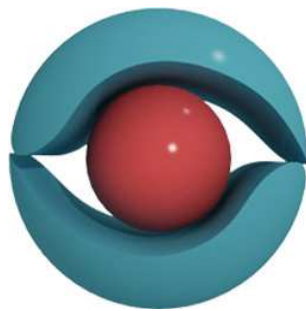


AR-media™ Player v2.1

**INSTALLATION & USER GUIDE**  
(April, 2011)



(Windows XP/Vista/7)

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## Contents

Foreword	1
Requirements	1
Hardware	1
Software	1
Introduction	1
Augmented Reality	1
AR-media™ Platform	1
AR-media™ Player	1
Installation	3
Configuration	3
Configuration Options	3
Usage	4
Supported Models	4
Execution	4
Interactions	5
Lighting Debug Mode	5
Customizations	7
Licensing	7
Support	7

## Foreword

AR-media™ Player allows you to display 3D models<sup>1</sup> in Augmented Reality easily and quickly. No configuration required, once installed just double click an AR-media™ Resource File and enjoy. The player allows you to visualize any model in Augmented Reality and experience a totally new way to interact with digital content.

## Requirements

### Hardware

Minimum Hardware: 1 GHz Processor, 512 MB Ram, 100% Compliant OpenGL Video Card with 128 MB Ram, 50 MB of available Hard Disk space, USB 2.0 Webcam.

Recommended Hardware: 2 GHz Processor, 2 GB Ram, 100% Compliant OpenGL Video Card with 512 MB Ram, 50 MB of available Hard Disk space, USB 2.0 Webcam with 30FPS @ 640x480 resolution.

### Software

Required Software: Microsoft Windows® XP/Vista/7, Latest Video Drivers, Apple QuickTime™<sup>2</sup>, DirectX10<sup>3</sup> or later.

## Introduction

### Augmented Reality

Augmented Reality refers to the real-time view of the physical world whose elements are augmented by computer generated items. Thanks to Augmented Reality, users can interact with 3D content directly in the environment where they live and work, by means of a suitable computer interface. Augmented Reality helps users to put any virtual content in context thus assisting them in solving real world tasks in a completely new way.

### AR-media™ Platform

AR-media™ is the Augmented Reality Platform behind the line of products by Inglobe Technologies that goes under the name “AR-media™ Plugin”. AR-media™ is a general purpose platform for the development of advanced Augmented Reality applications and solutions. It allows to create solutions ranging from stand alone, web and mobile as well as custom solutions targeted to meet complex requirements in a wide range of applications scenarios. It supports distinct tracking techniques and software technologies that are at the basis of any Augmented Reality solution designed and deployed by Inglobe Technologies.

### AR-media™ Player

The player implements only some of the features of the AR-media™ platform. No programming skills are required. Using the AR-media™ Player you can view complex and high quality Augmented Reality scenes leveraging on the main features illustrated in the Product Sheet below.

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<sup>1</sup> 3D content has to be produced by any of AR-media™ authoring tools (such as any of AR-media™ Exporters that are bundled in Professional Editions of AR-media™ Plugin available for many digital content creation software).

<sup>2</sup> Required for video textures' visualization.

<sup>3</sup> DirectSound Required for audio support.

	Ar-media™ Player (Standard Edition)	Ar-media™ Player (Professional Edition)**	Ar-media™ Player (Web Edition)**
<b>Markers Library (number of markers)</b>	N.A.	N.A.	N.A.
<b>Multiple markers</b>	■	■	■
<b>Video/Audio Objects</b>	■	■	■
<b>Soundtracks</b>	■	■	■
<b>"Occluders" Objects</b>	■	■	■
<b>Interactions</b>	■	■	■
<b>Light debug Mode</b>	■	■	N.A.
<b>Antialiasing</b>	■	■	N.A.
<b>Real-time Rendering</b>	■	■	■
<b>Real-time Animations</b>	■	■	■
<b>HD Support*</b>	■	■	N.A.
<b>AR-media™ Watermark</b>	■	Customizable	Customizable
<b>Tracking Technology</b>	Marker Tracking	Marker and Natural Features Tracking	Marker and Natural Features Tracking
<b>Head Mounted Displays Support</b>	■	■	N.A.

