

Nine (9) Channel Switch Interfaces for the Marantz® DV4001P player

Technical Data

Features

- Ultra low power consumption from the connected player
- Simple connection to Marantz® DV4001P player serial (RS232) port
- Two versions allow easy integration into most applications
- Auto power-up & play control for mains time-switch or staff switch-on applications
- Screw terminals for quick connection to Normally Open (NO) switch contacts
- Anti-bounce on all switch inputs
- Enclosure lugs provide simple secure fixing

Description

The DVD-M9 interfaces permit nine Normally Open (NO) momentary action switches the control of a Marantz® DV4001P player.

The DVD-M9 range issue special Marantz serial commands that control the action performed by the connected player.

The DVD-M9BT issues number buttons 01-09 allowing immediate selection of menu buttons and the DVD-M9RC issues cursor UP/DOWN/LEFT/RIGHT/ENTER and number buttons 1-4 for DVD menu navigation.

Both products also feature automatic power-up and play operation for applications where player mains power is controlled by time-switch or by staff. Five (5) seconds after mains power application the player automatically switches on and plays the inserted media.

DVD-M9BT DVD-M9RC



Applications

The DVD-M9 range is primarily for use within a kiosk environment where input is required from the kiosk control buttons or from an Anti-Vandal button plate such as the DVD-nBUT. The devices are especially designed to connect to any type of momentary action switch and can therefore be used to control the DVD player in a number of diverse applications.

Custom designed firmware is available for this product, please contact your distributor.

DVD PERIPHERALS

Selection Guide

Description	Part Number
Menu direct select switch interface	DVD-M9BT
Menu navigation switch interface	DVD-M9RC
Anti-Vandal buttons on metal plate	DVD-nBUT (n = number of buttons required 1-8)
Individually boxed product	Order Option #01 with the above referenced part number. The product is shipped in a box , including this DVD-M9 data sheet.

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

Power requirements

The DVD-M9 range are powered from the serial port RXD line of the connected DVD player. The maximum current draw is 6mA.

Switch Inputs

The DVD-M9 switch interface consists of a series of nine double terminal blocks to which any Normally Open (NO) momentary switch can be connected.

Contacts may be wired up to 50 metres away from the DVD-M9 without degrading the performance of the device.

DVD-M9 interface

The DVD-M9 interface connection is a standard DB9 female as specified within the DV4001P player specification. All I/O is RS232 and TTL compatible.

DVD control protocol

The DVD-M9 communicates with the player using the Marantz player serial control protocol **.

See button function tables at the end of the document for individual product output.

DVD-M9 interface

Function	DB9 Female
RXD	3
TXD	2
Ground	5
All other connection are N/C	

Automatic power-up

The DVD-M9 range features automatic power-up control for applications that are controlled by a mains time-switch or a staff member.

Under normal operation the player, when mains power is applied, will enter standby mode until the power button is pressed. With the DVD-M9 connected the power button is automatically activated five (5) seconds after mains power application and the inserted DVD starts playing. This function allows all in-store/gallery/exhibition players to start without staff intervention.

Electrical Characteristics (T_A = 25°C Typical)

Parameter	Minimum	Maximum	Units	Notes
Supply Voltage (RXD)	-4.5	-5.5	V	
Supply Current	-	6	mA	
Switch resistance	-	100	Ω	1
Switch de-bounce time	-	50	mS	
Auto power-up time	-	5	S	
TXData high level	GND	0.8	V	
TXData low level	2.4	VCC	V	
Terminal wire thickness	0.5	1.3	mm ²	

Absolute Maximum Ratings

Parameter	Minimum	Maximum	Units
Supply Voltage (RXD)	+0.5	-6.0	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		

Notes:

