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May 19, 2004

VIA ELECTRONIC FILING

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
The Portals
445 12th Street, S.W.
Washington, D.C. 20554

Re: EX PARTE SUBMISSION
WT Docket No. 03-66; Amendment of Parts 1, 21, 73, 74 and 101 of the Commission's Rules to Facilitate the Provision of Fixed and Mobile Broadband Access, Educational and Other Advanced Services in the 2150-2162 and 2500-2690 MHz Bands

Dear Ms. Dortch:

On May 18, 2004, Jose Padilla, Assistant General Counsel to Illinois Institute of Technology ("IIT"), Holli Pryor-Harris, Director, Client Services of IIT On-Line, Laura C. Mow and Jennifer A. Lewis, each of Gardner Carton & Douglas LLP and FCC counsel to ITT, and William Wallace of Crowell & Moring LLP, counsel to Stanford University ("Stanford"), met with John Schauble, Nancy Zaczek and Uzoma Onyeije of the Wireless Telecommunications Bureau regarding the referenced proceeding.

IIT and Stanford expressed their concern with potential changes to the rules governing the eligibility of licensees for frequencies in the Instructional Television Fixed Service ("ITFS"). In support of these concerns, and as reflected in the attached presentations, IIT and Stanford described their existing ITFS programs and explained why the Internet does not offer a comparable alternative delivery platform at this time. IIT and Stanford urged the Commission to maintain current eligibility restrictions for ITFS spectrum for the foreseeable future on the grounds that there is a pressing need for spectrum allocated for instructional use and any move to an exclusively Internet-based delivery system comparable to current ITFS programming is at least five years away.

IIT and Stanford also asked that any changes to the ITFS rules adopted by the Commission be flexible enough to accommodate licensees who are using their licenses for educational purposes and to ensure that such licensees are afforded sufficient time and flexibility to adapt to any proposed changes affecting their spectrum.

Please contact the undersigned counsel should there be any questions.

Very truly yours,

Jennifer A. Lewis

DC01/ 424601.1

ILLINOIS INSTITUTE OF TECHNOLOGY

Preserving ITFS Spectrum and IIT's Ability to Educate Adults For a Technologically Changing World

Transforming Lives. Inventing the Future. **www.iit.edu**

WHY ARE WE HERE?

- Concern that the FCC will take precipitous action in RM-10586 that will undermine the integrity of ITFS spectrum and damage the Educational Mission of institutions like IIT.

- Such potentially harmful actions include authorizing two-sided auctions, permitting the sale of ITFS spectrum to commercial entities, and reallocating the ITFS spectrum to commercial interests.

The University

- Over a century old, IIT is a private, Ph.D.-granting university in Chicago, Illinois.
- IIT offers programs in engineering, science, psychology, architecture, business, design and law with 6,000 students on 4 campuses.
- One of the 16 nationwide institutions that comprise the Association of Independent Technological Universities (AITU), IIT offers exceptional preparation for professions that require technological sophistication.

ILLINOIS INSTITUTE OF TECHNOLOGY

IIT's Master and Master of Science Programs Offered Over ITFS Channels

- Chemical Engineering
- Computer Systems Engineering
- Electrical & Computer Engineering
- Environmental Engineering
- Gas Engineering
- Manufacturing Engineering
- Mechanical & Aerospace Engineering
- Metallurgical & Material Science
- Analytical Chemistry
- Biochemistry
- Biotechnology
- Cell Biology
- Computer Science
- Health Physics
- Industrial Technology & Operations
- Information Technology Management
- Materials & Chemical Synthesis
- Microbiology

IIT's Use of ITFS

- Holds Eight (8) ITFS channels (2 digital, 5 analog, and 1 leased to Sprint).
- Offers 120 unique courses per semester with over 500 hours of programming per week.
- Transmits fifteen (15) simultaneous, unique **live** broadcasts with real-time faculty-student interaction.
- Uses twenty-four (24) broadcast rooms.

