

# **Grand Alliance Interoperability Update**

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**David Sarnoff Research Center**

# **Talk Outline**

- **Scan conversion test results**
- **ATM tests with Bell South**

# Talk Outline

- ~~• Scan conversion test results~~
- ~~• ATM tests with Bell South~~

*Just DO it!*

*Grand Alliance*

**The World's First**

**HDTV**

*Grand Alliance*

**The World's First**

**HDTV**

**Broadcast**

*Grand Alliance*

**The World's First**

**HDTV**

**Satellite**

**Broadcast**

*Grand Alliance*

**The World's First**

**HDTV**

**ATM**

**Satellite**

**Broadcast**

*Grand Alliance*

# The World's First

**LIVE**

**HDTV**

**Satellite**

**ATM**

**Broadcast**



*Grand Alliance*

**Brought To You**  
**in**  
**Interlaced and Progressive**  
*formats*

**How *Interoperable* is  
Grand Alliance HDTV??**

*Grand Alliance*

**You are Watching...**

**Apple Macintosh**



**Broadcast**

**on GA-HDTV**



*via* **ATM**  
**and Satellite**

**NOW...**

*Isn't Interoperability Really Cool?*

# **Not To Mention...**

- **Operational flexibility**
- **Reduce costs**
- **Creative content**
- **New markets & applications**

