



Protron
star



User Instructions

©Elation Professional®
4295 Charter Street
Los Angeles Ca. 90058
www.elationlighting.com

Protron Star™

Introduction

Unpacking: Thank you for purchasing the Protron Star™ by Elation Professional®. Every Protron Star™ has been thoroughly tested and has been shipped in perfect operating condition. Carefully check the shipping carton for damage that may have occurred during shipping. If the carton appears to be damaged, carefully inspect your unit for damage and be sure all accessories necessary to operate the unit have arrived intact. In the event damage has been found or parts are missing, please contact our customer support number for further instructions. Please do not return this unit to your dealer without first contacting customer support at the number listed below.

Introduction: To optimize the performance of this product, please read these operating instructions carefully to familiarize yourself with the basic operations of this unit. The Protron Star™ is a 750 watt strobe, that has a flash rate range of 1 to 15 flashes per second. Up to 16 units may be linked together and controlled by single controller. The units' intensity, flash rate, and flash duration can be manually adjusted using the dipswitches. For remote control operation an optional remote control is available from Elation Professional®.

Customer Support: Elation Professional® provides a customer support line, to provide set up help and to answer any question should you encounter problems during your set up or initial operation. You may also visit us on the web at www.elationlighting.com for any comments or suggestions. For service related issue please contact Elation Professional®. Service Hours are Monday through Friday 9:00 a.m. to 5:00 p.m. Pacific Standard Time.

Voice: (323) 582-3322
Fax: (323) 582-3108
E-mail: support@elationlighting.com

Warning! To prevent or reduce the risk of electrical shock or fire, do not expose this unit to rain or moisture.

Caution! There are no user serviceable parts inside this unit. Do not attempt any repairs yourself, doing so will void your manufactures warranty.

Please do not discard the shipping carton in the trash. Please recycle when ever possible.

Protron Star™

Features

- Bright 750 Watt Lamp
- Adjustable Flash Rate, Intensity Rate, and Flash Duration
- Flash Rate range of 1 to 15 Flashes per Second
- Thermostat Protection
- Large coverage area
- Easy lamp Replacement
- Link Up To 16 Units Together
- Built-In Adjustable Hanging Yoke

Protron Star™

Warranty Registration

The Protron Star™ carries a two year (730 days) limited warranty. Please fill out the enclosed warranty card to validate your purchase. All returned service items whether under warranty or not, must be freight pre-paid and accompany a return authorization (R.A.) number. The R.A. number must be clearly written on the outside of the return package. A brief description of the problem as well as the R.A. number must also be written down on a piece of paper and included in the shipping container. If the unit is under warranty, you must provide a copy of your proof of purchase invoice. You may obtain a R.A. number by contacting customer support at (323) 582-3322.

Protron Star™

Cleaning Instructions

Due to fog residue, smoke, and dust cleaning the fixture should be carried out periodically to optimize light output.

1. Use normal glass cleaner and a soft cloth to wipe down the outside casing every 20 days.
2. Use normal glass cleaner with a soft cloth to wipe down the inside reflector and lens every 30-60 days.
3. Always be sure to dry all parts completely before plugging the unit back in.
4. Frequent cleaning the unit will extend lamp life and ensure the fixtures reliability.

Cleaning frequency depends on the environment in which the fixture operates (i.e. smoke, fog residue, dust, dew). In heavy use we recommend cleaning on a monthly basis. Periodic cleaning will ensure longevity, and crisp beam output.

