



The Entertainment PC

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Video

The Heart of the Entertainment PC

- > Video technologies hold the key to the Entertainment PCs success
 - > Entertainment PCs are not about "Speeds and Feeds"
 - > Consumption of Video is a key task for an EPC

- > Key Elements of an Entertainment PC

- > Form Factor and Silence
- > Non PC interface
- > More Functionality than dedicated CE Devices
 - > Analog and HDTV PVR, EPGs, Connectivity
- > Video Quality similar to CE Devices



- > Key Lesson: Entertainment PC must match CE devices in the areas of Video Quality and Ease-of-Use to succeed

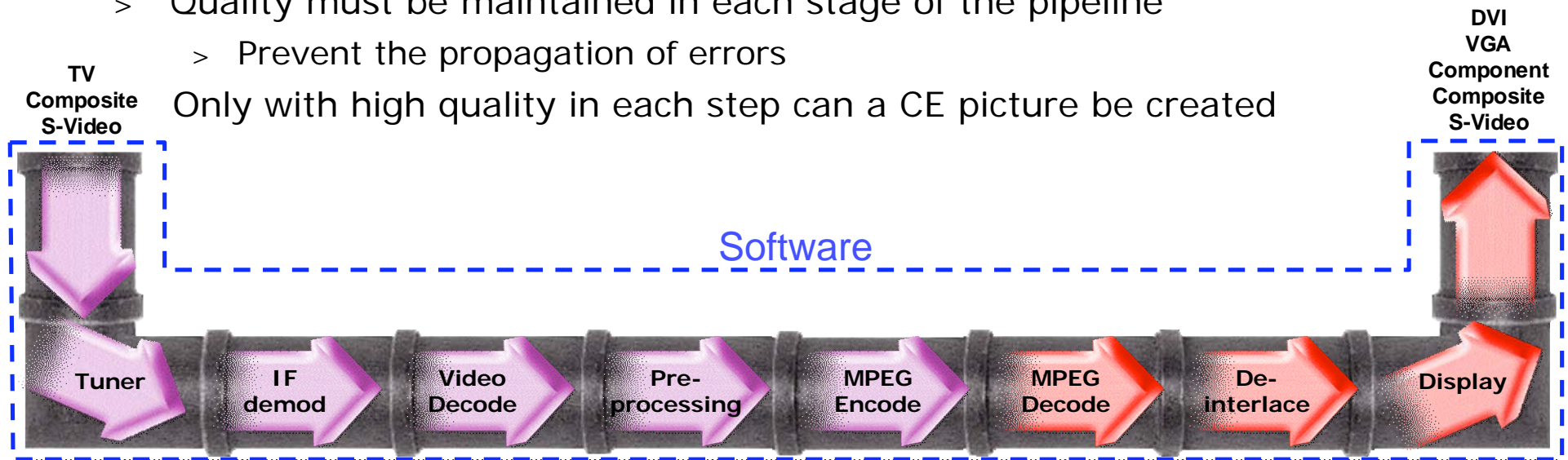


The Video Pipeline

Ensuring Quality

- > Capturing and Digitizing video into the computer and passing video out of the computer are complex processes
 - > Data must travel through 8 major steps
 - > Consumers don't care unless when Video Quality is poor
 - > Poor Video gets captured forever
- > Quality must be maintained in each stage of the pipeline
 - > Prevent the propagation of errors

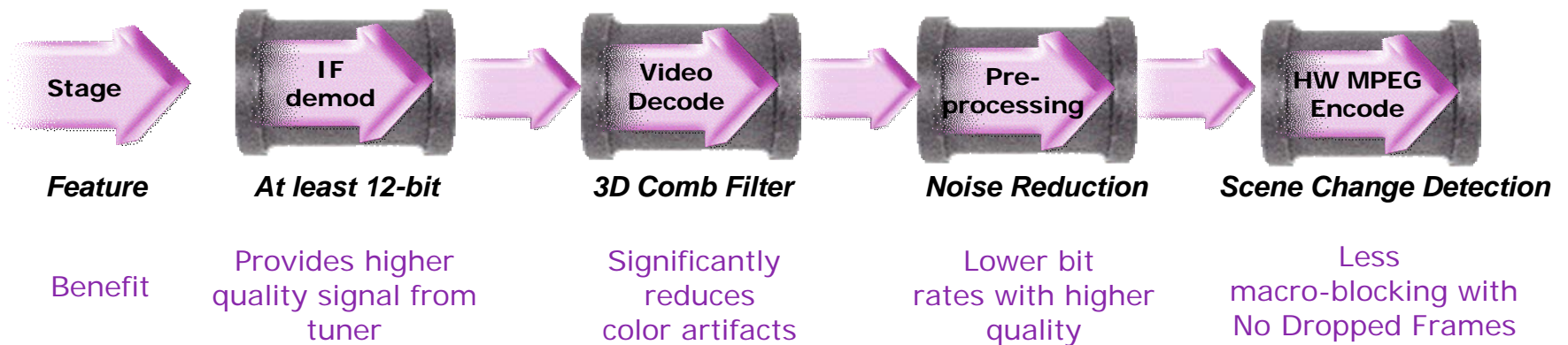
Only with high quality in each step can a CE picture be created





