Intel® Embedded Media and Graphics Driver Feature Matrix Version 1.18

Ideal for systems based on the Intel® Atom™ processor E6xx series (E620/E620T/E640/E640T/E660/E660T/E680/E680T) which integrates the processor core, graphics, video encode/decode, memory, and display controllers in one package. Also validated for platforms based on the Intel® Atom™ processor Z5xx series with the Intel® System Controller Hub US15W, US15WP and US15WPT.

This driver is enhanced over previous embedded graphics drivers from Intel, providing higher performance, a rich feature set, and improved usability. For detailed product information, please visit edc.intel.com/software/downloads/EMGD.

Intel® Embedded Media and Graphics Driver Features	Intel® Atom™ Processor E6xx Series	Intel® System Controller Hub US15W/ US15WP/US15WPT
Driver		
Cross-platform, cross-OS Configuration EDitor (CED) utility for creation of driver packages (Windows 32-bit and 64-bit environments supported)	x	x
Installer/uninstaller (Windows only), RPM method supported for Linux*	x	x
CED Lite, provided as a browser-based GUI utility, can be used on Windows- or Linux-based systems	x	
Runtime GUI (Windows and Linux only)	x	x
Runtime control API on internal LVDS and external encoders	x	x
Second overlay	x	x
Rendered scaling and centering	x	x
Multi-GPU, Multi-monitor (PCI- and PCI Express*-based, as primary or secondary, concurrent with integrated graphics) for Windows XP	x	
Enhanced clone mode support for use with different-sized displays	x	x
Multi-GPU, Multi-Monitor (PCI Express*-based as secondary concurrent with integrated graphics as primary) for Windows 7 and Windows Embedded Standard 7	x	
Hardware Video Decode Acceleration		
MPEG-2 (MPlayer/FFMPEG), MPEG-4, H.264, and VC-1 via VA-API (Linux with MPlayer/FFMPEG and GStreamer)	x	x
MPEG-2, H.264, VC-1 supported via DXVA (Windows)	x	x
MPEG-2, H.264 AVC, VC-1 and WMV9 via DXVA 2.0 (Windows 7/Windows Embedded Standard 7)	x	x
Adobe Flash* 10.1 video decode support with a third-party plug-in (Linux only)	x	x
MPEG-4, H.264 AVC, VC-1, and H.263 formats supported via OpenMAX* in Android* via EMGD v1.14	x	
Anti-Aliasing	x	x
Certified Output Protection Protocol (COPP) support on Windows XP	x	x
Hardware Video Encode Acceleration		
H.264/MPEG-4 (Linux) – Encoding options include up to four concurrent H.264 streams or one concurrent encode stream with one decode stream.	x	
H.264 (Windows 7/Windows Embedded Standard 7)	x	
Configurability		
Ability to configure port names used in the runtime GUI	x	x
Ability to change resolution/refresh rates for clone displays in the runtime GUI	x	x
Advanced Extended Display Identification Data (EDID) configuration	x	x
Full ACPI support on Windows (not available on Windows CE) and Linux	x	x
Display rotation and flip configuration based on DID physical orientation information	x	x
Display discovery and initialization (driver only)	x	x
Dual digital display outputs through single sDVO device (e.g., Chrontel CH7319/CH7320*)	x	x
Dynamic port driver	x	x
Ability to set port as inactive when not in single mode	x	x
Universal .inf for multiple platform configuration (Windows only)	x	x
Dynamic mode support using EDID information (dynamically adds new timing sets fully described in EDID)	x	x
Multi-refresh, multi-resolution support (driver does not assume fixed resolution or timings on digital display)	x	x
Rotation and inverted display	x	x
Allows manual specification of display timing sets	x	x
EDID-less (non-EDID compliant) display support	x	x
Dual independent display [extended desktop, Linux Xinerama* (depends on distro support), and dual independent head (DIH)]	x	x
Clone dual display support	x	x
Hot-plug support of displays on Windows 7 Professional, Windows 7 Ultimate and Windows Embedded Standard 7	x	
VESA DisplayID support. VESA Monitor Command Control Set (MCCS) or Direct Data Channel Command Interface (DDC/DI) display support, plus minimum backlight intensity control on Windows Embedded Standard 7	x	
Ability to swap primary display of clone or extended mode during runtime (Windows XP only)	x	

