

## Digital Media Adapter (DMA 3.1L) User Manual

Version 1.0

**AMEDIA CONFIDENTIAL AND PROPRIETARY INFORMATION**

**© 2006 Amedia Networks, Inc. (Unpublished)**

**All Rights Reserved.**

This document contains confidential and proprietary information of Amedia Networks, Inc. and is protected by copyright, trade secret and other state and federal laws. Its receipt or possession does not convey any rights to reproduce, disclose its contents, or to manufacture, use or sell anything it may describe. Reproduction, disclosure or use without specific written authorization of Amedia Networks, Inc. is strictly forbidden.

---

## Table of Contents

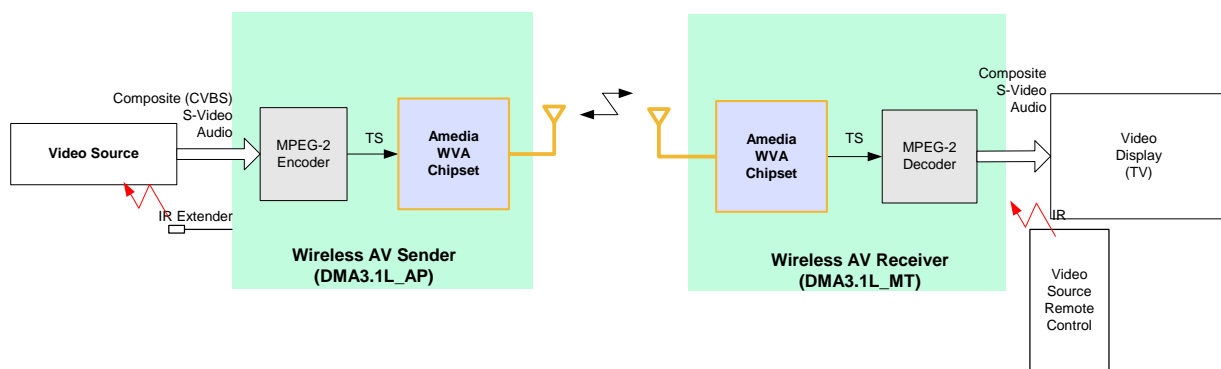
<b>1</b>	<b>Overview.....</b>	<b>3</b>
<b>2</b>	<b>System Diagram.....</b>	<b>3</b>
<b>3</b>	<b>Key Features .....</b>	<b>3</b>
<b>4</b>	<b>DMA3.1L Photos .....</b>	<b>4</b>
<b>5</b>	<b>Checklist .....</b>	<b>4</b>
<b>6</b>	<b>Pairing Procedure.....</b>	<b>4</b>
<b>7</b>	<b>Wireless AV Sender Setup.....</b>	<b>4</b>
<b>8</b>	<b>Wireless AV Receiver Setup .....</b>	<b>5</b>
<b>9</b>	<b>System Status .....</b>	<b>5</b>
<b>10</b>	<b>Functional Specifications .....</b>	<b>5</b>
10.1	Audio and Video Inputs at the Wireless AV Sender .....	5
10.1.1	Video Inputs.....	5
10.1.2	Audio Inputs .....	6
10.2	Audio and Video Outputs .....	6
10.2.1	Video Outputs .....	6
10.2.2	Audio Outputs.....	6
10.3	IR Function .....	6
10.4	NTSC/PAL Auto-Detect.....	6
10.5	LED and Switch .....	7
10.6	System Security .....	7
<b>11</b>	<b>FCC Information.....</b>	<b>7</b>

## 1 Overview

The Digital Media Adapter (DMA3.1L) delivers video and audio over 5GHz wireless channels using Amedia Networks' WiVi™ wireless networking technology. It enables a wireless connection between video/audio sources (for example, DVD, VCR, PVR, STB, and PC) and a video/audio display (TV, flat panel or video monitor).

The IR relay function enables the user to control the Video Source devices from a remote TV. The user can use the original remote control of the video source devices (such as DVD) by pointing the remote control at an IR receiver located at the Wireless AV Receiver. The IR signals are conveyed by the wireless network to the Wireless AV Sender.

## 2 System Diagram



## 3 Key Features

The following is a list of the key features of the DMA3.1L system.

- 1) Wireless communication at 5 GHz.
- 2) Close-loop power control to minimize power consumption and be a friendly neighbor to other WLAN networks at 5 GHz.
- 3) Guaranteed full QoS transporting of multimedia contents.
- 4) Secure networking to assure privacy and content rights protection.
- 5) Transmission of IR control signals to the video source devices from the TV location.
- 6) MPEG-2 standard video compression and decompression.
- 7) Auto detection of NTSC and PAL.

