Starway

aperta

USER MANUAL

CE www.star-way.com

version 19032020 V1.0.2

Table of Contents

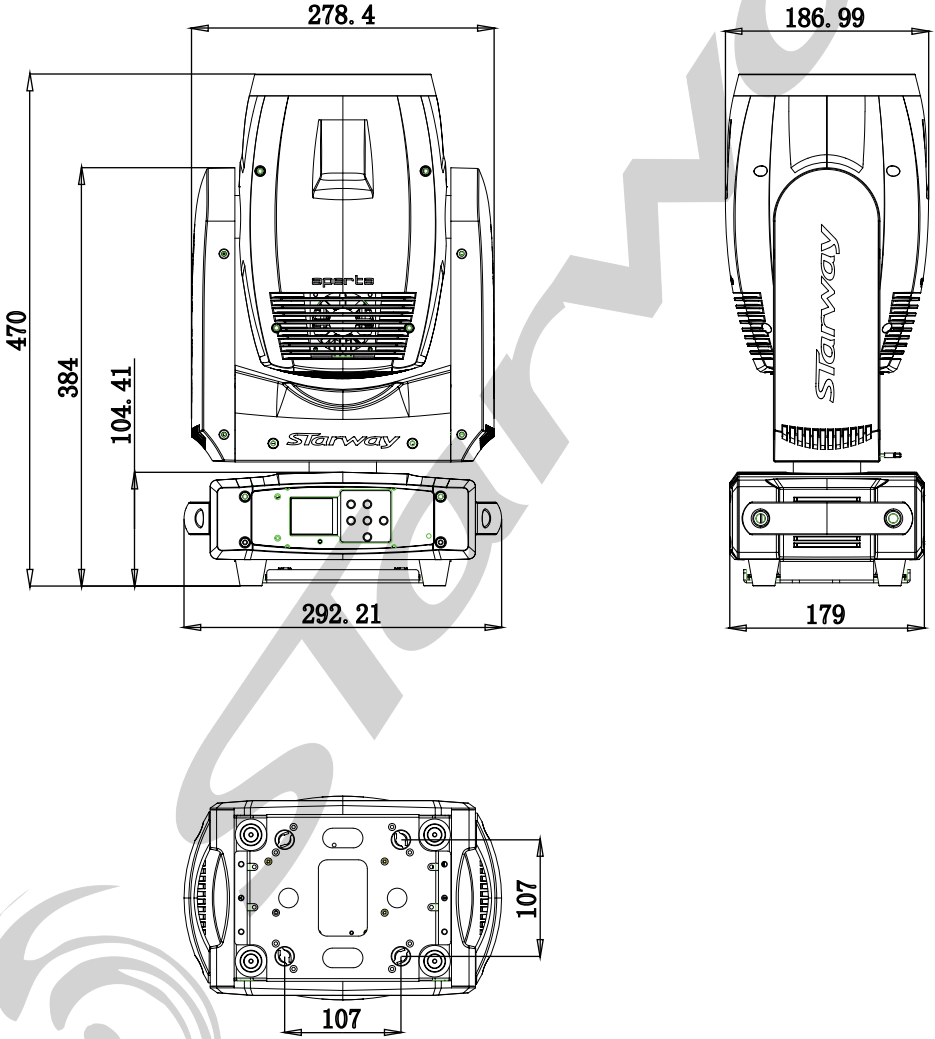
Technical specifications :

- Source: 1 X 50W RGB LED
- Color temperature: 16800K
- Beam opening angle: 1.83 ° - Field: 2.65 °
- Illuminance: 60,000 Lux @ 5m
- In inite Pan & Tilt
- QuickPath Pan & Tilt
- Frost - 2 stackable prisms
- 5-pin XLR connector / RJ45
- DMX modes: 19/22/25 Channels
- RDM - ArtNet - sACN- KilngNet
- Mode: Static, Auto, DMX
- Power supply: AC100 ~ 240V - 50 / 60Hz
- Max consumption: 150W (@ 220V)
- Dimensions: 470 x 292 x 187mm
- Weight: 13 kg
- IP20
- A maximum of 10 projectors can be connected to each other using the PowerCon Out connectors (in 240V).

Introduction:

This product has been dedicated for indoor use only.
Particularly suitable for scenes. TV set or discos.
Controllable in DMX these projectors can be controlled by any DMX console.

DIMENSIONS (mm) :



WARNING! Before carrying out any operations with the unit, carefully read this instruction manual and keep it with cure for future reference. It contains important about the installation, usage and maintenance of the unit.

SAFETY

General Instruction

- **The products referred to in this manual conform to the European Community Directives and are there-fore marked with CE:.**
- **The unit is supplied with hazardous network voltage (230V~). Leave servicing to skilled personnel only. Never make any modifications on the unit not described in this instruction manual, otherwise you will risk an electric shock.**
- **Connection must be made to a power supply system fitted with efficient earthing (Class I appliance ac-cording to standard EN 60598-1). It is, moreover, recommended to protect the supply lines of the units from indirect contact and/or shorting to earth by using appropriately sized residual current devices.**
- **The connection to the main network of electric distribution must be carried out by a qualified electrical installer. Check that the main frequency and voltage correspond to those for which the unit is designed as given on the electrical data label.**
- **Never use the fixture under the following conditions:**
  - in places wet;
  - in places subject to vibrations or bumps;
  - in places with an ambient temperature of over 45° C.
- **Make certain that no inflammable liquids, water or metal objects enter the fixture.**
- **Do not dismantle or modify the fixture.**
- **All work must always be carried out by qualified technical personnel. Contact the nearest sales point for an inspection or contact the manufacturer directly.**
- If the unit is to be put out of operation definitively, take it to a local recycling plant for a disposal which is not harmful to the environment.

Warnings and installation precautions

- Never let the power cord come into contact with other cables! Handle the power cord and all connections with the mains with particular caution!
- Never modify, bend, mechanically strain, put pressure on, pull or heat up the power cord.
- Never strain the cable. There must always be sufficient cable going to the device. Otherwise, the cable will be damaged, which can cause serious damage.
- Never remove warning or informative labels from the unit.
- Never use anything to cover the ground contact.
- Never lift the device holding it by the projector-head, as the mechanics may be damaged
- Do not shake the device. Avoid brute force when installing or operating the device.
- Only operate the device after having checked if the housing is firmly closed and all screws are tightly fastened.
- Only operate the device after having familiarized with its functions.
- Avoid flames and do not put close to flammable liquids or gases.
- Always allow a free air space of at least 0.8 m around the unit for ventilation.
- Always disconnect power from the mains, when device is not used or before cleaning! Only handle the power cord holding it by the plug. Never pull out the plug by tugging the power cord.

