

SECTION 116163 - STAGE LIGHTING EQUIPMENT

PART 1- GENERAL

1.1 SUMMARY

- A. The Stage Lighting Supplier (herein after referred to as the SLS), shall furnish to the Owner all items as specified herein.

1.2 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to this section.

1.3 DEFINITIONS

- A. "Owner" as used in this section shall mean the representative of Queensborough Community College.
- B. "Theatre Consultant" as used in this section shall mean Studio T+L, LLC.
- C. "Stage Lighting Supplier" (SLS) as used in this section shall mean the contractor responsible to provide the stage lighting fixtures as noted in the schedule below.
- D. Wherever the words "Approved", "Approval", and "Approved equal" appear, it is intended that items other than the model numbers specified shall be subject to the written approval of the Consultant.
- E. "Provide", as used herein, shall mean that the SLS is responsible for furnishing and installing said item or equipment.
- F. "Furnish", as used herein, shall mean that the SLS shall acquire and make available said item or equipment and that the installation shall be by others.
- G. "Install", as used herein, shall mean that the SLS shall make installation of items or equipment furnished by others.
- H. "Contract Documents" as used in this section shall be deemed to include both this specification section and related bid drawings.
- I. "NIC" as used in the contract documents means, "Not Included in this Contract"
- J. "By Others" as used in the contract documents means "provided by another subcontractor"

1.4 CONTROL PROTOCOL REFERENCE STANDARDS

- A. All products utilizing the "DMX" or "DMX512" control protocol shall comply with the following ANSI/ Entertainment Services & Technology Association (ESTA) standards:
 - 1. ANSI E1.11 – 2008 (R2018), Entertainment Technology - USITT DMX512-A, Asynchronous Serial Digital Data Transmission Standard for Controlling Lighting Equipment and Accessories.
 - 2. ANSI E1.27-1-2006 (R2021), Entertainment Technology-Standard for Portable Control Cables for Use with USITT DMX512/1990 and E1.11 (DMX512-A) Products.
 - 3. ANSI E1.27-2 – 2009 (R2019), Entertainment Technology - Recommended Practice for Permanently Installed Control Cables for Use with ANSI E1.11 (DMX512-A) and USITT DMX512/1990 Products

- B. Products utilizing the "ACN" control protocol shall comply with Entertainment Services & Technology Association (ESTA) ANSI E1.17 – 2015 (R2020), Entertainment Technology - Architecture for Control Networks.
- C. Products utilizing the "RDM" control protocol shall comply with Entertainment Services & Technology Association (ESTA) ANSI E1.20 – 2010, Entertainment Technology - RDM - Remote Device Management over USITT DMX512 Networks.
- D. Products utilizing the "RDMnet" control protocol shall comply with ANSI E1.33 - 2019, Entertainment Technology -- (RDMnet) -- Message Transport and Device Management of ANSI E1.20 (RDM) Compatible and Similar Devices Over IP Networks.
- E. Products utilizing "Lightweight/Streaming ACN" control protocol shall comply with Entertainment Services & Technology Association (ESTA) ANSI E1.31 – 2018, Entertainment Technology – Lightweight streaming protocol for transport of DMX512 using ACN.

1.5 QUALITY ASSURANCE

- A. The SLS shall be the exclusive provider of stage lighting fixtures and accessories. The SLS shall provide the following information as part of their bid package.
 - 1. The SLS shall have been continuously engaged in the sale of stage lighting equipment for at least ten years.
 - 2. The SLS shall submit a list of at least five systems of similar scope and size which have been in service for at least six months. Include name, address and telephone number of owner, architect and theater consultant.
- B. Pre-approved Manufacturers for the stage lighting fixtures, accessories, and controls are:
 - 1. Altman Stage Lighting, Denver, CO – 303.500.7072
 - 2. Chauvet, Sunrise, FL – 800.762.1084
 - 3. City Theatrical, Carlstadt, NJ – 201.549.1160
 - 4. Enttec, Durham, NC – 888.454.5922
 - 5. ETC, Middleton, WI – 608.831.4116
 - 6. Lex Products, Trumbull, CT – 203.363.3742
 - 7. Lycian Stage Lighting, Sugar Loaf, NY – 845.469.2285
 - 8. Pathway Connectivity Solutions, Calgary, Alberta, Canada – 866.617.3074
 - 9. Strand Lighting, Dallas, TX – 214.647.7880
 - 10. Swisson, Ventura, CA – 805.443.7834
 - 11. TMB, San Fernando, CA – 818.899.8818
 - 12. Union Connector, Jacksonville, FL – 631.753.9550

PART 2 – PRODUCTS

2.1 STAGE LIGHTING FIXTURES

- A. All units, unless otherwise designated, shall be shipped with "C" clamp; 3'-0" 3-wire non-asbestos leads; 2P&G, 20-amp, 125-volt male connector, installed; 1 black (both sides) color frame; safety cable, and lamp (if specified). SLS shall coordinate unit and lamp type where alternate fixtures utilizing different lamps are listed below:

Item	Manufacturer and Catalog Number	Description	Quantity	Notes
1	Chroma-Q Color Force II 72 RGBA CHCF272RGBA with CHCCL72 Cyc Lens	6' long LED cyclorama light with separately controlled red, green, blue, and amber LEDs.	8	Include hanging irons and clamps
2	ETC Source Four LED Series 2 Light Engine and Shutter Barrel S4LEDS3LS-0	LED profile fixture body with integral LED system, shutters, and lens barrel	16	
3	ETC 50° Enhanced Definition Lens Tube and Lenses LED50LT	50° Enhanced Definition Lens Tube and Lenses	4	
4	ETC 36° Enhanced Definition Lens Tube and Lenses LED36LT	36° Enhanced Definition Lens Tube and Lenses	4	
5	ETC 26° Enhanced Definition Lens Tube and Lenses LED26LT	26° Enhanced Definition Lens Tube and Lenses	4	
6	ETC 19° Enhanced Definition Lens Tube and Lenses LED19LT	19° Enhanced Definition Lens Tube and Lenses	4	
7	Chauvet Professional Maverick MK3 Profile	LED moving head profile with CMY and CTO color mixing systems and four blade shutter system	12	Include black Mega-Clamps

2.2 STAGE CABLES AND POWER DISTRIBUTION

- A. Stage cables shall be labeled and coded as follows:
- B. At the male end of each cable, label the cable with the words "Collins Auditorium, Fordham University" followed by the cable length, such as "10". The labels shall be completely covered and protected by heavy weight shrink wrap.
- C. Color code the cable for length at both ends using two full wraps of colored electrical tape or other approved means. Color codes for length are:

5'	Red
10'	Green
15'	Blue
20'	Brown
25'	Purple
50'	Orange
100'	Yellow

Item	Description	Quantity	Notes
1	5' 12/3 SO PowerCon True1 cable	6	
2	100', 20A, 6-circuit multicable with 19-pin male and female connectors	6	
3	6-circuit breakout with 6' tails and stage pin female connectors	6	
4	100', 12/3 SO stage pin cable	4	
5	50', 12/3 SO stage pin cable	8	
6	25', 12/3 SO stage pin cable	8	
7	10', 12/3SO stage pin cable	10	
8	100', 5-pin XLR, DMX cable	2	
9	50', 5-pin XLR, DMX cable	4	
10	25', 5-pin XLR, DMX cable	6	
11	15', 5-pin XLR, DMX cable	25	
12	5', 5-pin XLR, DMX cable	20	
13	15', 12/3 SO PowerCon cable	15	
14	100' CAT5E Ethercon cable	8	
15	50', 4/0, 5-wire banded feeder set	1	cam-lock connectors

2.3 STAGE LIGHTING CONTROLS

Item	Manufacturer and Catalog Number	Description	Quantity	Notes
1	ETC Ion Xe 20 – 2K	Stage lighting console with 2,048 DMX outputs, 20 faders and 4 encoder wheels	1	
2	ETC Eos FW 40	Wing for stage lighting console with 40 faders	1	
3	Viewsonic TD2210	22" touch screen HD monitor with 1920 x 1080 resolution	2	Include all needed power and data cables for setup and connection to Ion XE 20
4	APC BE650G1	Uninterruptable power supply with battery backup and surge protector	1	
5	ETC, Enttec, Pathway, Swisson	Data gateway with RJ45 connector for sACN and 4 5-pin XLR connectors for DMX.	2	Each DMX output must be assignable to any DMX universe.

PART 3 – EXECUTION

3.1 All fixtures shall be delivered according to the Construction Manager's schedule and neatly stacked in a dry place off the floor.

3.2 Installation

- A. Provide a union crew of four (one head stage electrician and three stage electricians) to install the repertory lighting design. Full and final repertory lighting design documentation will be delivered two weeks prior to the first day of installation.
 - 1. Allow for one day of shop preparation prior to the installation of the stage lighting equipment. Shop prep will occur at the SLS's facility.
 - 2. Installation is estimated to occur in early March 2022. Exact dates will be confirmed no less than two weeks prior to commencement of work.
 - 3. Start time for each day will be coordinated with the Owner.

END SECTION 116163



Chroma-Q®
BRILLIANT SOLUTIONS

Specification Sheet - Version: 1.0
Chroma-Q® Color Force II 72 RGBA
Part No: CHCF272RGBA

DESCRIPTION

The Chroma-Q® Color Force II 72™ is part of the next-generation of solutions which take performance to an all-new level.

Using the very latest fully homogenised optics found in the popular Chroma-Q Color One 100™ product range, the Color Force II fixtures' output is a single, clean and pure beam of light, delivering a superior colour blend with no unsightly colour mixing shadows.

The homogenised optics and improved Chroma-Q technology provide even higher quality saturates and pastels, and a purer white with no skittles – all from a single source.

Factory calibration ensures all Color Force II units are colour matched, so side by side they will be outputting the exact same colour.

The new models also provide more creative control, with twice as many light engines accommodated within the same fixture lengths – providing independently controllable cells every 3 inches.

