

# Wired Controller for the Denon® V300/V310 player

## Technical Data

### Features

- **Designed for Point-of-Sale, training / educational, museums and presentation applications**
- **Ultra low power consumption**
- **Simple connection to Denon® V300/V310 player serial port**
- **Assign 32 sets of functions to the seven buttons with internal DIP switch**
- **Plug and Play**
- **Water resistant polycarbonate membrane with under surface tactile buttons (buttons and membrane replaceable)**
- **Upgradeable with Passive Infrared sensor to allow pedestrian activation of presentation**

### Description

The DVD-DWRC unit permits the control of DVD, CD Audio or VCD media on a Denon® V300/V310 player.

Designed for Point-of-Sale, training / educational, museums and presentation applications the unit provides simple control of the media with seven (7) configurable buttons. These buttons may be configured with an internal switch to one of thirty two (32) button sets to fit the desired application and provide authoring flexibility.

The housing is ergonomically designed to fit comfortably in the hand or be surface mounted using the integrated key-hole slots in the base. The polycarbonate button membrane is water resistant (ie. inadvertent coffee, tea or soft drink spills) and operates the under surface buttons which are fully replaceable.

The DVD-DWRC also features an internal socket for a user upgradeable Passive Infrared sensor. Already fitted on DVD-DWRC+.

### DVD-DWRC(+) controller

Firmware revision 1.00



This sensor allows the inserted media to be activated, played, by a passer-by (pedestrian) when used within a kiosk environment where, for example, a DVD player system is used to provide Point-of-Sale (POS) advertising.

### Applications

The DVD-DWRC is designed for Point-of-Sale, training / educational, museums and presentation applications.

Custom designed labels and firmware are available for this product, please contact your distributor\*.

DVD ACCESSORIES

### Selection Guide

Description	Part Number
Wired controller	DVD-DWRC
Passive Infrared sensor	DVD-WPIR
Wired controller with PIR fitted	DVD-DWRC+
Individually boxed Product	Order Option #01 with the above referenced part number. The product is shipped in a box, including this DVD-DWRC data sheet.

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

## DVD-DWRC interface

### Power requirements

The DVD-DWRC is powered from the serial port RTS line of the connected DVD player. The maximum current draw is 6mA.

### DVD-DWRC interface

The DVD-DWRC 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.

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

### DVD control protocol

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

[PC,RC,nn]r

Where nn is a remote control code for the assigned button.

### DVD-DWRC function

Upon player power-up the DVD-DWRC awaits a button press upon which the assigned RC code is sent to the player.

Custom button sets may be assigned using the internal DIP switch, see 'Installation notes' on the next page.

Custom firmware for special applications is available.

**Table 1.0 (Custom button settings)**

	Dipswitch 0=OFF 1=ON					Button 1	Button 2	Button 3	Button 4	Button 5	Button 6	Button 7	PIR (optional)
	5	4	3	2	1								
Standard	0	0	0	0	0	Left	Up	Right	Down	Go	Menu	Play	Play
Option 2	0	0	0	0	1	Left	Up	Right	Down	Go	Menu	Audio	Play
Option 3	0	0	0	1	0	Left	Up	Right	Down	Go	Menu	Subtitle	Play
Option 4	0	0	0	1	1	Left	Up	Right	Down	Go	Audio	Subtitle	Play
Option 5	0	0	1	0	0	Left	Up	Right	Down	Go	Menu	Return	Play
Option 6	0	0	1	0	1	Left	Up	Right	Down	Go	Skip-	Skip+	Play
Option 7	0	0	1	1	0	Left	Up	Right	Down	Go	Search-	Search+	Play
Option 8	0	0	1	1	1	Left	Up	Right	Down	Go	Menu	Pause	Play
Option 9	0	1	0	0	0	Left	Up	Right	Down	Go	Down	Go	Play
Option 10	0	1	0	0	1	Left	Up	Right	Down	Go	Audio	Angle	Play
Option 11	0	1	0	1	0	Left	Up	Right	Down	Go	Subtitle	Angle	Play
Option 12	0	1	0	1	1	Left	Up	Right	Down	Go	Angle	Pause	Play
Option 13	0	1	1	0	0	Left	Up	Right	Down	Play	No op.	No op.	Play
Option 14	0	1	1	0	1	Left	Up	Right	Down	Play	Menu	Angle	Play
Option 15	0	1	1	1	0	Left	Up	Right	Down	Play	Skip-	Skip+	Play
Option 16	0	1	1	1	1	2	1	4	5	3	Menu	Play	Play
Option 17	1	0	0	0	0	Skip-	1	Skip+	3	2	Menu	Play	Play
Option 18	1	0	0	0	1	1	Skip+	3	Skip-	2	Menu	Play	Play
Option 19	1	0	0	1	0	2	1	3	4	No op.	Menu	Play	Play
Option 20	1	0	0	1	1	1	2	4	3	Play	Menu	Pause	Play
Option 21	1	0	1	0	0	2	1	3	4	Play	Menu	Pause	Play
Option 22	1	0	1	0	1	1	2	3	4	Go	Menu	Pause	Play
Option 23	1	0	1	1	0	4	1	2	3	Go	Menu	Pause	Play
Option 24	1	0	1	1	1	Left	Up	Right	Down	Go	Menu	No op.	Play
Option 25	1	1	0	0	0	2	2	4	5	3	Skip-	Skip+	Play
Option 26	1	1	0	0	1	Search-	Up	Search+	Down	Go	Menu	Pause	Play
Option 27	1	1	0	1	0	Search-	Up	Search+	Down	Pause	Menu	Go	Play
Option 28	1	1	0	1	1	Skip-	Up	Skip+	Down	Pause	Menu	Go	Play
Option 29	1	1	1	0	0	Search-	1	Search+	3	2	Menu	Pause	Play
Option 30	1	1	1	0	1	Skip-	Angle	Skip+	Down	Go	Menu	Pause	Play
Option 31	1	1	1	1	0	1	2	4	3	Pause	Menu	Return	Play
Option 32	1	1	1	1	1	Skip-	Up	Skip+	Down	Go	Menu	Return	Play

