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DMX USB PRO – User Manual

The industry standard in DMX USB control.

AUSTRALIAN DESIGNED + MADE

Content

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DMX USB PRO (70304)
Visit the ENTTEC website for the latest version.

Safety

Ensure you are familiarized with all key information within this guide and other relevant ENTTEC documentation before specifying, installing, or operating an ENTTEC device. If you are in any doubt about system safety, or you plan to install ENTTEC device in a configuration that is not covered within this guide, contact ENTTEC or your ENTTEC supplier for assistance.

ENTTEC's return to base warranty for this product does not cover damage caused by inappropriate use, application, or modification to the product.

Electrical safety

- This device must be operated in accordance with applicable national and local electrical and construction codes.
- This device can be damaged by excess voltage outside the operating range defined within this products datasheet.
- To reduce the risk of fire or electrical faults do not exceed the ratings and limitations defined in the product datasheet or this guide.
- Ensure there are no opportunities for cables to short circuit and cabling cannot be snagged or pulled.
- Do not over stretch cabling to the device's connectors and ensure that cabling does not exert force on the PCB.
- Isolate your installation from power immediately if accessories power cables or connectors is in any way damaged, defective, shows signs of overheating or are wet.
- Remove power from this product during cleaning or when it is not in use.
- Do not connect this device to a dimmer pack or mains electricity.
- Do not connect any of this device's V- or GND connectors to earth.
- Ensure your installation is protected from short circuits and overcurrent.
- Ensure all connections are complete and secure before providing power to the device.

System Planning and Specification

- To contribute to an optimal operating temperature, where possible keep this device out of direct sunlight.
- This unit has an IP20 rating and is not designed to be exposed to moisture or condensing humidity.
- Ensure this device is only operated within the specified ranges within the product datasheet.

Protection from Injury During Installation

- Always use suitable personal protective equipment when installing ENTTEC products.
- Once installation is completed, check that all hardware and components are securely in place and fastened to supporting structures if applicable.

Installation Safety Guidelines

- The device is convection cooled, ensure it receives sufficient airflow so heat can be dissipated.
- Do not cover the device with insulating material of any kind.
- Do not operate the device if the ambient temperature exceeds that stated in the device specifications.
- Do not cover or enclose the device without a suitable and proven method of dissipating heat.
- Do not install the device in damp or wet environments.
- Do not modify the device hardware in any way.
- Do not use the device if you see any signs of damage.
- Do not handle the device in an energized state.
- Do not crush the device during installation.
- Do not sign off a system without ensuring all cabling to the device and accessories has been appropriately restrained, secured and is not under tension.

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Basic Setup

- Install and configure the Driver software on your Windows™, Linux™ or Mac™ computer.
- Methods can vary between Operating systems, but the end result is the same: once installed correctly, the drivers will allow software to communicate with the DMX USB PRO.
- Connect the DMX USB PRO to your computer (**USB**) and the DMX512 control network (DMX cable).
- Load the control software of your choice onto the computer. You can choose between open-source (free) and professional (paid) programs. More information is available at enttec.com/dmxubspro
- Run the software and create your show.
- For troubleshooting and testing DMX USB PRO, install and run EMU.

LED Status

The DMX USB PRO comes with a green LED indicator located on the left of the USB port. It behaves as following:

1. **Blinks once** on USB connection: signifies that the DMX USB PRO is powered on and ready. After blinking once, it will remain off, until DMX is sent or received.

2. **Blinks continuously**: signifies DMX is being sent or received by the DMX USB PRO.

3. **Stays on always (no blinking)**: signifies error mode, DMX USB PRO needs to be restored.

4. **Stays off always**: normal mode, waiting for software to instruct it to perform DMX operation.

Install Drivers

DMX USB PRO is supported by FTDI drivers for the following Operating Systems:

- Windows 10, Windows 8, Windows7, Windows XP, Windows Server 2003, Windows Vista, Windows Server 2008, Windows Server 2008 R2. (32 bit and **64-bit** versions)
- Mac OS X (Mac OS X 10.4 or later).
- **Linux -** Raspberry Pi is supported, others need drivers (please check FTDI for details)

To proceed, you need the driver setup file, which is available from:

- Download EMU (includes the driver setup) from the ENTTEC **70304** website
- For latest drivers and OS support, please visit FTDI website, https://ftdichip.com/drivers/d2xx-drivers/

Setting up on Windows

Execute the setup file and let the drivers install on your Windows machine. If using EMU setup, click Yes when prompted to install FTDI Drivers

Click on Extract and follow the setup procedure by clicking Next. It will go through the drivers install process and copy the needed files.

