

# Infrared proximity detector for the Denon® V300/V310 player

## Technical Data

### Features

- **Passive Infrared Motion triggered of DVD,CD-DA, VCD presentations**
- **Ultra low power consumption from the connected player**
- **Simple connection to Denon® V300/V310 player serial (RS232) port**
- **High efficiency, ultra low power, Infrared detection element with in-built fensel lens and 5metre range**
- **10second timer ensures reliable pedestrian detection**
- **Enclosure lugs provide simple secure fixing**

### Description

The DVD-DSPRX interface connects to a Denon® V300/V310 player and controls the playback of the inserted media.

The DVD-DSPRX emulates a standard external serial control device by issuing a PLAY command whenever the motion of a passer-by is detected. Multiple PLAY commands are inhibited with an in-built timer that prevents the DVD-DSPRX from issuing another PLAY within a 10second time frame. The Infrared sensor has an in-built fensel lens which gives the DVD-DSPRX a range of up to 5metres in front of the device, preventing unnecessary media playback.

### DVD-DSPRX detector

Firmware revision 1.00



### Applications

The DVD-DSPRX is primarily for use within a kiosk environment where a DVD player system is used to provide POS and EPOS advertising.

DVD ACCESSORIES

### Selection Guide

Description	Part Number
Standalone DVD Infrared proximity detector	DVD-DSPRX

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Page 1 of 4 V1.00

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## Power requirements

The DVD-DSPRX is powered from the serial port RTS line of the connected DVD player. The maximum current draw is 7mA.

## Proximity sensing element

The DVD-DSPRX is fitted with an Infrared sensing element. This element detects the change in Infrared radiation a passing human body exhibits, triggering the DVD-DSPRX internal circuitry to issue a PLAY command to the connected DVD player.

The sensing element has a useful range of approx. 5 metres and should be installed as per the diagram on the next page.

## DVD-DSPRX interface

The DVD-DSPRX interface connection is a standard DB9 male as specified within the V300/V310 player specification. Serial communication protocol is 9600 Baud, 1 Start bit, 8 Data bits, 1 Stop bits, No parity for all control commands. All I/O is RS232 and TTL compatible.

## DVD control protocol

The DVD-DSPRX communicates with the player using the player control protocol \*\*. This protocol takes the form of ASCII command strings of format:

[PC,RC,44]r

\r – Carriage return

These strings allow the PLAY (Play) command to be issued to the player in response to the detection of a passer-by.

## DVD-DSPRX function

After the V300/V310 player has been switched on, the DVD-DSPRX waits for 30 seconds before activating itself ready for detection.

As soon as a passer-by moves within range of the DVD-DSPRX the unit immediately sends a PLAY instruction to the player, it then disables itself for 10 seconds to prevent multiple PLAY instructions from being sent.

## DVD Media Authoring

When authoring DVD media for use with the DVD-DSPRX the following requirements should be adhered to:

- a) The inserted disc must be in the STOP condition for the DVD-DSPRX to start PLAY, therefore, NO auto-start command must be authored on the media.
- b) THE DISC MUST BE LAID OUT AS ONE TITLE CONTAINING THE VIDEO PROGRAM WITH NO RETURN TO BEGINNING (LOOP COMMAND) AT THE END.

## DVD-DSPRX interface

Function	DB9 Male
RTS	8
RXD	3
TXD	2
Ground	5
All other connection are N/C	

## Electrical Characteristics (T<sub>A</sub> = 25°C Typical)

Parameter	Minimum	Maximum	Units	Notes
Supply Voltage (RTS)	4.5	9	V	
Supply Current	-	7	mA	
Proximity detector time-out	10	-	seconds	
Proximity detector warm-up time	30	-	seconds	
RXD high level	GND	0.8	V	
RXD low level	2.4	VCC	V	

## Absolute Maximum Ratings

Parameter	Minimum	Maximum	Units
Supply Voltage (RTS)	-0.5	+10	V

## Environmental

Parameter	Minimum	Maximum	Units
Operating Temperature	0	70	°C
Storage Temperature	-10	80	°C
Humidity	0	80	%
Dimensions	See below		
Weight	150g		
Immunity & emissions	EMC compliance to 89/336/EEC		

\*\* See Denon® V300/V310 technical specification for more information.

