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January 8, 2001

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

BY HAND DELIVERY

Ms. Magalie R. Salas, Secretary
Federal Communications Commission
The Portals, 445 12th Street, S.W.
Washington, D.C. 20554

Re: ET Docket 98-153
Revision of Part 15 of the Commission's Rules Regarding Ultra-Wideband Transmission Systems
*Ex Parte Filing*

Dear Ms. Salas:

Roberto Aiello, Minnie Ho and Eric Macris of Fantasma Networks, Inc., William Gamble of Gamble Telecommunications, Inc., and the undersigned, met February 7, with Peter Tenhula Senior Legal Advisor to Chairman Michael K. Powell, to discuss Fantasma's position in the above-referenced proceeding, which is reflected in Fantasma's comments and reply comments. In addition, The Fantasma representatives discussed the NTIA report on testing ultrawideband transmitters on frequencies above 2GHz. Finally, the attached document, summarizing the position of civic and public interest groups in the above-referenced proceeding, was given to Mr. Tenhula.

If there are any questions in this regard, please contact the undersigned.

Respectfully submitted,

Henry Goldberg
Attorney for Fantasma Networks

Attachment
cc: Peter Tenhula

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# Ultra-Wide Band Technology: Building Civic Institutions and Serving the Public Interest

Deployment of high-speed, high-capacity Internet access (broadband) is an important priority for schools, libraries, health care facilities, community groups, and small businesses, as well as for consumers at home. In the past few years, the FCC and Congress have encouraged the deployment of "last mile" broadband pipes to ensure that rural and low income communities are not left behind. But bringing broadband to the building door is not enough: to achieve real digital opportunity, high-speed Internet access must be available throughout a building, not only in one or two fixed locations.

Moreover, Internet resources need to be easily shared within these buildings: among classrooms, medical staff, librarians and patrons, or workers in a small business. In other words, it requires connecting the first or last few feet where the user is not just the "last mile." But this most crucial step is often extremely expensive and complex. The costs of wiring up a LAN can easily escalate to several hundred dollars for each computer. This adds up quickly, especially for facilities hoping to put computers, video conferencing, medical monitors, or other networked devices in a large number of locations. When the cost of construction, relocation during a major rewiring, asbestos removal or other safety hazards, and other unforeseen expenses are taken into account, the cost often becomes prohibitive. Even then, every addition of computers or configuration change of networked devices can require further construction and cost.

That is why the advent of ultra-wideband technology (UWB) has been eagerly anticipated by many nonprofit sectors looking for flexible and affordable wireless connections, and why many key nonprofit organizations representing education and libraries, health care, senior citizens and persons with disabilities, and consumers weighed in at the FCC in support of rapid approval of UWB. Attachment A contains a complete listing of such parties filing comments and letters with the FCC.

## Education and Libraries

Bringing technology to the classroom and the community is a top priority for schools and libraries. To these communities, UWB promises to revolutionize internal networking, bringing the power of the Internet and other advanced services to more users in a cost-effective manner and transforming education and lifelong learning.

UWB is particularly attractive to schools and libraries saddled with older facilities, such as depression-era schools and older Carnegie libraries. Many of these facilities are extremely difficult to wire conventionally, either

because of the solid construction or because of asbestos and other substances present in the walls. For these institutions, UWB represents one of the only possible ways to effectively network a facility at a reasonable cost. Furthermore, its impressive bandwidth makes UWB a solution for the ever-expanding needs of the education and library community.

UWB has the potential to provide low-cost, high-speed, unlicensed wireless devices for local area networking which will help many communities to network and disseminate public information services. Access to these technologies should also offer benefits to many of the nation's schools and classrooms. The option to access UWB wireless networking could enhance the capacity of many local schools and libraries that are searching for more practical solutions to network local area services. It could also have the effect of increasing the number of funded applications for internal connections under the E-rate program.

