



Winbox Technologies EVO1-XS TurnKey

Future TV OEM Reference Device
Based on Microsoft Embedded Windows CE
Extra Small Form Factor

Product Data Sheet

The world's smallest IPTV Set-Top-Box
Suitable for internet streaming, IPTV, VOD, internet on TV, DMA, connected TV and Home
Networking Business Cases

DATA SHEET

Introduction

About EVO1-XS

EVO1-XS is a compact add-on for television sets with integrated WLAN functionality (IEEE802.11 b/g/n); it is extremely easy to use and includes the applications currently demanded by consumers and content providers.

Winbox Technologies TurnKeys

EVO1-XS is a OEM TurnKey product from Winbox Technologies. A TurnKey product consist out of hardware, software and OEM production services and enables our customers to get a mass-market ready product with the shortest possible time-to-market and near to zero upfront investments / NREs. The line-up of Winbox Technologies TurnKeys currently includes:

- EVO1-XS** World's smallest Windows CE based IPTV / VOD / DMA device with integrated WLAN, Windows Media Codecs, DRM, Media Connect
- EVO1-S** Compact Windows CE based IPTV / VOD / DMA device with USB 2.0 support, Windows Media Codecs, DRM, Media Connect
- EVO1-M** Mid-size Windows CE based DVB/IP Hybrid Zapper device with USB 2.0 support, Windows Media Codecs, DRM, Media Connect
- EVO1-L** Full-size Windows CE based DVB/IP Hybrid PVR/DVR with integrated harddrive and DVB-CA/CI security, Windows Media Codecs, DRM, Media Connect

Besides TurnKey products (EVO-Series), Winbox Technologies also offers all technology modules as license products to allow in-house developments. Further more, Winbox Technologies offers Professional Services for customization, e.g. of the user-interface or I/O interfaces and the complete OEM Product Services handling. Further information on all our products is available from our Sales Team.

About Winbox Technologies

Winbox Technologies (formerly known as TeleGent) is the leading provider of OEM technology solutions for Windows Embedded based TV-centric consumer electronics. IPTV receivers, video on demand systems (VoD), harddisk videorecorders (PVR / DVR), connected TV-sets and set-top-boxes can be realized with less development investments and time by using Winbox Technologies' products. Customers can either source so called "TurnKeys" which contain a complete OEM solution including hardware, software and production services or license specific technology modules for in-house development. Partners and customers include Microsoft, NXP, ASUS, Sling Media, Medion and ProSiebenSat.1.



DATA SHEET

EVO1-XS use cases

Home Networking

Thanks to Windows Media Connect technology, devices based on the EVO1 Platform integrate with Windows PCs automatically. The uPnP based detection eliminates configuration almost completely because a PC with a Microsoft operating system (XP SP2 or later, Vista, Home Server or Windows Media Player 11) automatically detects EVO1 Platform devices on WLAN or cable networks.

Shared photos, music files or videos can then be easily accessed with the EVO1-XS' remote on a TV in a living room or any other location. The NXP Nexperia processor guarantees the crystal-clear, high-performance display of media content. Thanks to its compact dimensions, the EVO1-XS can be discretely located behind your television or display. A separate infrared transmitter guarantees reception of the signals from the remote control.

Video on Demand

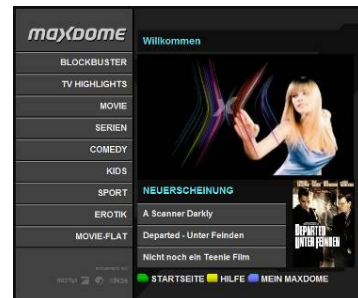
Drawing on full standard-compliant HTML support, Windows Media and secure DRM, the EVO1 platform enables our OEM customers to offer premium content business models. In addition to their own media content, consumers can seamlessly access these offers at the click of a button – at any time. This is ensured by the integration of the market-leading Windows Media DRM rights management system for premium content. All EVO1 Platform-based products, which use the Windows CE operating system and NXP Nexperia series processors exclusively, are outstanding playback stations for high-quality video and TV content therefore.