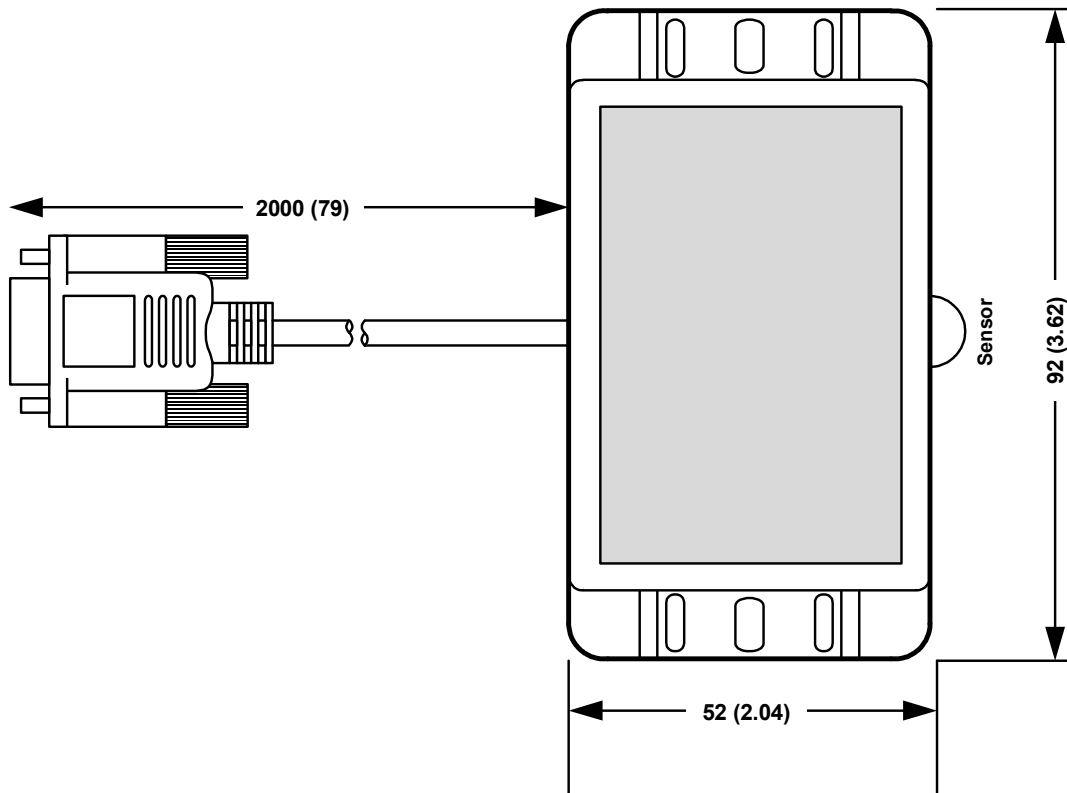
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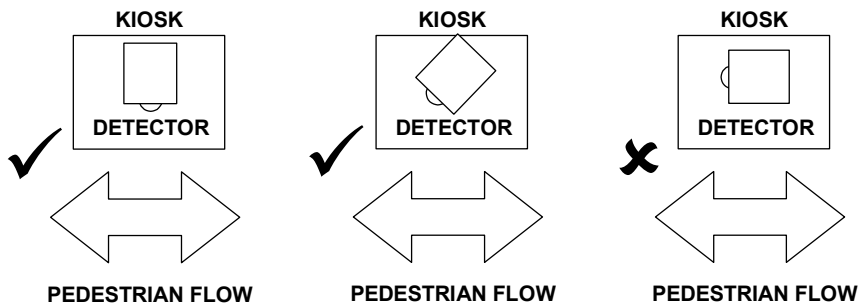
Page 2 of 4 V1.01

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## Mechanical Specifications – Units millimetres (inches)



## Installation



1. Sighting of the DVD-DSPRX is critical if a reliable installation is to be provided. The unit should be fixed 45 - 90 degrees to the direction of pedestrian flow so that reliable detection is made.
2. Insert the flying lead into the RS232 IO connection on the Denon DN-V300/V310 player.
3. Switch ON the player.
4. After 30 seconds, sensor stability time, the DVD-DSPRX will issue a PLAY instruction to the player whenever a pedestrian is detected. A 10 second disable period is awaited after each PLAY instruction to prevent multiple triggering.

### Notes:

- The PIR sensor should be pointed away from fluctuations in infra-red level e.g. drafts, curtains, windows, heaters, fans etc.
- The detector has a range of approx. 5metres (16 feet) but placing the unit behind a piece of Perspex or glass to reduce detection sensitivity can reduce this range. This is recommended when used in a kiosk environment.
- The sensor lens should never be touched, as this may leave a grease deposit that could cause poor operation.

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Page 3 of 4 V1.01

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### WEEE Consumer Notice

This product is subject to Directive 2002/96/EC of the European Parliament and the Council of the European Union on Waste of Electrical and Electronic Equipment (WEEE) and, in jurisdictions adopting that Directive, is marked as being put on the market after August 13, 2005, and should not be disposed of as unsorted municipal/public waste. Please utilise your local WEEE collection facilities in the disposition and otherwise observe all applicable requirements. For further information on the requirements regarding the disposition of this product in other languages please visit [www.designersystems.co.uk](http://www.designersystems.co.uk)



### RoHS Compliance

This product complies with Directive 2002/95/EC of the European Parliament and the Council of the European Union on the Restriction of Hazardous Substances (RoHS) which prohibits the use of various heavy metals (lead, mercury, cadmium, and hexavalent chromium), polybrominated biphenyls (PBB) and polybrominated diphenyl ethers (PBDE).


#### Declaration of Conformity

**Apparatus name / model number** DVD-DSPRX

**Conformity via** Generic Standard EN50081-1  
Generic Standard EN50082-1

**Conformity criteria** For use only within commercial, residential and light industrial applications

**We certify that the apparatus identified above conforms to the requirements of Council Directive 89/336/EEC & 73/23/EEC**

**Signed.**  **Date** 1/10/99

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**Manufacturer** Designer Systems, 15 Andrew Place, Truro, Cornwall TR1 3HZ, United Kingdom

**Description of apparatus** DVD control device

Having made this declaration the CE mark is affixed to this product, its packaging, manual or warranty.

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Page 4 of 4 V1.01

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