Bringing Video In

- > To achieve CE level of quality, EPCs must have:



- > Feature set matches that of \$1000+ TVs and \$300+ PVRs
- > Today, there is an opportunity for EPCs to beat CE Devices in Television and PVR functionalities



Why Input Features Matter

- > Demonstrating 3D Comb Filtering (cityscape)



With 3D Comb



Without 3D Comb



Why Input Features Matter

- > Demonstrating Scene Change Detection (rocket launching)



With Scene Change Detection

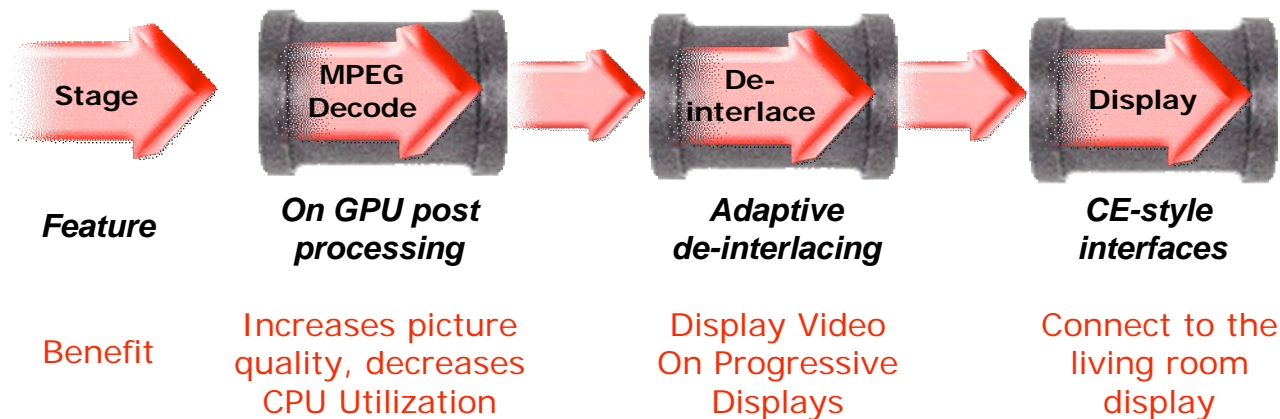


Without Scene Change Detection



Video Output

- > To achieve CE level of quality, EPCs must have:

