## **ORDER**

# DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION

7910.1

4/2/74

#### SUBJ: AERONAUTICAL VIDEO MAP PROGRAM

- PURPOSE. This order establishes procedures for the preparation and procurement of video maps for solid-state multichannel and/or tube-type mappers for use in radar equipped FAA air traffic control facilities.
- 2. <u>DISTRIBUTION</u>. This order is distributed to Air Traffic and Airway Facilities branches and above in Washington and Regional Headquarters; overseas area offices; FAA Academy; Aviation Facilities and Air Traffic Systems Divisions at the National Aviation Facilities Experimental Center; Airport Traffic Control Towers; Air Route Traffic Control Centers; RAPCONs; RATCCs; and Airway Facilities Sectors.
- 3. CANCELLATION. Order OA 7910.1 dated April 28, 1964, is cancelled.
- 4. BACKGROUND. With the purchase of solid-state multichannel mappers, the Flight Services Division, AAT-400, became responsible for the coordination, development, and procurement of the miniature video map slides, with liaison between Airway Facilities Service, AAF-340, air traffic facilities, and the National Ocean Survey (NOS). AAT-400 and AAF-300 have developed the standards in this order to aid personnel in better use of equipment to minimize preventive maintenance for single- and multiple-channel video mappers. The solid-state multichannel mappers, with cassette-type slides of various scales and ranges, require accurate centering of data, standardization of map scales, symbology and line-weights. New methods, techniques, and new materials have been employed to develop and produce the small map slide, as well as video plates for the tube-type mappers.
- FIVE-CHANNEL VIDEO MAPPERS. The video maps depicted on radar displays are entirely specified by the air traffic control facility. As such, the video map should present an accurate, stable representation of the airways, fixes, boundaries, runway extension lines, etc., to meet the individual unique requirements of each facility. However, the capabilities and limitations of the video mapper equipment must be known and considered when ordering video map slides. This will assure better utilization of the available capabilities and prevent overtaxing the system by, unknowingly, requiring it to perform outside the design parameters. There are three types of five-channel mapper equipment: FA-8049, AN/GPA-131 and the new FA-8970. Although these units are fundamentally similar, they have individual differences. The following information is presented primarily for the new mappers.

Distribution: WRAT/AF-3; M-1; CAY-2; NAN-2; NTS-2; FAT-1, 2, 8 (Minimum); FAF-2 (Minimum)

Initiated By: AAT-420

4/2/74

- a. FA-8970 Video Mapper Capabilities. There are five maps available to each control position. The controller can select one of the five maps or he can overlay one map on top of the other until all five video maps are displayed. When overlaying is used, the minimum planned position indicator (PPI) range must be held to three-fourths of the map slide range (scale); i.e., 40 NM to 30 NM. To change maps, one must be switched off and another switched on (press two switch buttons). No other radar positions will be affected unless more than one display is connected to a BRITE or RBDE unit. The number of radar positions that can be provided discrete map data with full selection capability is 11 (12 positions, 1 reserved for maintenance).
- b. <u>Standard Map Ranges</u>. In order to standardize the map-making process and to maintain compatibility with the mapper alignment slides, the following map slide ranges must be used:

Terminal - 10, 20, 30, 40, 50, 60 nautical miles.

Enroute - 100, 125, 150, 200, or any of the above, nautical miles.

Each map channel can be aligned by maintenance personnel to any of the standard map slide ranges. A map channel does not have instantaneous range switching. A realignment is required to change ranges on each individual map channel; also, a new map slide drawn to the desired range scale must replace existing map slide.

#### c. Video Mapper Accuracy of 1%.

- (1) The United States Standard Flight Inspection Manual, OA P 8200.1, requires that an aircraft reported as being over a fix will be within a circular area about the fix, the radius of which is 3% of the fix-to-station distance, or 500 feet, whichever is greater. Also, the surveillance approach course line will coincide as nearly as practicable with the runway centerline extended. Maximum error left or right of runway edges will not exceed 500 feet, or 3 percent of the distance between the radar antenna and the point at which the approach is discontinued, whichever is greater.
- (2) Video mapper accuracy of 1% can only be assured when using a PPI range equal to the video map slide maximum range. If a portion of the map range is viewed on a PPI, the map accuracy will be reduced accordingly. For instance, if a PPI range of 30 miles is used with a 60-mile map range, the map accuracy will be reduced to 2 percent. This does not leave much leeway for other radar system inaccuracies. Any minor map drift or instabilities are overemphasized when using less than 50% of the map slide range.