Gordon Ambach, Executive Director,
Council of Chief State School Officers
in Comments to the FCC on UWB,

The demand for affordable internal networking among schools and libraries far outstrips current resources. More than $2.1 billion in discounts has been spent on internal connections for schools and libraries in only the first two years of the E-rate program, according to a recent report. This represents 58% of the total funding for the E-rate. Much of that funding was necessary just to physically lay cable throughout the facilities. Each year moreover, the demand for E-rate funding for internal connections has far outstripped the available funding.

Education and Library community commenters include:
- American Library Association
- Colorado State Library
- Consortium for School Networking
- Council of Chief State School Officers
- Florida State Library
- National Catholic Educational Association
- North Carolina State Library
- United States Catholic Conference

Health Care

The health care community has expressed strong support for UWB at the FCC for a number of different reasons. The telehealth implications of UWB are unparalleled. UWB's high-speed computer networking offers the possibility of allowing doctors quick wireless access to medical texts, including reference, journals, and other publications normally available only from wired

workstations, improving the quality of care and diminishing the possibility for physician errors. UWB networking would also allow the quick transmission of patient records and test results, allowing doctors to consult with one another more quickly.

UWB networks also have important applications in community health care facilities, which have even less financial support for bringing technology into their facilities. Some community health facilities in rural and underserved areas are eligible for support for telecommunications services under the federal universal service program, but that program does not cover internal connections at all. As medical information as well as clinical and administrative functions move online, low cost networking will be increasingly important. Ultra-wideband will greatly enhance our ability to develop "e-Health" applications, helping to improve both clinical performance and administrative efficiency – both of which as you know are high priories of state and federal health agencies. We believe that through improved charting and by bringing knowledge sources and medical databases via Internet connectivity through wireless LANs to the bedside, we should be able to reduce medical errors... In addition, secure, wireless connectivity in our LAN will also help us ensure safe, reliable, and accurate transmission of patient care records and other sensitive data required by the administrative simplifications provisions of the federal Health Insurance Portability and Accountability Act of 1996 (HIPAA).

Dr. Russ Zajtchuk,
Professor of Cardiovascular Surgery,
Rush-Presbyterian-St. Luke's Medical Center,
Brig. General (Ret), in Comments to the FCC on UWB

UWB also appeals to medical institutions because of the monitoring and tracking function that it enables. In a UWB-enabled hospital, patient data is continuously monitored, allowing nurses to track progress over time and quickly respond to the first signs of an emergency.

Finally, UWB has also been proposed as an alternative to current imaging techniques, such as ultrasound and x-rays, as well as a number of other potential medical uses. UWB would be less expensive and pose fewer health risks for patients than traditional technologies such as these.

Health care commenters include:
- American Academy of Dermatology
- American College of Nurse Practitioners
- American Telemedicine Association
- Association of Telehealth Service Providers
- Comprehensive Cancer Institute
- Hays Medical Center
- Health Care Association of New York State

- Health Technologies
- Iberia Medical Center
- National Association of County and City Health Officials
- National Association of Rural Health Clinics
- New York Presbyterian Hospital
- Rural Wisconsin Health Cooperative
- Rush-Presbyterian-St. Luke's Medical Center
- Singing River Hospital
- University of California, Davis
- University of Arkansas for Medical Sciences
- University of Colorado
- University of Maryland Medical System
- West Virginia Department of Health and Human Services

Disability

Advocates for persons with disabilities and senior citizens have also participated in the proceeding on UWB at the FCC. The disability community is largely interested in the possibility of developing a combination of smart home and monitoring technologies that could greatly increase the independence of Americans living with disabilities.

UWB is a good example of a developing technology that can improve the quality of life for people with a range of disability and enhance their ability to live independently.

Andrew J. Imparato,
President and CEO,
American Association of People with Disabilities

Smart home technologies have been a reality for some time now. However, most homes simply are not wired to allow security systems, computers, and air conditioning systems to talk to one another or to be activated by voice command from anywhere in the house. UWB overcomes this inadequacy by providing an affordable wireless alternative that brings control of the numerous devices in a home to a person's keyboard or microphone.

In addition, UWB could provide the mobile connection to a dedicated monitoring system. Such a system could provide feedback to a user on his or her health, facilitate telemedicine and could also summon help when the user is incapacitated. In this sense, UWB truly provides both the tools for independent living and a safety net to make independent living feasible. The disability community has strongly supported UWB.

