

# Infrared proximity detector for the Pioneer® V7X00/V8000 player

## Technical Data

### DVD-PSPRX detector

Firmware revision 1.00

### Features

- **Passive Infrared Motion triggering of DVD,CD-DA, VCD presentations**
- **Ultra low power consumption from the connected player**
- **Simple connection to Pioneer® V7X00/V8000 player serial (RS232C) 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-PSPRX interface connects to a Pioneer® V7X00/V8000 player and controls the playback of the inserted media.

The DVD-PSPRX 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-PSPRX from issuing another PLAY within a 10second time frame. The Infrared sensor has an in-built fensel lens which gives the DVD-P5-SPRX a range of up to 5metres in front of the device, preventing unnecessary media playback.



### Applications

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

DVD PERIPHERALS

### Selection Guide

Description	Part Number
Standalone DVD Infrared proximity detector	DVD-PSPRX
Individually boxed product	Order Option #01 with the above referenced part number. The product shipped in a box, including this DVD-PSPRX data sheet.

**Note:** All products are subject to availability; normal despatch is 10 working days following order date.

## Power requirements

The DVD-PSPRX is operated from the RS232 DTR control line of the DVD player. The maximum current draw is 7mA.

## Proximity sensing element

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

The sensing element has a useful range of approx. 5 metres mainly due to the in-built fensel lens.

## DVD interface

The DVD connection is a standard DB15 male as specified within the Pioneer V7X00/V8000 player specification.

Serial communication protocol is 4800 Baud, 1 Start bit, 8 Data bits, 1 Stop bit, No parity. All I/O is RS232 and TTL compatible

## DVD RS232 protocol

The DVD-PSPRX communicates with the player using the Pioneer RS232 protocol \*\*. This protocol takes the form of ASCII command strings of format:

?R<cr>

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

## DVD-SPRX function

After the V7X00/V8000 player has been switched on, the DVD-PSPRX waits for 30 seconds before activating itself ready for detection.

As soon as a passer-by moves within range of the DVD-PSPRX 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-PSPRX interface

Function	DB15 Male
GND	1
TXD	2
RXD	3
DTR	4
All other connection are N/C	

## DVD Media Authoring Notes

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

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

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

Parameter	Minimum	Maximum	Units	Notes
Supply Voltage (DTR)	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

