

Box Mode #16

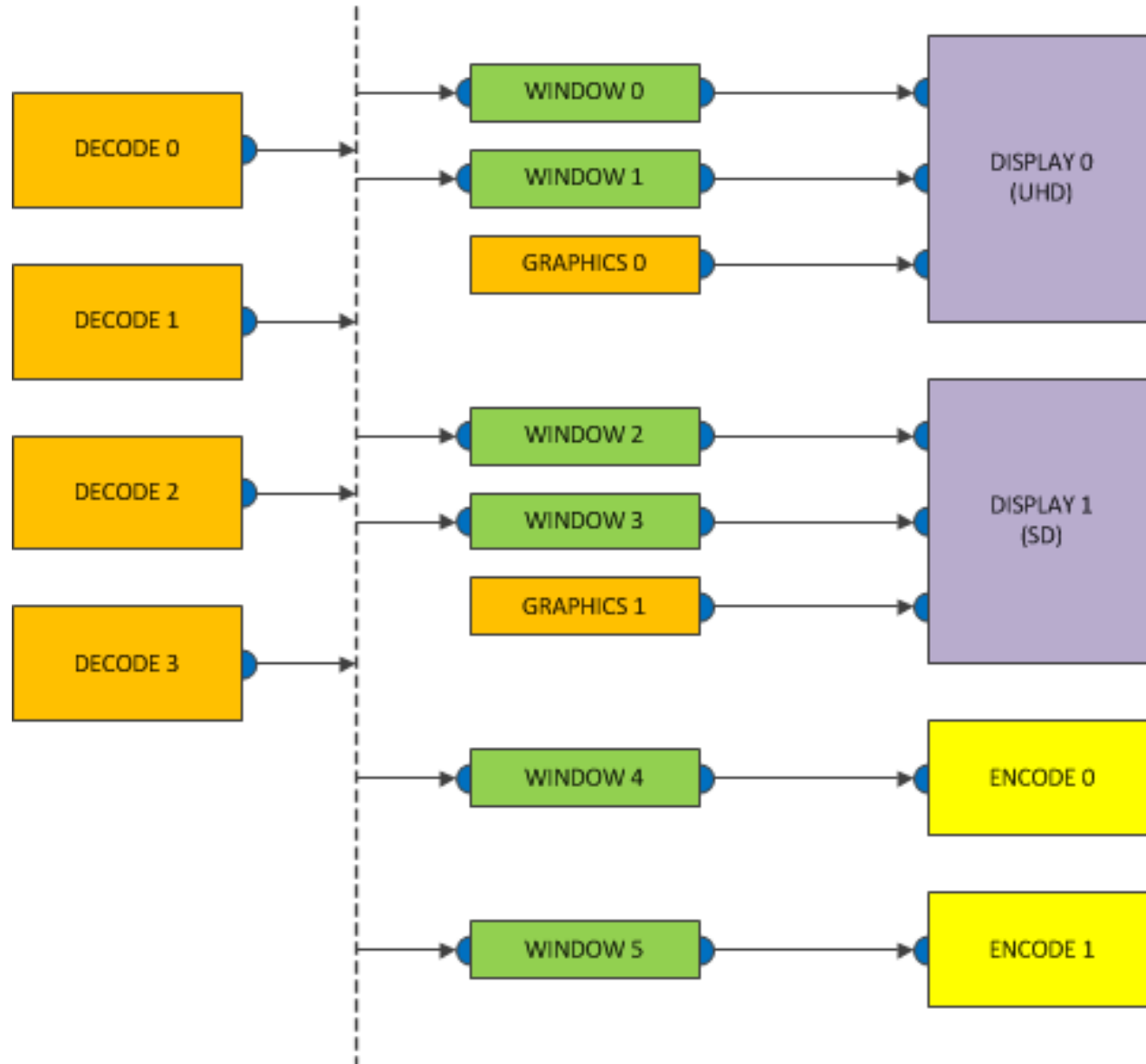
7445 Dx / 7445S



Summary

- Required memory speed: 3x 32-bit DDR3-2133
 - No high-temperature refresh
- Features:
 - One 3840x2160p60 10-bit decode
 - Three 1920x1080p30/60i decodes
 - UHD + SD display
 - MAIN + PIP support
 - Two 1080p30 encodes
 - No HDMI input

Possible video routings



Source limitations

- For each source, you may toggle between any of the provided options.
 - Only one option enabled at a given time.
- Decode 0
 - 4K capable mode:
 - 3840x2160p60 10-bit HEVC
 - 1920x1080p30/60i 8-bit AVC / MPEG2
 - MTG support
 - Multi-PIP mode (3x):
 - 1920x1080p30/60i 8-bit HEVC / AVC / MPEG2
- Decode 1
 - 1920x1080p30/60i 8-bit HEVC / AVC / MPEG2
 - MTG support
- Decode 2
 - 1920x1080p30/60i 8-bit HEVC / AVC / MPEG2
 - MTG support
- Decode 3
 - 1920x1080p30/60i 8-bit HEVC / AVC / MPEG2
 - MTG support
- Graphics 0 (UHD)
 - 1080p60 32-bit ARGB
- Graphics 1 (SD)
 - 480p60 32-bit ARGB
 - 576p50 32-bit ARGB

