

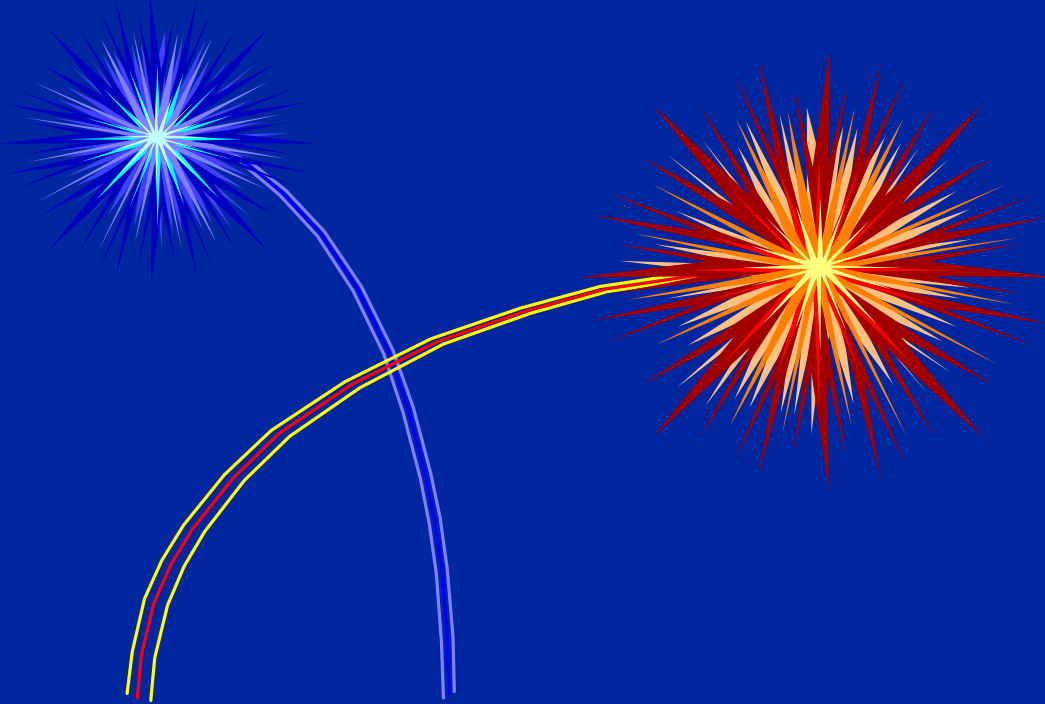
# *digital* HDTV Grand Alliance

## Where We Stand

**MSTV Update**

**November 9, 1995**

# Good Stuff!



# *digital HDTV Grand Alliance*

- **1993**      **Formation**  
**Agreement**
- **1994**      **Construction**
- **1995**      **Testing**  
**Recommendation**

# *Prototype Construction*

- **Video Encoder**                      **AT&T**  
**GI**
- **Video Decoder**                    **Philips**
- **Audio**                                 **Dolby**
- **Transport**                            **Sarnoff**  
**Thomson**
- **Transmission**                      **Zenith**

# *Test Organizations*

- **Laboratory**

**ATTC**

**CableLabs**

**ATEL**

- **Field**

**PBS**

**CableLabs**

# *Testing - Video*

- **Expert observation**
- **Subjective picture quality**
- **Scene change**
- **Resolution**
- **Format conversion**
- **Long form**

# *Testing - Audio*

- **Listening**
- **Long form**

# *Testing - Transport*

- **Compliance**
- **Robustness**
- **Interoperability**
- **Switching**
- **Latency**



# ***Testing - Transmission***

- **Noise performance**
- **Co-Channel**
- **Taboo**
- **Multipath**
- **Adjacent Channel**
- **Peak-to-Average Power**
- **Composite Triple Beat**
- **Channel Change**
- **Multiple Impairment**

# *Testing*

- **Thorough**
- **Demanding**
- **Criterion: The Best of the Best**

# *Testing Results*

- Overall: Exceeded Expectations
- Met or exceeded requirements
- Many examples of much better
- A few examples of slightly worse
- No showstoppers

# ***Basic Picture Quality***

(Difference to reference picture, in CCIR grades)

## **Round 1**

■ Interlace:	AD-HDTV	-0.3
	DigiCipher	-0.3
■ Progressive:	DSC-HDTV	-0.9
	CCDC	-1.0

## **Grand Alliance**

■ Interlace	-0.12
■ Progressive	-0.11

# Pixel Rates

## Round 1 Systems vs. Grand Alliance

		<u>MPps</u>
<u>Progressive:</u>		
■ DSC - HDTV	1280Hx720Vx60fps	55.3
■ CCDC		
■ Grand Alliance		
<u>Interlace:</u>		
■ DigiCipher	1408Hx960Vx30fps	40.6
■ AD-HDTV	1280Hx960Vx30fps	36.9
■ Grand Alliance	1920Hx1080Vx30fps	62.2

(MPps: MegaPixels per Second)

# ***ACATS Final Technical Report Conclusions***

- 1. the Grand Alliance system meets the Committee's performance objectives and is better than any of the four original ATV systems.**
- 2. the Grand Alliance system is superior to any known system; and**

# ***ACATS Final Technical Report Conclusions***

- 3. the ATSC Digital Television Standard, based on the Advisory Committee design specifications and Grand Alliance system, fulfills the requirements for the U.S. ATV broadcasting standard.**

# ***ACATS Final Technical Report Conclusions***

- **Accordingly, the Technical Subgroup recommends that the ATSC Standard be adopted as the U.S. ATV broadcasting standard.**



# ***Top Ten Achievements***

- **1. Fits in one TV channel**
- **2. All-Digital**
- **3. Superior picture quality**
- **4. Equivalent service areas**
- **5. Flexible transport**

# *Top Ten Achievements*

- 6. The *digital* HDTV Grand Alliance
- 7. System definition
- 8. Building it
- 9. Testing it
- 10. ATSC standard

# *Looking Ahead*

- **Oct 31**      **ACATS Technical Subgroup**
- **Nov 28**      **ACATS Blue Ribbon Panel**
- **Jan '96**      **Next two NPRMs**
- **Jun '96**      **FCC sets standard**
- **'96 - '97**      **Implementation**
- **'98?**          **Start of Service**