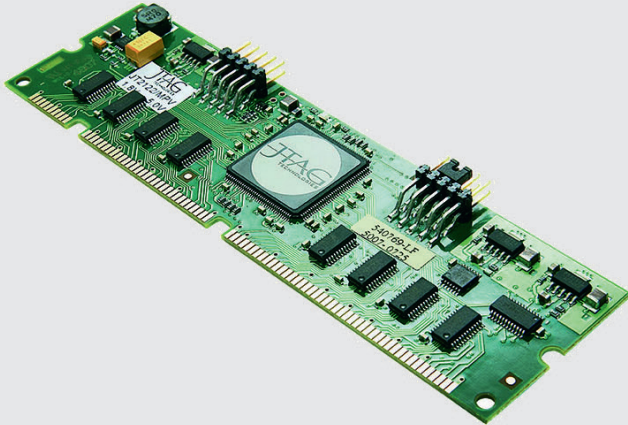


# JT 2122/MPV Digital I/O Scan (DIOS) module

With up to 128 or 133 'boundary-scannable' I/Os in a standard DIMM-168 format



- ✓ **40 MHz TCK max**
- ✓ **Daisy chaining possible**
- ✓ **128 digital I/O Channels**
- ✓ **Built-in - 168-pin DIMM sockets**

The JT 2122/MPV is a JTAG/boundary-scan (IEEE Std.1149.1) controlled Digital I/O Scan (DIOS) module with up to 128 or 133 multi-voltage 'boundary-scannable' I/Os in a standard DIMM-168 format. It has been developed for use in a number of different manufacturing test scenarios as follows:

For designs which feature DIMM-168 format DDR memory socket the JT 2122/MPV can be directly mounted in the socket to provide full pin coverage of the signal pins of the connector. In this scenario the unit is controlled and accessed via the ten pin TAP-IN header on the top edge of the module. A TAP OUT connector alongside simplifies daisy-chaining of the DIMM DIOS if required.

When used as a generic I/O module to improve UUT test coverage the JTAG TAP control signals can be accessed either via the 'fingers' of the 168 pin module connector or the TAP-IN header on the top edge of the module. In most cases when the module is used in a customised interface or the off-the shelf JT 2702/DDC [see box] 'break out' board the fingers are used for best integrity and convenience and the TAP signals tracked to an accessible header. Using the fingers to access the TAP means that five dual purpose pins will be directed to TAP signals meaning the I/O count is reduced to 128 channels.

The I/Os of the JT 2122/MPV are grouped in eight segments of 16 pins, each of which can be individually bypassed to improve [test pattern] throughput when fewer channels are required. The JT 2122/MPV operates using a self-adapting supply voltage between 1.8 and 5.0 volts. The I/O voltage is between 1.8 and 3.3 volts and is determined by the applied supply voltage at the edge connector. A maximum sustained TCK frequency of up to 40 MHz ensures rapid testing of connectors and test points on the UUT.

## JT 2702/DDC

The JT 2702/DDC 'Dual DIMM Carrier' can accommodate two JT 2122/MPVs that are automatically daisy-chained into a single chain. This assembly then provides 256 IO channels in a minimal footprint, ideal for mounting in test fixtures. Since these units can also be serially linked, a channel count in excess of 1000 I/Os is easily achieved at a relatively low cost. When using a JT 2702/DDC the DIOS I/O channels of the DIMMs are routed to eight standard 40-way 0.1" IDC connectors. The JT 2122/MPV modules operate at 3.3V voltage levels with inputs 5V tolerant.

Electrical			
TAP Signals		I/O channels	
TCK max	40 MHz	Number of channels	128/133 (8x16 / 3x16 + 5x17)
Voltage levels	3.3 V (5 V tolerant @ 3.3 V)	Voltage levels	1.8 V - 3.3 V (5 V tolerant @ 3.3 V)
Mechanical			
TAP Connectors (TAP_IN, TAP_OUT)	Edge connector, or 2 x 10-pin header	I/O Connectors	168-pin DIMM edge connector

## Global Representation

Want to know more about our solutions and products?  
Please contact us at our head office or visit our contact page.

### JTAG Technologies (Headquarters)

Boschdijk 50, 5612 AN Eindhoven, The Netherlands  
+31 (0)40 295 0870  
[info@jtag.com](mailto:info@jtag.com)  
[www.jtag.com](http://www.jtag.com)

Use the QR code for an overview of our global  
offices and local representatives:

[www.jtag.com/contact-us](http://www.jtag.com/contact-us)



We *are* boundary-scan.®

