PUBLIC NOTICE

FEDERAL COMMUNICATIONS COMMISSION
1919 M STREET, N.W.
WASHINGTON, D.C. 20554

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DA 98-2394
November 25, 1998

WIRELESS TELECOMMUNICATIONS BUREAU ANNOUNCES REVISED PRE-AUCTION DEADLINES FOR THE AUCTION OF 528 MULTILATERATION LOCATION AND MONITORING SERVICE LICENSES

902-928 MHz Band Deployment and Technical Information Compiled by the National Telecommunications and Information Administration

Report No. AUC-98-21-D (Auction No. 21)

By public notice dated November 10, 1998,[1] the Wireless Telecommunications Bureau ("Bureau") postponed the commencement of the Location and Monitoring Service ("LMS") auction to give potential bidders a reasonable opportunity to consider deployment and technical information compiled by the National Telecommunications and Information Administration ("NTIA") regarding government primary users occupying the 902-928 MHz band. This information compiled by NTIA is now available and is attached hereto as Attachment A. Commencement of the LMS auction is now scheduled for February 23, 1999.

The window for filing the FCC Form 175 is now open and will remain open until 5:30 p.m. ET on January 25, 1999. All previously filed electronic applications will remain intact.

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[1] *See* "Wireless Telecommunications Bureau Postpones December 15, 1998 Auction Date for 528 Multilateration Location and Monitoring Service Licenses; Commencement of the Auction Postponed to February 23, 1999," *Public Notice*, DA 98-2246 (rel. November 10, 1998), 63 Fed. Reg. 63,730 (November 16, 1998) ("*LMS Postponement Public Notice*").

The critical dates for pre-auction milestones for the LMS auction have been rescheduled. The rescheduled dates of these pre-auction milestones are listed in Attachment B, a copy of which is attached hereto.

Action by Chief, Wireless Telecommunications Bureau.

Copies of the *LMS Postponement Public Notice* and this public notice including the attached information provided by NTIA may be obtained from the Commission's duplicating contractor, International Transcription Service, Inc. (ITS), 2131 20th Street, N.W., Washington, D.C. 20036, (202)857-3800. Copies are also available for public inspection in the Public Reference Room, Room 5608, 2025 M Street, N.W., Washington, D.C. 20554, and the FCC World Wide Web Auctions site at http://www.fcc.gov/wtb/auctions.

For further information: Media Contact: Meribeth McCarrick at (202) 418-0654. Auctions and Industry Analysis Division, Wireless Telecommunications Bureau: Kenneth Burnley, Legal Branch at (202) 418-0660; Kathryn Garland, Operations at (717) 338-2801.

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ATTACHMENT A

Letter and Information Describing the Technical Characteristics and Deployment of Major Federal Government Systems

UNITED STATES DEPARTMENT OF COMMERCE

National Telecommunications and

Information Administration

Washington, D.C. 20230

November 23, 1998

Ms. Amy Zoslov
Chief, Auctions and Industry Analysis Division
Wireless Telecommunications Bureau
Federal Communications Commission
2025 M Street N.W. Room 5202
Washington, D.C. 20554

Ref: PUBLIC NOTICE, Location and Monitoring Service Spectrum Auction Scheduled For December 15, 1998 (DA 98-1616, August 13, 1998)

Ref: PUBLIC NOTICE, Wireless Telecommunications Bureau Postpones December 15, 1998 Auction Date For 528 Multilateration Location And Monitoring Service Licenses (DA 98-2246, November 10, 1998)

Dear Ms. Zoslov:

The purpose of this letter and accompanying attachment (Parameters of Federal Government Systems in the 902-928 MHz Band) is to provide technical and deployment information on major Federal systems in the 902-928 MHz band. This information is essential to prospective bidders in the above referenced auction because of the status of current and future Federal Government Systems in this band. We request that this letter and attachment be provided to the prospective bidders in any further public notice in regards to this auction. In addition, we request that Special Condition # 39[1] be added to authorizations from this auction.

