600TVL IR Car License Plate Capture Camera

User Manual

Warning：Please read this manual carefully before installation and use!

Tab of Contents

1 Safety Tips

- Installation must be operated by qualified professionals;
- Laypeople are forbidden to open this camera;

2 Points For Attention

- Keep the camera away from damp or rainy places, and install strictly as per the manual;
- To avoid damage, please do not operate with power on;
- Please do not disassemble or make modification on the camera without permission;
- For connection guidance, please refer to the connection diagram in this manual;
- This camera is required to be used under stated voltage/humidity/temperature range;
- Please do not make the camera directly shoot at highlight or sunshine;
- Right of final explanation for this manual is reserved by the manufacturer;

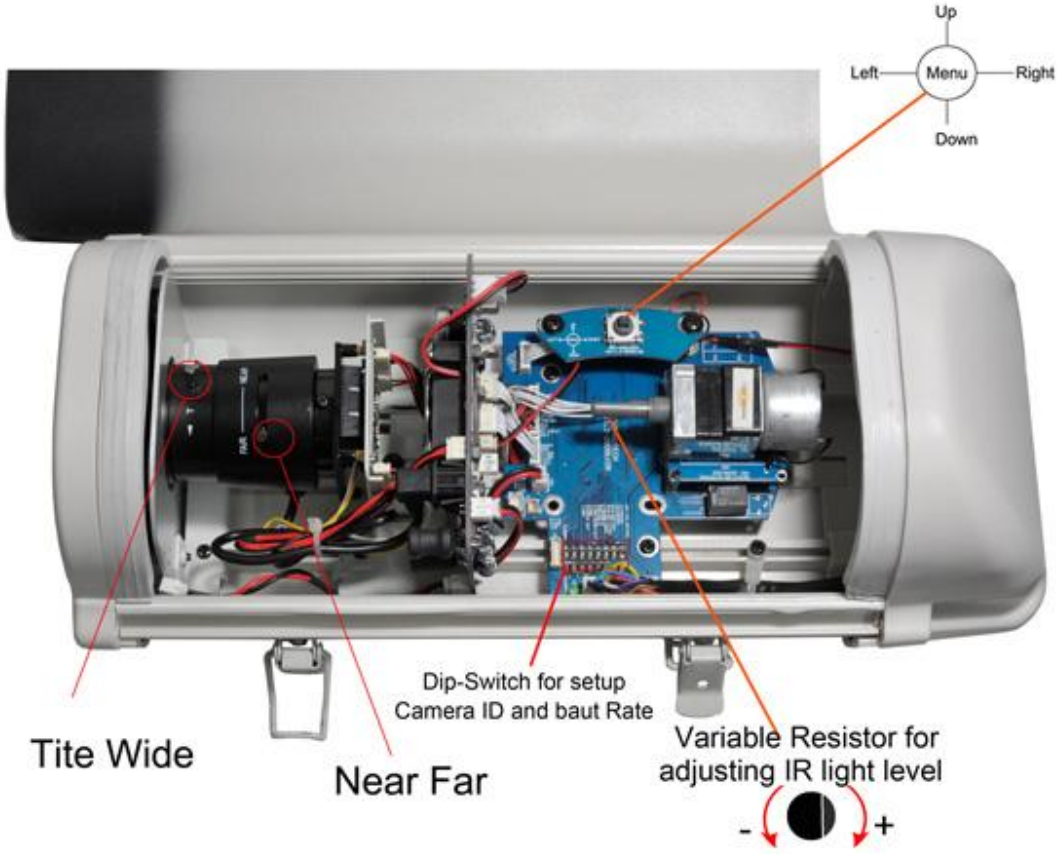
3 Characteristics

This model is a high definition, full function Outdoor Water Proof IR Car License Plate Capture camera, it is designed as per the newest 600TVL solution, with built-in DNR function, it can effectively reduce the noise on image displayed under super low illumination at night, and the OSD Menu inside can be remotely controlled through RS485, which makes the camera more convenient to use, characteristics as below:1/3” SONY SUPER HAD CCD.

- Color 600TVL Hi Resolution
- 5-60mm Auto Iris Lens
- Available distance: 1-40M
- Separate glass: no light diffusion and fog
- Full function OSD menu
- RS-485 Light brightness controllable
- Light value can be saved permanently
- Shutter speed 1-50~1/120,000 adjustable
- Built-in fan& heater, operation temperature -40℃ ~ +60℃
- DC12V power input
- It can keep stable work under any climate

