ultraDMX Micro

Interface

USER MANUAL

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1. INTRODUCTION

The DMXking.com ultraDMX Micro product is a low cost, reliable and robust single universe bi-directional DMX512 interface with USB connection to a computer. An onboard Atmel microcontroller ensures complete timing accuracy and no flickering effects no matter what your computer is doing. Device communication using FTDI virtual COM port (VCP) or direct (D2XX) drivers allows use of any mainstream OS.

MAIN FEATURES

- Supported operating systems: Windows 98, ME, 2000, XP, Vista, 7, Server 2003, Server 2008.
- Supported operating systems: Linux, Mac OS X, OS 9, OS 8.
- DMX512 Transmitter or Receiver.
- Tough metal enclosure.
- No external power supply required.
- Internal double buffered DMX512 streams resulting in zero lost frames.
- Fully compatible with ***ALL*** software suitable for ENTTEC USB Pro.
- Configuration utility (Windows platform only .NET 3.5 – contact support for other OS).
- Firmware update utility (Windows platform only .NET 3.5 – contact support for other OS).

2. EXTERIOR VIEW

FRONT VIEW

The main housing contains both microprocessor electronics and a 3pin Female XLR connector for either DMX512 *input* or *output* function. A USB cable is hard wired with strain relief to ensure many years of trouble free operation.
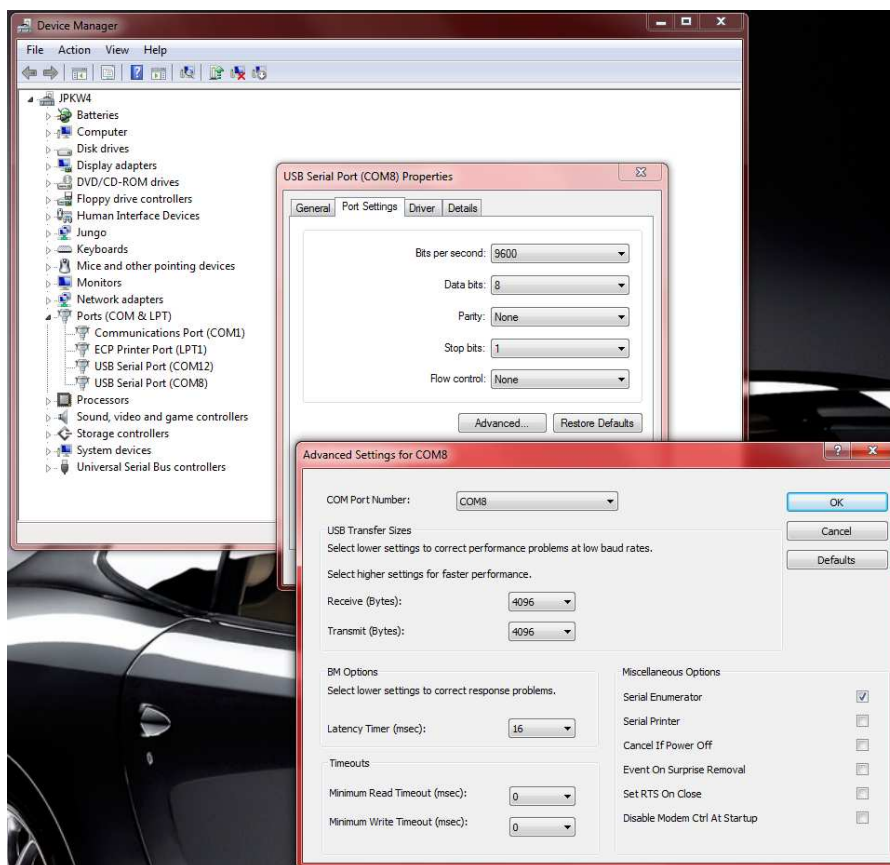
STATUS LED TABLE

Internal LED	Indication
Slow FLASH	Receive mode, no DMX512 stream detected. Power ON indication.
FLASH	Receive mode, DMX512 stream detected. Flash rate = DMX update rate.
Fast FLASH	Transmit mode, DMX512 stream received from computer. Flash rate = DMX rate.
ON	Firmware update mode initiated.
Very Fast FLASH	Firmware CRC check failed.

3. INSTALLING THE FTDI DRIVER

To maximize compatibility with existing software an FTDI (www.ftdichip.com) FT245RQ device provides USB 2.0 Full Speed interfacing for the ultraDMX Micro unit. Drivers are available directly from FTDI and in most cases the VCP (Virtual COM Port) driver should be used although both D2XX and VCP are automatically installed together on Windows OS. The latest Windows driver is usually available from DMXking.com however we recommend checking the FTDI site for updates.

