



EXHIBIT A

City of Los Angeles

**APPLICATION FOR AIRBORNE MICROWAVE DOWNLINK VIDEO
EXPERIMENTAL LICENSE**

September 8, 1999

OBJECTIVE

The purpose of the proposed experimentation is twofold: First, it will demonstrate that public safety agencies in the greater Los Angeles area can utilize commercially available equipment in the 2402-2448 MHz spectrum to transmit microwave video images from airborne platforms to benefit ground tactical operations.

Second, it will prove that public safety agencies in the Los Angeles area can share the underutilized 2402-2448 MHz spectrum without causing interference amongst themselves, or to existing operations in this band.

In this experimentation program, public safety agencies will work closely with equipment manufacturers to maximize the use of the spectrum by using state-of-the-art equipment to minimize bandwidth and signal deviation.

BACKGROUND

Law enforcement agencies, fire departments, disaster relief agencies and other public safety service providers in the Los Angeles area have a growing need for airborne video communications systems. Such systems allow live video to be transmitted from helicopters and other aircraft to command and control centers on the ground, greatly facilitating tactical operations and emergency response activities. The need for such a system is especially critical during events that require immediate coordination of severely limited and critical resources. The capability to provide a "birds eye view" is an invaluable tool for the effective management of public safety situations such as coordinating response to crimes in progress, directing police officers in pursuit situations, battling building and forest fires, controlling civil disturbances, and responding to hostage and barricade situations.

This capability is particularly important in a growing and densely populated area such as Southern California. The City of Los Angeles encompasses approximately 470 square miles and has a population of over 3.7 million. To better serve the growing needs of the citizens of this, the most populous and largest City in the State of California, The City wishes to implement a new citywide airborne downlink video system within the next few months.

The City is presently licensed to operate in the 2450-2483 MHz band for microwave video operations. Today, the City, as do other public safety agencies in the Los Angeles area, coordinate the use of the shared microwave video frequency bandwidth with television broadcast entities. The television industry has an extensive network in Southern California. An example of such network is owned by KNBC and depicted on Attachment 2. The coordination efforts have proven to be extremely difficult and, more important, ineffective during events that require the immediate response and coordination of public safety resources. During emergency response operations, the City has experienced significant interference from the television broadcasters. The City is gravely concerned that, under the current coordination process, interference from non-emergency operations can jeopardize and compromise an operation where lives and property are being saved.



DESCRIPTION OF EXPERIMENTATION

The citywide video downlink system will consist of one receive site, centrally located in the City of Los Angeles. This site will be capable of automatically tracking an airborne transmitter along its flight path. The video images will then be routed via the City's existing private communications network to City Police and Fire Department facilities.

In addition, existing mobile command units will be equipped to receive the video images from airborne units. The mobile command units will be deployed only during those events that require localized emergency tactical operations. The City's goal is to equip 12 Police Department helicopters and three Fire Department helicopters with microwave video equipment. A diagram depicting the City's proposed 'citywide airborne downlink video system' is provided in Attachment 1. Other public safety agencies in Southern California such as the County of Los Angeles, City of Long Beach, Glendale and Burbank intend to implement similar airborne downlink video systems.

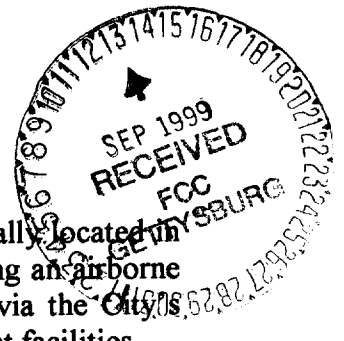
FINDINGS

The City of Los Angeles has identified the spectrum between 2402 MHz and 2448 MHz as underutilized in the greater Los Angeles area. These frequencies are primarily licensed for radio astronomy research, amateur radio, and industrial/medical instrumentation. The City conducted extensive monitoring and data collection of this spectrum to confirm its under-utilization. Radio frequency (RF) signals were measured at -90 dBm - a level very near the ambient noise level. All RF signal measurements were taken at the Mount Lee radio site at different dates and time of the day. Consistently, negligible activity was detected in this frequency band.

Through experimentation and evaluation, the City intends to prove that public safety agencies and incumbent users can co-exist in the under-utilized 2402-2448 MHz band without causing mutual interference.