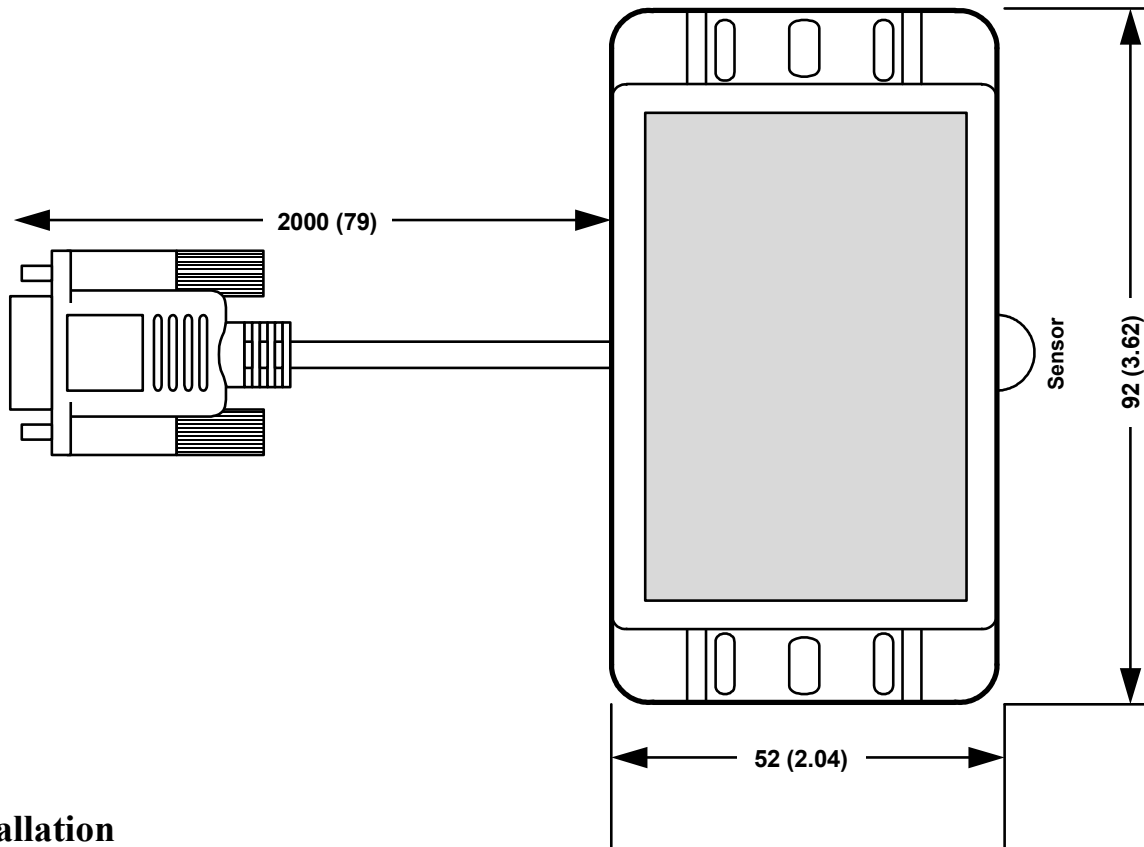
Parameter	Minimum	Maximum	Units
Supply Voltage (DTR)	-0.5	+10	V

## Environmental

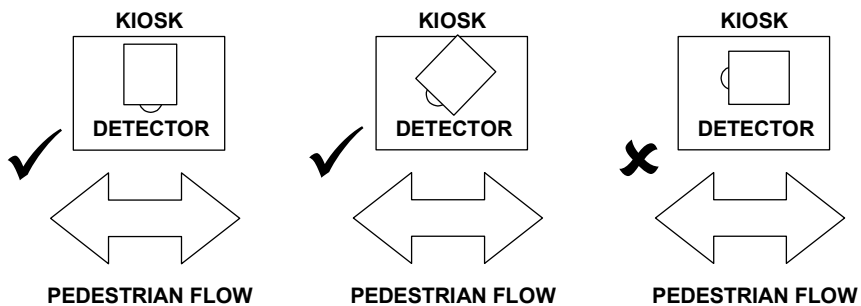
Parameter	Minimum	Maximum	Units
Operating Temperature	0	70	°C
Storage Temperature	-10	80	°C
Humidity	0	80	%
Dimensions	See below		
Weight	100g		
Immunity & emissions	EMC compliance to 2004/108/EC		

\*\* See Pioneer V7X00/V8000 technical specification for more information.

## Mechanical Specifications – Units millimetres (inches)



## Installation



1. Sighting of the DVD-PSPRX 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 RS232C connection on the Pioneer V7X00/V8000 player.
3. Switch ON the player.
4. After 30 seconds, sensor stability time, the DVD-PSPRX 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.



### 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 <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-PSPRX

**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 2004/108/EC & 2006/95/EC**

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

Copyright © 1999-2007 by DESIGNER SYSTEMS Co.

**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.

The information appearing in this Operation Note is believed to be accurate at the time of publication. However, Designer Systems assumes no responsibility arising from the use of the information supplied. The applications mentioned herein are used solely for the purpose of illustration and Designer Systems makes no warranty or representation that such applications will be suitable without further modification, nor recommends the use of its products for application that may present a risk to human life due to malfunction or otherwise. Designer Systems reserves the right to alter its products without prior notification. For the most up-to-date information, please visit our web site at <http://www.designersystems.co.uk>