The attachment presents data summarizing the major primary Federal Government radiolocation systems and an overview of the secondary fixed and mobile systems, that have

[1]Special Conditions / Administrative Notes, FCC 574L (SC), July 1997

the greatest likelihood of causing or receiving interference. The prospective bidders should be aware that the auction of Location and Monitoring Service (LMS) licenses *does not change* the allocation status of Federal Government operations. Within the United States and Possessions (US&P), the 902-928 MHz band is allocated on a *primary* basis to the Federal Government radiolocation service and Government fixed and mobile radio services, including low power radio control operations, are permitted in this band on a secondary basis. Federal Government systems and operations abide by all current radio rules and regulations in this band. By a footnote to the U.S. Table of Frequency Allocations (FN US218), the 902-928 MHz band is made available for LMS systems subject to *not* causing harmful interference to, and *tolerating* interference from, the operations of *all* Government stations (*radiolocation, fixed and mobile, and low power radio control*) authorized in this band. Furthermore, LMS systems *must tolerate* interference from the operations of industrial, scientific, and medical (ISM) devices.

The information provided includes transmitter and receiver operating frequency(ies), location and technical parameters. The information provided reflects present-day equipment usage and operations and *does not preclude* the Federal Government from introducing new equipment, relocate and/or modify existing equipment *at any time* in this band as requirements change or new uses of the spectrum are developed.

The Federal Government will retain primary status in the 902-928 MHz band. The primary radiolocation and secondary fixed and mobile operations require the propagation characteristics unique to this band.

Sincerely,

/ S /

William T. Hatch
Acting Associate Administrator
Office of Spectrum Management

cc: Mr. Daniel Phythyon, Chief, Wireless Telecommunications Bureau, FCC (w/o encl.)
Mr. Dale Hatfield, Chief, Office of Engineering and Technology, FCC (w/o encl.)

PARAMETERS OF FEDERAL GOVERNMENT SYSTEMS IN THE 902-928 MHz BAND

INTRODUCTION

The information provided describes the technical characteristics and deployment information of major Federal Government systems. In order to minimize interference between Federal systems and prospective non-government users, technical characteristics are being made available so that equipment can be designed to reduce susceptibility to interference. The technical parameters that are provided are typical for current equipment.

OVERVIEW

Currently, there are 18 Federal Agencies along with non-Government entities with authorized frequency assignments in the 902-928 MHz band. Information on the band usage is based on the frequency assignments in the Government Master File (GMF) as of October 1998. A summary of the total number of frequency assignments per agency and operating frequency range is shown below in Table 1-1. It should be pointed out, however, that the number of assignments does not necessarily equal the number of equipments in the subject band. Government Agencies use of an assignment is usually associated with numerous equipment. Government Agencies with less than 15 assignments are grouped into the "other" category.

The Department of Defense (DoD) has the most assignments in the band among the Federal Agencies. The DoD primary use of this band is for radiolocation systems. The radiolocation systems employed by the military include: high power long range air search/tracking radars for air defense aboard ships, low power devices such as those for tactical and non-tactical intrusion detection at military facilities, and various tracking and telemetry radar systems to support drone, aircraft, and missile flight testings. The tracking, control and telemetry systems are noted for their wide emission bandwidth (15-17 MHz), low antenna gain (2-6 dBi) and transmit power of 150 or 250 Watts.

Other military operations in this band include Government fixed and mobile radio services, including low power radio control operations, are permitted in this band on a secondary basis. Government mobile communications applications by several Government Agencies include hand held transceivers, video surveillance for law enforcement missions, transmission of infrared scanner imagery during overflights of disaster areas, and high power packet radio systems. These mobile systems have emission bandwidth ranges of 100 kHz to 15 MHz, antenna gain of 0 to 6 dBi, and transmit power of 0.01 to 250 Watts.

The Government mobile systems include land and aeronautical mobile systems mostly concentrated at military facilities for short range communication to support range instrumentation control operations; point-to-point microwave communication and telecommand networks, video surveillance for law enforcement; and tracking, control, and telemetry particularly at test ranges. The operational point-to-point systems in this band operate with a highly directive antenna (22-27 dBi gain) and emission bandwidth of less than 1 MHz. The transmitting power of the majority of the systems is below 10 Watts.

