Z20

POWER SUPPLY / LED CONTROLLER
FOR 2 DELTA B HEADS

The Lighting Company

Code 03.LA.019

User Manual Rel 1.3

GB

INDEX:

1- TECHNICAL FEATURES

DESCRIPTION:

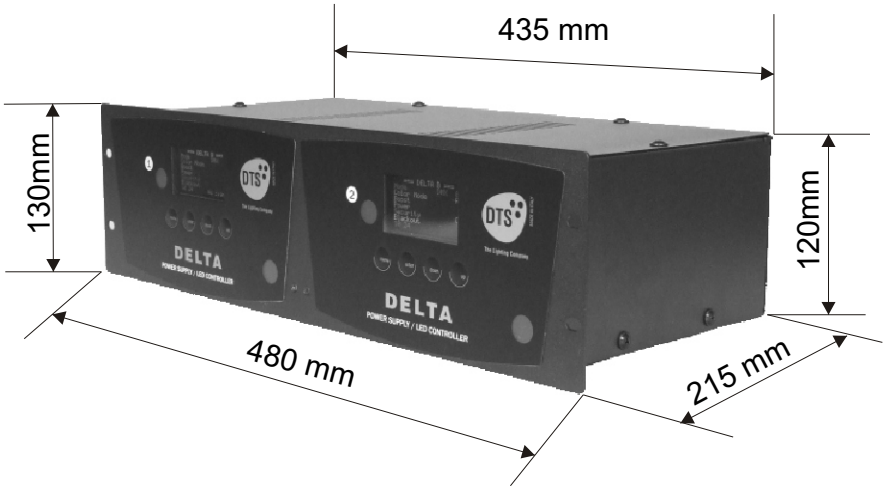
Z20 is a unit dedicated to drive 2 x Delta B head LED panels.
2 separeted power output connectors, able to drive 2 x Delta B RGB head LED panels or
2 x Delta B Full Color head LED panels (Max 200W x output).
3 x 350mA (R,G,B) electronically dimmable led control outputs (3 x 500mA in Boost mode).
Main Input voltage range is 90V - 260V, 50 - 60 HZ
It is possible to use this item through every DMX-512 mixer or by using the DTS InfraRed Remote control 0514L008 and the Infrared Remote sensor 03.LA.016.
Z20 is rack-mountable (3 standard rack units)

MAIN ELECTRICAL CHARACTERISTICS:
Input Voltage Range : Vin 90 - 270 Vac
Frequency : 50 - 60 HZ
Power Consumption : 450 W Max at 220 Vac / 900 W max at 110 Vac.
Power Factor (Pf) : 0.95 electronic PFC controller
Efficiency : 90% typical

IP protection grade: IP 20

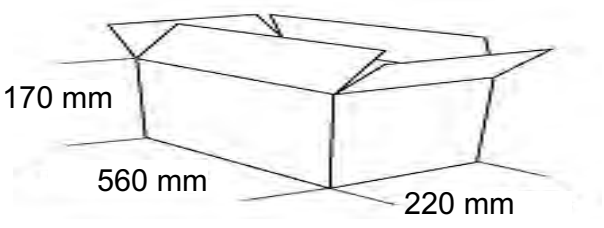
Output:
Power Output Range : 1,5 - 65W per channel (each color output)
Output Current : 350 mA @ 100% per channel (500mA @ 100% per channel in BOOST Mode)
Output Voltage : Vout 180V (PWM control)
Max Load (output) : 2 x Delta B Full Color head LED panels

Control Input:
Control Signal : DMX 512
Dimming System :Constant Current PWM
Address Range : DMX 512 channels addressable by display



Dimensions (LxDxH)
unit 480 x 215 x 130 mm

Weight 6 Kg



Packaging Dimensions (LxDxH)
560 x 220 x 170 mm

Weight 7 Kg

2- IMPORTANT SAFETY INFORMATION

2.1 Fire prevention:

-Never locate the Z20 on any flammable surface.
-Minimum distance from flammable materials: 1 m.
-Replace any blown or damaged fuses only with those of identical value. Refer to the wiring diagram if there is any doubt.
-Connect the unit to mains power via a thermal magnetic circuit breaker.

2.2 Prevention of electric shock:

-High voltage is present inside the unit. Unplug the unit prior to performing any function which involves touching the inside of the unit.
-The level of technology inherent in the Z20 requires the assistance of specialised personnel for all servicing.Please refer to an authorised DTS service centre.
-A good earth connection is essential for proper functioning of the power supply unit.
Never connect the unit without proper earth connection.
-The Z20 should be located in places with a good air ventilation.

2.3 Level of protection against the penetration of solid and liquid matter:

-The unit is classified as an ordinary appliance and its protection level against the penetration of solid and liquid matter is IP 20.

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3- VOLTAGE AND FREQUENCY:

Z20 can operate at 90-270V, 50 or 60 Hz.

4- INSTALLATION:

Z20 can be installed in a standard rack, it occupies 3 standard rack unit space.

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4.1 Risk of fire:

Each unit produces heat and must be installed in a well-ventilated position. The minimum recommended distance from flammable material is 1m.

4.2 Ambient temperature:

The Z20 should never be installed in places that lack a constant air flow. The ambient temperature should NOT exceed 40°C.

5- MAINS CONNECTION:

Z20 can operate at 90-270V, 50 or 60Hz.
For connection purposes, ensure that your plug can handle at least 900W power consuption.
Strict adherence to regulatory norms is strongly recommended.

