



S-BUS

**Lighting, HVAC, Sensors
Music, IR, RsIP and Logic++**

Programming Guide – Ver.2.0

Eng.Sameh Ibrahim

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Before you begin this course

Before you begin this course, you should have:



- Understand the basic bus Diagram Connection Topology
- Understand the Lighting and HVAC Connections Diagram
- Basic Knowledge about IP setting.
- Basic Knowledge of using Windows operating system.
- Basic Knowledge of using Windows Painter.

Prerequisites

Either

- Products overview course.
- Installation Course.

How this course is organized

Lighting and HVAC Programming Guide Course Organized in Simple way of Product overview, Example Picture, ( Notices) , ( Advices) , and Program Examples to give you the Programming skills in very easy and professional way.

For Training Course Request Please apply online

www.smarthomebus.com

1- Introduction

Welcome to S-BUS Lighting Motor and HVAC2 Programming Guide, you are now a Beginner Programmer who will know soon how the S-bus Lighting, motor and HVAC Programming is simple.

1-1 Objective:

After this course you will be able to program the Lights Dimmers and relays with the switches Panel, Program curtain shades control, program the Air condition setting and DDP panel, create and download different Picture on the LCD, and start with Motion sensor and Automate your Project.

1-2 S-Bus products:

S-BUS Products is vary with its powerful and multi functions, it have the high power dimmer and relay, Curtain, DMX and LED controller, Wall switches and Dynamic Display Panel "DDP", HVAC2 Air condition control and different type of sensors, like Motion sensor, light intensity sensor, Ultrasonic sensor, Dry input sensor, Analog input, current sensor, Power meter, Infrared receivers and transmitter, Security and Automation, Audio Module, Rs232, Programming and integrations Module

1-3 Course content:

This course is coverer 12 Basic Lessons:

In the Lesson 1 you will know about the S-bus configuration software, install it on your computer and getting throw with it, set you IP address and Know what is the Programming port and set its address, search for the devices and start programming.

In the Lesson 2 you will be able to program the Dimmers and Relay, test the Lighting channel and edit the channel Remarks, set the Area and program the scenes and sequence.

In Lesson 4 you will be able to program your first panel switch, in this level you will know why and what you had programmed before of dimmers relay and you will start programming different type of button modes and you will enjoy the difference programs setting and you will feel the powerful.

In lesson 5 you will have different experience with the HVAC Air condition programming, you will know the flexibility and functionality you have of Single and Multi stage compressor and VAV control.

In Lesson 6 you will be able to program the magical LCD DDP for its lighting and Air condition control function, you will be able to edit and download picture for each button and make the LCD setting

In Lesson 7 you will be able to program Music system (Z-audio2) and how to control it from DDP.

In lesson 8, you will be able to program the motion sensor and get basic introduction about home automation programming And you will be able to take the codes from any remote and use it in S-bus Network like (spilt AC remote, Satellite remote, DVD Remote).

In Lesson 9 you will be able to control and integrate any device using Rs232 OR Rs485 connection (projectors ,RFID) .

In Lesson 10you will be able to make daily events automatically, activate all sensors at sunset, and deactivate at sunrise, Make your own conditions for special events, put timer for deferent events.

2- Start Programming

In smart home G4 there are two ways For Programming:

- 🌈 Manual Way (For Basic Programming).
- 🌈 Pc /Laptop Way (For Basic and Advanced Programming).