Please refer to the installation guides at http://www.ftdichip.com/Documents/InstallGuides.htm and note the process involved installs 2 devices, a USB serial device followed by USB virtual COM port. All required files are included in the driver installation file.
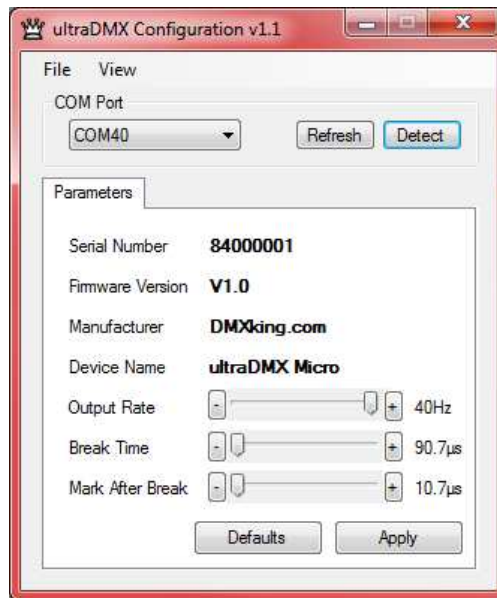
Latest WHQL Certified Windows version is 2.08.14 released on 12 April 2011.

On occasion you may wish to change the COM port number an ultraDMX Micro unit has been assigned by Windows. This can be done through the Device Manager applet by right clicking on the USB Serial Port of interest (unplug/re-plug the unit and observe if unsure which COM port) then select properties, Port Settings tab, Advanced button and finally choose the desired COM Port Number.
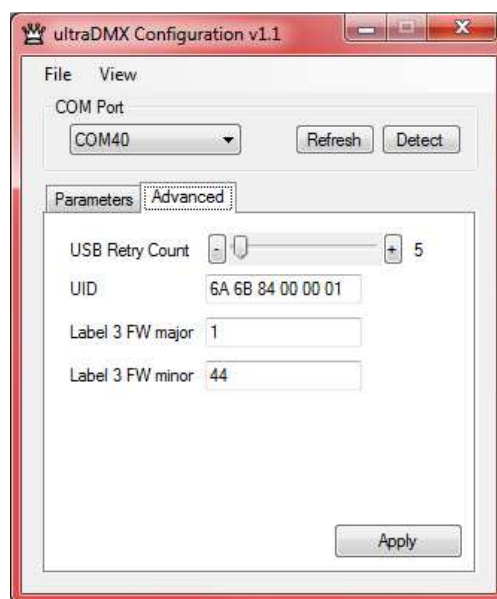
4. CONFIGURATION UTILITY

The ultraDMX Configuration utility provides access to DMX512 timing parameters and also contains a simple DMX display control providing output/transmit and input/receive operation testing without any additional software.
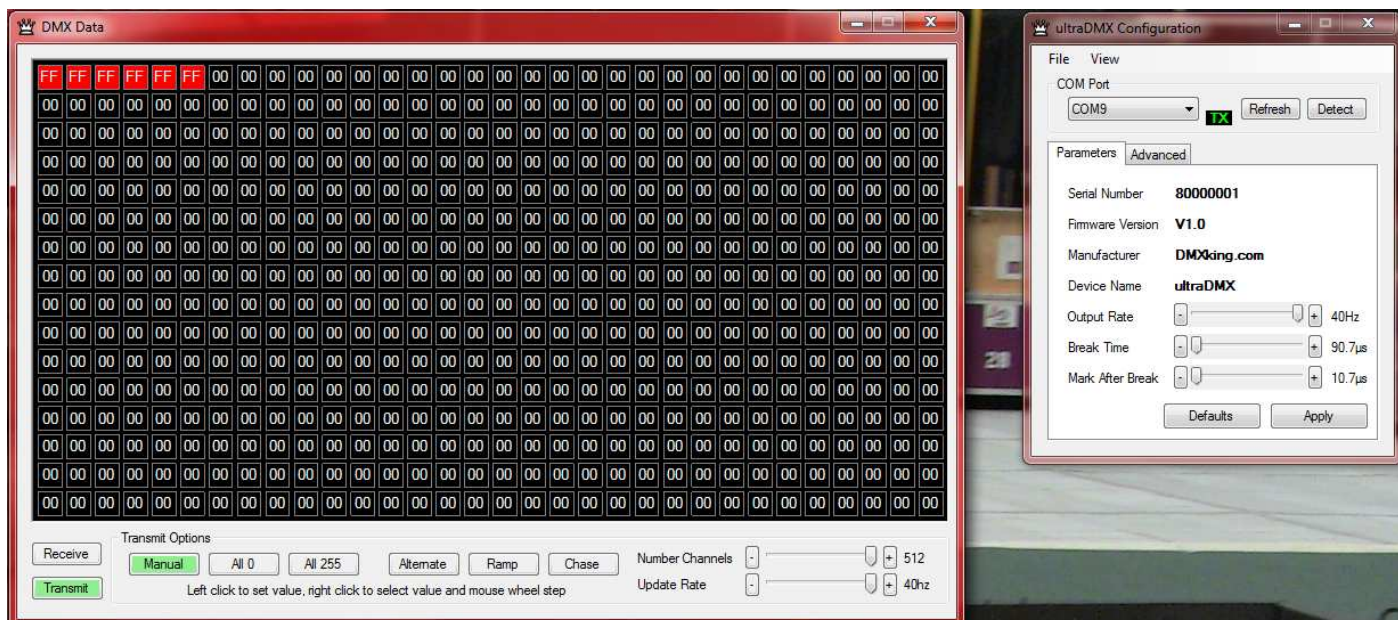
Select **View | Advanced** to enable the Advanced configuration tab if required. You can alter what the ultraDMX unit reports when queried with a Label 3 command. This can be useful when software detects RDM functionality based on the Label 3 'FW major' variable. Useful settings are FW major = 1, FW minor = 44 (ENTTEC USB Pro DMX firmware).

