DMXking.com

ultraDMX MAX

USER MANUAL

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1. INTRODUCTION

Thanks for purchasing a DMXking product. Our aim is to bring you high quality products with great features we know you'll appreciate.

HARDWARE AND FIRMWARE VERSIONS

From time-to-time minor hardware changes occur in our products usually small feature additions or unseen optimizations. The table below lists ultraDMX MAX product variants. Check the product label for P/N details.

Part Number	Feature addition
0124-1.2	Initial product release
0124-1.3	User button functionality

Firmware updates are released on a semi-regular basis. We recommend updating to the latest available firmware version so all product features are available. Please take note the user manual reflects latest firmware version features unless otherwise noted.

Firmware Version	Comments
V4.3	Initial release. RDM support disabled.
V4.5	Extensions to DMXking USB DMX protocol. Required update.
V4.6	Art-Net TimeSync. ArtPollReply changed to single universe per message. Art-Net RDM functionality enabled. DMX512 timing parameters adjustable. Art-Net UDP Port adjustable. Art-Net RDM Controller optional fixed IP and adjustable UDP Port. Diagnostics messages priority enhancements.
V4.7	Version consistency release.
*V4.9	Static scene recording function added. USB DMX source for show recording. User configurable USB DMX and Art-Net internal Priority. Soft reset to defaults through configuration utility.
V4.10	Basic USB DMX port configuration message added. Resolved issue with port configuration causing restart.

*Firmware version has been withdrawn from distribution and upgrade to higher version is recommended.

ultraDMX MAX requires eDMX MAX Configuration Utility v2.0+

MAIN FEATURES

- USB-C socket for connection to host
- Tough enclosure
- Supported operating systems: Windows, MacOS, Linux
- ultraDMX MAX - 1x DMX512 OUT or 1x DMX512 IN
- DMX-OUT and DMX-IN channel offset re-mapping
- Snapshot DMX recall upon power up and/or loss of USB data stream
- Static scene recording and playback without requiring SD card. See eDMX MAX Record / Playback manual
- Standalone scene playback without computer or network connection
- Configuration utility with basic output/input test functionality

2. EXTERIOR VIEW

FRONT VIEW

3pin XLR socket.

REAR VIEW

USB-C socket for host connection. Status indicators visible through end cap.

STATUS LED TABLE

LED	Indication
Protocol - Red	Protocol activity
DMX - Green	DMX512 Port A TX/RX activity

3. USB DMX OPERATION

DMXking ultraDMX MAX significantly exceeds the hardware capabilities of ultraDMX Micro whilst still providing simple USB DMX functionality. Removal of the now ancient FTDI USB IC and utilizing a much higher performance microcontroller has unlocked potential well beyond what was possible with the previous generation hardware. All DMXking MAX series hardware is capable of USB DMX operation, not just ultraDMX MAX.

DRIVER INSTALLATION

There is no driver to install. It is included with your operating system already.

SOFTWARE COMPATIBILITY

Software packages for USB DMX use either a Virtual COM Port (VCP) driver or FTDI specific D2XX driver. DMXking MAX series uses VCP which is more universal than FTDI D2XX, especially across different operating systems, however this has created some compatibility issues with existing software packages using the later. We are working with software developers still using D2XX to encourage updating their code to utilize VCP instead and also leverage DMXking USB DMX protocol extensions that allow multiple universe operation.

Check https://dmxking.com/ for DMXking MAX series USB DMX compatible software list.

DEVICE CONFIGURATION

Use eDMX MAX Configuration Utility to configure ultraDMX MAX devices. There is no longer an ultraDMX specific configuration utility.

DMXking ultraDMX MAX hardware is technically very close to eDMX1 MAX minus the Ethernet port. There are firmware enhancements planned that leverage aspects of the IP networking stack so although it currently makes little sense for ultraDMX MAX to have an IP address it has not been removed from configuration.