5.1 Protection:

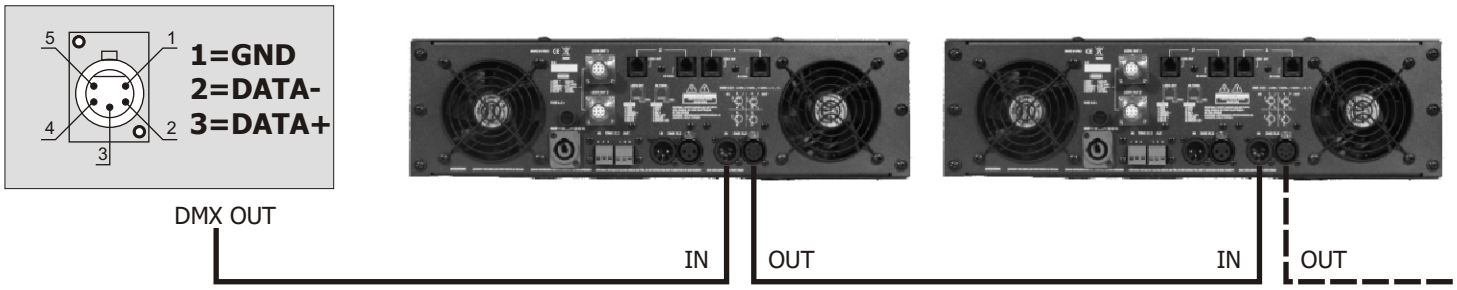
The use of a thermal magnetic circuit breaker is recommended for each Z20.
A good earth connection is essential for the correct operation of the unit.

6- DMX SIGNAL CONNECTION:

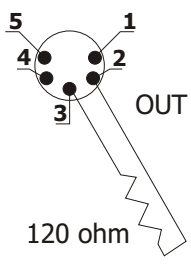
The unit operates using a digital DMX 512 (1990) signal. Connection between the controller and the projector or between projectors must be carried out using a two pair screened ø0.5 mm cable and a CANNON XLR 5 or 3 pole connector.
Ensure that the conductors do not touch each other. Do not connect the cable ground to the XLR chassy
The plug housing must be isolated. Connect the mixer signal to the DMX IN unit plug and connect it to the next unit by connecting the DMX OUT plug on the first Z20 to the DMX IN plug of the second one. In this way, all the projectors are cascade connected.
The maximum quantity of units connectable to the same DMX line is 16.
The maximum cable lenght between the controller and the last Z20 on the DMX line should not exeed 200 meters.
P.S: If the display showing the DMX address flashes, then one of the following errors has occurred:

- DMX signal not present
- DMX address not valid
- DMX reception problem

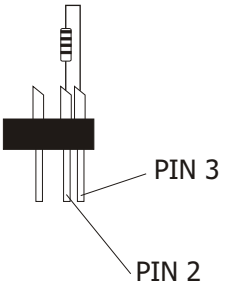
STANDARD
DMX 512
CONTROLLER



For Installations where long DMX connections distance are needed, we suggest to use a DMX terminator.
The DMX terminator is a male XLR 3-5 pins connector with a 120 ohm resistorBetween pin 2 and 3.
The DMX terminator must be plugged into the last unit (DMX out panel connector) of the DMX line.



PLACE A 120 OHM RESISTOR BETWEEN PIN 2 AND 3 OF A MALE XRL CONNECTOR AND PLUG IT INTO THE DMX OUT PANEL CONNECTOR OF THE LAST UNIT CONNECTED TO THE DMX LINE



6.1 DMX Addresses:

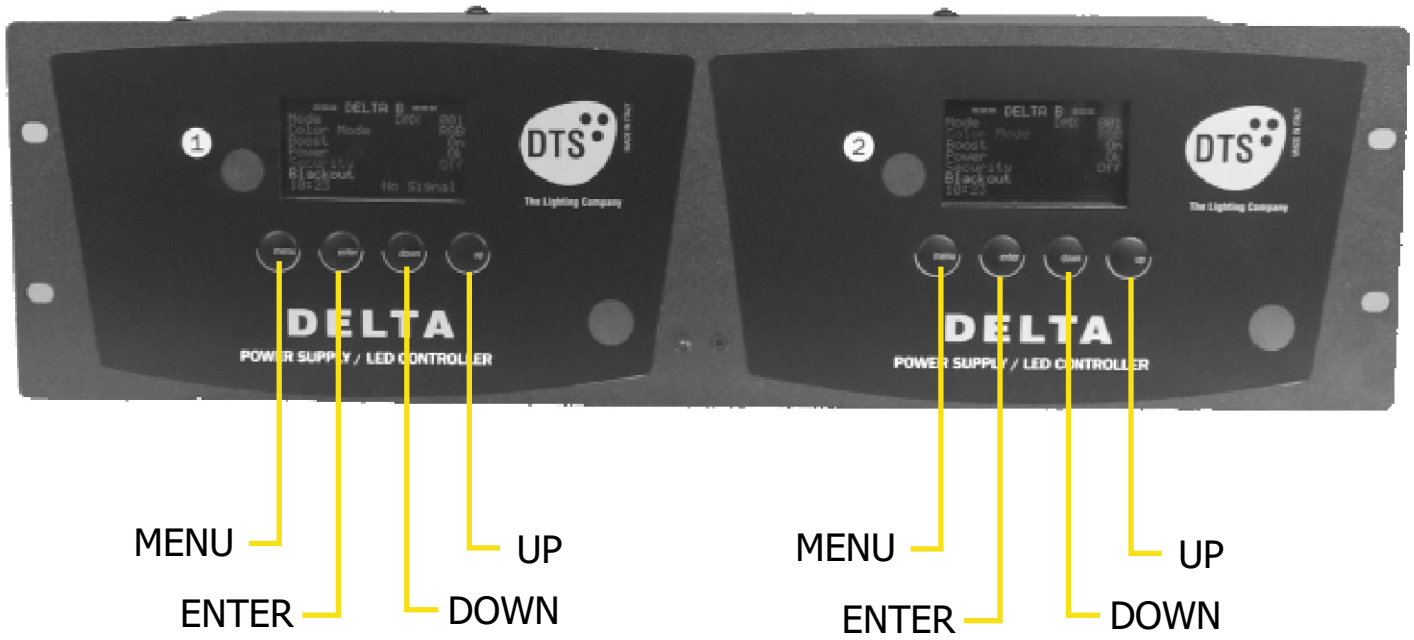
Z20 has 9 DMX control channels.
Here below are described the DMX channels addressing for the controller:

Unit 1 A001
Unit 2 A010 If you want to select the next projector, just add "9"
Unit 3 A019
….. A….
projector 6 A046

6.2 Selelcting the DMX address:

1) Press the UP-DOWN key until you reach the required DMX address. The numbers on the display will start to flash (but the new DMX address hasn't yet been set).
2) Press ENTER to confirm your selection. The numbers on the display will stop flashing and the projector is now controlled by the new DMX address.