Once done it will show the completion screen, highlighting that the drivers have been installed correctly
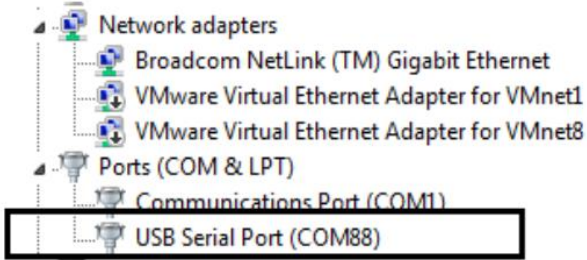
In most cases the USB port you plug the DMX USB PRO in to will automatically fall into an acceptable range with respect to the other elements of your computer's communications ports, but if you are having problems or conflicts between the ports, here is what you can do to change the COM port.

Before making any changes. it is advisable to keep a record of which serial port has been used in each attempt to configure the hardware and drivers. That way you will be able to retrace your steps should you decide to go back and try something again but with different settings elsewhere.
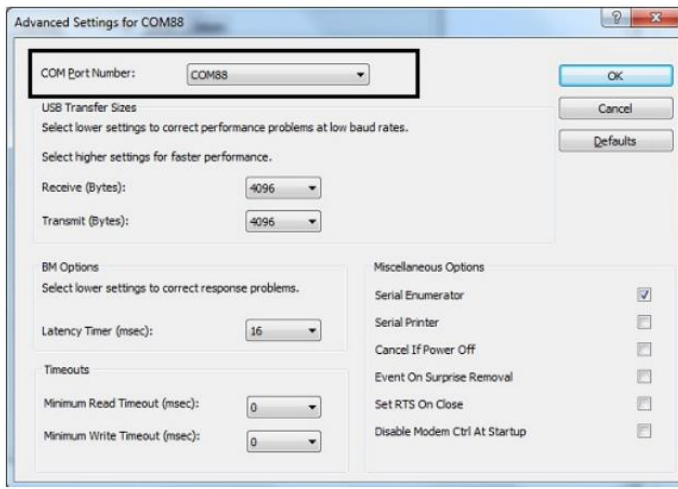
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Device Manager

Open Device Manager on your Windows machine. (*Control Panel → Device Manager*)

Expand the "*Ports*" section, and identify the DMX USB PRO, which usually is "*USB Serial Port*"

Right click on it and select *Properties.*

Under "*Port Settings*", click on "*Advanced*", and you can then change the COM Port No. under this screen:

Setting up on Mac

Download and install EMU on your Mac. For OSX 10.7 – OSX 10.10, FTDI "D2XX" drivers are copied by EMU and made ready for use.

From OSX 10.11 onwards, 3rd party drivers are not needed. Just install EMU to test your USB PRO. Apple's USB drivers are supported by ENTTEC USB PRO from OSX 10.11 onwards.

Follow detailed instructions on how to do this, using FAQ/Support links on the ENTTEC DMX USB PRO webpage: www.enttec.com/dmxubspro

For driver problems with 3rd party Apps, please contact their respective support for more details.

EMU

EMU is ENTTEC's free app to configure, test and update DMX USB PRO. You can download EMU for Windows or Mac from ENTTEC website.

■ Use this App to test your DMX USB PRO, change default parameters (Refresh rates, Break Time), test DMX Send.

From the EMU settings' output tab, you can search for ENTTEC products connected to your computer. Once EMU discovers it, click the setting icon to begin communication.

Tech tip video:
https://www.youtube.com/watch?v=Wnfl8kSBy_A&ab_channel=ENTTEC

Firmware Update

The following steps will guide you on how to update the firmware, use this procedure to reset the DMX USB PRO if it ever gets stuck or stops responding.

• Firmware 1.44 is for DMX only (recommended)
• Firmware 2.4 is for RDM and DMX

From EMU interface, click on "Select Firmware file" to select from drop down list for default firmware option, or download FW from ENTTEC website and locate it manually with "Choose File". Firmware 2.4 is needed, if DMX USB PRO is to be used with RDM Controller Application

After selecting the firmware file, click on the "Update Firmware" button and let the update proceed. Do not disconnect the USB until the update is complete. The update progress is displayed on the webpage.

Once finished, the page will automatically refresh, and device information will be updated to reflect the updated firmware.