- Recognize No. Plate with clarity at any vehicle speed
- IP66 Water-Proof

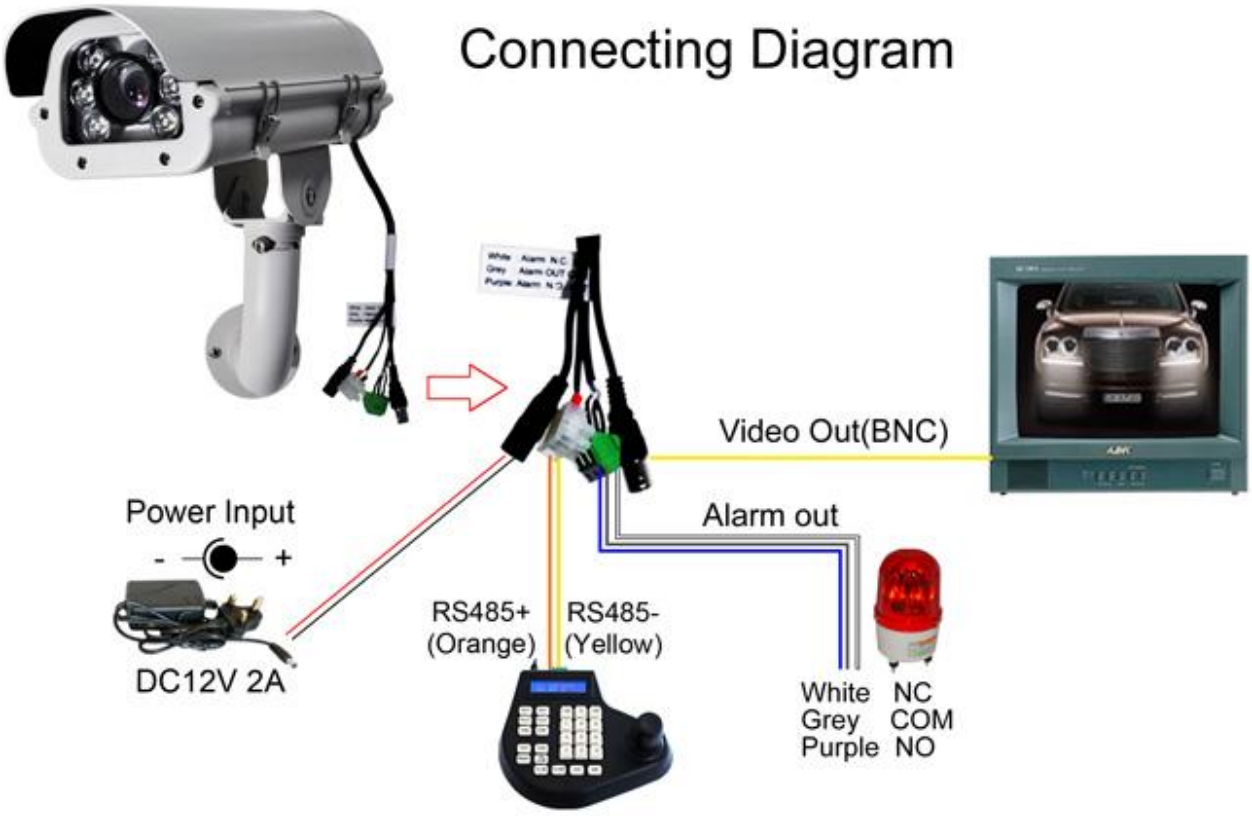
4 Overview



Note

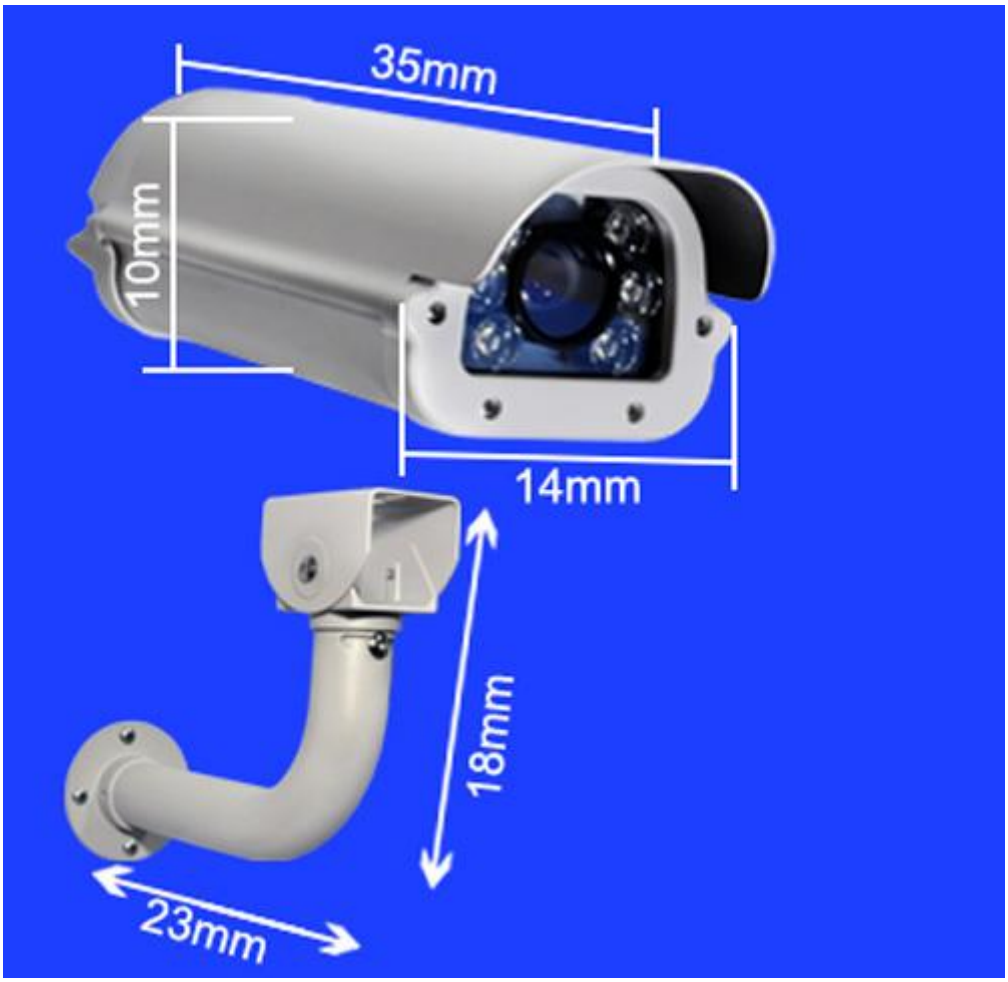
- Unfasten the latch, then cover the protective cover and fasten the latch after the camera installation and lens' focusing finished (It's recommended to fasten the latch by screw in order to avoided unprofessional disassembly on housing)
- Lens focus deflector rod, fasten the deflector rod after accurate focus
- Lens zoom deflector rod, fasten the deflector rod after accurate focus

5 Connecting Sketch



Protocol and Baud Rate	The camera can automatically identify the PELCO-D/PELCO-P Protocol and 2400/4800/9600 baud rate.
Camera ID Address	The camera ID address range from 0 to 127 for，Please see "**10. ID DIP Code Setting**" to setup the new ID address will be activated after reboot the camera.
Call or exit the OSD	**95+PREVIEW**
Cursor UP	Joystick upward
Cursor DOWN	Joystick downward
Cursor LEFT	Joystick leftward
Cursor RIGHT	Joystick rightward
Light Brightness Control 	**200+PREVIEW** to Activate the light control function Move the joystick leftward to make the IR light Darker Move the joystick leftward to make the IR light brighter **201+PREVIEW** to saved the parameter

6 Dimensions (mm)

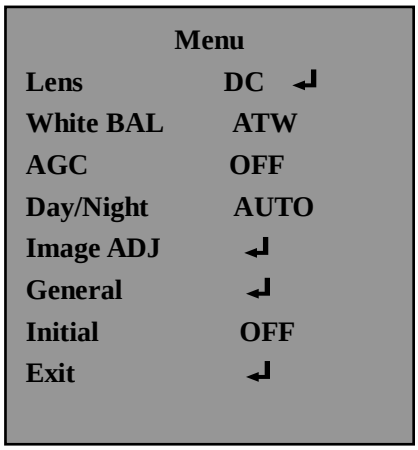


7 Menu Operation

Call+100+Enter into the main menu for camera, in this menu user can setup camera by oneself. This ↵ button means has submenu.