TIPS: if you keep pushed the UP or DOWN keys, the channels are calculated more quickly and you get a faster selection.

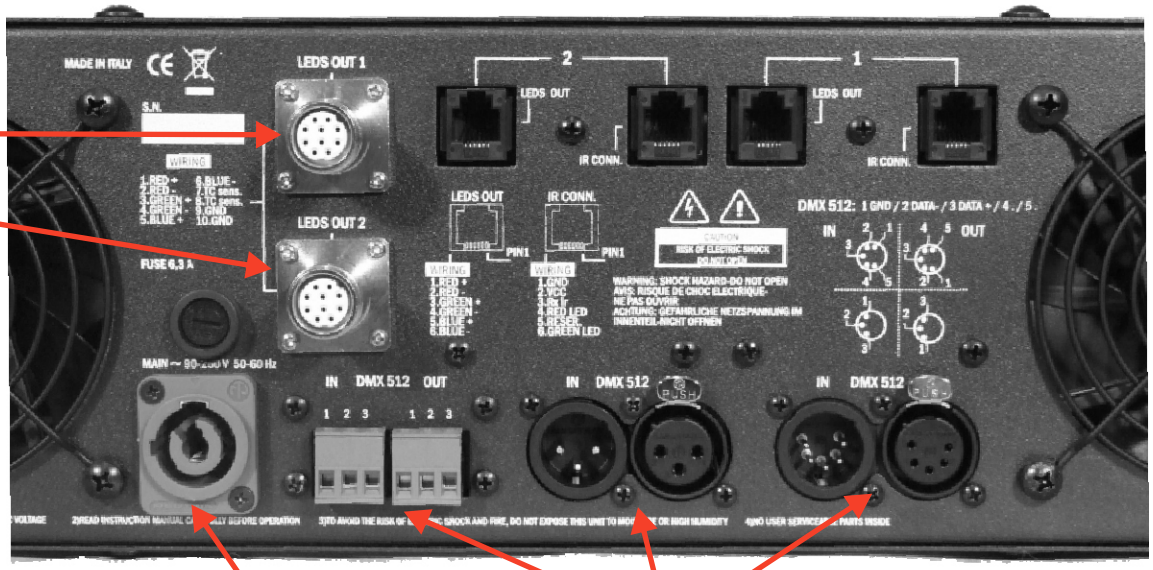


7- INPUT / OUTPUT CONNECTIONS:

LED OUT 1

LED OUT 2

Pin 1 = RED +
Pin 2 = RED -
Pin 3 = GREEN +
Pin 4 = GREEN -
Pin 5 = BLUE +
Pin 6 = BLUE -
Pin 7 = Tc sens
Pin 8 = Tc sens
Pin 9 = GND
Pin 10 = GND

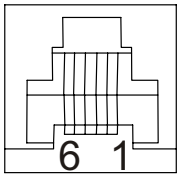


Mains 90-260 Vac
50-60 Hz

DMX IN-OUT connectors

Delta B LED panels cabling connection should be done with a 8x0,14 (+ shield) IEC60332.3A cable.
The maximum distance between power supply and the LED panel should not exceed 100 meters.

Infrared sensor input connector



6-pin Female (Rj12)

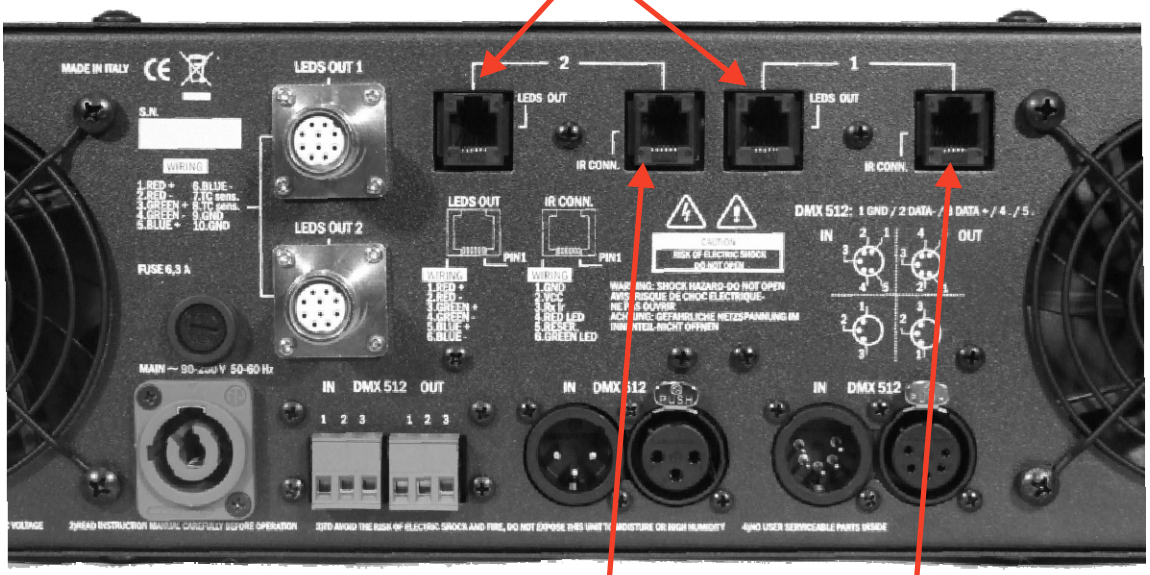
RJ12 : 6P6C

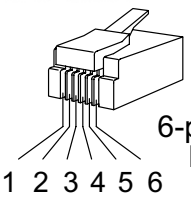
6P6C indicates

6 positions 6 cables

Pin 1 = GND
Pin 2 = VCC
Pin 3 =RX Ir
Pin 4 = Red led
Pin 5 = not used
Pin 6 = Green led

NOT USED





6-pin Male (RJ12)
Modular Plug

Infrared sensor input connector 2

Infrared sensor input connector 1

Infrared remote sensor cabling connection can be done with a standard “6 conductors” telephone flat cable.
The maximum distance between power supply and Infrared remote sensor should not exeed 10 meters

8- DISPLAY FUNCTIONS

DISPLAY FUNCTIONS

The Z20 display panel shows all the available functions . Using these functions, it is possible to change some of the parameters and add some functions. Changing the D.T.S. setting can vary the functions of the unit so that it does not respond to the DMX 512 used to control it. Carefully follow the instructions below before carrying out any variations or selections.

