

APPLICATION FOR EQUIPMENT FREQUENCY ALLOCATION		CLASSIFICATION UNCLASSIFIED	DATE 03/23/1994	J/F 12/06946	
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DOD GENERAL INFORMATION					
TO	DEPARTMENT OF THE NAVY NAVAL EM SPECTRUM MGT OFFICE CNO N60T WASHINGTON, DC 20350		FROM	COMMANDER NAVAL AIR WARFARE CENTER AIRCRAFT DIVISION (RD66) PATUXENT RIVER, MD 20670-5304	
1. APPLICATION TITLE	(U)	Southern California Microwave VTX13L-10/2SC, TTX13L AND VT05L Video/Telemetry Transmitters			
2. SYSTEM NOMENCLATURE	(U)	UNMANNED AIR VEHICLE (UAV) VIDEO/TELEMETRY			
3. STAGE OF ALLOCATION	(U)	<input type="checkbox"/> a. STAGE 1 CONCEPTUAL	<input type="checkbox"/> b. STAGE 2 EXPERIMENTAL	<input type="checkbox"/> c. STAGE 3 DEVELOPMENTAL	<input checked="" type="checkbox"/> d. STAGE 4 OPERATIONAL
4. FREQUENCY REQUIREMENTS					
a. FREQUENCY(IES)	(U)	1710 MHz - 1850 MHz			
b. EMISSION DESIGNATORS	(U)	18M0F8W	250KF1D		
5. TARGET STARTING DATE FOR SUBSEQUENT STAGES					
a. STAGE 2	(U)	NA	b. STAGE 3	(U)	NA
c. STAGE 4		(U)	NAvail		
6. EXTENT OF USE (U) INTERMITTENT DURING SURVEILLANCE MISSIONS.					
7. GEOGRAPHICAL AREA FOR					
a. STAGE 2	(U)	NA			
b. STAGE 3	(U)	NA			
c. STAGE 4	(U)	US&P TEST AND TRAINING RANGES.			
8. NUMBER OF UNITS					
a. STAGE 2	(U)	NA	b. STAGE 3	(U)	NA
c. STAGE 4		(U)	25		
9. NUMBER OF UNITS OPERATING SIMULTANEOUSLY IN THE SAME ENVIRONMENT (U) (See Remarks)					
10. OTHER J/F 12 APPLICATION ID(S) TO BE			11. IS THERE ANY OPERATIONAL REQUIREMENT AS DESCRIBED IN THE INSTRUCTIONS FOR PARAGRAPH 11?		
(U)	<input type="checkbox"/> a. SUPERSEDED				
	<input checked="" type="checkbox"/> b. RELATED	(U)	<input checked="" type="checkbox"/> a. YES	<input type="checkbox"/> b. NO	<input type="checkbox"/> c. NAVAIL
12. NAMES AND TELEPHONE NUMBERS (U)					
a. PROGRAM MANAGER	KERRY KELLEY		(1) COMMERCIAL	301-826-7695	(2) DSN 326-7695
b. PROJECT ENGINEER	MIKEL RYAN		(1) COMMERCIAL	301-826-1194	(2) DSN 326-1194
13. REMARKS (U) ITEM 9: 2-3.					
DOWNGRADING INSTRUCTIONS				J/F 12/06946	
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TRANSMITTER EQUIPMENT CHARACTERISTICS	
1. NOMENCLATURE, MANUFACTURER'S MODEL NO. (U) VTX13L-10/2SC & VT05L	2. MANUFACTURER'S NAME (U) SOUTHERN CALIFORNIA MICROWAVE
3. TRANSMITTER INSTALLATION (U) UNMANNED AIR VEHICLE (UAV)	4. TRANSMITTER TYPE (U) FM VIDEO/TELEMETRY
5. TUNING RANGE (U) 1710 MHz - 1850 MHz	6. METHOD OF TUNING (U) Fixed Crystal
7. RF CHANNELING CAPABILITY (U) 1710 MHz, CONTINUOUS	8. EMISSION DESIGNATORS (U) 18M0F8W (U) (U)
9. FREQUENCY TOLERANCE (U) 30 ppm	12. EMISSION BANDWIDTH <input type="checkbox"/> CALCULATED <input type="checkbox"/> MEASURED
10. FILTER EMPLOYED (See Remarks) (U) <input type="checkbox"/> a. YES <input type="checkbox"/> b. NO	a. -3 dB (U) 3.0 MHz (U) (U) b. -20 dB (U) 15.0 MHz (U) (U) c. -40 dB (U) NAvail (U) (U)