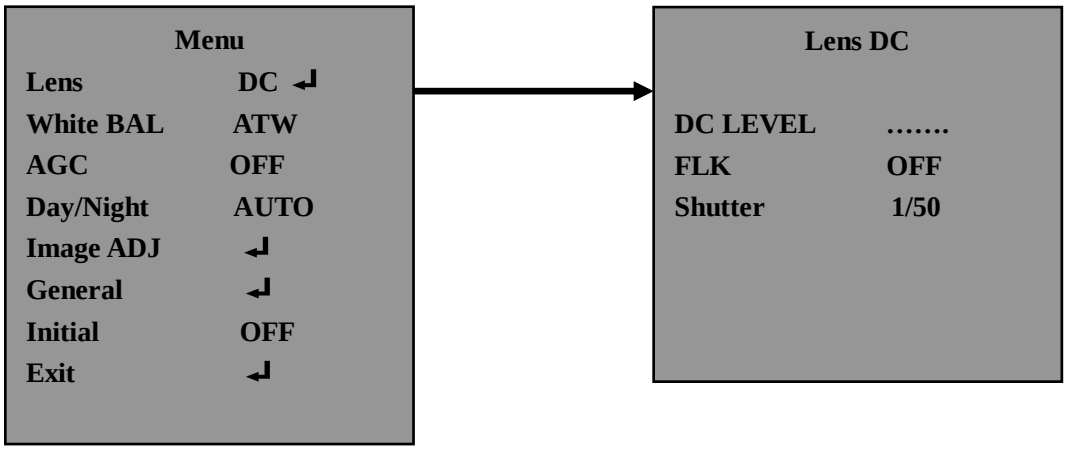
7.1 Lens

User can select and setup the lens mode to be DC (auto-Iris) or ESC (electronic shutter), the system default status is ESC.



7.1.1 DC

DC (auto-Iris) can automatically adjust the best photography light for you according to environment. The system default value is 8. (DC level: 0~20)

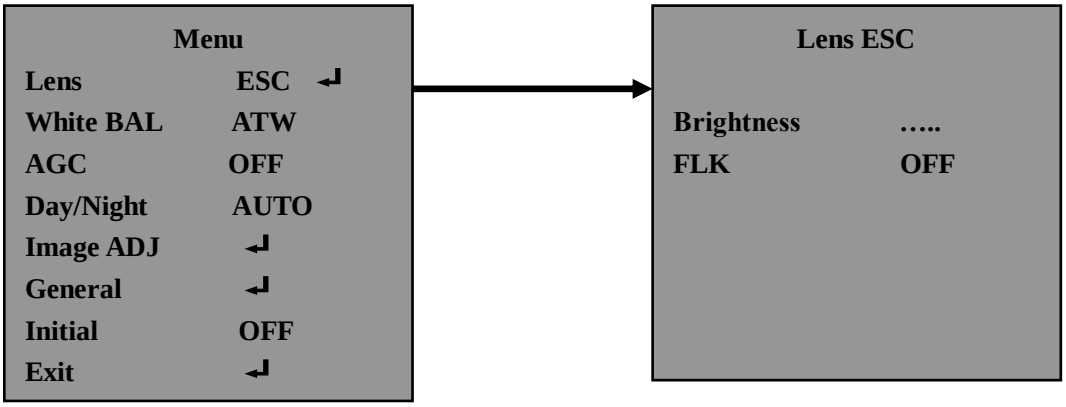


FLK: (Flicker) : when FLK is ON, it means it's under some special environments that needs to prevent flicker. Example, you need take a photo for a screen and that needs the FLK status to be ON.

Shutter: When FLK is OFF, you can set the shutter. Normally, shutter is for taking a photo for moving objects. The time is short, the photo is clear. Example, you need take a photo for water-drop and that needs the shutter time is short for best.

7.1.2 ESC

ESC is electronic shutter: use to set the brightness value, the system default is 8 (brightness: 0~20).



FLK: (Flicker) : when FLK is ON, it means it's under some special environments that needs to prevent flicker. Example, you need take a photo for a screen and that needs the FLK status to be ON.

7.2 White BAL (white balance)

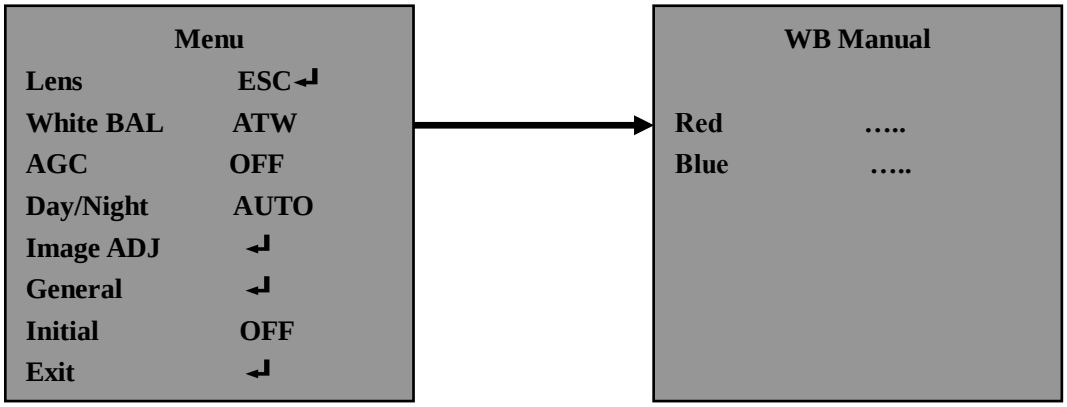
Under White BAL user can select and setup the modes including Push, ATW (auto white balance) and Manual. The system default status is ATW.

7.2.1 ATW(auto white balance)

ATW: photo taken in fluorescent lamp room will appear to be green; photo taken in indoors tungsten light will appear to be yellow; photo taken under sunlight shadow will appear to be blue. These are related to ATW. User can set up the BAL mode according the environment. The camera system default is ATW.

7.2.2 Manual

User can setup red and blue value to get image you want. Default value is 63 for red, 96 for blue.



