

ProPlex[®] IQ

*RDM CAPABLE BIDIRECTIONAL
ETHERNET-DMX CONVERTERS*



USER MANUAL

PRELIMINARY

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1. BEFORE BEGINNING

WHAT IS INCLUDED

- 1x ProPlex IQ One RackMount unit, or 1x ProPlex IQ One Mini unit
- 1x Power cord
- 1x User Manual

UNPACKING INSTRUCTIONS

Upon receipt of the unit, carefully unpack the carton and check the contents to ensure that all parts are present and in good condition. Notify the shipper immediately and retain packing material for inspection if any parts appear to be damaged from shipping or if the carton itself shows signs of mishandling. Save the carton and all packing materials. In the event that a unit must be returned to the factory, it is important that the device be returned in the original factory box and packing.

SAFETY INSTRUCTIONS



Please read these instructions carefully. This user guide contains important information about the installation, usage and maintenance of this product.

- Please keep this User Guide for future reference. If unit is sold to another user, make sure they also receive this instruction booklet.
- Ensure fixture is connected to proper voltage, and that line voltage is not higher than that stated on the fixture.
- Make sure there are no flammable materials close to the unit while operating.
- Always disconnect from the power source before servicing or fuse replacement. Always use the fuse specified in this manual..
- Always use a safety cable when hanging device overhead.
- Maximum ambient temperature (Ta) is 40°C (104°F). Do not operate fixture at temperatures above this rating.
- In the event of a serious operating problem, stop using the unit immediately. Repairs must be carried out by trained, authorized personnel. Contact the nearest authorized technical assistance center. Only OEM spare parts should be used.
- Do not connect the device to a dimmer pack.
- Make sure power cord is never crimped or damaged.
- Never disconnect power cord by pulling or tugging on the cord.

Caution! There are no user serviceable parts inside the unit. Do not open the housing or attempt any repairs yourself. In the unlikely event your unit may require service, please contact your distributor.

POWER REQUIREMENTS

Before powering the unit, make sure the line voltage is within the range of accepted voltages. This fixture accommodates 100-240VAC, 50/60Hz. All fixtures must be powered directly from a switched circuit and cannot be operated with a rheostat (variable resistor) or dimmer circuit, even if the rheostat or dimmer channel is used solely for a 0-100% switch.

2. INTRODUCTION

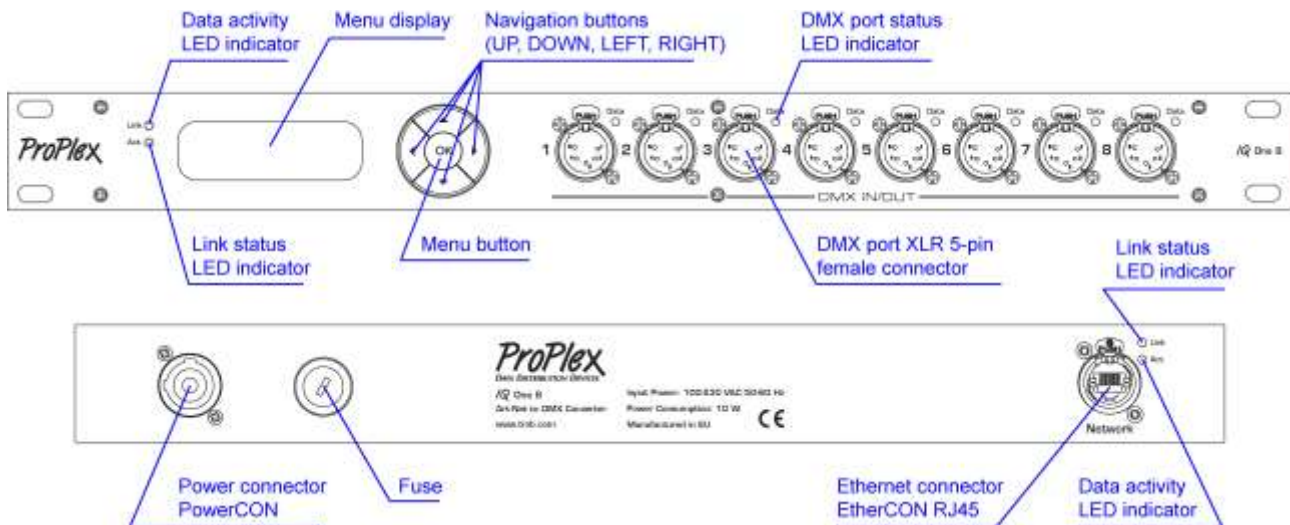
DESCRIPTION

ProPlex IQ bidirectional Ethernet-DMX converters are available in both RackMount and PortableMount Mini enclosures. RackMount models include the IQ One 4, IQ One 8, and IQ One 8 Optical and convert between Ethernet and 4 or 8 universes of DMX as well as bidirectional Art-Net /sACN to DMX via Neutrik opticalCON. The IQ One Mini 4-way converts between Ethernet and 4 universes of DMX in a compact, versatile PortableMount Micro enclosure.