Device UID cannot be altered with this utility and USB Retry Count should be left at 5 unless advised by DMXking.com support.

Select **View | DMX Display** for the simple DMX512 test control. To generate a DMX512 output stream click Transmit then select one of the 6 Transmit Options. When in Manual mode you can click on any of the channels (represented by small boxes with hexadecimal channel level inside) to set ON level and double click to set zero. The mouse scroll wheel adjusts a channel by a defined increment. Channel number increases left to right, top to bottom and the roaming tool tip provides information about a specific channel.

Both the ON level and mouse wheel step can be set by right clicking anywhere within the black display area. Number of channels transmitted and the refresh rate can be adjusted using the applicable sliders adjacent to transmit options.

5. COMPATIBLE SOFTWARE

DMX512 is the most commonly used lighting control protocol with roots in simple theatrical light dimming. These days almost any lighting or stage effect equipment may be controlled using DMX512 (with explicit exclusion of anything involving potentially dangerous operations such as pyrotechnics) including moving lights, LED screens, fog machines and laser displays.

The DMXking.com ultraDMX Micro unit is an entry level device designed for use with computer based show control software. It replaces an entire lighting console allowing the user to perform sophisticated shows with little more than a laptop. There are many free and commercial software packages available and by selecting the Enttec USB Pro as your DMX device compatibility is guaranteed. Some software manufacturers have added support for DMXking.com interfaces so select this option where possible as additional features will be added in future firmware releases.

CONTROLLERS

LightFactory	http://www.lifact.com/
Lightjams - Live interactive control MIDI / TUIO / wii	http://www.lightjams.com/
Laser Show Designer QuickShow – Pangolin	http://www.pangolin.com/QS/
Venue Magic	http://www.venuemagic.com/
FreeStyler	http://www.freestylerdmx.be/
MagicQ – ChamSys (Windows, Mac, Linux)	http://www.chamsys.co.uk/download
LumiDMX	http://www.lumidmx.com/
LX Series (Mac OS-X)	http://lx.claudeheintzdesign.com/
Q Lighting Controller (Linux, Mac OS-X, Windows)	http://qlc.sourceforge.net/
LSC Clarity (Windows, Mac OS-X)	http://www.lsclighting.com/products/clarity-control-system/clarity-for-pcmac

ChromaKinetics StageConsole & tools	http://www.chromakinetics.com/DMX/
Visual Show Automation (VSA – Brookshire Software)	http://www.brookshiresoftware.com/
InGenius mLight – OSF Solutions	http://www.osfsolutions.com/
External for Max – Cycling 74 (Windows, OS-X)	http://www.nullmedium.de/dev/dmxusbpro/
ShowMagic	http://www.showmagic.com/
White Cat Lighting Board	http://www.le-chat-noir-numerique.fr/
TJShow	http://www.tjshow.com/
Chameleon Lighting Software (Mac)	http://www.maclightingsoftware.com/
LightsOn Framework (Mac OS-X)	http://www.usbdmx.com/LightsOn/
MADRIX – LED Lighting Control	http://www.madrix.com/
FireOne Flames	http://www.fireonemalta.com/fireone-flames/index.html
DMXControl	http://www.dmxcontrol.org/
vvvv – a multipurpose toolkit	http://vvvv.org/
StageSoft - CHROMA	http://www.stagesoft.com/chroma.html

MEDIA SERVERS / VJ

TroikaTronix - Isadora	http://troikatronix.com/isadora.html
ArKaos MediaMaster Pro, MediaMasterExpress, Media Server	http://www.arkaos.net/category/index.php?catid=2
Modul8 (Mac OS-X)	http://www.modul8.us/
Resolume Avenue 3	http://www.resolume.com/
MXWendler FXServer	http://www.mxwendler.net/Product.4.0.html

