

# Microtouch<sup>®</sup> (3M<sup>®</sup>) touch controller for the Denon<sup>®</sup> DN-V755

## Technical Data

### Features

- Provides Microtouch<sup>®</sup> (3M<sup>®</sup>) touchscreen control for the Denon DN-V755 network audio video player
- Utilises DN-V755 trigger input lines to provide six interactive on-screen control zones
- Built in calibration system allows image size setup in three simple steps
- Supports extra large touchscreens, 30" plus
- Ultra low power consumption
- Simple connection between Microtouch touchscreen controller and DN-V755 player
- Small unobtrusive design

### Description

The DNVP-MTC controller connects between any Microtouch<sup>®</sup> (3M<sup>®</sup>) serial touchscreen controller and a Denon DN-V755 network audio video player to provide interactive touch control.

Once installed the controller waits for screen touches from six zones on the screen and translates these into trigger line inputs which control an interactive playlist stored on the DN-V755 player.

Touchscreen calibration is performed simply by activating a button on the bottom of the controller with each step being confirmed by the unit flashing an L.E.D indicator. Should calibration fail at any step the unit will indicate failure and the last calibration setting will be restored.

### DNVP-MTC

Firmware revision 1.00



### Applications

The DNVP-MTC allows the DN-V755 to be used for Point-of-Sale, training / educational, museums and presentation applications where a Microtouch<sup>®</sup> (3M<sup>®</sup>) touchscreen can be used.

### Selection Guide

Description	Part Number
Microtouch <sup>®</sup> (3M <sup>®</sup> ) touch controller	DNVP-MTC

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## Power requirements

The DNVP-MTC is powered from the parallel port +5V line of the connected DN-V755 player. The maximum current draw is 10mA.

## DNVP-MTC interface

The DNVP-MTC interface connection is a standard DB15 male as specified within the V755 player specification.

All IO is TTL/CMOS compatible.

## DNVP-MTC interface

Function	DB15 Male
Trigger 1	1
Trigger 2	2
Trigger 3	3
Trigger 4	4
Trigger 5	5
Trigger 6	6
Ground	9
AUX 1	13
+5V	15
All other connection are N/C	

## Touchscreen interface

The touchscreen connection is a standard DB9 male RS232 port. Serial communication protocol is 9600 Baud, 1 Start bit, 8 Data bits, 1 Stop bit, No parity. All I/O is RS232 compatible.

## Touchscreen interface

Function	DB9M pin
RXD	2
TXD	3
RTS	7
CTS	8
Ground	5
All other connections are NC	

## Touchscreen compatibility

The DNVP-MTC is fully compatible with any RS232 (serial) Microtouch® (3M®) touchscreen controller supporting 'Format Table' packets, such as the Microtouch® MT410®, 3M® SC400® controller. **NOTE: The DNVP-MTC does not interface directly with the touchscreen itself!**

## Calibration

There are three simple steps to calibrate the touchscreen to image size:

1. Ensure there is a stable image on the screen and press the yellow button located on the bottom of the DNVP-MTC. The LED indicator, located under the top label, should flash twice.

*If no flashing is seen double check that the touchscreen controller and player are powered and that the touchscreen is connected to the controller.*

2. Firmly touch the touchscreen within the BOTTOM LEFT hand corner of the image displayed. The LED indicator should flash twice.

*If the LED indicator flashes more than twice then the touch on the screen was insufficient and calibration has been aborted.*

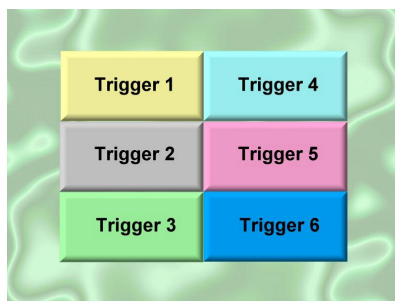
3. Firmly touch the touchscreen within the TOP RIGHT hand corner of the image displayed. The LED indicator should flash twice.

*If the LED indicator flashes more than twice then the touch on the screen was insufficient and calibration has been aborted.*

The touchscreen is now calibrated.

## Operation

As touches are made within the trigger zones, see sample master playlist graphic below, the relevant triggers 1-6 are activated on the DN-V755 player. The LED indicator will flash on every touch down.