THEORY OF OPERATION

The City intends to demonstrate that equipment readily available in today's market can be programmed to operate in the 2402-2448 MHz band and transport a video image that is adequate for public safety operations. Other users of microwave video equipment, such as television broadcasters, use a higher technical standard than those proposed by the City. By reducing the operational bandwidth, more channels can be incorporated into the same spectrum thus making more efficient use of this very limited and valuable spectrum. In this particular case, experimentation is expected to demonstrate that at least four channels of 10 MHz each can be obtained from the proposed spectrum. The experimental license will also alleviate the critical need for additional spectrum for microwave video communications in the greater Los Angeles area, thus allowing a better coexistence between public safety agencies and broadcasters in the Los Angeles area.



EQUIPMENT DESCRIPTION

AIRBORNE TRANSMITTERS

The airborne downlink video transmitters selected for Police and Fire Departments helicopters will consist of frequency agile transmitters with a high-gain directional antenna driven by GPS and compass to track the ground receive sites. They will include an Omni-directional antenna with a switchable, in-line attenuator that will allow variable power output selection by the operator via remote control, and a fixed down-looking transmit antenna with minimum coverage of at least a 60-degree wide cone under the aircraft. This antenna will be used to downlink with the mobile receiver sites.

The airborne video transmitters and antennas are type accepted by the Federal Communications Commission and operate from 1.7 GHz to 2.5 GHz. They will also be capable of transmitting with both right hand and left hand circular polarization signal and be switchable by remote control from inside the helicopter.

All transmitters will also include at least one audio sub-carrier for the transmission of GPS location data from the helicopter to the groundbase receiving antennas. The sub-carrier frequency will be on 4.830 MHz.

GROUND RECEIVER SYSTEMS

Five permanent ground based systems will be capable of receiving airborne downlink video transmission in the 1.7 GHz to 2.5 GHz microwave band including at least one audio sub-carrier. All necessary antenna control functions will be remotely controllable from the Central Receive Site (CRS). The CRS location will serve as the video control center to monitor and distribute the video images to designated City facilities via digital microwave and fiber optics.

PORTABLE/MOBILE RECEIVER SITE SYSTEMS

The mobile systems will be ruggedized, self-contained, portable receiver stations, which will operate on either AC or DC power supplies and be capable of being mounted on a vehicle. Each unit will include a video monitor and signal metering system for best reception tuning.

SUMMARY

The City of Los Angeles is applying for a FCC Experimental Radio License for airborne microwave video. With joint efforts of public safety and equipment manufacturers in Southern California, we will be conducting tests on potential application of airborne downlink video using underutilized spectrum in 2402 to 2448 MHz bands. Through careful coordination and testing, the City intends to demonstrate that public safety agencies in the Los Angeles area can share the use of precious spectrum resources without causing harmful interference amongst themselves, or to existing entities.

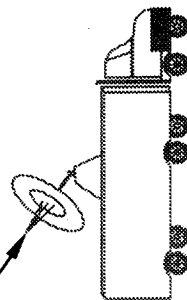
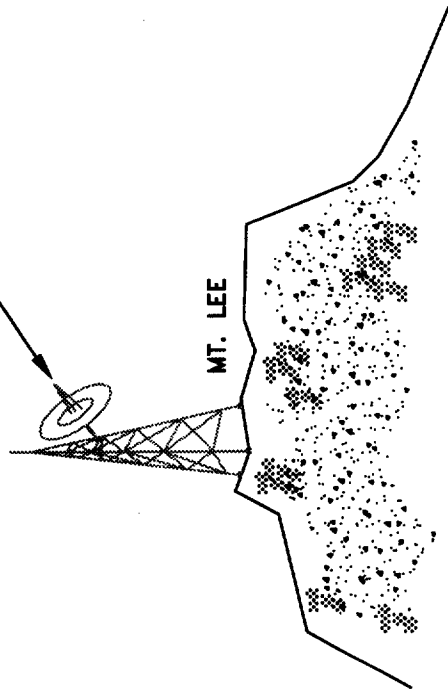