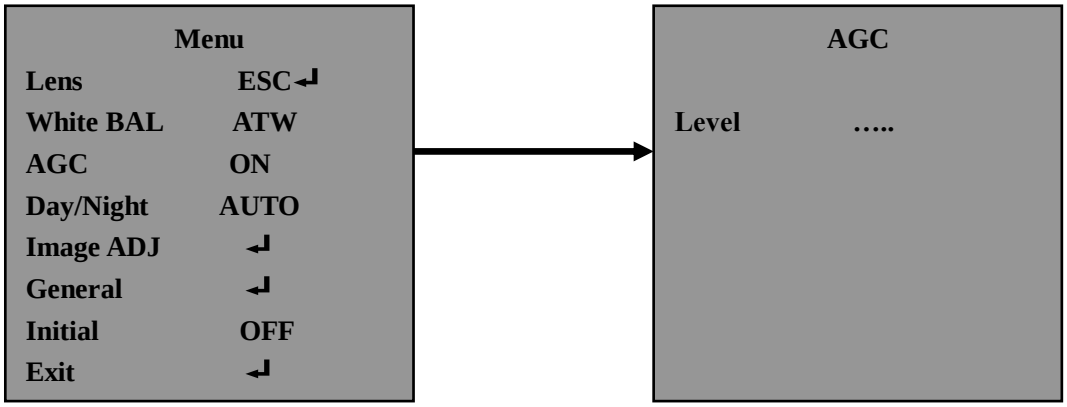
Red: 0~160 **Blue:** 0~160

7.2.3 Push

Not adjustable

7.3 AGC (automatic Gain Control)

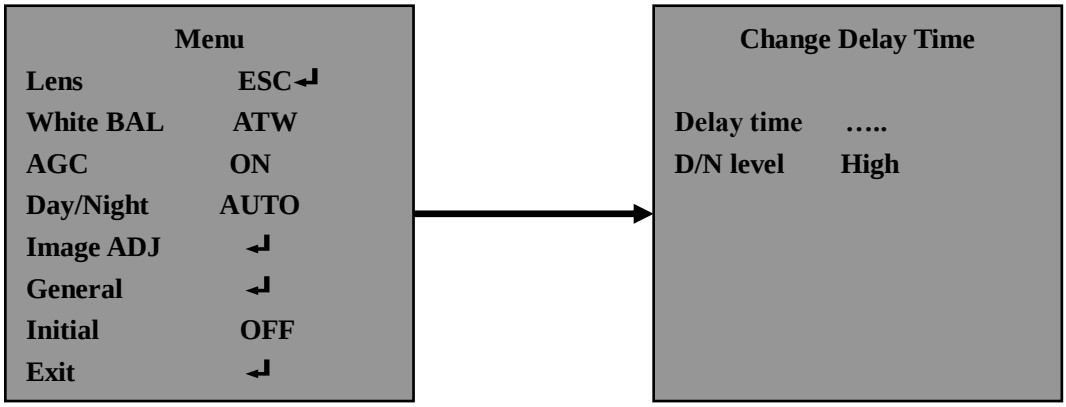
AGC can make the photo color more vivid, increasing of the color contrast and making it sharper (make trenchant edges line clearer). It can be set to ON/OFF. The system default value is 15: (Level: 0~20)



7.4 Day/Night

Day/Night covers 4 modes: AUTO, Color, B/W (black and white) and EXT (external synchronous). The system default is AUTO.

7.4.1 Auto



AUTO: lens will change between day (color mode) and night (b/w mode) automatically.

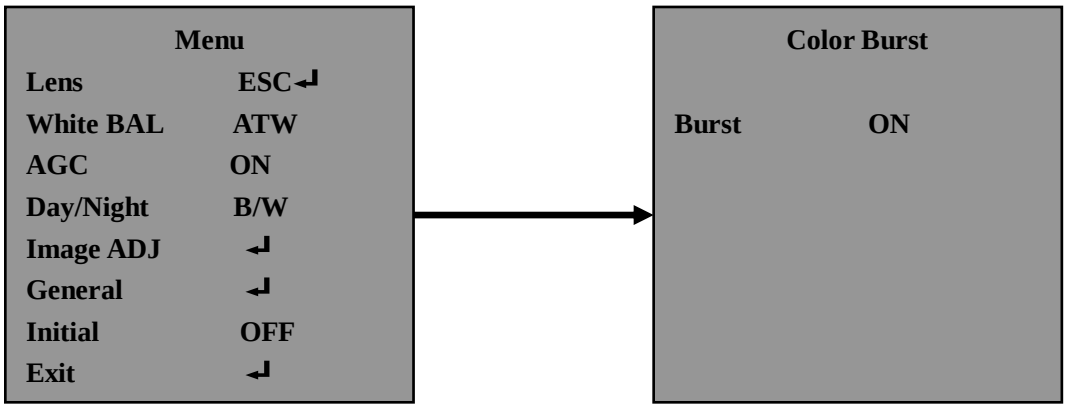
Delay time: user can set the delay time for switching from day to night. The time value is 1~15; system default value is 3;

D/N level: low, middle and high 3 different levels to be chosen. System default level is middle.

7.4.2 Color

If user set the Day/Night status to be color, which means both day and night the image is color. That can help the user to distinguish the license plate's color.

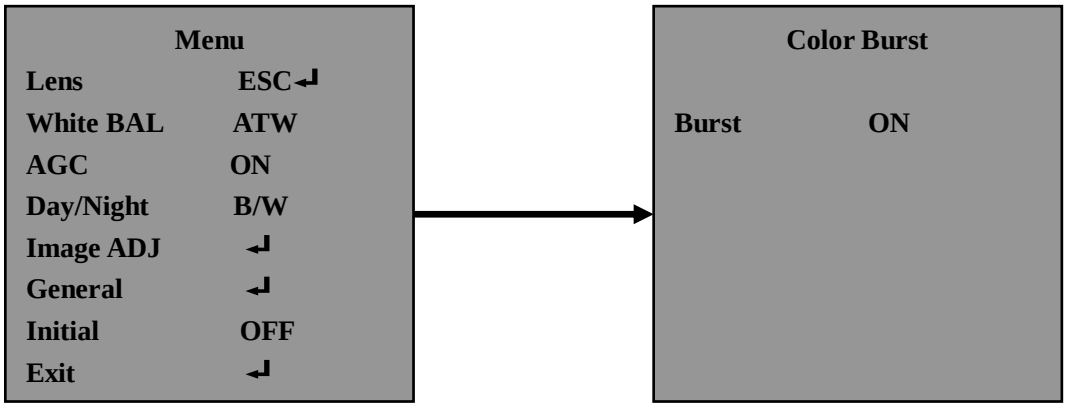
7.4.3 B/W(black and white)



If user set the Day/Night status to be B/W, the day or night the image will both be black/white.

Burst: User can set the burst status ON/OFF. OFF means closing the color signal under B/W mode, that can make the monochrome image clearer. The system default is ON.