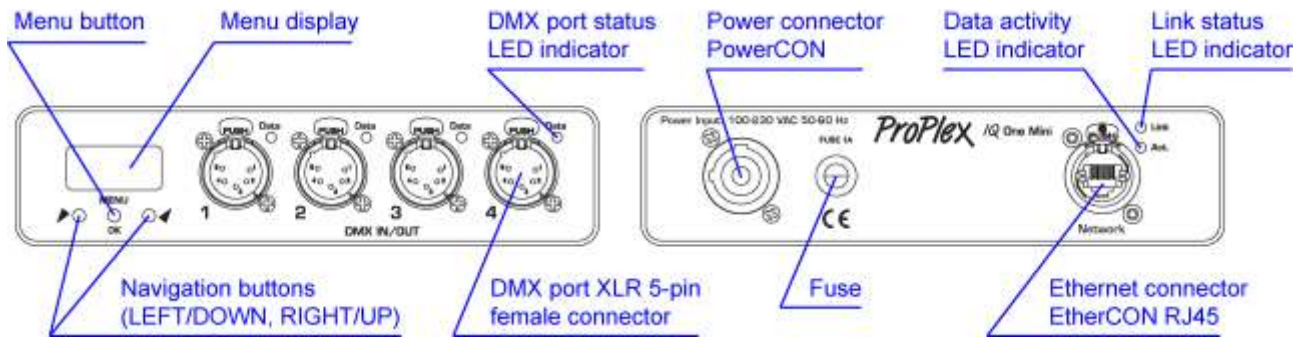
FEATURES

- 4 or 8 DMX universes
- Data Merging for multiple single universe data streams
- Ethernet protocol conversion of DMX data (sACN/ArtNet)
- Intuitive, simple web interface and front panel control.
- All Neutrik™ connectors: Locking powerCON, etherCON, XLR.
- Fibre optic version with OpticalCON connector available
- “Blue Box” tour-grade enclosures in RackMount and Mini format with truss-mounting yoke
- Shock-mounted circuitry

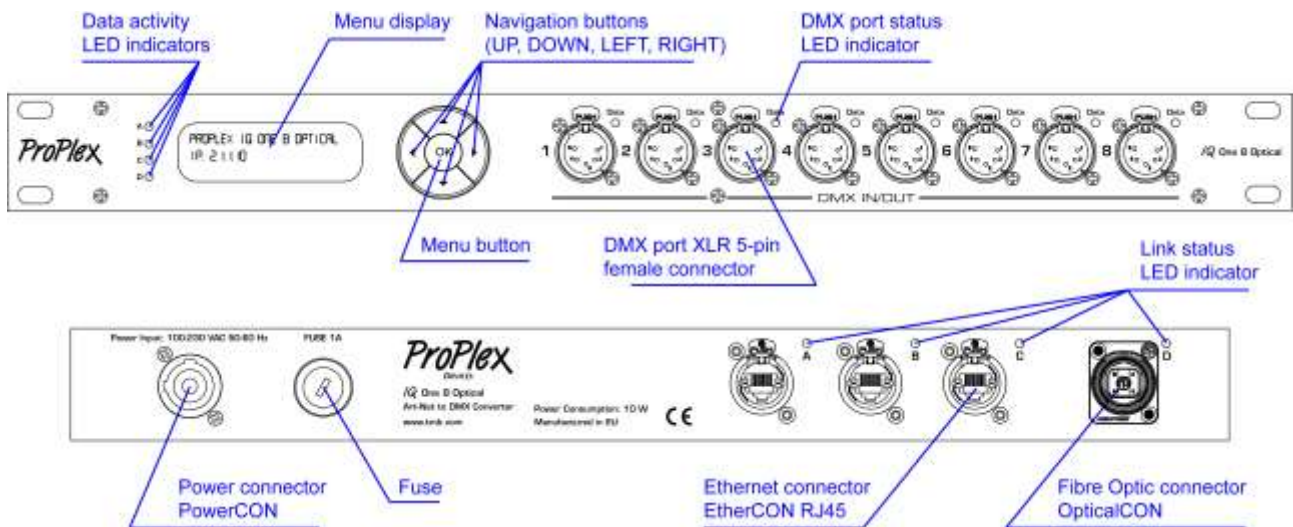
ProPlex IQ One RackMount Overview



ProPlex IQ One Mini Overview



ProPlex IQ One Optical RackMount Overview



3. SETUP

FUSE REPLACEMENT



Disconnect the power cord before replacing fuse.
Always replace with the fuse specified herein.