The DoD also uses this band for experimental purposes. The experiments conducted vary from drone, aircraft or missile flight testings, testing and evaluating ship electronic systems or electronic support measure systems, including electronic intelligence emitter location systems and antenna and radar testings. The power used by these experimental systems ranges from 0.0125 W to 300 kW with a range of bandwidths between 2kHz and 20 MHz.

The other Federal Government Agencies use of this band is predominantly for fixed systems used for law enforcement operations, specifically systems involving video/voice surveillance. Most of the video surveillance systems used in this band have a emission bandwidth of 6 MHz or more, with typical power of 1 to 10 Watts. The geographic area of operation for these systems is nationwide. Other fixed operations in this band include control at electric-power stations for transmission and management, and point-to-point microwave or TV links for monitoring unmanned ports-of-entry along borders.

National Aeronautics and Space Administration (NASA) uses this band to gather critical scientific data that pertains to ozone levels in the stratosphere from remotely piloted vehicles operating at 10 Watts of power, an emission bandwidth of 1 MHz, antenna gain of 0 to 7 dBi and at altitudes up to 85,000 feet. This type of operation is nationwide. NASA, using telemetered data from its ER-2 system, supports different organizations that include the United States Department of Agriculture (USDA) for forest service and fire research programs, Federal Emergency Management Agency (FEMA) for their federal earthquake programs, California Forestry Department for forest fire remote sensing imagery and other institutions (i.e. Red Cross) involved in disaster assessments. Data is telemetered on a 3.5 MHz bandwidth and a power output of 40 Watts.

TABLE 1-1

NUMBER OF FREQUENCY ASSIGNMENTS FOR GOVERNMENT AGENCIES IN THE 902-928 MHz BAND

Govt. Agency/ Non-Govt.	Number of Assignments	Operating Frequency Range (MHz)

Air Force	102	902-925.5
Army	97	902-928
Interior	38	902-905, 915-928
USIA	22	925-928
Energy	24	902-928
Navy	53	902-928
Others	63	902-928

MAJOR FEDERAL GOVERNMENT RADIOLOCATION SYSTEMS

The data presented below summarizes the major Federal Government radiolocation systems that have the greatest likelihood of causing interference to future non-Government secondary operations in the 902-928 MHz band.

AN/SPS-49 AIR SEARCH RADAR

System Description

The Navy AN/SPS-49 high power air search two-dimensional (2D) radar is installed on a variety of ships including all aircraft carriers and at several shore stations. The newer AN/SPS-49A(V)1 is in production and is installed on some ships. Other variants of this radar run from (V)1 through (V)8. The older system variants consists of the (V)1, (V)2, (V)3, (V)4, and (V)6. The newer variants consists of the (V)5, (V)7, and (V)8, which are the automatic detect and track (ADT) equipped radars designed to work with the modern weapon systems such as AEGIS.

Operating Characteristics

AN/SPS-49 radars have system operating characteristics shown in Table 1-2. Table 1-3 provides the operating frequencies and channels for the (V)1, A(V)1 variant and (V)5 variant of AN/SPS-49 radars. The AN/SPS-49 radar operates on 48 discrete channels between 850 and 942 MHz. The channels (and frequencies) are grouped into three subbands. Each of the AN/SPS-49 variants can operate in the agile mode, and for all variants agility is limited to any one of the three subbands.