## Playlist production

When producing the playlists to be used with the DNVP-MTC the following procedure should be used:

- Under the 'PLAYLISTS AND MEDIA' tab select the 'Create New Playlist' option.
- Select the 'Simple Playlist' button.
- Under 'Media browser' on the left of the page ensure the 'All' icon is selected so that all media can be seen.
- Select the video/picture you wish to loop until the screen is touched, see sample graphic below.
- Ensure the 'Loop' checkbox is checked.
- Select the 'Save' option and enter a playlist name eg. 'DNVP-MTC master' and click 'OK'.
- Under the 'PLAYLISTS AND MEDIA' tab select the 'Create New Playlist' option.
- Select the 'Interactive Playlist' button.
- In the 'Trigger 1' window select the 'ADD media here' line.
- Select the video/audio/pictures you wish to be played back from the media browser when the trigger 1 zone of the screen is touched. *Note: The video/audio should have been placed in the 'Content' directory of the DN-V755 player.*
- Ensure the 'Loop' checkbox is NOT checked.
- Repeat 9 - 11 above for the remaining trigger inputs 2-6. *Note: Not all trigger inputs need to be used ie. 2 & 5 could just be used for two zone support.*
- Select the master playlist, ie. 'DNVP-MTC master', to be returned to after trigger playlist completion at the bottom of the screen.
- Select the 'Save' option and enter a playlist name eg. 'DNVP-MTC content' and click 'OK'.

See below for DN-V755 sample browser windows.

To download sample playlists for this product please go to: [www.designersystems.co.uk](http://www.designersystems.co.uk) and select 'Network Video Player Products' 'NVP touchscreen controllers' 'DNVP-MTC'.

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

Parameter	Minimum	Maximum	Units	Notes
Supply Voltage (VCC)	4.5	5.5	V	
Supply Current	-	10	mA	
Trigger 1-6 activation level	GND	0.8	V	1
AUX 1 reporting level	GND	0.8	V	1

## Absolute Maximum Ratings

Parameter	Minimum	Maximum	Units
Supply Voltage	-0.5	+6	V

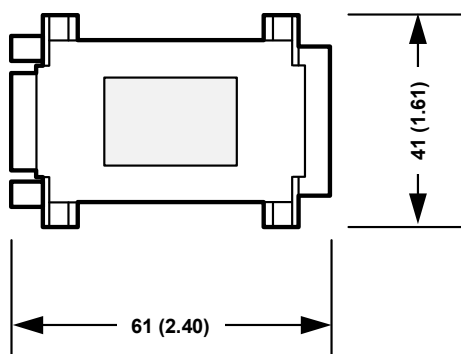
## Environmental

Parameter	Minimum	Maximum	Units
Operating Temperature	0	70	°C
Storage Temperature	-10	80	°C
Humidity	0	80	%
Dimensions	See below		
Weight	25g		
Immunity & emissions	EMC compliance to 89/336/EEC		

### Notes:

1. Value given is for each IO.

## Mechanical Specifications – Units millimetres (inches)



## Installation

1. Ensure that the interactive and master playlists have been setup and activated using the playlist selector under the 'NOW PLAYING' tab on the DN-V755 browser window, see browser window below.
2. Turn off power to the DN-V755 player.
3. Insert the DNVP-MTC into the DN-V755 player parallel port and tighten the screw-locks.
4. Insert the Microtouch touchscreen controller cable into the DNVP-MTC and tighten the screw-locks.
5. Power-up the player and wait for the master playlist to start and test by pressing the individual zones on the touchscreen.

### Notes:

- Power for the touchscreen controller must be supplied directly to the controller board or via the 2.1mm power connection on the serial connection.