Page 2

- (3) Map slide ranges are to be selected and ordered so that no radar display must use less than one-half the map slide range. When overlaying is used, the minimum PPI range must be held to three-fourths of the map slide range (scale).
- d. Utilization of a Five-Channel Mapper. Since each air traffic control facility has its own unique requirements, best utilization can only be determined and implemented by those who know and understand those requirements. However, the following examples are offered as guidance as to what can be done:
  - (1) Terminals with Various Operating Procedures. Terminal facility provides departure and arrival control from separate PPI positions using the same radar range of 40 miles. Surveillance (PPI) approaches are provided using the 10-mile range, occasionally switching to the 6-mile range from a third radar position. The tower cab uses a BRITE display on the 10-mile range.
    - (a) With a five-channel mapper, the following map slide ranges can be set up:

Map Channel	Slide Range	Function
1	10 N. Miles	Main
2	10 N. Miles	Spare
3	40 N. Miles	Departure
4	40 N. Miles	Arrival
5	40 N. Miles	Composite (Spare)

If approach and departure functions are occasionally combined on one PPI, Map 5 can be used or Map 3 and Map 4 can be selected for combined display.

(b) If PPI approaches are not provided, one 20-mile map slide might be sufficient for the tower cab - and Map Channel 2 can be released for some other function.

Map Channel	Slide Range	Function
1	20 N. Miles	BRITE
2	40 N. Miles	East Main
3	40 N. Miles	East Spare
4	50 N. Miles	West Main
5	50 N. Miles	West Spare

(c) With single-channel video mappers only, one video map plate could be used. A map plate, of required range, is prepared with all data required for all operational functions. 7910.1

(2) Enroute Facility with High and Low Altitude Procedures.

Standard usage of video mappers is to provide four video map channels. These channels were set up and aligned to provide a
high map and a low map input to each scan converter. Upon map
failure, a spare high or low map is switched in. The following
ranges can be applied using one five-channel mapper:

(a) Discrete map video and selection capability can be cabled to up to 10 operational scan converters plus one discrete output to a spare scan converter patch panel. The map video would be on only one scan converter input and any one or all five maps could be selected. Map channels could be set up as follows:

Map Channel	Slide F	Range	Function
1	200 N	lile	High Altitude Main
2	200 N	Mile	High Altitude Spare
3	125 N	4ile	Low Altitude Main
4	125 N	4ile	Low Altitude Spare
5	200 N	Mile	Special Use

- (b) The five-channel mapper can be wired to function, as far as the control position is concerned, exactly in the same manner as the older systems. High map, main or spare, will be on scan converter Map No. 1 input and the low altitude map, main or spare, will be on the No. 2 scan converter input. In this configuration, the fifth map channel would be of no benefit. One discrete position amplifier could be used for high altitude maps (main or spare) and one could provide low altitude maps (main or spare).
- 6. VIDEO MAPS. All video map slides for multichannel mappers will be acquired through AAT-400, who will coordinate the initial requirements and scheduling with the contractor. After the initial scheduling, facilities will coordinate routine map data changes directly with the contractor. Video map plates for other than multichannel mappers (tube-type) may be obtained by coordinating requests in the above manner. AAT-400 will contract for the procurement of new map slides and plates and revision service, as required. Coordinate requests for special maps or services through AAT-400. Obsolete map holders, associated with FA-8049 (TI) solid-state multichannel mappers must be promptly returned to the contractor, NOS or AAT-420.

#### a. Responsibility.

- Map data to be shown on each individual map is the responsibility of the facility chief, consistent with facility operational requirements.
- (2) Airway Facilities Service (Maintenance) shall determine alignment data to be displayed on the map for proper alignment and adjustment of equipment.
- (3) After an air traffic facility and its regional office have agreed that computerized video maps will replace those obtained from local sources, the facility shall submit their new map requirements to AAT-400. AAT-400 will ensure requirements are satisfied to meet new radar map standards for increased accuracy and better compatibility of data.
- b. Map Standardization. Technological advances and improved techniques have generated requirements for map standardization, which have resulted in a computerized map accuracy of ±.001 inch overall and data portrayed at .002 inch on final product.
  - (1) Scales. Map scales are standardized for computer plotting on Lambert Conformal Conic Projection at the following compilation scales: terminal maps up to 60 nautical mile range at 1:250,000, for multichannel equipment this may vary, depending on range; Enroute Low Altitude 100-150 nautical miles range at 1:750,000; Enroute High Altitude 200-250 nautical miles range at 1:1,000,000.
  - (2) Symbology. All map data symbols will be in accordance with the standard symbology (Appendix 1) for depiction on FAA ATC radar video maps. These symbols were developed and adapted as standards. This was necessary for computer-produced maps, training air traffic controllers and cartographers, and improved map production capability. It is recognized that there may be a requirement for map symbols to portray special criteria not reflected in these standards. All recommendations for additions or changes should be submitted to AAT-400 for approval.
  - (3) Lineweights. Standardization is required to give uniformity for controlling proper lineweights and compatibility of data between radar systems. Lineweights must be applicable at compilation scales for final photographic reductions to .003" lineweights for video plates (tube-type), and .002" lineweights for multichannel video slides.