TABLE 1-2 AN/SPS-49 Operating Characteristics

Peak Power	360 kW Typical 280 kW Specified
Frequency Range	850-942 MHz (48 Channels)

Pulse Width	125 and 2 μs [(V)1]; 125, 65, and 2 μs [(V)5];32μs [A(V)1]
Pulse Repetition Frequency	270 and 285 Hz [(V)1] 213.3-275.6 Hz [long range (V)5] + 12 lower values in Extended Range Mode 326.95-490.56 Hz [anti-chaff (V)5] 859.1-1175.8 Hz [A(V)1] 383.9-574.22 Hz [short range(V)5]
Antenna Gain	28.5 dB
Sensitivity	-112 dBm (2μs pulse)
Antenna Polarization	horizontal
Horizontal Scan Rate	6 and 12 rpm
Maximum Coverage Range	550 nmi [(V)1 in Extended Range Mode] 256 nmi [(V)5, A(V)1]
Bandwidth	0.4 MHz

NOTE: (V)1 refers to (V)1 variant, which includes (V)1, (V)2, (V)3, (V)4, and (V)6.
(V)5 refers to (V)5 variant, which includes (V)5, (V)7, and (V)8. A(V)1 refers to the newest variant.

TABLE 1-3 AN/SPS-49 Present Operating Frequencies Within The 902-928 MHz In US&P Littoral Waters

SUBBANDS	CHANNEL	(V)1 FREQUENCY (MHz)	(V)5, A(V)1 FREQUENCY (MHz)
MIDDLE BAND	28	903.0	902.999
	29	905.0	904.444
(MID)	30	907.0	905.888
	31	909.0	908.777
	32	911.0	910.222
HIGH BAND	33	913.0	913.111
(HI)	34	914.0	914.555
	35	916.0	917.444
	36	918.0	918.888
	37	920.0	920.333
	38	922.0	923.222
	39	924.0	924.666
	40	926.0	926.111

NOTE: All variants of the AN/SPS-49 radar operate on 48 discrete channels between 850 and 942 MHz

Operating Areas / Interference Protection Zones

The areas identified below are essential to support training for the AN/SPS-49 radar. Generally, AN/SPS-49 emissions are directed seaward to reduce interference to shore locations. However, during Fleet exercises in littoral waters (typically conducted outside of 25 nm from the coasts), the AN/SPS-49 emitters may be briefly closer to the coasts (i.e. launching and/or recovering aircraft). Based on past operational experience, an interference protection zone of 30 nm inland from coastal areas has been found sufficient for sharing with other services and is suggested to reduce potential interference in the areas described below. It should also be noted, that although the Navy has a significant presence in Southern California, Hawaii, and Puerto Rico, the areas described below (#'s 3, 4, & 5), terrain shielding should

generally mitigate any potential interference from the subject radar.

1. The area extending 30 nautical miles (nm) inland from the Atlantic Ocean between Wilmington, North Carolina (NC) and Lewes, Delaware (DE) to facilitate Atlantic Fleet exercises. This includes land based AN/SPS-49 radar units at Wallops Island, Virginia (VA), Eastville, VA, Dam Neck, VA, Cherry Point and Onslow Bay NC. Additional intermittent use may occur at the following locations: Naval Air Warfare Center (NAWC) at Patuxent River, Maryland (MD) and facilities at Greenville, South Carolina (SC), Jacksonville, Florida (FL), and St. Petersburg, FL.

2. The area extending 30 nm inland from the Gulf of Mexico between the Louisiana (LA) - Mississippi (MS) state border and Panama City, FL, to support Gulf of Mexico exercises. The area includes Gulfport and Biloxi, MS, and Pensacola and Eglin AFB, FL.

3. Southern California (SOCAL) operations support Pacific Fleet exercises in the Pacific Ocean Naval test areas between Vandenberg Air Force Base (AFB), California (CA) and Point Mugu Naval Air Station (NAS), CA. Additionally, Pacific Fleet exercises occur in Naval Operation Areas (OPAREAS) between Newport Beach, CA., and CA - Mexico international border. Also, the area includes Camp Pendleton, CA. These exercises are normally conducted beyond 25 nm from the areas described above which should limit the potential for interference.

4. The coasts of Hawaii may experience sporadic intermittent interference, however, areas near or surrounding the vicinity of Pacific Missile Range Facility (PMRF) located in south-western Kauai may experience higher incidences of interference.

