

EXHIBIT 1

A. Overview

The purpose of this request for an experimental license is to develop and test an interactive MMDS system. Wireless Cable of Pa. together with California Amplifier and or other hardware manufacturer will set up this test site for the extensive test and analysis of a newly developed Interactive system. For Wireless Cable systems to compete with "hard wired" cable systems, innovative use of technology that brings the benefits of Interactive Television to the public is essential.

B. Interactive Television

1. The basic idea

Interactive Television requires a "return path" for the data that makes up the "viewers response". This response could be an answer to a test question, a vote for a political proposal, or any of hundreds of possible query - response scenarios.

2. The System consists of: (see figure labeled "Interactive MMDS System")

- i. Programming with viewer response requirements as a part of the programming and / or a special viewer response text channel.
 - a. Programming will be generated by major program suppliers in the future
 - b. For the purpose of this experimental license programming for interactive responses will be generated locally. This programming must be developed and tested along with the hardware design since it is an entirely new field. The programming will be referred to Viewer Response Programming (VRP).
- ii. The MMDS Headend
 - a. System Computer
 - b. Encoders / Transmitter
 - c. Diplexer
 - d. Return Data Receiver
- iii. The MMDS Antenna
- iv. The transmission path and impairments
- v. The viewers equipment
 - a. The viewers antenna
 - b. The viewers transmitter / receiver
 - c. The viewers set top converter / decoder

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d. Remote control device or keypad

3. The Process

- i. The Viewer Response Programming (VRP) elicits a response from the viewer who punches a button on a remote control device or keypad
- ii. The response is bundled with the viewers identification number and held in a data buffer.
- iii. At a specified time the data is sent to the headend using specific frequencies from the table in Exhibit 3, through the transmitter and antenna at the viewers location.
- iv. The data is received and decoded at the headend and the response is processed as required.
- v. If outside services are requested (i.e. pizza, etc.) the outside vendor is sent via modem a database listing of the name of the viewer (now a customer) the phone number and or address as required, and the item ordered.

C. Additional applications of interactive technology

There are hundreds of potential applications of this technology. This experimental license will enable the licensee to break new ground and the results will be applicable to hard wired cable systems, IVDS, and other video distribution systems. We do not intend to present an exhaustive list here, one purpose of the experimental license is to present to the target audience options that test the real life "useability" or viewer acceptance of some of these interactive applications.

D. The licensee would like to answer questions such as the following:

1. Is this system cost - effective?
2. What is the maximum number of responses that can be processed per second? per minute?
 - i. What would be the average length of responses for various uses (i.e. pizza order vs.. response to an essay question?
 - ii. What is the best protocol to maximize throughput?
 - iii. Will this change when the number of users changes?
3. How could a system operator set up a system that would be the most flexible in terms of future operational requirements.
4. Is this system useful in the education field?

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- i. Will viewers as students participate using the response method?
 - ii. Will the feedback be timely, and augment or detract from the classroom instruction?
5. Will people order pizza through their TV?
6. Is home security a viable use of the interactive system.
7. Is digitizing voice (or other sound) practical for this system?
8. Will people play interactive video games with this system?
9. Can it be used effectively for job interviewing or employment search?
10. Can it be used effectively as a dating or introduction service?
11. Will viewers play games, educational games or typical video games with this service?
12. Can data (computer to computer) connections be established with this system?
13. Is this system useful for Municipal applications such as Prisoner parole monitoring?
14. Can messaging between viewers be accomplished with this system? (a sort of bulletin board)
15. What is the effect of transmission impairments on the direct path?
16. And on the return path signal?
17. What are the sources of interference to this system?
18. What is the effect of polarization on transmission?
19. Will this system cause interference to the normal MMDS channels?
20. Will this system cause interference to any other service?
21. What is the maximum effective distance the remote (viewer) locations may operate?
22. What is the interference threshold that can be tolerated?
23. What is the normal error rate?
24. What is the overall reliability of the system?
25. Can the responses be intercepted by electronic eavesdropping?
 - i. Within the system
 - ii. Outside the system
26. Can the responses be encrypted?
27. Is the system incryption secure enough for financial transations to a part of the capability of the system?.

