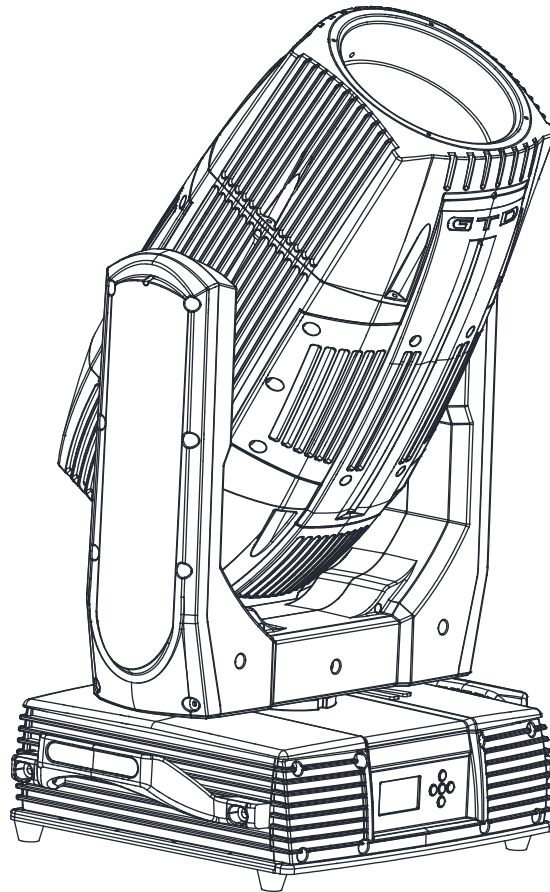


# GTD



## GTD-F5 II BEAM

### Moving Head User Manual

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## 2.Safety instructions

Before using the fixture, read the latest version of the product user manual, paying particular attention to the safety instructions. Please check [www.gtd-lighting.com](http://www.gtd-lighting.com) for the latest revision/update of the user manual.



The manufacture of this fixture, are not responsible for damages, resulting from misuse of this fixture, due to the disregard of the information printed in this user manual.



**DANGER!**

Hazardous voltage. Risk of lethal or severe electric shock.



**WARNING!**

Wear protective eyewear. Never look directly into the light source.



**WARNING!**

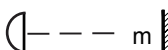
Burn hazard. Hot surface. Do not touch.



Only to direct mounting on non-combustible surfaces.



Replace all cracked glass shields.



Minimum distance to lighted objects.

$t_a \dots ^\circ\text{C}$

Maximum ambient temperature.

$t_c \dots ^\circ\text{C}$

Maximum temp of the external surface.

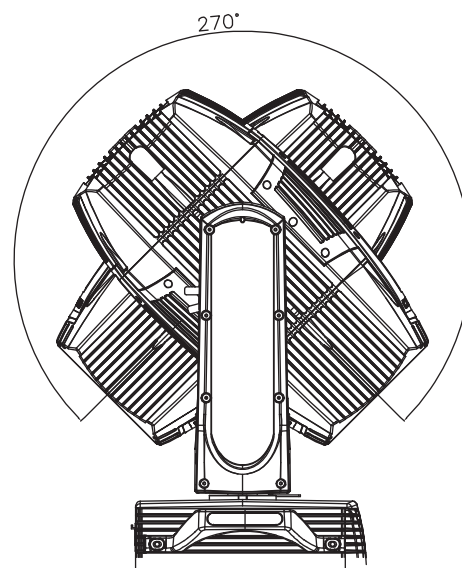
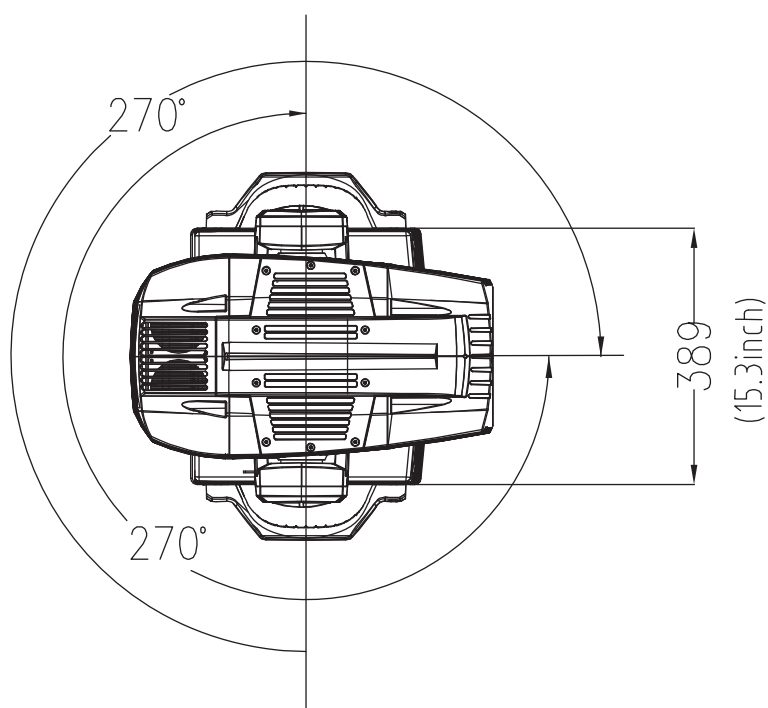
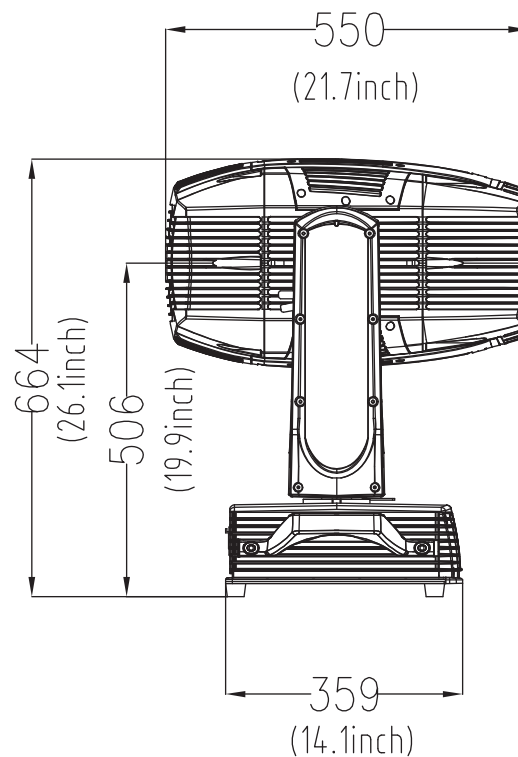
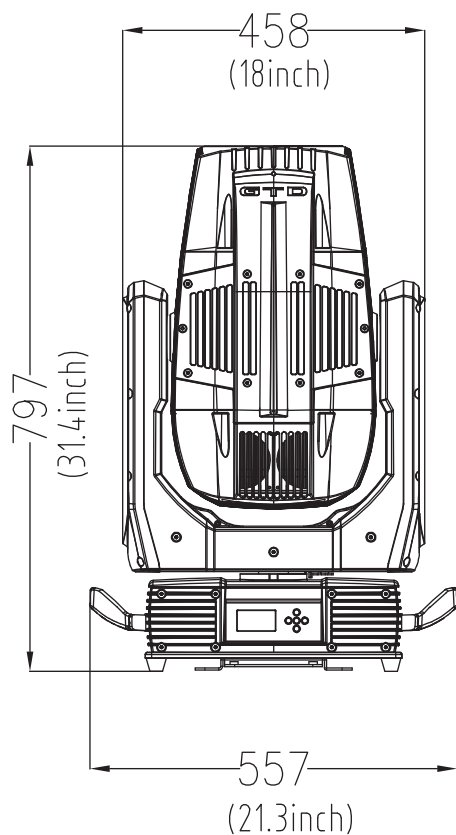