The fuse for this fixture is located on the back of the unit. ProPlex IQ devices use a 1A, 250V, 5x20mm (0.2x0.8 in.) cylindrical fuse. To replace fuse:

1. With a screwdriver turn the fuse cap counter-clockwise to remove fuse cap with fuse.
2. Replace fuse attached to fuse cap.
3. Reinsert fuse cap with new fuse and tighten clockwise.

DMX CABLING TO FIXTURES

Fixtures must be daisy-chained in one single line. To comply with the DMX512 standard no more than 32 devices should be connected in a chain. Connecting more than 32 fixtures without the use of a DMX optically-isolated splitter may result in deterioration of the DMX signal.

Maximum recommended DMX data link distance between fixtures: 300 meters (984 ft.)

DMX DATA CABLE

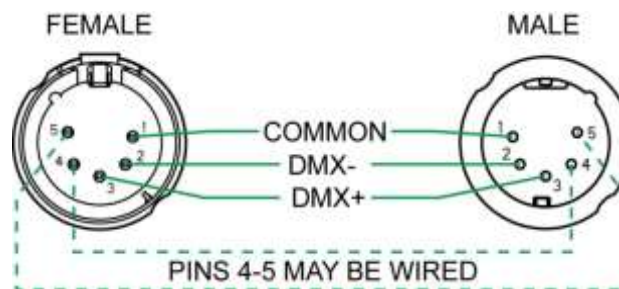
Use a ProPlex® PC222P, PC224P, or equivalent cable which meets the specifications for EIA RS-485 applications. Standard microphone cables cannot transmit DMX data reliably over long distances. The cable should have the following characteristics:

- Minimum 2-conductor twisted pair plus a shield*
- Maximum capacitance between conductors – 22 pF/ft.*
- Maximum capacitance between conductor and shield – 41 pF/ft.*
- Maximum resistance of 14.5 ohms / 1000 ft.*
- Characteristic impedance of 80 – 110 ohms*

CABLE CONNECTORS

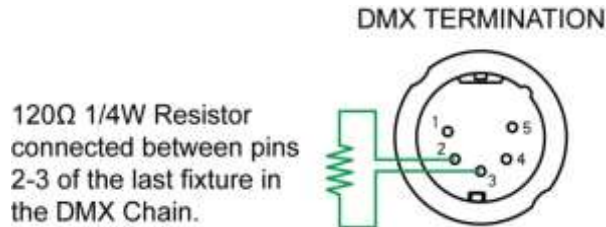
Cabling must have a male XLR connector on one end and a female XLR connector on the other end.

DMX connector configuration



DMX TERMINATION

Proper termination of DMX signals is strongly recommended. Termination occurs at the last fixture in a DMX signal chain, and comprises of a 120Ω resistor across pins 2 and 3. Termination prevents electrical reflections from traveling back down the signal chain and corrupting the DMX data stream. Some DMX fixtures have termination switches built in for the last fixture, but external XLR terminators such as the ProPlex “Arnold” are also available.



CAUTION: Do not allow contact between the common and the fixture’s chassis ground. Grounding the common can cause a ground loop, and your fixture may perform erratically. Test cables with an ohm meter to verify correct polarity and to make sure the pins are not grounded or shorted to the shield or each other.

Test cables and terminators with a continuity tester to verify correct polarity and to make sure the pins are not grounded or shorted to the shield or to each other.