7910.1

c. Request for Aeronautical Video Map Plate/Slide/Overlay (FAA Form 7910-1) - Appendix 2. FAA Form 7910-1 has been developed for convenience in submitting proper data. This will include all data required to meet the guidelines in Order 7210.3B, paragraphs 780, 786, 1475 and 1482. Additional procedural sketches, letters of agreement and supplemental data are helpful in preparing the video map. Air route traffic control centers need only one request form containing composite data for each altitude stratum. Data within radar overlaps, not required on all maps, should be identified for the appropriate map(s). FAA Form 7910-1 will be available on or about March 4, 1974. An initial distribution will be made to radarequipped facilities and regions. Forms will be stocked in the FAA Depot and will be available through normal supply channels, FSN 0052-841-0000, unit of issue: set. Two additional (three in all) copies of Page 1 have been included in each set to provide one copy for submission to AAT-420 and one copy for subsequent use when utilizing portions of set for revisions.

- (1) New Maps. Facilities submitting their video map requirements should forward the standard request form, sketches of video map (not necessarily to scale) for reference, tower/center letters of agreement, or special procedural data.
- (2) Revised Maps. Revisions or changes to maps can be made using the standard form, identifying the items being changed by referring to the paragraph grouping under which it appeared in the original request. Include a paper print of the map indicating the changes marked in red for additions and blue for deletions.
- (3) Radar Overlays. Facilities requesting radar overlays should use the standard request form, after approval by their regional office. The reliability of the new video mapping system has virtually eliminated the need for map overlays. Those facilities having backup video-mapping capabilities must have regional approval for new or replacement overlays.
- (4) Time for Obtaining Maps, Plates and Slides. Facilities are urged to allow sufficient time in planning for and ordering video maps. Twelve weeks from date of receipt of data is required for the initial map and three weeks for revisions. In cases of emergencies, when time is critical, coordinate the request through AAT-400.

WILLIAM M. FLENER

Acting Associate Administrator for Operations

40.0

#### APPENDIX 1. STANDARD SYMBOLS - FAA ATC RADAR VIDEO PLATES (AVPS)

STANDARD SYMBOLS
FAA ATC RADAR VIDEO PLATES (AVPS)
All map data symbols are in accordance with standard symbology for video

All map data symbols are in accordance with standard symbology for video map plates or slides used in ATC Terminal and/or Enroute facilities. They are shown at compilation size for standardized bases and are proportioned for finished plates or slides.

AERONAUTICAL OR TOPOGRAPHICAL MAP INFORMATION	SYMBOL OR MARK	DETAILED DESCRIPTION
Airports with extended runway centerline/s, as required, shall be portrayed by distinctive runway pattern.	I NM Space from and of runway NM Dash, I NM Space, etc.  I NM I NM I NM (hesh marks, as required)	Usable runway/s and centerline/s drawn to scale. Extend runway centerline/s where appropriate out to 10 NM from approach end of runway. *Doshes are 1 NM long and first dash starts 1 NM from end of runway. Spaces between dashes are 1 NM long. Place 2 NM long hash marks as shown perpendicular to extended centerline/s at the proper distances to mark the final approach course intercept and the radar control cutoff point, except when a fix or navaid is located at the points.  * 32 NM for Terminal maps.
Airport - by distinctive runway pattern.	*	To scale
This symbol shall be used for all minor airports.	-0.05" boss	Circle 0.20" diameter.
Navigational Aids and Fixes: Omni-Directional VOR, VORTAC, TACAN and Radio Beacon	0	Circle 0.30" diameter
Fan Marker	0.15	
Airways - Primary	Low SNM SNM SNM High TONM 10 NM 10 NM	Dashed lines for primary when both high and low altitude airways are depicted. LOW-5 NM dash, 5 NM space. HIGH-10 NM dash, 10 NM space.
Secondary	High 10 NM	Solid lines for primary when both high and low altitude airways are depicted.

AERONAUTICAL OR TOPOGRAPHICAL MAP INFORMATION	SYMBOL OR MARK	DETAILED DESCRIPTION
Intersection of Airway and/or Navaid Courses (or Bearings) or Handoff Point	5pace 0.10"   0.40" Line   0.20" Line	Airway Intersection-Line either side of airway 0.20" long. Aligned to indicate formation.  Handoff Point-(DME) Line either side of airway 0.20" long.
Off airway intersection or handoff point.	0.40" Lines	Lines 0.40" long aligned to indicate formation.
RNAV – Waypoint	<b>♦</b>	Standard charting symbol
Rodar Handoff Area or Point (for Terminal Area Approach or Departure or Enroute Handoff).	0.15" Dash 0.10" Space 0.40" Eines	
Radar Antenna Site - Principal	- -	Center dot with 4 - 0.20" legs, 0.10" clearance for dot aligned at cardinal radials of compass (0° 90° 180° & 270° Mag. for Terminal; True for Enroute).
Radar Antenna Site - Other		Dot 0.040" diameter.
Fixed obstruction that is potential hazard to aircraft such as a tower, building, mountain peak, etc.	Location of abstruction	Inverted V (caret) having legs spread 0.20" at the base with 60° spread. The apex of the caret represents the highest point of the obstruction.
Terrain feature- permanent echo (P.E.)	Outline of P.E. or 0.15" Square	An area constituting a hazard to aviation shall be outlined by a short dashed line: dash 0.20", space 0.10".
Visual checkpoint	0.15°	
Holding Patterns	Dashed line optional Auway	Drawn to actual shape of the Holding Pattern. Dashed line 0.60", 0.10" space.
Approach - ingress recovery track		Dots 0.035" diameter spaced 2 NM
Departure - egress track		Dashes 0.15"; spaces 0.10"