11. SPREAD SPECTRUM (U) <input type="checkbox"/> a. YES <input checked="" type="checkbox"/> b. NO	d. -60 dB (U) 29.1 MHz (U) (U) e. OC-BW (U) 18.0 MHz (U) (U)
13. MAXIMUM BIT RATE (U) NA	15. MAXIMUM MODULATION FREQUENCY (U) 6.875 MHz
14. MODULATION TECHNIQUES AND CODING (U) FM VIDEO WITH FM TELEMETRY SUBCARRIER	17. DEVIATION RATIO (U) 1.0
16. PRE-EMPHASIS (See Remarks) (U) <input type="checkbox"/> a. YES <input type="checkbox"/> b. NO	18. PULSE CHARACTERISTICS a. RATE (U) NA (U) (U) b. WIDTH (U) NA (U) (U)
19. POWER a. MEAN (U) 10 W (U) (U) b. PEP (U) NA (U) (U)	c. RISE TIME (U) NA (U) (U) d. FALL TIME (U) NA (U) (U) e. COMP RATIO (U) NA (U) (U)
20. OUTPUT DEVICE (U) BIPOLAR TRANSISTOR, CLASS C, COMMON BASE	21. HARMONIC LEVEL a. 2nd (U) -65 dB b. 3rd (U) -65 dB c. OTHER (U) -80 dB
22. SPURIOUS LEVEL (U) -80 dB	
23. FCC TYPE ACCEPTANCE NO. (U) NA	
24. REMARKS (U) ITEM 10: (YES) 5 POLE LOW PASS FILTER EMPLOYED BETWEEN OUTPUT AMPLIFIER STAGE AND OUTPUT. ITEM 16: (YES) CCIR 405 525 LINE PRE-EMPHASIS. ITEM 19a: POWER OUTPUT IS 2 WATTS FOR THE VT05L, 10 WATTS FOR THE VTX13L-10/2SC.	
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TRANSMITTER EQUIPMENT CHARACTERISTICS			
1. NOMENCLATURE, MANUFACTURER'S MODEL NO. (U) TTX13L-10A		2. MANUFACTURER'S NAME (U) Southern California Microwave	
3. TRANSMITTER INSTALLATION (U) Ground		4. TRANSMITTER TYPE (U) FSK Communications	
5. TUNING RANGE (U) 1710 MHz - 1850 MHz		6. METHOD OF TUNING (U) Synthesizer	
7. RF CHANNELING CAPABILITY (U) 1710 MHz, 1 MHz Increments		8. EMISSION DESIGNATORS (U) 250KF1D (U) (U)	
9. FREQUENCY TOLERANCE (U) 30 ppm		12. EMISSION BANDWIDTH <input type="checkbox"/> CALCULATED <input checked="" type="checkbox"/> MEASURED	
10. FILTER EMPLOYED (U) <input checked="" type="checkbox"/> a. YES <input type="checkbox"/> b. NO		a. -3 dB (U) 150 KHz (U) (U)	
11. SPREAD SPECTRUM (U) <input type="checkbox"/> a. YES <input checked="" type="checkbox"/> b. NO		b. -20 dB (U) 200 KHz (U) (U)	
13. MAXIMUM BIT RATE (U) 38.4 Kbps		c. -40 dB (U) NA (U) (U)	
14. MODULATION TECHNIQUES AND CODING (U) FSK		d. -60 dB (U) 450 KHz (U) (U)	
16. PRE-EMPHASIS (U) <input type="checkbox"/> a. YES <input checked="" type="checkbox"/> b. NO		e. OC-BW (U) 250 KHz (U) (U)	
19. POWER		15. MAXIMUM MODULATION FREQUENCY (U) 20 KHz	
a. MEAN (U) 10 W (U) (U)		17. DEVIATION RATIO (U) 4	
b. PEP (U) NA (U) (U)		18. PULSE CHARACTERISTICS	
20. OUTPUT DEVICE (U) Bipolar Transistor, Class C		a. RATE (U) NA (U) (U)	
22. SPURIOUS LEVEL (U) -80 dB		b. WIDTH (U) NA (U) (U)	
23. FCC TYPE ACCEPTANCE NO. (U) NA		c. RISE TIME (U) NA (U) (U)	
24. REMARKS (U) Item 10: 5-Pole Chebychev lowpass filter between output devices and antenna connector. Approximately 0.5 dB insertion loss with approximately 25 dB attenuation at 2X transmitting frequency.		d. FALL TIME (U) NA (U) (U)	
		e. COMP RATIO (U) NA (U) (U)	