FEATURES

- Up to 18,600 lumens – at least 50% more output compared to predecessors
- Homogenised output – superior colour blend & no unsightly colour-mixing shadows
- Even more creative control – twice as many light engines
- Theatrical grade dimming
- Practical, user friendly design
- Superior unit-to-unit consistency
- Optional internal LumenRadio
- Chroma-Q's proven LED performance
- Touchscreen user interface

ORDERING INFORMATION

CHCF272RGBA: Chroma-Q Color Force II 72 RGBA
CHCF272RGBALR: Chroma-Q Color Force II 72 RGBA w LumenRadio
Installed

ACCESSORIES

CHCFBL72: Chroma-Q Border lens for Color Force 72
CHCFCL72: Chroma-Q Cyc lens for Color Force 72

OVERALL SPECIFICATIONS

Net Dimensions (without fixings):	Length: 1,759mm / 69.25" Width: 165mm / 6.5" Height: 191mm / 7.5"
Net Weight:	24kg / 53lb
Shipping Dimensions:	Length: 1,855mm / 73" Width: 305mm / 12" Height: 320mm / 12.5"
Shipping Weight:	27 kg / 59 lbs
Power Supply:	Built-in
Power Input Rating:	100-240V AC 50-60Hz 800VA
Power Factor:	0.96 @ 120V AC, 0.99 @ 240V AC
Power Consumption:	800W @ 120V AC, 800W @ 240V AC
Inrush Current:	80A @ 120V AC
Idle Power Consumption:	29W @ 120V AC, 32W @ 240V AC
Typical Power & Current:	Measurements done with all LEDs at maximum intensity. Measurements made at nominal voltage. Allow for a deviation of +/- 10%
Power Connectors In/Out:	Neutrik powerCON TRUE1
Data Connectors In/Out:	Neutrik XLR 5-pin
Max Fixtures in Series:	2 x fixtures @110V, 4 x Fixtures @220V
Control Protocol:	ANSI E1.11 USITT DMX 512-A
Cooling System:	Forced
Operating Temperature:	0°C to 40°C
Construction:	Anodised aluminium extrusion
Colour:	Black
Built-In Hardware:	Quick release lever for tilt adjustment
IP Rating:	IP20
Control Modes:	Strobe Options, RGBA, RGB, HSI, x1, x2, x3, x4, x6, x8, x12, x24, Look Select, Master, Odd / Even, Skip2, Skip3, Skip6
Dimming Curve:	Theatrical
Variable Effects Engine:	Strobe, Strobe on Top, Strobe Random
Hot Lumen Output (Combined):	18,600 lm
Optics:	Fully homogenised lenses
Beam Angle:	22° (approx.)
Beam Distribution:	Asymmetrical direct illumination
CCT:	Adjustable 1,000 - 10,000K
Colour Gamut:	Performance enhanced
CRI:	92
Lamp Life:	L70 at 50,000 hours
Approvals:	CISPR 22 :2006/EN55022 :2006 & CISPR 24 :1997/EN55024 :1998, ICES-003 :2004 & FCC Part 15 Subpart B: 2007, CSA C22. No. 166-M1983:R2008 UL 1573:2003; UL 8750

Patents pending

www.chroma-q.com

Chroma Q
Color Force

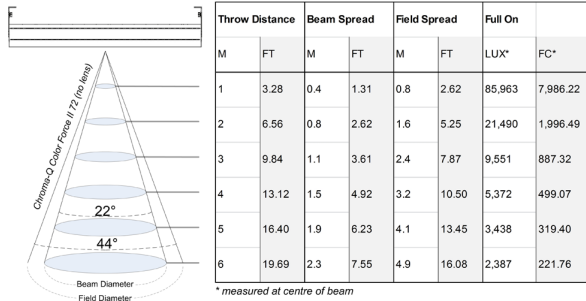


Chroma-Q
BRILLIANT SOLUTIONS

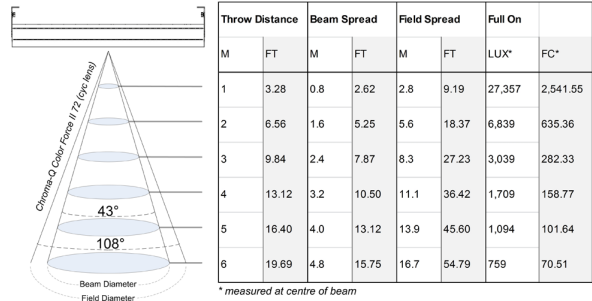
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Chroma-Q® Color Force II 72 RGBA
Part No: CHCF272RGBA

PHOTOMETRICS

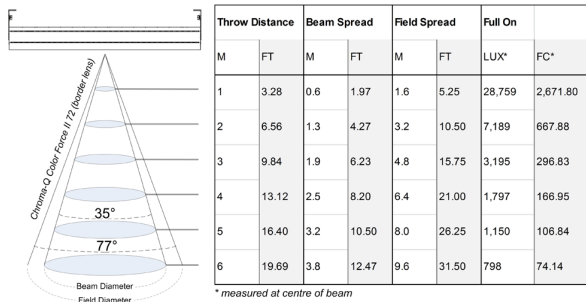
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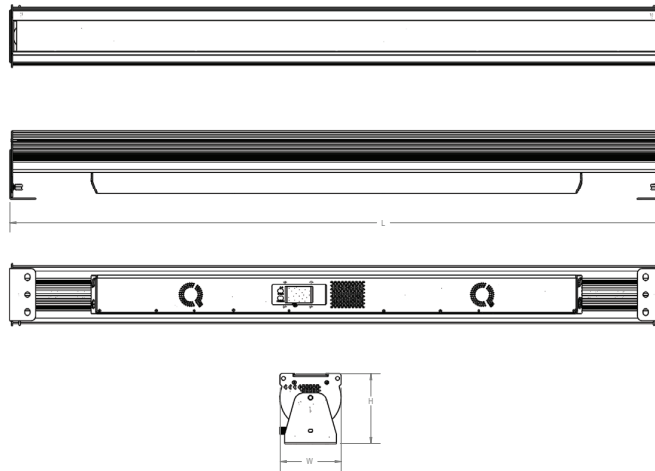
CYC LENS



BORDER LENS



DIMENSIONS



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Patents pending

www.chroma-q.com

Chroma Q
Color Force



Source Four LED Series

Type(s)

Project

Date

Notes

GENERAL INFORMATION

The **Source Four LED Series 2** revolutionizes LED lighting. With optimized arrays and finely-tuned electronics, Series 2 offers a combination of light quality and output that cannot be matched.

Source Four LED Series 2 Lustr luminaires are based on the x7 Color System, utilizing seven colors including high-output lime to achieve true, usable broad-spectrum color with a depth and feel beyond any RGB fixture.

Source Four LED Series 2 Daylight HD and Tungsten HD arrays are designed for broadcast lighting, offering flicker-free operation and high-definition lighting. With a new mix of LED emitters, the luminaires' output is significantly brighter than the original Source Four LED white-light arrays. The Daylight HD array produces variable-cool white (4000 to 6500 K) light that imitates natural daylight. The Tungsten HD array matches conventional tungsten lighting, with adjustable warm-white (2700 to 4500 K) light. They offer tint control, so they can be tweaked to perfectly illuminate individual skin tones.

Series 2 light engines work with all Source Four lens tubes to deliver a high-quality, controllable beam of LED light. For the best results, we highly recommend that you use EDLT lens tubes. We also offer a special LED-only version of the 50° lens tube. Combine with available adapters to transform your fixture into a fully functional Fresnel or CYC light.

ORDERING INFORMATION

Source Four LED Series 2 Light Engine with Shutter Barrel

(For use with fixed-field lens tubes only)

MODEL	DESCRIPTION	ETL PART NUMBER	CE PART NUMBER
S4LEDS2LS-0	Source Four LED Series 2 Lustr with shutter barrel, black	7461A1051	7461A1251
S4LEDS2THDS-0	Source Four LED Series 2 Tungsten HD with shutter barrel, black	7461A1061	7461A1261
S4LEDS2DHDS-0	Source Four LED Series 2 Daylight HD with shutter barrel, black	7461A1071	7461A1271

Source Four LED Series 2 Light Engine Body

(For use with zoom lens tubes and retrofit of existing fixtures)

MODEL	DESCRIPTION	ETL PART NUMBER	CE PART NUMBER
S4LEDS2L-0	Source Four LED Series 2 Lustr, body only, black	7461A1050	7461A1250
S4LEDS2THD-0	Source Four LED Series 2 Tungsten HD, body only, black	7461A1060	7461A1260
S4LEDS2DHD-0	Source Four LED Series 2 Daylight HD, body only, black	7461A1070	7461A1270

Color options: -1 = white, -5 = silver gray/custom colors
 Fixture ships with a soft-focus diffuser in a gobo holder and a 1.5 m powerCON® power-input cable with a connector of choice. See page 7 for connector options.

Please note: Lens tubes to be ordered separately.



Source Four
LED Series 2

PRODUCT SPECIFICATIONS

Source

LED details	60 Lumileds LUXEON® Rebel LED
Max lumens	Series 2 Lustr: 8,667 Series 2 Daylight HD: 13,060 Series 2 Tungsten HD: 11,512
Lumens per watt	Series 2 Lustr: 51.9 Series 2 Daylight HD: 52.7 Series 2 Tungsten HD: 55.3
L70 rating (hours to 70% output)	Lustr: 54,000 hours Daylight/Tungsten HD: >60,000 hours

Color

Colors used	Series 2 Lustr: Red, Amber, Lime, green, Cyan, Blue, Indigo Series 2 Daylight HD: Red, Mint, Blue, Indigo Series 2 Tungsten HD: Red, Red-Orange, Mint, Blue, Indigo
Color temperature range	Series 2 Lustr: 2,200–6,500 K*
Calibrated array	Yes
Red shift	Yes (can be disabled)

*Daylight HD is best suited for CT between 4000 and 6500 K. Tungsten HD is best suited for CT between 2700 and 4500 K.