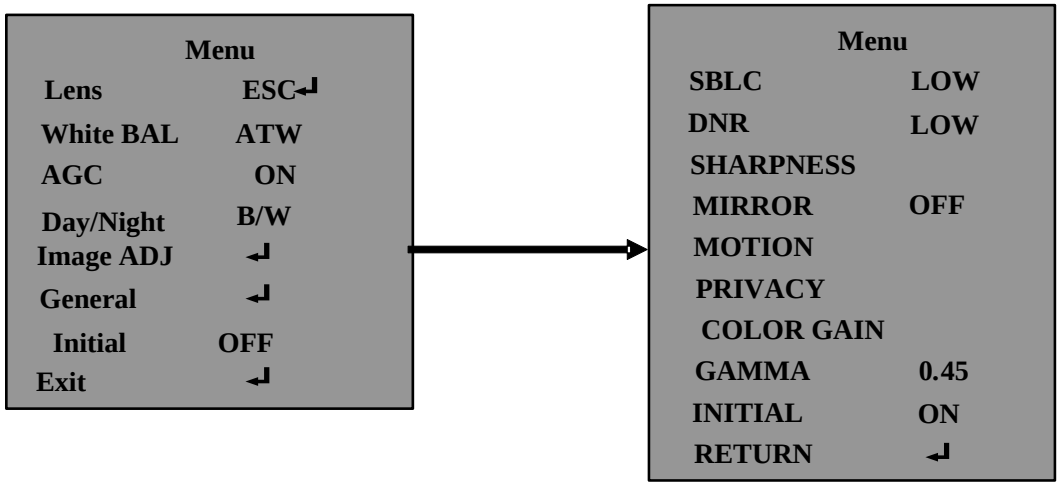
7.4.4 EXT(external synchronous)



B/W image changes to colorful according to the IR light. When IR is on, the image will be b/w; if the IR is off, the image will be color. If camera is set to be EXT, when the car is coming (car light is working) the image will be color at night, otherwise image is b/w.

7.5 Image ADJ(image adjust)

User can set the image parameters under this menu



I

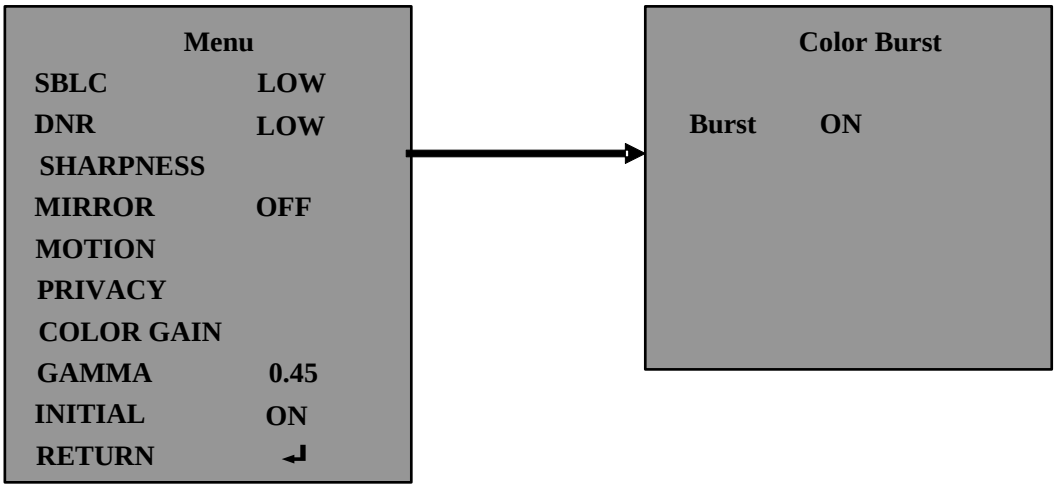
7.5.1 SBLC (super back white compensation)

SBLC is the one important functions of the camera. It means that it can support perfect exposure for the object has very strong background light., In this function, there are four options “Off, Low, Middle and high” for setup. User can setup the parameter based the head light strength. The normal rule is:

The head light stronger, The SBLC higher

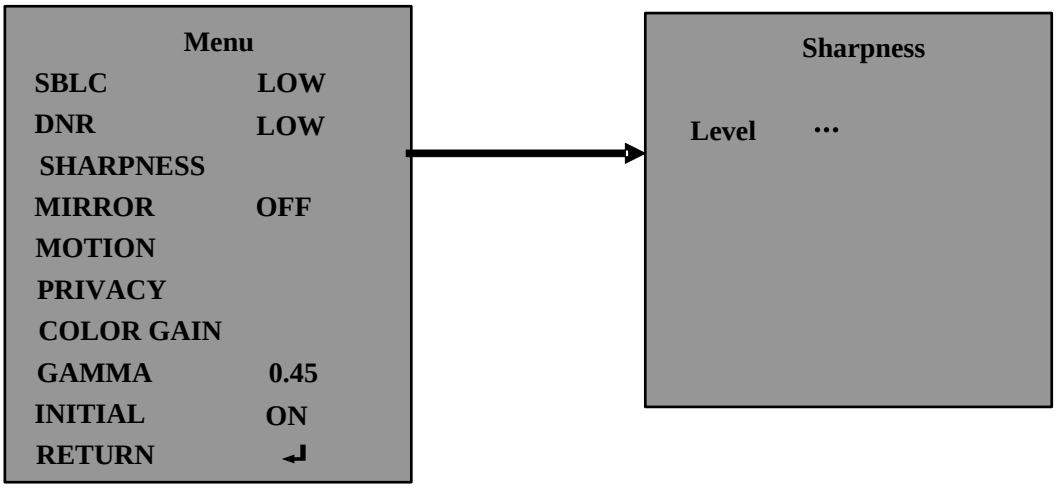
Note:
When AGC status is ON this function has no enable.

7.5.2 DNR(descent noise rate)



7.5.3 Sharpness

Sharpness is to help make the image clearer. The system default value is 10: (Level: 0~20)

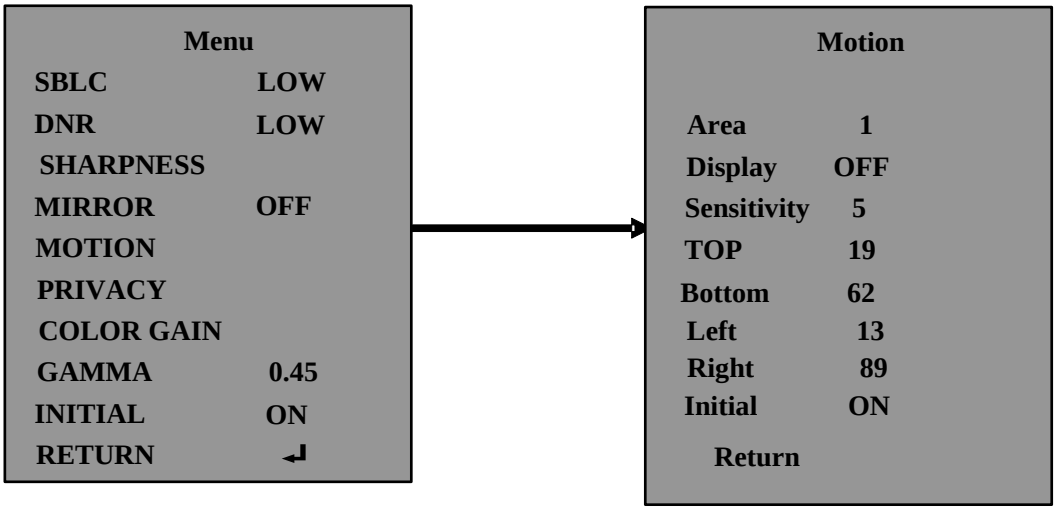


7.5.4 Mirror

Mirror can make the image by inversion. That has On/OFF status. The system default is OFF.