AERONAUTICAL	f	
OR TOPOGRAPHICAL MAP INFORMATION	SYMBOL OR MARK	DETAILED DESCRIPTION
MOCA lines		Dashed line, 0.20" dash, 0.10" space.
Prohibited, Restricted, Alert and Warning Areas		Area/s drawn to scale using solid line perimeter.
Boundaries: ARTC Center	c	Dash.0.60", 0.10" space, 0.10" dosh, 0.10" space, 0.60" dash, etc. Letter "C" optional as required.
Sector Boundaries	\$	Dash 0.60", 0.10" space, 0.10" dash, 0.10" space, 0.60" dash, etc. Letter "S" optional as required.
Special Operating Areas	zz	Dash 0.15", 0.10" space, 0.10" dash, 0.10" space, 0.15" dash, etc. Letter "Z" optional as required.
ADIZ Area (Outline)	<b>— — A — —</b>	0.25" dash, 0.25" space, 0.25" dash, etc. Letter "A" optional as required.
Arrival and Departure Gates		Dashes 0.15"; spaces 0.10"
ATC Assigned Airspace Areas	6000 or 3000	Drawn to actual shape.  Solid lines enclosing area or solid corners with opening at center parts of sides.  Altitudes as required.
Positive Control	-P	Limiting lines - 0.60" dash, 0.10" space Letter "P" optional as required.
Shoreline, River drainage as required	25	Solid line
50.0 (10000000000000000000000000000000000		

### FAA ATC RADAR VIDEO MAP PLATE ALIGNMENT MARKINGS -

ALIGNMENT MARK AND FUNCTION	DEPICTION OF ALIGNMENT MARKS	DETAILED DESCRIPTION AND REMARKS
Range Arcs	3* Spread Azimuth 0.30**  Of  12* Spread Azimuth 0.30**	RANGE ARCS (as required) each3° long and centered on a radial (not to be shown) where minimum confliction with other video map plate information exists. Outer arc on this radial to be at maximum range (the inner circle). Intermediate arcs as required-number and position selected by Air Traffic Facility Chief. It is suggested that these intermediate arcs be made to coincide with the radar range marks, where practicable.
Range sweep alignment and linearity arcs and cardinal radials	PLATE - Tube type mapper  Mag. Ni.  Centering Arci Range Arcs	Three CENTERING ARCS 3° long positioned 120° separation and located as required by maintenance.  AZIMUTH RADIALS, magnetic and true, placed at four cardinal points extend from the outer to the inner circle. For TERMINALS the MAGNETIC azimuth and for ENROUTE the TRUE azimuth, are continued ½" toward the center.  LINE WEIGHT for 8.5", 9.94" and 19" diameter plates is 0.003"±, for 2.3" and 3.0" slides 0.002"±.  Outer circle the size of the video plate.  Inner circle the maximum range of the radar or arcs each approximately 4° long centered on the four magnetic cardinal points at the maximum range of the radar (e.g40 NM for terminal area or 150 NM for enroute).
	SLIDE – Solid State mapper	Size of plates and slides vary in accordance with types of video mappers used.  Size of notch vary in accordance with types of video mappers: 9.94" plate-3/16" square, 8.5" plate-16" wide 5/16" deep. No notch required for 19.0" plates or 2.3" and 3.0" slides. Slides are aligned north to the center top side.