*Grand Alliance*

# Demonstration Overview

**PBS**  
**Alexandria, VA**

**Sarnoff**  
**Princeton, NJ**

**ANA Hotel**  
**Washington, DC**

# Demonstration Overview

**PBS  
Alexandria, VA**

**Sarnoff  
Princeton, NJ**

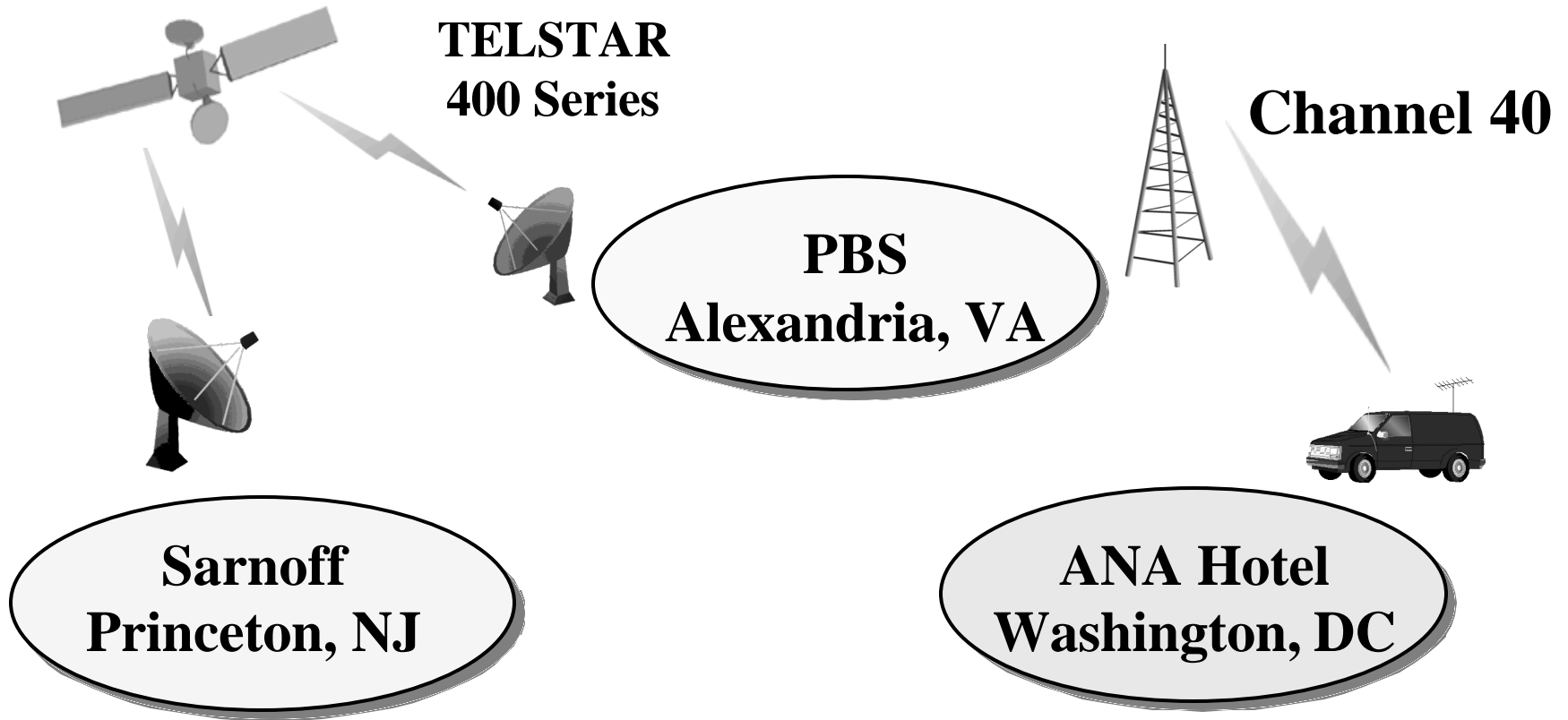
**ANA Hotel  
Washington, DC**