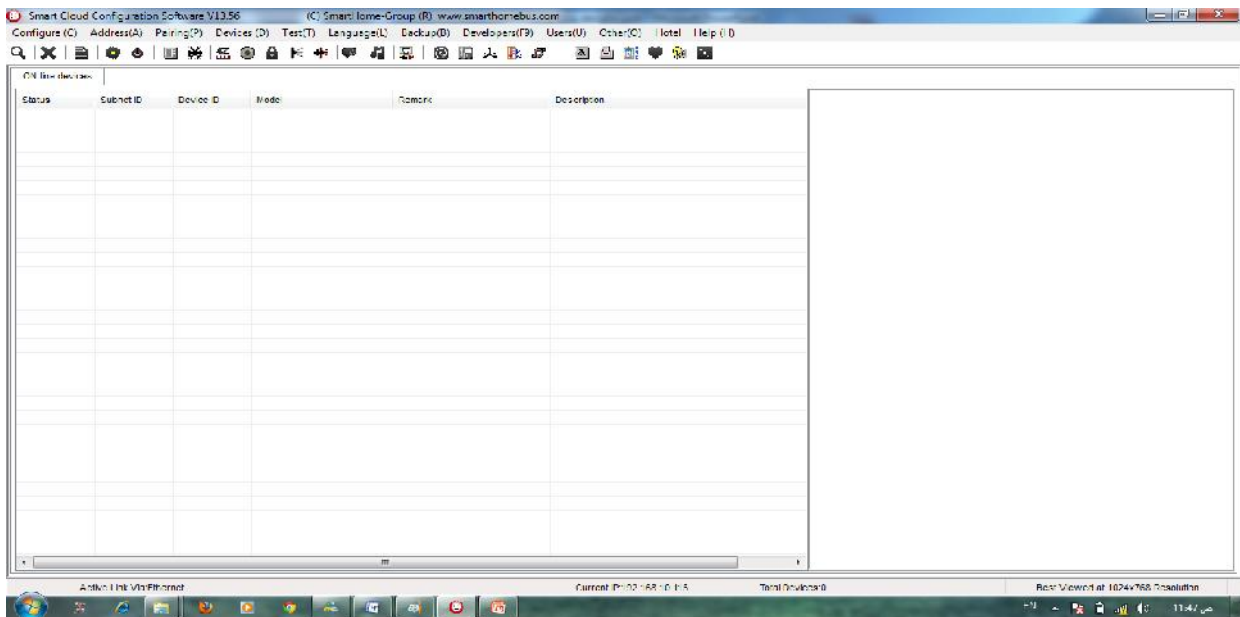
2-2 S-Bus Programming Software overview

You need on this lesson to have your computer with you. Running on windows Operating system, Smart Cloud **G4** software, programming port SB-DN-1IP, that enable you to search for all the devices that connected to the bus network.

- 1- Install your S-bus configuration software in your Computer by pressing the **Setup** icon and follow the installation steps windows
- 2- Set your computer IP Address, for example
IP 192.168.10.10
Subnet 255.255.255.0
Gateway 192.168.10.1
- 3- Run your S-bus configuration Software
- 4- The Password window will open, type the default password is **user**



- 5- Your software will start



6- You can see your current IP on the footer of the software as 192.168.10.115 then your IP setting is ok.



Set your computer IP setting before starting the S-BUS configuration software.

2-3 Installer Programming Ethernet Port overview

The S-Bus Programming Ethernet Port

- New: small Portable Programming Ethernet Port
 - Direct power from Bus network (no need 220 V)
 - Small size
 - No LCD , Setting will be done from software

The Programming Ethernet Port has the following function

- a- Used as programming port between your computer and the S-Bus devices.
- b- Used as Network bridge for big project network that need more than 255 devices
- c- Used as a bridge between Touch screen IP to Bus network.

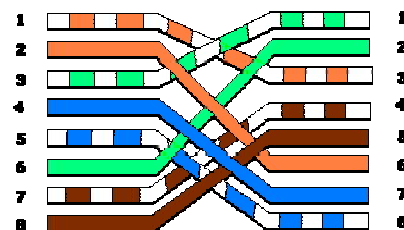


You should always reset your Module every time you change the IP Address in order the new setting to be Active.