Z20 SOFTWARE RELEASE 1.72

1)GLOBAL SETTING MENU

LANGUAGE
DEFAULT PAGE
SECURITY
DEFAULT SETTING
SET DATE
SET TIME
UPDATE
DOWNLOAD
ABOUT

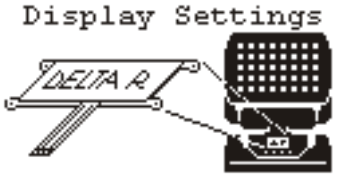
2)MODE SETTING MENU

MODE DMX
MODE RECORDER
MODE MASTER
MODE SLAVE
MODE IR
MODE MANUAL
MODE TWILIGHT

3)LED SETUP MENU

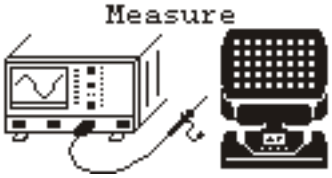
COLOUR MODE
WHITE BALANCE
BOOST DRIVING
MIN RGB
MAX RGB
SMOOT FILTER
PWM FREQUENCY

4)DIPLAY SETUP MENU



CONTRAST
FLIP DISPLAY
SCREEN SAVER

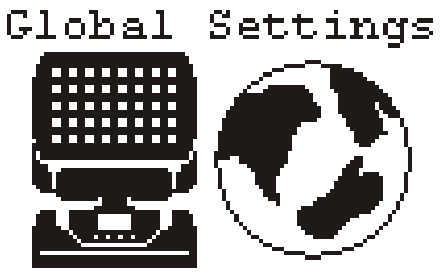
5)MEASURE MENU



LIFE
DMX
VOLTAGE
TEMPERATURE
TWILIGHT

1)GLOBAL SETTING MENU

LANGUAGE
DEFAULT PAGE
SECURITY
DEFAULT SETTING
SET DATE
SET TIME
UPDATE
DOWNLOAD
ABOUT



A001 — Menu — Up-Down — **GLOBAL SETTING** — ENTER

Language

Up-Down — ENTER — Up-Down — Up-Down

LANGUAGE SELECTION
This menu allow to set the language

Set Language
English

English = Default — ENTER

Default Page

Up-Down — ENTER — Up-Down — Up-Down

DEFAULT PAGE SELECTION
This menu allow to set the visualisation for the start up page

Set Default Page	
Four Digit	A001
Status	

Four Digit = DMX address visualisation — ENTER

Status = DMX / Color Mode / Boost Power / Security — ENTER

Security

Up-Down — ENTER — Up-Down — Up-Down

SECURITY PASSWORD
This menu allow to select a security password to lock the user's settings

Security	Unlocked
Enter Security Code	
0 0 0 0	
Confirm Security Code	
0 0 0 0	

Default 0000 = no password — ENTER

Universal Unlock code = 2903

Default Setting

Up-Down — ENTER — Up-Down — Up-Down

DEFAULT SETTINGS
This menu allow to set the unit to company settings

Restore Main Settings
ENTER to CONFIRM & Reboot

GAME,TIMER and WHITE SETTING will not be changed — ENTER — ENTER

Set Date

Up-Down — ENTER — Up-Down

DATE SETTING
This menu allow to set the day of the week the month and the year

Set Date	
Year	2007
Month	Jan
Day of the month	01
Day of the week	Mon

Date settings for Stand Alone mode — ENTER

Up-Down Set Time ENTER Up-Down

TIME SETTING
This menu allow to set the unit's on board clock for STAND ALONE MODE

Set Time	
Hour	03
Minute	01

Real time internal clock setting ENTER

Up-Down Update ENTER Up-Down

UPDATE MENU
This menu allow to upgrade the unit's software by computer

Select UPDATE Mode
Direct to PC

ENTER to CONFIRM

Update the unit's software from PC by D.T.S. Red box interface via DMX cable ENTER

Up-Down Download ENTER Up-Down

DOWNLOAD MENU
This menu allow to save unit's programs into computer

Select DOWNLOAD Mode
Direct to PC

ENTER to CONFIRM

Download the unit's program to PC by D.T.S. Red box interface via DMX cable ENTER

Up-Down ABOUT ENTER Up-Down

ABOUT MENU
This menu shows informations on unit's hardware and software

About Z20	
Master PCB	0514L019
Loader Version	1.03
HW Version	1.01
SW Version	1.61
Mother Release	1.00

Unit's Hardware and software infos ENTER

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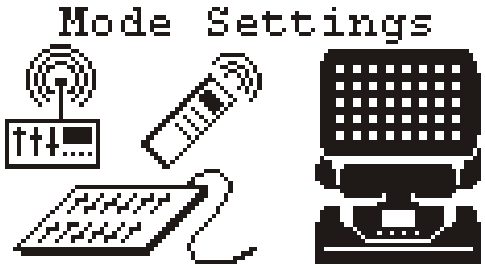
2)MODE SETTING MENU

MODE DMX
MODE RECORDER
MODE MASTER
MODE SLAVE
MODE IR
MODE MANUAL
MODE TWILIGHT



A001 ☞ Menu ☞ Up-Down **MODE SETTINGS** ☞ ENTER

☞ Up-Down Mode DMX ☞ ENTER ☞ Up-Down

DMX ADDRESS SELECTION
This menu allow to set the unit's DMX address.

