Fourth International Colloquium on Advanced Television Systems

Ottawa Congress Centre
OTTAWA, CANADA
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COLLOQUIUM PROCEEDINGS
VOL. 2

This volume contains those papers not available for printing at the time of publication of Volume 1, together with the edited transcripts of the workshops.

The publisher regrets that the following papers are not available and should the reader require information on these, it is suggested they contact the authors directly:

3A.4-The Post Production and Integration of Film-Like Electronic Motion Pictures Sequences
3A.6-High Definition Thinking
5B.5-A Pragmatic Scenario of HDTV Development

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Quatrième colloque international sur les systèmes de télévision de pointe

Centre des congrès d'Ottawa
OTTAWA, CANADA
25 au 29 juin 1990

LES ACTES DU COLLOQUE
VOL. 2

Ce volume contient les communications qui n'étaient pas disponibles sous forme imprimée, au moment de la publication du 1er volume, ainsi que la transcription révisée des travaux des divers ateliers.

L'éditrice regrette que les communications suivantes ne soient pas disponibles. Toutefois, si le lecteur désire obtenir de plus amples renseignements à leur sujet, je lui suggère de communiquer directement avec leur auteur:

3A.4-Les Applications HDVS dans le domaine de la postproduction.
3A.6-Réflexion sur la haute définition
5B.5-Scénario Pragmatique de Développement de la TVHD.

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HDTV90 COLLOQUE COLLOQUIUM

OTTAWA CONGRESS CENTRE

All abstracts are in English and French.
Papers in italics will be published in the proceedings only.

PROGRAM

Monday, 25 June 1990

16:30 - 21:00 REGISTRATION

19:00 - 21:00 Welcoming Reception and Opening of Demonstrations and Exhibits.

Tuesday, 26 June 1990

07:00 - 17:00 REGISTRATION

OPENING SESSION

SESSION 0.

08:30 - 17:00 Introduction Janet West-Cyr, Organizing Chairman, HDTV '90 0.1
Canadian Broadcasting Corporation

Opening Address Eldon Thompson, Chairman, HDTV '90 0.2
President & CEO, Telesat Canada

Keynote Speaker Michael McEwen, Executive Vice-President 0.3
Canadian Broadcasting Corporation

SESSION 1. ADVANCED TELEVISION TODAY

Session Chairs: Bob Findlay, CFCF-12
Elizabeth McDonald, CAB

Generating Revenue from HDTV 1.1
W. Vivian, University of Michigan, U.S.

The Changing Perspectives in European Broadcasting 1.2
J. Forrest, International Broadcast Authority, U.K.

HDTV Service Now 1.3
M. Ohkawa, NHK, Japan
SESSION 2A. SPECIAL APPLICATION DEVELOPMENTS

Session Chairs: Peter Bowers, TV Ontario
Jaqueline Cook, Telesat Canada

Space Station HDTV Applications for Science, Operations and Media Dissemination
R.S. Prodan, Stellacom Inc., U.S.

Present Status of HDTV Application for Movies in Japan
T. Ishida et al., NHK, Japan

High Definition Graphics - Bridging the Media
P. Owen, Quantel Ltd., England

An Introduction of HDTV Still Picture in Art Museum
R. Mochizuki et al., NHK, Japan

Commercial Applications for High Definition Television Systems
D.C. Boyd, Scientific Atlanta, Canada

HDTV and the Computer Industry
C. A. Poynton, Sun Microsystems Inc., U.S.

SESSION 2B. DISPLAY TECHNOLOGIES

Session Chairs: Hideo Kusaka, NHK
Metin Akgun, DOC/CRC

Considerations on Required Property for HDTV Displays
M. Ogino et al., Hitachi Ltd., Japan

The Development of Criteria for Cinematic Presentations of Live Performances Transmitted by Satellite
B.P. De Jong et al., Telesat Canada, Canada

Psychological Effects of the Experimental 3D HDTV System
S. Yano et al., NHK, Japan

Fabrication of a 33-Inch Color DC Plasma Display Panel
H. Murakami et al., NHK, Japan

Light Valve Technology for HDTV - State of the Art
R. Gerhard-Multhaupt, Heinrich-Hertz-Institut, FRG
EVENING SESSION

SESSION 2C.