Optical

Beam angle range	Swappable lens tubes between 5°–90°
Gate size	80 mm
Aperture size	6.25–14 in (depending on lens tube)
Pattern projection	Yes
Pattern size	A or B
Camera flicker control/Hz range	Yes: 900–25,000 Hz
Notes	Can be used with LED CYC and Fresnel adapters

Control

Input method	DMX512 via 5-pin XLR
Protocols	DMX512/RDM
Modes (footprint)	See page 8
RDM configuration	Yes
UI type	LCD
Local control	Yes
Onboard presets	Yes
Onboard sequences	Yes
Onboard effects	No
FixtureLink	Yes
Notes	15-bit virtual dimming engine

ETC utilizes a nationally recognized third-party lab for luminaire testing according to IES LM-84. See etcconnect.com/About/News/ETC-Fixture-Ratings-and-Warranties-Extended.aspx.

All LED sources experience some lessening of light output and some color shift over time. LED output will vary with thermal conditions. In individual situations, LEDs will be used for different durations and levels. This can eventually lead to minor alterations in color performance, necessitating slight adjustments to presets, cues or programs.

Electrical

Voltage range	100–240 VAC 50/60 Hz
Input method	Neutrik powerCON in and thru, requires power from a non-dimmable source
Inrush	50 A at 120 V (First half-cycle) 107 A at 240 V (First half-cycle)
Fixtures per circuit*	9 Lustr or 7 Daylight HD/Tungsten HD (15 A via power thru connector) 10 Lustr or 8 Daylight HD/Tungsten HD (via R20 module or Echo Relay Panel)
Wattage typical	Series 2 Lustr: 167 Series 2 Daylight HD: 248 Series 2 Tungsten HD: 208
Current draw	Series 2 Lustr: 1.44 A at 120 V 0.78 A at 240 V Series 2 Daylight HD: 1.75 A at 120 V 0.93 A at 240 V Series 2 Tungsten HD: 2.08 A at 120 V 0.93 A at 240 V

*All measurements are for 120 V, 60 Hz. Results may vary in different regions.

Thermal

Ambient operating temp	0°–40°C (32°–104°F)
Fan (controllable)	Yes (yes)
Droop compensation	Yes
dB range	22.5 dBA average at 1 m
BTUs/hour	Series 2 Lustr: 569 Series 2 Daylight HD: 846 Series 2 Tungsten HD: 709

Physical

Materials	Die-cast, all metal housing
Color options	Black, white, silver, or custom color
Mounting options	Yoke, cyc floor stand (sold separately)
IP rating	IP20
Weight	With barrel: 8.3 kg (18.3 lb) Without barrel: 6.5 kg (14.3 lb)
Included accessories	Hanging yoke, 1.5 m power cable, soft-focus diffuser in an A-size gobo holder, gel frame, c-clamp*
Notes	- Positive locking double-clutch fixture body - Slot for glass or stainless steel patterns and soft focus diffuser - Wide accessory slot with sliding cover for motorized pattern device or iris

*(not included with CE fixtures)

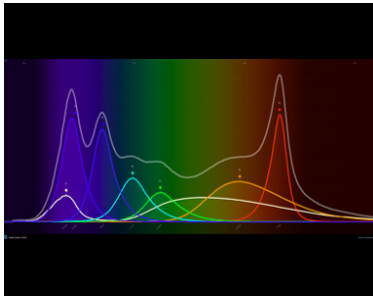
Warranty

Fixture	5 years
LED array	10 years

Regulatory and Compliance

Approved regulatory standards	cETLus Listed Conforms to UL1573 Certified to C22.2 C22.#166 CE Compliant
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PRODUCT FEATURES



BROAD SPECTRUM COLOR

Interacts seamlessly with conventional sources. Beautifully illuminates skin tones and other objects for natural appearance and high color rendering.



MULTIPLE LED ARRAY OPTIONS

Available array options include Lustr, Daylight HD, and Tungsten HD.

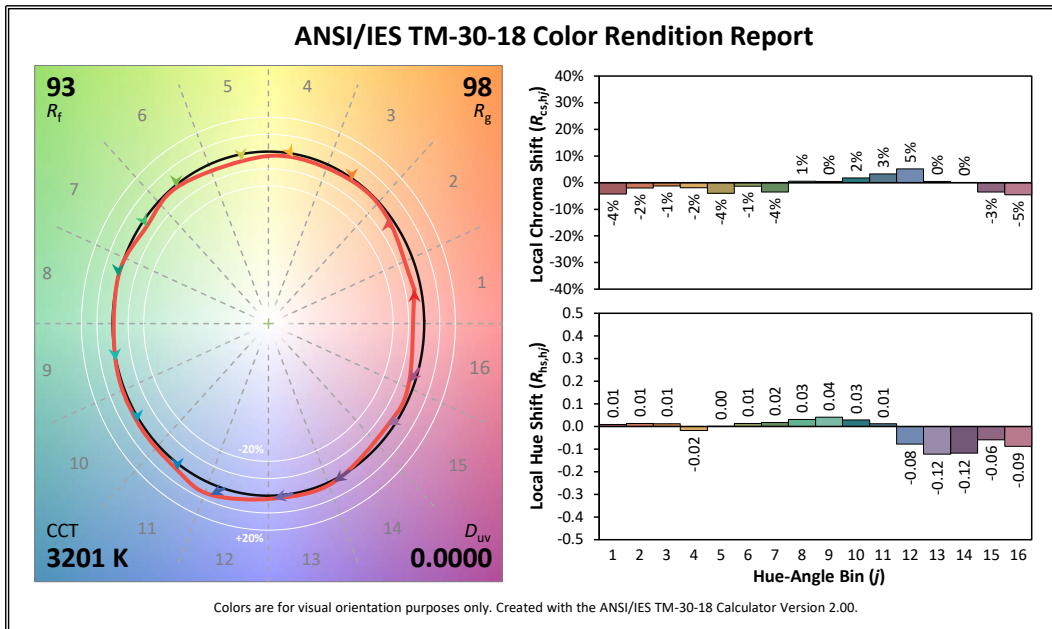


USER-FRIENDLY CONTROL INTERFACE

With multiple modes and fixture settings including color mixing as 'hue, saturation, brightness' or 'RGB.'

COLOR METRIC INFORMATION

SOURCE FOUR LED SERIES 2 LUSTR 3200 K TM-30-18



PREFERRED LENSING OPTIONS

(Lenses sold separately)

Fixed Beam Lenses

MODEL	DESCRIPTION	PART NUMBER
LED50LT	LED-specific 50° EDLT with lenses installed	7460A2008
LED50LT-1	LED-specific 50° EDLT (white) with lenses installed	7460A2008-1
436EDLT	36° EDLT w/lens installed	7060A2048
436EDLT-1	36° EDLT (white) w/lens installed	7060A2048-1
426EDLT	26° EDLT w/lens installed	7060A2047
426EDLT-1	26° EDLT (white) w/lens installed	7060A2047-1
419EDLT	19° EDLT w/lens installed	7060A2046
419EDLT-1	19° EDLT (white) w/lens installed	7060A2046-1
490LT	90° w/lens installed	7060A2052-K
490LT-1	90° (white) w/lens installed	7060A2052-1K
470LT	70° w/lens installed	7060A2051-K
470LT-1	70° (white) w/lens installed	7060A2051-1K
414LT	14° w/lens installed	7060A2050-K
414LT-1	14° (white) w/lens installed	7060A2050-1K
410LT	10° w/lens installed	7060A2001-K
410LT-1	10° (white) w/lens installed	7060A2001-1K
405LT	5° w/lens installed	7060A2000-K
405LT-1	5° (white) w/lens installed	7060A2000-1K

Zoom Lens Assemblies

Use with light-engine body models.

MODEL	DESCRIPTION	PART NUMBER
41530LT	Source Four 15–30° Zoom lens assembly	7060A2030-K
42550LT	Source Four 25–50° Zoom lens assembly	7060A2032-K

LED Adapters

MODEL	DESCRIPTION	PART NUMBER
S4LEDCYC	LED Cyc adapter	7460A2011
S4LEDFRES	LED Fresnel adapter	7460A2016

CRI AND CQS RATINGS

Source Four LED fixtures were evaluated for CRI and CQS performance using measured output spectrum and optimized mix solutions for a best spectral match to black body sources at 3200 K and 5600 K.

FIXTURE	CRI	CQS	COLOR FIDELITY	DUV
Source Four LED Series 2 Lustr Reg at 3200 K	86	88	88	0
Source Four LED Series 2 Lustr Reg at 5600 K	90	91	91	0
Source Four LED Series 2 Tungsten HD Reg at 3200 K	94	91	91	0.002
Source Four LED Series 2 Daylight HD Reg at 5600 K	91	89	88	0.002

All Source Four LED luminaire versions provide excellent color rendering to the eye, particularly at higher color temperature settings, such as 5600 K. In most cases, the Duv is 0.000. A Duv rating of 0.000 indicates that the color mix used is exactly on the black body line, with no green or magenta tint.

ADDITIONAL ORDERING INFORMATION

Fixture Accessories

MODEL	DESCRIPTION	PART NUMBERS
400CC	C-Clamp (included)	7060A2009 (not CE)
400SC	Safety cable	7060A1022
400PH-A	Pattern holder (A size)	7060A1013
400PH-B	Pattern holder (B size)	7060A1014
400PH-G	Glass pattern holder	7060A1019
400RS	Drop-In Iris	7060A1012
400CF	Color frame (6.25 in)	7060A3043
407CF	7.5 in square color frame	7061A3007
400DN	Donut	7060A1015
400TH	Top hat, 6.35 in/159 mm	PSF1021
400PTH6	Top hat, 7.5 in/191 mm	PSF1023
410TH	Top hat, 12 in/305 mm (for 10° lens tubes)	PSF1024
405TH	Top hat, 14 in/356 mm (for 5° lens tubes)	PSF1025
400HH	Half hat	PSF10216
DPSJ-X	25 ft PowerCON to Edison input power cable with inline switch	7400B7030 (not CE)

Power Input Cables

Use information below to order 5 ft power input leads with factory-fitted connectors. CE fixtures ship with powerCON to bare end cable in the box.

