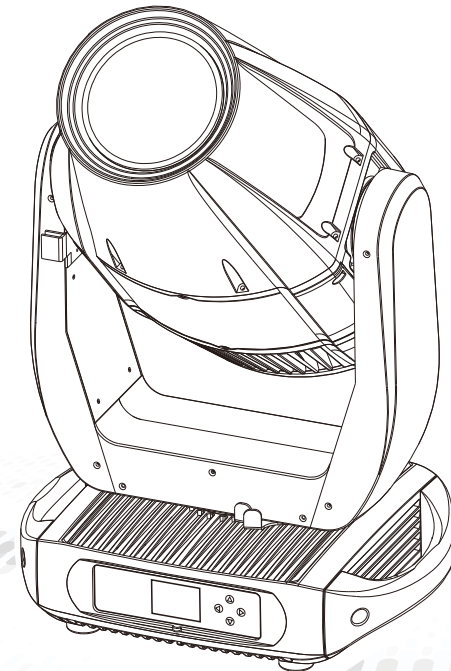


Tornado 1500 PROFILE

USER MANUAL

arctik[®] Tornado 1500 PROFILE
ARCHITECTURAL TECHNOLOGY AF1991



MODEL:AF1991SCT

Guangzhou Yajiang Photoelectric Equipment Ltd.

Tel: 020-86947788

E-mail: sales@yajiang.cn

Fax: 020-86943773

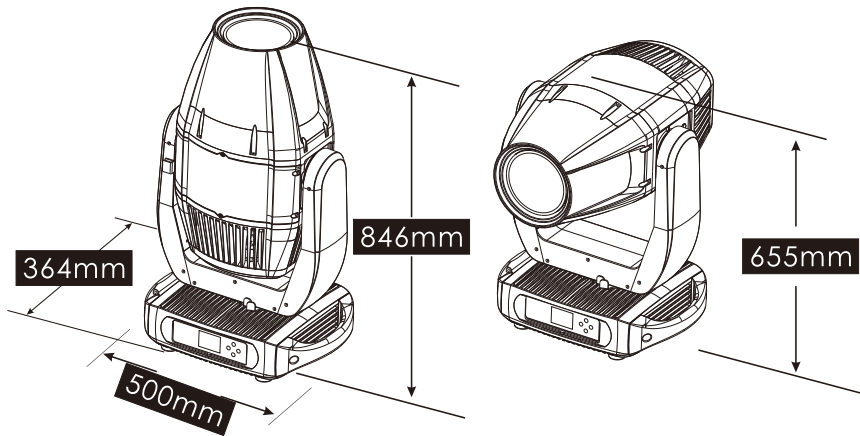
Website: www.yajiang.cn

RD-AF1991-SM-01 (ARC-1)

1 PRODUCT INTRODUCTION

1.1 Specification

Product Code	AF1991SCT
Dimenson	500×364×846(mm)
Weight	57KG
Rated Power	1300W
Input Voltage	AC100~240VAC,50/60Hz
Maximum Current	13A
Ambient Temperature	-20℃~45℃
Beam Angle	7°~50°
Control Model	DMX512/RDM



1.2 Safety warning

IMPORTANT

Always read the user manual before operation.

Please confirm that the power supply stated on the product is the same as the mains power supply in your area.

- This product must be installed by a qualified professional.
- Always operate the equipment as described in the user manual.
- A minimum distance of 0.5m must be maintained between the equipment and combustible surface.
- The product must always be placed in a well ventilated area.
- Always make sure that the equipment is installed securely.
- Do not stand close to the equipment and stare directly into the LED light source.
- Always disconnect the power supply before attempting and maintenance.
- Always make sure that the supporting structure is solid and can support the combined weight of the products.
- The earth wire must always be connected to the ground.
- Do not touch the power cables if your hands are wet.
- Please protect the fixture and avoid destroy during transport and installation. If there is any damage of the coating, that will influence the sea-salt and waterproof function.

ATTENTION



- This product left the place of manufacture in perfect condition. In order to maintain this condition and for safe operation, the user must always follow the instructions and safety warnings described in this user manual.
- Avoid shaking or strong impacts to any part of the equipment.
- Make sure that all parts of the equipment are kept clean and free of dust.
- Always make sure that the power connections are connected correct and secure.
- If there is any malfunction of the equipment, contact your distributor immediately.
- When transferring the product, it is advisable to use the original packaging in which the product left the factory.
- Shields, lenses or ultraviolet screens shall be changed if they have become damaged to such an extent that their effectiveness is impaired.
- The lamp (LED) shall be changed if it has become damaged or thermally deformed.



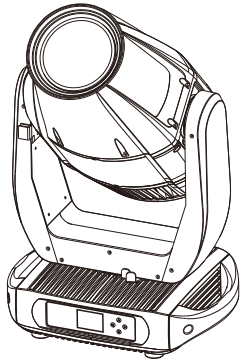
Caution, risk of electric shock
The light source contained in this luminaire shall only be replaced by the manufacturer or his service agent or a similar qualified person.

2 INSTALLATION

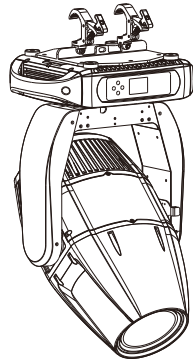
2.1 Mounting

The fixture can be mounted in any position. Always ensure that mounting surface can withstand 10 times the weight of the fixture.

Always use a safety cable when mounting the fixture in any elevated position.



UPRIGHT



HANGING

BASIC (29CH)	STANDARD (38CH)	EXTEND (43CH)	VALUE	FUNCTION
CH.29	CH.38	CH.43	CONTROL	
			000-015	NO FUNCTION
			016-024	PAN/TILT BLACK ACTIVATED
			025-033	PAN/TILT BLACK DEACTIVATED
			034-042	PAN INVERT
			043-051	TILT INVERT
			052-060	PAN/TILT INVERT OFF
			061-069	STUDIO
			070-078	POWER
			079-096	LIVE
			097-105	DIM4
			106-114	DIM3
			115-123	DIM2
			124-132	DIM1
			133-141	DIM0
			142-150	1200Hz
			151-159	2400Hz
			160-168	4000Hz
			169-177	6000Hz
			178-186	25000Hz
			187-195	ALL RESET
			196-204	XY RESET
			205-213	COLOR SYSTEM RESET
			214-222	GOBO SYSTEM RESET
			223-231	FRAMING RESET
232-240	FOCUS\ZOOM\PRISM\FROST RESET			
241-255	NO FUNCTION			

BASIC (29CH)	STANDARD (38CH)	EXTEND (43CH)	VALUE	FUNCTION
CH.29	CH.38	CH.43	CONTROL	
			000-015	NO FUNCTION
			016-024	PAN/TILT BLACK ACTIVATED
			025-033	PAN/TILT BLACK DEACTIVATED
			034-042	PAN INVERT
			043-051	TILT INVERT
			052-060	PAN/TILT INVERT OFF
			061-069	STUDIO
			070-078	POWER
			079-087	LIVE
			088-096	LIVE
			097-105	DIM4
			106-114	DIM3
			115-123	DIM2
			124-132	DIM1
			133-141	DIM0
			142-150	1200Hz
			151-159	2400Hz
			160-168	4000Hz
			169-177	6000Hz
			178-186	25000Hz
			187-195	ALL RESET
			196-204	XY RESET
			205-213	COLOR SYSTEM RESET
			214-222	GOBO SYSTEM RESET
			223-231	FRAMING RESET
			232-240	FOCUS/ZOOM/PRISM/FROST RESET
			241-255	NO FUNCTION

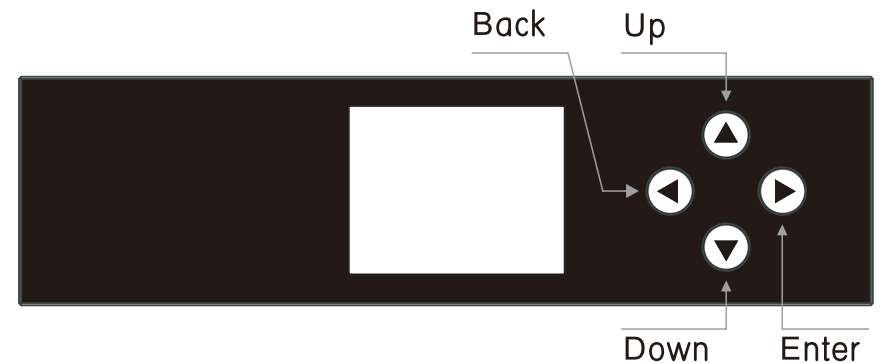
2.2 Power Connections

This product uses input and output power cable is 1.5 square mm copper wire
Note:

If the signal cable is over 60m between the DMX512 controller and fixture or between two fixtures, then a DMX signal amplifier is needed as well.

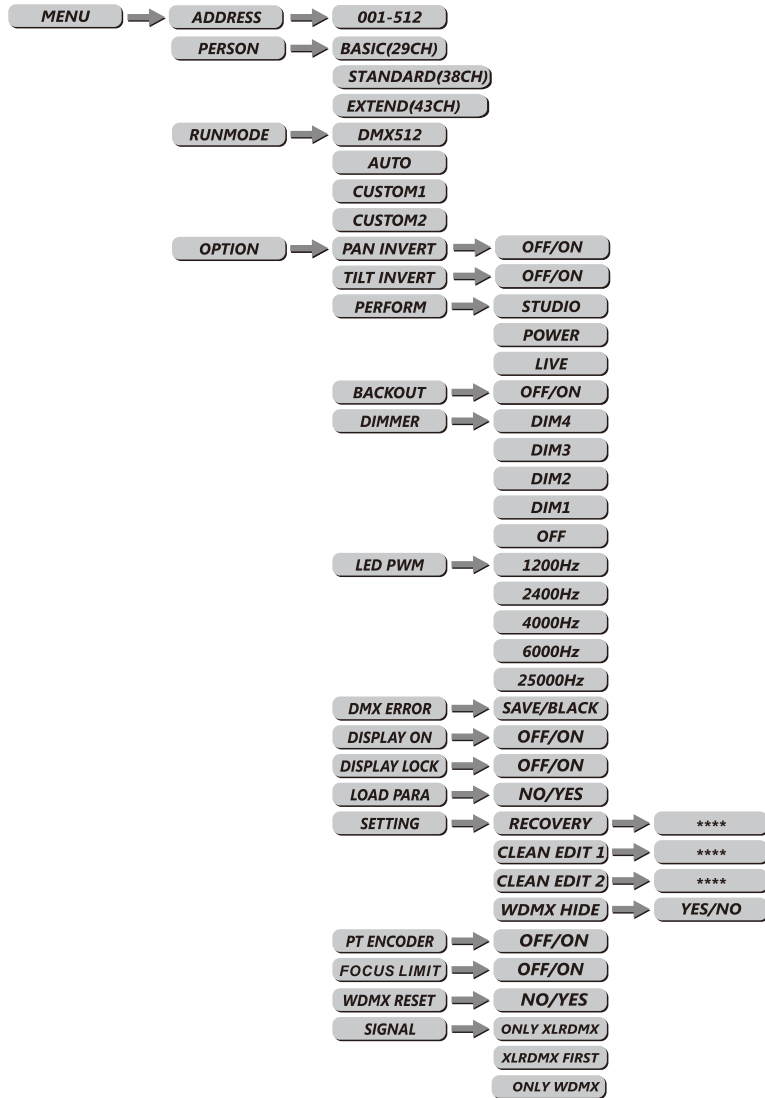
3 DISPLAY PANEL OPERATION

3.1 Display Operation



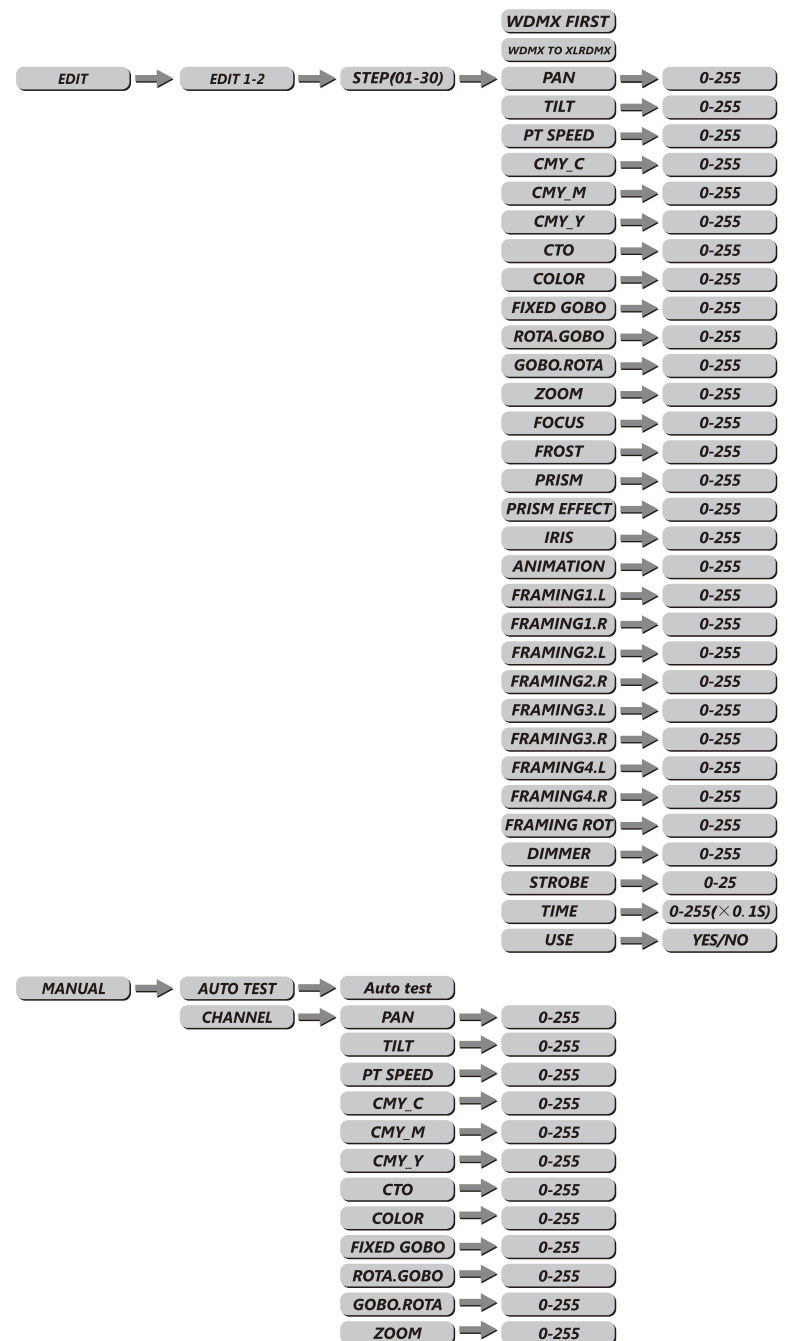
- Up: Scroll 'UP' through the menu list or increase the value of the current function.
- Down: Scroll 'DOWN' through the menu list or decrease the value of the current function.
- Left(Back): Scroll through the main menu.
- Right(Enter): Enter the currently selected menu or confirm the current function value.
- When the display locked, please unlock the display as below:
 1. Keep pressing BACK around 5sec, until the display shows inset password.
 2. Press "up down up down, enter" to unlock.

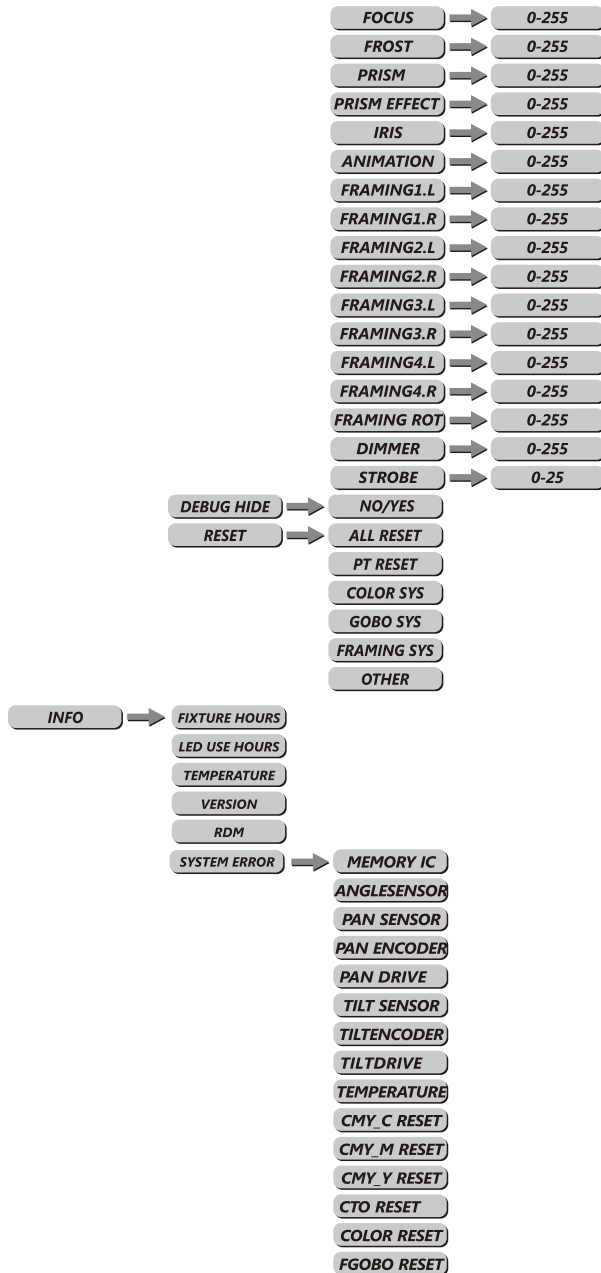
3.2 Menu



BASIC (29CH)	STANDARD (38CH)	EXTEND (43CH)	VALUE	FUNCTION
			AUTO FOCUS	
			0-12	NO FUNCTION
			13-39	5 METER
			40-66	7 METER
			67-93	9 METER
			94-120	11 METER
			121-147	13 METER
			148-174	15 METER
			175-201	17 METER
			202-228	19 METER
			229-255	21 METER
-	-	CH.29	0-255	AUTO FOCUS FINE
CH.18	CH.26	CH.30	0-255	FRAMING1.Left
CH.19	CH.27	CH.31	0-255	FRAMING1.Right
CH.20	CH.28	CH.32	0-255	FRAMING2.Left
CH.21	CH.29	CH.33	0-255	FRAMING2.Right
CH.22	CH.30	CH.34	0-255	FRAMING3.Left
CH.23	CH.31	CH.35	0-255	FRAMING3.Right
CH.24	CH.32	CH.36	0-255	FRAMING4.Left
CH.25	CH.33	CH.37	0-255	FRAMING4.Right
			ALL FRAMING ROTATION	
CH.26	CH.34	CH.38	0-255	FRAMING ROT
-	-	CH.39	0-255	FRAMING ROTATION FINE
CH.27	CH.35	CH.40	0-255	DIMMER
-	CH.36	CH.41	0-255	DIMMER FINE
			STROBE	
			0-9	NO FUNCTION
			10-99	STROBE (FROM SLOW TO FAST)
			100-109	NO FUNCTION
			110-179	LIGHTNING STROBE
			180-189	NO FUNCTION
			190-255	RANDOM SROBE
CH.28	CH.37	CH.42		

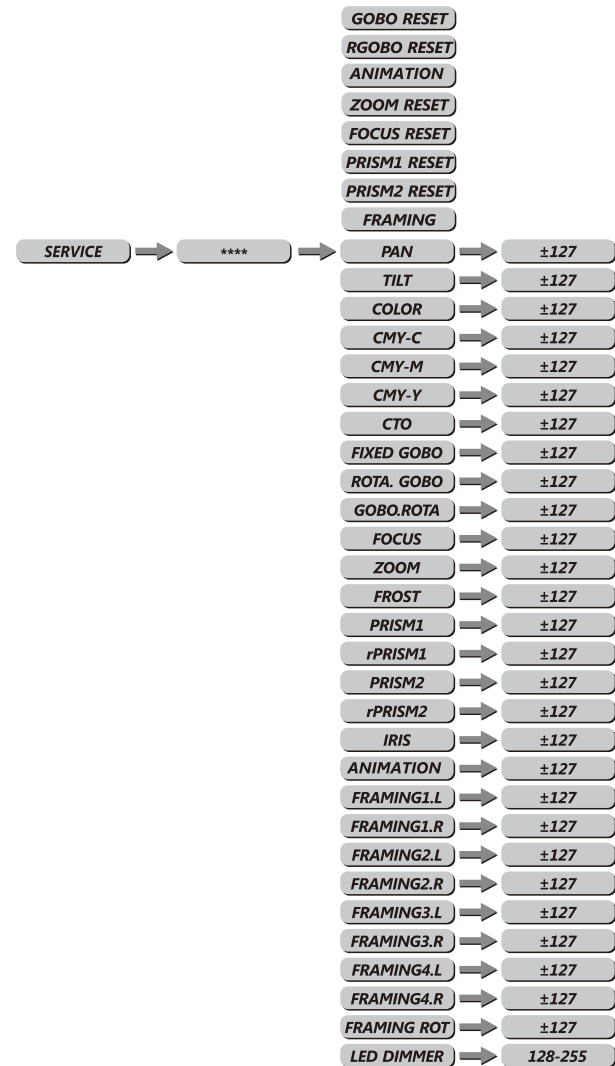
BASIC (29CH)	STANDARD (38CH)	EXTEND (43CH)	VALUE	FUNCTION
CH.11	CH.16	CH.17	ANIMATION	
			0-010	WHITE
			11-140	Continuous rotation (Forward ->Reverse)
			141-146	STOP
			147-200	Forward rotation from slow to fast, Quick return
			201-255	Reverse rotation from slow to fast, Quick return
CH.12	CH.17	CH.18	PRISM	
			0-10	OFF
			011-145	PRISM1
			146-255	PRISM2
CH.13	CH.18	CH.19	PRISM EFFECT	
			000-145	PRISM INSERT AND ADJUST THE ANGLE (0 -> 360°)
			146-150	STOP
			151-200	PRISM INSERT AND POSITIVE ROTATION (SPEED 100% -> 1)
			201-205	STOP ROTATION
			206-255	PRISM INSERT AND REVERSE ROTATION (SPEED 1 -> 100%)
CH.14	CH.19	CH.20	FROST	
			000-010	WHITE
			011-255	FROST 100%
-	-	CH.21	000-255	FROST FINE
CH.15	CH.20	CH.22	IRIS	
			0-127	IRIS OPEN -> CLOSE (FROM LARGE TO SMALL)
			128-130	IRIS CLOSE
			131-171	IRIS FAST IN FAST OUT
			172-211	IRIS FADE IN FADE OUT RANDOMLY
			212-251	IRIS FAST IN FADE OUT RANDOMLY
			252-255	IRIS CLOSE
-	-	CH.23	000-255	IRIS FINE
CH.16	CH.21	CH.24	0-255	ZOOM
-	CH.22	CH.25	0-255	ZOOM FINE
CH.17	CH.23	CH.26	0-255	FOCUS
-	CH.24	CH.27	0-255	FOCUS FINE





BASIC (29CH)	STANDARD (38CH)	EXTEND (43CH)	VALUE	FUNCTION
			115-122	FIXED GOBO 8 SHAKE (SPEED 1 → 100%)
			123-127	WHITE
			128-190	STATIC GOBO JUMPING WATER EFFECT (SPEED 100 → 1%)
			191-192	STOP WATER EFFECT
			193-255	STATIC GOBO FLOWING WATER EFFECT (SPEED 1 → 100%)
			ROTATING GOBO 7+1	
			000-010	ROTATING WHITE
			011-018	ROTATING GOBO 1
			019-026	ROTATING GOBO 2
			027-034	ROTATING GOBO 3
			035-042	ROTATING GOBO 4
			043-050	ROTATING GOBO 5
			051-058	ROTATING GOBO 6
			059-066	ROTATING GOBO 7
CH.9	CH.13	CH.14	067-074	ROTATING GOBO 1 SHAKE (SPEED 1 → 100%)
			075-082	ROTATING GOBO 2 SHAKE (SPEED 1 → 100%)
			083-090	ROTATING GOBO 3 SHAKE (SPEED 1 → 100%)
			091-098	ROTATING GOBO 4 SHAKE (SPEED 1 → 100%)
			099-106	ROTATING GOBO 5 SHAKE (SPEED 1 → 100%)
			107-114	ROTATING GOBO 6 SHAKE (SPEED 1 → 100%)
			115-122	ROTATING GOBO 7 SHAKE (SPEED 1 → 100%)
			123-127	WHITE
			128-190	ROTATING GOBO FLOWING WATER EFFECT (SPEED 100 → 1%)
			191-192	STOP WATER EFFECT
			193-255	ROTATING GOBO FLOWING WATER EFFECT (SPEED 1 → 100%)
			GOBO ROTATING	
			0-120	ROTATING GOBO ANGLE ADJUSTMENT (0 → 360°)
			121-125	STOP
			126-165	ROTATING GOBO SHAKE (SPEED 1 → 100%)
CH.10	CH.14	CH.15	166-170	STOP
			171-210	ROTATING GOBO POSITIVE ROTATION (SPEED 100% → 1)
			211-215	STOP
			216-255	ROTATING GOBO REVERSE ROTATION (SPEED 1 → 100%)
			000-255	GOBO ROTATING FINE

BASIC (29CH)	STANDARD (38CH)	EXTEND (43CH)	VALUE	FUNCTION
			056-057	L328
			058-059	R3314
			060-061	L101
			062-063	L768
			064-255	MACRO EFFECT R->G->B->R
CH.7	CH.11	CH.11	COLOR WHELL1 6+1	
			000-007	WHITE
			008-015	COLOR 1
			016-023	COLOR 2
			024-031	COLOR 3
			032-039	COLOR 4
			040-047	COLOR 5
			048-055	COLOR 6
			056-191	COLOR WHELL1 0-360°
			192-222	COLOR WHELL1 RAINBOW EFFECT(SPEED 100%->1)
			223-224	STOP
			225-255	COLOR WHELL1 RAINBOW EFFECT(SPEED 1->100%)
-	-	CH.12	000-255	COLOR WHELL FINE
CH.8	CH.12	CH.13	FIXED GOBO WHEEL8+1	
			000-010	WHITE
			011-016	FIXED GOBO 1
			017-022	FIXED GOBO 2
			023-028	FIXED GOBO 3
			029-034	FIXED GOBO 4
			035-040	FIXED GOBO 5
			041-046	FIXED GOBO 6
			047-052	FIXED GOBO 7
			053-058	FIXED GOBO 8
			059-066	FIXED GOBO 1 SHAKE (SPEED 1 -> 100%)
			067-074	FIXED GOBO 2 SHAKE (SPEED 1 -> 100%)
			075-082	FIXED GOBO 3 SHAKE (SPEED 1 -> 100%)
			083-090	FIXED GOBO 4 SHAKE (SPEED 1 -> 100%)
			091-098	FIXED GOBO 5 SHAKE (SPEED 1 -> 100%)
			099-106	FIXED GOBO 6 SHAKE (SPEED 1 -> 100%)
			107-114	FIXED GOBO 7 SHAKE (SPEED 1 -> 100%)



3.3 Dmx Address



- enter the DMX mode to set the dmx address.
- enter up/down select 1~512 address.
- enter menu return.

3.4 Personality



- enter the person mode to select DMX mode: STANDRAD,BASIC,EXTEND.

3.5 Runmode



- **RUNMODE MENU** : select required run mode,there are some modes inside, AUTO run mode, custom1 customer self-editing scene mode1, custom2 customer self-editing scene mode2 press down / up select mode.
- press enter accept,press menu return.

4 USING A DMX512 CONTROLLER

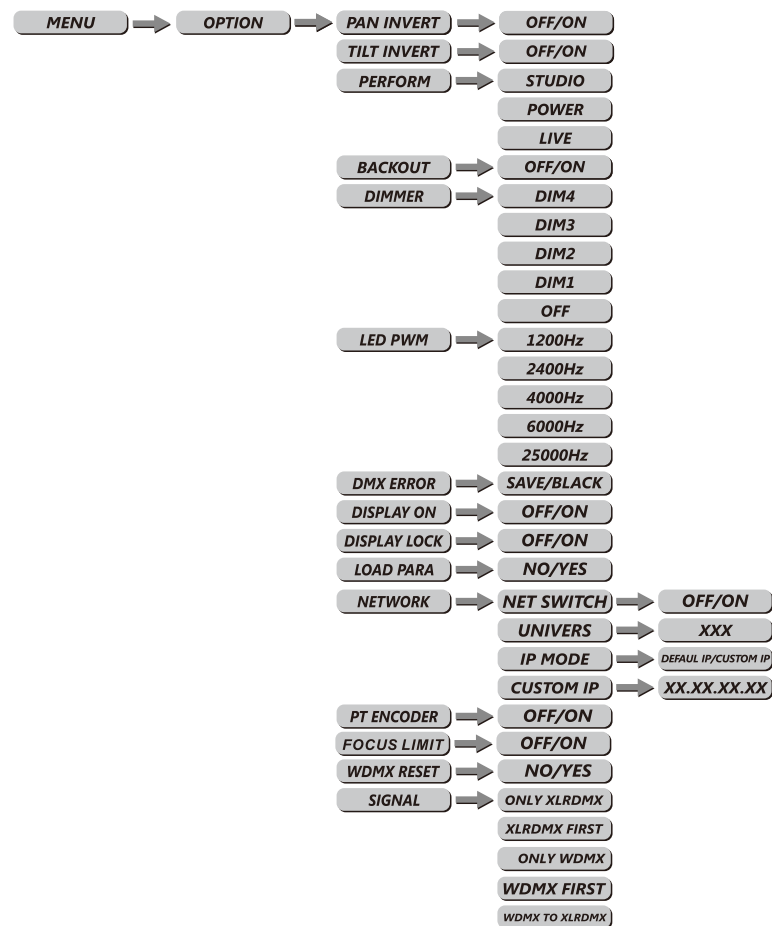
4.1 Channel Assignment

Note: this product have DMX512 channel configuration: BASIC,STANDARD,EXTEND.

BASIC (29CH)	STANDARD (38CH)	EXTEND (43CH)	VALUE	FUNCTION
CH.1	CH.1	CH.1	000-255	PAN 0-540°
-	CH.2	CH.2	000-255	PAN FINE
CH.2	CH.3	CH.3	000-255	TILT 0-270°
-	CH.4	CH.4	000-255	TILT FINE
-	CH.5	CH.5	000-255	PT Speed
CH.3	CH.6	CH.6	000-255	CYAN
CH.4	CH.7	CH.7	000-255	MAGENTA
CH.5	CH.8	CH.8	000-255	YELLOW
CH.6	CH.9	CH.9	000-255	CTO 6800K-2700K
			COLOUR MACRO	
			000-019	No Function
			020-021	3000K
			022-023	3200K
			024-025	3500K
			026-027	4000K
			028-029	4500K
			030-031	5000K
			032-033	5400K
			034-035	5600K
			036-037	6000K
			038-039	6500K
			040-041	6800K
			042-043	L106
			044-045	L194
			046-047	L019
			048-049	R08
			050-051	L213
			052-053	R80
			054-055	L202

- Press ENTER into SERVICE Enter password to enter the options page.
- **PAN** : Pan position fine adjustment Push up and down buttons adjust ± 127 value.
- **TILT** : Tilt position fine adjustment Push up and down buttons adjust ± 127 value.
- **COLOR** : Color position fine adjustment Push up and down buttons adjust ± 127 value.
- **CMY-C** : CMY-C position fine adjustment Push up and down buttons adjust ± 127 value.
- **CMY-M** : CMY-M position fine adjustment Push up and down buttons adjust ± 127 value.
- **CMY-Y** : CMY-Y position fine adjustment Push up and down buttons adjust ± 127 value.
- **CTO** : CMY-Y position fine adjustment Push up and down buttons adjust ± 127 value.
- **FIXED GOBO** : Fix gobo position fine adjustment Push up and down buttons adjust ± 127 value.
- **ROTA. GOBO** : Rotation gobo position fine adjustment Push up and down buttons adjust ± 127 value.
- **GOBO.ROTA** : Gobo self-rotation position fine adjustment Push up and down buttons adjust ± 127 value.
- **FOCUS** : Focus position fine adjustment Push up and down buttons adjust ± 127 value.
- **ZOOM** : Zoom position fine adjustment Push up and down buttons adjust ± 127 value.
- **FROST** : Frost position fine adjustment Push up and down buttons adjust ± 127 value.
- **PRISM 1** : Prism position fine adjustment Push up and down buttons adjust ± 127 value.
- **rPRISM 1** : Prism self-position fine adjustment Push up and down buttons adjust ± 127 value.
- **PRISM 2** : Prism position fine adjustment Push up and down buttons adjust ± 127 value.
- **rPRISM 2** : Prism self-position fine adjustment Push up and down buttons adjust ± 127 value.
- **IRIS** : Iris position fine adjustment Push up and down buttons adjust ± 127 value.
- **ANIMATION**: Animation position fine adjustment Push up and down buttons adjust ± 127 value.
- **FRAMING 1~4 Left&Right** : 1 ~ 4 cutting piece direction position fine-tuning, through the up and down keys ± 127 numerical adjustment.
- **FRAMING ROT** : Fine adjustment of cutting component position, adjusting the ± 127 value with the up and down keys.
- **LED DIMMER** : LED maximum brightness limit, adjust the value of 128~255 by the up and down keys.

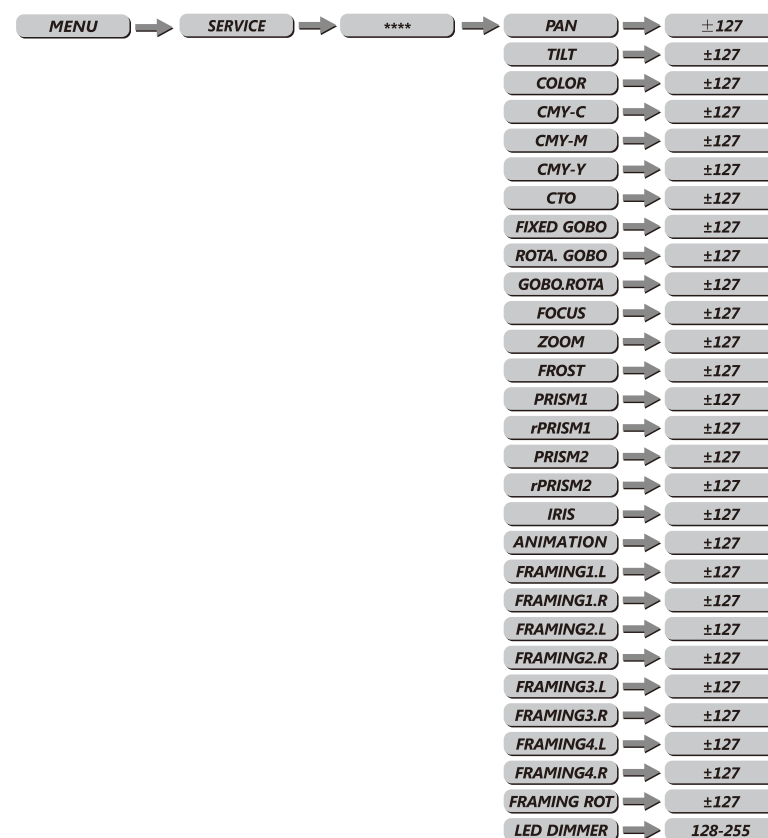
3.6 Performance



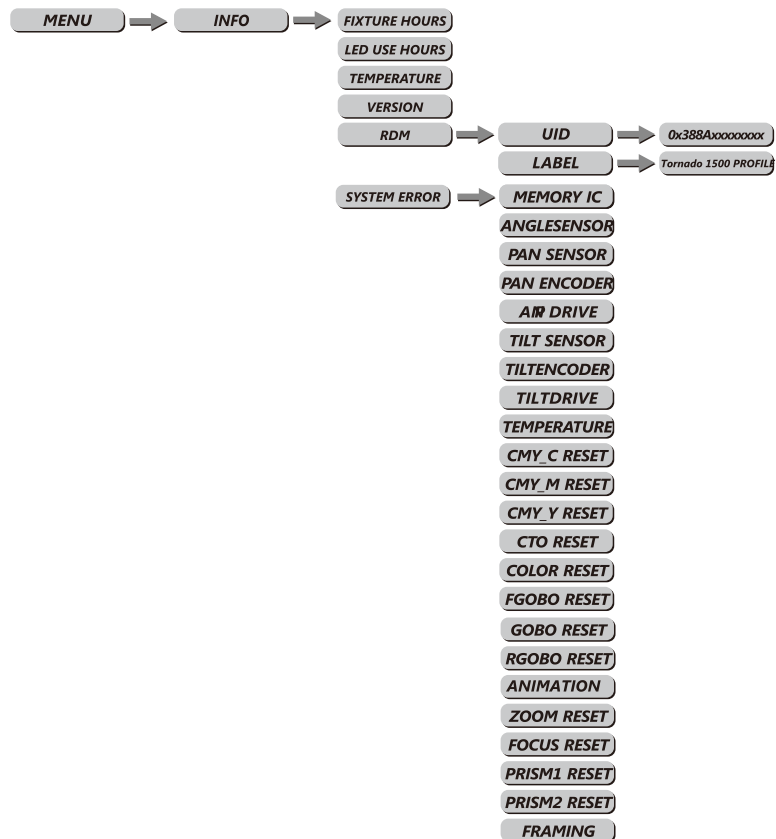
- enter option into the machine set.
- **PAN INVERT** : select normal for normal direction,select invert for inverted of the pan direction.
- **TITL INVERT** : select normal for normal direction,select invert for inverted of the titl direction.
- **FANS** :
STUDIO: Noise control within 45dB, limiting power.
POWER: Noise control within 45dB, power reduction.
LIVE: Intelligent adjustment of wind speed, noise control within 55dB, power reduction, default to this mode.
- **BLACKOUT** : select OFF for immediate activation of PAN/TILT blackout when selected using the control channel or ON for 3 second delay before activation.
- **DIMMER** : menu for selection of dim4/dim3/dim2/dim1/off special dimming Curves.
- **LED PWM** : is PWM refresh rate bottom, press up/down to choose <1200hz>、<2000hz>、<2400hz>、<6000hz>、<25000hz>;
Attention: the gray level of dimming will be reduced as the refresh rate increases.
- **DMX ERROR** : select save to maintain last command in case of DMX error or black for blackout.
- **DISPLAY ON** : choose off and on to close and open the display open & close mode in menu.
- **DISPLAY LOCK** : choose off and on to close and open the screen lock mode in menu
- **LOAD PARA** : to upload data, choose NO means do not upload data choose YES means upload data,
- **SETTING** : is a protect bottom,settings lock is the menu lock bottom, choose off means the menu lock bottom is off, choose ON means the menu lock bottom is on recovery is the recover to default value.Press enter to password setting, press correct password "UP+DOWN+UP+DOWN",and press enter,if password is correct, display will show "OK",
CLEAN EDIT1 : clean customer self-editing scene 1, press enter confirm.
CLEAN EDIT2 : clean customer self-editing scene 2, press enter confirm.
WDMX HIDE : hide wireless mode, WDMX reset and signal hide and the default is Wired mode only.
- **PT ENCODER** : XY encoder switch, off is close, on is open.
- **FOCUS LIMIT**: Focus limit , off is close, on is open.
- **WDMX** : reset wireless resetting, use for patch wireless signal, yes is clear the Receiver's message, press again patch wireless signal, no do not clear the receiver's message.
- **SIGNAL** : is signal setting, only XLR DMX is wire only, XLR DMX first is wire first, only WDMX is wireless only.WDMX firs is wireless first,WDMX to XLR DMX is wireless to wired.

Reset, CTO Reset, Color Reset, FGobo Reset, Gobo Reset, RGobo Reset, ANIMATION, Zoom Reset, Focus Reset, Prism1 Reset, Prism2 Reset, FRAMING.

3.10 Service

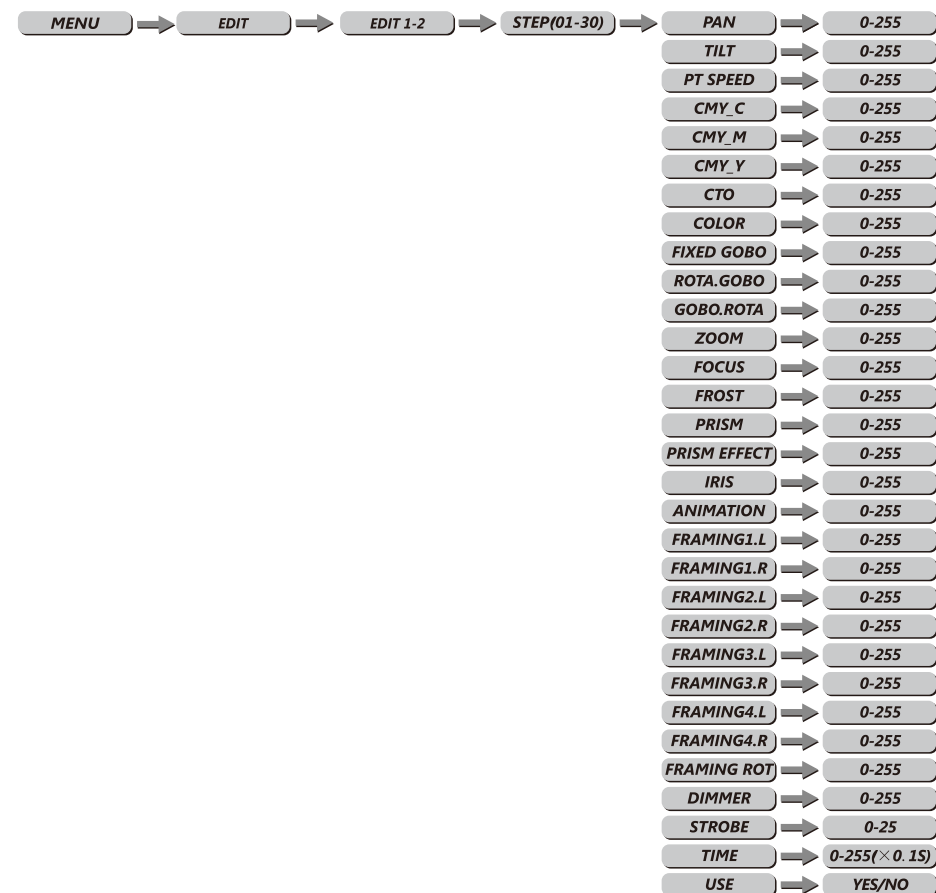


3.9 INFO



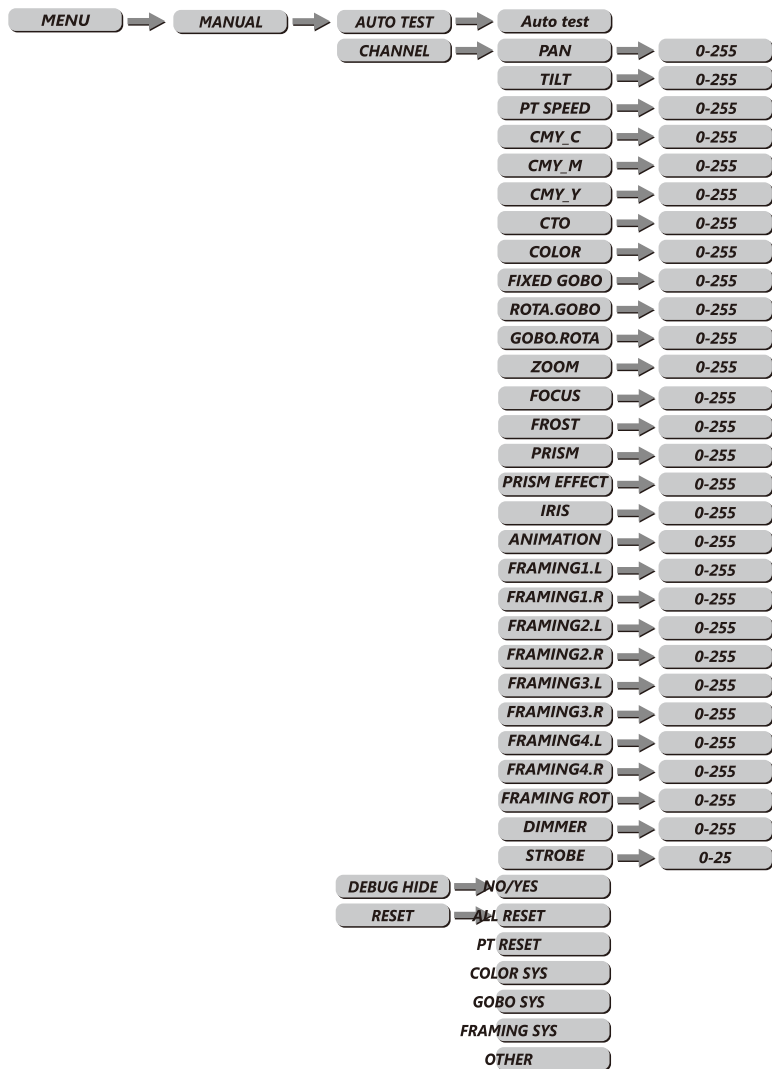
- Push “OK” button into the information search mode in menu info, push“up/down”to choose item.
- **FIXTURE HOURS** : is hours of fixture use.
- **LED USE HOURS** : is led use time.
- **TEMPERATURE** : LED working temperature.
- **VERSION** : is software versions.
- **RDM**: paracheck network parameter.
- **SYSTEM ERROR** : system information error Memory IC, AngleSensor, Pan Sensor, Pan Encoder, Pan DriveIC, Tilt Sensor, TiltEncoder, TiltDriveIC, Temperature, CMY_C Reset, CMY_M Reset, CMY_Y

3.7 EDIT



- Enter the Edit mode to edit the custom programs by adjusting the value of
- PAN,TILT,PT SPEED,CMY-C,CMY-M,CMY-Y,CTO,COLOR,FIXED GOBO, ROTA. GOBO,GOBO.ROTA,ZOOM,FOCUS,FROST,PRISM 1,PRISM 2,IRIS, ANIMATION, FRAMING1~4 LEFT&RIGHT,FRAMING ROT,DIMMER,STROBE,TIME .
- Enter Use and select Yes to run the steps user need.
- Note:if user want to circulate the created steps,please set the last step's TIME as 0.
- For example,there are 3 steps,the setting should be like belowed:
Step 1 TIME =4 Use =Yes
Step 2 TIME =5 Use =Yes
Step 3 TIME =0 Use =Yes

3.8 Manual



- Press enter into "AUTOTEST" at manual.
- **PAN** : pan set.
TILT : tilt set.
PT SPEED : set the pan & tilt speed.
CMY-C : CMY magenta.
CMY-M : CMY cyan .
CMY-Y : CMY yellow .
CTO : Color wheel set.
COLOR : Color temperature.
FIXED GOBO : set the static gobo wheel.
ROTA.GOBO : set the rotating gobo wheel.
GOBO.ROTA : set the autogiration of gobo wheel.
ZOOM : set the zoom of fixture.
FOCUS : set the focusing.
FROST : set thefrost lens.
PRISM : set the prism .
PRISM EFFECT : set the prism
IRIS : set the iris.
ANIMATION : set the ANIMATION,
FRAMING 1~4 Left & Right : set the FRAMING 1~4 Left&Right,push the UP/DOWN to set the value 000~255.
FRAMING ROT : set the framing rot,push the UP/DOWN to set the value 000~255.
DIMMER : set the dimmer.
STROBE : set the strobe, push the UP/DOWN to set the value 0~25.
- **DEBUG HIDE** : is the factory testing mode.All stepper motors are not controlled by signal,It only works again after the reset. enter No out,Enter Yes in.
- **RESET** : set the reset:
ALL RESET : select Yes/No to carry out all reset.
PT RESET : select Yes/No to carry out PAN/TILT reset.
COLOR SYSTEM : COLOR,CMY,CTO resetting, press No do not resetting, press Yes resetting.
GOBO SYSTEM : fixed gobo,rota.gobo,gobo.rota reset.
FRAMING SYSTEM : framing rot reset.
OTHER : focus,zoom,iris,frost,press No do not resetting, press Yes resetting.