18:00 - 19:30  Face-off discussion - "The business of HDTV"  
A distinguished panel debate the business issues of ATV and forecast future trends.

Moderator:  Robert O'Reilly, CBC
Invited:  Patrick Watson, Chairman - CBC  
Weston Vivian - University of Michigan  
Brian Ross - Dome Production  
Robert Reaume - Association Canadian Advertisers

20:00 - 21:00  A program of electronic cinema live via satellite from NHK in Tokyo.

Wednesday, 27 June 1990

SESSION 3A. PRODUCTION TECHNIQUES

Session Chairs:  Lee Stringer, HDC Communications  
Janét West-Cyr, CBC

09:00 - 17:00  Pioneering the Applications of Wide-Screen Electronic Imaging for the 1990's  
B. Rebo, REBO Research, U.S.

A Little Night Music  
P. Kafno, Thames Television, U.K.

HDTV Toward A New Visual Vocabulary  
S. Samuels, Z-Big Vision Ltd., U.S.

The Post Production Applications of HDVS  
J. Galt, Sony America, U.S.

Trends in the Production and Integration of Film-Like Electronic Motion Pictures Sequences  
E. Zwaneveld et al., NFB, Canada

High Definition Thinking  
D. Niles, Captain of America/1125 Productions, U.S.
SESSION 3B. SIGNAL PROCESSING

Session Chairs: Shaker Sabri, Bell-Northern Research
Eric Dubois, INRS-Telecommunications

A Comparison of Different HDTV Standards Using Subjective and Objective Criteria
R. Schäfer et al., Heinrich-Hertz Institut, FRG

Multiresolution Techniques with Application to HDTV
M. Vetterli et al., Columbia University, U.S.

Review of Techniques for Motion Estimation and Motion Compensation
E. Dubois et al., INRS-Telecommunications, Canada

Phase Segregation, Motion Compensation and DATV for Enhanced PAL and High Definition Television
M. Weston et al., BBC, U.K.

Bit-Rate Reduction Codec for HDTV: Architecture and Hardware Implementation
S. Cucci et al., Telettra, Italy

Display Processing for HD-MAC
G.M.X. Fernando et al., Philips Research Labs, U.K.

SESSION 4A. PRODUCTION STANDARDS AND TECHNOLOGY

Session Chairs: Terry Snazel, Sports Network
Keith Field, CBC

13:30 - 17:00
Production Standards - The International Perspective
K.P. Davies, CBC, Canada

The Current EBU Analysis of the CIF and CDR HDTV Production Formats
D. Wood et al., EBU, Belgium

Standards Conversion
K. Field, CBC, Canada

The Role of Film in the Era of Advanced Television: An Economic and Technological Analysis
B. Hunt, Eastman Kodak, U.S.
Design Considerations for a Mobile HDTV Production Facility
A. Bigras et al., Telesat Canada, Canada

REBO Research: Innovation through Application
B. Minnerly, REBO Research, U.S.

SESSION 4B. CABLE AND NETWORK DISTRIBUTION

Session Chairs: Roger Poirier, CCTA
Mohamed Elkharadly, CUC

MAC Transmissions on Cable
H. Kolk, Philips Consumer Electronics, Netherlands

International HDTV Service Via Intelsat
E.A. Faine, Comsat, U.S.

Projections of ATV Progress in Cable
W.S. Ciciora, American Television and Communications Corporation, U.S.

A Practical Approach for Implementation of Advanced Television
H.N. Miller, PBS, U.S.

HDTV Impact on Cable System Architecture
N. Hamilton-Piercy, Rogers Communications Inc., Canada

The Cable Labs ATV Test Program
C.K. Tanner, Cable Television Laboratories Inc., U.S.

18:15 - 19:00 RECEPTION
19:00 - 20:45 BANQUET

SESSION 4C.