3-PIN TO 5-PIN CONVERSION CHART

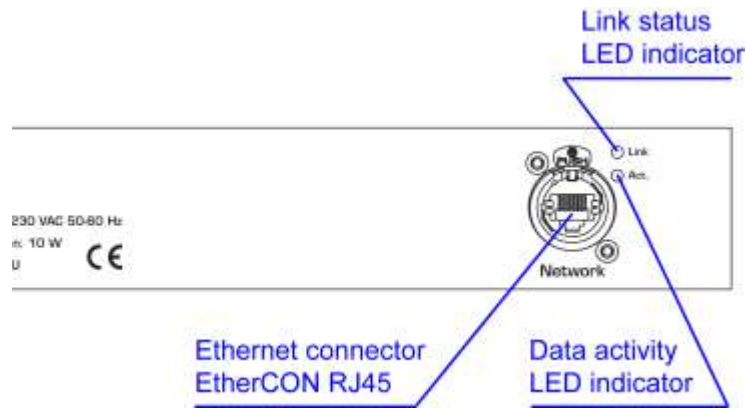
If using a console with a 3-pin DMX output connector, a 3-pin to 5-pin adapter is needed. The chart below details a proper cable conversion:

3-PIN TO 5-PIN CONVERSION CHART

Conductor	3 Pin Female (output)	5 Pin Male (Input)
Ground / Shield	Pin 1	Pin 1
Data (-) signal	Pin 2	Pin 2
Data (+) signal	Pin 3	Pin 3
Do not use		Do not use
Do not use		Do not use

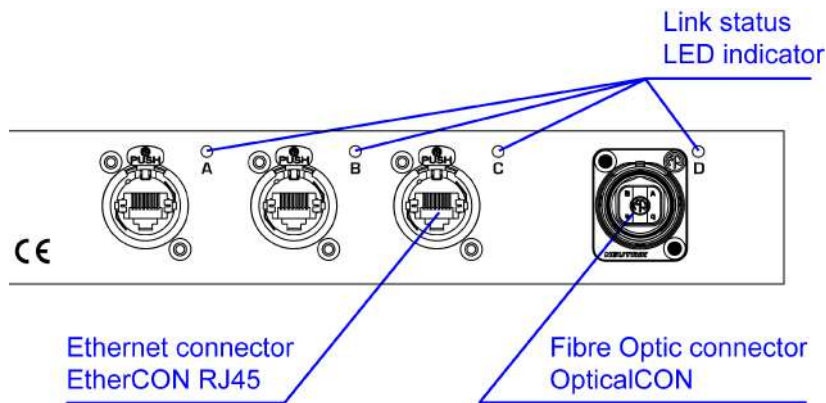
Ethernet Connector

The Ethernet connector is Neutrik® etherCON RJ45. Ethernet is 10/100 Base-T with auto-negotiation. Ethernet connector has two status LEDs. Green indicates link state – if on, link is established and communication can proceed. If Ethernet cable is connected, but Link LED is off, check cable or device at other end of Ethernet cable. Active LED shows data activity – every time Ethernet packet is sent or received, LED blinks once.



Fibre Optic Connector

The IQ One 8 Optical RackMount has one fibre optic port with Neutrik opticalCON QUAD chassis connector. The optical port accepts 50/125µm multi-mode optical fibre with Neutrik opticalCON QUAD connectors. Max cable length is 550m. Three RJ45 Ethernet ports are all 10/100/1000 Base-T with max cable length 100m. All Ethernet ports are connected and switched internally so all data is regenerated to all ports. For example, if optical fibre cable is run to FOH, the Ethernet ports can be used to extend the network by connecting to other equipment.



MOUNTING/RIGGING – IQ MINI

Orientation

IQ Mini units may be mounted in any position, using the standard yoke. Always make sure there is adequate room for ventilation.

Rigging – Always consult a certified rigging specialist before suspending any device overhead.

Use ProBurger® couplers or equivalent C- or O-type clamps for attaching to truss. After establishing the desired position, tighten all appropriate bolts.

- Always use safety cables!
- When selecting installation location, consider routine maintenance.
- Never mount Mini enclosure where it will be exposed to moisture, high humidity, extreme temperatures, or restricted ventilation.