## Installation

1. The controller may be hand-held or surface mounted to a panel. Four M3 x 20mm stainless steel screws and lock washers are supplied to replace the screws in the base of the DVD-DWRC when mounting to a panel of 1 to 5mm thick.
2. If button function other than the standard UP, DOWN, LEFT, RIGHT, GO, MENU & PLAY is required then remove the four (4) screws in the base of the controller, lift off the top cover and set the DIP switch (SW8 Option Select) to the option setting in Table 1.0 on the previous page.
3. Ensuring that power to the Denon V300/V310 player is switched OFF insert the lead from the controller into the serial connector on the rear of the Denon V300/V310 player and secure with the integral screw-locks.
4. Switch ON the Denon V300/V310 player and test by pressing each of the buttons.

## PIR installation (Not required on the DVD-DWRC+)

1. The DVD-DWRC controller may be optionally fitted with a Passive Infrared (PIR) motion sensor to allow the DVD presentation to be controlled when a passer-by (pedestrian) is detected.
2. To install the sensor remove the four (4) screws in the base of the controller, lift off the top cover, locate the three (3) way socket marked 'SN1' and without touching the pins of the sensor, which could cause static damage, insert it into the socket.
3. With a sharp modelling knife remove the label covering the 10mm hole that mates with the sensor (TIP: Make a cross-cut in the label from the inside of the top cover and then from the front remove the label material by following the hole around using the knife tip in a punching motion).
4. Replace the front cover of the controller, with PIR tip protruding through hole, and re-secure with the four (4) screws.

When the Denon V300/V310 is now powered up, and after 30 seconds of stability time, the PIR will activate the button command setup on the Option Select switch (see Table 1.0) and then wait 10 seconds before re-enabling itself. If a button on the controller is pressed at any time the 10 second timeout is re-started to prevent PIR activity from repeatedly sending button presses.

## Electrical Characteristics ( $T_A = 25^\circ\text{C}$ Typical)

Parameter	Minimum	Maximum	Units	Notes
Supply Voltage (RTS)	4.5	9	V	
Supply Current	-	6	mA	
RXData output high level	GND	0.8	V	
RXData output low level	2.4	VCC	V	