MODEL	DESCRIPTION	PART NUMBERS
DPA-A	5 ft PowerCON to parallel blade U-ground (Edison) connector	7410B7037-A
DPA-B	5 ft PowerCON to 20 A two-pin and ground (stage pin) connector	7410B7037-B
DPA-C	5 ft PowerCON to grounded 20 A twistlock connector	7410B7037-C
DPA-X	5 ft PowerCON to bare-end power input lead	7410B7037-X

Power Thru Jumpers

Note: Power thru jumpers connect to fixture's output (thru) connector to provide link to successive fixtures

MODEL	DESCRIPTION	PART NUMBERS
DPJ-5	5 ft PowerCON-to-PowerCON fixture-to-fixture jumper	7410B7020
DPJ-10	10 ft PowerCON-to-PowerCON fixture-to-fixture jumper	7410B7010

Diffusers

MODEL	DESCRIPTION	PART NUMBERS
S4LED-SFD	Source Four LED - Soft focus diffuser (included)	7460A4019
S4LED-SWD6	Source Four LED - Smooth wash diffuser for 6.25 in gel frame slots	7460K1001
S4LED-SWD7	Source Four LED - Smooth wash diffuser for 7.5 in gel frame slots	7460K1002
S4LED-SWD12	Source Four LED - Smooth wash diffuser for 10° lens tubes	7460K1003
S4LED-SWD14	Source Four LED - Smooth wash diffuser for 5° lens tubes	7460K1004

The Soft Focus Diffuser fits into a standard A-Size pattern holder and delivers beautiful homogenized light when not in sharp focus. Also, use with patterns for dappled and soft-edge projections.

The Smooth Wash Diffuser is used when extra-smooth blending of multiple Source Four LED fixtures is required. The smooth wash diffuser is placed into the gel-frame slot of the lens tube.

CONTROL OPTIONS

User settings on Source Four LED Series 2 fixtures allow multiple operational modes and settings for either console operation via DMX protocol or stand-alone operation. The expanded LCD display provides easy navigation to all possible settings and options. Some of the setting options are:

- Multiple DMX choices ranging from a simple RGB profile – which effectively controls all seven LED colors via three channels – to nine-channel ‘direct’ color and intensity control
- Multiple dimming curve options
- Preset colors and sequences for stand-alone (no console required) operation
- White point selection: white light and color behavior based on a specific color-temperature white light, i.e. 3200 K, 5600 K, etc.
- Loss of data behavior options – instant off, hold last look for two minutes, etc.
- Output modes – three output options that offer you a choice between maximum output and maximum consistency

See the user manual for a complete explanation of all of the control settings and options for the Source Four LED Series 2.

To assist in managing the numerous control and fixture behavior choices, five combinations of operational settings are available to quickly get started. These settings are specifically created for different applications and are easily accessible at the fixture display. Each setting can then be modified as required to take advantage of all of the possible control features.

Setting Title	Profile	Description	Typical Features*
General	Direct	Factory Default: For general-purpose use, including interior architectural applications	<ul style="list-style-type: none"> • Standard dimming curve • Regulated output for color consistency
Stage	HSI Plus 7 Enabled	Theatrical lighting: Duplicates the color and dimming behavior of tungsten stage lighting fixtures	<ul style="list-style-type: none"> • Incandescent dimming curve • Regulated output for color consistency • 3200 K white-point setting
XT Arch	HSI	Exterior architectural lighting: Provides a high degree of color consistency in high ambient temperature environments	<ul style="list-style-type: none"> • Standard dimming curve • Protected output • 3200 K white-point setting
High Impact	RGB	Event lighting: Enables quickest response, simple RGB control and strobe channel for maximum effect usage	<ul style="list-style-type: none"> • Quick dimming curve • Boost mode for maximum intensity • 5600 K white-point setting
Studio	Studio	Studio factory default: Enables three-parameter control of white light (intensity, white point, and tint) via DMX from console or console-free from fixture display	<ul style="list-style-type: none"> • Linear dimming curve • Regulated output mode for color consistency

*See user manual for complete list of features for each Quick Setup

LUSTR CONTROL OPTIONS

DMX Input Channel Profiles

DMX Profile	DMX Channels	Channel Assignments	Notes
Direct	10	1 – Red 2 – Lime 3 – Amber 4 – Green 5 – Cyan 6 – Blue 7 – Indigo 8 – Intensity 9 – Strobe 10 – Fan Control	Direct control of each individual color with a separate master- intensity channel. Color calibration of LEDs is not active in this mode. This profile will produce additive color crossfades.
HSI	6	1 – Hue (coarse) 2 – Hue (fine) 3 – Saturation 4 – Intensity 5 – Strobe 6 – Fan Control	High-resolution hue (two channels), saturation, and intensity control. HSI mode will produce color crossfades around the color space.
HSIC	7	1 – Hue (coarse) 2 – Hue (fine) 3 – Saturation 4 – Intensity 5 – Strobe 6 – Fan Control 7 – Color Point (CCT)	High-resolution hue, saturation and intensity control as above, with the addition of a color- point channel to adjust the color temperature of the fixture in both white light and color. Color crossfade performance is the same as HSI.
RGB	6 (Ch. 4 not used)	1 – Red 2 – Green 3 – Blue 4 – n/a 5 – Strobe 6 – Fan Control	Effectively addresses all seven colors via three channels of control. RGB profile will produce additive color crossfades.
Studio	6 (Ch. 4 not used)	1 – Intensity 2 – Color Point (CCT) 3 – Tint 4 – n/a 5 – Strobe 6 – Fan Control	Controls fixture as a white light unit. If no DMX, (console input, for example), is present, the fixture can be adjusted for these three parameters on the user interface at the back of the unit.

ADDITIONAL PROFILE OPTIONS

Plus 7	Seven additional color-control channels are available in RGB, HSI and HSIC input-profile settings. For example, HSI with ‘Plus 7’ enabled becomes a 15-channel profile:	
	1 – Hue (coarse) 2 – Hue (fine) 3 – Saturation 4 – Intensity 5 – Strobe 6 – Fan Control 7 – n/a 8 – Plus 7 Control on/off 9 – Red 10 – Lime 11 – Amber 12 – Green 13 – Cyan 14 – Blue 15 – Indigo	The desired color and intensity is achieved by using the HSI or RGB channels Placing channel eight at a value over 51% gives the fixture a 15-channel profile Channels 9–15 represent the native colors of the fixture and allow the operator to adjust individual color channels to fine tune the color output
Strobe	Variable strobe control: 0% is no strobe. The fixture output will strobe more rapidly as the strobe channel value approaches 100%.	

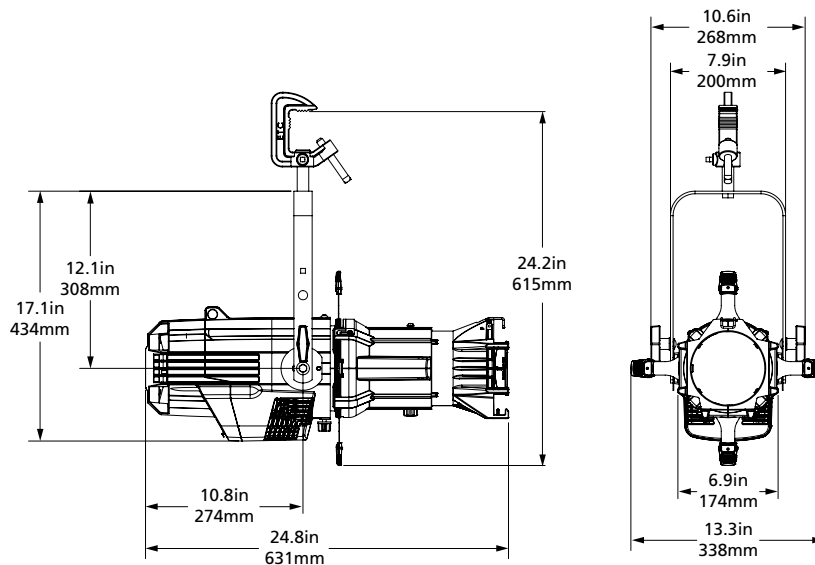
PHOTOMETRY

The Source Four LED Photometry Guide and complete IES photometry data files may be downloaded from the ETC website. Go to etcconnect.com.

PHYSICAL

	WEIGHT		SHIPPING WEIGHT	
	lb	kg	lb	kg
With Barrel	18.3	8.3	28	12.7
Without Barrel	14.3	6.5	23	10.4

*Does not include mounting hardware or lens tube



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Source Four LED Series 2

Maverick MK3 Profile



FEATURES

- Fully featured 820 W LED yoke profile fixture including CMY+CTO color mixing, a four blade framing shutter system with rotation, a color wheel, a CRI filter, animation wheel, a 9:1 zoom, two independently layerable prisms, two frosts, a static and a rotating gobo wheel
- 16-bit dimming of master dimmer for smooth control of fades
- Variable CMY + CTO color mixing system to create a wide pallet of colors
- Independently layerable 5 facet linear and 5 facet round prisms for increased prism options
- One rotating and one static gobo wheel for dynamic texture possibilities
- Independent light and medium frosts for beam control
- + or - 60 degree rotation framing shutter system to allow for better framing positioning.
- Animation wheel for enhanced visual effects
- Iris for total beam control
- RDM control over DMX for fixture reporting
- 5.9° to 64.1° zoom range for variable beam sizes
- 3 menu presets and preset cross load for decreased shop setup time
- True 1 compatible power input
- Battery backup display with auto-rotate depending on fixture orientation

Construction / Physical

- Dimensions: 16.10 x 12.20 x 29.43 in (409 x 310 x 748 mm)
- Weight: 76.4 lb (34.7 kg)
- Exterior Color: Black
- Housing Material: High-impact flame-retardant polymer

Connections

- Power Connection: Edison plug to Seetronic Powerkon IP65
- Power Input: Seetronic Powerkon IP65

SPECIFICATIONS

Optical

- Light Source: 1 LEDs (CW) 820 W, (24 A), 7,258 K, 50,000 hours life expectancy
- Color Temperature (at full): 7,441 K
- Front lens diameter: 147 mm
- CRI: 74.1
- CRI W / Filter: 91.2
- TLCI: 50.9
- Beam Angle: 5.9° to 52.7°
- Field Angle: 7.6° to 61.4°
- Zoom Range: 5.9° to 64.1°
- Cutoff Angle: 8.1° to 64.1°
- Lumens - Source: 51,000
- Lumens - Output: 23,000
- Illuminance (5.9°): 58,869 lux @ 5 m
- Illuminance (52.7°): 1,860 lux @ 5 m
- Selectable PWM: 600 Hz, 1200 Hz, 2000 Hz, 4000 Hz, 6000 Hz, 15000 Hz

Dynamic Effects

- Pan and Tilt: 540°/270°
- Pan and Tilt Ranges: 540°, 360°, 180° pan/270°, 180°, 90° tilt
- Colors: 6 + white, split colors, continuous scroll at variable speeds
- Colors: CMY flags, CTO flag, CRI filter, color correction
- Gobos (1): 7 + open (7 glass), rotating, interchangeable, indexing, slot-n-lock, continuous scroll at variable speeds
- Gobos (2): 9 + open (9 glass), continuous scroll at variable speeds
- Effect Wheel: 1 effect
- Framing Shutters: Yes
- Dimmer: Electronic
- Shutter/Strobe: Electronic
- Zoom: Motorized
- Focus: Motorized
- Frost 1: Light Frost - Motorized
- Frost 2: Medium Frost - Motorized
- Iris: Motorized
- Prism: 5 linear facets, motorized, rotating
- Prism: 5 Circular facets, motorized, rotating
- Strobe Rate: 0 to 25 Hz
- Move-in-Black: Yes
- Dim Curves: 5

Optional Accessories

- Professional Clamps: CTC-50HC, CTC-50HCN
- Safety Cable: SC-07
- IP Rated Seetronic® Powerkon Extensions
- DMX cables
- Flight Case: TBA
- Upload 08 software uploader

- Data Connectors: 3- and 5-pin XLR, Amphenol XLR Net RJ45 connectors in/out
- Cable Length (power): 5 ft (1.5 m)

Control

- Control Protocol: Art-Net, DMX, W-DMX, sACN, RDM
- DMX Channels: 38 or 54
- Art-Net Channels: 38 or 54
- Modes/Personalities: 2 personalities (38, 54)

Electrical

- Input Voltage: 100 to 240 VAC, 50/60 Hz (auto-ranging)
- Power and Current: 1,230 W, 10.34 A @ 120 V, 60 Hz
- Power and Current: 1,190 W, 5.81 A @ 208 V, 60 Hz
- Power and Current: 1,180 W, 5.24 A @ 230 V, 50 Hz
- Power and Current (resting): 120 W, .98 A @ 120 V, 60 Hz
- Power and Current (resting): 126 W, .60 A @ 208 V, 60 Hz
- Power and Current (resting): 127 W, .55 A @ 230 V, 50 Hz
- Breaker Size: F20 A, 250 V

Certifications / Qualifications

- CE, MET, FCC
- IP Rating: IP20, dry location
- Noise Level (ambient): 36.5 dB level @ 1 m
- Noise Level (Full): 62.1 dB level @ 1 m
- Noise Level (Eco): 43 dB level @ 1 m
- Temperature (Ambient): -4 °F to 113 °F (-20 °C to 45 °C)

What's Included

- Maverick MK3 Profile
- Seetronic Powerkon IP65 power cord
- 2 Omega brackets with mounting hardware
- Quick Reference Guide



GENERAL INFORMATION

Ion Xe 20 provides complete control of conventional and moving lights, LEDs and media servers. It supports multiple users with partitioned parameter control and full backup, multiple playback faders and cue lists in a tracking, move-fade environment. The desk includes backlit buttons and 20 45mm non-motorized faders with associated displays.

FEATURES

- 2,048 or 12,288 outputs
- 32,768 control channels (any number from 1 - 99,999)
- Up to 99 discrete users
- Partitioned control
- Master playback pair with 100mm faders
- 20 45mm faders x 100 pages for configurable faders, submasters, masters and grandmaster control with two associated high-contrast monochrome LCD displays
- User-definable direct selects
- Four discrete palette types (IFCB)
- Presets function as "all palette"
- Effects provide dynamic relational and absolute progressive behavior
- Central information area (CIA) accesses the browser and other controls
- Four pageable encoders for non-intensity parameter control
- Configurable high-density channel display, with format and flexi-channel modes
- Up to six abstract color spaces, tinting, spectrum and fade path tools.
- User configurable, interactive Magic Sheets
- ETCNet2™ and Net3™ (powered by ACN), ArtNet and Avab® UDP network output protocols
- Show import from Obsession, Express™, Expression®, Emphasis®, Congo®, Cobalt®, Grand MA1, Grand MA2, Safari and Strand 500/300 Series
- Two individually configurable Ethernet ports
- Multiple MIDI and/or SMPTE TimeCode Inputs, Analog/Serial Inputs, OSC transmit/recieve
- Virtual Media Server function for pixel mapped effects, images, animations
- Support for multiple languages, including English, German, Spanish, French, Italian, Japanese, Korean, Russian and Chinese (Simplified and Traditional)

ORDERING INFORMATION

Ion Xe 20

MODEL	DESCRIPTION
Ion Xe 20 - 2K	Ion Xe 20, 2,048 outputs (minimum)
Ion Xe 20 - 12K	Ion Xe 20, 12,288 outputs (maximum)
Ion Xe RPU - 2K	Ion Xe Remote Processor, 2,048 outputs
Ion Xe RPU - 12K	Ion Xe Remote Processor, 12,288 outputs
Ion Xe 10K	After-sale 10K upgrade
ETCnomad 512	Client for Mac/PC

Output protocols are distributed using ETCNet2 DMX Nodes or Net3 DMX/RDM Gateways. I/O Gateways and Show Control Gateways provide switch closure functionality, MIDI and SMPTE TimeCode.

Ion Xe 20 Accessories

MODEL	DESCRIPTION
Eos MFW 10	Eos Motorized Fader Wing 10
Eos MFW 20	Eos Motorized Fader Wing 20
Eos FW 20	Eos Standard Fader Wing 20
Eos FW 40	Eos Standard Fader Wing 40
Net3 RVI3	Net3 Remote Video Interface
ETCpad	ETC Portable Access Device
Ion Xe - FC	Ion Xe Flightcase

Eos Family Offline Editor software for Mac and PC platforms is called ETCnomad and is available for download from www.etccconnect.com

Ion Xe 20 requires Windows 7 compatible external monitors, 1280x1024 minimum resolution, standard, touch or multi-touch

SHIPS WITH:

- Dust cover
- One Littlite
- Mouse and mousepad
- External alphanumeric keyboard
- Two active display-port to DVI adapters
- One locking IEC power cord



SPECIFICATIONS

SYSTEM CAPACITY

- 2,048 or 12,288 Outputs
- 32,768 Control Channels (devices)
- 10,000 Cues
- 999 Cue Lists
- 200 Active Playbacks
- 999 Submasters
- 100 Fader Pages
- 4 x 1,000 Palettes (Intensity, Focus, Color, Beam)
- 1,000 Presets (all palette)
- 1,000 Groups
- 1,000 Effects (relative, absolute or step)
- 99,999 Macros
- 1,000 Snapshots
- 1,000 Curves
- 1,000 Color Paths
- Supports two external display-port monitors at 1280x1024 minimum resolution, with optional touch or multi-touch control
- Solid-state hard drive
- Five USB ports for flashdrives, pointing devices, keyboards

DISPLAY FUNCTIONS

- All show data may be viewed on a single external monitor. External views may be posted separately or expanded across a maximum of two monitors. Three user-configurable workspaces per display, with split-screen/sizing controls.
- The Central Information Area accesses:
 - Browser
 - File Management
 - System Defaults
 - Show Defaults
 - Desk Defaults
 - Partition Definitions
 - Network Configuration
 - Show Data Utilities
 - Print to PDF
 - Record Target Lists
 - Patch functions
 - Help
 - Electronic alpha-numeric keyboard
 - Command Line
 - Selected Cue
 - Error messages
 - Context-Sensitive Control
 - Parameter Categories and individual parameters
 - Filters
- Channel Displays
 - Live channel or table view
 - Blind cue, palette, preset and group views, in list, channel, table and spreadsheet formats
 - User-configurable to show required parameters and/or parameter categories (IFCB)
 - Flexi-channel to determine which channels to display
 - Zoom allows user to define how many channels are viewed
 - Color-coded intensity levels indicate direction of move

SPECIFICATIONS

- Color-coded non-intensity levels indicate change from previous state
- Graphic differentiation of moving lights, single parameter devices and unpatched channels
- Magic Sheets
 - User-defined interactive display layouts
 - Objects and images may be imported
- Patch Views
 - Patch by channel
 - Patch by address
 - Patch by Device List (RDM)
 - Assign proportional patch value, curve and, preheat value for intensity
 - Swap pan and tilt
 - Invert pan and tilt
 - Custom fixture editor
 - User configurable shutter order
- Playback Status Display
 - Accesses status of 100 fader pages
 - Expanded cue list for selected cue, optional dynamic countdown of active cues
- Cue List Index
- Effect Editor
- Group Editor
- Park Display
- Dimmer Monitoring
- Submaster List
- Fader Config Display

PLAYBACK CONTROLS

- Master Playback crossfade pair with two 100mm potentiometers, Go, Stop/Back and Load
- 50 pages of 20 45mm faders, each configurable as:
 - IFCB Palette/Preset Lists or single instances
 - Cue Playback, with user-configurable button/slider behavior
 - Grand Master with Blackout
 - Additive or Inhibitive Submaster, with user-configurable button/slider behavior
 - Filtered Manual Timing Master
- Rate Controller
- Playback fader controls include:
 - Load to assign cue lists
 - Timing Disable
 - Off/On
 - Release
 - Freeze
 - Assert
 - Manual Override
 - Rate
 - Go To Cue 0
 - Spread
 - Background Enable/Disable
 - 10 Priority States
 - 10 Background Priority States
 - Parameter and channel filters
- Macros
 - May be set to play background or foreground
 - Startup and Shutdown Macros
 - Disconnect Macros

SPECIFICATIONS

MANUAL CONTROL

- Channel selection from keypad and/or multi-touch direct selects
- Lists constructed with +, -, thru
- Intensity set with level wheel, keypad, level button, full and out
- Select Last recalls last sequential channel selection set
- Select Manual selects all channels with manual values
- Select Active selects all channels with intensity above zero
- Ordered groups
- Offset; including even, odd, random and reverse
- Fan
- Sneak
- User-definable home
- Home by parameter, parameter category or all non-intensity parameters
- Capture
- Park at level
- Scaled park for temporary percentage adjustment
- Recall-from and Copy-to commands
- About provides detailed view of selected channels or record targets
- Undo
- Highlight and Lowlight, with optional user-definable Rem Dim
- Lamp controls to strike and douse arc sources, calibrate devices

PROGRAMMING FEATURES

- Channel Functions
 - Non-intensity parameters set via numeric entry or pageable encoders
 - Encoders support software-controlled tactile response
 - Local display of color and gobo images
 - Color matching to gel selector
 - Color Path, color tinting and color spectrum tools.
 - Apply discrete time and delay per channel parameter
- Palette and Preset Functions
 - Record and Update
 - Toggle display to absolute data
 - Up to 999 decimal values may be inserted between any two whole numbers
- Effects
 - Create live or blind
 - Pattern-based relative dynamic effects
 - Absolute effects
 - Step effects
 - Channel level overrides
 - Cue level overrides
 - Entry mode determines how parameters enter effects
 - Exit mode determines how parameters depart effects
- Cue Recording
 - Cue List HTP/LTP Intensity
 - Cue List Priority and Background Priority
 - Cue List Assert
 - Fader as progress controller, manual or intensity master
 - Record manual values or channels in use
 - Auto playback of recorded cues
 - Referenced or auto-mark instructions
 - Block at cue or parameter level
 - Assert at cue or parameter level
 - All-fade flag

SPECIFICATIONS

- Follow or hang times
- Out of sequence link
- Loop functions
- Cue level parameter category timing
- 20-part multi-part cues
- Cue-level rate override
- Mark flags for Auto or Referenced and Referenced Priority Marks
- Up to 999 decimal cues between each two whole-numbered cues
- Execute List
 - Triggers snapshot
 - Triggers macros
 - Triggers go of other cues
 - Syncs go to multiple cue lists
 - Show-control triggers
 - Analog triggers
- Update and Update Trace functions
- Undo record and delete
- Submaster Recording and Playback
 - 999 additive or inhibitive submasters
 - Bump button timing for fade up/dwell/fade out
 - Assert/Channel select button
 - Exclusive or Shielded Mode
 - Background enable/disable
 - Restore to background or minimum value
 - LTP/HTP intensity
 - Fader as progress controller or intensity master
 - Bump button to mark NPs
 - Priority and Background Priority status
 - Motorized faders match level across all devices and when paging
 - Submaster mapping on the fly
- Curves
 - Assignable in patch to modify dimmer output ramp
 - Assignable at cue or cue part level to modify intensity crossfade profile or non-intensity parameter ramping

INTERFACES

- Two individually configurable ethernet ports
- ETCNet2, Net3 (powered by ACN), ArtNet and Avab UDP output protocols
- Four DMX/RDM ports
- Contact-closure triggers via D-Sub connector
- Two video connectors support display-port external displays (1280x1024) with optional single-touch or multi-touch screen control
- USB multipurpose (five ports)
- OSC Transmit/Receive
- UDP Transmit/Receive
- MIDI TimeCode, MIDI Show Control through Gateway
- SMPTE TimeCode through Gateway
- Contact closure (12 analog inputs, 12 SPDT contact outputs, RS-232) through Gateway

ELECTRICAL

- AC input (100 - 240V at 50/60 Hz)
- Power consumption (less external monitors) approximately 1 amp at 120V or 230/240V

PHYSICAL

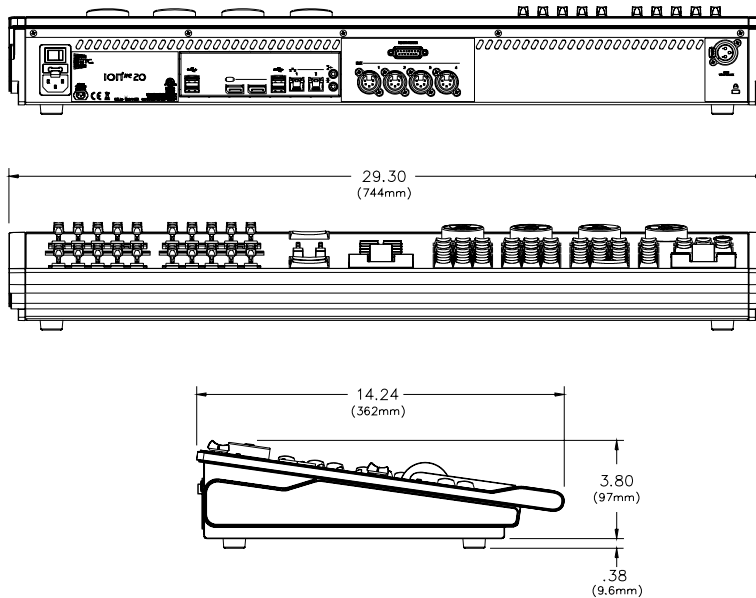
Ion Xe 20 Dimensions*

MODEL	HEIGHT		WIDTH		DEPTH	
	inches	mm	inches	mm	inches	mm
Ion Xe 20	4.10	104	29.30	744	14.24	362
Ion Xe 20 in shipping container	7.75	197	36.50	927	18.50	470
Ion Xe 20 in roadcase	8.34	212	45.12	1,146	19.45	494

Ion Xe 20 Weights*

MODEL	WEIGHT	
	lbs	kgs
Ion Xe 20 console	16.6	7.35
Ion Xe 20 in shipping container	22.5	9.98
Ion Xe 20 in roadcase	46.7	TBD

*Weight and dimensions typical



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GENERAL INFORMATION

The Eos fader wings may be used to provide extended playbacks for Eos Ti, Gio, Gio @5, Ion, Ion Xe, Ion Xe 20, Eos/Ion/Ion Xe RPU's, RVIs, ETCnomad (PC or Mac native) and ETCnomad Puck.

Up to three wings may be attached to any of these devices. There are two wings – a x40 and x20. The x40 has 40 45mm faders, four 4.2" high-resolution monochrome LCDs and two control buttons. The x20 includes 20 faders, two displays and two control buttons per fader. The wing provides power sensing and automatically turns on when both an active USB data connection and mains power are provided via the external 12V power supply.

Connected devices must be running Microsoft Windows 7 or higher or Mac OSX 10.11 (El Capitan) or later. These wings are NOT compatible with Windows XP.

FEATURES

- Pageable playbacks (100 pages are supported)
- Paging/bank conventions are determined in a setup menu
- Button/fader and configuration mapping displayed via high-resolution displays.
- Two powered USB ports
- VESA 100x100mm mountable
- Kensington Lock compatible locking point

INTERFACES

- AC Input (100 – 240VAC at 50/60Hz) with external power supply
- Two USB ports

ORDERING INFORMATION

Eos Fader Wings

MODEL	DESCRIPTION
Eos FW 40	Eos Standard Fader Wing 40
Eos FW 20	Eos Standard Fader Wing 20

Eos Fader Wing Accessories

MODEL	DESCRIPTION
Eos 2W FC	Eos Combined Wing Flight Case
Eos PGW	Eos Programming Wing
ETCnomad (512 or 6144)	ETCnomad (512 or 6,144 Output Kit)
ETCnomad Puck (512 or 6144)	ETCnomad Puck (512 or 6,144 Output)

Ships with

- Power supply
- IEC power cord
- Dust cover
- USB cable

The wing is compatible with

- Eos Ti
- Gio
- Gio @5
- Ion (Windows 7 only)
- Ion Xe and Ion Xe 20
- Eos/Ion/Ion Xe Remote Processor Units
- RV/RV13
- ETCnomad for PC/Mac (requires ETCnomad Lighting Controller Kit and output device)
- ETCnomad Puck

Note: These wings are not supported on Element or any Windows XP devices.