Intel® Embedded Media and Graphics Driver Features	Intel® Atom™ Processor E6xx Series	Intel® System Controller Hub US15W/ US15WP/US15WPT
Display Output		
Internal LVDS	X	X
Silicon Image sDVO devices: SiI 1362* and SiI 1364* (DVI)	X	X
Chrontel sDVO: CH7307* (DVI), CH7308* (LVDS), CH7315* (HDMI), CH7317B* (HDTV/VGA RGB), CH7022* (VGA), CH7319* (DVI with HDCP), CH7320* (DVI)	X	X
Chrontel CH7036* support for conversion from LVDS to HDMI/DVI and VGA	X	X
Chrontel CH7022* TV-Out support with YPbPr on Linux	X	
Lapis Semiconductor ML7213*-sDVO	X	
UEFI Video Driver		
Normal and fast boot	X	X
Intel® Boot Loader Development Kit (BLDK) for Linux and Windows CE (depends on capability availability)	X	X
XSe* Fast Boot Loader support for Linux	X	
EFI splash screen file size up to 500 KB	X	
VBIOS		
Embedded VBIOS support (e.g., LVDS brightness control at boot)	X	X
Display discovery and initialization	X	X
Full VESA mode support/VESA modes 115h and 118h support	X	X
POST to internal LVDS or sDVO	X	X
Full VGA modes support	X	X
EDID-less (non-EDID compliant) display support	X	X
Video BIOS multi-configuration support of up to 64K on Windows XP, Windows 7 and Linux		X
Video BIOS multi-configuration support of only 127K on Windows XP, Windows 7, and Linux	X	
OSs and APIs		
Runtime operation API	X	X
Support for default VGA modes	X	X
Port driver software development kit (Windows and Linux)	X	X
DOS* support (IBM PC DOS 2000,* MS 6.22)	X	X
Microsoft		
Windows XP (SP3), Windows XP Embedded Standard 2009, Windows Embedded for Point of Service	X	X
DirectDraw (Microsoft DirectX* 9.0c, DirectX 8.1, DirectX 3)	X	X
Direct3D (DirectX 9.0c, DirectX 8.1)	X	X
DirectX Texture Compression (DXTC)	X	X
DirectX Runtime API (DirectX 8.1 SDK samples in windowed and full-screen mode)	X	X
Support in English language mode for multi-language OS environment, i.e., Japanese, Traditional Chinese, Korean	X	X
Windows Embedded Compact 7.0 via EMGD v1.16 onward on Intel® Atom™ processor E6xx B1	X	
DirectDraw	X	
Vertical extended display support/rotation	X	
Framebuffer overlay blending; Framebuffer direct access during runtime for display customized image	X	
OpenGL* ES 1.1, OpenGL ES 2.0	X	
Windows 7 Professional, Windows 7 Ultimate and Windows Embedded Standard 7 (does not support Intel Atom processor E620/E620T [0.6 GHz] due to minimum system requirements of 1.0 GHz 32-bit [x86] processor)	X	X
2D GDI hardware acceleration	X	X
Direct3D (DirectX 9.0c/9.0L)	X	X
OpenGL 2.0 support	X	X
Linux		
OpenGL 2.1	X	X
OpenGL ES 1.1 and 2.0 support (API added for PVRTC compressed texture format)	X	X
OpenGL 1.4 , OpenGL 1.5	X	X
OpenVG 1.1 support	X	X
Framebuffer overlay blending and freezing	X	X
User interface ColorKey support via XV	X	X
Video decode texture streaming, MI-X plug-in subtitle/caption support on MeeGo* 1.2	X	
API for overlay plane selection, sharing of EGL surfaces between applications with MSAA, hue color correction, and freeze/resume of frame buffer rendering	X	
Dual independent head-to-clone/reverse-clone mode runtime switching, direct DMA to overlay and frame buffer functionality for external video inputs, and vertical extended mode support on MeeGo* 1.2	X	
Timesys Fedora* Remix v14 (Timesys kernel 2.6.35, X Server 1.9, Mesa 7.9)	X	X
MeeGo* 1.2 IVI Linux (kernel 2.6.37 and 2.6.39, X Server 1.9, Mesa 7.9)	X	X
Android* via EMGD 1.14		
Android Composition Manager, SurfaceFlinger*, StageFright support	X	
OpenGL ES 1.1 and 2.0 support	X	
Overlay support, video decode blend and texture streaming, and video encode using a USB camera	X	
Android 2.3.7 (Gingerbread kernel 2.6.39)	X	

To see which embedded Intel® architecture processors are validated with each Intel® chipset, visit intel.com/intelligentsystems.

[1]Windows Embedded CE* R2 on Intel® System Controller Hub US15W/US15WP/US15WPT is supported by the IEGD (edc.intel.com/software/downloads/IEGD).

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