Set Address DMX
001

Address range 001-503

Press ENTER to confirm the new address selection.

☞ ENTER

☞ Up-Down Mode Recorder ☞ ENTER ☞ Up-Down

RECORDER MODE SETTING
This menu let you create 2 different chases,CPR1 and CPR2 (16 steps each) that will then run in Master Mode.
Two different recording mode are available:
1)Manual Recording Mode
2)DMX Recording Mode

RECORDER Mode
Input Mode MANUAL
Select Chase CPR1

1)Manual Recording Mode

RECORDER MANUAL
CPR1 STEP 01 EDIT
SHUTTER 009 DIMM 017
R 016 G 016 B 000
WHITE 012 CTC 000
MACRO 000

In Manual Recording Mode,it is possible to create and store the steps of the chase by using the unit display panel and buttons.

Three different options are available:
1)EDIT = Let you modify and store new values for all the channels on the selected Step.
2)WIEV MEM = Let you see the existing programmed steps of the chase
3)SET LAST = Let you set the last step to be ran on the chase.

☞ ENTER

2)DMX Recorder Mode
To program CPR1 and CPR2 by using a DMX controller, 3 more DMX channels are needed in addition to the 9 channels necessary to control the unit.
So that in RECORDER mode (via DMX) the unit will need 12 channels to be correctly programmed.
The 3 new DMX channels are:
DMX channel 10 = STEPS channel
From 0 - 15 = VIEW DMX, the unit shows the values received from the DMX controller in that moment.
From 16 – 255, the previously programmed steps (16 steps from 01 to 16) are displayed.
DMX channel 11 = VIEW / EDIT / SET LAST channel
If channel 10 (STEPS channel) is set to value 0 - 15, the DMX channel 11 has no functions.
If channel 10 (STEPS channel) is set to value 16 - 255, the DMX channel 11 has the following functions:
From 0 - 19 = VIEW MEM, the unit shows the previously programmed steps.
From 20 - 234 = EDIT, the unit runs the configuration given by the DMX controller in that moment.

RECORDER Mode
Input Mode DMX
Select Chase CPR1
Warning 12 channels !

RECORDER DMX
CPR1 STEP 01 EDIT
SHUTTER 009 DIMM 017
R 016 G 016 B 000
WHITE 012 CTC 000
MACRO 000

In DMX Recording Mode,it is possible to create and store the steps of the chase by using an external DMX controller.

WARNING !
For the programming of CPR1 and CPR2 by using a DMX controller, besides the channels necessary to control the unit, a further 3 DMX channels are needed.

With the STEPS channel it is possible to select the step to create, while with REC channel it is possible to store the configuration on the selected step.-
From 234 - 255 = SET LAST, the unit runs the configuration given by the DMX controller in that moment closing the Program as last step.
With the REC channel it is possible to record the selected step as last step to be ran on the Program.
DMX channel 12 = REC channel
REC channel saves the configuration given by the DMX controller in the selected step: you change the DMX value from 0 to 255 (the display shows "WRITING" indicating that the step has been recorded). We suggest to keep the REC channel set to 0 and to run through the 255 only once you have decided to save the new configuration. If CPR1 or CPR2 are not closed, by indicating the last step (Edit channel between 235-255), all 16 steps will be played through in playback mode, even if not programmed.

Up-Down Mode Master

ENTER Up-Down

MASTER MODE SETTING
This menu allow to set Z20 as master unit (No DMX signal must be present on unit's DMX input panel) .
The unit will ran in automatic mode without needing of an external controller.
Different chases are selectable by user

CPR1/CPR2/CPR1&2
Chases with 16 steps previously created in RECORDER mode.
Time and Wait time selectable by user

CRNB
Rainbow colours effect.
Time selectable by user

CUE 1-9
Color Macros with fixed colors

Set MASTER MODE	
Mode :	MASTER
Actual :	DMX
ENTER to CONFIRM	

ENTER

The Z20 setted as MASTER, send DMX signal to all the other units connected to the same DMX line

Up-Down

Master Mode	
Set CHASE	CPR1
Set TIME	Sec 0025
Set WAIT	Sec 0015

ENTER

By setting all the units connected to the MASTER, to DMX address 1, them will be sinchronized with the Master unit following the chase selected on it, including TIME, WAIT and Pan&Tilt position of the MASTER unit.

By setting all the units connected to the MASTER, as SLAVE unit (see SLAVE mode), them will be sinchronized with the Master unit only for TIME and WAIT time, but running their own chase CPR1/CPR2 with dedidicated Pan&Tilt position, colors and effects.

Up-Down Mode Slave

ENTER Up-Down

SLAVE MODE SETTING
This menu allow to set the Z20 as slave unit.
DMX signal must be present from MASTER unit in order to ran in SLAVE mode.

Set SLAVE MODE	
Mode :	SLAVE
Actual :	DMX
ENTER to CONFIRM	

ENTER

The SLAVE unit receive DMX signal from the MASTER unit

By setting all the units connected to the MASTER, as SLAVE unit, them will be sinchronized with the Master unit only for TIME and WAIT time, but running their own chase CPR1/CPR2 with dedidicated colors and effects.