Protron Star™

Safety Warnings

Safety Issues: *This unit may blow a fuse if the maximum allotted load of 20 amps is reached. If the fuse needs replacement, always replace the fuse with same exact type that was removed, unless otherwise instructed by an authorized Elation Professional® service technician. Use of a different type fuse from that which is recommended may cause fire or electric shock and will void the manufacturer's warranty.*

- To reduce the risk of electrical shock or fire, do not expose this unit to rain or moisture.
- Do not spill water or other liquids into or on to your unit.
- Do not attempt to remove or break off the ground prong from the electrical cord. This prong is used to reduce the risk of electrical shock and fire in case of an internal short. Do not attempt to operate this unit if the power cord has been frayed or broken.
- Disconnect from main power before making any type of connection.
- Do not remove the cover under any conditions. There are no user serviceable parts inside.
- Always be sure to mount this unit in an area that will allow proper ventilation. Allow about 6" (15cm) between this device and a wall.
- Do not attempt to operate this unit, if it becomes damaged.
- This unit is intended for indoor use only, use of this product outdoors voids all warranties.
- During long periods of non-use, disconnect the unit's main power.
- Always mount this unit in safe and stable matter.
- Power cords should be routed so they are not likely to be walked on, pinched by items placed upon or against them.
- Cleaning -The fixture should be cleaned only as recommended by the manufacturer. See page 6 for cleaning details.
- Heat -The appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.
- The fixture should be serviced by qualified service personnel when:
 - A. The power-supply cord or the plug has been damaged.
 - B. Objects have fallen, or liquid has been spilled into the unit.
 - C. The unit has been exposed to rain or water.
 - D. The unit does not appear to operate normally or exhibits a marked change in performance.

Power Supply: Before plugging your unit in, be sure the source voltage in your area matches the required voltage for your Elation® Protron Star™. The Elation® Protron Star™ is 120v only. Because line voltage may vary from venue to venue, you should be sure your unit voltages matches the wall outlet voltage before attempting to operate you fixture.

DMX-512: DMX is short for Digital Multiplex. This is a universal protocol used as a form of communication between intelligent fixtures and controllers. A DMX controller sends DMX data instructions from the controller to the fixture. DMX data is sent as serial data that travels from fixture to fixture via the DATA “IN” and DATA “OUT” XLR terminals located on all DMX fixtures (most controllers only have a DATA “OUT” terminal).

DMX Linking: DMX is a language allowing all makes and models of different manufactures to be linked together and operate from a single controller, as long as all fixtures and the controller are DMX compliant. To ensure proper DMX data transmission, when using several DMX fixtures try to use the shortest cable path possible. The order in which fixtures are connected in a DMX line does not influence the DMX addressing. For example; a fixture assigned a DMX address of 1 may be placed anywhere in a DMX line, at the beginning, at the end, or anywhere in the middle. When a fixture is assigned a DMX address of 1, the DMX controller knows to send DATA assigned to address 1 to that unit, no matter where it is located in the DMX chain.

Dipswitches in DMX mode: This unit uses dipswitches to assign a DMX address. Each dipswitch represents a binary value.

- Dipswitch 1 address equals 1
- Dipswitch 2 address equals 2
- Dipswitch 3 address equals 4
- Dipswitch 4 address equals 8
- Dipswitch 5 address equals 16
- Dipswitch 6 address equals 32
- Dipswitch 7 address equals 64
- Dipswitch 8 address equals 128
- Dipswitch 9 address equals 256

Dipswitch 10 - Some units omit dipswitch 10. When a unit does include dipswitch #10, it is usually used for special functions such as

sound activation.

Assigning DMX Address: Each dipswitch has a preset value. A specific DMX address is set by combining the dipswitches that sum your desired value. For example: To achieve a DMX address of 7, combine dipswitches 1, 2, and 3. Since dipswitch 1 has a value of 1, dipswitch 2 has a value of 2, and dipswitch 3 has a value of 4, the combination of the three create a DMX value of 7. (See example below).