1. Value given must not be exceeded to ensure reliable operation.

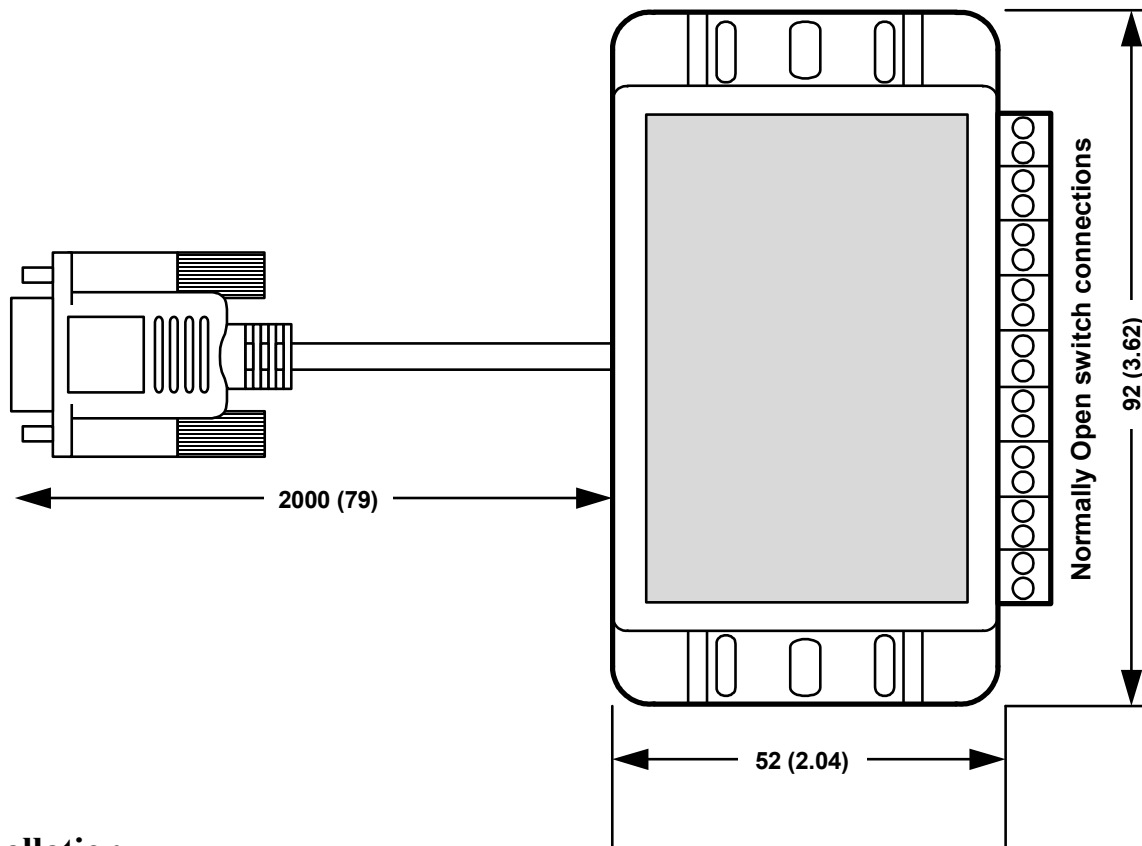
** See Marantz serial communications technical specification for more information.

DVD Media Authoring Notes

When authoring DVD media for use with the DVD-M9BT product the following requirements should be adhered to:

- a) The disc should be laid out with a single root menu with buttons 1-n activating corresponding chapters.

Mechanical Specifications – Units millimetres (inches)



Installation

1. Ensure power to the Marantz DV4001P player is switched OFF.
2. Insert the lead on the DVD-M9 into the RS232 connector on the rear of the player and secure with the integral screw-locks.
3. Connect a Normally Open (NO) momentary action button across each of the inputs you wish to use (Note: each double terminal block is one input) using a pair of wires or multi-conductor cable to a maximum length of 50 metres using a small flat blade screwdriver.
(NB. For a ready-made aluminium button plate with sealed anti-vandal buttons see the Designer Systems DVD-nBUT solution)
4. Site the DVD-M9 in a location that will not put undue strain on the terminals.
5. Switch ON the Marantz DV4001P player at the mains and wait five seconds for the player to power-up and play.
6. Test the installation by pressing each of the wired in buttons cross referencing with the table below. Should the installation not function, switch OFF immediately and check all connections.

Switch input No.	DVD-M9BT Function
1	Button 01
2	Button 02
3	Button 03
4	Button 04
5	Button 05
6	Button 06
7	Button 07
8	Button 08
9	Button 09

Switch input No.	DVD-M9RC Function
1	Button ENTER
2	Button arrow UP
3	Button arrow DOWN
4	Button arrow LEFT
5	Button arrow RIGHT
6	Button 1
7	Button 2
8	Button 3
9	Button 4

Notes:

- The DVD-M9 must NEVER be connected to voltage bearing circuits; damage to the unit and the Marantz DV4001P player will result and will invalidate the Warranty.



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-M9

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 13/7/07

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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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