21:00 - 23:00 CONCERT - LIVE RECORDING OF SHEREE

Thursday, 28 June 1990

SESSION 5A. BROADCAST DISTRIBUTION

Session Chairs: Jean Lajoie, Radio-Quebec
Michel Durocher, CBC

08:30 - 17:00 Analysis of Design Principles for ATV Systems
A. Mainguy et al., DOC/CRC, Canada
Development of Compatible MUSE Systems-ADTV  
Y. Tanaka et al., NHK, Japan  

ACTV Status  
J.S. Fuhrer et al., David Sarnoff Research Center, U.S.  

High Definition Television  
W.C. Luplow, Zenith Electronic Systems R&D, U.S.  

Digital Advanced Television - Feasibility and Introduction Considerations  
A. Toth, N. A. Philips Corporation, U.S.  

An NTSC-Compatible Wide Aspect Advanced Television System  
Y. Sugimori et al., NTV, Japan  

Session Chairs: Brian Baldry, CBC  
               Michel Durocher, CBC  

ATV UHF Spectrum Investigation  
R. Zeitoun et al., DOC, Canada  

Objective and Subjective Tests of ATV Emission Systems  
P. Fannon et al., ATTC/CRC, U.S.  

Investigations of an Improved PAL System that Uses HDTV as Source Material  
S. Nyström et al., Swedish Telecom Radio, Sweden  

Progress in Commercial DBS in the U.K.  
G. Drury, Independent Broadcasting Authority, U.K.  

Satellite Broadcasting of HDTV  
G. Chouinard, DOC/CRC, Canada  

The HD B-MAC System for Satellite Transmission: Results of the ATV Trial  
F. Smart et al., Telesat Canada, Canada  

SESSION 5B. INTRODUCTION STRATEGIES  

Session Chairs: Vic Reed, Skyline Cablevision Ltd.  
               Keith Chang, DOC/CRC  

Recent Trends in HDTV Development  
J. Ishida, NHK, Japan
New Television Media in Japan - Current Status and Policy on Development and Application  
M. Kawauchi, Ministry of Posts and Telecommunications, Japan

Making a Business with Advanced Television Technologies: A Canadian Perspective  
L. Rankin et al., Telesat Canada, Canada

Rolling Out Advanced Television in the United States: A Broadcaster's Perspective  
S.M. Weiss, N.B.C., U.S.

A Pragmatic Scenario of HDTV Development  
I. Switzer, Cablecasting, Canada

European Strategy for the Introduction of HDTV  
E. Lalor, European Commission, Belgium

The Flexible Introduction of New Services Including HDTV  
G. Tonge et al., Independent Broadcasting Authority - U.K.

Compatible HDTV: Eureka 95 Progress and Prospects  
R.N. Jackson, Philips Research Laboratories, U.K.

The Realities of Advanced Television in America  
J. Donahue, Thomson Consumer Electronics, U.S.

The Advance of HDTV - Challenges, Dilemmas and Opportunities  
L. Thorpe, Sony Advanced Systems, U.S.

Quality Judgements and Purchase Decisions: An Evaluation of Consumer Reactions to HDTV  
S. Lupker et al., DOC/CRC, Canada
Friday, 29 June 1990

09:00 - 13:00  PANEL DISCUSSIONS

SESSION 6A.

A Technical Panel chaired by William (Bill) Sawchuk (DOC/CRC) entitled:
Panelists: Don Weese (Telesat Canada), Brian James (Cable Labs), D.W. Parker (Philips Research Laboratories), Mark Medress (General Instruments), Keith Lucas (Scientific Atlanta), Wayne Luplow (Zenith Electronics), Yutaka Tanaka (NHK).

"Have the ATV Systems Ignored Satellite Transmission?"

SESSION 6B.

The Plenary Panel chaired by Peter Lyman ABSOC (Nordicity) with panelists Susanna Knott (Telesat Canada), Robert Hubbard (V.P. Hubbard Broadcasting), Sidney Topol (Scientific Atlanta), Gary Tonge (IBA), Lee Stringer (HDC Communications Inc.) and Juni Matsusaki (NHK Enterprises) will debate:

"HDTV - What's Driving It? Technology Push or Market Pull"

COLLOQUIUM CLOSING

SESSION 6C.

Closing remarks
Janet West-Cyr - Canadian Broadcasting Corporation