- Make sure that the device is not exposed to extreme heat or dust.
- Make sure that the available voltage is not higher than stated on the rear panel.
- Make sure that the power cord is never crimped or damaged. Check the device and the power cord from time to time.
- Make sure that the core diameter of extension cords and power cords is sufficient for the required power consumption of the device.
- Always hold the device by the transport handles.
- Never place any material over the LEDs or lens.
- Never look directly into the light source.
- Never leave any cables lying around.
- Never use the device during thunderstorms, unplug the device immediately.
- Never leave various parts of the packaging (plastic bags, polystyrene foam, nails, etc within children's reach, as they potential sources of danger.
- Do not insert objects into air vents.
- Do not open the device and do not modify the device.
- Do not connect this device to a dimmer pack.
- Do not switch the device on and off in short intervals, as this will reduce the device's life.
- Do not touch the device's housing bare-handed during its operation (housing becomes very hot). Allow the device to cool for at least 5 minutes before handling.
- If the lens or LEDs are obviously damaged, they need to be replaced to prevent their functions from being impaired, due to cracks or deep scratches.
- If the external cable is damaged, it has to be replaced by a qualified technician.
- If device was dropped or struck, disconnect mains power supply immediately. Have a qualified engineer inspect for safety before operating.
- If the device has been exposed to drastic temperature fluctuation (e.g. after transportation), do not switch it on immediately. The arising condensation water might damage your device. Leave the device switched off until it has reached room temperature.
- If your device fails to work properly, discontinue the use immediately. Pack the unit securely (preferably in the original packing material), and return it to your dealer for service.
- For adult use only. The device must be installed beyond the reach of children. Never leave the unit running unattended.
- Never attempt to bypass the thermostatic switch or fuses.
- For replacement use fuses of same type and rating only.
- This device is heavy. When handling, use a two-person lift to prevent injury.
- The user is responsible for correct positioning and operating of the device. The manufacturer will not accept liability for damages caused by the misuse or incorrect installation of this device.
- This device falls under protection class I. Therefore it is essential to connect the yellow/green conductor to earth.
- Repairs, servicing and electric connection must be carried out by a qualified technician.

Rigging

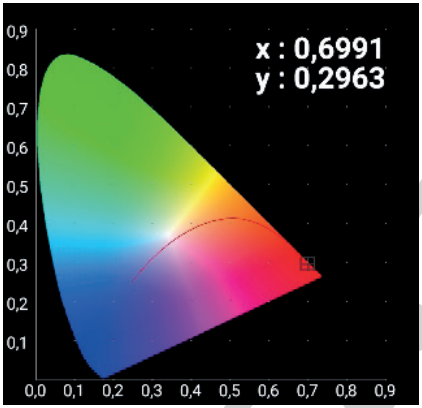
This device is heavy. When handling, use a two-person lift to prevent injury. Please follow the European and national guidelines concerning rigging, trussing and all other safety issues.

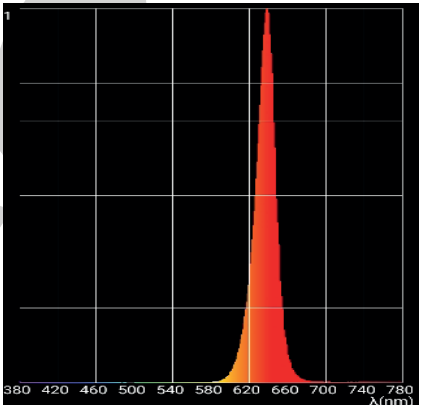
SPECTROMETRY

Distance 5 meters		
Color	**Wave Length**	**Lux**
Red	639 nm	6291 lux
Green	534 nm	49027 lux
Blue	448 nm	2864 lux
RGB LEDs		60000 lux