After you set your Module IP Address now you should connect the module to Your Computer Network in order to communicate. The connection can be in two ways

- 1- Connect the 1Port IP Module to the HUB or Data Switch and connect your Computer to the same data Switch as standard straight cable Network wiring.
- 2- Without using the HUB or data switch you can use the cross cable to connect your computer directly to the IP Module, see the next cross wiring diagram of TIA/EIA 568B crossed wiring

TIA/EIA 568B Crossed Wiring



*You can use the Line command **Ping** to check your connection.*

*On your Computer, Go to start/ Run/ CMD then type **Ping 192.168.10.xxx***

If you see the following results similar to this Picture then your connection is successful

```
C:\WINDOWS\system32\cmd.exe
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

C:\Documents and Settings\Administrator>Ping 192.168.0.1

Pinging 192.168.0.1 with 32 bytes of data:

Reply from 192.168.0.1: bytes=32 time=45ms TTL=64
Reply from 192.168.0.1: bytes=32 time=39ms TTL=64
Reply from 192.168.0.1: bytes=32 time=2ms TTL=64
Reply from 192.168.0.1: bytes=32 time=2ms TTL=64

Ping statistics for 192.168.0.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 2ms, Maximum = 45ms, Average = 22ms

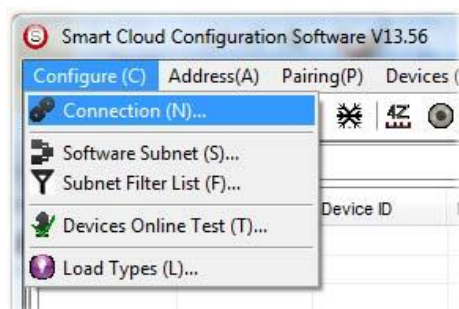
C:\Documents and Settings\Administrator>
```



Always the Programmer should carry with his programming kit the cross cable for programming without needs of the Data Switch or HUB.

2-4 S-bus configuration Software basic setting

Configure

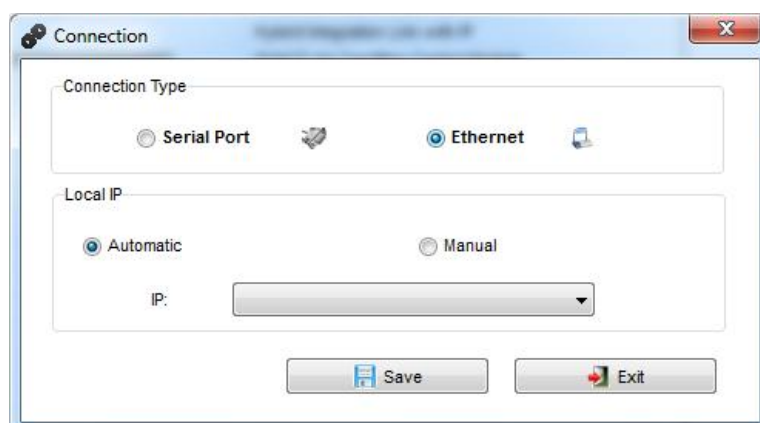


- *1- Connection*

You can change between Ethernet Connection and Serial Port connection,



the Serial Port connection is old, slow and no longer use. Always Keep the setting on Ethernet connection



Also you can choose between **obtain Local IP Automatically** (Default) , or to **input local IP Manually**.



Input local IP manually you can use it for example, if you are using in your laptop or computer Wireless and wired Network with different IP setting, and you want to choose the right one of it for programming, and don't want your S-bus software to detect your other IP address Automatically.

- **2- Software Subnet ID**

The S-bus configuration software have fixed Device ID (254), but you can change its subnet ID only, the default software subnet is (Default = 254)



The software default subnet ID address is 254, Device ID 254, this address must be unique, in case other Device has the same address you will not be able to find that Device unless you change the Subnet of the software.

- **3- Subnet Filter List:**

Here you can filter your subnet ID's that mean you can add more ranges if you have more than 254 devices so you can add another subnet ID

- **4- Devices On-Line test**

You can Deactivate or activate the auto test of Online devices (Activate is Default).

- **5- Load type**

You can add some Remarks to your Load type to use it as reference and print it out later on the excel sheet.

Address

Here you can search for the Device Addresses and load the Network and solve any conflict in the address. (For more Information see 3-2)

Pairing

You can enable pairing or disable either for one device or for all devices, disable meaning you can't program S-bus modules in manual anymore until you enable it again.