## 4 DMA3.1L Photos



## 5 Checklist

- Wireless AV Sender (DMA3.1L AP)
- Wireless AV Receiver (DMA3.1L MT)
- IR extender cable
- Two power supplies (220VAC/110VAC to 5VDC)

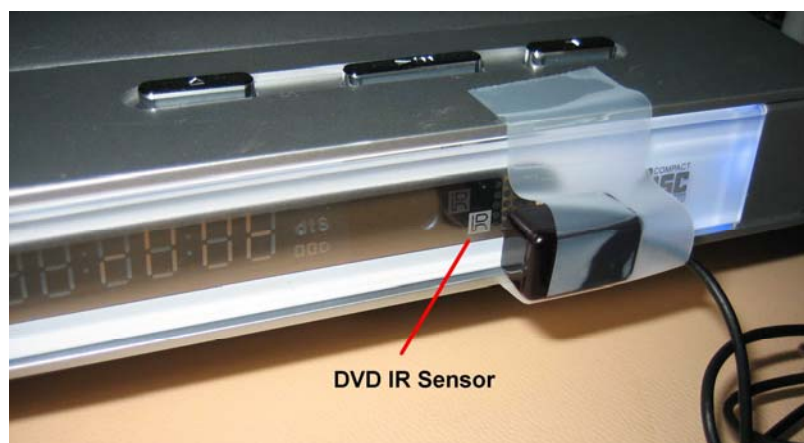
## 6 Pairing Procedure

Wireless AV Sender and Wireless AV Receiver must be paired to form a unique trusted communication pair. Follow the Pairing Procedure below with the Wireless AV Sender and Receiver easily accessible at the same time.

- Connect power supply to the Wireless AV Sender.
- Connect power supply to the Wireless AV Receiver.
- Wait for the Link LED on both units to be blinking.
- Press the Pairing Button on the back of the Wireless AV Sender. The Pairing LED shall turn on.
- Press the Pairing Button on the back of the Wireless AV Receiver. The Pairing LED shall turn on.
- The Pairing Procedure is successfully completed when the Link LED on both units remain on.
- Now the Wireless AV Sender and Receiver share a common secret code for privacy.

## 7 Wireless AV Sender Setup

- Connect video source to Wireless AV Sender video input (composite or S-video).
- Connect stereo audio input to Wireless AV Sender.
- Connect one end of the IR extender cable to the Wireless AV Sender; place the IR emitter end to the IR sensor of the video source. An example is shown in Figure 1.
- Connect power supply.



**Figure 1 DVD IR Sensor**

## **8 Wireless AV Receiver Setup**

- Connect video output (composite or S-video) to TV.
- Connect stereo audio output to TV.
- Connect power supply.

## **9 System Status**

1. Upon power on, the Power LED will be on.
2. After system boot up (up to 10 seconds on the Wireless AV Sender), the Link LED will blink indicating acquisition mode.
3. When communication is established between the Sender and Receiver, the Link LED will stay on indicating tracking mode.
4. In tracking mode, video and audio input signal at the Wireless AV Sender is sent wirelessly to the video and audio output at the Wireless AV Receiver.

## **10 Functional Specifications**

### **10.1 Audio and Video Inputs at the Wireless AV Sender**

The DMA3.1L system transmits audio and video signals from the Wireless AV Sender to the Wireless AV Receiver, by encoding and multiplexing the signals according to MPEG-2 standards. The Wireless AV Sender includes video and audio inputs.

#### **10.1.1 Video Inputs**

a) The Wireless AV Sender supports the following video inputs:

- Composite Video input
- S-Video input

b) The video input is selected by automatic detection of a video signal in one of the inputs. If two inputs become active simultaneously, the order of precedence is: S-video, Composite video.

c) Video standards supported on video inputs: NTSC and PAL.

d) The system supports NTSC Closed Caption signals. The CC signals are accepted at the video inputs and transferred to the video outputs.

### **10.1.2 Audio Inputs**

The Wireless AV Sender supports an analog stereo audio input, consisting of Left and Right audio channels.

## **10.2 Audio and Video Outputs**

The Wireless AV Receiver decodes the MPEG-2 stream, de-multiplexes the audio and video signals, and outputs the signals to the TV. The Wireless AV Receiver includes video and audio outputs.

### **10.2.1 Video Outputs**

a) The Wireless AV Receiver supports two video outputs:

- Composite Video output
- S-Video output.

b) Video output standard (NTSC/PAL) is according to video input.

c) Video standards supported on video outputs: NTSC and PAL.

d) Support of Closed Caption signals.

### **10.2.2 Audio Outputs**

The Wireless AV Receiver supports an analog stereo audio output, consisting of Left and Right audio channels.

## **10.3 IR Function**

The IR function enables the user to control the video source devices such as DVD and STB, even when the TV and the video source devices are not in the same room. The user can use the original remote control unit of the video source device by pointing the remote control at an IR receiver located at the Wireless AV Receiver. The IR receiver at the Wireless AV Receiver receives the IR signal, digitizes it, and sends it over the air to the Wireless AV Sender, which re-generates the IR transmission towards the video source device's IR receiver.

## **10.4 NTSC/PAL Auto-Detect**

The Wireless AV Sender automatically detects the NTSC/PAL system of the active input video source. The Wireless AV Receiver will output the same system correspondingly. Video source and TV must be of the same system.

## 10.5 LED and Switch

The DMA3.1L supports LED outputs and switch/button inputs as follows:

No.	Name	Description
1	<b>Power LED</b>	On: power on
2	Link LED	Blinking: acquisition mode (searching for Wireless AV Sender/Receiver) Solid on: track mode (found Wireless AV Sender/Receiver, link established)
3	Pairing LED	On during pairing procedure
4	Pairing switch	Initiates pairing procedure

## 10.6 System Security

The communication is authenticated and the media stream is encrypted, to assure for protection of copyrighted material.

Flexible pairing procedure between each Wireless AV Sender and Wireless AV Receiver ensures private communications between each pair of units. This also allow for coexistence of multiple pairs of simultaneous operations without cross talk.

## 11 FCC Information

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

**WARNING:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from the one which the receiver is connected to.
- Consult the dealer or an experienced radio/TV technician for help.

This equipment complies with the FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.