Set DMX address 1:	Set DMX address 7:	
Dip-switches # 1 = 1	Dip-switches # 1 = 1	
	2 = 2	
	3 = 4	
	= 7	

Data Cable (DMX Cable) Requirements (For DMX and Master/Slave Operation):

The Protron Star™ can be controlled via DMX-512 protocol. The Protron Star™ is a three channel DMX unit. The DMX address is set on the side panel of the Protron Star™. Your unit and your DMX controller require a standard 3-pin XLR connector for data input and data output (Figure 1). If you are making your own cables, be sure to use standard two conductor shielded cable (This cable may be purchased at almost all pro sound and lighting stores). Your cables should be made with a male and female XLR connector on either end of the cable. Also remember that DMX cable must be daisy chained and can not be split.



Figure 1

Notice: Be sure to follow figures two and three when making your own cables. Do not use the ground lug on the XLR connector. Do not connect the cable’s shield conductor to the ground lug or allow the shield conductor to come in contact with the XLR’s outer casing. Grounding the shield could cause a short circuit and erratic behavior.

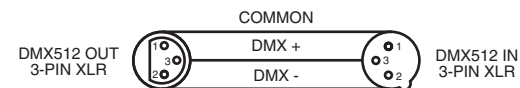


Figure 2

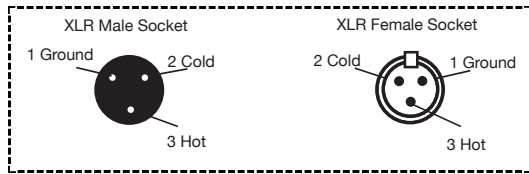


Figure 3

XLR Pin Configuration
Pin 1 = Ground
Pin 2 = Data Compliment (negative)
Pin 3 = Data True (positive)

Special Note: Line Termination. When longer runs of cable are used, you may need to use a terminator on the last unit to avoid erratic behavior. A terminator is a 90-120 ohm 1/4 watt resistor which is connected between pins 2 and 3 of a male XLR connector (DATA + and DATA -). This unit is inserted in the female XLR socket of the last unit in your daisy chain to terminate the line. Using a cable terminator (ADJ part number Z-DMX/T) will decrease the possibilities of erratic behavior.



Termination reduces signal errors and avoids signal transmission problems and interference. It is always advisable to connect a DMX terminal, (Resistance 120 Ohm 1/4 W) between PIN 2 (DMX-) and PIN 3 (DMX +) of the last fixture.

Figure 4

5-Pin XLR DMX Connectors. Some manufactures use 5-pin XLR connectors for DATA transmission in place of 3-pin. 5-pin XLR fixtures may be implemented in a 3-pin XLR DMX line. When inserting standard 5-pin XLR connectors in to a 3-pin line a cable adaptor must be used, these adaptors are readily available at most electric stores. The chart below details a proper cable conversion.

3-Pin XLR to 5-Pin XLR Conversion		
Conductor	3-Pin XLR Female (Out)	5-Pin XLR Male (In)
Ground/Shield	Pin 1	Pin 1
Data Compliment (- signal)	Pin 2	Pin 2
Data True (+ signal)	Pin 3	Pin 3
Not Used		Pin 4 - Do Not Use
Not Used		Pin 5 - Do Not Use

Power Supply: This unit is available only in 120v. Before plugging your unit in be sure the source voltage in your area matches the required voltage for your Elation® Protron Star.™

General Operation: This fixture is designed to operate as a stand alone, sound-active unit, or in a Master/Slave configuration. It can also operate via DMX controller. The Protron Star™ is ready to be plugged in out of the box.

Duty Cycle:

Because the Protron Star™ can be used for continuous output (ie while simulating lightning), it can build up intense heat. Due to the build up of intense heat the unit should not run for 15 minutes continuously. After 15 minutes of continuous use, allow the unit to cool for about fifteen minutes, this will greatly increase the lamp life and insure product longevity.

Operating Modes:

Stand Alone:

In stand alone the unit will function as a normal strobe light. Rate (speed), intensity (brightness), and duration (length between flashes) are set directly on the unit. Note that these settings are made using the dipswitches on the back of the unit. Once the settings are made they can only be changed by physically adjusting the dipswitches on the unit. Be aware of this if you plan on installing your strobe in a permanent application, if your are not satisfied with your settings you will have to physically remove the unit and adjust the dipswitches. Please see the dipswitch traits below. “Flip” the dipswitches to the “on” position to activate

Dipswitch Traits (Manual Mode):

To activate manual mode you must have dipswitch #9 in the “on” postion.

1. Dipswitches 1-3 control the speed of the strobe. Dipswitch #1 being the slowest strobe, and dipswitch #3 being the fastest strobe.
2. Dipswitches 4-6 control the brightness of the strobe. Dipswitch #4 being the dimmest, dipswitch #6 being the brightest.
3. Dipswitches 7-8 control the duration of the strobe. Dipswitch #7 the longest duration between strobes, and dipswitch #8 the shortest duration between strobes.

Universal DMX Control: This mode allows you to use a universal DMX-512 controller such as the Elation® DMX Operator™ or Show Designer.™

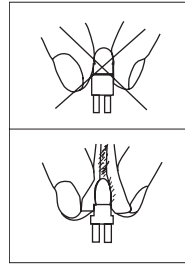
1. To control your fixture in DMX mode, follow the set-up procedures on pages 5-6 as well as the set-up procedures included with your DMX controller.
2. For longer cable runs (more than a 100 feet) use a terminator on the last fixture.
3. Assign your desired address to the unit, and “flip” dipswitch #10 to the “on” position.
4. The Protron Star™ uses three DMX channels. Use your DMX controller to activate the various built-in patterns. See the bottom of this page for the DMX traits.
5. For help operating in DMX mode consult the manual included with your DMX controller.

NOTE: If running in Master/Slave address configuration while using a DMX controller, follow the DMX address chart on page 12.

Protron Star™

DMX Traits

Channel	Value	Function
1	0 - 255	FLASH SPEED
2	0 - 255	FLASH DIMMING
3	0 - 255	FLASH DURATION



Halogen Lamp Warning! This fixture is fitted with halogen lamps which are highly susceptible to damage if improperly handled. Never touch the lamps with your bare fingers as the oil from your hands will shorten lamp life. Also, never move the fixture until the lamps have had ample time to cool. Remember, lamps are not covered under warranty conditions.

Warning! Allow the lamp to discharge all current. Allow the unit 24hrs. to discharge before changing the lamp. Stored current can cause a very severe shock.

Caution: Always replace with the exact same type lamp and fuse, unless otherwise specified by an authorized Elation Professional® technician. Replace with anything other than the specified part can damage your unit and will void your manufactures warranty.

Warning: If after you have replaced the lamp or fuse and you continue to blow either one, STOP using the unit. Contact customer support for further instructions, you may have to return the unit for servicing. Continuing to use the unit may cause serious damage.

Fuse Replacement: Disconnect the unit's main power supply. Insert a standard flat head screw driver in to the fuse holder housing (located on the rear of the unit). Turn the screwdriver in a counter-clockwise direction to remove the fuse holder. Remove the old fuse and discard it, replace the fuse with the same type. Insert the fuse holder back into it's housing and turn in a clockwise direction to secure the holder in place.

Lamp Replacement: Caution! Never open the unit when in use. Always disconnect the main power and allow the fixture ample time to cool before attempting to replace the lamp. Lamp replacement has been made simple by incorporating a remove tray that is retained by a single thumb screws. Again, please remember to always replace with the exact same type lamp.

1. Be sure to follow the proper procedures when handling halogen lamps. Never touch the new lamp with your bare fingers.
2. Unscrew the two thumb screws located on the glass cover in the top corners of the unit.

3. Located on each side of the lamp are white ceramic wire connection blocks.
4. The ceramic block on the left side has two lamp wires connected to it, they are secured by one phillips screw each. On the right side only one lamp wire is connected to a ceramic block.
5. **NOTICE:** When you disconnect the lamp wires to replace the lamp, you will have to remember which wire went where. They must be connected the same.
6. Replace the lamp with an exact match. Connect the three wires to the ceramic blocks as they were when you disconnected them.
7. Reassemble in reverse order.