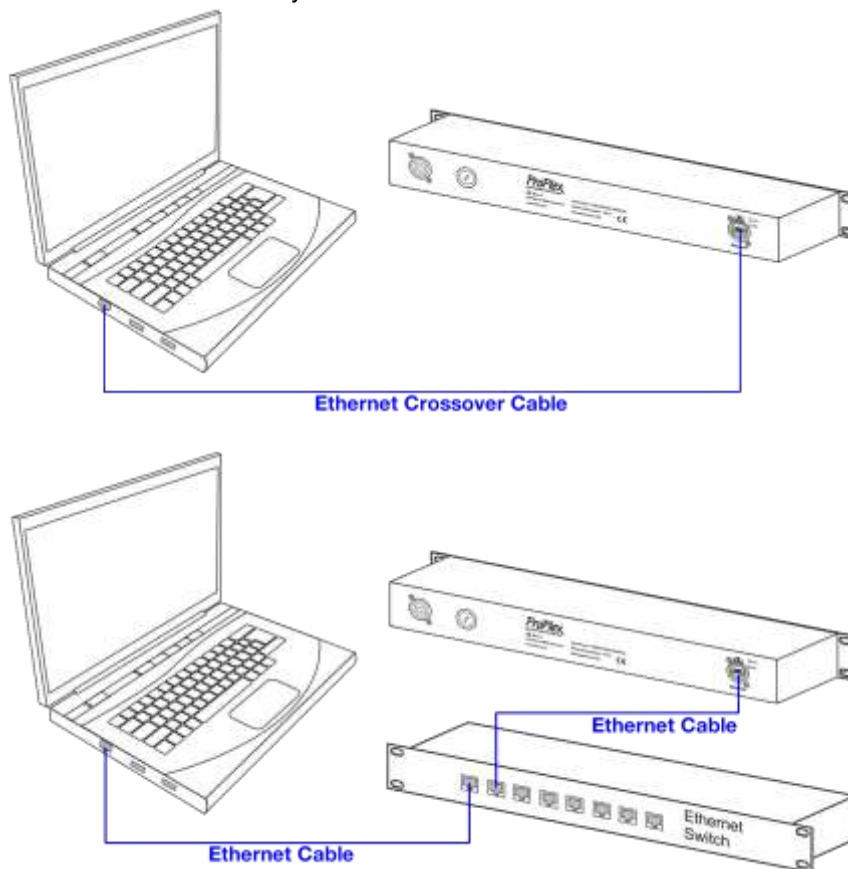
4. ProPlex IQ Configuration

ProPlex IQ can be configured in two ways;

- 1) Remotely via Ethernet by accessing built-in web page with Ethernet browser.
- 2) Using control panel display and buttons.

Configuration using built-in web page

All device settings can be changed remotely by accessing built-in web page from a computer connected to same network as ProPlex IQ. To connect ProPlex IQ to a personal computer, an ethernet crossover cable may be required, although some PCs auto-sense the type of connection. If a crossover cable is not available, then use an Ethernet switch to connect ProPlex IQ to your PC.

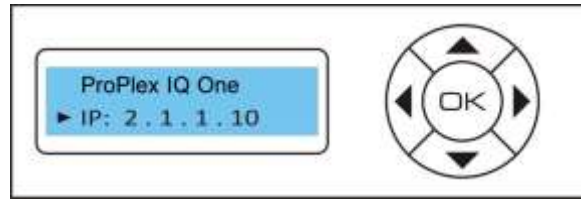


To access the ProPlex IQ configuration page, enter device IP address (default 2.1.1.10) in any web browser.

To change any of the parameters, adjust corresponding field and press SET button near it to apply new value.

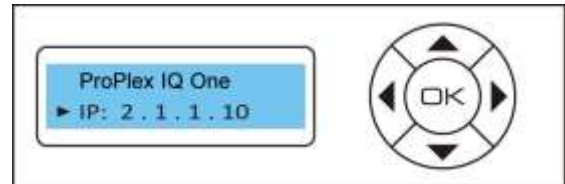
Configuration using control panel display

Navigation through the menu is done using the 4-direction keypad with central key as OK (confirm) key.

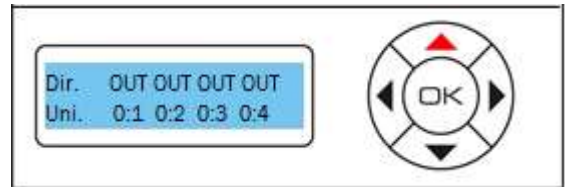


Up / Down keys are used to change status screens.
Four screens are available:

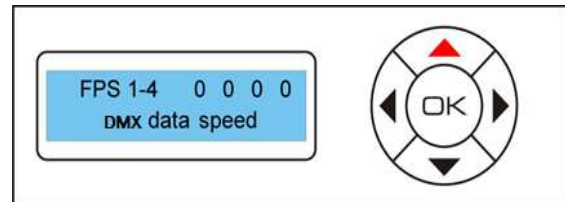
1. Shows device name and IP address



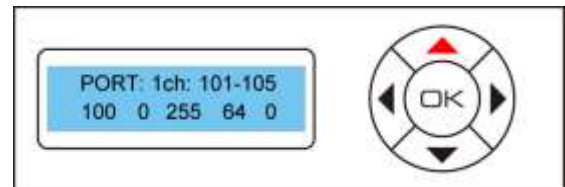
2. Shows port directions and universes assigned