HARDWARE RESOURCE MAPPING

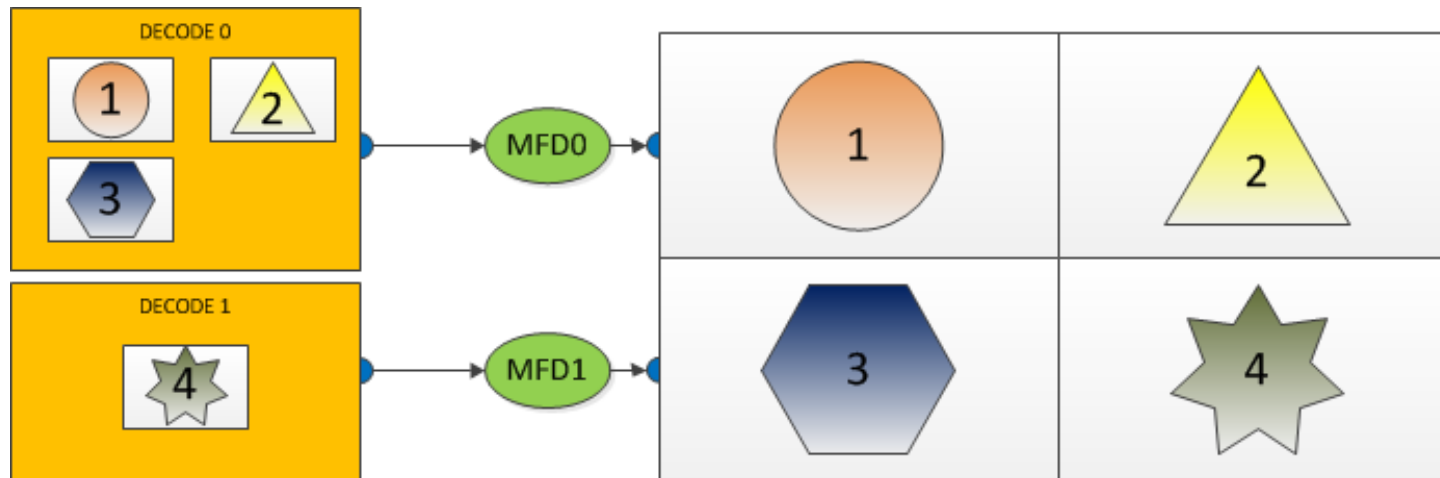
Decoder	MFD	Hardware
Decode 0	MFD0	HVD0
Decode 1	MFD1	HVD1
Decode 2	MFD2	HVD1
Decode 3	MFD3	HVD2

Window limitations

- Window 0 (MAIN / UHD)
 - Single source mode:
 - Up to full-screen display (smooth scaling)
 - 1080i60 de-interlacing
 - Multi-PIP mode (3x)
 - Mosaic display limitations (next slide)
 - 480i50/576i50 de-interlacing
- Window 1 (PIP / UHD)
 - Up to ½ x 1 full-screen display (smooth scaling)
 - 1080i60 de-interlacing
 - **No multi-PIP support.**
- Window 2 (MAIN / SD)
 - Single source mode:
 - Up to full-screen display (smooth scaling)
 - Multi-PIP mode (3x):
 - Mosaic display limitations (next slide)
 - No de-interlacing.
- Window 3 (PIP / SD)
 - Up to ½ x 1 full-screen display (smooth scaling)
 - No de-interlacing
 - **No multi-PIP support.**
- Window 4 and 5 (Encode 0 and Encode 1)
 - Full-screen only
 - 1080i60 de-interlacing
 - **No multi-PIP support.**

Multi-PIP Display Limitations (3+1 mode)

- Three Multi-PIPs are coming from Decode 0, through MFD0 to the display
 - Each window is limited to 25% of the canvas maximum
 - 480i60 / 576i50 de-interlacing is possible for each window for the UHD display
- One additional source is coming through the PIP/MFD1 path to the display
 - The display size limits are based on the described PIP window limits
 - 1080i60 de-interlacing possible.
- **The transcode paths are not capable of supporting this Multi-PIP 3+1 arrangement as they only have one window path. They have no defined multi-PIP capability.**



Display and encode limitations

- Display 0 (UHD)
 - 3840x2160p60
- Display 1 (SD)
 - 480i60
 - 576i50
- Encode 0
 - 1080p30
- Encode 1
 - 1080p30