5. The Armed Forces Weapons Test Facility (AFWTF) is a series of zones in the Caribbean Sea that encompasses all of Puerto Rico and the U.S. Virgin Islands. The coasts may experience sporadic intermittent interference.

Table 1-4 below, provides radiation restrictions that are currently in effect. These restrictions are voluntarily implemented by the Navy in current Atlantic Fleet / Pacific Fleet Communication Operations Plan (LANTFLT/PACFLT COMMOPLAN) to maintain the RF emissions in the 902-928 MHz band, including spectral roll-off that interferes with cellular phones, while operating in US&P Littoral waters.

TABLE 1-4 AN/SPS-49 Radiation Restrictions

LOCATION	DISTANCE FROM LAND (nmi)	AUTHORIZED CHANNEL
Western CONUS	≤ 200 In-port	29 - 40 none

Eastern Pacific (east of the International Date Line including Alaska)	≤ 200	29 - 40
Hawaiian Islands	25 - 200 ≤25	31 - 39 none
Eastern CONUS	≤ 200	28 - 40
Puerto Rico Op Area	≤ 200	28 - 38

THE GULF RANGE DRONE CONTROL SYSTEM (GRDCS)

System Description

The GRDCS is a multilateration-based radiolocation system used on the Gulf Range, centered on Tyndall AFB, FL, for three-dimensional positional determination of mobile airborne and ground mission participants. The system operates on a center frequency of 915 MHz, and utilizes multiple measurement sites along the Gulf Coast and in the air. A master computer determines the stations that will be utilized for measurement during each 100 millisecond interrogation cycle, the identity of each participant to be measured, and the delays to be used by each participant relative to the master station sync before responding back to the central site with the range measurement. Hence, using time-of-arrival recording, multiple range-only measurements are made and transmitted to a central computer for determination of time-space-position information, with each position correlated to a unique identification of the participant.

Operational Characteristics

Each participant location, whether fixed or mobile, consists of an integrated receiver/transmitter/microprocessor (hereinafter referred to as transponders), antenna system, and power supply. These participants can be grouped into three output power categories: normal, medium and low power output. The normal output is 400 watts (ground stations and airborne relays), medium is 200 watts (aerial targets and fighters), and low is 10 watts (missiles). There can be up to 17 active emitters in the air plus four active ground sites during any 100 millisecond measurement cycle. There are ten measurement cycles per second. Ground station antenna heights vary from 50 feet above mean sea level (AMSL) to 500 feet (AMSL). In operation, the transponder may act as the control station, a relay station, a clocking station, or a drone station. The transponder transmitter employs time-division-multiple-access (TDMA) for two to twenty units. It operates spread-spectrum and uses bi-phase-shift keying (BPSK), pulse-coded-modulation with a 10 MHz chip rate on a center frequency of 915 MHz with a bandwidth of ±10 MHz. (***See figure 1 below for spectrum picture***.) The emission bandwidth is -1 dB at 14 MHz and -20 dB at 22 MHz. It employs a

bandpass filter with a center frequency of 915 MHz providing 3dB at 16 MHz bandwidth and 80 dB at 25 MHz bandwidth. The normal transponder has a mean power output of 400 W coupled with a 1 to 2 dB loss in the coaxial cabling and a 5 dBi, 6 dBi, or 8 dBi gain antenna at the ground station. The majority of the participants utilize vertically polarized, omnidirectional antennas with two ground sites offering a choice between vertical and right-hand circular polarization (RHCP). (All missile packages are RHCP.) Effective Radiated Power (ERP) could be as high as 800 to 1600 Watts depending on the antenna used at a ground station. (Drones, pods, and other aircraft carry antennas with 0 dBi, 1 dBi, or 4 dBi gain.) The transponder contains a single-channel, fixed-tuned/crystal reference superheterodyne receiver employing matched filter detection and is tuned to 915 MHz. It has a received sensitivity of -94 dBm with a signal-to-noise ratio of 16.5dB at the antenna connector (PD = 0.99%).