DMX Send Test

EMU can also be used to test selected DMX channels by sending DMX through DMX USB PRO.
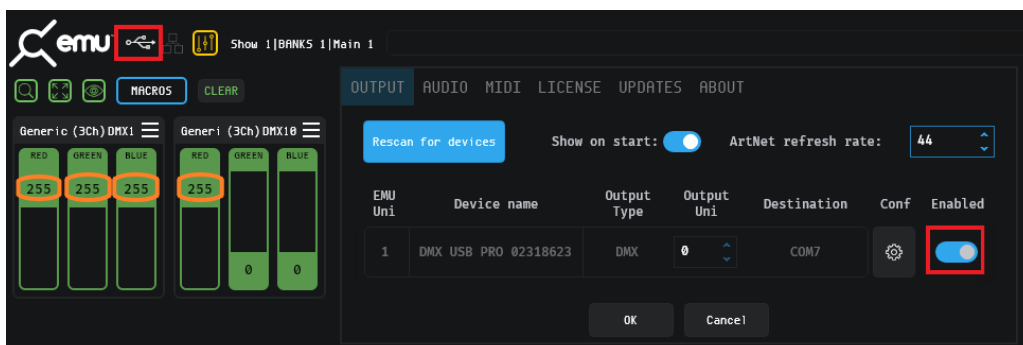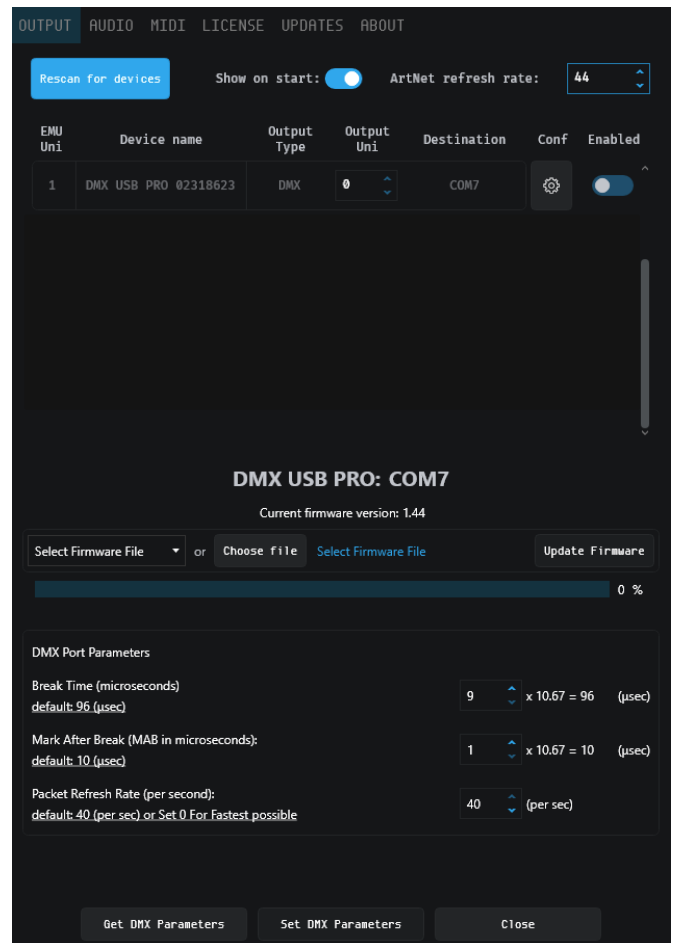
First patch a 'dummy' fixture on any DMX channel of your choice.
EMU patching introduction video: https://www.youtube.com/watch?v=7EPm0vBPnNo&ab_channel=ENTTEC

Once done, return to homepage and drag the needed faders and click 'Enabled' on settings' output tab to test DMX output. USB logo will light up on the top left to indicate output to DMX USB PRO on EMU.

With your fixtures connected to the DMX output of the DMX USB PRO, you will see the desired effect for the value of the channel you change. For example, a fixture setup with intensity on Ch10, and R,G,B on Ch 1,2,3 - when you change the values on these channels you will see the effect on your fixtures. This can be used to test that your DMX USB PRO is working as expected.

After testing, you must close EMU, and then open any lighting control software to use DMX USB PRO.

PRO-MANAGER [LEGACY Software]

ENTTEC provides a free cross-platform app to configure, test and update DMX USB PRO. You can download the latest version for Windows or Mac from ENTTEC website.

■ Use this App to test your DMX USB PRO, change default parameters (Refresh rates, Break Time), test DMX Send and Receive.

■ This App is merely a troubleshooting tool and not Lighting Control software

■ PRO-Manager runs inside a browser window, and it opens up the page by default, however you can also use this address in your browser http://localhost:55555/

From the PRO-Manager Home page, you can click the 'Find Devices' button to search for ENTTEC products connected to your computer. Once Pro manager discovers it, select it from the dropdown box to begin communication.
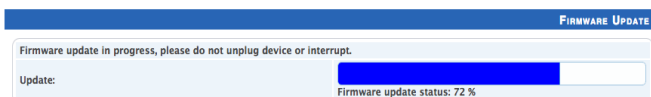
Firmware Update

The following steps will guide you on how to update the firmware, use this procedure to reset the DMX USB PRO if it ever gets stuck or stops responding.