Entry point to various digital contents: the EVO1 Main Menu



Browsing media content using a rich user interface



Premium content integration example: maxdome Video-on-Demand

Value-Added Services

Superior Microsoft based development technologies and APIs allow easy integration of add-on-services. Microsoft and Winbox Technologies already presented a Windows Live Messenger Integration and further integration examples will be presented in the near future.. Based on the rich EVO1 platform all possible audio, video and IP-based applications – ranging from e-Commerce to multiroom audio, gaming or iTV – can be implemented.



DATA SHEET

Physical Design

Mechanical Design and Dimension (120 x 60 x 30 mm)



Super small form factor: EVO1 XS device with miniature dimensions of 120 x 60 x 30 mm

Reference Remote Control

Other models and designs available on request.



Customization

As with all EVO1 models, also EVO1-XS was build with the goal in mind to allow Winbox Technologies to customize their OEM solutions in many aspects like User Interface, custom service integration or individual housings. Winbox Technologies provides experienced and dedicated resources in its professional services unit that have already helped a lot of customers to get to exactly their EVO1 based product.



DATA SHEET

Technical Data Hardware Specifications

Item	Product Feature	Description
1.1	Core System	
1.1.1	CPU Speed	280 MHz
1.1.2	Media Core Speed	270 MHz
1.1.3	Supported TV System	PAL / NTSC
1.1.4	Memory Size	128 MB
1.1.5	Memory Type	DDR RAM 400 MHz
1.1.6	NAND Flash	64 MB
1.1.7	LAN Ethernet	RJ45 10/100Mbps
1.1.8	WLAN by Mini PCI (option) / TG220W	IEEE 802.11 b/g or optional 802.11 n draft compliant
1.1.9	IR	RC6 PHILIPS
1.2	Power	
1.2.1	Power Input	12VDC
1.2.2	Power Consumption	Max 21 W
1.2.3	Power type	External switch mode power adaptor (35W)
1.2.4	Isolation Resistance	> 5M ohm at 500Vdc @ 3A-261DA12-050
1.2.5	Isolation Voltage	2.2kVdc , 1.5kVac @ 3A-261DA12-050
1.3	LAN Interface	
1.3.1	One Fast Ethernet Port	10/100Mbps
1.3.2	Standard Compliance	IEEE 802.3 compliant
1.4	A/V Interface	
1.4.1	1 x SPDIF out	optical
1.4.2	1 x SCART out (HDMI or component optional)	PAL composite / RGB / S-Video (NTSC optional)
1.5	LED Indicators	Condition Color
1.5.1	Power Located in the IR Dongle	Standby operation Orange green
1.5.2	Ethernet Link/Act at the plug	Link On
1.6	Buttons	Function
1.6.1	Power	Switch
1.7	I/Os	Position
1.7.1	Power in for external PSU connect	Back
1.7.2	RJ45 Ethernet 10/100 IEEE 802.2	Back
1.7.3	Optical SPDIF (AC3)	Back
1.7.4	SCART to TV (opt. 3x RCA)	Front
1.7.5	IR connector for IR dongle 3,5 mm	Back



DATA SHEET

Software Feature Sets

Item	Product Feature	
2.1	Operating System	
2.1.1	Windows CE 5.0	
2.2	OS Default Features	
2.2.1	Internet Explorer 6.0 with TV Style Navigation extension	
2.2.2	Microsoft Media Player	
2.2.3	Microsoft DRM 10 (Janus) (based on contract)	
2.2.4	Connectivity (LAN/WLAN) Support	
2.2.5	Streaming Support (MMS)	
2.3	Additional Applications (optional / available on customer request)	
2.3.1	Update mechanism	
2.3.2	First time Installation wizard	
2.4	Video Decoder*	
2.4.1	MPEG2	Up to 1080i
2.4.2	MPEG4 ISO/IEC 14496-2 Simple profile @L1-L5	Up to 4 Mbps
2.4.3	MPEG4 ISO/IEC 14496-2 Advanced Simple profile @L1-L5	Up to 4 Mbps
2.4.4	MPEG4 Part 10 /AVC Main Profile H.264 @L1	Up to 2,5 Mbps
2.4.5	Windows Media Video WMV 7-10 Standard	ASF Media Streaming Format Main Profile @ ML up to 4Mbps 720 x 480
2.4.6	Resolution	Maximum 720 X 576
2.5	Audio Decoder*	
2.5.1	MPEG-1 Audio	ISO/IEC 11172-3 Layer III (MP3)
2.5.2	MPEG-1 Audio	ISO/IEC 14496-3 AAC
2.5.3	Dolby AC3 + Dolby Digital	
2.5.4	Windows Media Audio WMA 7-10	Standard