		21. HARMONIC LEVEL	
		a. 2nd (U) -55 dB	
		b. 3rd (U) -55 dB	
		c. OTHER (U) -80 dB	
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ANTENNA EQUIPMENT CHARACTERISTICS

1. (U) <input checked="" type="checkbox"/> a. TRANSMITTING <input type="checkbox"/> b. RECEIVING <input type="checkbox"/> c. TRANSMITTING AND RECEIVING	
2. NOMENCLATURE, MANUFACTURER'S MODEL NO. (U) E-400	3. MANUFACTURER'S NAME (U) SOUTHERN CALIFORNIA MICROWAVE
4. FREQUENCY RANGE (U) 1710 MHz - 1850 MHz	5. TYPE (U) COAXIAL DIPOLE
6. POLARIZATION (U) Vertical	7. SCAN CHARACTERISTICS a. TYPE (U) FIXED
8. GAIN a. MAIN BEAM (U) 3 dBi	b. VERTICAL SCAN (U) NA (1) Max Elev (U) (2) Min Elev (U) (3) Scan Rate (U)
b. 1st MAJOR SIDE LOBE (U)	c. HORIZONTAL SCAN (U) NA (1) Sector Scanned (U)
9. BEAMWIDTH a. HORIZONTAL (U) 360 deg	(2) Scan Rate (U)
b. VERTICAL (U) 90 deg	d. SECTOR BLANKING (U) <input type="checkbox"/> (1) YES <input checked="" type="checkbox"/> (2) NO

10. REMARKS (U) NONE.

APPLICATION FOR SPECTRUM REVIEW	CLASSIFICATION UNCLASSIFIED	PAGE 6
NTIA GENERAL INFORMATION		
1. APPLICATION TITLE (U) Southern California Microwave VTX13L-10/2SC, TTX13L AND VT05L Video/Telemetry Transmitters		
2. SYSTEM NOMENCLATURE (U) UNMANNED AIR VEHICLE (UAV) VIDEO/TELEMETRY		
3. STAGE OF ALLOCATION (U) <input type="checkbox"/> a. STAGE 1 CONCEPTUAL <input type="checkbox"/> b. STAGE 2 EXPERIMENTAL <input type="checkbox"/> c. STAGE 3 DEVELOPMENTAL <input checked="" type="checkbox"/> d. STAGE 4 OPERATIONAL		
4. FREQUENCY REQUIREMENTS a. FREQUENCY(IES) (U) 1710 MHz - 1850 MHz b. EMISSION DESIGNATORS (U) 18M0F8W 250KF1D		
5. PURPOSE OF SYSTEM, OPERATIONAL AND SYSTEM CONCEPTS (WARTIME USE) <input checked="" type="checkbox"/> a. YES <input type="checkbox"/> b. NO (U) TRANSMIT VIDEO AND TELEMETRY DATA FROM UNMANNED AIR VEHICLE TO SUPPORT BATTLEFIELD SURVEILLANCE.		
6. INFORMATION TRANSFER REQUIREMENTS(U) NA		
7. ESTIMATED INITIAL COST OF THE SYSTEM (U) \$3000 PER UNIT		
8. TARGET DATE FOR		
a. APPLICATION APPROVAL (U) 06/01/1994	b. SYSTEM ACTIVATION (U) 07/01/1994	c. SYSTEM TERMINATION (U) 01/01/2010
9. SYSTEM RELATIONSHIP AND ESSENTIALITY (U) TRANSMITS VIDEO AND TELEMETRY DATA FROM UNMANNED AIR VEHICLE.		
10. REPLACEMENT INFORMATION (U) XMTR IS AN UPGRADE OF VTX 13L-5 VIDEO XMTR (J/F 12/6572)		
11. RELATED ANALYSIS AND/OR TEST DATA (U) NA		
12. NUMBER OF MOBILE UNITS (U) 25		
13. GEOGRAPHICAL AREA FOR		
a. STAGE 2 (U) NA		
b. STAGE 3 (U) NA		
c. STAGE 4 (U) US&P TEST AND TRAINING RANGES		
14. LINE DIAGRAM (U) See Page(s) 4	15. SPACE SYSTEMS (U) See Page(s) NA	
16. TYPE OF SERVICE(S) FOR STAGE 4 (U) Mobile	17. STATION CLASS(ES) FOR STAGE 4 (U) MOEB	
18. REMARKS (U) ITEM 14: CONTACT YOUR MILDEP REPRESENTATIVE OR THE JSC FOR A COPY OF THE LINE DIAGRAM.		
DOWNGRADING INSTRUCTIONS		J/F 12/06946
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