3. Shows DMX IN packet rate per second

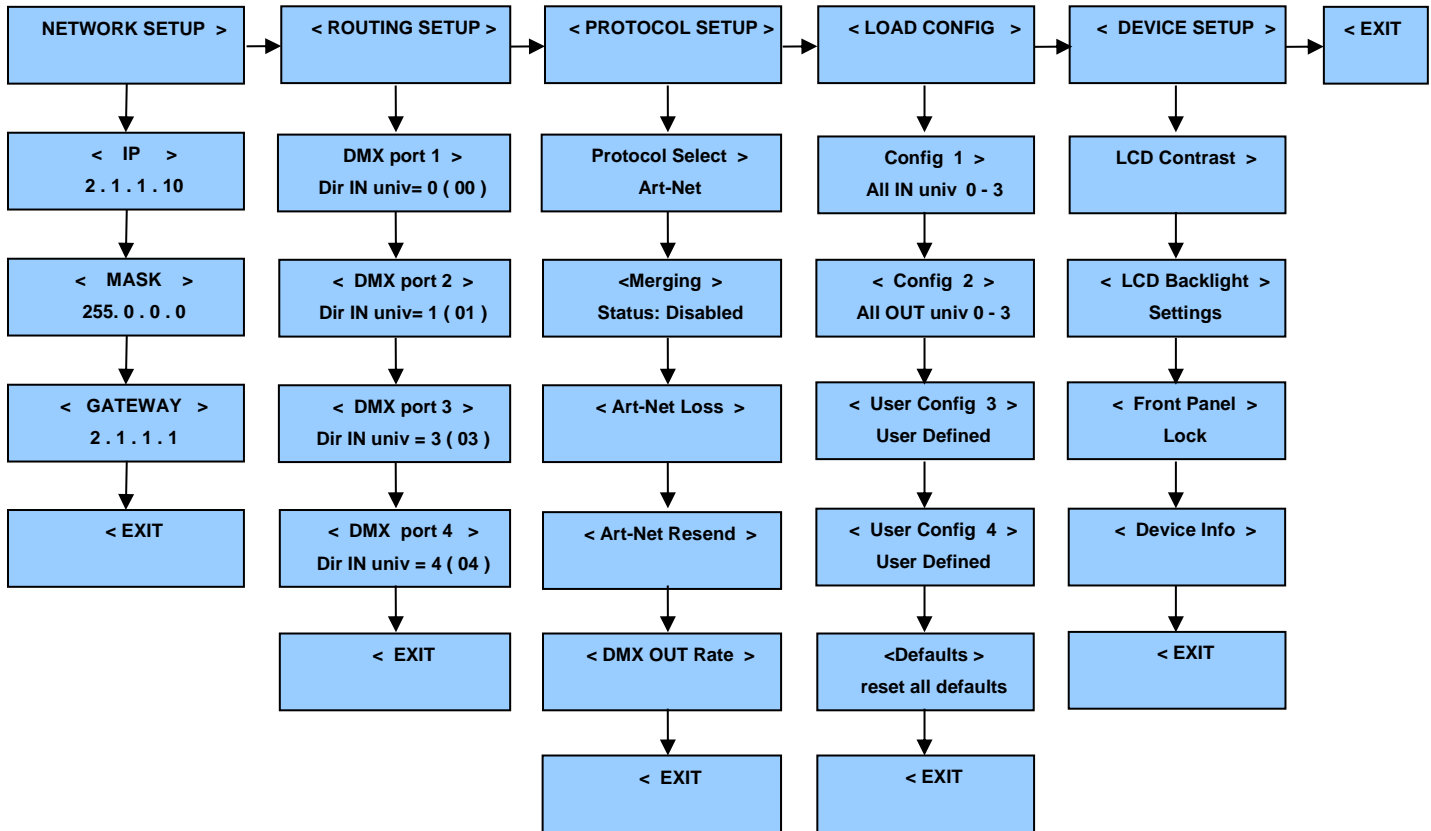


4. Shows DMX values, current channels can be changed using Left / Right buttons



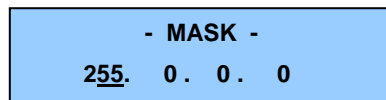
IQ Menu Tree

To enter Main menu, press OK key. Select sub-menu with Left/Right keys and confirm with OK. To exit menu, press Right until you see "EXIT" and press OK.