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There will be hundreds of other questions that are generated by answers or partial answers to these questions. The applicant intends to provide a complete reports to the FCC at regular intervals on the progress of this experiment.

E. Number of remote test locations

Wireless Cable of Pa. plans to place remote viewer systems and conduct this testing with between 5 thousand and 10 thousand remote units. Some units will be set aside for municipal testing, educational only, and "bata testing" or internal testing only. The exact percentage breakdown for these catagories has not been determined.

F. Conclusion

A grant of this request will enable Wireless Cable of Pa. to investigate the answers to these and other questions. It will enable a through testing of new hardware and development of Viewer Response Programming (VRP) pieces of equipment together and test the system in the actual environment where they must operate. If successful the system will be a significant step forward and will lead to additional services for the public.

During the duration of this experiment, Wireless Cable of Pa. intends to transmit video programming to subscribers to help determine the commercial value of the equipment and VRP being tested through this experiment. Accordingly, Wireless Cable of Pa. herein requests authority to conduct limited market studies pursuant to Sections 5.202 (j) and 5.206 of the Commission's Rules.

These market studies will assist in determining the optimum price and marketing strategy for the products being tested in the study, which, if proven to be commercially viable, would be used in connection with the provision of wireless cable service. The Commission has said it intends to "enhance the viability and competitive stature of wireless cable." Report in MM Docket 89-600, 67 RR2d 1771, 1797 (1990), and has recognized the need to "take all possible steps to encourage and facilitate competitive multichannel video

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delivery systems" such as wireless cable. Notice of Proposed Rulemaking and Notice of Inquiry, 5 FCC Rcd at 971,971 (1990). Wireless Cable of Pa. proposed market studies would promote the development of the wireless cable industry and they are therefore consistent with the Commission's goals.

Pursuant to Section 5.151 of the Commission's Rules, Wireless Cable of Pa. will use every precaution to ensure that its operations will not cause harmful interference to any other licensed station and it will use the lowest power level consistent with its experimental program. If its operations cause harmful interference to another station, Wireless Cable of Pa. will cease transmitting and will not resume transmitting until it is certain that such resumption will not cause further interference.