* further codecs are also available and can be integrated on request

Safety/ EMC Requirements

Item	Product Feature	Description
3.1	Safety Requirements	
3.1.1	CCC	73/23/EEC 93/68/EEC EN60065:2002
3.2	EMC Certification	
3.2.1	CE	EN 55022:1998+A1:2000+A2:2003 Class B EN 55024: 1998+A1:2001+A2:2003 EN 61000-3-2:2000 EN61000-3-3:1995+A1:2001
3.3	Environmental Specifications	
3.3.1	Operating Temperature	0C ~ 40 C
3.3.2	Storage Temperature	-10C ~ 70C
3.3.3	Operating Humidity Range	20% ~ 80%



DATA SHEET

Performance/National Test Requirements

Item	Product Feature	Description
4.1	PAL output / opt. NTSC, HDMI	
4.1.1	Output Level	White luminance amplitude : 630mV ~ 770 mV Yellow luminance amplitude :419mV ~ 511mV Cyan luminance amplitude : 331mV ~ 405mV Green luminance amplitude : 277mV ~ 239mV Magenta luminance amplitude : 195mV ~ 239mV Red luminance amplitude : 141mV ~ 173mV Blue luminance amplitude : 54mV ~ 66mV Black luminance amplitude : -5mV ~ 5 mV
4.1.2	Synchronization Level	270mV ~ 330mV
4.1.3	Outband rejection Ratio	NA
4.1.4	Frequency Response	< 2MHz : +/- 0.5 dB 4MHz ,~ 4.8MHz : +/- 1 dB 5.8MHz : -8dB ~ 0dB
4.1.5	Differential Gain	< 10%p-p
4.1.6	Differential Phase	<10 degree p-p
4.1.7	SNR (Weight)	< -50dB
4.1.8	Luminance Nonlinearity	< 5% p-p
4.1.9	Chroma/Luminance Gain Inequality	-5% ~ 5%
4.1.10	Chroma/Luminance Delay Inequality	-30ns ~ 30ns
4.1.11	K-factor	-5% ~ 5%
4.2	L/R audio output	
4.2.1	Output Level	1.8Vrms ~ 2.2Vrms
4.2.2	Distortion Factor	THD < 0.1%
4.2.3	Frequency Response	-2dB ~ 2dB for 40Hz ~ 20KHz
4.2.4	SNR (Weight)	> 65dB
4.2.5	Cross Talk	<-70dB
4.2.6	Phase Separation -> difference	Phase difference < 10 degree
4.2.7	Level Difference	<0.2dB

Accessories

Item	Product Feature	Description
5.1	Hardware	
5.1.1	SCART Cable (opt. component, HDMI)	Separate packed 1,5 meter (black)
5.1.2	Remote Control	PHILIPS rondo RC152 (grey)
5.1.3	2 x AAA 1,5 Volt Battery	Registered for the Germany GRS
5.2	Packing / Paper	
5.2.1	Full color retail carton	German (OEM) / opt. any language
5.2.2	User Manual	German (generic) / opt. any language
5.2.3	Inlet	



DATA SHEET

This document is revision 1.1

Copyright © 2006 - 2008 Winbox Technologies GmbH. All rights reserved.

It is prohibited to make copies, to hand on, to transcript, to translate or to archive parts or the whole document without written permission from Winbox Technologies. This document is for information purposes only.

Winbox Technologies is not obligated to inform about changes to contents in this document. This document is confidential.

All Trademarks are reserved and belong to the according owners.