PHYSICAL

Eos Fader Wing Dimensions*

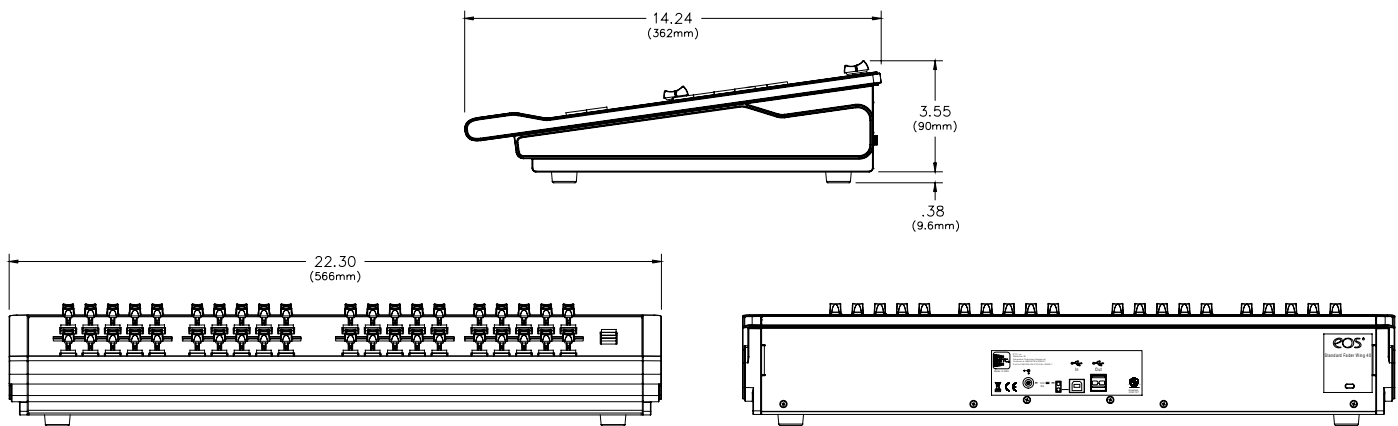
MODEL	HEIGHT		WIDTH		DEPTH	
	inches	mm	inches	mm	inches	mm
Eos FW 40	3.93	100	22.30	566	14.24	362
Eos FW 20	3.93	100	12.10	307	14.24	362
Eos FW 40 with Flight Case	7.75	197	26.75	679	18.50	470
Eos FW 20 with Flight Case	7.75	197	17.00	432	18.50	470

Eos Fader Wing Weights*

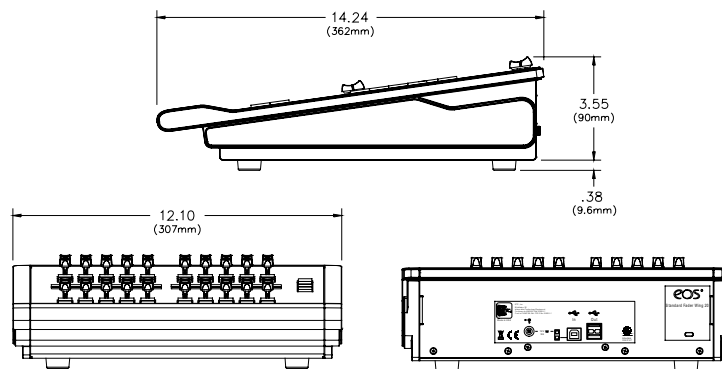
MODEL	WEIGHT		SHIPPING WEIGHT	
	lbs	kgs	lbs	kgs
Eos FW 40	8.5	3.86	13.5	6.13
Eos FW 20	5.0	2.27	9.3	4.22

*Weights and dimensions typical

EOS FADER WING 40



EOS FADER WING 20



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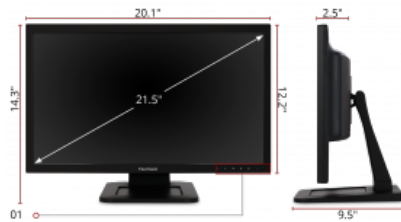
Key Features

Resistive Touch Technology | Versatile Connectivity | MEGA Dynamic Contrast Ratio | Dual Integrated Speakers



Product Description

The TD2210 is a 22" (21.5" viewable) Full HD monitor with resistive touch technology. With a robust, pressure-sensing touchscreen that is resistant to screen contamination, the TD2210 is ideal for use in retail, POS, and commercial environments. Resistive touch technology on the TD2210 is also fully functional in gloved environments and compatible with styluses. Featuring stunning Full HD resolution and 20M:1 MEGA Dynamic Contrast Ratio, the TD2210 delivers extremely sharp and crisp images. Flexible connectivity options include VGA, DVI, and USB ports, and a VESA-mountable design offers additional convenience for use as a wall-mounted display. Industry-leading warranty protection and ViewSonic product quality makes this durable touch display a great long-term investment for a variety of environments.



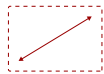
1. Menu Control Panel
2. Kensington Lock Slot
3. USB 2.0 Type A (x2)
4. USB 2.0 Type B
5. AC In



6. Internal Speakers
7. VGA
8. DVI
9. VESA Compatible Wall Mount (100 x 100 mm)



10. Headphones



22"
DISPLAY



TN
PANEL



1920 x 1080
RESOLUTION

Contact Sales

- call: 888.881.8781
- email: salesinfo@viewsonic.com
- visit: viewsonic.com

Display:

Display Size (in.):	22
Viewable Area (in.):	21.5
Resolution:	1920 x 1080
Static Contrast Ratio:	1,000:1
Dynamic Contrast Ratio:	20M:1
Brightness:	250 cd/m2
Backlight Life (Hours):	40,000
Response Time (Typical GTG):	5ms
Panel Type:	TN
Colors:	16.7M
Viewing Angles:	170° horizontal, 160° vertical
Light Source:	LED
Panel Surface:	3H Scratch Resistant Surface Hardness
Aspect Ratio:	16:9

Compatibility:

PC Resolution (max):	1920 x 1080
----------------------	-------------

Touch:

Touch Technology:	Resistive
Touch Points:	1-Point Touch

Connector:

USB Type A(1), USB Type B(1), VGA(1), DVI-I(1)

Audio:

Internal Speakers:	2W (x2)
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Video Signal:

Frequency Horizontal:	24 ~ 83KHz
Frequency Vertical:	50 ~ 76Hz

Video Input:

Analog Sync:	Separate Sync / Composite Sync / Sync on Green
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Power:

Eco Mode (Conserve):	11.5W
Eco Mode (optimized):	14W
Consumption (typical):	17.5W
Consumption (max):	29.5W
Voltage:	AC 100-240V (universal), 50-60Hz
Stand-by:	0.5W

Controls:

Physical Controls:	GameMode, 1, 2, 3, 4, Power
On Screen Display:	Auto Image Adjust, Contrast/Brightness, Input Select, Audio Adjust, Color Adjust, Information, Manual Image Adjust, Advanced Image Adjust, Setup Menu, Memory Recall (See user guide for complete OSD functionality)

Operating Conditions:

Temperature:	32-104° F (0 - 40° C)
Humidity (non-condensing):	20-90%

Ergonomics:

Tilt (Forward/Back):	5° / 20°
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Additional Hardware:

Kensington Lock Slot:	1
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Mount:

VESA Compatible:	100 x 100 mm
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Weight (metric):

Gross (kg):	6.5
Net (kg):	4.8
Net Without Stand (kg):	3.9

Weight (imperial):

Net (lbs):	10.5
Net Without Stand (lbs):	8.7
Gross (lbs):	14.4

Dimensions (metric) (WxHxD):

Packaging (mm):	570 x 427 x 214
Physical (mm):	512 x 364 x 240
Physical Without Stand (mm):	512 x 311 x 64

Dimensions (imperial) (WxHxD):

Packaging (in.):	22.4 x 16.8 x 8.4
Physical (in.):	20.1 x 14.3 x 9.5
Physical Without Stand (in.):	20.1 x 12.2 x 2.5

General:

Regulations: cULus, FCC-B, ICES003, Energy Star, EPEAT, UL-MX-CoC, Mexico Energy

PACKAGE CONTENTS: LCD Display, Power Cable, VGA Cable, DVI Cable, USB2.0 Cable, Audio Cable, Quick Start Guide, ViewSonic Wizard CD-ROM

Warranty: Three-year limited warranty on parts, labor and backlight

Recycle/Disposal: Please dispose of in accordance with local, state or federal laws.

UPC: 766907856217

Accessories:

CB-00008187, CB-00008948, LCD-CABLE-001, LCD-CMK-001, LCD-DMA-001, LCD-DMA-002, LCD-WMK-001, TD-EE-22-03, TD-EEEW-22-01, TD-EEEW-22-02, TD-EW-22-01, TD-EW-22-02, TD-EW-22-03, VSPF2150, cb-00011486

Awards:

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Type(s)

Project

Date

Notes

GENERAL INFORMATION

ETC's Response Mk2 Four-Port Gateway provides data distribution using the quality and reliability of ETC's network technology. Built for Net3 using industry-standard sACN, DMX and RDM, the Response Gateway unlocks the power of your networked system.

APPLICATIONS

- Road houses
- Touring
- University/professional theaters
- Convention halls
- Tech tables
- Stage manager panels
- System integration

FEATURES

- Distributes DMX and RDM data to any input/output device over Ethernet
- Supports Net3 protocol powered by ACN
- Configurable DMX/RDM Output or Input
- Simple configuration and service of each port
- Onboard screen and buttons for labeling, status and configuration
- Power, network and port direction status indicators
- Touch to Wake Sensor
- Power over Ethernet (PoE) or external DC power supply
- Configurable using Concert Software

ORDERING INFORMATION

Four-Port Gateways

MODEL	DESCRIPTION
RSN-DMX4-O	Response Mk2 4-Port Gateway - 4 Output
RSN-DMX4-I	Response Mk2 4-Port Gateway - 4 Input
RSN-DMX4-3O1I	Response Mk2 4-Port Gateway - 1 In 3 Out
RSN-DMX4-T	Response Mk2 4-Port Gateway - 4 Terminal
RSN-DMX4-R	Response Mk2 4-Port Gateway - 4 RJ45

Four-Port Gateway Accessories

MODEL	DESCRIPTION
N34G-FP4F ¹	Gateway Front-Panel Kit - DMX 4 Out
N34G-FP4M ¹	Gateway Front-Panel Kit - DMX 4 Input
N34G-4P2M2F ¹	Gateway Front-Panel Kit - DMX 2 In 2 Out
PS-INTL ²	Gateway Universal Power Supply
N3GA-RM	Gateway Rack-Mount Kit
N3GA-HBU	Gateway Hanging-Bracket Kit with U-Bolt

¹Does not include required Rack-Mount kit

²Includes plugs for United States/Japan, Europe, and Great Britain.