# APPENDIX 2. REQUEST FOR AERONAUTICAL VIDEO MAP PLATE/SLIDE/OVERLAY, FAA FORM 7910-1

	124	Latin Control	CATED 1	- Winds		
TO (Contractor)						
700				**********	900	25
W. C. C.				*****		
<u> </u>						
	XI	Illust i Servi	- FAREIN SS	WARE BUILD		
-						
DATE REQUESTED		100	DATE PRO	DOUCT REQ	UIRED	
		<del></del>			ing and a second constitution of the second cons	
TYPE OF MAPPER	MAP P	LATE/SLIDE	(APPING EQU SIZE (Circle)		QUANTITY PLATES/S	LIDES REQUIRED
Andrewskie A	127	0" 8.5" 9	.94" 19"		V C - CANTON DESCRIPTION	
TERMINAL 6102030					QUANTITY OF PHOTOR	1000000
ENROUTÉ 100120125:	150 175 200				E SIZE 01	HER
TYPE OF INDICATOR (FA-7300, FA	-7700 etc.)		MAP OVERLA Y PER SYSTE		MAP RANG	IES
	Î				NM/	NM
The second of th		RADAF	REQUIPMENT			
TYPE OF EQUIPMENT ASR		TERM	INAL	RANGE (	NM RADIUS) ENROUTE	
ARSR -	and the second second		40 50 60	10	00 120 125 150 176	200 225 250
RADAR ANTENNA LOCATION		۰	ATITUDE		a LONGITUDE	и
NAME		0	13.1	n.	0 ,	ar .
FROM: AAT FACILITY	38-17HUE-90-11	-1011-99111941	3500 HO 10 10 10 10 10 10 10 10 10 10 10 10 10	10002-11100	many - W	10000-0-0
NOM: ANT PACIETY				1100000		
MAILING ADDRESS						
<del>1 (1)</del>				- 00		
9611					V	
				200 E. C.	DEAL STREET, STREET	11
SUBMITTED BY:		010000	of him of the		DATE	

FAA Form 7910-1 (1-74) Supersedes all local forms

Page 1 of 7

NAME	RUNW	Y RW	MN DY	NAME	RUNW	AY RY	MY & NI
		-		100000	0.00000000	00 = 10000	
300 304 400	400001-00-00-00-00-00-00-00-00-00-00-00-0				Marian San		
	MS					W. C.	
				- 113			
	230000		u 3			- T	W00001
. 200							
	_			- White the state of the state			
	TOTAL CONTRACTOR OF THE PARTY O	- 31			901	-	0.000
					_		
						-	
					_	-	****
71112		- 12		The second secon			
				10-20-0		_	
50.00 (011)					0.		
	118574075		71.150 Y 100.25				
and the second second second second		111 12				27.0	
	AL JENDOUTES		AIRPO	DRTS			
List name and indicate portrayal b	y distinctive runwa	y pattern	or symbol a	and approach bearing if applicable			
NAME	PATTERN			NAME	PATTERN	SYMBOL	BEARI
all							
1 Marie Service Control of the Contr	7			THE PARTY OF THE P	#	-	-
ur-		2 E	1100		-		200
	- Inches			10000		-	-
ASSUME THE SECOND SECON			-				
The state of the s				The state of the s	2 Table 1 100 C		
2 No. 2007 - 1979 - 1979 - 1979 - 1979	N. C.			many and the second sec		energy is pours	2
				11001100			
	and stand to the stand	descript and	Secondarios &	warman San San San San San San San San San S		S. 50 - 50 - 60 - 60	77
		-		Market Properties	SITE STATE OF THE	3	
		2000		THE POWER IN			
		-	-			9	-
					_	-	-
385E	_						
*****							
				AT SAME OF THE PARTY OF THE PAR			
53 SAN EL PERSONAL MENONE PERSONAL CALLA CONTRACTOR CON			8				ŝ
marka a compressión per di Armani	3	1 7		1.02000000		Second	
				The state of the s			
	- MOONWAY - ULEY W- III L	CONTRO	LLED AIR	WAY5/CORRIDORS			-
Give designation of each airway a	nd or corridor.						
			- 4				
						-	
	17						
				THE CONTRACTOR OF THE CONTRACT		576-81	
777							
The state of the s		well a Some		700			PATTO SEC
THE CONTRACTOR		2877	ASTRACTOR	W	1177 11117849		
						JAC 04772	
500000000000000000000000000000000000000	The street live	1 88/05/56/56	1998 1998		1.0018	n #1884	0.0004-5,50
		Haracov	HLD Fragment	P1000			
The second secon		100					
- modernia		(Kara)	3	2000			
W-1		College	- 6	= m vijosimembras			
15 Wellin 1.			-	**********			-
					· ·		
			111111111111111111111111111111111111111				
				- Control of the Cont			

st name, ident and type (VOR, V se Controller Chart Supplemen NAME/IDEN		TYP		THOE	83		LONGITUDE
	Y	-			u	0	and the same
Astimutation 2.		10.00			13 S		1120
ALEXANDE TO THE PARTY OF THE PA		1		220			
				-	- 4	-	
		_					
THE PROPERTY OF THE PARTY OF TH				- 111150			
- AND THE PROPERTY OF THE PARTY			100			- 4	
		77					
				= **	9	10	
			h (21)		1		St. Destrict
		-	- P				
		-	711000000000000000000000000000000000000	·		-	
- Comment	U 14 JW	100					
		-			-		
444		-					
2.000mm/mmin 10							
				ndtalkin	9000	0.5385	
							11/20
					1		
		1	100			700	- 100
	W						-
		1	-		-	Him W	
					_		
whitee montene	541100	1000					
				-		-	7500
		10.0211			1 11 11 11 11 11		
			(5)	2511			
			VIII VIII VIII VIII VIII VIII VIII VII	-	one sales - Land		100
e Controller Chart Supplement	Section 1 and 2 for pos	REP(	DRTING POINTS	155			*****
se Controller Chart Supplement DME or off airway give facility, NAME/IDENT	Section 1 and 2 for post bearing and distance, a LATITUD	REPO	ORTING POINTS is that form the fix.	u	AIRWAY	(DME)	FAC./BEARING/DIS
se Controller Chart Supplement DME or off airway give facility, NAME/IDENT	Section 1 and 2 for post bearing and distance, a LATITUD	REP( sitions and or radial DE #	ORTING POINTS Is that form the fix.	и	AIRWAY	(DME)	FAC./BEARING/DIS
se Controller Chart Supplement DME or off airway give facility, NAME/IDENT	Section 1 and 2 for pos bearing and distance, a LATITUD	REP( sitions and or radial	ORTING POINTS Is that form the fix.  CONGITUDE	"	AIRWAY	(DME)	FAC./BEARING/DIS
ce Controller Chart Supplement DME or off airway give facility, NAME/IDENT	Section 1 and 2 for pos bearing and distance, a DEATITUD	REP( sitions. and or radial	DRTING POINTS Is that form the fix.  DESCRIPTION OF THE PROPERTY OF THE PROPER	и	AIRWAY	(DME)	FAC./BEARING/DIS
e Controller Chart Supplement DME or off airway give facility, NAME/IDENT	Section 1 and 2 for pos bearing and distance, a DEATITUD	REPO	DRTING POINTS Is that form the fix.  LONGITUDE	w	AIRWAY	(DME)	FAC./BEARING/DIS
e Controller Chart Supplement DME or off airway give facility, NAME/IDENT	Section 1 and 2 for pos bearing and distance, a LAYITUD	REPC	DRTING POINTS Is that form the fix.  LONGITUDE	W	AIRWAY	(DME)	FAC./BEARING/DIS
e Controller Chart Supplement DME or off airway give facility, NAME/IDENT	Section 1 and 2 for pos bearing and distance, a LATITUD	REPO	DRTING POINTS Is that form the fix.  LONGITUDE	<i>w</i>	AIRWAY	(DME)	FAC./BEARING/DIS
e Controller Chart Supplement DME or off airway give facility, NAME/IDENT	Section 1 and 2 for pos bearing and distance, a LATITUD	REPO	DRTING POINTS Is that form the fix.  LONGITUDE	и	AIRWAY	(DME)	FAC./BEARING/DIS
e Controller Chart Supplement DME or off airway give facility, NAME/IDENT	Section 1 and 2 for post bearing and distance, a LATITUD	REPO	DRTING POINTS Is that form the fix.  LONGITUDE	и	AIRWAY	(DME)	FAC./BEARING/DIS
e Controller Chart Supplement DME or off airway give facility, NAME/IDENT	Section 1 and 2 for post bearing and distance, a LATITUD	REPO	DRTING POINTS is that form the fix.  LONGITUDE	и	AIRWAY	(DME)	FAC./BEARING/DIS
e Controller Chart Supplement DME or off airway give facility, NAME/IDENT	Section 1 and 2 for post bearing and distance, a LATITUD	REP( ind or radial	DRTING POINTS is that form the fix.    DOUBLE	и	AIRWAY	(DME)	FAC./BEARING/DIS
ce Controller Chart Supplement DME or off airway give facility, NAME/IDENT	Section 1 and 2 for pos bearing and distance, a DEATITUD	REP( ind or radial	DRTING POINTS Is that form the fix.  DESCRIPTION OF THE PROPERTY OF THE PROPER	u .	AIRWAY	(DME)	FAC./BEARING/DIS
ce Controller Chart Supplement DME or off airway give facility, NAME/IDENT	Section 1 and 2 for pos bearing and distance, a DEATITUD	REP( sitions. and or radial	DRTING POINTS Is that form the fix.  DESCRIPTION OF THE PROPERTY OF THE PROPER	и	AIRWAY	(DME)	FAC./BEARING/DIS
ce Controller Chart Supplement DME or off airway give facility, NAME/IDENT	Section 1 and 2 for pos bearing and distance, a LATITUD	REP(	DRTING POINTS Is that form the fix.  LONGITUDE	M .	AIRWAY	(DME)	FAC./BEARING/DIS
ce Controller Chart Supplement DME or off airway give facility, NAME/IDENT	Section 1 and 2 for pos bearing and distance, a LATITUD	REP(	DRTING POINTS Is that form the fix.  LONGITUDE	H	AIRWAY	(DME)	FAC./BEARING/DIS
ce Controller Chart Supplement DME or off airway give facility.  NAME/IDENT	Section 1 and 2 for pos bearing and distance, a LATITUD	REPO	DRTING POINTS Is that form the fix.  CONGITUDE	и	AIRWAY	(DME)	FAC./BEARING/DIS
ce Controller Chart Supplement DME or off airway give facility.  NAME/IDENT	Section 1 and 2 for pos bearing and distance, a LATITUD	REPC	DRTING POINTS Is that form the fix.  CONGITUDE	и	AIRWAY	(DME)	FAC./BEARING/DIS
ce Controller Chart Supplement DME or off airway give facility, NAME/IDENT	Section 1 and 2 for pos bearing and distance, a LATITUD	REP(intions, REP)	DRTING POINTS Is that form the fix.    O LONGITUDE	и	AIRWAY	(DME)	FAC./BEARING/DIS
se Controller Chart Supplement DME or off airway give facility, NAME/IDENT	Section 1 and 2 for post bearing and distance, a Q LATITUD	REP( ind or radial  E	DRTING POINTS Is that form the fix.  DESCRIPTION OF THE PROPERTY OF THE PROPER		AIRWAY	(DME)	FAC./BEARING/DIS
ce Controller Chart Supplement DME or off airway give facility, NAME/IDENT	Section 1 and 2 for post bearing and distance, a Q LATITUD	REP( sitions. REP( and or radial) E a	DRTING POINTS Is that form the fix.  DOMESTUDE		AIRWAY	(DME)	FAC./BEARING/DIS
ce Controller Chart Supplement DME or off airway give facility, NAME/IDENT	Section 1 and 2 for pos bearing and distance, a LAYITUD	REP(sitions. REP(sitions)	DRTING POINTS Is that form the fix.  LONGITUDE	M .	AIRWAY	(DME)	FAC./BEARING/DIS
ce Controller Chart Supplement DME or off airway give facility, NAME/IDENT	Section 1 and 2 for pos bearing and distance, a LAYITUD	REP(	DRTING POINTS s that form the fix.  DOUBLE OF THE POINTS  DOUBLE O	M	AIRWAY	(DME)	FAC./BEARING/DIS
ce Controller Chart Supplement DME or off airway give facility, NAME/IDENT	Section 1 and 2 for post bearing and distance, a LATITUD	REP(	DRTING POINTS s that form the fix.  LONGITUDE	H I	AIRWAY	(DME)	FAC./BEARING/DIS
ce Controller Chart Supplement DME or off airway give facility, NAME/IDENT	Section 1 and 2 for post bearing and distance, a LATITUD o	REP(	DRTING POINTS s that form the fix.  CONGITUDE	H	AIRWAY	(DME)	FAC,/BEARING/DIS
ce Controller Chart Supplement DME or off airway give facility.  NAME/IDENT	Section 1 and 2 for postbearing and distance, a LATITUD	REP(intions, REP)	DRTING POINTS Is that form the fix.  CONGITUDE	и	AIRWAY	(DME)	FAC./BEARING/DIS
ce Controller Chart Supplement DME or off airway give facility, NAME/IDENT	Section 1 and 2 for post bearing and distance, a LATITUD	REP(ind or radial)	DRTING POINTS Is that form the fix.  DOUBLE TO LONGITUDE	и	AIRWAY	(DME)	FAC./BEARING/DIS
ce Controller Chart Supplement DME or off airway give facility, NAME/IDENT	Section 1 and 2 for post bearing and distance, a LATITUD	REP( ind or radial )E  2	DRTING POINTS Is that form the fix.  DOUBLE TO LONGITUDE		AIRWAY	(DME)	FAC./BEARING/DIS
ce Controller Chart Supplement DME or off airway give facility, NAME/IDENT	Section 1 and 2 for post bearing and distance, a LAYITUD	REP(sitions. REP(sitions.)	DRTING POINTS Is that form the fix.  CONGITUDE		AIRWAY	(DME)	FAC./BEARING/DIS
ce Controller Chart Supplement DME or off airway give facility, NAME/IDENT	Section 1 and 2 for post bearing and distance, a LAYITUD	REP(sitions. REP(sitions.)	DRTING POINTS Is that form the fix.  LONGITUDE	M .	AIRWAY	(DME)	FAC./BEARING/DIS

FAA Form 7910-1 (1.74)

	72-		15 11 1190	TOTAL VI	
					1000
			<del>!!!</del> (:		
		77			
		11000000			
					Talk Sales S
-					
				1816W _ 552302/ 1888W	
		TANKS CHARLES			
					Alternation and a state of the
		OBSTRUCTIONS/PER	MANENT ECHOES		
ist latitude and k	ongitude or location description	on of each tower, water tank	, building, mountain pe	ak, bridge etc	101017.162
NAME	CATHOPE "	O FOMBLINDE "	NAME	O LATITUDE	LONGITUDE
Tipone .	- '		HE SHIPPER		
100		- Challes - P	1000	-	
				Supreme 1886	511
	tales contactivity				
50,415	Towns 1997		91-11		
				- Eisministriki	W
				11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
				-	¥
					8
	-				200
					×
					- 1
22.44					
	dati (Salah Edward)	700		51 300.00 Introp-807.5	
1000	2	and a supposed	III II possilipotes parco	ex community of	n_entralia-series
0.024.01020347	2008 200 NOTE OF NO	VISUAL CHE			V89
lame/Describe bo	pints or features to be depicte	d and approximate latitude	and longitude. If in cor	ngested area give detail desc	ription.
-					
				2014 - 27 - 33 <b>00</b>	200 A 100 A
		- INVESTIGATION OF THE PARTY OF	CONTRACTOR OF STATE		
WEST TOTAL		Control Control	- Company	ASSESSMENT SPECIAL	IL TILL SOOMHAANIN
	- Introduction			****	***************************************
			randos	10.00	- 1910