IIT's ITFS Remote Sites Include Significant Corporate Locations

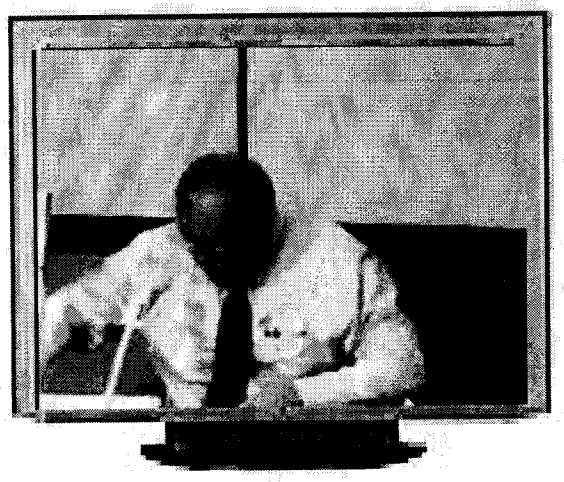
- Argonne National Laboratory
- Baxter Healthcare Corp.
- Case, CNH Global
- Caterpillar
- Fermi National Accelerator Laboratory
- General Motors Electromotive
- Kraft Foods
- Motorola
- Northrop-Grumman
- Reuters
- Siemens
- Tellabs
- Zenith

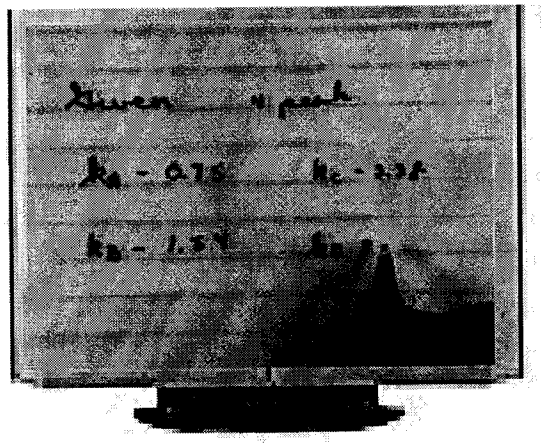
IIT's Continued Investment in ITFS

- Construction of six new broadcasting facilities in McCormick-Tribune Campus Center.
- Plans for twenty (20) additional classrooms to become broadcast compatible.
- IIT continues to digitize its channels.

No Alternative Technology to ITFS Exists or is Supportable Today

Today's ITFS Technology





- NTSC (National Television Standards Committee) full motion video.
- 30 fps (frames per second).
- The approximate equivalent of 9,000,000 (9,000K) bits of information per second.
- ITFS classes are broadcasted live via one-way video and two-way audio.

The Internet is not a Viable Technological Alternative At This Time

- Educational programming over the Internet **is not comparable to that currently offered via ITFS.**

- Comparable Internet programming is at least 5 years away.

Current Internet Limitations

- Typical modem speed is 56Kbps.
- Typical cable/DSL high speed data speeds are about 320Kbps.
- How can 9,000Kbps go down the same path? It cannot.