### General guidelines

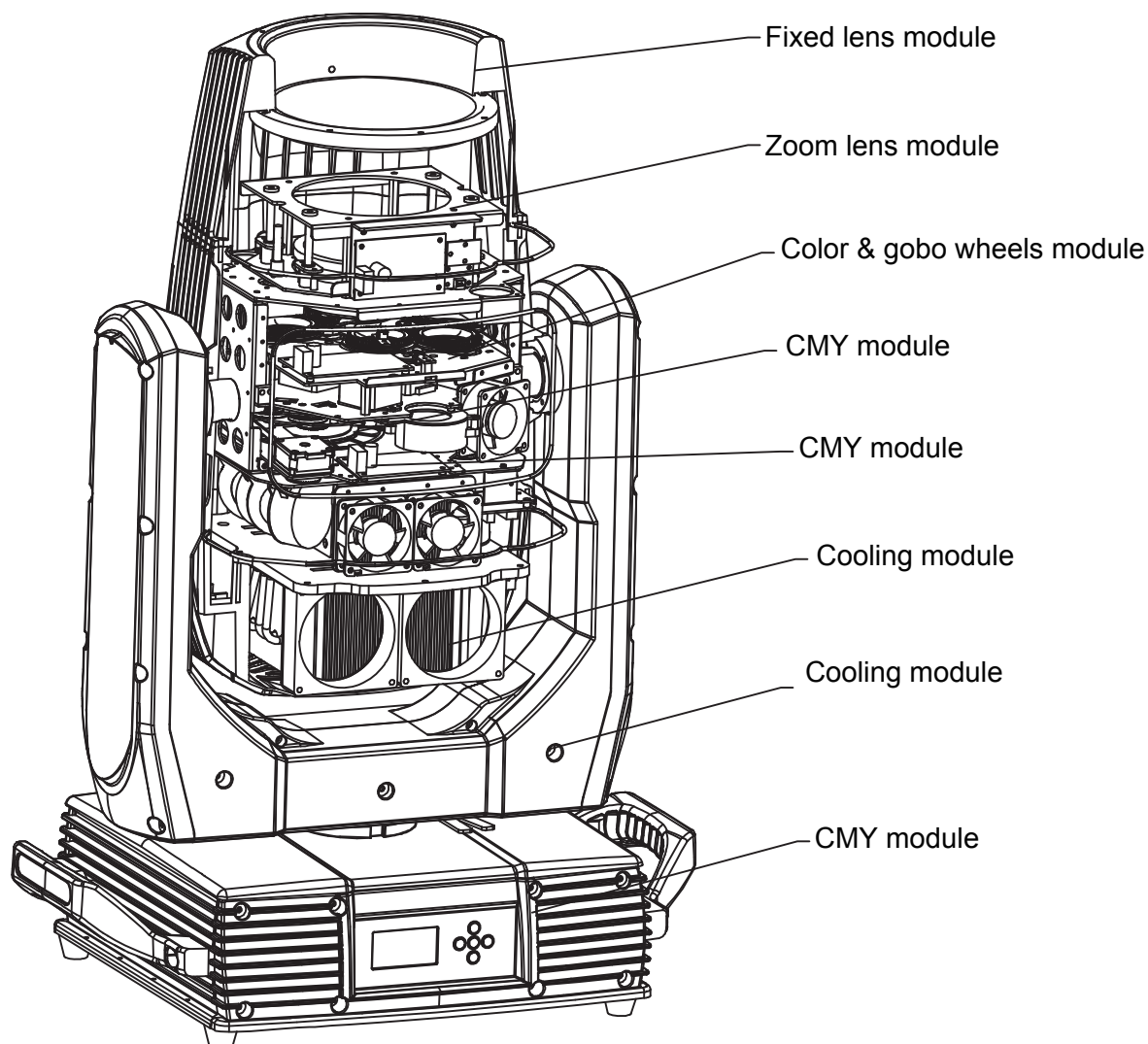
- Never open this fixture while in use.
- The fixture should be kept clean. DO NOT operate the fixture in extreme heat or dusty environments. Avoid contact with chemical liquid.
- Minimum distance to lighted objects must be 49.21feet (15m).
- Maximum temp of the external surface 212°F (100°C).
- Maximum ambient temperature 113°F (45°C).
- Minimum distance of inflammable materials from the surface 1.6 feet (0.5m).
- Lamp should be changed if damaged or distorted in shape due to extreme heat.
- Cover, prism or LCD Menu Function Display with visible damages such as cracks or scratches must be replaced to ensure performance of the fixture.
- Disconnect the fixture from power before changing any parts or accessories.
- Basic insulation should be maintained between the controllable device and the product power supply.
- Make sure that the installation area can hold a minimum point load of 10 times the weight of all installed fixtures, clamps, cables, auxiliary equipment, etc. Check that the cover, clamps and locks are undamaged. Certified safety cables must always be used when installing the fixture.
- The fixture is only intended for installation, operation and maintenance by qualified professional. Instructions stated in the manual must be complied.
- The fixture must be kept in a well-ventilated place at least 50 cm away from any wall surface. Check if the fans or ventilation openings are unblocked.
- This fixture uses discharge lamp. To avoid reducing the lamp's life, wait at least 15 minutes after powering off to allow the unit to cool down before handling.
- Broken or damaged cables and light source can only be fixed or changed by certified technicians, certified local distributors or the manufacturer to ensure operational safety.
- Do not stick filters or other materials onto the lens. Do not modify the fixture or install other than GTD manufactured parts.
- For questions regarding safety operation, please contact our technical personnel or call the service hotline +8620 61808296.

## 3. Production instructions

### 3.1 Dimension



### 3.2 Fixture overview



### 3.3 Accessories

Item	Qty	Unit	Remark
User Manual	1	Pc	--
3-pins signal line	1	Set	--
Safety cable	1	Set	φ 5*60cm 7*19pc with hook    Material: Steel
Clamp	1	Set	02A+21A 42-52mm Load weight 200KG
Power cable	1	Set	1.2*2.5mm2 Diameter 3.9

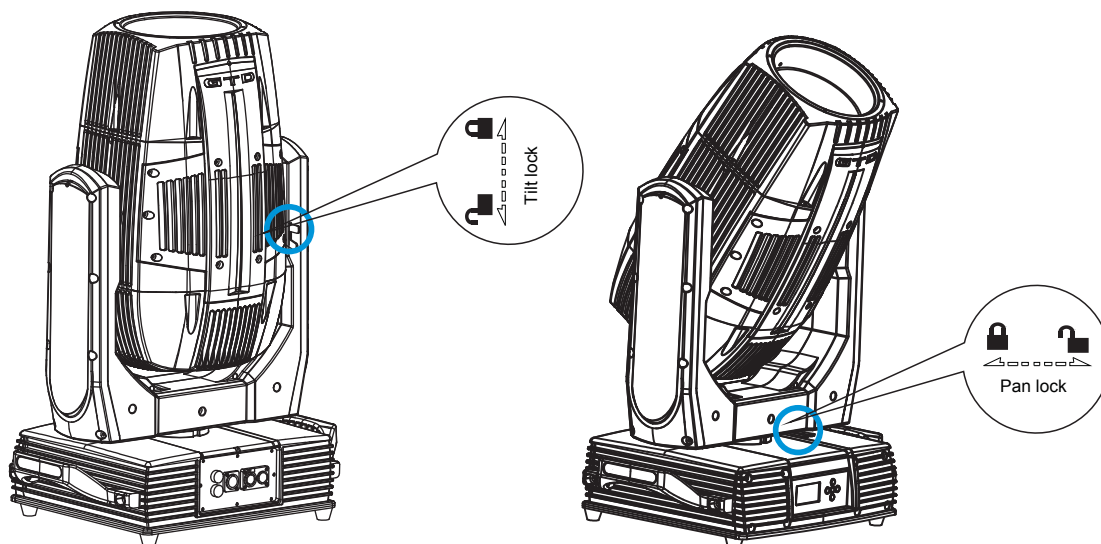
## 4. Packing and shipping

### 4.1 Protection lock

Pan and tilt locks are equipped to ensure safe transportation.

PAN: 4 lock positions are located evenly on the Pan.

TILT: 5 lock positions are located on left and right side of the Tilt with the third one in the center.



### 4.2 Unpacking

Notes

All products are quality controlled and checked for any faults before they are dispatched to customers. If the fixture is damaged during delivery, the customer must notify the shipper and manufacturer to file a damage insurance claim. Photographic evidence of the damage must be provided.

Flight-Case

Open the cover of the flight-case and remove the plastic packing bags. Hold the handles of the fixture firmly and take it out carefully.

Cardboard box

Open the box and take out the whole set of packaging foam which contains both the fixture and its accessories. Remove the foam from the top, put away the accessories, and then take out the fixture wrapped in the plastic bag.

Notes

Check if the pan and tilt are unlocked before connecting the fixture to power.

### 4.3 Packing after use

1. Switch off the fixture and wait for at least 5 minutes before disconnecting it from AC power. Cool down the fixture for at least 15 minutes before packing.
2. Lock pan and tilt.
3. Flight case: Wrap the fixture in plastic bags. Hold it by the handles, and then carefully place it inside the flight case along with all the accessories. Close the cover. Only 3 layers are allowed when piling up the flight cases. Do not upside down.

Cardboard box: Wrap the fixture in plastic bags. Put it in the packaging foam along with all the accessories. Place the other set of packaging foam on top then carefully put it inside the cardboard box.

## 5.Installation

### 5.1 Clamps installation

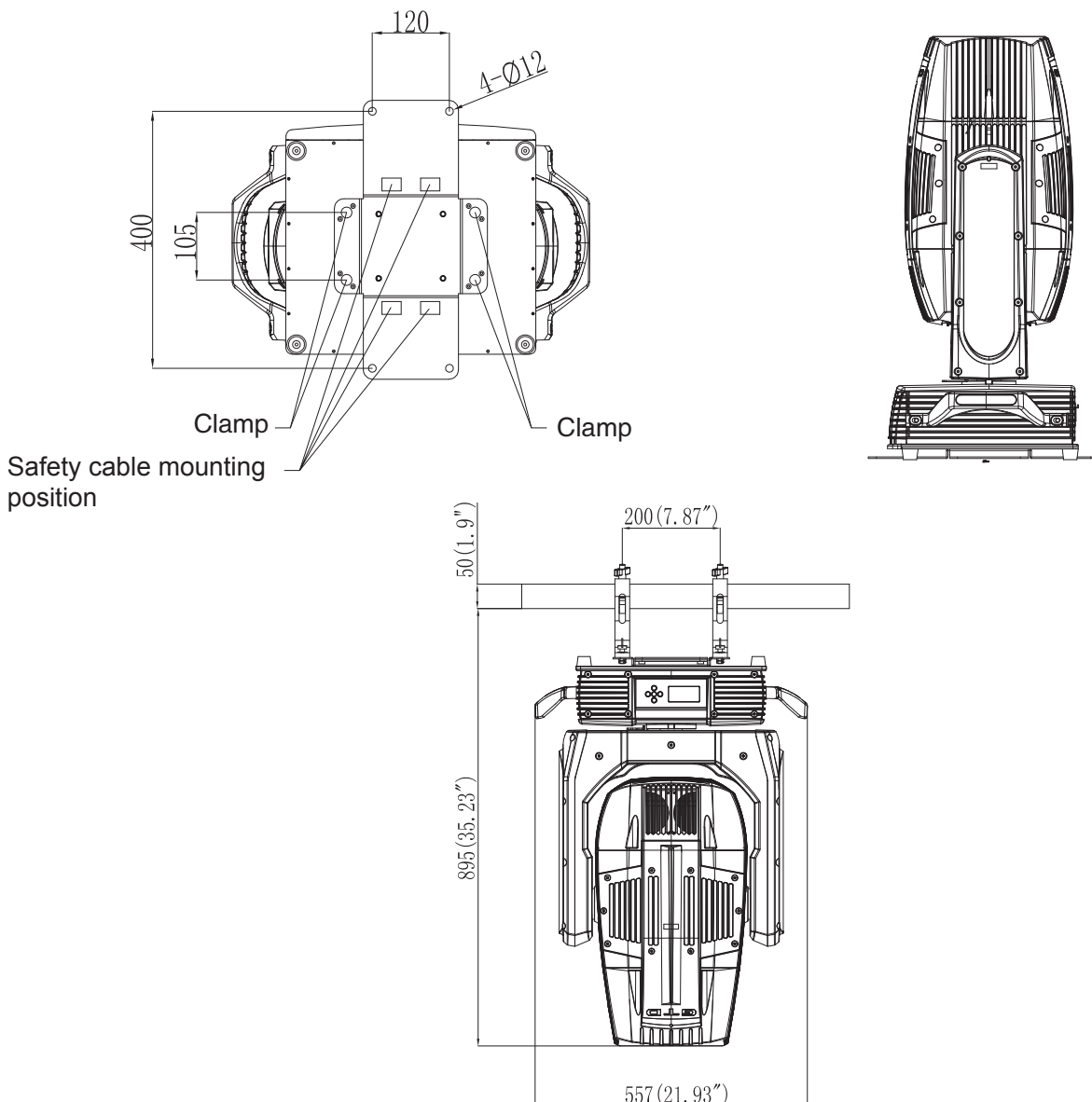
The fixture can be placed on the stage or mounted on the truss facing any direction. Attach the clamps to the mounting position on the base of the fixture.

#### Warning

Use two clamps when mounting the fixture. Turn the screws attached to each clamp a 1/4 turn clockwise to lock. Always remember to use the safety cable which goes through the mounting hole on the base. Do not attach the safety cable on the handle.

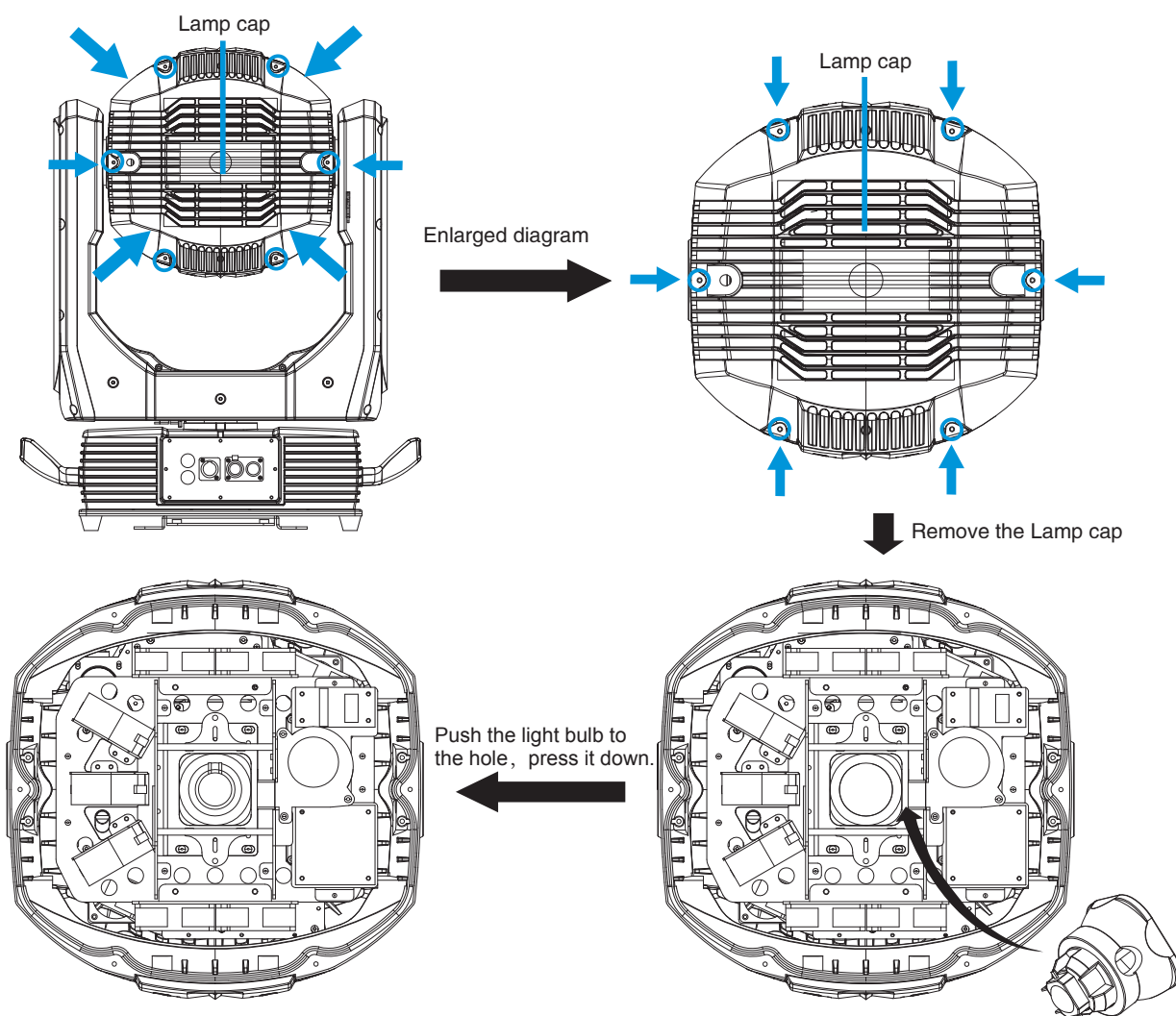
### 5.2 Device installation

1. Make sure there is no damage on the clamps or safety cables before installation.
2. The clamp is mounted on the chassis of the fixture. Horizontally insert the clamp into the mounting holes of the chassis. Fasten the clamp tightly by a 1/4 turn clockwise. Fix another clamp in the same way.
3. Check if pan and tilt are unlocked before connecting the unit to AC power.



### 5.3 Lamp fitting and adjustment

1. Disconnect the fixture from AC power. Cool down the fixture. Set the Tilt lock in a horizontal position.
2. Remove the lamp holder lower cover and plug out the proofwater terminal when disassemble the bulb, then loosen the fixed plate and take out the bulb.
3. Put the bulb into the fixed plate, then press the bulb clockwise with the fixed plate when install the bulb, observe the bulb spot and adjust it after lighted the bulb. Finally, plug in the proofwater fan and lamp holder lower cover.



#### ⚠ Note

The fixture is equipped with PHILIPS 550W MSD Platinum 25 R, which is featured with high efficiency and short-arc characteristic, such as a stable 7800K color-temperature and average lifespan of 1500hrs.

#### ⚠ Note

Fitting another type of lamp will cause potential damage to the fixture. Change the lamp before it reaches its lifespan. Read the guidelines in the package carefully when fixing the lamp.

To avoid any impact on the beam, do not touch the bulb with your bare hands. The lamp must be kept clean with the use of the clean paper contained in its package.



## 6. Power/ Control connection

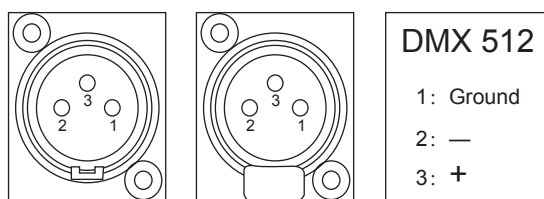
### 6.1 Power connection

Connection method:

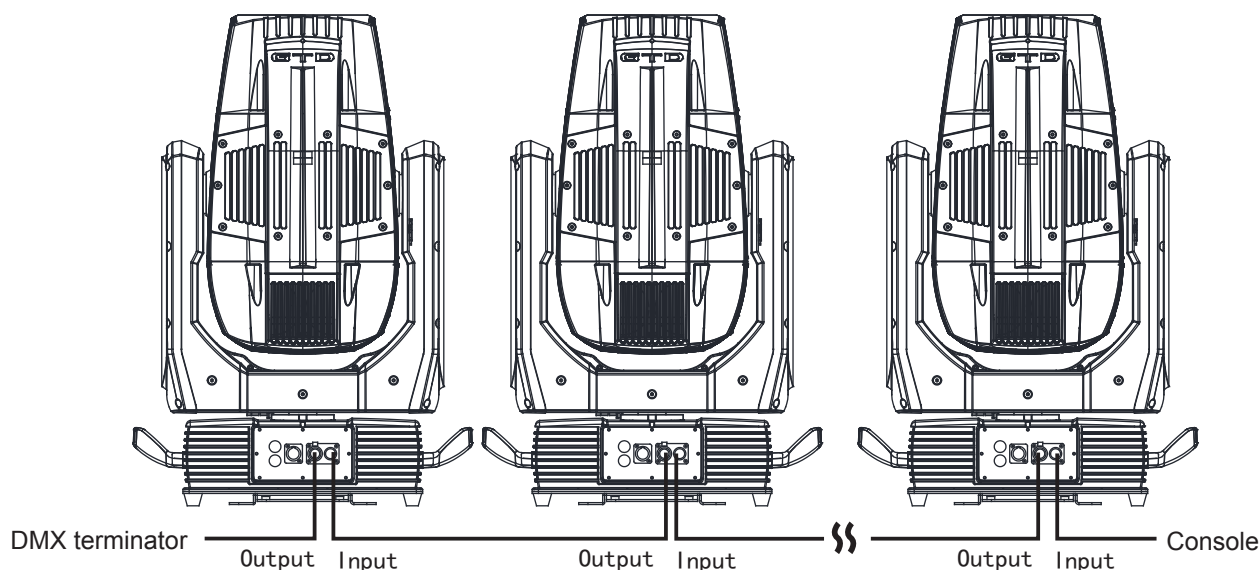
- L (Live) Brown wire
- E (Earth) Yellow / Green bi-color wire
- N (Neutral) Blue wire
- The voltage and frequency of the power source must be in compliance with the ones marked on the fixture. It is strongly recommended that each fixture are to be connected to the power source separately so that they can be switched on / off individually.

### 6.2 Control connection

The fixture has 3-pin XLR connectors for DMX data input and output as shown below. Connection between the console and fixture, and between fixtures must be made with 2 core screened DMX signal cable. Maximum connecting distance of signal cable is 150 meters. Additional DMX512 signal-amplifier is recommended for longer distance.



Connect the Console's DMX OUTPUT to the first fixture's DMX INPUT, then the first fixture's DMX OUTPUT to the second fixture's DMX INPUT and so on. It is recommended not to connect more than 32 units on a single DMX universe. On the last fixture's output connect a DMX terminator. (The terminator is a XLR connector with a  $\frac{1}{4}$  W and 120 $\Omega$  resistor between the pin 2 and pin 3) as shown below:

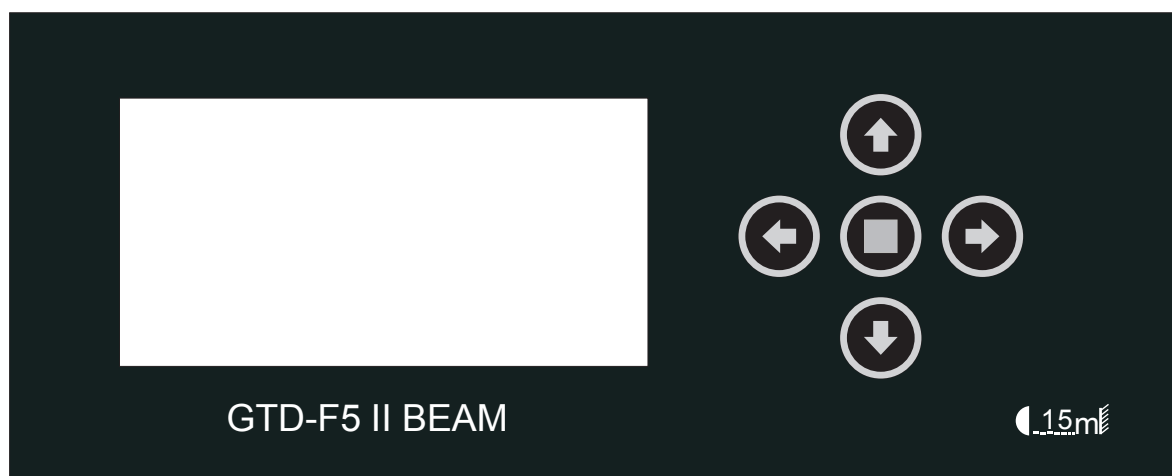


### 6.3 Testing

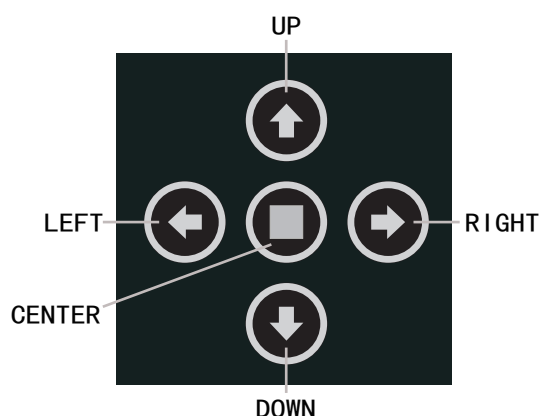
Connect the fixture to AC power. Check if the lamp is on and the fixture is independently controllable before putting into operation.

## 7.Control panel

### 7.1 Using the control panel



- The control panel features touch-sensitive buttons and LCD digital display for quick and easy setup of address code and functions menu.
- Press UP or DOWN to view or select the function menu.
- Press CENTER to choose a function and enter into corresponding sub menu. Each menu represents a specific function of the fixture.
- Press RIGHT to select the specific function and save the changes or enter into the submenu, then press UP or DOWN to change the value of the selected function (increase or decrease).
- Press RIGHT to return to the previous menu or exit.
- Button panel indicator:





## 8. Technical specification

### ● Optical

Light source: PHILIPS 550W MSD Platinum 25 R

Expected average lifetime: 1500 h

Color temperature correction: 7800K

Zoom: 0°–1.7°

CRI: Ra≥70

Focus: High-precision glass lenses, electronic linear HD focus

Prism: 1 pc tip 8-facet prism, 1 pc flat 8-facet prism, 1 pc spherical-surface prism, 1 pc 4-facet gradient prism, control the effect independently, make double concentric effect when combine two prism

### ● Gobo

Rotating gobo wheel: 8 interchangeable gobos + open, indexing, CW/CCW rotation, variable speed

Fixed gobo wheel: 9 gobos + 2 dynamic gobos + open, CW/CCW rotation, variable speed

Gobo outside diameter: 18mm

Max. Image diameter: 7 mm

Max. Thickness: 0.5 mm

Gobo material: metal

### ● Color

Color wheel: 2 fixed color wheels 12 colors + M/Y + C, split color, CW/CCW rotation, “Rainbow effect” in both directions

### ● Electrical

Power input, nominal: AC 100-240V, 50/60Hz

Max. Power consumption: 800W, max current: 8A, PF: 0.9

Power supply unit: Auto-ranging electronic SMPS

Main fuse: 10A

Ballast: Electronic

AC power: Neutrik powerCon

DMX data input/output: Chassis 3-pin (in/out)

### ● Control and programming

Control channels (DMX): 24/22/30

Protocol: DMX-512

Display: Graphic LCD backlit

### ● Physical / Installation

Weight: 45Kg (90lbs)

IP rating: IP66

Material: Aluminum, steel, plastic

Mounting points: Four quarter-turn locking points + attachment points for safety wire

## ● Dynamic effects

Pan/Tilt movement: 540°/270°

Iris: Motorized adjustable iris, wide range of variable pulse effects

Strobe: 1-25Hz, synchronized, pulse effects

Dimmer: 0-100%, mechanical dimming

## ● Thermal

Operating range: 5°F to 113°F (-15°C to +45°C)

Startup range: -13°F to 113°F (-25°C to +45°C)

Storage range: -40°F to 140°F (-40°C to +60°C)

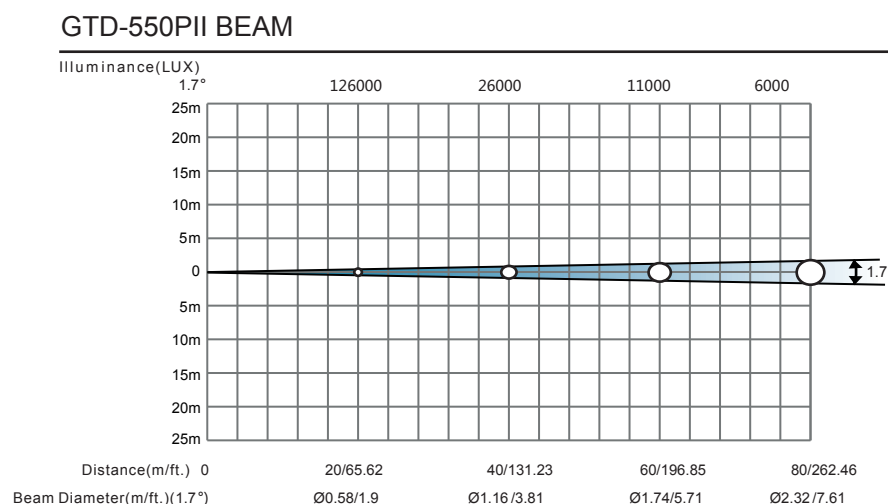
Cooling: Active fan

## ● Certification and Safety

EMC: EN 55103-1:2009, EN 55103-2:2009, EN 61000-3-2:2006+A2:2009, EN 61000-3-3:2013

Safety: EN 60598-2-17:1989/A2:1991

## ● Photometric



## ● Other features

- Enhanced stability of the fixture due to the wide input voltage AC/DC switching power supply which both reduces the impact of power and voltage fluctuations, and removes the restriction of voltage and frequency variations in different countries.
- Automatic energy saving: when the shutter or CMY is closed, power consumption will be reduced automatically with the photoelectric tracking induction technology.
- Sleep mode: uses the most advanced technology to remotely activate sleep mode. When the fixture is disconnected from signal, the sleep mode is enabled automatically to make it more stable and safer. Sleep time can be customized.
- Power setting: built-in continuous rechargeable battery, allowing setting functional data via LCD interface without power connection

## 9. Gobos and colors

### 9.1 Gobo specification

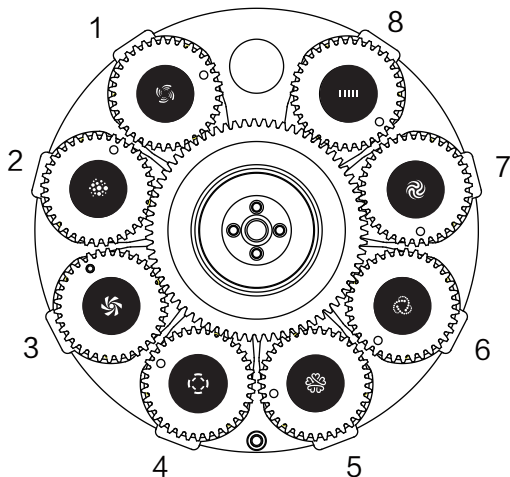
All patterns are made onto the metal gobos, and can be customized according to user's requirement.

The customized size is as below:

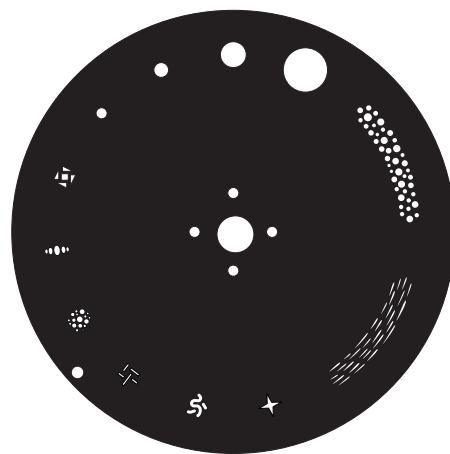
Gobo material	Outer dimension	Effective dimension	Thickness
Metal gobo	ϕ 18 mm	ϕ 7 mm	0.5mm
Note: Metal Gobo			

### 9.2 Gobos

- One rotating gobo wheel: 8 interchangeable gobos + open, indexing, CW/CCW rotation, variable speed
- One fixed gobo wheel: 9 gobos + 2 dynamic gobos + open, CW/CCW rotation, variable speed



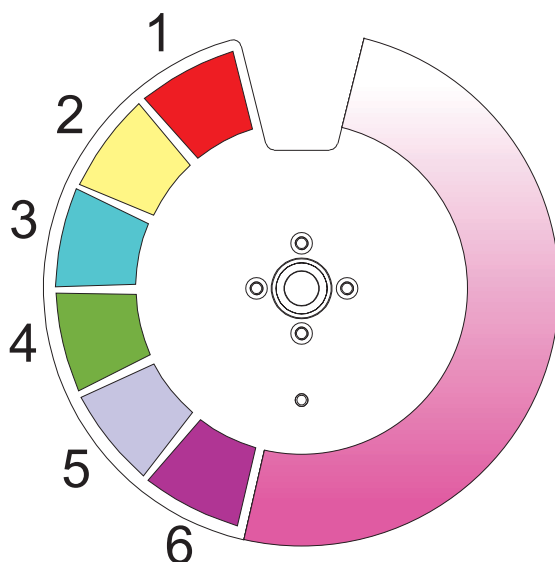
Rotating gobo wheel



Fixed gobo wheel

### 9.3 Colors

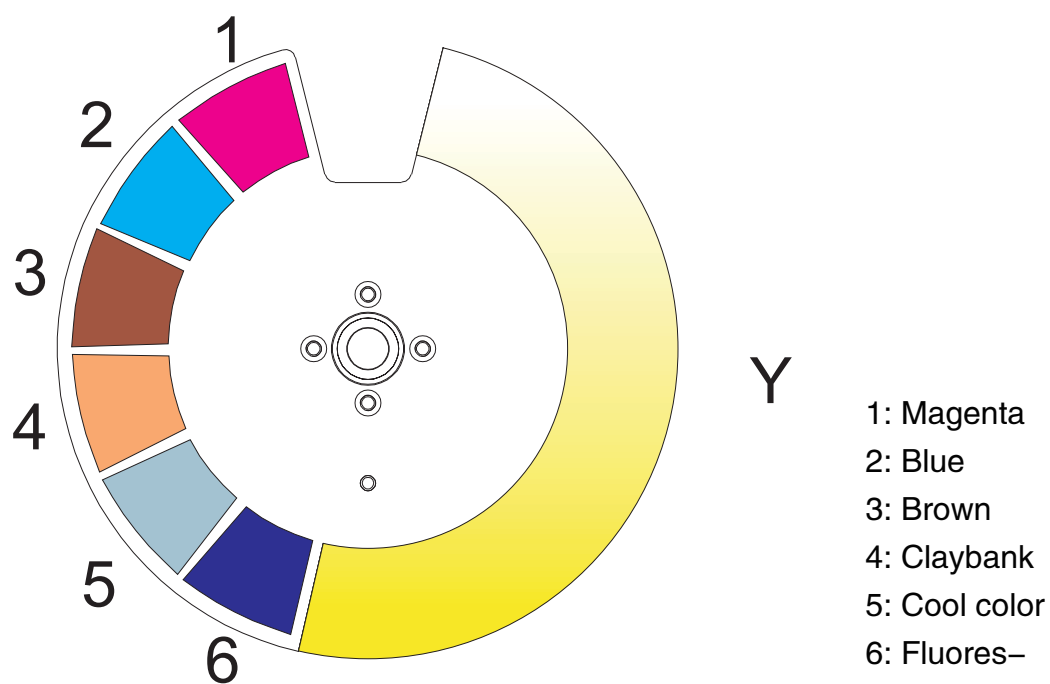
- Color wheel 1 + M: 6 colors + M



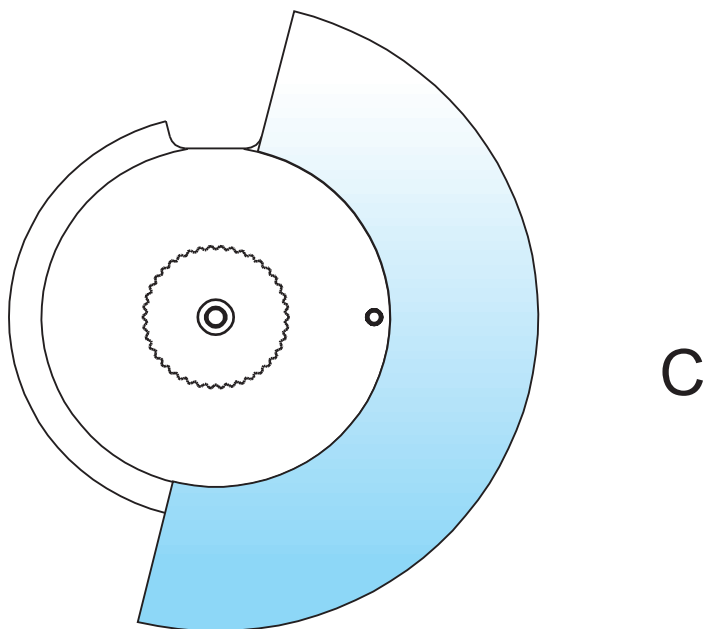
M

- 1: Red
- 2: Yellow
- 3: Bluish-green
- 4: Green
- 5: Light blue-purple
- 6: Amaranth

- Color wheel 2 + Y: 6 colors + Y



- C wheel



## 10.Menu structure

GTD-F5 II BEAM – Menu Structure				
Revision: A			Valid from firmware version: 1.0	
Level 1	Level 2	Level 3	Level 4	Info
<b>Run setting</b>	Address Setting Value Display Auto-Program	Address: 001~ XXX Strobe..... Master /Slave		Setting the DMX address Display the channel value Run auto program in master or slave
<b>Device Info</b>	Time Info	Total Time Last Time Clear Last Time Lamp On Time Clear Lamp Time	XXXX H XX:XX XXX XXXX H XXX	Product total run time Last product run time Clear last time (XXX) Clear lamp time(XXX)
	Temperature	Body Temperature1 Body Temperature2	XXX 'C/'F XXX 'C/'F	Body temperature
	Fan Info.	"Lamp Fan1 XXXXX "Lamp Fan2 XXXXX "Head Fan3 XXXXX "Head Fan4 XXXXX		"Lamp Fan1 Information "Lamp Fan2 Information "Head Fan3 Information "Head Fan4 Information
	Err Info.			
	Software Version	Firmware Ver Software Ver Hardware Ver		The software version
<b>Lamp Control</b>	Lamp On/Off Power On Lamp On Console Lamp Lamp On Temp. Lamp Off Temp.	On/ Off Enable/Disable Enable/Disable 20~79,45'C /68~174 , 113'F 80~139, 120'C/176~282, 266'F		Open lamp Power on open lamp Console open/ close lamp Open lamp below temperature Close lamp above temperature
<b>System Setting</b>	Status Setting	Console Set Addr No Signal Status Pan Reverse Tilt Reverse Scan Feedback	Enable/Disable Off/Hold/Auto Enable/Disable Enable/Disable Enable/Disable	Address can be changed by console The status while no signal Pan Reverse Tilt Reverse Scan Feedback

<b>System Setting</b>	Fan Speed	Smart Control High Speed Low Speed		Auto fans speed Fans high speed Fans low speed
	Display Setting	Backlight Time Key Lock Disp Rev Language	1~60 Min/Disable, 5Min Enable/Disable Auto/Up/Down English/中文	Backlight off time Key Lock Setting Display Rev. Change the language
	Temperature Unit	Celsius Fahrenheit		Temperature unit
	Restore Default	Restore/Cancel		Restore to default value
<b>Reset</b>	System Reset Scan Reset Color Reset Gobo Reset Strobe Reset Others Reset			System reset Pan and tilt motor reset All color motor reset All gobo motor reset All strobe motor reset All other motor reset
<b>Channel Adjust</b>	Test Mode	Strobe.....		Every channel test
	Manual Mode	Strobe.....	Strobe =XXX	Manual control
	Adjust Mode	Password .....	Password=XXX .....	The password of adjust mode(XXX) Fixed all begin position
<b>Channel Setting</b>	Channel Mode	Standard Mode Basic Mode Extended Mod		Standard channel mode Basic channel mode Extended channel mode

\*Settings hightlighted in light grey are default values

# 11.DMX protocol

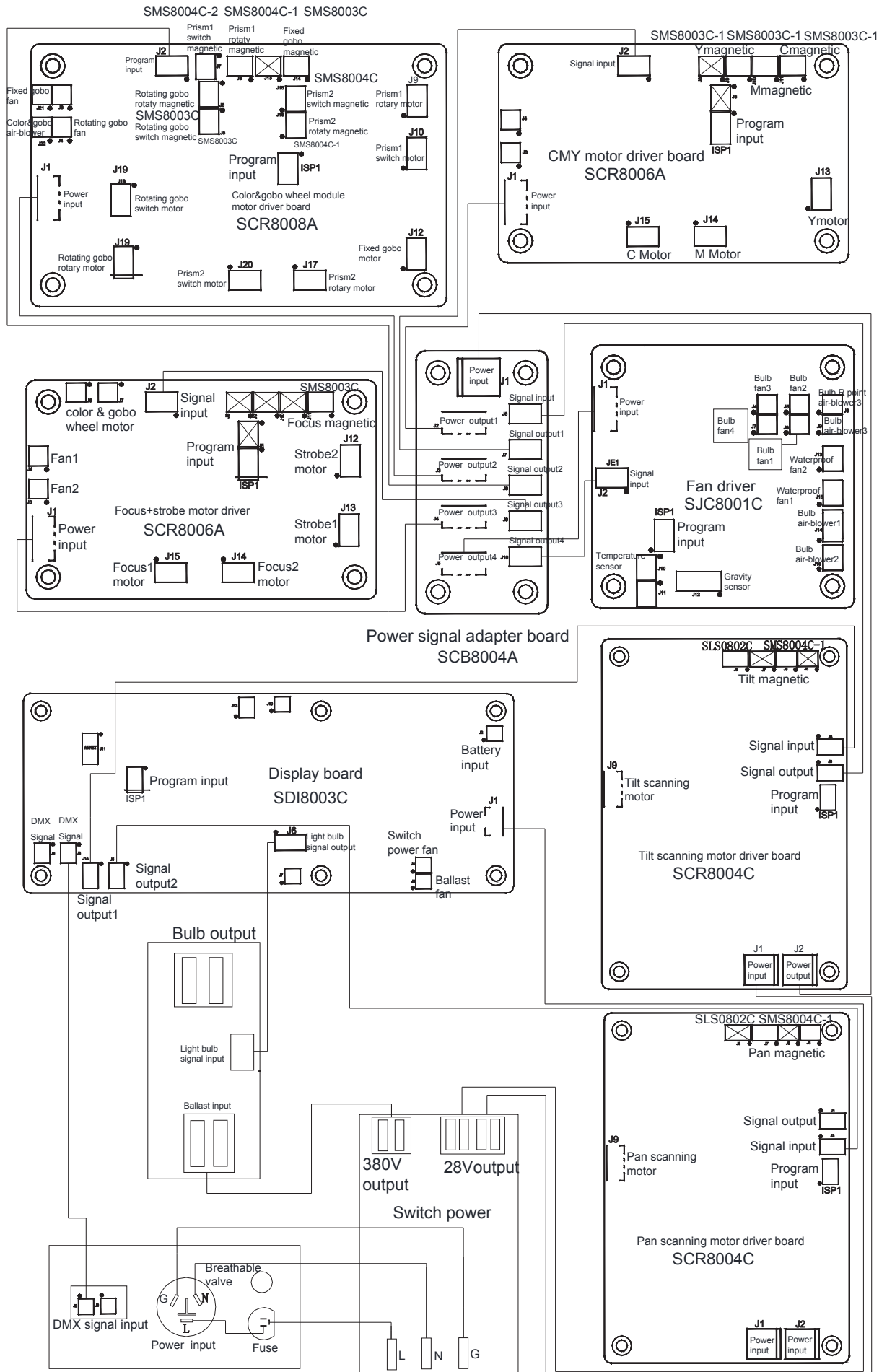
DMX mode			Name	DMX value		DMX percentage		Function
Standard	Basic	Extended						
1	1	1	Strobe/Shutter	0	31	0.0%	12.2%	Closed
				32	63	12.5%	24.7%	Open
				64	95	25.1%	37.3%	Synchronous strobe from slow to fast
				96	127	37.6%	49.8%	Open
				128	159	50.2%	62.4%	Pulse strobe from slow to fast
				160	191	62.7%	74.9%	Open
				192	223	75.3%	87.5%	Random strobe from slow to fast
				224	255	87.8%	100.0%	Open
2	2	2	Intensity	0	255	0.0%	100.0%	No light - Full light
		3		0	255	0.0%	100.0%	Intensity fade, fine (LSB)
3	3	4	Cyan	0	255	0.0%	100.0%	White Full cyan
		5		0	255	0.0%	100.0%	Cyan fade, fine (LSB)
4	4	6	Magenta	0	255	0.0%	100.0%	White Full magenta
		7		0	255	0.0%	100.0%	Magenta fade, fine (LSB)
5	5	8	Yellow	0	255	0.0%	100.0%	White Full yellow
		9		0	255	0.0%	100.0%	Yellow fade, fine (LSB)
6	6	10	CMY color macro	0	15	0.0%	5.9%	CMY color macro off
				16	135	6.3%	52.9%	CMY synchronous color from slow to fast
				136	255	53.3%	100.0%	CMY random color from slow to fast
				0	17	0.0%	6.7%	Open
7	7	11	Color wheel1	18	35	7.1%	13.7%	Color 1
				36	53	14.1%	20.8%	Color 2
				54	71	21.2%	27.8%	Color 3
				72	89	28.2%	34.9%	Color 4
				90	107	35.3%	42.0%	Color 5
				108	127	42.4%	49.8%	Color 6
				128	187	50.2%	73.3%	Color1 continous rotation CW from fast to slow
				188	195	73.7%	76.5%	Stop
				196	255	76.9%	100.0%	Color1 continous rotation CCW from slow to fast
8	8	12	Color wheel2	0	17	0.0%	6.7%	Open
				18	35	7.1%	13.7%	Color 1
				36	53	14.1%	20.8%	Color 2
				54	71	21.2%	27.8%	Color 3
				72	89	28.2%	34.9%	Color 4
				90	107	35.3%	42.0%	Color 5
				108	127	42.4%	49.8%	Color 6
				128	187	50.2%	73.3%	Color1 continous rotation CW from fast to slow
				188	195	73.7%	76.5%	Stop
9	9	13	Gobo wheel (static)	196	255	76.9%	100.0%	Color1 continous rotation CCW from slow to fast
				0	8	0.0%	3.1%	Open gobo
				9	17	3.5%	6.7%	Gobo 1
				18	26	7.1%	10.2%	Gobo 2
				27	35	10.6%	13.7%	Gobo 3
				36	44	14.1%	17.3%	Gobo 4
				45	53	17.6%	20.8%	Gobo 5
				54	62	21.2%	24.3%	Gobo 6
				63	71	24.7%	27.8%	Gobo 7
				72	76	28.2%	29.8%	Gobo 8
				77	81	30.2%	31.8%	Gobo 1 shake
				82	86	32.2%	33.7%	Gobo 2 shake
				87	91	34.1%	35.7%	Gobo 3 shake
				92	96	36.1%	37.6%	Gobo 4 shake
				97	101	38.0%	39.6%	Gobo 5 shake
				102	106	40.0%	41.6%	Gobo 6 shake
				107	111	42.0%	43.5%	Gobo 7 shake
				112	116	43.9%	45.5%	Gobo 8 shake
				117	121	45.9%	47.5%	Gobo 9 shake
				122	127	47.8%	49.8%	Gobo 10 shake
10	10	14	Rotating gobo wheel	128	187	50.2%	73.3%	Gobo wheel continous rotation CW from fast to slow
				188	195	73.7%	76.5%	Stop
				196	255	76.9%	100.0%	Gobo wheel continous contrarotation CCW from slow to fast
				0	4	0.0%	1.6%	Open gobo
				5	10	2.0%	3.9%	Gobo 1
				10	14	3.9%	5.5%	Gobo 2
				15	19	5.9%	7.5%	Gobo 3

DMX mode			Name	DMX value		DMX percentage		Function
Standard	Basic	Extended						
10	10	14	Rotating gobo wheel	20	24	7.8%	9.4%	Gobo 4
				25	29	9.8%	11.4%	Gobo 5
				30	34	11.8%	13.3%	Gobo 6
				35	39	13.7%	15.3%	Gobo 7
				40	47	15.7%	18.4%	Gobo 8
				48	57	18.8%	22.4%	Gobo 1 shake
				58	67	22.7%	26.3%	Gobo 2 shake
				68	77	26.7%	30.2%	Gobo 3 shake
				78	87	30.6%	34.1%	Gobo 4 shake
				88	97	34.5%	38.0%	Gobo 5 shake
				98	107	38.4%	42.0%	Gobo 6 shake
				108	117	42.4%	45.9%	Gobo 7 shake
				118	127	46.3%	49.8%	Gobo 8 shake
				128	187	50.2%	73.3%	Gobo wheel continous rotation CW from fast to slow
				188	195	73.7%	76.5%	Stop
				196	255	76.9%	100.0%	Gobo wheel continous contrarotation CCW from slow to fast
11	11	15	Gobo rotating/positioning gobo wheel 1	0	127	0.0%	49.8%	Gobo rotation positioning
				128	187	50.2%	73.3%	Gobo continous rotation CW from fast to slow
				188	195	73.7%	76.5%	Stop
				196	255	76.9%	100.0%	Gobo continous contrarotation CCW from slow to fast
		16		0	255	0.0%	100.0%	Gobo rotation/positioning, fine (LSB)
12	12	17	Focus	0	255	0.0%	100.0%	Near-Far
		18		0	255	0.0%	100.0%	Focus, fine (LSB)
13	13	19	Prism plate1	0	31	0.0%	12.2%	Off
				32	127	12.5%	49.8%	Prism1
				128	191	50.2%	74.9%	Prism2
				192	255	75.3%	100.0%	Reserved
14	14	20	Prism plate 1 rotation	0	127	0.0%	49.8%	Prism indexed
				128	187	50.2%	73.3%	Prism continous rotation CW from fast to slow
				188	191	73.7%	74.9%	Stop
				192	255	75.3%	100.0%	Prism continous contrarotation CCW from slow to fast
15	15	21	Prism plate 2	0	31	0.0%	12.2%	Off
				32	127	12.5%	49.8%	Prism1
				128	195	50.2%	76.5%	Prism2
				196	255	76.9%	100.0%	Prism3
16	16	22	Prism plate2 rotation	0	127	0.0%	49.8%	Prism indexed
				128	187	50.2%	73.3%	Prism continous rotation CW from fast to slow
				188	195	73.7%	76.5%	Stop
				196	255	76.9%	100.0%	Prism continous contrarotation CCW from slow to fast
17	17	23	Prism plate macro	0	15	0.0%	5.9%	Prism plate macro off
				16	135	6.3%	52.9%	Prism synchronous color from slow to fast
				136	255	53.3%	100.0%	Prism random color from slow to fast
18	18	24	Frost	0	127	0.0%	49.8%	Off
				128	255	50.2%	100.0%	On
19	19	25	Pan	0	255	0.0%	100.0%	Pan
20		26		0	255	0.0%	100.0%	Pan, fine (LSB)
21	20	27	Tilt	0	255	0.0%	100.0%	Tilt
22		28		0	255	0.0%	100.0%	Tilt, fine (LSB)
23	21	29	Scan speed	0	255	0.0%	100.0%	Scan speed from slow to fast
24	22	30	Special controls	0	9	0.0%	3.5%	No function
				10	19	3.9%	7.5%	Open light after 5 seconds
				20	29	7.8%	11.4%	Close light after 5 seconds
				30	39	11.8%	15.3%	Color wheel half color switch
				40	49	15.7%	19.2%	Color wheel random positioning
				50	59	19.6%	23.1%	Reserved
				60	69	23.5%	27.1%	Reset all motor after 5 seconds
				70	79	27.5%	31.0%	Scan motor reset after 5 seconds
				80	89	31.4%	34.9%	All color motor reset after 5 seconds
				90	99	35.3%	38.8%	All gobo motor reset after 5 seconds
				100	109	39.2%	42.7%	All strobe motor reset after 5 seconds
				110	119	43.1%	46.7%	Other motor reset after 5 seconds
				120	129	47.1%	50.6%	Built-in program 1
				130	139	51.0%	54.5%	Built-in program 2
				140	149	54.9%	58.4%	Built-in program 3
				150	159	58.8%	62.4%	Built-in program 4



DMX mode			Name	DMX value		DMX percentage		Function
Standard	Basic	Extended						
24	22	30	Special controls	160	169	62.7%	66.3%	Built-in program 5
				170	179	66.7%	70.2%	Built-in program 6
				180	189	70.6%	74.1%	Built-in program 7
				190	199	74.5%	78.0%	Built-in program 8
				200	209	78.4%	82.0%	Built-in program 9
				210	219	82.4%	85.9%	Built-in program 10
				220	255	86.3%	100.0%	Reserved

# 12. System wiring diagram



## 13. Maintenance and Troubleshooting

### 13.1 Cleaning and maintenance

It is required that the fixture should be kept clean and well maintained to ensure its reliability. Its lifespan mainly depends on the working environment and proper operation. Should you have any questions, please consult a technical engineer of GTD Lighting.

#### Notes

Damage resulted from dust, smoke, oil or improper use is not covered by warranty.

#### Warning

Disconnect the fixture from AC power, and let it cool down for at least 15 minutes before opening the housing. Make sure to use a soft cloth to clean the optical components, and be careful, as the coating is easily scratched. Do not use any organic solvent such as alcohol to clean the reflector mirror, dichroic color filters or housing of the fixture.

- If the lens is cracked or otherwise damaged, replace it immediately.
- If the lamp becomes damaged or deformed in any way it must be replaced.
- If the light from the lamp appears dim, this normally indicates that it is reaching the end of its life span and should be changed at once. Aged lamps run to the extremity of their life might explode.
- If fixture does not function, check the fuse on the power socket of the fixture. Replace the fuse of the same specification if it is blown.
- The fixture is equipped with thermal-protection device that will switch off the lamp in case of overheating. If this happens, please check that the fans are not blocked, and clean them if they are dirty. Check whether the fans are operational. If not, call a qualified technician.

### 13.2 Troubleshooting

Problem	Possible Cause	Suggested Correction
No response after connected to A/C power	Power switch not turned on.	Turn on power switch.
	Take out the fuse and check if it is blown.	Locate the blown fuse. Remove the broken fuse. Insert a replacement fuse of the correct amperage.
	Abnormal A/C input (A/C power socket, power cables, luminaire power socket).	Replace AC power socket and power cables, and then adjust power socket for proper connection.
	No DC voltage from switching power supply.	Check if the switching power supply has DC voltage output. Replace the switching power supply.
No response or wrong response to the commands of the control system	DMX cables disconnected from fixture's DATA IN connector.	Connect DMX cable to the fixture's DATA IN connector.
	Open circuit or short circuit fault in the DMX cables.	Replace DMX cables as required.
	Wrong DMX address for the fixture in the control system.	Ensure the address in "Run setting > Address Setting > Address" of the fixture is consistent with the address in the control system.
	Misuse in "Channel setting > Channel Mode" of the fixture.	Choose the channel mode in "Channel setting > Channel Mode" of the fixture as required by the user.
	Malfunctioning of DMX cannon input/output connectors. No input/output voltage to the main control board of the fixture.	Troubleshooting the DMX XLR signal plate of the fixture, replace the main control board of the fixture.

Problem	Possible Cause	Suggested Correction
The lamp does not start when switch is turned on	Normal end of lamp life.	Test the lamp in an adjacent fixture which is known to be operating properly and then replace as necessary.
	Whether the function of the relay board is intact, whether the signal is normal or not.	Repair or replace.
	Shorted leads between ballast and the lamp.	Replace components as required.
	Incorrect ballast output.	Check ballast output to determine if it conforms to lamp requirements. If voltage and current do not stabilize in five to ten minutes warm-up time, ballast output is incorrect and adjustment should be made. Check capacitor wiring, if visibly available, to determine if capacitors are properly wired.
	Incorrect triggers output.	Replace triggers.
The lamp is off unexpected	The fixture is in sleep mode.	Should the fixture is not in active use for "standby time", the sleep mode is enabled automatically to make it more stable and safer, sleep time can be customized.
	Lamp has been operating: cool down time insufficient.	Environmental conditions such as extreme temperatures will have the fixture stop working, the lamps will require a period of time to cool and re-establish optimum starting conditions. Restart time varies with the degree of ventilation built into it, ambient temperature, and draft conditions.
	Overheat ballast resulting in premature failure or damaged ballast.	The ballast incorporate internal automatic-resetting thermal protection, which deactivates the ballast should it overheat. Normal operation resumes once the ballast has cooled sufficiently. Burned-out or failing lamps, or high temperatures in or around the fixture, can cause the ballast to overheat, so we need solve the problem and replace components as required.
	Thermostat damaged.	Replace.
Shaking, wrong position, and out of control gobo wheel	No function the connector between gobo wheel motor and drive, loose, damaged, or broken cables connecting the gobo wheel and drive.	Reconnect the gobo wheel motor to the drive, and replace cables as required.
	The gobo wheel motor's drive IC on the PCB might be out of condition.	Replace the drive having the same software version as required.
	Dislocated magnetic tube and positioning magnet, or damaged magnetic tube.	Calibrate the position of the magnetic tube to the positioning magnet, and replace magnetic tube as required.
	Shaking motor, wrong rotation angle, losing step or damaged motor.	Replace the motor as required.
Decreased brightness, uneven pattern projections	Normal end of lamp life.	Test the lamp in an adjacent fixture which is known to be operating properly and then replace as necessary.
	The midline of the lamp is not aligned with the center point of the effect assembly (consisting of the rotating gobo wheel, static gobo wheel, color wheel, strobe, prism, and frost), focus module, and object lens.	Reinstall the lamp. Adjust the lamp position until the midline of the lamp is aligned with the center point of the effect assemblies (consisting of the rotating gobo wheel, static gobo wheel, color wheel, strobe, prism, frost, the focus adjusting module, and the object lens).
	Excessive dusts or smudges on the effect assembly, focus module and objective lens.	Follow the instructions stated in this user manual to clean the effect assembly, focus module and objective lens.
	Damaged or deformed effect assembly, focus module or objective lens.	Replace the damaged or deformed components.
Wrong color	Normal end of lamp life.	Test the lamp in an adjacent fixture which is known to be operating properly and then replace as necessary.
	Excessive dusts or smudges on the rotating gobo wheel or color wheel.	Follow the instructions stated in this user manual to clean the rotating gobo wheel or color wheel.
	Rotating gobo wheel, color wheel with coating wearing off, damages or deformation.	Replace the worn-off, damaged or deformed rotating gobo wheel and color wheel.
Non-clear shape	Excessive dusts or smudges on the rotating gobo wheel or color wheel.	Follow the instructions stated in this user manual to clean the rotating gobo wheel or color wheel.
	Excessive dusts or smudges on the focus module or objective lens.	Follow the instructions stated in this user manual to clean the focus module or objective lens.
	Damaged or deformed focus module or objective lens.	Replace the damaged or deformed focus module or objective lens.

## 14.Spare parts list

Name	P/N	Qty	Notes
Adapter board0212B-1	5801060004A	1	SCB8004A 12 pin 1
Hall plate0802C-1	5801914003A	2	SLS0802C 16 pin 1
Display board	5809010497A	1	GTD-F5 II BEAM-101A10 SDI8003C
Pan scanning driver	5809010498A	1	GTD-F5 II BEAM-201A10 SCR8004D
Tilt scanning driver	5809010499A	1	GTD-F5 II BEAM-301A10 SCR8004D
Motor driver-1	5809010500A	1	GTD-F5 II BEAM-401A10 SCR8008A
Motor driver-2	5809010501A	1	GTD-F5 II BEAM-501A10 SCR8006A
Motor driver-3	5809010502A	1	GTD-F5 II BEAM-601A10 SCR8006A
Bulb fan driver	5809010503A	1	GTD-F5 II BEAM-701A10 SJC8001C



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