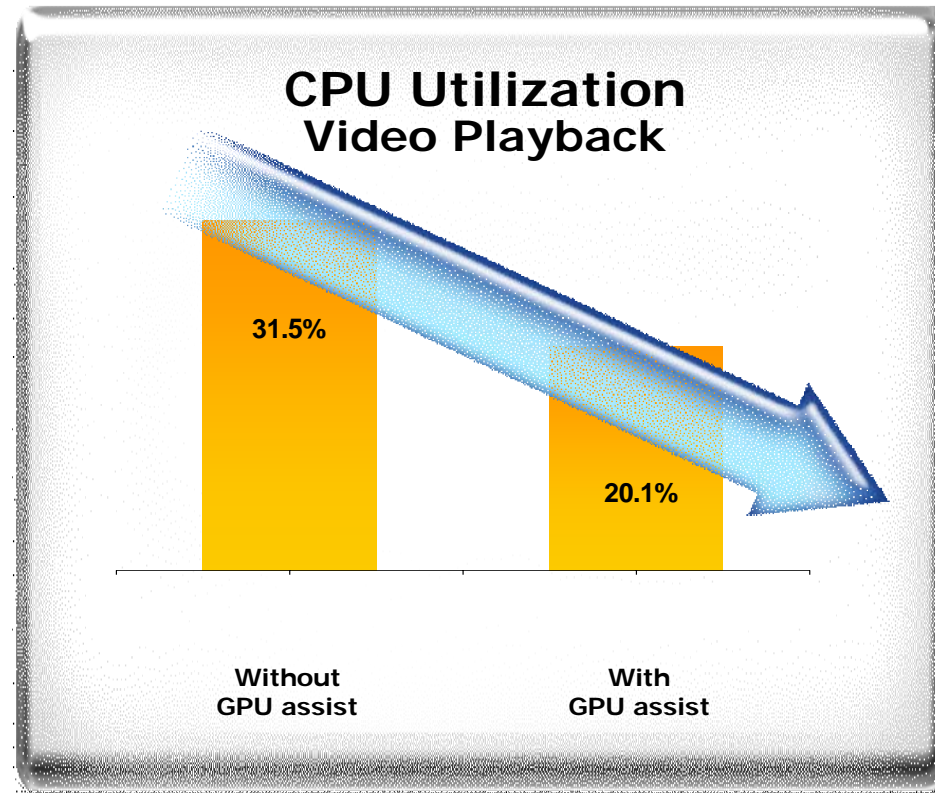


- > EPCs must be optimized for connectivity to both traditional PC Monitors and also CE Televisions
- > Must render high quality video on a 19" LCD or a 45" HDTV
- > Silent Revolution away from CRT Monitors



Why Output Features Matter

- > Demonstrating GPU assisted Post Processing

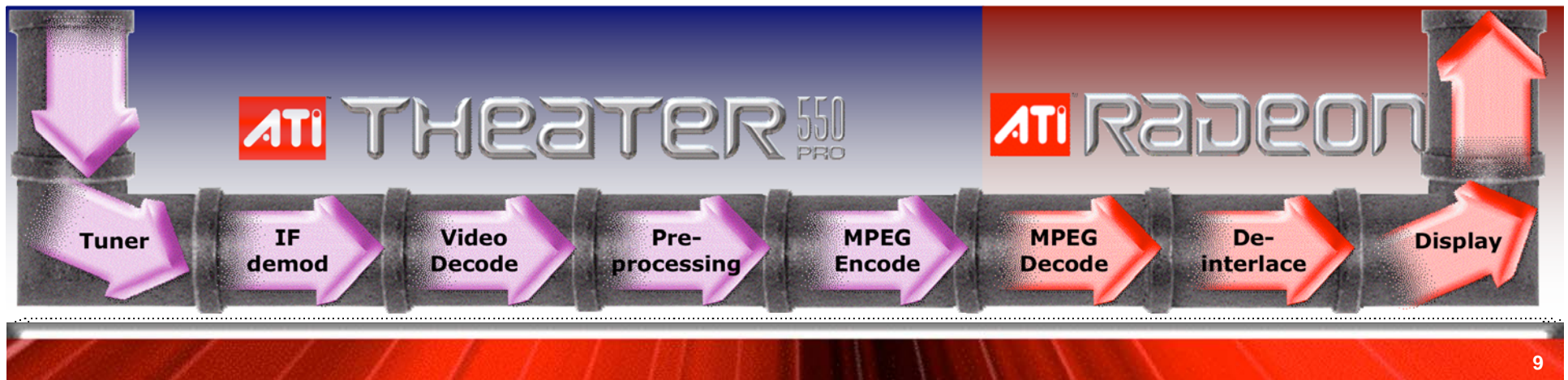


* As demonstrated on a Pentium 4 2.8GHz and RADEON X700 with WMV9 GPU acceleration disabled vs enabled



How Hardware works with Software

- > Software ties together the whole pipeline
 - > What the user sees
- > Usability
 - > TV plus pictures, DVDs, MP3s, HDTV, DVR
- > Key advancements have put the PC above that of the CE world
 - > See Microsoft Windows Media Center Edition 2005





The Next Step

Digital TV

- > Digital TV
 - > A new area of growth for Entertainment PCs



Problem:

- > PC's living room success generally limited by time to market
 - > Historically CE devices have had a large lead on PCs

Action:

- > The shorter the time to market, the larger the market
 - > Divert CE device sales to Entertainment PC sales
- > Work together to enable a broad range of DTV solutions on the PC