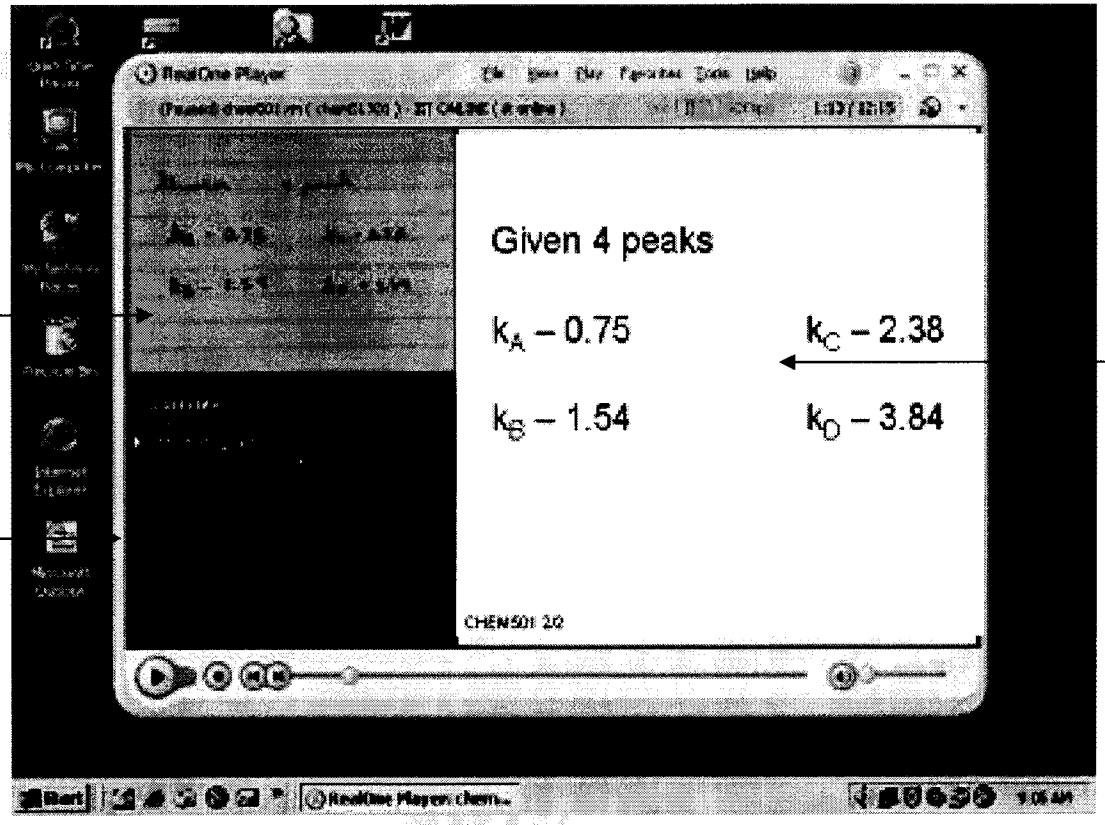
The Internet Compromise

- Reduce the size to ¼ of the screen.
- Reduce the frame refresh rate to 10-15fps.
- Compress the data (lose some information) so transmission is at 225Kbps and add synchronized slides.

Internet Programming Examples

Small Video Window

Table of Contents



Slide synchronized with the video

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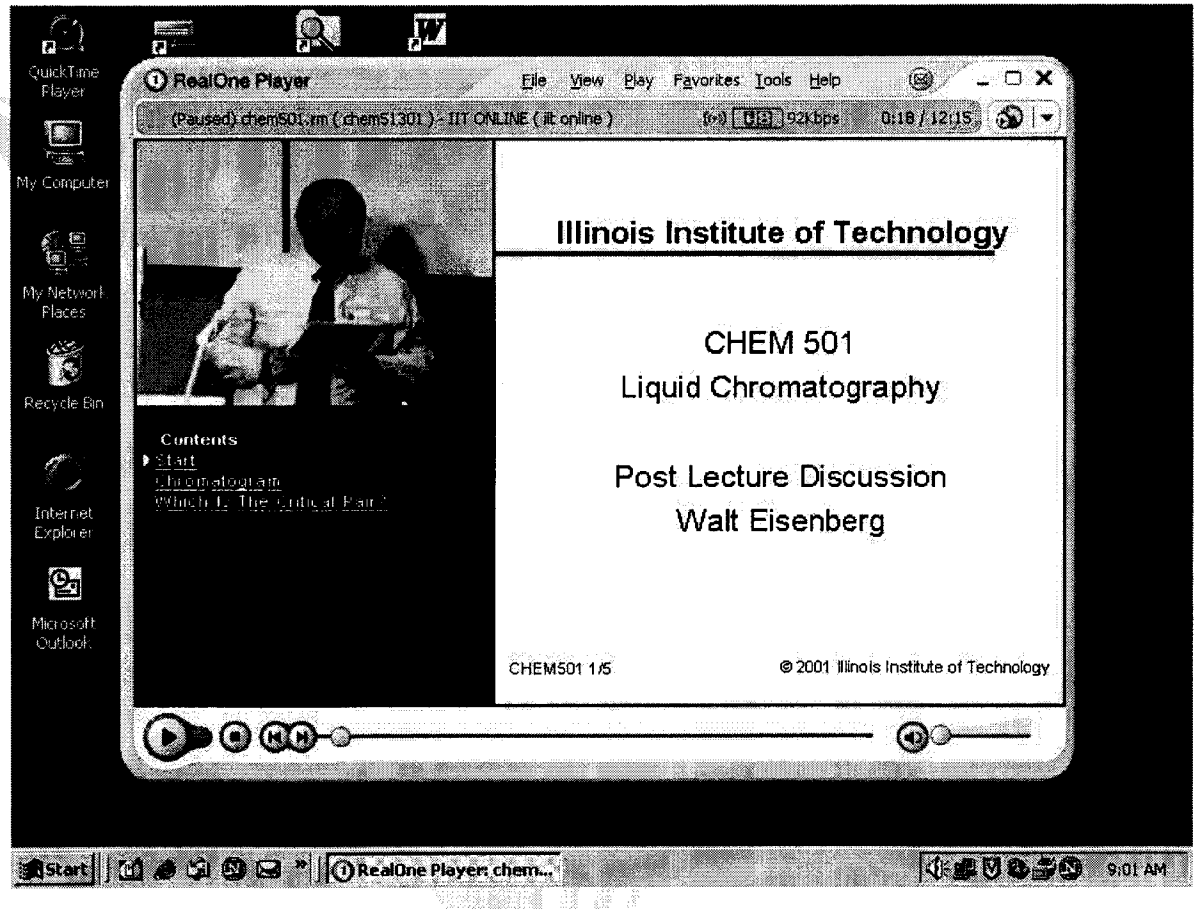
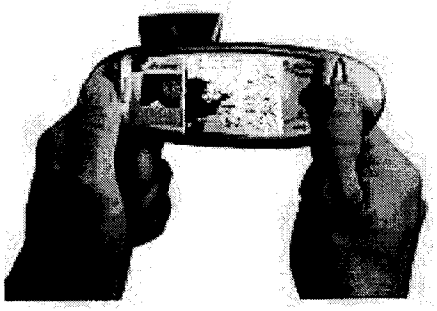
Internet Programming Examples