**Channel 40**



# Demonstration Overview

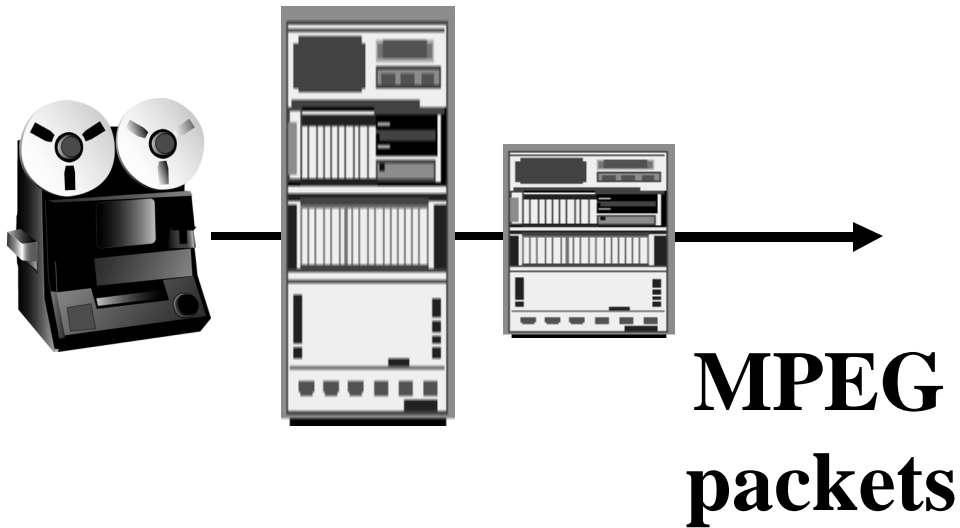




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**Sarnoff...**

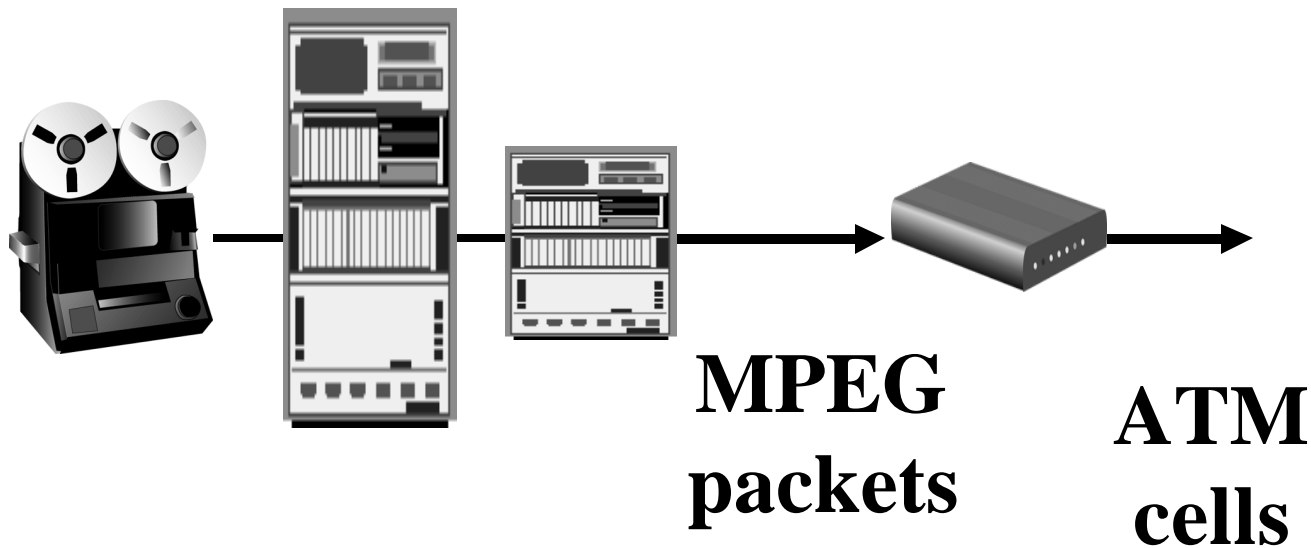
**Grand Alliance  
Compression & Transport**



*Grand Alliance*

**Sarnoff...**

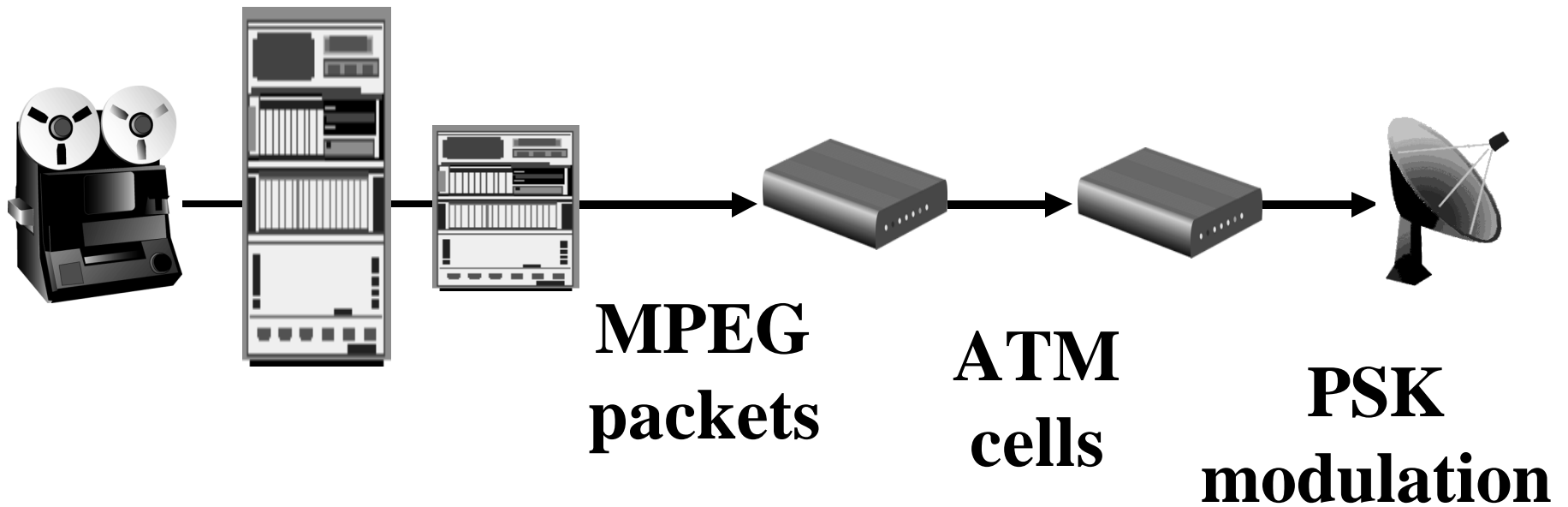
**Grand Alliance  
Compression & Transport**