Attachment 1

Diagram of Proposed System – City Airborne Video

CITY OF LOS ANGELES AIRBORNE VIDEO PROJECT

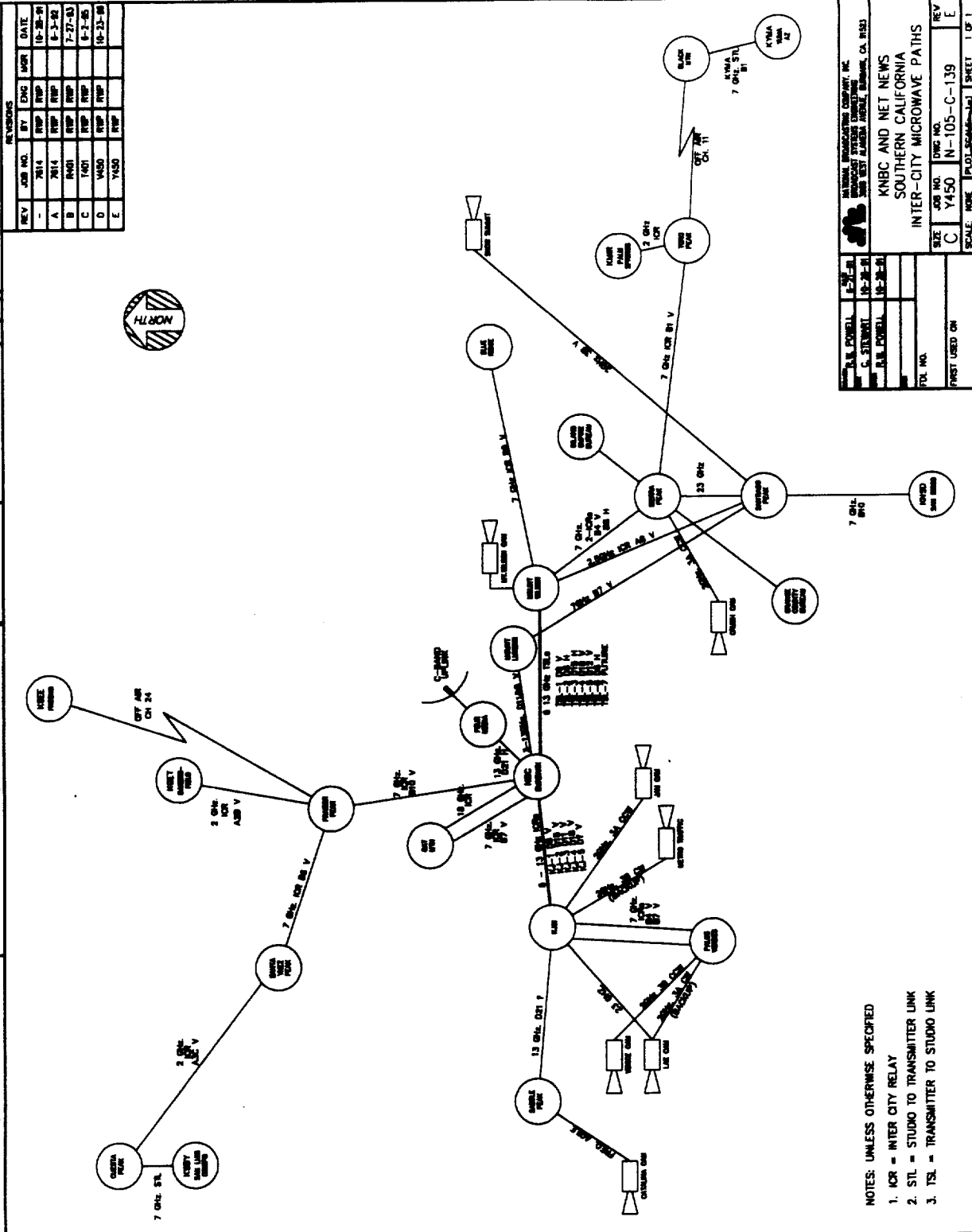




Attachment 2

Example of Existing Broadcast Network in Southern California

REV	JOB NO.	BY	ENG	CHK	DATE
-	7814	RMP	RMP		10-28-99
A	7814	RMP	RMP		6-3-02
B	8460	RMP	RMP		7-27-03
C	1700	RMP	RMP		6-2-05
D	Y450	RMP	RMP		10-23-08
E	Y450	RMP	RMP		



- NOTES: UNLESS OTHERWISE SPECIFIED
1. ICR = INTER CITY RELAY
 2. STL = STUDIO TO TRANSMITTER LINK
 3. TSL = TRANSMITTER TO STUDIO LINK

SOUTHERN CALIFORNIA INTER-CITY MICROWAVE PATHS	
REV	E
DATE	10-23-08
BY	RMP
CHK	RMP
ENG	RMP
JOB NO.	Y450
PROJECT NO.	N-105-C-139
SCALE	AS SHOWN
SHEET	1 OF 1

FILE NAME: UNK105C139.DWG