*Product Sheet*

## Installation

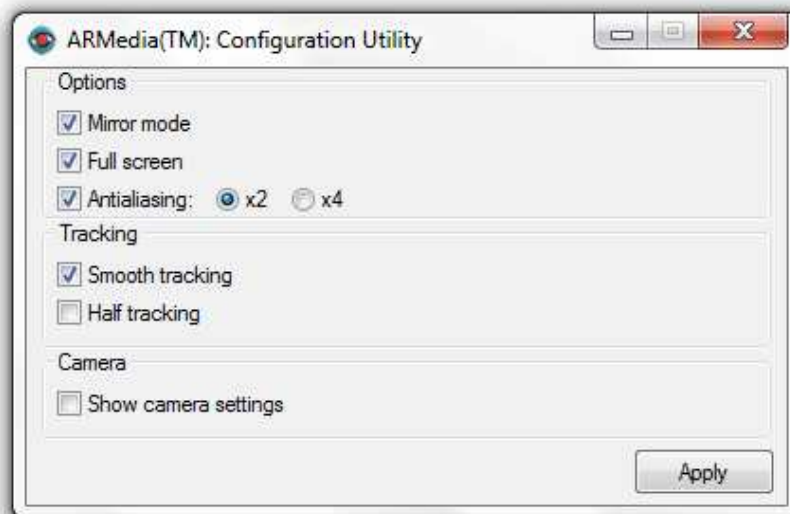
The installation procedure requires full administrative rights, so be sure to have the required privileges before trying to install the software. The installation process will install the following components:

- AR-media™ Player
- AR-media™ Configuration Utility
- Help and Documentation files
- AR-media™ Marker

To start the installation process, execute the AR-media™ Player setup and follow on screen instructions from the installation wizard.

## Configuration

You can configure<sup>4</sup> the Player using the *AR-media™ Configuration Utility* installed with the AR-media™ software. The Configuration Utility window is shown in the following figure:



In the configuration window you can choose many options each of which is described in the following section.

### Configuration Options

**Mirror mode:** if enabled, the video stream will be horizontally flipped like in front of a mirror (this mode is suitable for cameras mounted in a fixed position and facing the user); if disabled the video stream will be not flipped (this mode is suitable for head mounted displays and in those scenarios where the user can move the camera around).

**Full screen:** allows to choose to run Augmented Reality in full screen or windowed mode.

<sup>4</sup> Please note that you must have full administrative rights to configure the software.

**Antialiasing:** allows to enable antialiasing and set the corresponding value. The higher the multiplier the better your 3D models will appear but at the expense of frame rates. Video quality is not affected by this parameter.

**Smooth tracking:** allows to configure the tracker for using either a smooth or precise technique; if smooth tracking is enabled then objects will follow the marker in a soft manner and with a little delay, if smooth tracking is disabled then objects will be glued to the marker.

**Half tracking:** allows to configure the tracker for tracking a video with half the resolution of the video from the camera. This mode is useful especially when tracking high resolution images to improve the frame rate (but at the expense of a lower tracking quality).

**Show camera settings:** allows to adjust camera's parameters before starting the Augmented Reality experience.

When you click the *Apply* button any change you've made will be applied.

## Usage

### Supported Models

The AR-media™ Player allows you to display AR-media™ models in Augmented Reality, such kind of models have the .armedia file extension. You can get AR-media™ models in two ways:

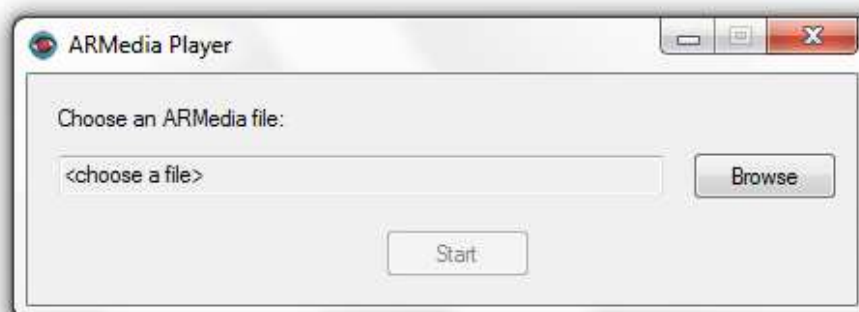
1. by creating models by means of tools provided by AR-media™ platform
2. by receiving models created by third parties by means of AR-media™ platform

The AR-media™ platform includes authoring tools and utilities for the creation of files suitable for the player, such tools may be any of the AR-media™ Exporters that are bundled in Professional editions of AR-media™ Plugin available for most digital content creation software.

### Execution

To experience Augmented Reality with AR-media™ Player you'll need to print one or more markers and possibly fix them on a rigid, flat surface. You can print the provided AR-media™ marker from the AR-media™ Player program group by opening the "Markers" sub-group where the file "Marker.pdf" is available for printing.

In order to execute the AR-media™ Player you can double click any .armedia file or you can launch the player's executable from the AR-media™ Player program group. In the latter case a window that allows you to select your model will be displayed (see below).



During execution point your camera toward the marker to visualize your 3D content on it.

NOTE: custom markers must be provided by the author of the specific .armedia file you want to visualize.