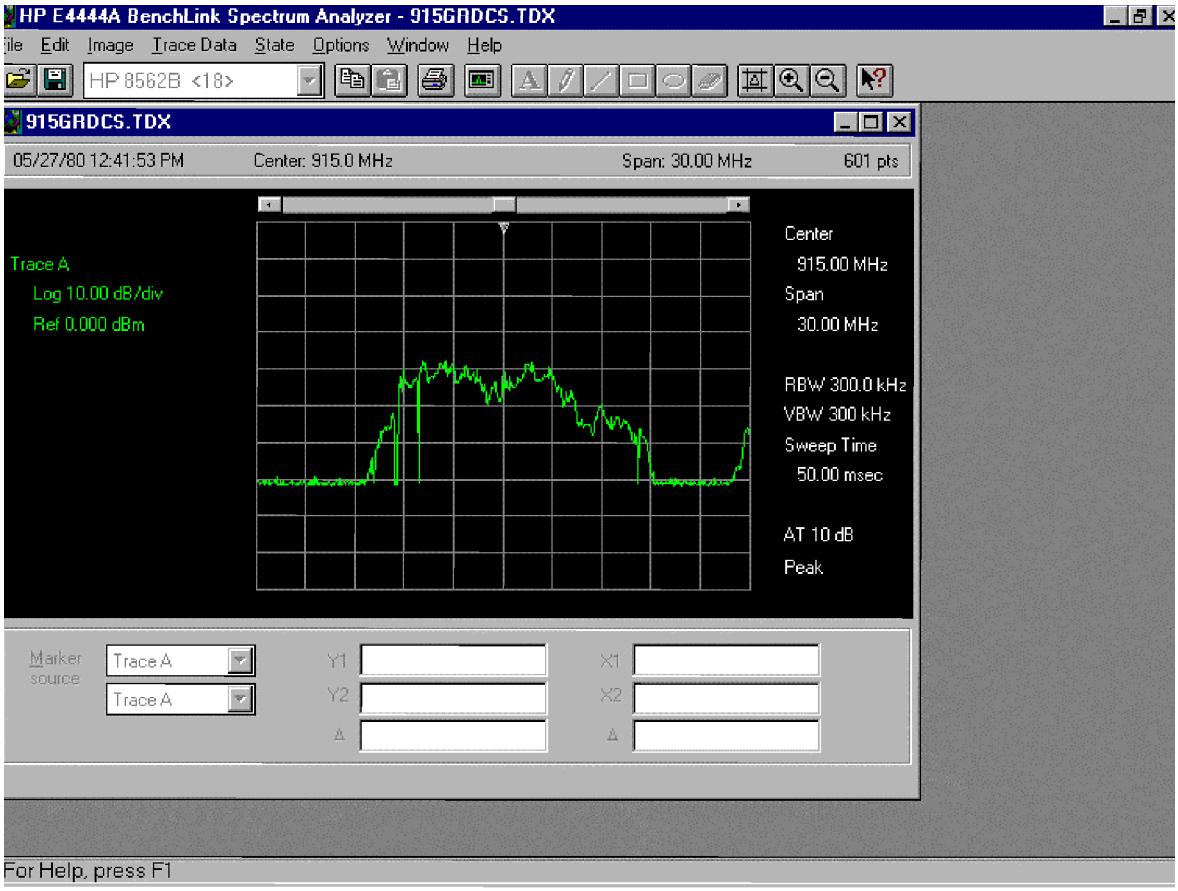

Figure 1. GRDCS RF Spectrum Pattern.

[Spectrum Pattern Picture Available in Hard Copy Form]

Sequence of Operation

The computer issues a track request via a ground site and imbeds the identities of the participant ground sites, identities of the tracked airborne objects, and the respective delays each participant is to observe before responding in order to deconflict transmissions. Additionally, the computer designates which site is to serve as the master collector of all of the time-of-arrival information before returning the information to the central computer. If any fixed or mobile location is to perform as an active repeater of the instructions (e.g. over-the-horizon), then additional information is embedded to identify the repeater(s), delays, and sites to track the repeaters. Simplistically, the master site asks "where are you" and each identified participant responds with "right here". The instructions received on the uplink delineate how this nebulous response is treated by the TOA collectors, and returned to the computer. In practice, each high-dynamic mobile station is queried 10 times per second, less dynamic stations at a frequency of 5 times per second, and the low dynamic participants at 2.5 times per second.