Previously ultraDMX Micro did not require DMX port configuration for DMX-IN mode as this was automatically selected by certain USB DMX messages. This has changed in DMXking MAX series devices which now require explicit DMX-OUT or DMX-IN port configuration along with selecting which port to forward over USB DMX to allow multi-port devices to function with complete flexibility.

DMX PORT MAPPING

Simple USB DMX protocol output messages are automatically mapped to the physical DMX512 port regardless of configured universe.

USB DMX SERIAL NUMBER

For software compatibility reasons a BCD serial number is calculated from the MAX device hardware MAC address using the lower 3 hexadecimal bytes converted to a decimal number. Software that has been updated for MAX series devices will display the hardware MAC address.

4. DEFAULT CONFIGURATION

All ultraDMX MAX units ship with default IP address settings. These are currently irrelevant.

Parameter	Default Setting

IP Address	192.168.0.112
Subnet Mask	255.255.255.0
Default Gateway	192.168.0.254
IGMPv2 Unsolicited Report	*Unchecked*
Network Mode	DHCP

DMX512 Port A configuration parameter defaults.

Parameter	Default Setting
Async Update Rate	40 [DMX512 frames per second]. Universe Sync will override.
Port Operation Mode	DMX-OUT
Timeout all sources	*Unchecked*
Channel Offset	0
Merge Mode	HTP
Full DMX Frame	*Unchecked*
Broadcast Threshold	10 [Art-Net II/3/4 unicasting up to 10 nodes]. Set to 0 for Art-Net I broadcast for DMX-IN.
Unicast IP [DMX-IN]	0.0.0.0
sACN Priority [DMX-IN]	100
RDM Discovery Period [DMX-OUT]	0s / RDM Disabled
RDM Packet Spacing [DMX-OUT]	1/20s
DMX-OUT Failsafe Mode	Hold Last
Recall DMX Snapshot at startup	*Unchecked*
DMX512 Universe	1 [Net 00, Subnet 0, Universe 0-0] Note: sACN Universe 1 = Art-Net 00:0:0

5. CONFIGURATION UTILITY

Download eDMX MAX Configuration Utility from https://dmxking.com

User manual for the utility https://dmxking.com/downloads/eDMX MAX Configuration Utility User Manual (EN).pdf

The ultraDMX Configuration Utility used with earlier ultraDMX devices is NOT compatible with ultraDMX MAX.

6. TECHNICAL SPECIFICATIONS

- Dimensions: 20mm x 25mm x 76mm+cable (WxHxD)
- Weight: 50 grams
- USB-C power input 5Vdc, 200mA 1W max
- DMX512 connector: 3pin XLR socket.
- DMX512 port is NOT isolated from USB-C port / computer.
- Internal DMX512-A line biasing termination as per ANSI E1.20 RDM requirements
- Art-Net, Art-Net II, Art-Net 3, Art-Net 4 and sACN/E1.31 support using enhanced USB DMX mode
- ANSI E1.20 RDM compliant with RDM over Art-Net (not supported by any software at present)
- sACN Priority
- DMX512 Frame Rate: Adjustable per port
- Operating temperature 0°C to 50°C non-condensing dry environment

7. WARRANTY

DMXKING 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 two years from the date of shipment from an authorized DMXking distributor.

What is not covered

Failure due to operator error or incorrect application of product.

What DMXking will do

DMXking will repair or replace, at its sole discretion, the defective hardware.

How to obtain service

Contact your local distributor https://dmxking.com/distributors

8. ACKNOWLEDGEMENTS

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9. DECLARATIONS

The ultraDMX MAX has been tested against applicable standards and certified compliant as below.

Standard	
IEC 62368-1	Audio/Video and ICTE Safety Requirements
IEC 55032	Radiated Emissions
IEC 55035	EMC Immunity Requirements
FCC Part 15	Radiated Emissions
RoHS 3	Restriction or Hazardous Substances

Certification	Country
CE	Europe
FCC	North America
RCM	New Zealand / Australia
UKCA	United Kingdom