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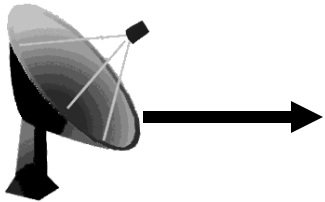
**Sarnoff...**

**Grand Alliance  
Compression & Transport**



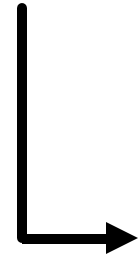
*Grand Alliance*

**...PBS...**



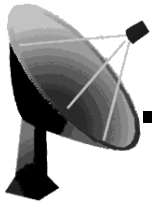
**PSK**

**NTSC**

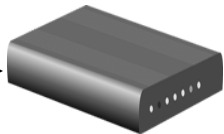


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**...PBS...**



**PSK**



**ATM  
cells**

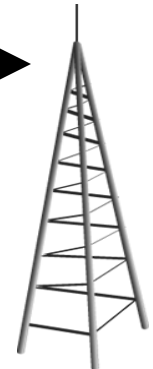
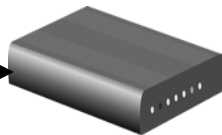
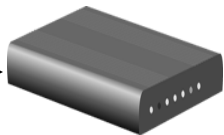
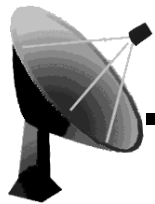
**NTSC**



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**...PBS...**

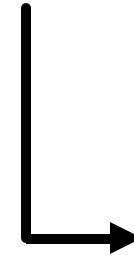
**NTSC**



**PSK**

**ATM  
cells**

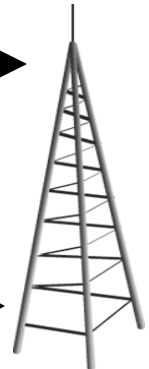
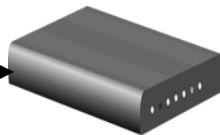
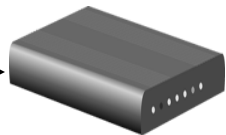
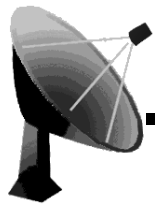
**MPEG  
packets**



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**...PBS...**

**NTSC**

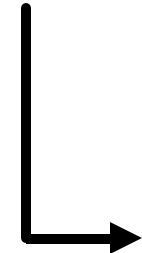


**PSK**

**ATM  
cells**

**MPEG  
packets**

**VSB  
modulation**

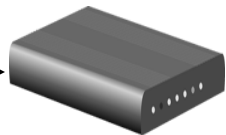


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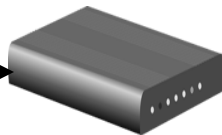
**...PBS...**



**PSK**



**ATM  
cells**



**MPEG  
packets**

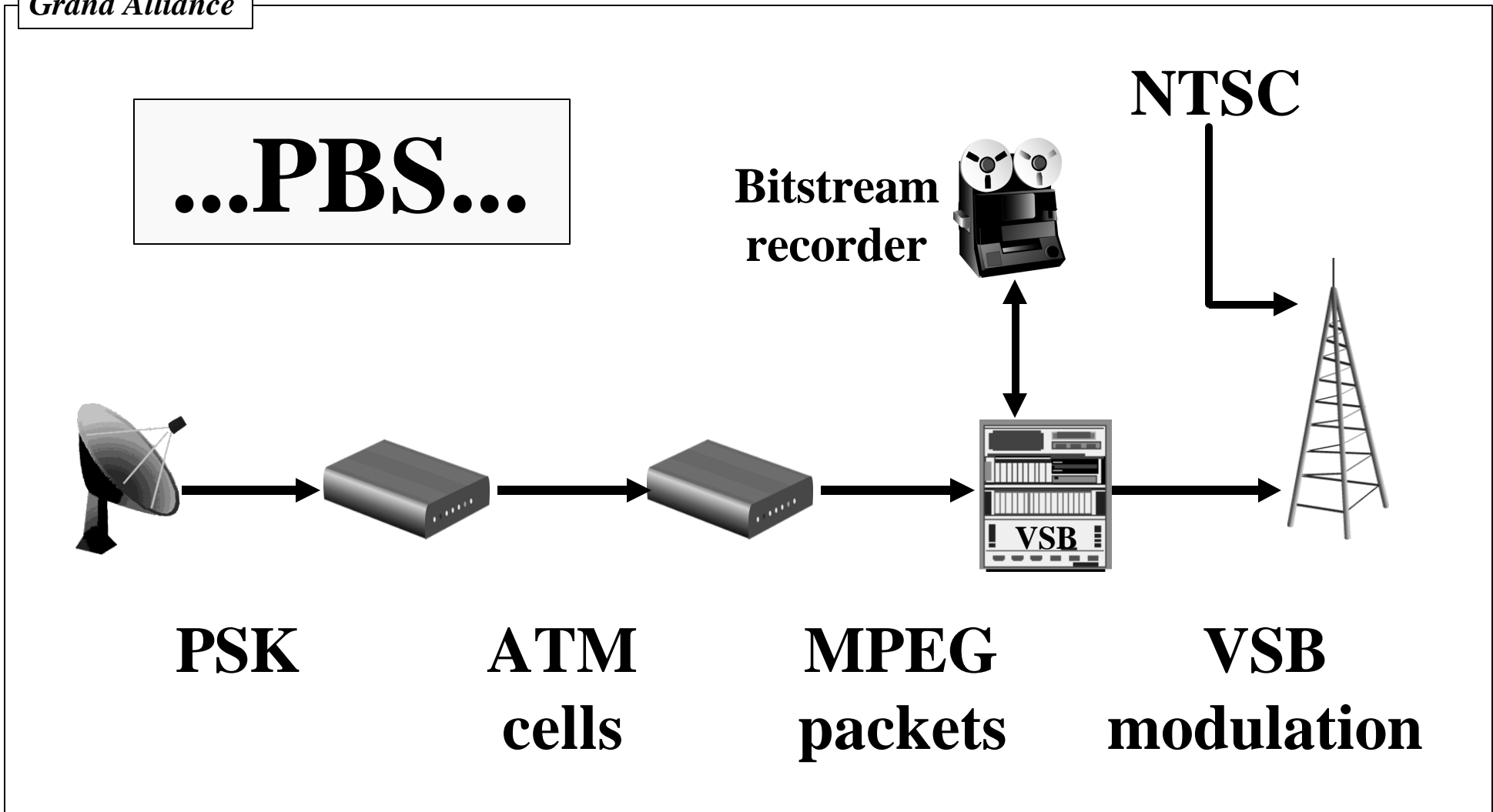


**VSB  
modulation**

**Bitstream  
recorder**



**NTSC**





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**VSB**



**...ANA Hotel**

*Grand Alliance*

**VSB**

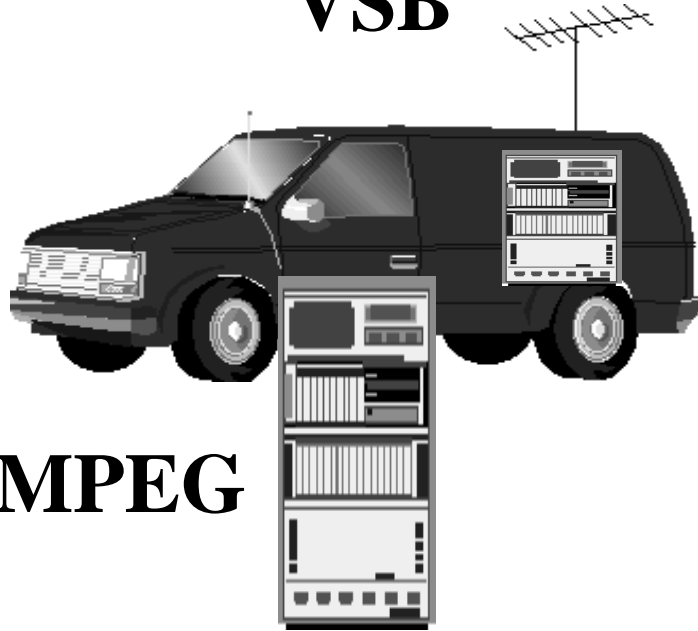


**MPEG**

**...ANA Hotel**

*Grand Alliance*

**VSB**



**MPEG**

**Grand Alliance  
Receiver**

**...ANA Hotel**

*Grand Alliance*

**VSB**



**MPEG**

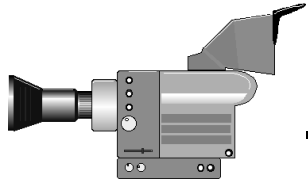
**Grand Alliance  
Receiver**

**...ANA Hotel**

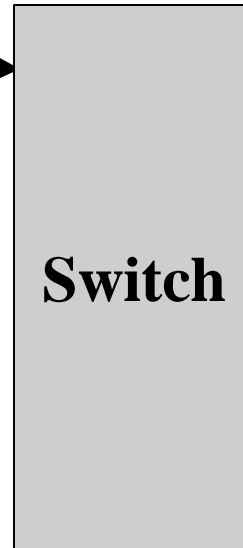
**1920 x 1080  
interlaced**

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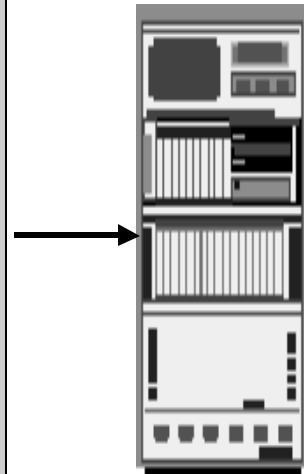
# Interlaced and Progressive



1920 x 1080  
interlaced

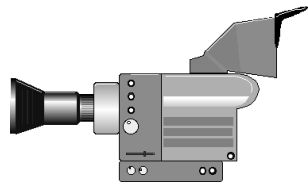


**GA  
Encoder**

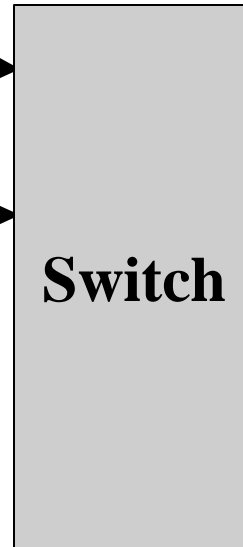


*Grand Alliance*

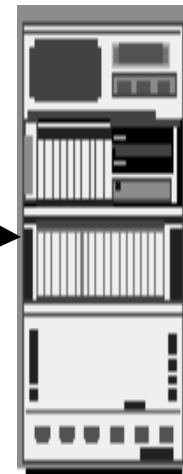
# Interlaced and Progressive



1920 x 1080  
interlaced

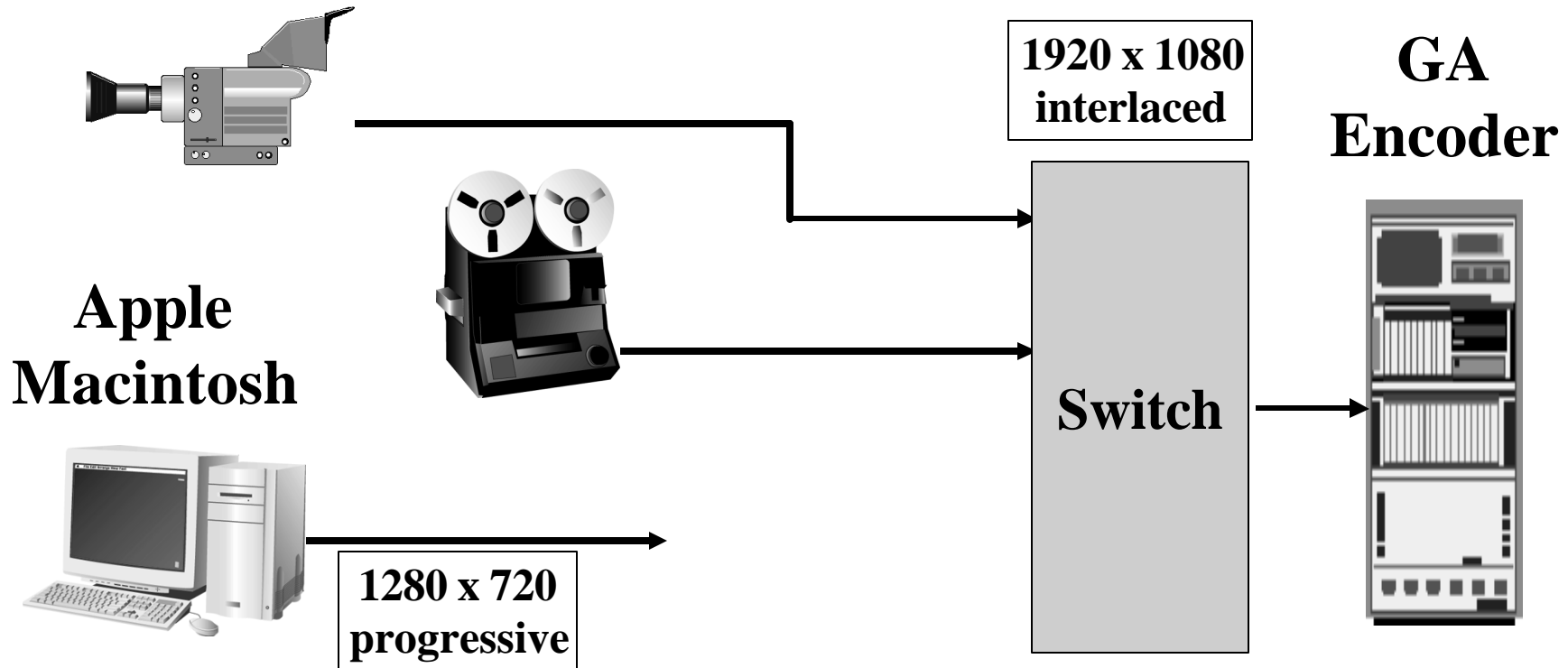


**GA  
Encoder**



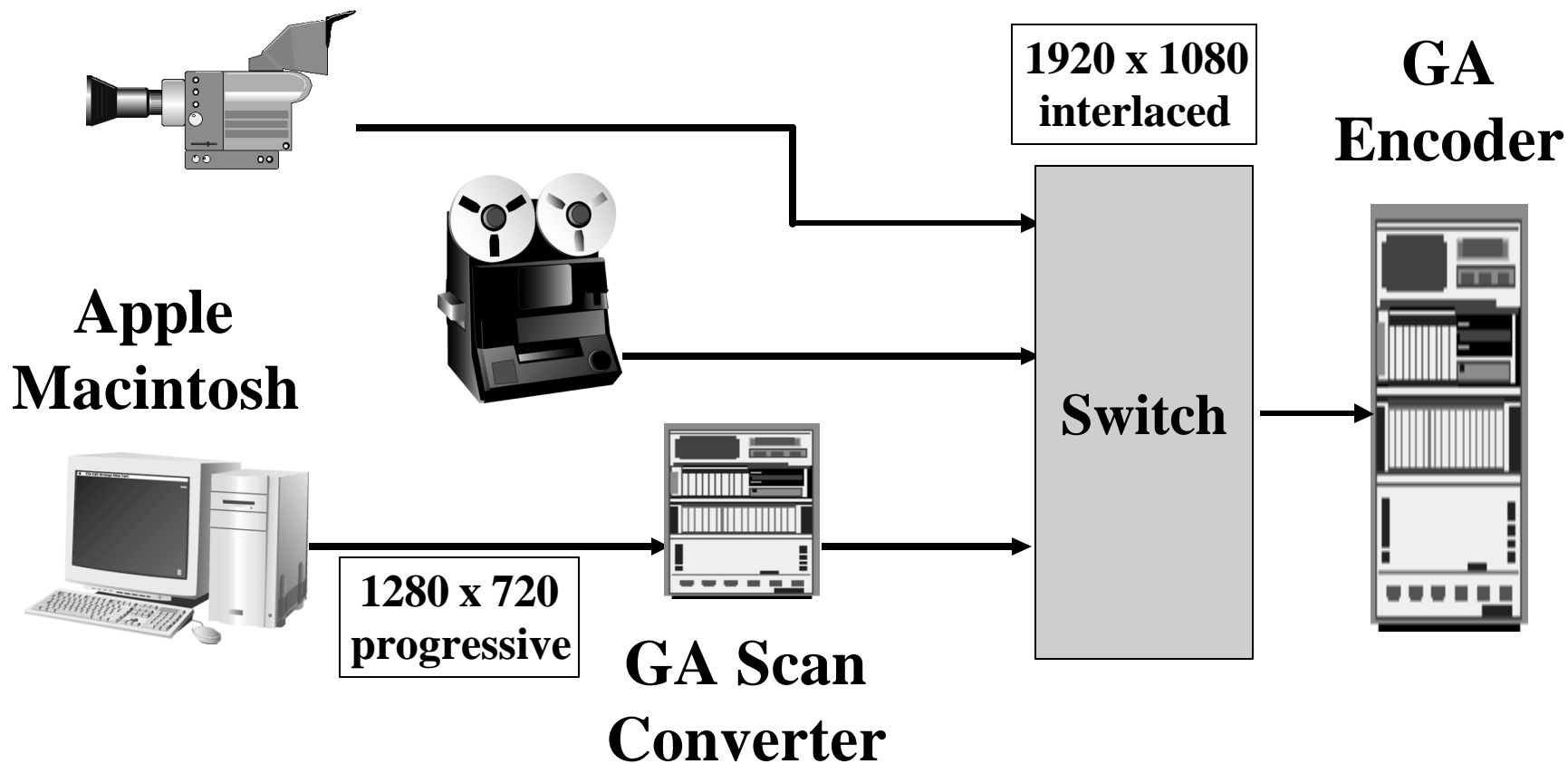
*Grand Alliance*

# Interlaced and Progressive



*Grand Alliance*

# Interlaced and Progressive





**And Now...**

**We take you  
to the “Field Lab”  
at Sarnoff...**

**And Now...**

**LIVE**

**We take you  
to the “Field Lab”  
at Sarnoff...**