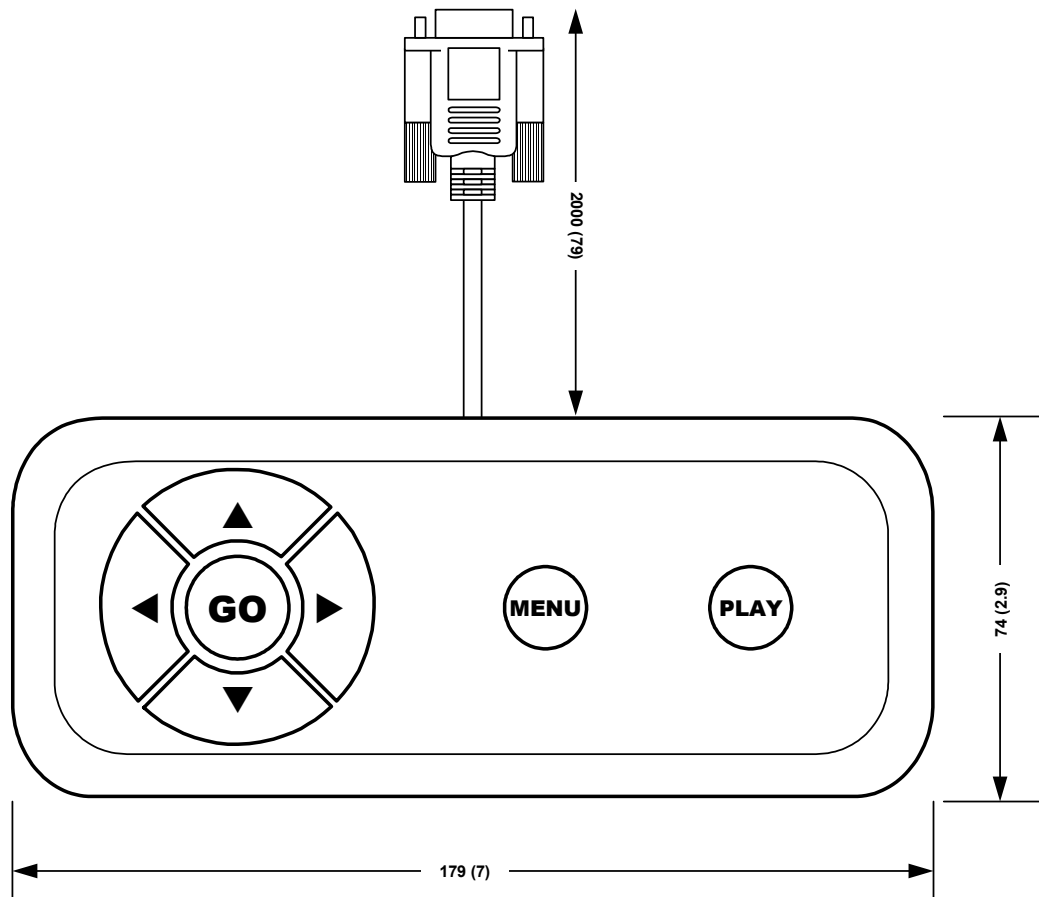
## Absolute Maximum Ratings

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

## Environmental

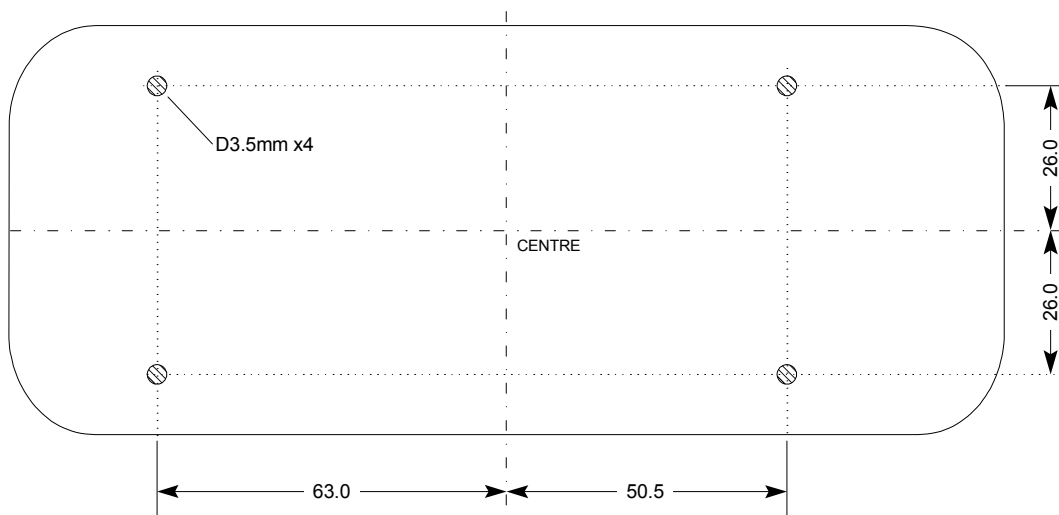
Parameter	Minimum	Maximum	Units
Operating Temperature	0	70	$^\circ\text{C}$
Storage Temperature	-10	80	$^\circ\text{C}$
Humidity	0	80	%
Dimensions	See below		
Weight	200g		
Immunity & emissions	EMC compliance to 89/336/EEC		

## Mechanical Specifications – Units millimetres (inches)



### Mounting hole detail

Four (4) M3x20mm screws are provided





### 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-DWRC

**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

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**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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