This chart list the DMX dipswitch setting for DMX address 1 through 511. Follow the instructions below to configure fixture dipswitches with your desired DMX address.

DMX Address Quick Reference Chart

DIP SWITCHES					Dip Switch Position																													
DMX DIP Switch Settings X = OFF O = ON					#9	X	X	X	X	X	X	X	X	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
#1	#2	#3	#4	#5	#8	X	X	X	X	O	O	O	O	X	X	X	X	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O		
#6	X	O	X	O	X	O	X	O	X	O	X	O	X	O	X	O	X	O	X	O	X	O	X	O	X	O	X	O	X	O	X	O		
X	X	X	X	X		3	64	96	128	160	192	224	256	288	320	352	384	416	448	480														
O	X	X	X	X		1	33	65	97	129	161	193	225	257	289	321	353	385	417	449	481													
X	O	X	X	X		2	34	66	98	130	162	194	226	258	290	322	354	386	418	450	482													
O	O	X	X	X		3	35	67	99	131	163	195	227	259	291	323	355	387	419	451	483													
X	X	O	X	X		4	36	68	100	132	164	196	228	260	292	324	356	388	420	452	484													
O	X	O	X	X		5	37	69	101	133	165	197	229	261	293	325	357	389	421	453	485													
X	O	O	X	X		6	38	70	102	134	166	198	230	262	294	326	358	390	422	454	486													
O	O	O	X	X		7	39	71	103	135	167	199	231	263	295	327	359	391	423	455	487													
X	X	X	O	X		8	40	72	104	136	168	200	232	264	296	328	360	392	424	456	488													
O	X	X	O	X		9	41	73	105	137	169	201	233	265	297	329	361	393	425	457	489													
X	O	X	O	X		10	42	74	106	138	170	202	234	266	298	330	362	394	426	458	490													
O	O	X	O	X		11	43	75	107	139	171	203	235	267	299	331	363	395	427	459	491													
X	X	O	O	X		12	44	76	108	140	172	204	236	268	300	332	364	396	428	460	492													
O	X	O	O	X		13	45	77	109	141	173	205	237	269	301	333	365	397	429	461	493													
X	O	O	O	X		14	46	78	110	142	174	206	238	270	302	334	366	398	430	462	494													
O	O	O	O	X		15	47	79	111	143	175	207	239	271	303	335	367	399	431	463	495													
X	X	X	X	O		16	48	80	112	144	176	208	240	272	304	336	368	400	432	464	496													
O	X	X	X	O		17	49	81	113	145	177	209	241	273	305	337	369	401	433	465	497													
X	O	X	X	O		18	50	82	114	146	178	210	242	274	306	338	370	402	434	466	498													
O	O	X	X	O		19	51	83	115	147	179	211	243	275	307	339	371	403	435	467	499													
X	X	O	X	O		20	52	84	116	148	180	212	244	276	308	340	372	404	436	468	500													
O	X	O	X	O		21	53	85	117	149	181	213	245	277	309	341	373	405	437	469	501													
X	O	O	X	O		22	54	86	118	150	182	214	246	278	310	342	374	406	438	470	502													
O	O	O	X	O		23	55	87	119	151	183	215	247	279	311	343	375	407	439	471	503													
X	X	X	O	O		24	56	88	120	152	184	216	248	280	312	344	376	408	440	472	504													
O	X	X	O	O		25	57	89	121	153	185	217	249	281	313	345	377	409	441	473	505													
X	O	X	O	O		26	58	90	122	154	186	218	250	282	314	346	378	410	442	474	506													
O	O	X	O	O		27	59	91	123	155	187	219	251	283	315	347	379	411	443	475	507													
X	X	O	O	O		28	60	92	124	156	188	220	252	284	316	348	380	412	444	476	508													
O	X	O	O	O		29	61	93	125	157	189	221	253	285	317	349	381	413	445	477	509													
X	O	O	O	O		30	62	94	126	158	190	222	254	286	318	350	382	414	446	478	510													
O	O	O	O	O		31	63	95	127	159	191	223	255	287	319	351	383	415	447	479	511													

The DMX center numbers of this chart (1-511) represent a DMX address. The "X"'s and "O"'s along the top and side of the chart represent dip switch position ("X" for off and "O" for on). Find your desired DMX address from the center chart. Identify the position for dip switches 1-5 from the chart on the left and dip switches 6-9 from the chart on the top. Adjust the dip switches on your fixture to match the position settings of the chart. For fixtures with 10 dip switches; dip switch 10 is reserved for special functions.

2-YEAR LIMITED WARRANTY

A. Elation Professional® hereby warrants, to the original purchaser, Elation Professional® products to be free of manufacturing defects in material and workmanship for a period of two years (730 days) from the date of purchase. This warranty shall be valid only if the product is purchased within the United States of America, including possessions and territories. It is the owner's responsibility to establish the date and place of purchase by acceptable evidence, at the time service is sought.

B. For warranty service, send the product only to the Elation Professional® factory. All shipping charges must be pre-paid. If the requested repairs or service (including parts replacement) are within the terms of this warranty, Elation Professional® will pay return shipping charges only to a designated point within the United States. If the entire instrument is sent, it must be shipped in its original package. No accessories should be shipped with the product. If any accessories are shipped with the product, Elation Professional® shall have no liability whatsoever for loss of or damage to any such accessories, nor for the safe return thereof.

C. This warranty is void if the serial number has been altered or removed; if the product is modified in any manner which Elation Professional® concludes, after inspection, affects the reliability of the product; if the product has been repaired or serviced by anyone other than the Elation Professional® factory unless prior written authorization was issued to purchaser by Elation Professional®; if the product is damaged because not properly maintained as set forth in the instruction manual.

D. This is not a service contract, and this warranty does not include maintenance, cleaning or periodic check-up. During the period specified above, Elation Professional® will replace defective parts at its expense, and will absorb all expenses for warranty service and repair labor by reason of defects in material or workmanship. The sole responsibility of Elation Professional® under this warranty shall be limited to the repair of the product, or replacement thereof, including parts, at the sole discretion of Elation Professional®. All products covered by this warranty were manufactured after January 1, 1990, and bear identifying marks to that effect.

E. Elation Professional® reserves the right to make changes in design and/or improvements upon its products without any obligation to include these changes in any products theretofore manufactured.

F. No warranty, whether expressed or implied, is given or made with respect to any accessory supplied with products described above. Except to the extent prohibited by applicable law, all implied warranties made by Elation Professional® in connection with this product, including warranties of merchantability or fitness, are limited in duration to the warranty period set forth above. And no warranties, whether expressed or implied, including warranties of merchantability or fitness, shall apply to this product after said period has expired. The consumer's and or Dealer's sole remedy shall be such repair or replacement as is expressly provided above; and under no circumstances shall Elation Professional® be liable for any loss or damage, direct or consequential, arising out of the use of, or inability to use, this product.

G. This warranty is the only written warranty applicable to Elation Professional® Products and supersedes all prior warranties and written descriptions of warranty terms and conditions heretofore published.

Model: Protron Star™

Voltage*:	120v~60Hz
Lamp:	ZB-300 750w Strobe lamp
Fuse:	20A 120v
Dimensions:	10" (L) x 14.5" (W) x 9.2" (H)
Weight:	14 Lbs.
Duty Cycle:	15 minutes on/off
Ventilation:	Air Cooled
Warranty:	2 Year (730 Days)

**Voltage is preset at the factory and can not be changed by the user.*

Please Note: Specifications and improvements in the design of this unit and this manual are subject to change without any prior written notice.

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