. 3 each.	1 per D20										
Notes													
A	If needed based on a requirement to frequently communicate over distances beyond VHF range. Wing must show supporting mission data as justification.												
B	Can be substituted for item A2 if unavailable. Use until current supply exhausted or replaced by Item A2.												
C	If located on an airfield and used for staging aircraft.												
D	If required for liaison communications with outside agencies. Wing must demonstrate mission need and frequency approval through formal agreements with outside agencies (e.g., MOU, MOA). Wing must specify operating parameters.												
E	2 mobile units authorized for CP operations. 1 additional unit may be authorized for driver's position if mobile ICP is drivable or a trailer pulled by a dedicated vehicle.												
F	Can be substituted for item B2 if unavailable. Use until current supply exhausted or replaced by Item B2.												
G	As needed to consolidate power sources of multiple authorized devices such as in a radio--comm center.												
H	May be substituted for D4, broadband folded dipole.												
I	1 per A2, A3, B2, B3 were necessary for effective communications. Wing must demonstrate need.												
J	1 per A2, A3 were necessary for effective communications. Wing must demonstrate need.												
K	Unless located in a building providing emergency backup power or colocated with an ICP or staging base with generator.												
L	If assigned vehicle has built-in AC generator, reduce allowance to 1												
M	May be substituted for D21, Antenna, Repeater, Unity Gain.												
N	For use at radio sites prone to intermod products. Must be justified by intermod study.												
O	For cable runs under 200 feet. Requestor must specify cable length.												
P	For cable runs over 200 feet. Requestor must specify cable length.												

<b>Q</b>	NTC will maintain sufficient quantities in deployable shipping containers to support NHQ sponsored activities (NB, NCASE, NGSAR, flight encampments, major DR or HS events, etc) as appropriate.
<b>R</b>	Unless colocated with an ICP or staging base. If so, no additional are authorized.
<b>S</b>	Other assignments may not duplicate or add to this assignment of 1 per vehicle wih out NHQ and CAP-USAF approval.
<b>T</b>	Very limited availability item. Issued only with adequate justification and a supporting emergency communications plan.
<b>U</b>	NTC will maintain supporting infrastructure as required.
<b>V</b>	Issued as justified based on inter-agency support agreements and ops tempo. Requester must provide adequate justification.
<b>W</b>	Wing may request ISR radios to support AE, CP and other similar functions which require inexpensive, short range communications. Wings may hold radios in cache at wing level for issue when needed, distribute to units, or a combination as deemed appropriate IAW wing planning.
<b>X</b>	Each wing and region should establish a primary message center. May also serve as NCS for radio nets. This station meets higher headquarters and liaison nets, as required, and passes information up and down the CAP command and control communications system. Care in location selection should be used to ensure adequate manning for regular operation.
<b>Y</b>	Radio authorizations in this category may not duplicate any authorizations in any other column. I.e, if equipment is allotted to this location based on ES or other mission criteria, no duplication of equipment is authorized by this column.
<b>Z</b>	In addition to the specific allowances called out in this TA, other wing-specific needs may arise. These must be adequately justified and supported with appropriate planning and documentation. Requests for equipment under this category must be submitted with all available justification and coordinated/approved by NHQ CAP and HQ CAP-USAF.
<b>AA</b>	Number cited is for national level planning purposes only. Each wing must submit a well documented and justified repeater plan approved by their region and NHQ. To be considered mission critical the justification for each repeater will be judged against the following criteria: The repeater must be necessary to directly support AF assigned missions and it must be required either due to no other communications service being available to support the mission or necessary because existing services will not meet the requirement within mission required time criteria. Each repeater proposal must be accompanied with corroborating mission data demonstrating a direct requirement.
<b>AB</b>	Unless team has an assigned corporate vehicle. Corporate vehicles should be used as a priority over personally owned vehicles if at all possible.