

Description of Experimental Operations
Paramount Pictures Corporation
Proposed GPS Re-Radiator at Morristown, New Jersey

Paramount Pictures Corporation (PPC), licensee of aircraft 6VB and 75VB, herein seeks to amend a pending experimental license application, File Number 0132-EX-CN-2021.¹ The instant application provides necessary corrections while addressing questions raised by the FCC staff.

PPC houses its aircraft in a hangar at Morristown, New Jersey. Global Positioning System (GPS) signals needed for periodic aircraft database updates are inaccessible within this hangar due to the highly effective, radiofrequency shielding properties of the hangar's metallic ceiling and walls. The lack of GPS signals becomes problematic when aircraft are kept in the hangar during inclement weather. To circumvent this problem, PPC seeks approval to operate one fixed GPS Networking Inc. GPS re-radiation device (model number HNRRKIT) solely for the purpose of testing onboard GPS receivers when aircraft are parked indoors.

Pursuant to Section 8.3.27 of the NTIA manual, PPC and the HNRRKIT facility will...

- a) Radiate GPS signals strictly indoors,
- b) Be used as Experimental Radionavigation Satellite Service (RNSS) test equipment for the purpose of testing GPS receivers,
- c) Apply for frequencies entered in the Government Master File,
- d) Seek initial approval for a period of two years,
- e) Control or coordinate areas within the potential interference area with other GPS users,
- f) Adjust the equivalent isotropically radiated power (EIRP) to assure a signal power not to exceed -140 dBm/24 MHz at 100 feet. (See GPS Networking Link Budget Calculator.)
The antenna will be located near approximately 75-feet from the nearest exterior wall.
- g) Notify potential users within 100 feet where GPS information may be impacted. (PPC will contact nearby property owners and install appropriate signs.)
- h) Be used strictly for testing RNSS equipment/systems.
- i) The PPC "stop buzzer" point of contact for this facility is David A. Zagnoli, Executive Director, Corporate Aviation; 7150 Hayvenhurst Ave.; Van Nuys, CA 91406; (818) 785-3255.

The instant application seeks to change the applicant name from "ViacomCBS" to "Paramount Pictures Corporation," a ViacomCBS, Inc. subsidiary. A slight coordinate correction for the Morristown, New Jersey hangar is also provided.

¹ The aircraft tail numbers are N6VB and N75VB respectively.



GPS Networking Link Budget Calculator

The following spreadsheet calculates the effective radiated power for a GPS Networking reradiating system as well as the effective signal power at given range in dBm. Enter the components for the strongest repeating path in your system into the section with the red border. NTIA regulations require that the repeated signal be weaker than -140 dBm when measured 100 FT outside of the reradiated structure. Please feel free to reach out to GPS Networking if you need assistance.

Receive Ant Gain	Ant Cable Insertion Loss	Repeater Amp Gain	Repeater Ant Gain Best Case	Building Length (Feet)	Signal Power @ End of Building	Signal Power @ 100' Outside of Building In dBm
38	-3	22	3	75	-133.59	-140.9536937
GPS Carrier Frequency MHz			Total System Gain	Range in Miles	Total Signal Power @ Range in Watts	
1575			60	0.01	43.7E-18	
Avg Receive Power L1 dBm North America				Range in Meters	Radiated Power dBm	
-130				22.86	-70	
Free Space loss with Isotropic Antennas				Range in Kilometers	Transmitted Power (W)	
-63.59				0.02	50.1E-12	
					Effective Radiated Power (W)	
					100.0E-12	
					Effective Radiated Power (dBW)	
					-100	



DIMENSIONS OF BUILDING: 150' X 150'

BUSINESSES WITHIN .3 KM RADIUS:

WINGS AND ROTORS AVIATION
AMERICAN FLYERS
SHORT HILLS AVIATION SERVICES