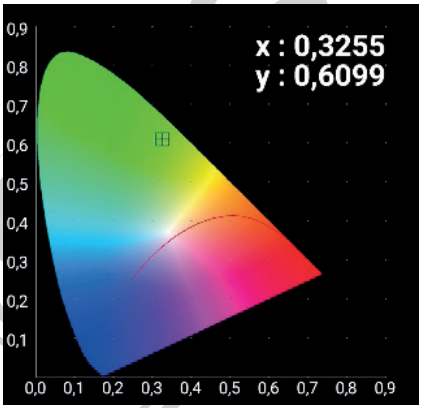
Measurements made with uSpectrum MK305S

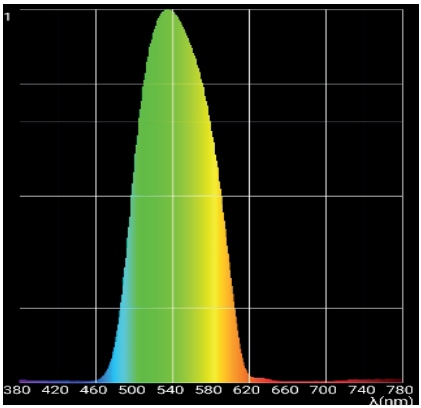
RED LED



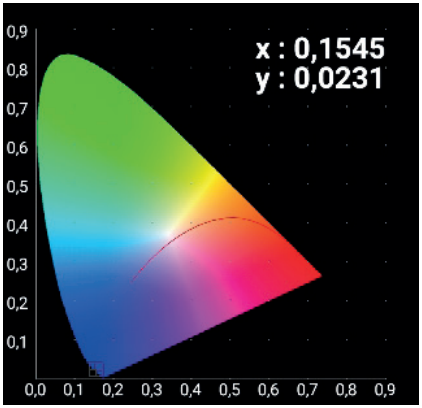


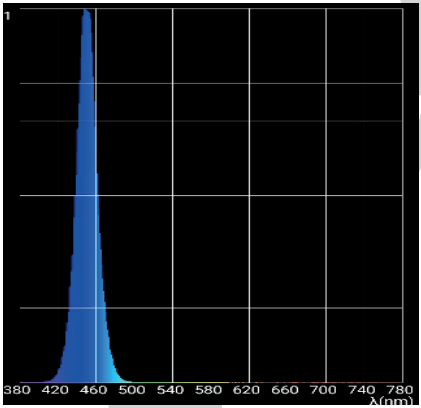
GREEN LED



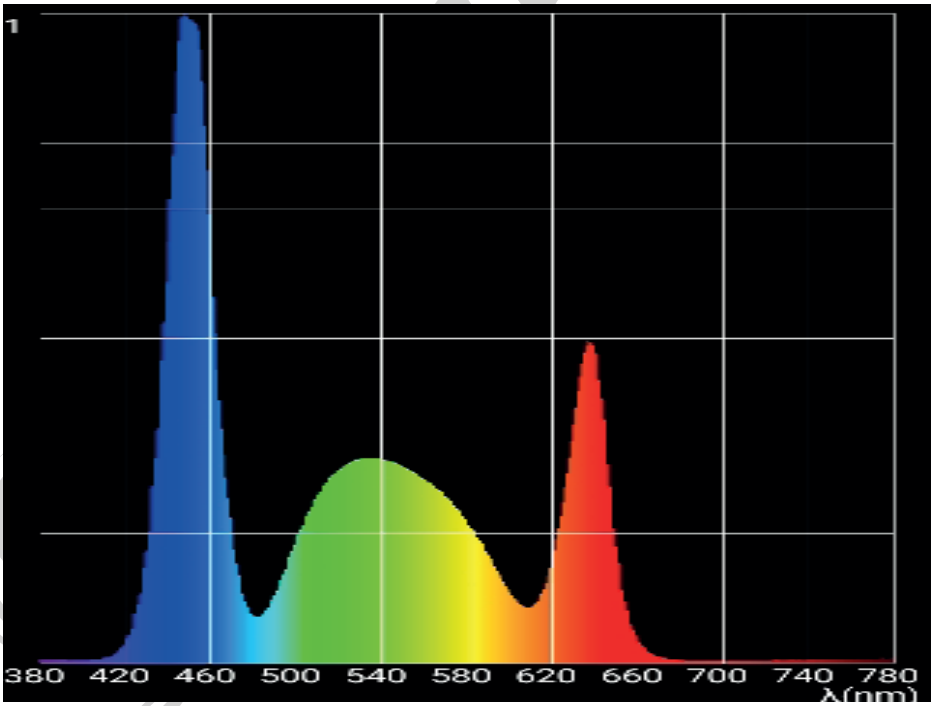


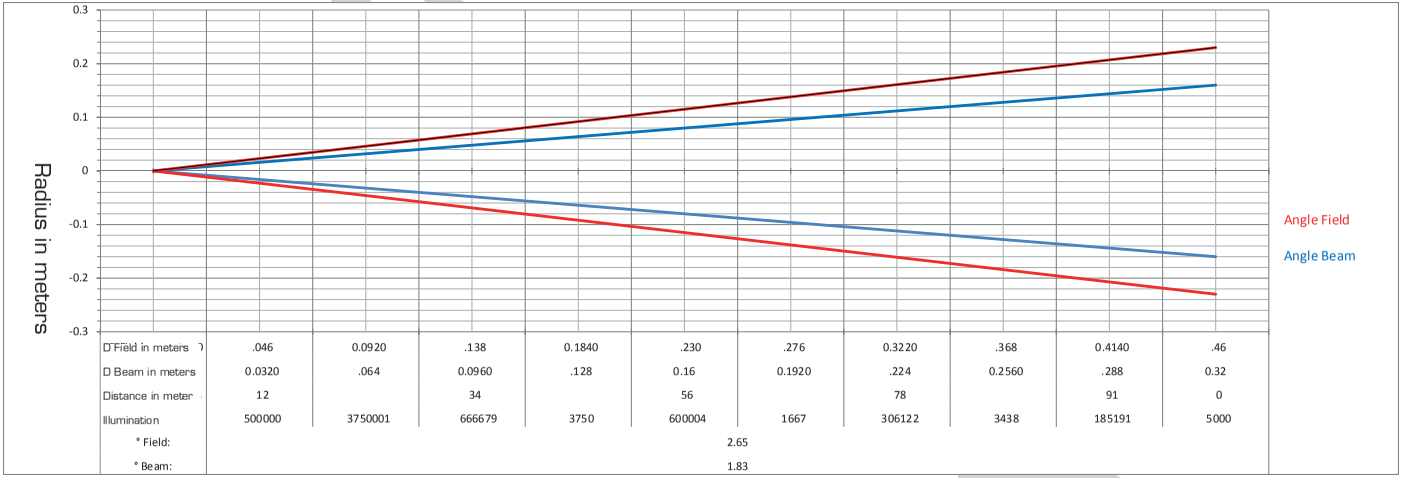
BLUE LED


x : 0,1545
y : 0,0231
0,9
0,8
0,7
0,6
0,5
0,4
0,3
0,2
0,1
0,0 0,1 0,2 0,3 0,4 0,5 0,6 0,7 0,8 0,9


1
380 420 460 500 540 580 620 660 700 740 780
λ(nm)

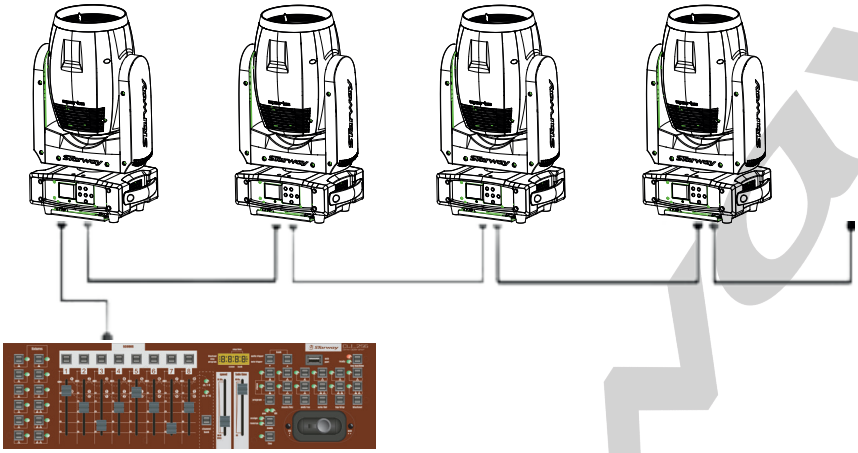
RGB


1
380 420 460 500 540 580 620 660 700 740 780
λ(nm)



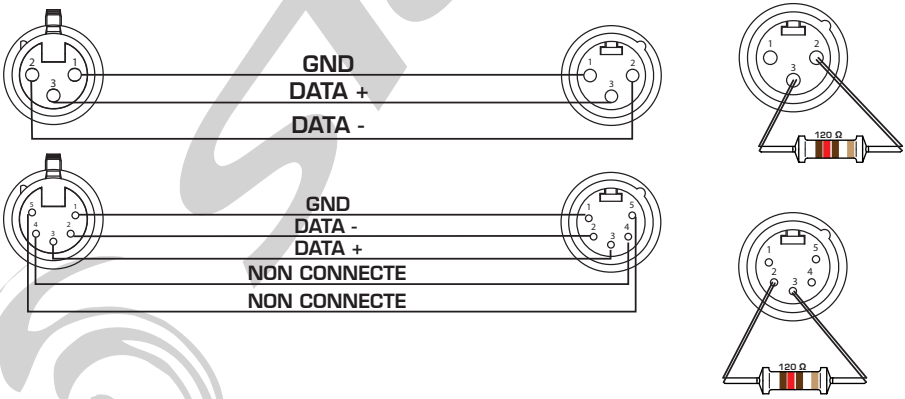
D Field in meters	.046	0.0920	.138	0.1840	.230	.276	0.3220	.368	0.4140	.46
D Beam in meters	0.0320	.064	0.0960	.128	0.16	0.1920	.224	0.2560	.288	0.32
Distance in meter	12		34		56		78		91	0
Illumination	500000	3750001	666679	3750	600004	1667	306122	3438	185191	5000
° Field:					2.65					
° Beam:					1.83					

DMX CONNECTION



The projectors are connected in series to a DMX console.
Connect the projectors as shown in the diagram above.
- Connect the male side of the DMX cable to the output of the DMX512 console.
- Then connect the DMX output of the projector to the input of the next projector.
- Repeat the operation on the whole chain.

The use of a termination plug is strongly recommended. In some cases the absence of this termination is not problematic, on the other hand its presence is very strongly recommended in disturbed spaces (Stage, long line length, TV studio etc.). Its value is generally 120 Ohms. The plug is an XLR male plug into which a resistance of 120 Ohms ¼ of W. is welded between 2 and 3. This plug prevents the reflection of information transmitted when using long lengths of cable.



MENU

THE VALUES IN RED ARE DEFINED BY DEFAULT IN THE MENU AND RELOADED AS IN THE CASE OF «RELOAD DEFAULT SETTINGS»

Menu	Sous-Menu	Options	
Receive	Set Address	A001~AXXX	
User Mode	User Mode	**Standard (22 C)** - (16bit)	
		Basic (19 C) - (8bit)	
		Extend (25 C) - (16bit)	
		User A	
		User B	
		User C	
	Edit A	Max Channel PAN, TILT, …. :	
	Edit B		
	Edit C		
Function	Status	No DMX Mode	**Hold**/Auto/black
		P.Reverse	ON/**OFF**
		T.Reverse	ON/**OFF**
		Pan Degree	630/**540**
		Feedback	**ON**/OFF
		Move.Spd	**Speed 1**~ 4
		Hibernation	**OFF**, 01M~99M
	Fixture ID	Universe	000-255
		UnitIPAddr	xxx.xxx.xxx.xxx
		Mask Addr	xxx.xxx.xxx.xxx
	ProtocolSet	**ArtNet**, sACN	
	KlingNet	**Enable**, Disable	
	Net Switch	**ON**/OFF	
	Dim Speed	**Dim 0** Dim 1 Dim 2 Dim 3 Dim 4	
	Temp. C/F	Celsius	°C
		Fahrenheit	°F

Function	Dim Curve	**Curve 1** Curve 2 Curve 3 Curve 4	
	Frequency	**900HZ**/1000HZ/1100HZ/1200HZ/1300HZ/ 1400HZ/1500HZ/2500HZ/4000HZ/5000HZ/ 10KHZ/15KHZ/20KHZ/25KHZ	
	Quick path	ON/**OFF**	
	Fan Set	Head Fan	**Auto**
			High
			Low
	LCD.Set	Backlight	02~60m **<05m>**
		Flip Display	ON/**OFF**
		Key Lock	ON/**OFF**
		DispFlash	**ON**/OFF
	Disp.Set	Chan.Value	PAN.....
		Slave Set	Slave1,Slave2,Slave3
		Auto.Prog	Master / Alone
	DFSE	ON/**OFF**	
Information	Time.Info	CurrentTime	(Heures)
		Total Time	(Heures)
		Last Clear	(Heures)
		Timer PIN	Code PIN
		Clear Last	
		Clear Total	
	Temp. Info	R: XXXF	
		G: XXXF	
		B: XXXF	
	Fan Speed	Fan1 : xxxxRPM	
		Fan2 : xxxxRPM	
	Error. Info	NONE/Pan,Tilt.....	
	Model. Info	Aperta	
	Software.V	1U01 V1.0.2	
		2U01 V1.0.2	
		3U01 V1.0.2	
		4U01 V1.0.2	
		5U01 V1.0.2	

Test	Reset.Motor	All	
		Pan&Tilt	
		Fixed Gobo	
	Test.Channel	Pan, Pan Fine, Tilt, Tilt Fine, Pan Rotate, Tilt Rotate, Red, Red Fine, Green, Green Fine, Blue, Blue Fine, Fixed Gobo, Prism1, Prism1Rot, Prism2, Prism-2Rot, Strobe, Dimmer, Dim Fine, Focus, Frost, DimMode, P/T Speed, Reset/Prog	
	Panel.Ctrl.	Pan, Pan Fine, Tilt, Tilt Fine, Pan Rotate, Tilt Rotate, Red, Red Fine, Green, Green Fine, Blue, Blue Fine, Fixed Gobo, Prism1, Prism1Rot, Prism2, Prism-2Rot, Strobe, Dimmer, Dim Fine, Focus, Frost, DimMode, P/T Speed, Reset/Prog	
		PAN =XXX , …	
	Calibrate	Password	60
		PAN, TILT, …	

RECEIVE MENU

Address set:
Configuration of the Aperta DMX address

USER MODE MENU

User Mode:
Selection of the DMX mode of the Aperta between the different modes such as:
- Basic 19 DMX channels - 8-bit mode
- Standard 22 DMX channels - 16-bit mode
- Extended 25 DMX Channels - Extended 16-Bit Mode
- User A - User mode 1
- User B - User mode 2
- User C - User mode 3

Edit A; Edit B; Edit C
In this sub-menu it is possible to create 3 channel assignments at the discretion of the user. In each "Edit A; Edit B and Edit C "it is possible to select the maximum number of channels, and to change the order of the DMX channels.

FUNCTION MENU

Status
In this sub-menu it is possible to modify the behavior of the Aperta.

No DMX Mode: Modification of the Aperta reaction during DMX signal loss:
- Hold: maintenance of the last DMX values received
- Auto: The Aperta switches to Auto mode
- Black Out: The Aperta goes into «Stand By» mode

P Reverse: ON / OFF - Pan inversion

T Reverse: ON / OFF - Tilt inversion

PAN degree: 630 ° Or 540 ° - Selection of the maximum angle of PAN
(this value does not affect continuous rotation)

Feedback: ON / OFF - Activation or Deactivation of feedback
motors (Copy)

Move Speed: Selection of movement speed between 1 and 4
1 - faster to 4 - slower

Hibernation: OFF - 01 Min to 99 Min - Selection of hibernation mode
the Aperta. OFF by default or from 1 minute to 99 minutes before switching to
hibernation mode.

Fixture ID
Sub-menu allowing the modification of the DMX universe of reception (ArtNet and sACN) as well as the IP address and the subnet mask of the Aperta.

Universe: 0-255 - Selection of the DMX receiving universe
UnitIPAddr: xxx.xxx.xxx.xxx - Selection of the Aperta IP address
MaskAddr: xxx.xxx.xxx.xxx - Selection of the Aperta subnet mask

Net Switch
Sub-menu allowing the activation or deactivation of the Ethernet switch of the Aperta.

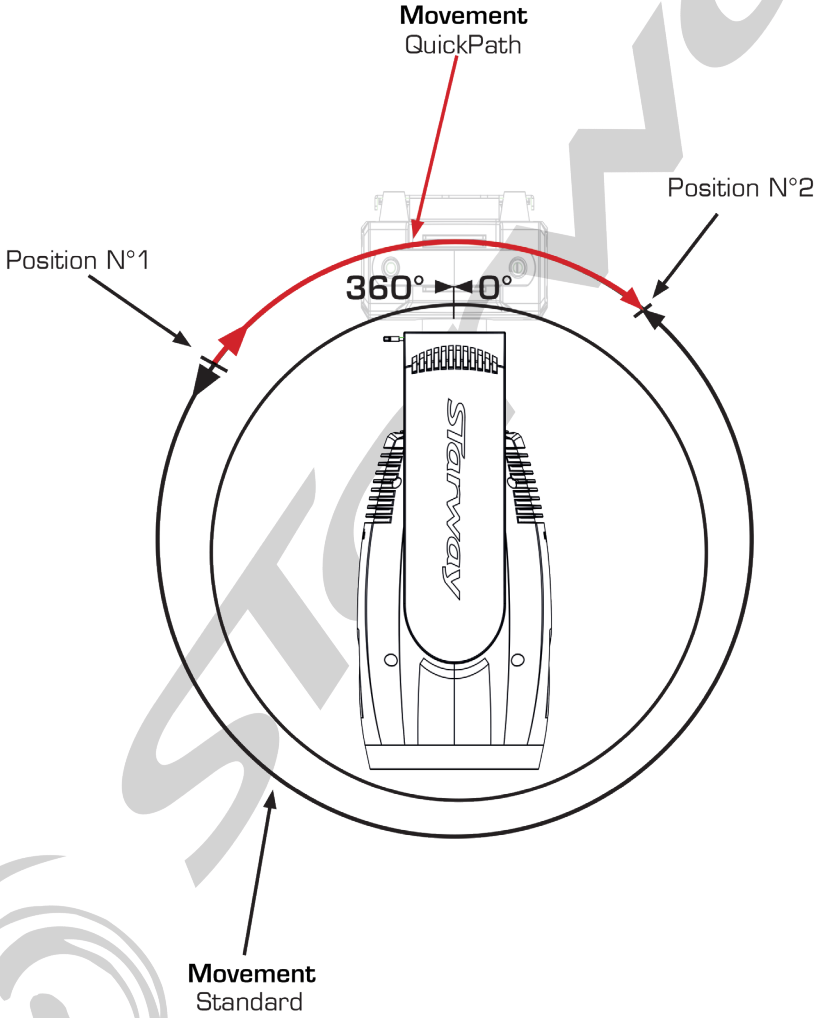
Dim Speed
Sub-menu allowing the selection of the Aperta dimmer mode between Dim 0 (default) and Dim 4.

Temp C ° / F °
Sub-menu for selecting the Celsius or Fahrenheit system (default), for displaying the temperature.

Dim Curve
Sub-menu allowing the selection of the Aperta dimmer curve between Curve 1 (default) and Curve 4

Frequen
Sub-menu allowing the selection of the refresh rate of the LED to avoid a possible «flicking» during the capture. Changeable value between 900Hz (default) and 25Khz.

QuickPath
Sub-menu allowing the activation or deactivation of the QuickPath function to define the behavior of the Aperta when switching from a continuous rotation movement to a «standard» movement.
This mode remains activated via the Control channel (19, 22 or 25 depending on the DMX mode chosen); when the value of the Control channel has been validated between 60 and 69, the Pan and Tilt will take the shortest path to go to the next position.
When the value of the Control channel has been validated between 50 and 59, the Pan and Tilt will take the "logical as a function of the virtual stop" path to go to the next position.



This function is valid for Pan and Tilt.

Fan Set - Head Fan
Sub-menu for selecting the head fan speed between Auto (default) and Low or High.

LCD Set
Sub-menu allowing to select the behavior of the Aperta display.

Backlight - 02m to 60m - Selection of the display backlight retention time (without menu manipulation) from 2 minutes to 60 minutes. Time set to 5 minutes by default.

Flip Display - ON / OFF - Reversal of the display direction

KeyLock - ON / OFF - Locking of the Aperta buttons.

DispFlash - ON / OFF - Activation or not of the display flash when the Aperta does not receive a DMX signal.

Disp.Set

Chan.Value - continuously displays the DMX values of all channels.

Slave Set - Selection of the Aperta's slave mode to «shift» the Aperta when using the Master / Slave mode - between Slave 1, Slave2 and Slave 3.

Auto Prog - Selection of Master / Slave mode:
In **MASTER** mode the Aperta transmits the information to the Aperta connected using a DMX cable and where Slave mode has been activated in the "Slave Set" sub-menu
In **ALONE** mode the Aperta does not transmit information and executes its **AUTO** mode individually.

DFSE - ON / OFF - Reloading the Aperta default settings.

INFORMATION

Time.Info

CurrentTime: Display of usage time (in hours) since the last power-up

TotalTime: Display of the usage time (in hours) since the first power-up.

LastTime: Display of the usage time (in hours) since the last reset.

Time PIN: To access the reset of usage times you must enter a PIN code:
050 to reset the «CurrentTime»
060 to reset the «TotalTime»

ClearLast: ON / OFF to reset

Temp.Info - LED temperature display

R: xxx F or C - Red LED temperature display
G: xxx F or C - Green LED temperature display
B: xxx F or C - Blue LED temperature display

Fan Speed - Fan speed display

Fan 1: xxx RPM
Fan 2: xxx RPM

Error.Info - Display of the last 10 error messages.

Model.Info - Display of the model name: APERTA

Software.V - Display of the version of the various processors

1U01 - Vx.x.x
2U01 - Vx.x.x
3U01 - Vx.x.x
4U01 - Vx.x.x
5U01 - Vx.x.x

TEST

Reset Motors

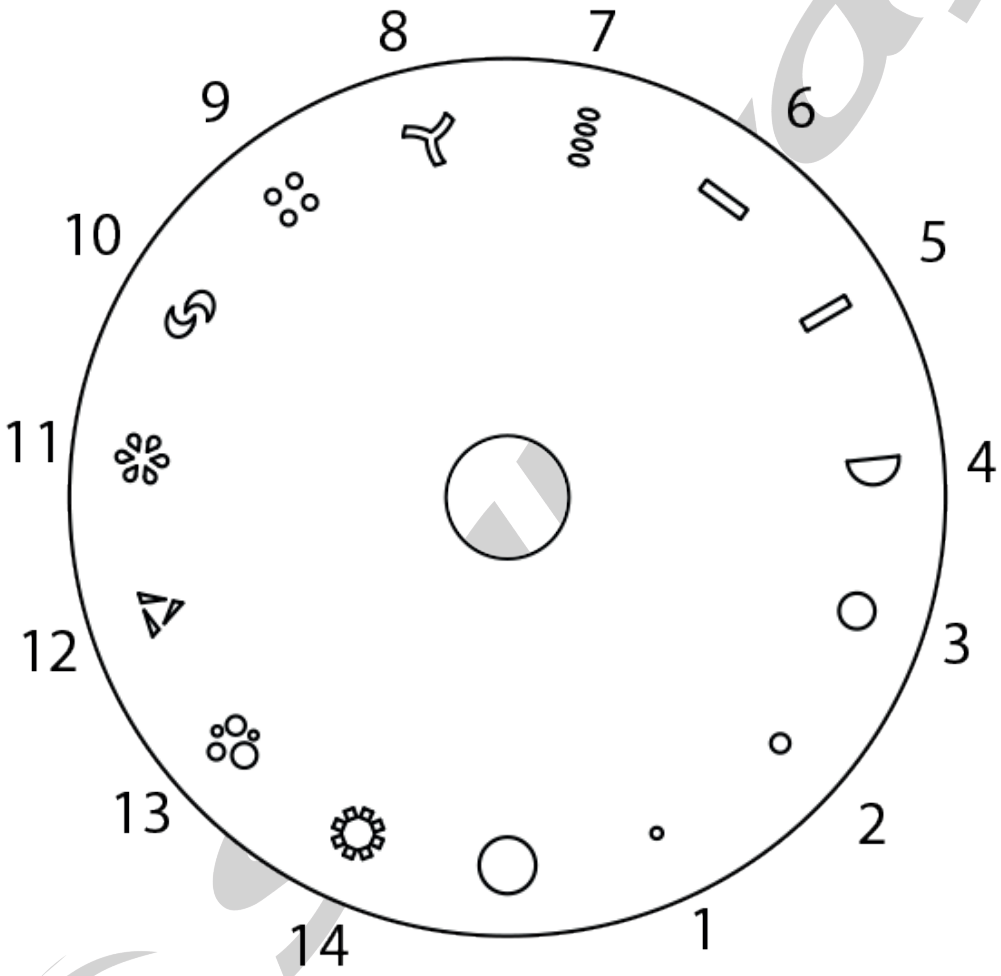
ALL: Reset of all motors
Pan & Tilt: Reset of Pan and Tilt motors
Fixed Gobos: Reset of the gobos wheel

Test.Channel
Sub-menu allowing to test all the parameters of Apreta such as:
Pan, Pan Fine, Tilt, Tilt Fine, Pan Rotate, Tilt Rotate, Red, Red Fine, Green, Green Fine, Blue, Blue Fine, Fixed Gobo, Prism1, Prism1Rot, Prism2, Prism2Rot, Strobe, Dimmer, Dim Fine, Focus , Frost, DimMode, P / T Speed, Reset / Prog

Panel.Ctrl.
Sub-menu allowing manual control of all Apreta parameters such as:
Pan, Pan Fine, Tilt, Tilt Fine, Pan Rotate, Tilt Rotate, Red, Red Fine, Green, Green Fine, Blue, Blue Fine, Fixed Gobo, Prism1, Prism1Rot, Prism2, Prism2Rot, Strobe, Dimmer, Dim Fine, Focus , Frost, DimMode, P / T Speed, Reset / Prog

Calibrate:
Sub-menu allowing to recalibrate the engines and the LEDs of the Aperta
to access this menu, enter the PIN code for unlocking this function.
Pin Code: 060
This gives access to the different parameters:
Pan, Pan Fine, Tilt, Tilt Fine, Pan Rotate, Tilt Rotate, Red, Red Fine, Green, Green Fine, Blue, Blue Fine, Fixed Gobo, Prism1, Prism1Rot, Prism2, Prism2Rot, Strobe, Dimmer, Dim Fine, Focus , Frost

Gobo Wheel



DMX MAP

Basic Mode

Channel	Value	Description
1	000-255	**PAN** 8bit
2	000-255	**TILT** 8bit
3	**PAN CONTINUOUS ROTATION**	
	000-127	Idle
	128-189	Pan clockwise from fast to slow
	190-193	STOP
	194-255	Pan counter-clockwise from slow to fast
4	**TILT CONTINUOUS ROTATION**	
	000-127	Idle
	128-189	Tilt clockwise from fast to slow
	190-193	STOP
	194-255	Tilt counter-clockwise from slow to fast
5	000-255	**RED**: 0-100%
6	000-255	**GREEN**: 0-100%
7	000-255	**BLUE**: 0-100%

	FIXED GOBOS WHEEL	
	000-003	Open
	004-007	Fixed Gobo1
	008-011	Fixed Gobo 2
	012-015	Fixed Gobo 3
	016-019	Fixed Gobo 4
	020-023	Fixed Gobo 5
	024-027	Fixed Gobo 6
	028-031	Fixed Gobo 7
	032-035	Fixed Gobo 8
	036-039	Fixed Gobo 9
	040-043	Fixed Gobo 10
	044-047	Fixed Gobo 11
	048-051	Fixed Gobo 12
	052-055	Fixed Gobo 13
	056-059	Fixed Gobo 14
	060-063	Fixed Gobo 15
8	064-073	Fixed Gobo 1 shake, from slow to fast
	074-083	Fixed Gobo 2 shake, from slow to fast
	084-093	Fixed Gobo 3 shake, from slow to fast
	094-103	Fixed Gobo 4 shake, from slow to fast
	104-113	Fixed Gobo 5 shake, from slow to fast
	114-123	Fixed Gobo 6 shake, from slow to fast
	124-133	Fixed Gobo 7 shake, from slow to fast
	134-143	Fixed Gobo 8 shake, from slow to fast
	144-153	Fixed Gobo 9 shake, from slow to fast
	154-163	Fixed Gobo 10 shake, from slow to fast
	164-173	Fixed Gobo 11 shake, from slow to fast
	174-183	Fixed Gobo 12 shake, from slow to fast
	184-193	Fixed Gobo 13 shake, from slow to fast
	194-203	Fixed Gobo 14 shake, from slow to fast
	204-211	Fixed Gobo 15 shake, from slow to fast
	212-232	Rotating gobo wheel clockwise from slow to fast
	233-234	STOP
	235-255	Rotating gobo wheel counter-clockwise from slow to fast

9	**PRISM1**	
	000-031	Open
	032-255	8 facet prism
10	**PRISM1 ROTATION**	
	000-127	Prism 1 indexing 0° To 360°
	128-189	Clockwise rotation from fast to slow
	190-193	STOP
	194-255	Counter clockwise rotation from slow to fast
11	**PRISM2**	
	000-031	Open
	032-255	6 facet linear prism
12	**PRISM2 ROTATION**	
	000-127	Prism2 indexing 0° To 360°
	128-189	Clockwise rotation from fast to slow
	190-193	STOP
	194-255	Counter clockwise rotation from slow to fast
13	**SHUTTER**	
	000-031	Shutter Off
	032-063	Shutter On
	064-095	Strobe effect slow to fast
	096-127	Shutter On
	128-159	Pulse-effect in sequences
	160-191	Shutter On
	192-223	Random strobe effect slow to fast
	224-255	Shutter On
14	000-255	**DIMMER** 0 to 100%
15	000-255	**FOCUS**
16	**FROST**	
	000-225	Linear Frost : 0 – 100%
	226-235	Pulse opening effect from fast to slow
	236-245	Pulse closing effect from slow to fast
	246-255	Frost at 100%

17	DIM MODES	
	000-020	DIM 0
	021-040	DIM 1
	041-060	DIM 2
	061-080	DIM 3
	081-100	DIM 4
	101-255	Default to Unit Setting
18	SPEED PAN/TILT MOVEMENT	
	000-225	max to min speed
	226-235	blackout by movement
	236-255	Idle
19	CONTROL	
	000-019	Idle
	020-029	Fan Speed Set Auto
	030-039	Fan Speed Set High
	040-049	Fan Speed Set Low
	050-059	Quick path P/T Off
	060-069	Quick path P/T On
	070-079	Pan & Tilt Reset
	080-089	All Motors Reset
	090-099	Idle
	100-119	Internal program 1
	120-139	Internal program 2
	140-159	Internal program 3
	160-179	Internal program 4
	180-199	Internal program 5
	200-219	Internal program 6
	220-239	Internal program 7
	240-255	Idle

Standard Mode

Channel	Value	Description
1	000-255	**PAN** 8bit
2	000-255	**PAN FINE** 16bit
3	000-255	**TILT** 8bit
4	000-255	**TILT FINE** 16bit
5	**PAN CONTINUOUS ROTATION**	
	000-127	Idle
	128-189	Pan clockwise from fast to slow
	190-193	STOP
	194-255	Pan counter-clockwise from slow to fast
6	**TILT CONTINUOUS ROTATION**	
	000-127	Idle
	128-189	Tilt clockwise from fast to slow
	190-193	STOP
	194-255	Tilt counter-clockwise from slow to fast
7	000-255	**RED**: 0-100%
8	000-255	**GREEN**: 0-100%
9	000-255	**BLUE**: 0-100%

10	FIXED GOBOS WHEEL	
	000-003	Open
	004-007	Fixed Gobo1
	008-011	Fixed Gobo 2
	012-015	Fixed Gobo 3
	016-019	Fixed Gobo 4
	020-023	Fixed Gobo 5
	024-027	Fixed Gobo 6
	028-031	Fixed Gobo 7
	032-035	Fixed Gobo 8
	036-039	Fixed Gobo 9
	040-043	Fixed Gobo 10
	044-047	Fixed Gobo 11
	048-051	Fixed Gobo 12
	052-055	Fixed Gobo 13
	056-059	Fixed Gobo 14
	060-063	Fixed Gobo 15
	064-073	Fixed Gobo 1 shake, from slow to fast
	074-083	Fixed Gobo 2 shake, from slow to fast
	084-093	Fixed Gobo 3 shake, from slow to fast
	094-103	Fixed Gobo 4 shake, from slow to fast
	104-113	Fixed Gobo 5 shake, from slow to fast
	114-123	Fixed Gobo 6 shake, from slow to fast
	124-133	Fixed Gobo 7 shake, from slow to fast
	134-143	Fixed Gobo 8 shake, from slow to fast
	144-153	Fixed Gobo 9 shake, from slow to fast
	154-163	Fixed Gobo 10 shake, from slow to fast
	164-173	Fixed Gobo 11 shake, from slow to fast
	174-183	Fixed Gobo 12 shake, from slow to fast
	184-193	Fixed Gobo 13 shake, from slow to fast
	194-203	Fixed Gobo 14 shake, from slow to fast
	204-211	Fixed Gobo 15 shake, from slow to fast
	212-232	Rotating gobo wheel clockwise from slow to fast
	233-234	STOP
	235-255	Rotating gobo wheel counter-clockwise from slow to fast