VISUALIZERS

Capture	http://www.capturesweden.com/
WYSIWYG	http://www.cast-soft.com/
ESP Vision	http://www.espvision.com/
SoftPlot	http://www.stageresearch.com/products/SoftPlot9/SoftPlot9.aspx
LD Assistant	http://www.ldassistant.com/

6. UPDATING FIRMWARE

A built in boot loader permits updating of the ultraDMX Micro firmware. Note only signed encrypted firmware files from DMXking.com can be successfully loaded.
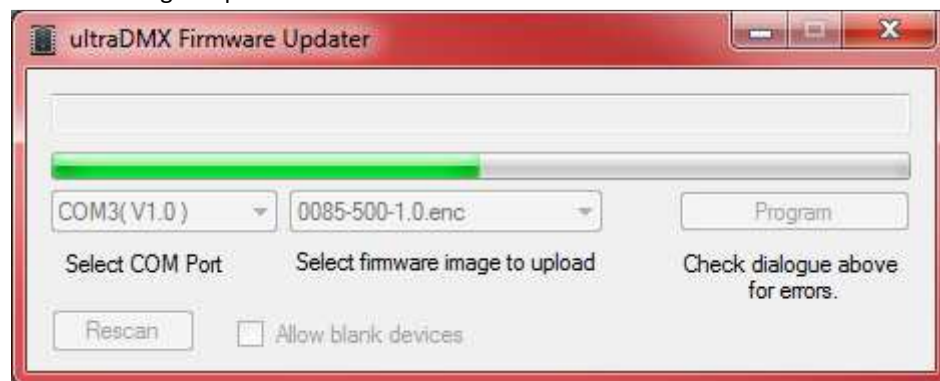
FIRMWARE UPDATER APPLICATION

The ultraDMX firmware update utility is freely available from the DMXking.com website. It is common to the entire ultraDMX range of products. Download, install and follow the instructions below:

1. Add any additional firmware files into the installation folder. Usually the latest version is automatically copied during installation.
2. Close any applications that may be using the ultraDMX Micro unit.
3. Ensure that your ultraDMX Micro unit is connected and the FTDI Virtual COM Port driver is installed correctly.
4. Start the ultraDMX Firmware Updater application. It will automatically detect all COM ports, current firmware versions and available firmware files that came with the update application.
5. Select the applicable COM port, you may have more than one ultraDMX family unit connected however only one at a time may be updated.

6. Select the desired firmware version.
7. Click the **Program** button and observe progress bar. Programming takes around 30 seconds, be sure not to disconnect the ultraDMX Micro unit during this process.

8. Check the message area for application success or failure information.

Future firmware releases for this product will be in the form 0084-500-VersionMajor.VersionMinor.enc

7. TECHNICAL SPECIFICATIONS

- Dimensions: 19x76mm (Diameter x Length)
- Weight: 75g
- DMX512 connector: 3 pin XLR Female.
- USB connector: USB-A plug 0.5m cable
- DMX512 Frame Rate and Break Timing: Adjustable

8. WARRANTY

DMXKING.COM HARDWARE LIMITED WARRANTY

What is covered

This warranty covers any defects in materials or workmanship with the exceptions stated below.

How long coverage lasts

This warranty runs for one year from the date of shipment from an authorized DMXking.com distributor.

What is not covered

Failure due to operator error or incorrect application of product. Opening the unit voids the warranty.

What DMXking.com will do

DMXking.com will repair or replace, at its sole discretion, the defective hardware. Return shipping costs from our service facility in New Zealand shall be free of charge.

How to obtain service

Contact DMXking.com directly by email sales@dmxking.com or telephone +64(9)3794836 (UTC+12)

9. DECLARATIONS (FCC & CE)

FEDERAL COMMUNICATIONS COMMISSION (FCC) DECLARATION OF CONFORMITY

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Responsible Party:      JPK Systems Limited
                        PO Box 493
                        Pukekohe 2340
                        New Zealand
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declares that the product ultraDMX Micro complies with Part 15 of the FCC rules.

Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

EEC DECLARATION

We

    JPK Systems Limited
    PO Box 493
    Pukekohe 2340
    New Zealand

declare under our sole responsibility that our product ultraDMX Micro conforms to the requirements of Council Directives 89/336/EEC and 73/23/EEC and therefore complies with the requirements of Council Directive 73/23/EEC, (The Low Voltage Directive) on the harmonisation of the laws of Member States relating to electrical equipment designed for use within certain voltage limits as amended by Article 13 of Council Directive 93/68/EEC

- EN 55103-1
- EN 50103-2
- EN 60065

Signed: Jason Kyle

Date: 30 December 2011

Position: Managing Director