Ancillary Capability

The tracking system's ability to transmit measurement criteria to participants is based on a variable message length which lends itself to transmitting additional data to each object, or receiving additional data from the tracked object if a suitable interface is provided. Such information as station health, position refinement from on-board systems, weather or other digital information may be imbedded on downlink responses, all of which may be requested via uplink interrogation. The data throughput capacity of the system is currently 500 kbits/second although the amount of specific data that can be sent is restricted by the amount of instructions that must be sent for range measurements.

Operating Areas

The system operates from multiple ground sites (up to 15) located along the Gulf Coast from Navarre, Florida to St. Marks, Florida. Airborne systems that are being tracked may fly at any altitude from sea level to above 80,000 feet, and anywhere within the restricted airspace designated as Warning Area 470 (near Tampa, FL) and Warning Area 151 (south of Ft. Walton Beach/Eglin AFB, FL) at slant ranges from Tyndall AFB of approximately 160 miles. More restrictive profiles may be used within the land boundaries of Eglin AFB.

HIGH ACCURACY MULTIPLE OBJECT TRACKING SYSTEM (HAMOTS)

System Description

The HAMOTS consists of a Ranging Operations Control Unit, and a variable quantity of unmanned Ranging Interrogators and Data Relay Units, and Vehicle Transponder Units. The primary purpose of the system is to provide position and tracking data for up to 20 (simultaneously) land and airborne mobile units including missiles, remotely piloted vehicles and manned aircraft. A secondary purpose is to relay test and evaluation data about each of the mobile units back to the Operations Control Unit.

Operating Characteristics

The HAMOTS system operating characteristics are listed in Table 1-5 below. The system functions by having the Ranging Interrogators and/or Data Relay Units interrogate the various mobile transponders upon command from the Ranging Operations Control Unit. The transponders in turn provides position information and test and evaluation data back to the Ranging Operations Control Unit via the Ranging Interrogators and/or Data Relay Units.

TABLE 1-5 HAMOTS Operating Characteristics

Mean Power	0.015 kW (all units)
Frequency Range	918 MHz (Fixed Tuned)
Pulse Width	2.5 ± 5μs (ranging mode) 5 μs (data mode)
Pulse Repetition Frequency	100 KPPS (ranging mode) 200 KPPS (data mode)
Antenna Gain	2.5 dBi (Vehicle Transponder Units) 4.5 dBi (Ranging Interrogators, Data Relay Units, Ranging Operations Control Unit) 9 dBi (Ranging Operations Control Unit)
Sensitivity	-67 dBm (for 0.001% BER) -94 dBm (ranging mode) -113 dBm (data mode)
Antenna Polarization	Vertical
Maximum Coverage Range	230 nmi (HAMOTS-equipped aircraft)
Bandwidth	10 MHz

Operating Areas

The HAMOTS system will be deployed on and in the vicinity of test and training ranges in Arizona (AZ), California (CA), Colorado (CO), Nevada (NV), and Utah (UT). The Air Force has indicated that this does not preclude HAMOTS operations at other locations throughout the United States & Possessions (US&P).

UHF WIND PROFILING RADARS

System Description

Vertically directed Doppler radars, known as wind profilers, can measure the wind speed of crosswind as a function of altitude in a clear atmosphere, where overlying wind streams have substantially different velocities. The wind profiler detects scattering from the turbulent media in the clear air. Clear echoes are quite weak, so that high-power, large-aperture radars are required for their detection. The general shape of frequency spectral for clear-air echoes is a complex function of wind speed. For example, meteorologists need wind information with a very high temporal and spatial resolution, mainly in the lower atmosphere. The requirements are for continuous data acquisition, between the ground and 5 km, with a desirable resolution sometimes as low as 30 meters. Measurements will usually be made in populated areas.