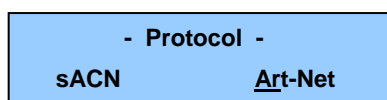
Network Setup

Here you can change Ethernet settings: IP address, Subnet Mask and Gateway. Use Left/Right to select parameter. To edit, press OK. Up/Down changes value, Left/Right selects field to edit. Press OK again to save changes made. To exit, press Right until you see "EXIT" and press OK.



Protocol Setup

In this Menu you are able to configure the incoming or outgoing protocol (ART-Net or sACN). After selecting 'Protocol Setup' from the main menu, press enter to get to the sub menu here you can go left or right on the key pad to 'Enable Merging' or 'Select Protocol'. Press enter on either and use the arrow keys to select which protocol or enable / disable merging, press 'Enter' when the desired selection is underlined and scroll to the right to exit this menu.



Routing Setup

To change DMX routing settings, set individual port directions (IN or OUT) and select Art-Net universe for each port. Art-Net universe is displayed in two formats – decimal and hexadecimal (hex value is in brackets). Use Left/Right to select port. To edit, press OK. Left selects direction field, right selects universe field. Up/Down changes value. Press OK again to save changes made. To exit, press Right until You see “EXIT” and press OK.

```
- DMX port 1 -  
dir OUT  univ=  1 ( 01 )
```

Load Configuration

To load pre-defined configurations and reset device to its defaults:

- 1) *Config 1* – Sets ports to inputs and sets universes 0 through 3 for each port.
- 2) *Config 2* – Sets ports to outputs and sets universes 0 through 3 for each port.
- 3) *Config 3* – User-configurable preset.
- 4) *Defaults* – Resets all device settings, including name and network configuration to defaults.
Default name is “ProPlex IQ One” and default IP is 2.1.1.10.
- 5) *EXIT* -- To exit from main Menu.

Use Left/Right to select configuration. To load, press OK and confirm by selecting YES and pressing OK again. To exit, press Right until you see “EXIT” and press OK.

```
- Config 2 -  
all OUT  univ 0 - 3
```

5. APPENDIX

BASICS OF DMX CONTROL

There are 512 channels in a DMX-512 connection. Channels may be assigned in any manner. A fixture capable of receiving DMX-512 will require one or a number of sequential channels. The user must assign a starting address on the fixture that indicates the first channel reserved in the lighting console. There are many different types of DMX controllable fixtures and they all may vary in the total number of channels required. Choosing a start address should be planned in advance. Channels should never overlap. If they do, this will result in erratic operation of the overlapping fixtures. You can however, control multiple fixtures of the same type using the same starting address as long as the intended result is that of unison movement or operation. In other words, the fixtures will be slaved together and all will respond identically.

DMX fixtures are often designed to receive and transmit data through a DMX daisy-chain. A DMX daisy-chain is where the DMX OUT of one fixture connects to the DMX IN of the next fixture. The order in which the fixtures are connected is not important and has no effect on how a lighting console communicates to each fixture. Use an order that provides for the easiest and most direct cabling. Connect fixtures using shielded two conductor twisted pair cable such as ProPlex[®] DMX with 5-pin XLR male to female connectors. The shield/ground is pin 1, while pin 2 is Data Negative (D-) and pin 3 is Data positive (D+). Pins 4 and 5 are not used according to the DMX-512 standard.

BASICS OF HTP MERGING

When multiple streams of data are being sent to the IQ, the IQ will merge the data using the rule “Highest Takes Precedence” (HTP). This means that if multiple sources are sending values to the same channel, the highest value will be passed through to the IQ’s DMX Output. For example, if one console is sending a DMX value of 127, and a second console is sending a value of 255 to the same channel, the higher value will prevail.

BASICS OF EASY-MERGE

When multiple streams of data are being sent to the IQ, the IQ will merge the data via “Easy-Priority”. This means that whichever stream is sending the highest value to channel 512, this will be the stream that takes precedence.

LIMITED WARRANTY

ProPlex Data Distribution devices are warranted by TMB against defective materials or workmanship for a period of one (1) year from the date of original sale by TMB.

TMB’s warranty shall be restricted to the repair or replacement of any part that proves to be defective and for which a claim is submitted to TMB before the expiration of the applicable warranty periods.