## Interactions

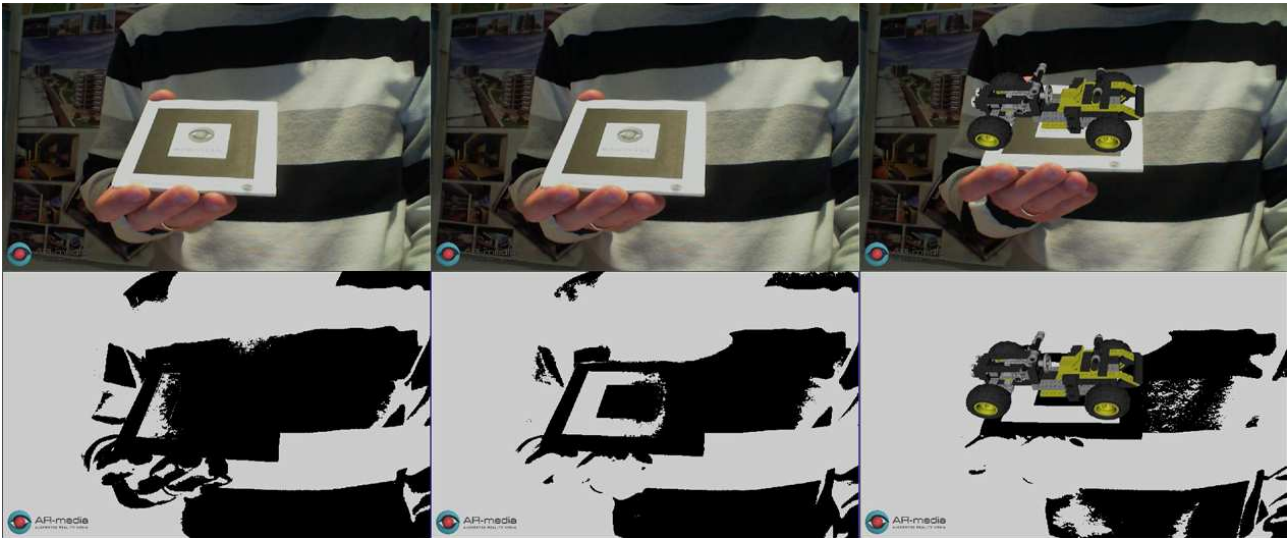
At runtime you can perform some simple interactions with your models by hitting the following keys:

- “w” key will toggle wire-frame mode “ON” and “OFF”
- “f” key will toggle full-screen mode “ON” and “OFF”
- “p” key will pause/start animations
- “r” key will rewind animations
- “e” will decrease animations speed
- “t” will increase animations speed
- “a” will make your model more stable
- “A” will make your model more responsive
- “s” will make your model smaller
- “S” will make your model bigger
- “o” will toggle Occluders’ hightlighting “ON” and “OFF”
- “m” will toggle the background music “ON” and “OFF”
- “<” will switch to the previous background audio track in list
- “>” will switch to the next background audio track in list
- “.” will restart the current background audio track
- “d” key will toggle ‘lighting debug’ mode “ON” and “OFF”
- “+” will increase the lighting threshold
- “-” will decrease the lighting threshold
- ESC will terminate the execution

Modifying the lighting threshold will allow you to recognize the marker even in bad lighting conditions (too dark or too lit environments) and it is useful if used in combination with the lighting debug mode (see below for details).

## Lighting Debug Mode

Lighting debug mode allows you to adjust parameters in order to track markers even in bad lighting condition. By hitting the ‘d’ key the video will turn into black & white showing you the way the software ‘sees’ reality and in particular how the printed marker is seen. In order to have a good tracking or even to just have your models appear on markers, they must be clearly detected, if they are not then you can use the ‘+’ or ‘-’ keys in order to improve detection.



*Lighting debug mode in action.*

In the above image, the upper row shows the video from the camera and the lower row shows the video in 'lighting debug mode'. From left to right you can see how, at the beginning, some reflections on the right side of the marker make it appear almost black in lighting debug mode and so it is not detected and the model doesn't appear; when you hit '+' several times the situation improves and the marker becomes clear and the model is displayed as well; by hitting the 'd' key again you exit from the lighting debug mode. When you have darker scenes you can use the '-' key instead of '+'. Note that even though the black & white image changes as you use the '+' or '-' keys, the original video doesn't change.

## Customizations

A customization service is available in order to tailor the AR-media™ Player's features to fit your needs. Please contact our team for details: [business@inglobetechnologies.com](mailto:business@inglobetechnologies.com).

## Licensing

The AR-media™ Player is available for free but in no cases it can be used for commercial purposes or included in any other product. For details refer to the accompanying license file. You can also refer to the Inglobe Technologies licensing service through the following email address: [licensing@inglobetechnologies.com](mailto:licensing@inglobetechnologies.com).

## Support

For any problem or question you can write to: [help@inglobetechnologies.com](mailto:help@inglobetechnologies.com).