SPECIFICATIONS

FUNCTIONAL

- Supports Net3/ACN (ANSI E1.31 and E1.17)
- Supports RDM (ANSI E1.20)
- Supports USITT DMX512-A (ANSI E1.11)
- USITT DMX512 and ANSI E1.11 DMX512-A compliant
- Flexible Output Patch allows a 512-address universe to begin at any output address
- Advanced Input Patch
- Support for per-address- or per-universe-level priority
- Maximum delay time from input to output not greater than one packet time
- Selectable DMX refresh rate with a maximum at least 40Hz
- Supports up to 256 total RDM devices

MECHANICAL

- Intuitive four-button interface
- Onboard display for identification, status and configuration
- Fabricated from 16-gauge cold-rolled steel
- Black, Fine-textured, powder-coat finish
- C-clamp and U-bolt hardware available
- Half 19" equipment rack width allows for up to eight DMX ports in 1U height
- Network, power and data activity LED indicators
 - Blue power indicator, green network activity indicator
 - Bi-color DMX activity indicator
- RJ45 for connection to lighting network
- Reset button for hard reset or forced reboot

ENVIRONMENTAL

- Ambient operating temperature: 0°–40° C (32°–104° F)
- Operating humidity: 5–95% non-condensing
- Storage temperature: -40°–70° C (-40°–158° F)

ELECTRICAL

- Compliant with IEEE 802.3i for 10BASE-T, 802.3u for 100BASE-TX and 802.3af for Power over Ethernet
- 12–24 VDC power input for use with non-PoE systems
- Maximum seven watt current draw
- Screw down and IDC connector options provided for terminal version

CONFIGURATION

- Local configuration options
- Remote configuration provided by Net3 Concert
 - Supports up to 512 DMX addresses per port
 - Supports up to 63,999 Streaming ACN universes
- DMX data input or output configurable by user
- Multiple sources may be combined to the network with each source or address allowed an independent priority
- Individual port start address and offset
- User-configurable labeling

REGULATORY AND COMPLIANCE

- cETLus Listed
- CE compliant
- EAC certified
- RoHS compliant
- WEEE

ADDITIONAL INFORMATION

DMX512

Often shortened to DMX (Digital Multiplex), this communication protocol is used mainly to control dimmers and multi-parameter fixtures. A universe of DMX is defined as 512 channels. DMX sends a nearly continuous stream of level information for each control channel. It is a form of RS-485 digital serial communication.

RDM

Remote Device Management (ANSI E1.20) is a protocol enhancement to DMX512 that allows low-speed bidirectional communication between a system controller and attached RDM devices over a standard DMX line. This protocol will allow remote configuration, status monitoring, and management of devices.

sACN

Streaming ACN (ANSI E1.31), sends DMX-style control over TCP/IP networks. It provides a fast and efficient mechanism to transport the well-understood DMX protocol over Ethernet using an industry-standard protocol.

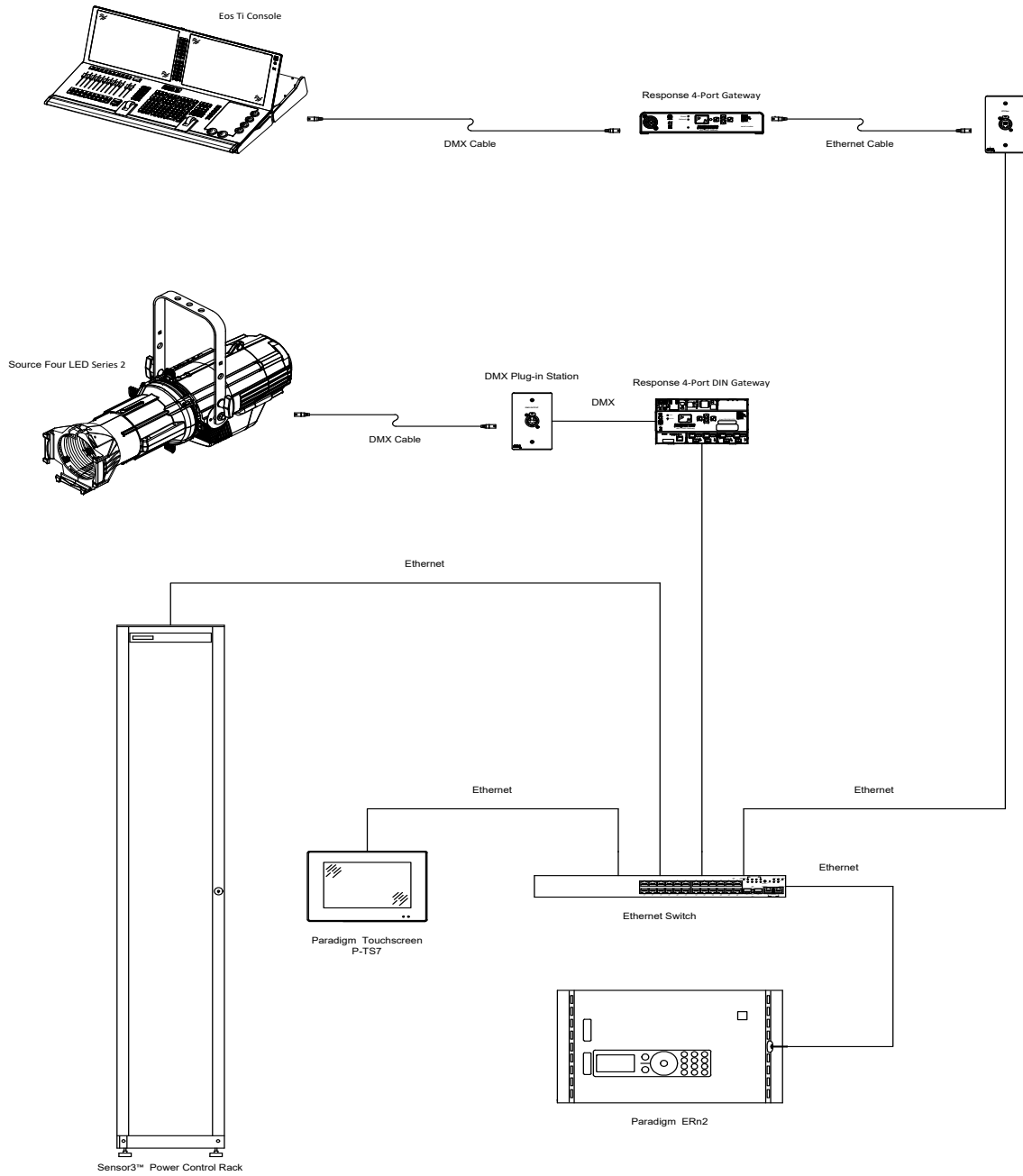
ACN

Architecture for Control Networks (ANSI E1.17) is a standard for high-speed bidirectional communication over TCP/IP on Ethernet network infrastructure. ACN is an open suite of protocols used between network devices for the purposes of greater and more adaptive control.

NET3

ETC's enhanced implementation of the standard ACN Protocol Suite (ANSI E1.17 and E1.31) including additional communication protocols for specialized applications and support of legacy systems.

TYPICAL SYSTEM RISER



PHYSICAL

Response Four-Port Gateway Dimensions

MODEL	HEIGHT		WIDTH		DEPTH	
	in	mm	in	mm	in	mm
Gateway	1.65	42	8.50	216	7.50	191

Response Four-Port Gateways Weights

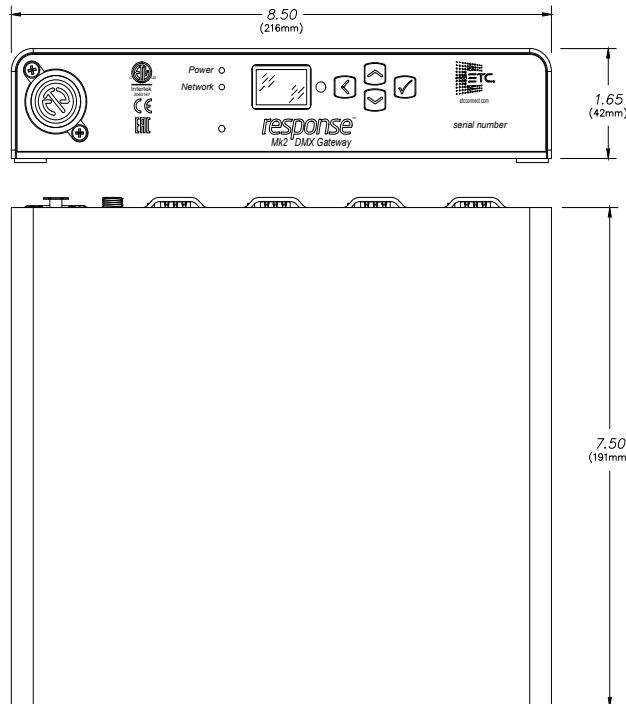
MODEL	WEIGHT		SHIPPING WEIGHT	
	lb	kg	lb	kg
RSN-DMX4-O	1.75	0.79	3.5	1.59
RSN-DMX4-I	1.75	0.79	3.5	1.59
RSN-DMX4-3O1I	1.75	0.79	3.5	1.59
RSN-DMX4-T	1.75	0.79	3.5	1.59
RSN-DMX4-R	1.75	0.79	3.5	1.59

Net3 Four-Port Gateway Accessories

MODEL	WEIGHT		SHIPPING WEIGHT	
	lb	kg	lb	kg
N34G-FP4F ¹	1.1	0.5	2.0	0.9
N34G-FP4M ¹	1.1	0.5	2.0	0.9
N34G-FP2M2F ¹	1.1	0.5	2.0	0.9
N3GA-PS	0.5	0.2	1.0	0.5
N3GA-RM	1.5	0.7	2.0	0.9
N3GA-HBU	0.8	0.4	1.0	0.5

¹Does not include required Rack-Mount Kit

Response Four-Port



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