Up-Down Mode IR ENTER Up-Down

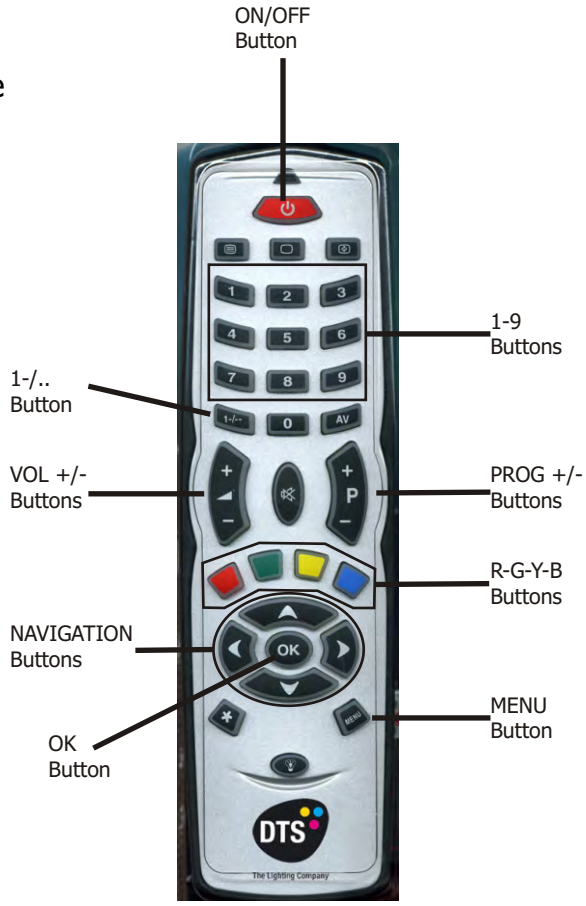
IR MODE SETTING
By activating IR mode on Z20 unit it will be possible to navigate trought the unit functions by using the D.T.S. infrared remote control (D.T.S. Code :0514L008).

Set IR MODE	
Mode :	IR
Actual :	DMX
ENTER to CONFIRM	

The unit is controlled by the infrared remote control ENTER

INFRARED REMOTE CONTROL

By activating IR mode on Delta unit it will be possible to navigate trought the unit functions by using the D.T.S. infrared remote control (D.T.S. Code :0514L008).



Infrared remote control functions:

ON/OFF and MUTE buttons
In Master/Slave mode let you stop the games running.
Master and slave units will go in Stand-by mode

1-9 buttons
Let you select the chase to run (CPR1/CPR2/CRNB/CUE 1-6)

1-/.. Button
Let you select the chase to run (CUE 7-9)

VOL +/-
No function

PROG +/-
Let you scroll between the selectable chases

RED/GREEN/YELLOW/BLUE buttons
Direct acces to cues for Red/Green/Blue/Yellow colour.
Red=CUE1 / Green=CUE3 / Yellow=CUE2 / Blue=CUE5

Navigation buttons
Same as UP/DOWN on unit display

OK button
Same as ENTER on unit display

MENU button
Same as MENU on unit display

Up-Down Mode Manual ENTER Up-Down

MANUAL MODE SETTING
This menu let you control Z20 unit in manual mode by using the unit display.
In MANUAL mode, no external controller is needed.

Set MANUAL MODE	
Mode :	MANUAL
Actual :	DMX
ENTER to CONFIRM	

MAN Mode Enter VALUES	
Channel	Value
SHUTTER	255

In MANUAL mode it is possible to adjust all the unit functions by using UP/DOWN and ENTER buttons: ENTER

SHUTTER
DIMMER
RED
GREEN
BLUE
WHITE
CTC
MACRO
FUNCTION

Up-Down TWILIGHT MODE ENTER Up-Down

TWILIGHT MODE MENU
This menu allow to set the unit in Twilight mode.
Twilight mode let you turn ON and OFF the unit at a specific clock time (including day of the week) and/or at a specific twilight level.
The Twilight mode make use of a twilight sensor located on the front panel near unit display.
To know the twilight ambient level value measured from the sensor, scroll the unit menu till MEASURE Mode and select Twilight.

Set TWILIGHT MODE	
Mode :	TWILIGHT
Actual :	DMX
ENTER to CONFIRM	

TWILIGHT Mode	
ACTION	CPR1
LEVEL ON 100	OFF 150:
TIME CONDIT	INCLUSIVE
DAY Mon	START 22:00
TIME ON	10:00

The unit is switched on and off at the desired twilight level or/and at a specific clock time. ENTER

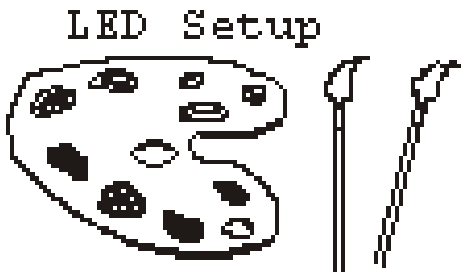
ACTION :
Let you select the desired function in twilight mode.
You can choose between: DMX / CPR1 / CPR2 / CPR1&2 / CRNB / CUE 1-9 /

LEVEL ON and OFF :
Let you select the desired twilight levels for:
Twilight mode ON and OFF.

TIME CONDITION:
Four different options are available:
1) INACTIVE
Clock time (START) and Time on period (TIME ON), are inactive.
In this condition the unit goes ON only if the twilight level is valid
2)COMBINED
Clock time (START), Time on period (TIME ON) and Twilight level are active.
In this condition, the unit goes ON only if all the parameters are valid.
3)INCLUSIVE
Clock time (START), Time on period (TIME ON) and Twilight level are active.
In this condition, the unit goes ON also if only one of the paramete is valid.
4)EXCLUSIVE
Clock time (START) and Time on period (TIME ON), are active, while Twilight level is inactive.
In this condition, the unit goes ON only if Clock time (START) is valid.