### 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)

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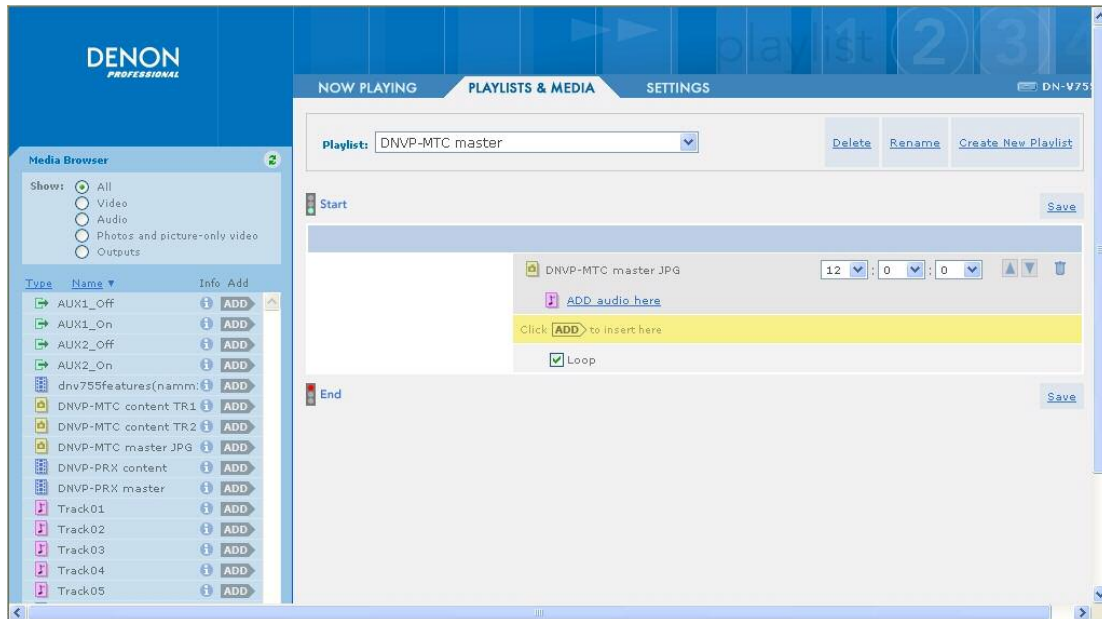
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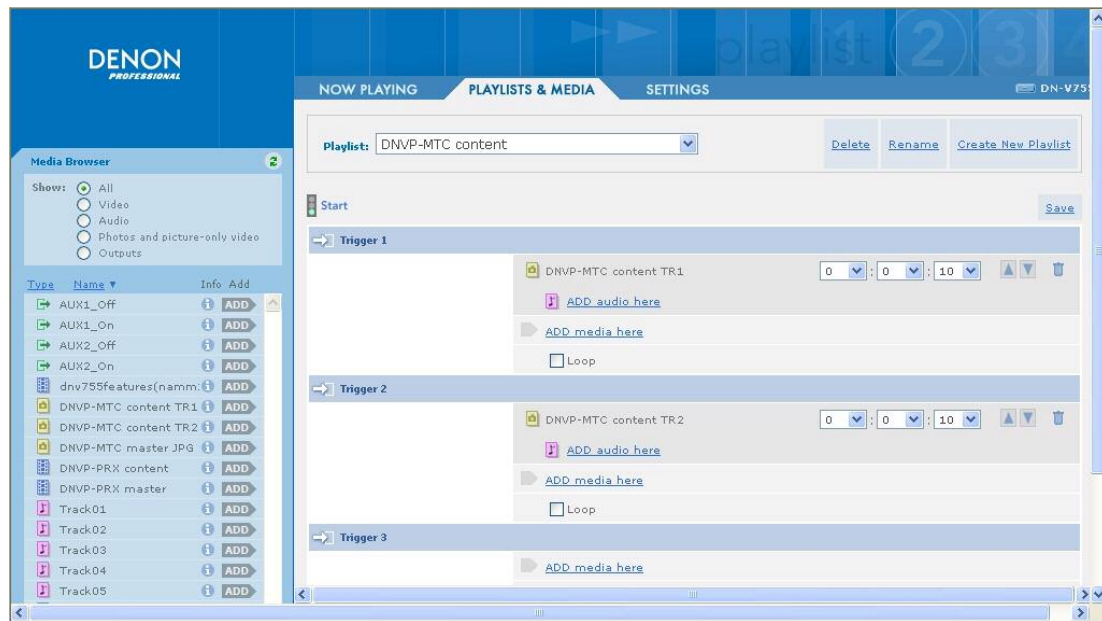
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## Sample browser windows

Showing simple master playlist including zone selection picture, long play time and loop selection.



Showing interactive content playlist for triggers 1 & 2 and content pictures.



### Declaration of Conformity

**Apparatus name / model number** DNVP-MTC

**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** 4/5/06

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**Manufacturer** Designer Systems, 15 Andrew Place, Truro, Cornwall  
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**Description of apparatus** Network video player control device

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

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