Commenters from the disability community include:
- Alzheimer's Association
- American Association of People with Disabilities

- Amyotrophic Lateral Sclerosis Association
- Assistance for Independent Living
- Disability Rights Education and Defense Fund
- Illinois Voice on Mental Illness
- National Association on Mental Illness, Ohio
- National Association on Mental Illness, Tennessee
- Ohio Statewide Independent Living Council
- South Dakota Coalition of Citizens with Disabilities
- The Arc of Tennessee
- Tennessee Disability Coalition
- Upper East Tennessee Human Development Agency

Public Interest

A broad range of public interest groups filed in the proceeding at the FCC, representing a range of interests including consumer and civil rights groups and as well as advocates for bringing new technologies into underserved communities.

These commenters believed that UWB has a number of interesting implications, particularly in solving the digital divide and providing consumers with an affordable option for local area networking. Furthermore, these public interest groups recognize the boon for the education, health care and disability stakeholders that UWB represents, as well as the future potential of UWB for alleviating spectrum shortages and bringing an alternative last-mile technology.

Consumer and other non-profit group commenters include.

- Consumer Federation of America
- Consumers Union
- CTCNet
- Rainbow/PUSH

Attachment A

Nonprofit Commenters in Support of UWB (FCC 98-153):
Alzheimer's Association
American Academy of Dermatology
American Association of People with Disabilities
American College of Nurse Practitioners
American Library Association
American Telemedicine Association
Amyotrophic Lateral Sclerosis Association
Assistance for Independent Living
Associated General Contractors of America
Association of Telehealth Service Providers
Berwyn Fire Department
Center for Public Service Communications
City of Fairlawn
City of Farmington
City of Helena Fire Department
City of Houma Fire Department
Colorado School of Mines
Colorado State Library
Comprehensive Cancer Institute
Consortium for School Networking
Consumer Federation of America
Consumers Union
Council of Chief State School Officers
County of Los Angeles
CTCNet
Decatur Police Department
Disability Rights Education and Defense Fund
Fairfax County Fire and Rescue Department
Federal Law Enforcement Wireless Users Group
Fire Department of the City of Burbank
Fire Protection District 4-A
Florida Adult Day Care
Florida State Library
Fraternal Order of Police
Globe Fire Department
Groveland Police Department
Hays Medical Center
Health Care Association of New York State
Health Technologies
Houston Police Department
Iberia Medical Center
Iberia Parish Council on Aging
Illinois' Voice on Mental Illness
International Association of Fire Chiefs
International Brotherhood of Electrical Workers
Irmo Fire District
Laborer's International Union of North America
Leesburg Fire Department

Maricopa County Department of Emergency Management
METRO Area Agency on Aging
National Association for Home Care
National Association of County and City Health Officials
National Association of Rural Health Clinics
National Association on Mental Illness, Ohio
National Association on Mental Illness, Tennessee
National Catholic Educational Association
National Thoroughbred Racing Association
National Volunteer Fire Council
New York Presbyterian Hospital
North Carolina State Library
Ohio Statewide Independent Living Council
Plymouth Township Police Department
Rainbow/PUSH
Redwood City Fire Department
Roane County Committee on Aging
Rural Wisconsin Health Cooperative
Rush-Presbyterian-St. Luke's Medical Center
Senior Citizens Inc.
Singing River Hospital
Sioux Falls Fire Rescue
South Dakota Coalition of Citizens with Disabilities
Southern Sierra Medical Clinic
State of Alabama
Tacoma-Pierce County Chamber of Commerce
Tennessee Disability Coalition
Terrebonne Sheriff's Office
The Arc of Tennessee
Town of Astatula Police Department
Tri-City Fire Department
United States Catholic Conference
University of Arkansas for Medical Sciences
University of California, Davis
University of Colorado
University of Maryland Medical System
University of Mississippi
Upper East Tennessee Human Development Agency
Van Buren Community Development and Services Board
Wakefield Police Department
West Virginia Department of Health and Human Services