This Limited Warranty is void if the defects of the Product are the result of:

- Opening the casing, repair, or adjustment by anyone other than TMB or persons specifically authorized by TMB
- Accident, physical abuse, mishandling, or misapplication of the product.
- Damage due to lightning, earthquake, flood, terrorism, war, or act of God.

TMB will not assume responsibility for any labor expended, or materials used, to replace and/or repair the Product without TMB’s prior written authorization. Any repair of the Product in the field, and any associated labor charges, must be authorized in advance by TMB. Freight costs on warranty repairs are split 50/50: Customer pays to ship defective product to TMB; TMB pays to ship repaired product, ground freight, back to Customer.

This warranty DOES NOT cover consequential damages or costs of any kind.

A Return Merchandise Authorization (RMA) Number must be obtained from TMB prior to return of any defective merchandise for warranty or non-warranty repair. For all repairs please contact TMB Tech Support Repair using the contact information below or email TechSupportRepairna@tmb.com.

527 Park Ave., San Fernando, CA 91340

Tel: +1 818.899.8818

Fax: +1 818.899.8813

tmb-info@tmb.com

www.tmb.com

RETURN PROCEDURE

Returned merchandise must be sent prepaid and in the original packing, call tags will not be issued. Package must be clearly labeled with a Return Merchandise Authorization Number (RMA#). Products returned without an RMA # will be refused. Please contact TMB and request RMA# prior to shipping the fixture. Be prepared to provide the model number, serial number and a brief description of the cause for the return. Be sure to properly pack fixture, any shipping damage resulting from inadequate packaging is the customer’s responsibility. TMB reserves the right to use its own discretion to repair or replace product(s). As a suggestion, proper UPS packing or double-boxing is always a safe method to use.

Note: If you are given an RMA#, please include the following information on a piece of paper inside the box:

- 1) Your name
- 2) Your address
- 3) Your phone number
- 4) The RMA #
- 5) A brief description of the symptoms

TECHNICAL SPECIFICATIONS

Model:	ProPlex IQ ONE 4	ProPlex IQ ONE 8	ProPlex IQ ONE 8 Optical	ProPlex IQ ONE Mini
Part Number	PPIQA415RD	PPIQA815RD	PPIQA845RDO	PRIQA415MD
Ethernet Ports	1	1	3	1
DMX Ports	4	8	8	4
DMX Connectors	Neutrik XLR5 Female (NC5FAV)			
DMX Port Isolation	Optical, up to 1000V			
Ethernet Connector	Neutrik EtherCON RJ45			
Ethernet Type	10/100 Base-T			
Network Protocols	Art-Net, sACN (E1.31)			
Additional Features	HTP merging			
Optical Connector	N/A	N/A	Neutrik NO4FDW-R	N/A
Power	85V-265V, 50-60 Hz			
Power Consumption	10W	10W	25W	10W
Cooling	Convection			
Operating Temperature	-20° to +40° C			
Operating Humidity	10-85%			
Unit Dimensions (WxHxD)	19 x 1.75 x 0.8 in (482 x 44 x 203 mm)	19 x 1.75 x 0.8 in (482 x 44 x 203 mm)	19 x 1.75 x 0.8 in (482 x 44 x 203 mm)	7.25 x 3 x 8.74 in (186 x 76 x 222 mm) w/yoke
Unit Weight (unpacked)	5 lbs (2.3 kg)	5 lbs (2.3 kg)	6 lbs (2.7 kg)	4.7 lbs (2.1 kg)
Packed Dimensions (WxHxD)	20.5 x 3.5 x 10.6 in (522 x 89 x 269 mm)	20.5 x 3.5 x 10.6 in (522 x 89 x 269 mm)	20.5 x 3.5 x 10.6 in (522 x 89 x 269 mm)	11.8 x 4.2 x 9.4 in (300 x 106 x 240 mm)
Shipping Weight	5.6 lbs (2.6 kg)	5.6 lbs (2.6 kg)	6.6 lbs (3 kg)	5 lbs (2.3 kg)

CONTACT INFORMATION

GENERAL INFORMATION

TMB

US Phone: +1 818.899.8818
Fax: +1 818.899.8813
UK Phone: +44 (0)20.8574.9700
Fax: +44 (0)20.8574.9701
e-mail: tmb-info@tmb.com
web: www.tmb.com

24/7 TECHNICAL SUPPORT

TMB

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e-mail: techsupport@tmb.com
web: www.tmb.com/products/ProPlex/DDD