7.5.5 Motion

Under this menu user can set up the motion detection area.



Area: There are four areas user can setup;

Display: if choose ON, the screen will display letters “motion…”when there’s motion. The system default is OFF.

Sensitivity: User can set the sensitivity value (1~24). The system default is 5.

TOP: User can set the motion detect area top (8~126);

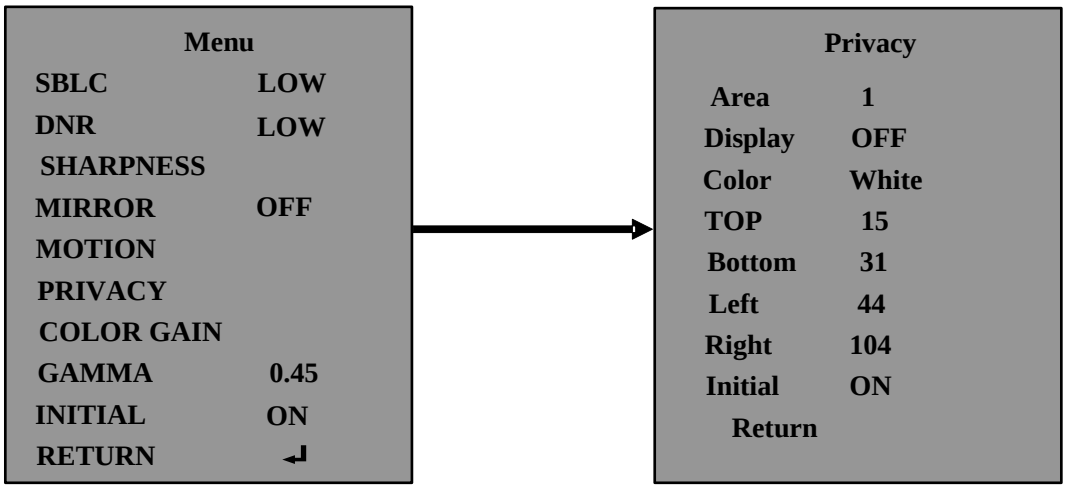
Bottom: User can set the motion detect area bottom (8~126);

Left: User can set the motion detect area left (4~191);

Right: User can set the motion detect area right (4~191);

Initial: If you want to get default parameters for motion. Please set the initial status to be ON.

7.5.6 Privacy



Area: There are four areas user can setup;

Display: When setup the status is ON, the screen will display Letters “mask”.

Color: User can select the mask color among white, yellow, green, blue, red, black and gray.

TOP: User can set the mask area top (8~126);

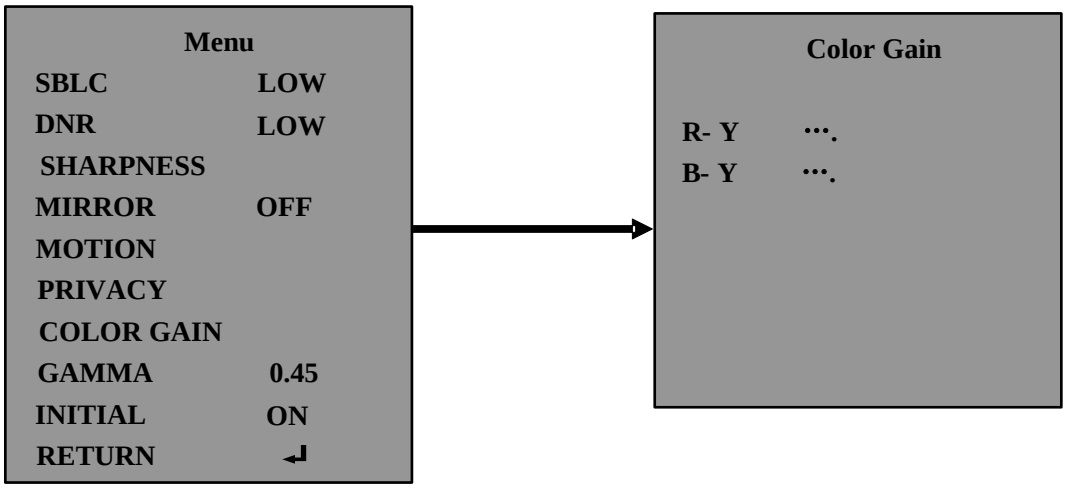
Bottom: User can set the motion mask area bottom (8~126);

Left: User can set the motion mask area left (4~191);

Right: User can set the motion mask area right (4~191);

Initial: If you want to get default parameters for privacy. Please set the initial status to be ON.

7.5.7 Color Gain



User can set the color gain under this menu. R for red (0~20); B for blue (0~20). The system default valve is 15.

7.5.8 Gamma

Gamma is to adjust the image brightness. The value rang is 0.35~0.75

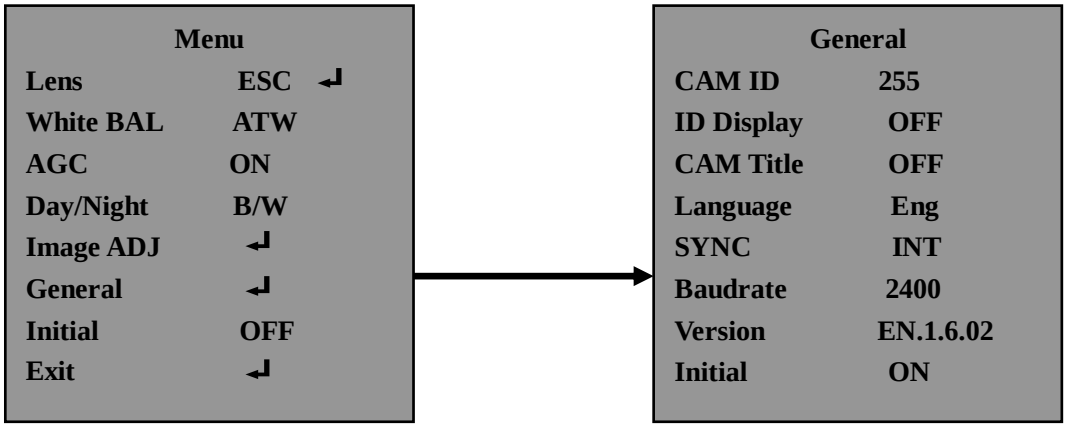
7.5.9 Initial

If you want get default parameters for Image ADJ. Please set the initial status to be ON.

7.6 General

User can set normal setting for camera such as camera ID, Language, baud rate, act.

7.6.1 CAM ID

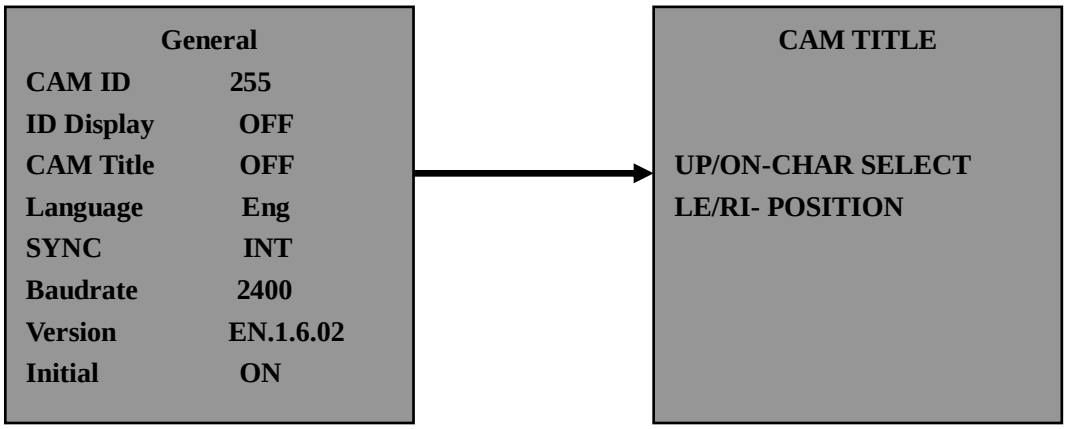


Under this menu user can setup the camera ID. The ID range is 0~255. The system default ID is 255.

7.6.2 ID Display

If set ON, the camera ID will display in the upper right of screen.

7.6.3 Camera Title



Under this menu user can set the camera title with a maximum input of 8letters. Move the joystick up or down to select letter and left or right to select the poison.

If set ON, the title will display in the upper left of screen.

7.6.4 Language

User can move the joystick right to left to choose the language. The system support Chinese and English.

7.6.5 Baudrate

User can select the baudrate among 2400/4800/9600/57600. The system default is 2400.

7.6.6 Version

User can get the information for system version.

7.6.7 Initial

If you want get default parameters for General. Please set the initial status to be ON.

7.7 Initial

If you want get default parameters for system. Please set the initial status to be ON.

8 Typical Setting

SBLC OFF
IR LIGHT OFF

SETTING 1. SBLC MIDDLE
2. IR LIGHT ON AND ADJUST
THE LEVEL AT MIDDLE

9 Specification

Model	MS-7800N	MS-7800P
Sensor	1/3 " SONY Super HAD CCD	
Pixel	768（H）x 494（V）	752（H）x 582（V）
Scanning	2:1Intelace	
Sync. Mode	Internal，Line Lock	
Horizontal Frequency	15.734kHz	15.625 kHz
Vertical Frequency	59.94Hz	50.00 Hz
Resolution	Color：600TV Lines/650TV Lines（B/W，Signal Enhancement）	
Video Output	1.0Vp-p/75Ω Video，0.714Vp-p Composite， 0.286Vp-p	
Burst Level	0.286Vp-p	
S/N Ratio	54dBMin.(AGC Correct OFF)	
Illumination	0.1 Lux at F1.2 (Color Mode) 0.001 Lux at F1.2 (B/W Mode) 0 Lux (IR LED ON)	
AGC	ON/OFF Optional	
Iris Control	DC AUTO IRIS（Shutter Speed 1/50~1/120000）/ELC	
E-Shutter	1/60～1/60,000 S	1/50～1/60,000 S
White Balance	ATW/AWC/MANUAL Mode	
Backlight Compensation	OFF/LOW/MID/HIGH Output	
Motion Detect Alarm	ON/OFF（4 Areas for setting）	
Privacy Zone Masking	ON/OFF（4 Areas for setting）	
D/N Mode	AUTO/COLOR/B&W/External Signal Control	
Communication	RS485， PELCO-D / PELCO-P Protocol	
Control Manner	Built- in OSD Menu	
Lens	KAWADEN Lens f=5-60mm CS Mount F=1:1.4 ICR DC Auto IRIS	
Power Supply	12VDC	
Power Consumption	5W（DC）	
Size	143(W) X 166(H) X 290(L) mm	
Storage Temperature	-40℃~60℃	
Operation Temperature	-40℃~60℃	
Humidity Range	20%~90% RH	
Weight	1000g	

10 ID DIP Code Setting

Ad	1	2	3	4	5	6	7	8	Ad	1	2	3	4	5	6	7	8
0	OF	OF	OF	OF	OF	OF	OF	OF	43	ON	ON	OF	ON	OF	ON	OF	OFF
1	ON	OF	OF	OF	OF	OF	OF	OF	44	OF	OF	ON	ON	OF	ON	OF	OFF
2	OF	ON	OF	OF	OF	OF	OF	OF	45	ON	OF	ON	ON	OF	ON	OF	OFF
3	ON	ON	OF	OF	OF	OF	OF	OF	46	OF	ON	ON	ON	OF	ON	OF	OFF
4	OF	OF	ON	OF	OF	OF	OF	OF	47	ON	ON	ON	ON	OF	ON	OF	OFF
5	ON	OF	ON	OF	OF	OF	OF	OF	48	OF	OF	OF	OF	ON	ON	OF	OFF
6	OF	ON	ON	OF	OF	OF	OF	OF	49	ON	OF	OF	OF	ON	ON	OF	OFF
7	ON	ON	ON	OF	OF	OF	OF	OF	50	OF	ON	OF	OF	ON	ON	OF	OFF
8	OF	OF	OF	ON	OF	OF	OF	OF	51	ON	ON	OF	OF	ON	ON	OF	OFF
9	ON	OF	OF	ON	OF	OF	OF	OF	52	OF	OF	ON	OF	ON	ON	OF	OFF
10	OF	ON	OF	ON	OF	OF	OF	OF	53	ON	OF	ON	OF	ON	ON	OF	OFF
11	ON	ON	OF	ON	OF	OF	OF	OF	54	OF	OF	ON	OF	ON	ON	OF	OFF
12	OF	OF	ON	ON	OF	OF	OF	OF	55	ON	ON	ON	OF	ON	ON	OF	OFF
13	ON	OF	ON	ON	OF	OF	OF	OF	56	OF	OF	OF	ON	ON	ON	OF	OFF
14	OF	ON	ON	ON	OF	OF	OF	OF	57	OF	OF	OF	ON	ON	ON	OF	OFF
15	ON	ON	ON	ON	OF	OF	OF	OF	58	OF	OF	OF	ON	ON	ON	OF	OFF
16	OF	OF	OF	OF	ON	OF	OF	OF	59	ON	ON	OF	ON	ON	ON	OF	OFF
17	ON	OF	OF	OF	ON	OF	OF	OF	60	OF	OF	ON	ON	ON	ON	OF	OFF
18	OF	ON	OF	OF	ON	OF	OF	OF	61	ON	OF	ON	ON	ON	ON	OF	OFF
19	ON	ON	OF	OF	ON	OF	OF	OF	62	OF	ON	ON	ON	ON	ON	OF	OFF
20	OF	OF	ON	OF	ON	OF	OF	OF	63	ON	ON	ON	ON	ON	ON	OF	OFF
21	ON	OF	ON	OF	ON	OF	OF	OF	64	OF	OF	OF	OF	OF	OF	ON	OFF
22	OF	ON	ON	OF	ON	OF	OF	OF	65	ON	OF	OF	OF	OF	OF	ON	OFF
23	ON	ON	ON	OF	ON	OF	OF	OF	66	OF	ON	OF	OF	OF	OF	ON	OFF
24	OF	OF	OF	ON	ON	OF	OF	OF	67	ON	ON	OF	OF	OF	OF	ON	OFF
25	ON	OF	OF	ON	ON	OF	OF	OF	68	OF	OF	ON	OF	OF	OF	ON	OFF
26	OF	ON	OF	ON	ON	OF	OF	OF	69	ON	OF	ON	OF	OF	OF	ON	OFF
27	ON	ON	OF	ON	ON	OF	OF	OF	70	OF	ON	ON	OF	OF	OF	ON	OFF
28	OF	OF	ON	ON	ON	OF	OF	OF	71	ON	ON	ON	OF	OF	OF	ON	OFF
29	ON	OF	ON	ON	ON	OF	OF	OF	72	OF	OF	OF	ON	OF	OF	ON	OFF
30	OF	OF	ON	ON	ON	OF	OF	OF	73	ON	OF	OF	ON	OF	OF	ON	OFF
31	ON	ON	ON	ON	ON	OF	OF	OF	74	OF	ON	OF	ON	OF	OF	ON	OFF
32	OF	OF	OF	OF	OF	ON	OF	OF	75	ON	ON	OF	ON	OF	OF	ON	OFF
33	ON	OF	OF	OF	OF	ON	OF	OF	76	OF	OF	ON	ON	OF	OF	ON	OFF
34	OF	ON	OF	OF	OF	ON	OF	OF	77	ON	OF	ON	ON	OF	OF	ON	OFF
35	ON	ON	OF	OF	OF	ON	OF	OF	78	OF	ON	ON	ON	OF	OF	ON	OFF
36	OF	OF	ON	OF	OF	ON	OF	OF	79	ON	ON	ON	ON	OF	OF	ON	OFF
37	ON	OF	ON	OF	OF	ON	OF	OF	80	OF	OF	OF	OF	ON	OF	ON	OFF
38	OF	ON	ON	OF	OF	ON	OF	OF	81	ON	OF	OF	OF	ON	OF	ON	OFF
39	ON	ON	ON	OF	OF	ON	OF	OF	82	OF	ON	OF	OF	ON	OF	ON	OFF
40	OF	OF	OF	ON	OF	ON	OF	OF	83	ON	ON	OF	OF	ON	OF	ON	OFF
41	ON	OF	OF	ON	OF	ON	OF	OF	84	OF	OF	ON	OF	ON	OF	ON	OFF
42	OF	ON	OF	ON	OF	ON	OF	OF	85	ON	OF	ON	OF	ON	OF	ON	OFF

Add	1	2	3	4	5	6	7	8	Ad	1	2	3	4	5	6	7	8
86	OF	ON	ON	OF	ON	OF	ON	OF	107	ON	ON	OF	ON	OF	ON	ON	OF
87	ON	ON	ON	OF	ON	OF	ON	OF	108	OF	OF	ON	ON	OF	ON	ON	OF
88	OF	OF	OF	ON	ON	OF	ON	OF	109	ON	OF	ON	ON	OF	ON	ON	OF
89	ON	OF	OF	ON	ON	OF	ON	OF	110	OF	ON	ON	ON	OF	ON	ON	OF
90	OF	ON	OF	ON	ON	OF	ON	OF	111	ON	ON	ON	ON	OF	ON	ON	OF
91	ON	ON	OF	ON	ON	OF	ON	OF	112	OF	OF	OF	OF	ON	ON	ON	OF
92	OF	OF	ON	ON	ON	OF	ON	OF	113	ON	OF	OF	OF	ON	ON	ON	OF
93	ON	OF	ON	ON	ON	OF	ON	OF	114	OF	ON	OF	OF	ON	ON	ON	OF
94	OF	ON	ON	ON	ON	OF	ON	OF	115	ON	ON	OF	OF	ON	ON	ON	OF
95	ON	ON	ON	ON	ON	OF	ON	OF	116	OF	OF	ON	OF	ON	ON	ON	OF
96	OF	OF	OF	OF	OF	ON	ON	OF	117	ON	OF	ON	OF	ON	ON	ON	OF
97	ON	OF	OF	OF	OF	ON	ON	OF	118	OF	ON	ON	OF	ON	ON	ON	OF
98	OF	ON	OF	OF	OF	ON	ON	OF	119	ON	ON	ON	OF	ON	ON	ON	OF
99	ON	ON	OF	OF	OF	ON	ON	OF	120	OF	OF	OF	ON	ON	ON	ON	OF
100	OF	OF	ON	OF	OF	ON	ON	OF	121	ON	OF	OF	ON	ON	ON	ON	OF
101	ON	OF	ON	OF	OF	ON	ON	OF	122	OF	ON	OF	ON	ON	ON	ON	OF
102	OF	ON	ON	OF	OF	ON	ON	OF	123	ON	ON	OF	ON	ON	ON	ON	OF
103	ON	ON	ON	OF	OF	ON	ON	OF	124	OF	OF	ON	ON	ON	ON	ON	OF
104	OF	OF	OF	ON	OF	ON	ON	OF	125	ON	OF	ON	ON	ON	ON	ON	OF
105	ON	OF	OF	ON	OF	ON	ON	OF	126	OF	ON	ON	ON	ON	ON	ON	OF
106	OF	ON	OF	ON	OF	ON	ON	OF	127	ON	ON	ON	ON	ON	ON	ON	OF