Devices

You can go here directly to Devices setting Categorized by type

Test

This is important Function to check your Lights Circuit by flashing the lights ON/OFF and then you can give it name (for more information see 3-3 section).

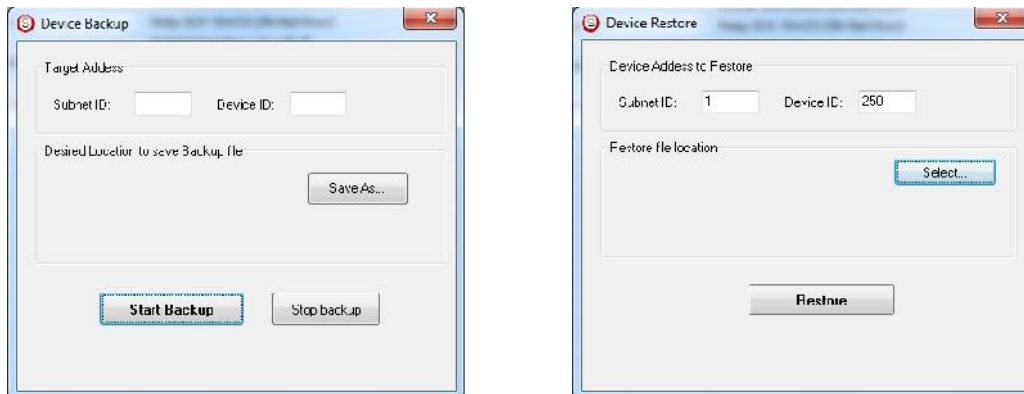
Language

You can change the Language between English and Chinese, and other Languages

Backup

Important to backup and restore your Devices address and setting.

- For Backup: put the subnet and device ID for desire device , choose the location for the backup file then click "Start backup" ,
- For Restore: put the subnet and device ID for desire device, choose the backup which you already made then click "Restore".



2-5 Devices address and Search:

Each of S-bus Devices must have its own Address in the Network, the Address for each Device consist of 2 parts:

- ❖ **Subnet ID**
- ❖ **Device ID**

The subnet ID can be from 0 – 254

And the Device ID can be from 1 – 254

So you can put up to 65024 Deferent Devices in the same network with deferent subnet and device ID Address

For example one of Dimmer Module Address is (Subnet 1, Device ID 5)

There is 5 ways to Search for the Devices in the Smart cloud Software

- 1- Fast Search
- 2- Advanced Search
- 3- Manually Search
- 4- Broadcast Address Device Search
- 5- Solve Conflict address search


Fast Search

The Fast search is very useful tools to test your communication and search your devices Fast , the Fast search take around 2-15 seconds to finish load the devices information in your network.



- Click on the **Scan** button
- Click on the **Fast search Button**
- Click **add all**
- Click **Exit** to exit the Window




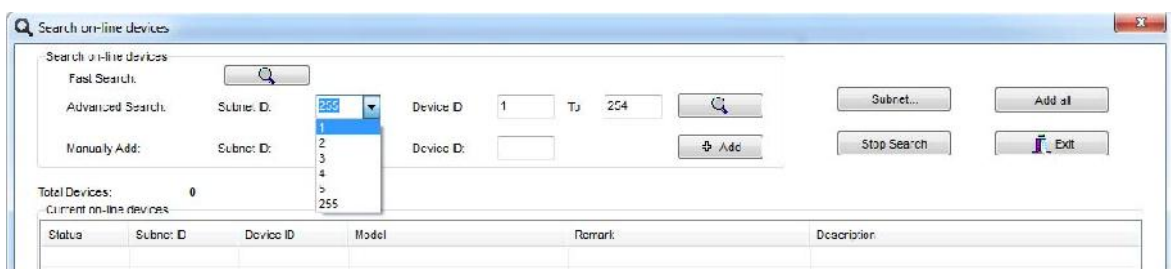
 *Fast search can't load all the Network Devices, it is only load part of the devices, it is only good for small project that contain around 10 devices, and to check the network communication with your PC.*

Advanced Search

The Advanced Search is a powerful tool for searching your Devices in the network. You can set the Subnet ID you like to search on it and select the range of device ID you want to search for.