• Firmware 1.44 is for DMX only (recommended)

• Firmware 2.4 is for RDM and DMX

From the home page of PRO-Manager, select the firmware from the drop-down "Select firmware File" and Click on "Update firmware"

Once Finished, the page will automatically refresh, and device information will be updated to reflect the updated firmware.

Firmware 2.4 is needed, if DMX USB PRO is to be used with RDM Controller Application
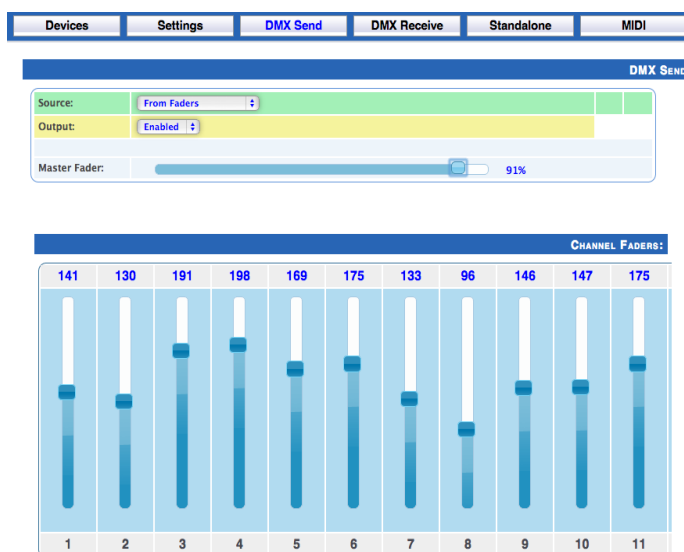
DMX Send Test

PRO-Manager can also be used to send pre-set DMX patterns or test selected DMX channels by sending DMX through the DMX USB PRO.

Select the "DMX Send" page from the top-menu and from DMX Send page, select "Faders", and drag the needed Channel faders to test the DMX output.

With your fixtures connected to the DMX output of the DMX USB PRO, you will see the desired effect for the value of the channel you change. For example, a fixture setup with intensity on Ch10, and R,G,B on Ch 4,5,6 - when you change the values on these channels you will see the effect on your fixtures.

This can be used to test that your DMX USB PRO is working as expected.

After testing, you must close PRO-Manager, and then open any lighting control software to use DMX USB PRO.

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Servicing, Inspection & Maintenance

⚠ ■ **The device has no user serviceable parts. If your installation has become damaged, parts should be replaced.**

⚡ ■ **Power down the device and ensure a method is in place to stop the system from becoming energized during servicing, inspection & maintenance.**

Key areas to examine during inspection:

■ Ensure all connectors are mated securely and show no sign of damage or corrosion.

■ Ensure all cabling has not obtained physical damage or been crushed.

■ Check for dust or dirt build up on the device and schedule cleaning if necessary.

■ Dirt or dust buildup can limit the ability for a device to dissipate heat and can lead to damage.

The replacement device should be installed in accordance with all steps within the installation guide. To order replacement devices or accessories contact your reseller or message ENTTEC directly.

Cleaning

Dust and dirt build up can limit the ability for the device to dissipate heat resulting in damage. It's important that the device is cleaned in a schedule fit for the environment it is installed within to ensure maximum product longevity.

Cleaning schedules will vary greatly depending on the operating environment. Generally, the more extreme the environment, the shorter the interval between cleanings.

⚡ ■ **Before cleaning, power down your system and ensure a method is in place to stop the system from becoming energized until cleaning is complete.**

⚠ ■ **Do not use abrasive, corrosive, or solvent-based cleaning products on a device.**

■ **Do not spray device or accessories. The device is an IP20 product.**

To clean an ENTTEC device, use low-pressure compressed air to remove dust, dirt, and loose particles. If deemed necessary, wipe the device with a damp microfiber cloth.

A selection of environmental factors that may increase the need for frequent cleaning include:

■ Use of stage fog, smoke or atmospheric devices.

■ High airflow rates (i.e., in close proximity to air conditioning vents).

■ High pollution levels or cigarette smoke.

■ Airborne dust (from building work, the natural environment or pyrotechnic effects).

If any of these factors are present, inspect all elements of the system soon after installation to see whether cleaning is necessary, then check again at frequent intervals. This procedure will allow you to determine a reliable cleaning schedule for your installation.

Package Contents

■ DMX USB PRO

■ USB Type A -> USB 2.0 Type B cable

■ Read Me Card with EMU Promo Code - 3 months.

(Read Me Card with Promo Code is implemented after Serial Number 2365779, August 2022)

Ordering Information

For further support and to browse ENTTEC's range of products visit the ENTTEC website.

Item	Part No.
DMX USB PRO RevB	70304

enttec.com

MELBOURNE AUS / **LONDON** UK / **RALEIGH-DURHAM** USA

Due to constant innovation, information within this document is subject to change.