Wind profiler radars play important role in experimental atmospheric research. Their ability to measure wind with a high temporal and spatial resolution makes them very well suited for the experimental verification of models, for boundary layer research and for investigation of processes that are important for understanding the atmosphere, including climate evolution. The primary uses of wind profilers in this band are; short-term weather forecasting, air pollution monitoring, wind field analyses and forecasts of toxic plumes trajectories resulting from chemical or nuclear incidents, severe weather warnings for aviation, meteorological observations, airport operations and public protection.

Operating Characteristics

The operating characteristics listed below in Table 1-6 are typical for wind profilers operating in the 902-928 MHz band.

TABLE 1-6 UHF Wind Profiler Radar Operating Characteristics

Peak Power Frequency Range	0.5 kW 915-924 MHz (Fixed Crystal)
Pulse Width Pulse Repetition Frequency Antenna Gain Sensitivity Antenna Polarization Bandwidth	0.7μs- 2.8 μs 20 KPPS 25 dBi -102 dBm Linear 10 MHz
NOTE: Some systems have up to 5kW Peak Power and Necessary Bandwidth range from 3-13 MHz	

Operating Areas

The UHF Wind Proflier Radars will be deployed on and in the vicinity of DoD ranges and bases in the Continental United States (CONUS). Other Government Agencies may operate in urban areas throughout the U.S.

SUMMARY

The prospective bidder should be aware that the auction of Location and Monitoring Service (LMS) licenses *does not change* the allocation status of Federal Government operations. Within the United States & Possessions (US&P), the 902-928 MHz band is allocated on a *primary* basis to the Federal Government radiolocation service and Government fixed and mobile radio services, including low power radio control operations, are permitted in this band on a secondary basis. By a footnote to the U.S. Table of Frequency Allocations (FN US218), the 902-928 MHz band is made available for LMS systems subject to *not* causing harmful interference to, and *tolerating* interference from, the operations of *all* Government stations (*radiolocation, fixed and mobile, and low power radio control*) authorized in this band. Furthermore, LMS systems *must tolerate* interference from the operations of industrial, scientific, and medical (ISM) devices. The information provided reflects present-day equipment usage and operations and *does not preclude* the Federal Government from introducing new equipment, relocate and/or modify existing equipment *at any time* in this band as requirements change or new uses of the spectrum are developed.

ATTACHMENT B

LOCATION MONITORING SERVICES (LMS)
AUCTION NO. 21

Begins Tuesday, February 23, 1999
Simultaneous Multiple Round Auction

528 MULTILATERATION LICENSES
(One license in each of three spectrum blocks in 176 Economic Areas)

Date Completed	Action	Page(s) Bidder Info. Package
January 25, 1999	Submit Short Form FCC Form 175 Auction Application by 5:30 p.m. ET	61-63, 99-119
February 8, 1999	Submit upfront payment (wire transfer) to Mellon Bank, Pittsburgh, PA by 6:00 p.m. ET	15-20, 64-66, 121-133
February 9, 1999	Order Remote Bidding Software by 5:30 p.m. ET (Cost: $175.00)	67, 75, 76, 135
February 19, 1999	Mock Auction	67

February 23, 1999	**Auction No. 21 begins**	**66-67, 69-91**

Additional Copies of the Bidder Information Package: **The Commission will provide one copy to each company free of charge. Additional copies may be ordered at a cost of**

$16.00 each, including postage, payable by Visa or Master Card, or by check payable to "Federal Communications Commission" or "FCC." To place an order, contact the FCC National Call Center at (888) CALL-FCC ((888) 225-5322, press option #2 at the prompt) or direct dial at (717) 338-2888.

Participation: **Those wishing to participate in the auction must:**

- **Submit a short form application (FCC Form 175) by 5:30 p.m. ET on January 25, 1999.**

- **Submit a sufficient upfront payment and an FCC Remittance Advice Form (FCC Form 159) by 6:00 p.m. ET on February 8, 1999.**

- **Comply with all provisions outlined in the Bidders Information Package.**