Advanced search take 0.3 seconds for each device to load and total of 80 seconds to finish the search and load for 255 devices totally in each subnet.

- Click on the Online Search button 
- Go to **advanced search** , put the subnet ID and the range of device ID search



- Click **search ICON**
- Click **ADD ALL** after the search finish
- Click **Exit** to exit from the window
- click **stop** to stop the search
- Click **subnet** to add new subnet to the popup Menu subnet list



Use the Advanced Search Always as your standard way to Load the Devices in the Network to your computer before you program in any new

Manual Search

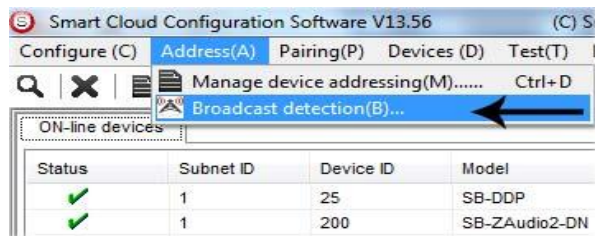
Manual Search is a very fast and useful way to add known Device ID and subnet to your network

Manually Add:	Subnet ID:	<input type="text"/>	Device ID:	<input type="text"/>	<input type="button" value="Add"/>
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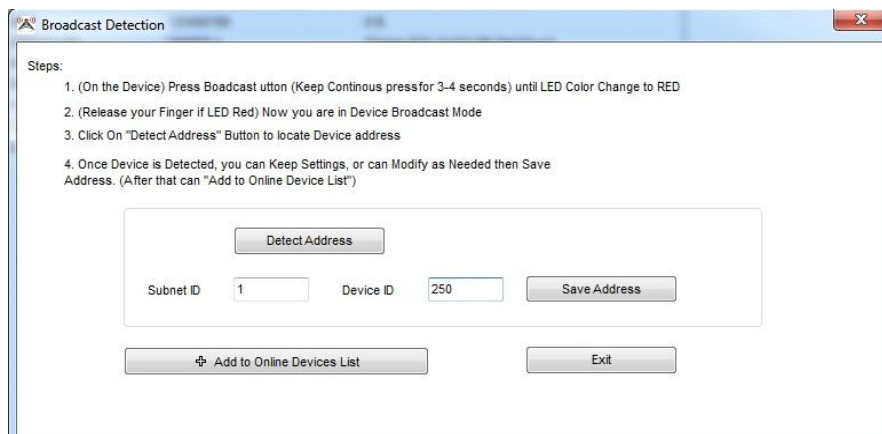
- Type the subnet and device ID that you know
- Click ADD
- Exit the Menu

Broadcast Address Device Search

This tool is important when you add new devices or you start your new Project installation, many devices could have the same Address or the communication is not yet tested, this tool is important to check the communication between your device and the bus network and to change its initial address in the first time installation.