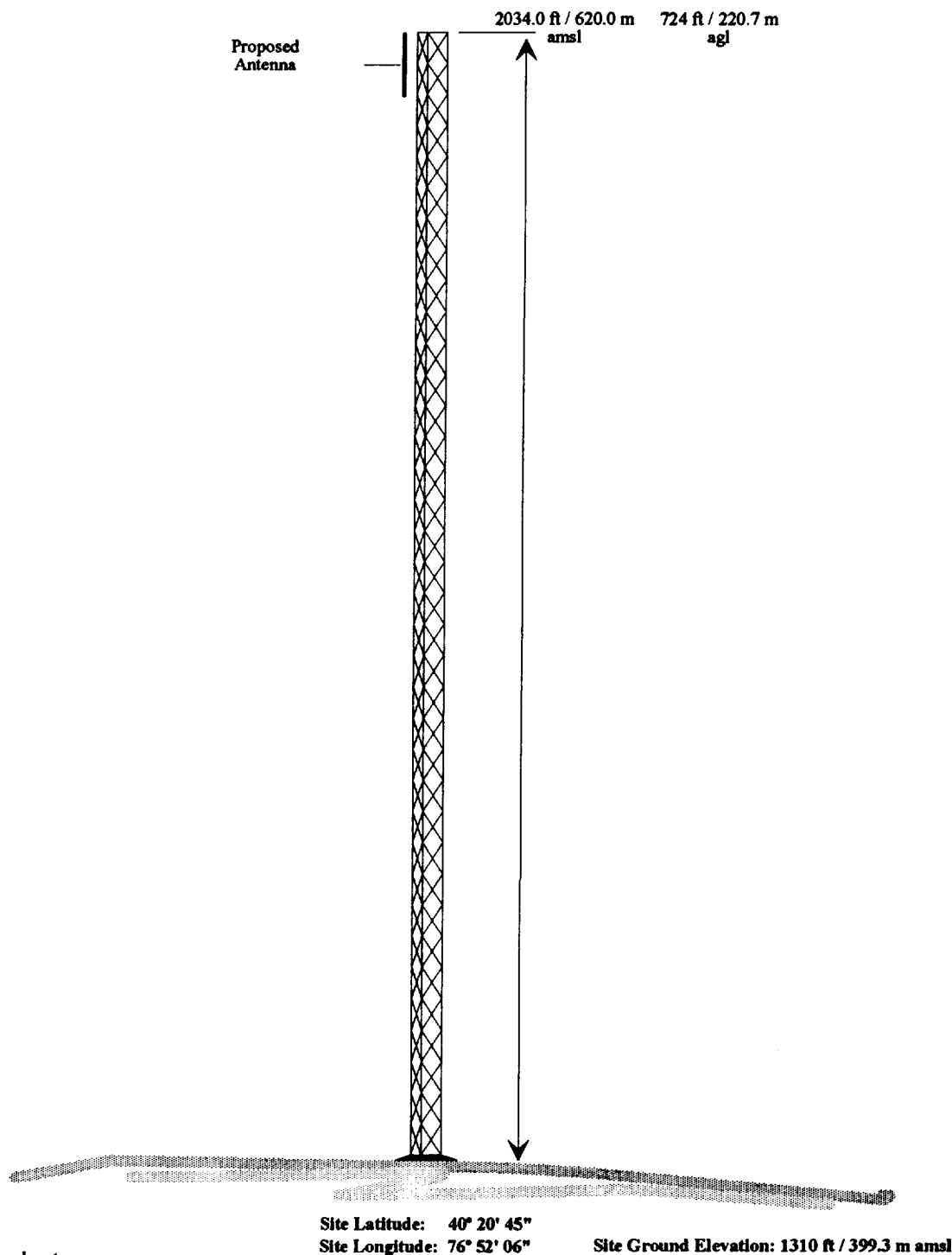
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EXHIBIT 2

Response to FCC Form 442 Page 4, Item 15(e) Vertical Plan view of Transmitting antenna



Dimensions in feet and meters
Not drawn to scale

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Harrisburg, PA

EXHIBIT 3

Interactive MMDS System Frequencies					
Return path Channel Frequencies - FCC Form 442 Page 2 Item 4(A)					
(All frequencies are in MHz)					
INTERACTIVE	FOR		FOR	INTERACTIVE	
FREQUENCY	BLOCK		BLOCK	FREQUENCY	
2686.0625	A1		A1	2686.0625	
2686.1875	B1		A2	2687.0625	
2686.3125	C1		A3	2688.0625	
2686.4375	D1		A4	2689.0625	
2686.5625	E1				
2686.6875	F1		B1	2686.1875	
2686.8125	G1		B2	2687.1875	
			B3	2688.1875	
2687.0625	A2		B4	2689.1875	
2687.1875	B2				
2687.3125	C2		C1	2686.3125	
2687.4375	D2		C2	2687.3125	
2687.5625	E2		C3	2688.3125	
2687.6875	F2		C4	2689.3125	
2687.8125	G2				
			D1	2686.4375	
2688.0625	A3		D2	2687.4375	
2688.1875	B3		D3	2688.4375	
2688.3125	C3		D4	2689.4375	
2688.4375	D3				
2688.5625	E3		E1	2686.5625	
2688.6875	F3		E2	2687.5625	
2688.8125	G3		E3	2688.5625	
			E4	2689.5625	
2689.0625	A4				
2689.1875	B4		F1	2686.6875	
2689.3125	C4		F2	2687.6875	
2689.4375	D4		F3	2688.6875	
2689.5625	E4		F4	2689.6875	
2689.6875	F4				
2689.8125	G4		G1	2686.8125	
			G2	2687.8125	
			G3	2688.8125	
			G4	2689.8125	
Arranged by Frequency			Arranged by block		

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