ARTCC, SECTOR AND OTHER TYPE AREA BOU LIst ARTCC boundaries; describe other area/boundaries making reference to known airways, reserved airspace, etc. or by geographical coordinance when available. Supplement with drawing	NDARIES
reserved airspace, etc. or by geographical coordinance when available. Supplement with drawing.	
The state of the s	THE THEOREM COMMENT
	The second secon
	AND THE PROPERTY AND ASSESSMENT OF THE PROPERTY OF THE PROPERT
	The same of the sa
The state of the s	The second secon
	The own in the second in the s
The state of the s	
Oliver	THE RESERVE THE STREET
was a second of the second of	
30703110	
	CLIMATE TO STANCE OF THE CONTRACT OF THE CONTR
	WITH COLORS ASSESSMENT OF THE STATE OF THE S
	ROUTE - MAIN TO BE COME TO THE THE COME TO THE COME TO
LI 1007-4011/7	SACHWARD TOWN AT
7-7400-1201	
and the state of t	
****	
DESCENT AREAS	
Describe arrival and departure gates.	
The state of process continuous and the state of the stat	
	The state of the s
The second secon	
Market Market According	
AND THE RESERVE OF THE PERSON	Contract Con
- Way - The Way	A CONTRACTOR OF THE CONTRACTOR
	Exception of the Control of the Cont
	INDIANAM PRODUCTION OF THE PRODUCT
	As a contract of the contract
	100 min 100 mi
	SERVICE TO THE SERVIC
FAA Form 7910 - 1 (1-74)	Page 5 of

14	Д25-	OLDING PATTERNS  • Indicate Full of	r Reduction FRONT EN	), FIXED END 2, 3, 4 etc.
ASSOCIATED FIX	DIR OF TURN	FAC./BEARING	TEMPLATE NO.	• REDUCTION
			10000	
- IANI		THE PROPERTY OF THE PARTY OF TH	1	1 4
				WW. 1944
	LK OLIZANES 1			100-100 MARKET AND SANGE
***				
	+	The second section is a second section of the second section of the second section is a second section of the second section of the second section sec		
	1		+ +	
		S		
The second second		The state of the s		
and the second		-,0:		
HARRIE SON MANUEL			- 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	mer <sup>2</sup>
5 Indicate name/number. Describe	SPE	ECIAL USE TRACKS		
mucate dame/minder, describe	track and includes pre-pertion			AND THE PERSON NAMED IN
123812			-	
No. 1				
	- Company Street, Stre			
		1		
TARKET, LINEAU MINISTER	Leteral Land Surface of Barrier	LC LL COUNTYPEND		
A CONTRACTOR OF THE STATE OF TH			~~~	
				venninate overfitte sense
AND THE PROPERTY OF THE PROPER		2577A6.		
30.44.3.		11.00 E 10.00 (0.00 )		
			598	
	-2011		-	
6 Name features desired - rivers, sh		AL/HYDROGRAPHIC FEATURE	ES.	
Marine Marines deared - Hours, Kin	ormine, terrain, etc. and morea	the innitia to the kingwys.	The second secon	
ASSESSMENT TO A TRANSPORT				
The state of the s				
****		- Think		
resity to the state the state of			****	
		80.00	and the second second	
	De l'Andres dell'Immeriente l'Asset de la			
Graning X-8	a mean	\$100 000 We (\$14,041000)		MANAGEMENT OF THE PROPERTY OF
	**************************************	159-349-00		
		II VOLO	DOWNER ON THE	Anti
				SERVICE STATE OF THE PARTY OF T

_	SPECIAL USE AIRSPACE Give designation, name or number, of each Restricted, Warning, Alert Areas, ISJTA's, ADIZ etc. as described in Airspace Docket.
	**************************************
	7
	HARD THE
	Acceptation of the second control of the sec
	A DESCRIPTION OF THE PROPERTY
	THE RESERVE THE PROPERTY OF TH
	e saling i saling i saling
	Windows I was a second of the
,	
	MINIMUM VECTOR ALTITUDE  Describe areas/boundaries making reference to known airways, reserved airspace, etc. or by geographical coordinance, when available, and give altitude for each area.
	The state of the s
۰	
	1011 - 1000 - 1011 - 1000 - 1011 - 1000 - 1011 - 10
•	
٠	TO THE TOTAL CONTROL OF THE TO
,	
٠	ALIGNMENT/RANGE ARCS
	Give magnetic azimuth/distance from radar site.
	page-annual action and the contract of the con

Page 7 of 7