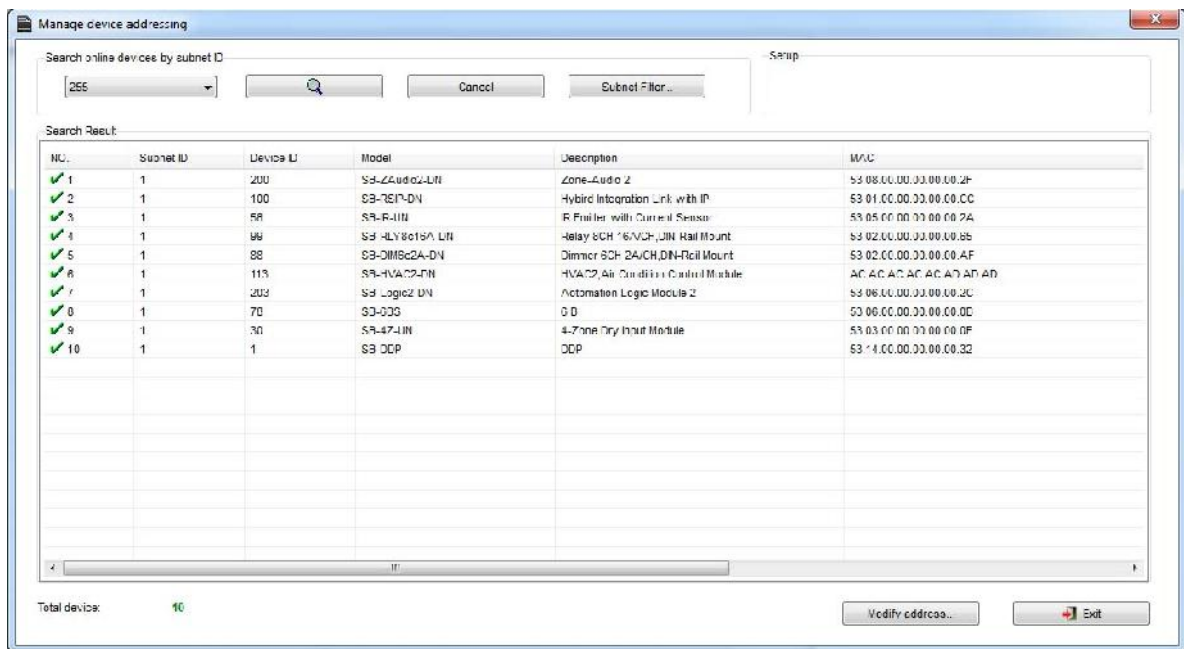
- On your software Click **Address** then **broadcast detection**
- Go to your device like Dimmer / Relay / sensor or Panel and keep pressing the **broadcast Address button** for 2 ~ 4seconds until the button LED color change to **RED**.
- In your software in the Broadcast Detection window click the **Detect Address Button**.
- Your Device ID and Subnet well appear automatically
- To change the address just type the new subnet ID or device ID you want then click **Save Address**
- Click **ADD to online device list** to load your device in the Devices Network List.
- Click **Exit** to Close the Window



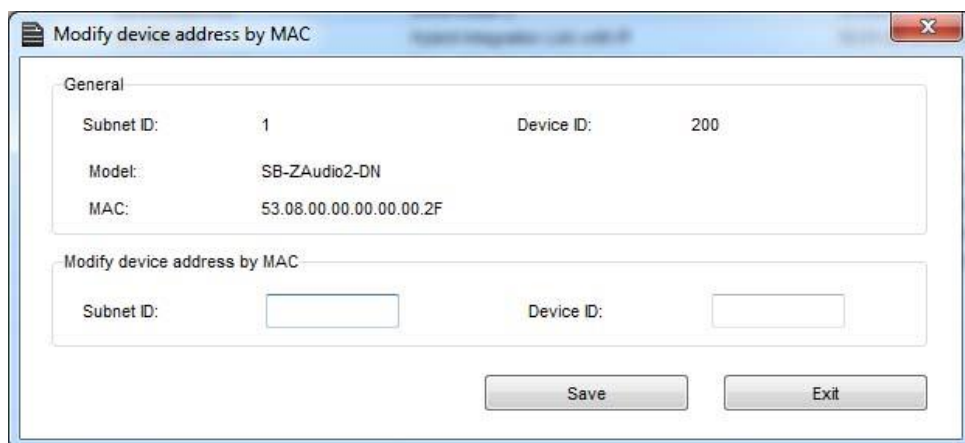
Solve Conflict address search

This type of search used to solve the conflict address, for example if 2 devices have the same address, then you can easily change the address of it without the need of disconnecting its wires from the network.

- Click **Address** or click the Address Shortcut icon



- Select Subnet **255 (recommended)** or any desired subnet then click the search icon.
- Select the device you want to modify its address then click **modify Address** or double click on it
- New window will open, and then type the new Subnet ID and Device ID, then Click **Save**



2-6 Steps of Basic Programming

The Basic Programming for Lighting Motor and HVAC of S-bus Products has procedure of Basic Steps as following

- A- Check the communication between your computer and the Bus
- B- Broadcast each Dimmer, