

Active Format Description

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SONY

Active Format Description

- What is AFD?
- Why is AFD important?
- “Postage-Stamp Video”
- AFD in the ATSC DTV Standard
- Benefits of FCC rules for AFD

What is AFD?

- AFD indicates to display which portions of the “coded frame” are black (no value)
- Example #1
 - 4:3 material coded in a 16:9 frame:



What is AFD?

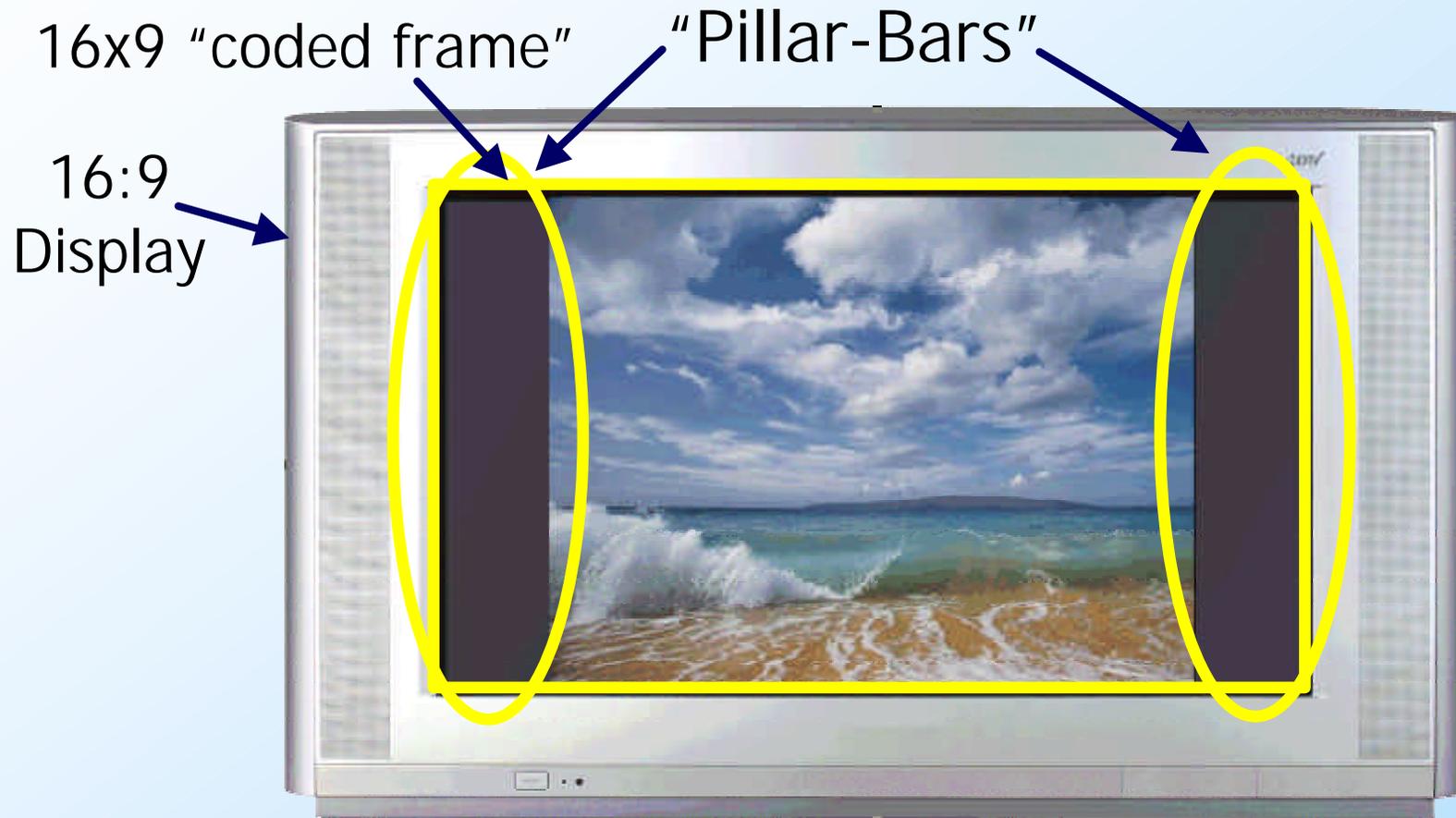
- AFD indicates to display which portions of the “coded frame” are black (no value)
- Example #2
 - 14:9 material coded in a 4:3 frame:



Why is AFD Important?

- Image can be scaled to better fit display
- Display can avoid wasting screen area displaying black
 - AFD can trigger “zoom” function
- Neutral color (gray) can be substituted
 - Mitigates uneven screen aging effects

4:3 Material Coded in 16:9



"Postage-Stamp Video"

4:3
Display

16x9
"coded
frame"



Postage-Stamp Video Example

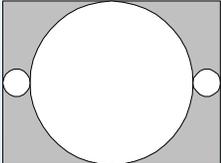
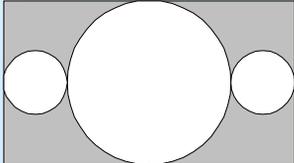
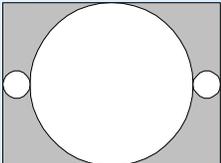
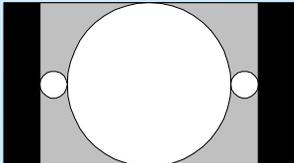
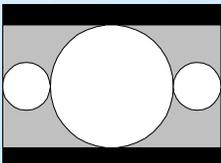
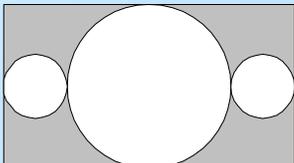
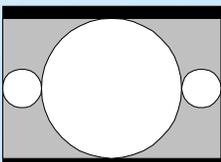
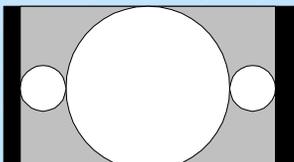


With AFD

4:3
Display →



DVB Active Format Description

active_format		illustration of described format	
value	description	in 4:3 coded frame	in 16:9 coded frame
1000	As the coded frame		
1001	4:3 (center)		
1010	16:9 (center)		
1011	14:9 (center)		

AFD Standards

- ATSC A/53B Amendment 1 added AFD
- CEA-805-A and CEA-861-B have AFD for component analog and DVI interfaces
- Standards say use of AFD is optional
- Broadcasters may or may not comply

Consumer Benefits

- AFD signaling enables user-friendly (automatic) picture optimization
 - Promotes acceptance of DTV
- Improves the public's "DTV experience"
- Eliminates confusion and uncertainty
 - Often viewers know "something's wrong" but don't know how to fix the picture
- Allows display manufacturer to mitigate effects of uneven screen aging

THANK YOU