New Mobile Technologies Also Raise Questions



- Can you read the screen? *No.*
- Can you keep the connection for a typical 3-hour class? *Questionable.*
- Conclusion: Mobile high speed devices are ineffective for educational purposes.

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Preserving the ITFS Spectrum Allows IIT to Keep the Work Force Educated

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Preserving the ITFS Spectrum

The wholesale commercialization of the ITFS spectrum threatens the ability of all ITFS- remote students to access educational programs and fit coursework into their professional lives.

What IIT Is Requesting:

- Maintain current eligibility restrictions for ITFS spectrum for the foreseeable future.
- IIT needs at least another five (5) years to begin the transition to an exclusively Internet-based delivery system.

What IIT Is Requesting:

- Ensure that any changes to the ITFS rules are flexible enough to accommodate licensees like IIT, who are extensively using their licenses for educational purposes.

- ITFS licensees using their spectrum should be afforded sufficient time and flexibility to adapt to any proposed change affecting their spectrum.

STANFORD UNIVERSITY

WT Docket No. 03-66

May 2004

Stanford University

- Founded in 1891 in Palo Alto, California
- About 5000 undergraduates
- About 7800 graduate students
- Stanford Center for Professional Development offers degree and non-degree programs through School of Engineering and related departments

Stanford Instructional Television Network

- Component of Stanford Center for Professional Development
- Licensed by the FCC to operate as an ITFS system in the San Francisco Bay Area for over 30 years
- Currently transmitting instructional coursework over five 6-MHz ITFS channels

Stanford Instructional Television Network

- SITN transmits more than 350 programming hours per week
- Instructional coursework covers hundreds of courses, primarily in engineering and scientific subjects
- In addition to full-time students, Stanford's ITFS credit and non-credit programming reaches over 6,000 industry students in 250 graduate programs and courses

Stanford Instructional Television Network

- SITN customers for ITFS programming include:

Cisco Systems	Hewlett Packard
IBM Corporation	Lawrence Livermore Labs
Lockheed Martin	Microsoft
Motorola	NASA
Oracle Corp.	Sandia
Sun Microsystems	Yahoo

- Over 150 ITFS receive sites

Stanford Instructional Television Network

- Currently, SITN uses nine teleclassrooms, transmits in analog mode
- Classes that cannot be transmitted live are taped for playback
- Stanford is planning to bring on-line an additional three or four teleclassrooms within the next two years
- Stanford continues to use the ITFS “talk-back” channels

Stanford Instructional Television Network

- Stanford planning conversion to digital
- Compression offers opportunity to expand the existing system and number of simultaneous programming streams
- Stanford is testing digital technologies for satisfactory quality
- And insuring availability of real-time, talk-back mode in digital service

Stanford Instructional Television Network

- Stanford currently operates on a grandfathered E-Channel Group ITFS station
- Stanford has coordinated with commercial E-Channel Group licensee to avoid mutual harmful interference
- Stanford also operates on Channel H3, outside ITFS band, but designated as an ITFS channel
- SITN requires continued use of these 5 channels for instructional programming