3)LED SETUP MENU

COLOUR MODE
WHITE BALANCE
BOOST DRIVING
MIN RGB
MAX RGB
SMOOT FILTER
PWM FREQUENCY



A001 ☞ Menu ☞ Up-Down **LED SETUP** ☞ ENTER

☞ Up-Down Colour Mode ☞ ENTER ☞ Up-Down

COLOUR MODE
This menu allow to select the LED'S colour mode control system between RGB, CMYK or HSV

Set Colour Mode
RGB
CMYK
HSV
Actual RGB

RGB Mode (Default)
Ch7 = Dimmer / Ch8 = Red Ch9= Green / Ch10= BLue

CMYK Mode
Ch7 = Black / Ch8 = Cyan
Ch9= Magenta / Ch10= Yellow

HSV Mode
Ch7 = Nu / Ch8 = Hue
Ch9= Saturation / Ch10= Value

☞ ENTER

☞ Up-Down White balance ☞ ENTER ☞ Up-Down

WHITE BALANCE
This menu allow to select the levels for Red,Green and blue obtaining a custom White

Setting WHITE	
RED	255
GREEN	255
BLUE	255

The Custom White can be Recall by setting DMX channel 6 (WHITE) in the range 172-213

☞ ENTER

☞ Up-Down Boost Driving ☞ ENTER ☞ Up-Down

BOOST DRIVING
This menu allow to increase the LED's current from 350mA to 500 mA

Setting LED BOOST
BOOST Status
Active
Warning TEMPERATURE PROTECTION ACTIVATED

Whit BOOST active,the LED's current is setted to 500mA (30%more gain).
Default = Disable
NTC thermal protection active.

☞ ENTER

☞ Up-Down Min RGB ☞ ENTER ☞ Up-Down

RGB MINIMUM VALUES
This menu allow to select the minimum levels for Red,Green and blue

Setting RGB Min	
Min RED	: 000
Min GREEN	: 000
Min BLUE	: 000

These settings have priority on Master Dimmer (DMX channel 2)

☞ ENTER

☞ Up-Down Max RGB ☞ ENTER ☞ Up-Down

RGB MAXIMUM VALUES
This menu allow to select the maximum levels for Red,Green and blue

Setting RGB Max	
Max RED	: 000
Max GREEN	: 000
Max BLUE	: 000

These settings have priority on Master Dimmer (DMX channel 2)

☞ ENTER

Up-Down Smooth Filter ENTER Up-Down

SMOOTH FILTER VALUE
This menu allow to select the value of the delay(in millisecons) for RGB channels reaction to DMX or Program variation.
001=2.5 ms delay (Fast response)
100=250 ms delay (Slow response)

Set Smooth Filter
Filter Value: 010
ENTER to CONFIRM

Range = 001 / 100
Default = 10
001 = 2.5mS (Istant response to DMX variation)
100 = 250mS (Smooth response to DMX variation)

ENTER

Up-Down PWM frequency ENTER Up-Down

PWM FREQUENCY VALUE
This menu allow to adjust the PWM frequency value (Hz) in order to reduce flickering in the process of your camera recordings

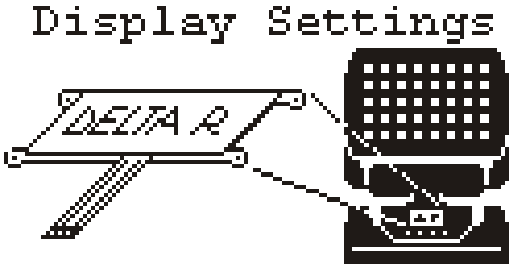
Set PWM Frequency
427 Hz
1000 Hz
2000 Hz
4000 Hz
6000 Hz
Actual 427 Hz

5 different PWM frequencies available.
Default = 427 Hz

ENTER

4)DIPLAY SETUP MENU

CONTRAST
FLIP DISPLAY
SCREEN SAVER



A001 Menu Up-Down **DISPLAY SETUP MENU** ENTER

Up-Down Contrast ENTER Up-Down

DISPLAY CONTRAST
This menu allow to select display's contrast level.

Contrast 7
0▯1▯2▯3▯4▯5▯6▮7▮8▮9▮

Range = 0-9

ENTER

Up-Down Flip Display ENTER Up-Down

DISPLAY FLIP
This menu allow to reverse display's reading depending on the mounting position
(On the ground or suspended).

Flip Select
A

Default = On the ground

ENTER

Up-Down Screen saver ENTER Up-Down

SCREEN SAVER
This menu allow to activate the screen saver.

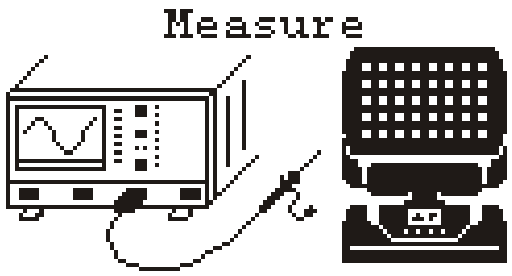
SCREEN SAVER SETTING
Screen Type None
Screen Time (sec):005

Screen saver selectable between None (default) and Blank.
Screen saver activating time selectable between 005 / 180 seconds

ENTER

5)MEASURE MENU

LIFE
DMX
VOLTAGE
TEMPERATURE
TWILIGHT



A001 ☞ Menu ☞ Up-Down **MEASURE MENU** ☞ ENTER

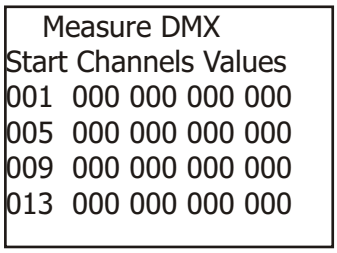
☞ Up-Down Life ☞ ENTER ☞ Up-Down

LIFE TIME
This menu show the total UNIT LIFE TIME (reset not possible) and the RGB life TIME (reset possible)

Measure Life Delta R Total LIFE Days Hours Min Sec 1 19 47 55 UP/DW Change Measure	Total Unit Life Time Reset not possible ☞ ENTER
Measure Life Delta R RED LIFE Days Hours Min Sec 0 5 22 30 UP/DW Change Measure	To resed Red life time,keep pushed Enter button for more than 5 seconds ☞ ENTER
Measure Life Delta R GREEN LIFE Days Hours Min Sec 0 4 37 15 UP/DW Change Measure	To resed Green life time,keep pushed Enter button for more than 5 seconds ☞ ENTER
Measure Life Delta R BLUE LIFE Days Hours Min Sec 0 4 06 53 UP/DW Change Measure	To resed Blue life time,keep pushed Enter button for more than 5 seconds ☞ ENTER

Up-Down Dmx ENTER Up-Down

DMX
This menu show the DMX channel levels

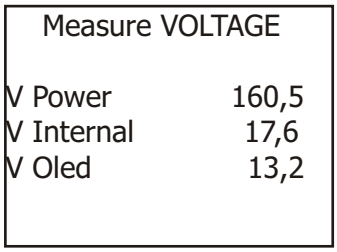


DMX channel levels as received from DMX line

ENTER

Up-Down Voltage ENTER Up-Down

VOLTAGE
This menu show the different Voltage levels for every electronic circuit inside the unit

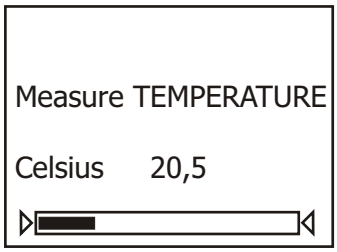


All the values are espressed in Volt

ENTER

Up-Down Temperature ENTER Up-Down

TEMPERATURE
This menu show the NTC sensor temperature.

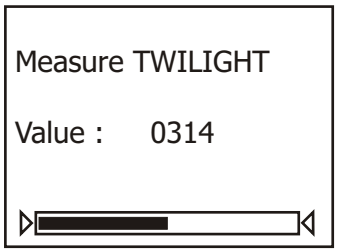


LED's temperature monitor

ENTER

Up-Down Twilight ENTER Up-Down

TWILIGHT
This menu show the twilight level.



Light sensor Twilight level (Located on the front panel of the unit)

ENTER

9- PERIODIC CONTROLS:

Electrical components:
Attention: Disconnect mains power prior to removing the projector housing.
Check all electrical components for correct earthing and proper attachment of all connectors, refastening if necessary.

Fuse replacement:
Locate the fuse, which protect the electronics, in the rear side of the Z20.
Using a multimeter, test the condition of the fuse, replacing it with one of equivalent type if necessary.

10- DMX PROTOCOL

9 CHANNELS MODE

1 **SHUTTER**
2 **DIMMER**
3 **RED**
4 **GREEN**
5 **BLUE**
6 **WHITE (Preprogrammed white at different color temperature)**
7 **CTC**
8 **COLOURS MACRO**
9 **FUNCTIONS**

DMX CHANNEL	1	Parameter: **SHUTTER**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-9	**5**				**Black-out**
10-19	**14**				**Open**
20-29	**24**				**Black-out**
30-119					**Strobe at variable speed(from slow to fast)**
120-149					**Pulse open at variable speed(from slow to fast)**
150-179					**Pulse close at variable speed(from slow to fast)**
180-204	**192**				**Random Strobe (Master and RGB active)**
205-229	**218**				**Random Strobe (Full)**
230-255	**240**				**Open**

DMX CHANNEL	2	Parameter: **DIMMER** **NOTE: IN CMYK MODE Ch2 = BLACK**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional dimmer**

DMX CHANNEL	3	Parameter: **RED** **NOTE: IN CMYK MODE Ch3 = CYAN** **IN HSV MODE Ch3 = HUE**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	4	Parameter: **GREEN** **NOTE: IN CMYK MODE Ch4 = MAGENTA IN HSV MODE Ch4 = SATURATION**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	5	Parameter: **BLUE** **NOTE: IN CMYK MODE Ch5 = YELLOW IN HSV MODE Ch5 = VALUE**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	6	Parameter: **WHITE (Pre-programmed White at diff. color temperature)**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-43	**21**				**No Function**
44-85	**66**				**Full (Red-Green-Blue at Full)**
86-127	**105**				**White DTS**

IF CHANNEL 9 (FUNCTIONS) = CUSTOM WHITE RECALL (Dmx range value 0 - 79)

128-171	**150**	**Custom White Recall**
172-213	**192**	**White Balance(White Balance programmed on Unit's Menu)**
214-255	**234**	**White CTC (Channel 7 CTC enabled Linear color temp. Correction: 3000K-7000K)**

IF CHANNEL 9 (FUNCTIONS) = CUSTOM WHITE CREATE (Dmx range value 80 - 160)

128-171	**150**	**Custom White Create (RGB levels selectable by DMX)**
172-213	**192**	**White Balance(White Balance programmed on Unit's Menu)**
214-255	**234**	**White CTC (Channel 7 CTC enabled Linear color temp. Correction: 3000K-7000K)**

DMX CHANNEL	7	Parameter: **CTC (Color temperature correction)**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function

IF CHANNEL 6 (White) = WHITE CTC (Dmx range value 214 - 255)

0-255	**Linear color temp. Correction: 0 = 3000K / 128 = 5500K / 255 = 7000K**

IF CHANNEL 6 (White) = NO FUNCTION (Dmx range value 0 - 43)

0-255	**Smooth RGB linear Hue correction**

DMX CHANNEL	8	Parameter: **COLOUR MACROS**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-14					**No Function**
15-29					**Macro 1**
30-44					**Macro 2**
45-59					**Macro 3**
60-74					**Macro 4**
75-89					**Macro 5**
90-104					**Macro 6**
105-119					**Macro 7**
120-134					**Macro 8**
135-149					**Macro 9**
150-164					**Macro 10**
165-179					**Macro 11**
180-194					**Macro 12**
195-209					**Macro 13**
210-225					**Macro 14**
226-239					**Macro 15**
240-255					**Macro 16**

DMX CHANNEL	9	Parameter: **FUNCTIONS (Recall,Create and Store the Custom white)**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-79		**Custom White Recall (Enable CH 6 for Custom white Recall)**			
80-160		**Custom White Create (Enable CH 6 for Custom white Creation)**			
161-255		**Custom White Store (Store the Custom White created)**			

NOTE

NOTE

NOTE

MADE IN ITALY CE

DTS

The Lighting Company

ISO 9001:2000
D.T.S. quality system
is certified to the
ISO 9001:2000 standard

PROUDLY MADE IN ITALY

D.T.S. products are designed
and manufactured at the D.T.S.
plants in Italy

0517I091

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