11	**PRISM1**	
	000-031	Open
	032-255	8 facet prism
12	**PRISM1 ROTATION**	
	000-127	Prism 1 indexing 0° To 360°
	128-189	Clockwise rotation from fast to slow
	190-193	STOP
	194-255	Counter clockwise rotation from slow to fast
13	**PRISM2**	
	000-031	Open
	032-255	6 facet linear prism
14	**PRISM2 ROTATION**	
	000-127	Prism2 indexing 0° To 360°
	128-189	Clockwise rotation from fast to slow
	190-193	STOP
	194-255	Counter clockwise rotation from slow to fast
15	**SHUTTER**	
	000-031	Shutter Off
	032-063	Shutter On
	064-095	Strobe effect slow to fast
	096-127	Shutter On
	128-159	Pulse-effect in sequences
	160-191	Shutter On
	192-223	Random strobe effect slow to fast
	224-255	Shutter On
16	000-255	**DIMMER** 0 to 100%
17	000-255	**DIMMER FINE** 0 to 100%
18	000-255	**FOCUS**
19	**FROST**	
	000-225	Linear Frost 0 – 100%
	226-235	Pulse opening effect from fast to slow
	236-245	Pulse closing effect from slow to fast
	246-255	Frost at 100%

20	DIM MODES	
	000-020	DIM 0
	021-040	DIM 1
	041-060	DIM 2
	061-080	DIM 3
	081-100	DIM 4
	101-255	Default to Unit Setting
21	SPEED PAN/TILT MOVEMENT	
	000-225	max to min speed
	226-235	blackout by movement
	236-255	Idle
22	CONTROL	
	000-019	Idle
	020-029	Fan Speed Set Auto
	030-039	Fan Speed Set High
	040-049	Fan Speed Set Low
	050-059	Quick path P/T Off
	060-069	Quick path P/T On
	070-079	Pan & Tilt Reset
	080-089	All Motors Reset
	090-099	Idle
	100-119	Internal program 1
	120-139	Internal program 2
	140-159	Internal program 3
	160-179	Internal program 4
	180-199	Internal program 5
	200-219	Internal program 6
	220-239	Internal program 7
	240-255	Idle

Mode Extended

Channel	Value	Description
1	000-255	**PAN** 8bit
2	000-255	**PAN FINE** 16bit
3	000-255	**TILT** 8bit
4	000-255	**TILT FINE** 16bit
5	**PAN CONTINUOUS ROTATION**	
	000-127	Idle
	128-189	Pan clockwise from fast to slow
	190-193	STOP
	194-255	Pan counter-clockwise from slow to fast
6	**TILT CONTINUOUS ROTATION**	
	000-127	Idle
	128-189	Tilt clockwise from fast to slow
	190-193	STOP
	194-255	Tilt counter-clockwise from slow to fast
7	000-255	**RED**: 0-100%
8	000-255	**RED16BIT**: 0-100%
9	000-255	**GREEN**: 0-100%
10	000-255	**GREEN16BIT**: 0-100%
11	000-255	**BLUE**: 0-100%
12	000-255	**BLUE16BIT**: 0-100%

	FIXED GOBOS WHEEL	
	000-003	Open
	004-007	Fixed Gobo1
	008-011	Fixed Gobo 2
	012-015	Fixed Gobo 3
	016-019	Fixed Gobo 4
	020-023	Fixed Gobo 5
	024-027	Fixed Gobo 6
	028-031	Fixed Gobo 7
	032-035	Fixed Gobo 8
	036-039	Fixed Gobo 9
	040-043	Fixed Gobo 10
	044-047	Fixed Gobo 11
	048-051	Fixed Gobo 12
	052-055	Fixed Gobo 13
	056-059	Fixed Gobo 14
	060-063	Fixed Gobo 15
13	064-073	Fixed Gobo 1 shake, from slow to fast
	074-083	Fixed Gobo 2 shake, from slow to fast
	084-093	Fixed Gobo 3 shake, from slow to fast
	094-103	Fixed Gobo 4 shake, from slow to fast
	104-113	Fixed Gobo 5 shake, from slow to fast
	114-123	Fixed Gobo 6 shake, from slow to fast
	124-133	Fixed Gobo 7 shake, from slow to fast
	134-143	Fixed Gobo 8 shake, from slow to fast
	144-153	Fixed Gobo 9 shake, from slow to fast
	154-163	Fixed Gobo 10 shake, from slow to fast
	164-173	Fixed Gobo 11 shake, from slow to fast
	174-183	Fixed Gobo 12 shake, from slow to fast
	184-193	Fixed Gobo 13 shake, from slow to fast
	194-203	Fixed Gobo 14 shake, from slow to fast
	204-211	Fixed Gobo 15 shake, from slow to fast
	212-232	Rotating gobo wheel clockwise from slow to fast
	233-234	STOP
	235-255	Rotating gobo wheel counter-clockwise from slow to fast

14	**PRISM1**	
	000-031	Open
	032-255	8 facet prism
15	**PRISM1 ROTATION**	
	000-127	Prism 1 indexing 0° To 360°
	128-189	Clockwise rotation from fast to slow
	190-193	STOP
	194-255	Counter clockwise rotation from slow to fast
16	**PRISM2**	
	000-031	Open
	032-255	6 facet linear prism
17	**PRISM2 ROTATION**	
	000-127	Prism2 indexing 0° To 360°
	128-189	Clockwise rotation from fast to slow
	190-193	STOP
	194-255	Counter clockwise rotation from slow to fast
18	**SHUTTER**	
	000-031	Shutter Off
	032-063	Shutter On
	064-095	Strobe effect slow to fast
	096-127	Shutter On
	128-159	Pulse-effect in sequences
	160-191	Shutter On
	192-223	Random strobe effect slow to fast
	224-255	Shutter On
19	000-255	**DIMMER** 0 to 100%
20	000-255	**DIMMER FINE** 0 to 100%
21	000-255	**FOCUS**
22	**FROST**	
	000-225	Linear Frost 0 – 100%
	226-235	Pulse opening effect from fast to slow
	236-245	Pulse closing effect from slow to fast
	246-255	Frost at 100%

23	**DIM MODES**	
	000-020	DIM 0
	021-040	DIM 1
	041-060	DIM 2
	061-080	DIM 3
	081-100	DIM 4
	101-255	Default to Unit Setting
24	**SPEED PAN/TILT MOVEMENT**	
	000-225	max to min speed
	226-235	blackout by movement
	236-255	Idle
25	**CONTROL**	
	000-019	Idle
	020-029	Fan Speed Set Auto
	030-039	Fan Speed Set High
	040-049	Fan Speed Set Low
	050-059	Quick path P/T Off
	060-069	Quick path P/T On
	070-079	Pan & Tilt Reset
	080-089	All Motors Reset
	090-099	Idle
	100-119	Internal program 1
	120-139	Internal program 2
	140-159	Internal program 3
	160-179	Internal program 4
	180-199	Internal program 5
	200-219	Internal program 6
	220-239	Internal program 7
	240-255	Idle

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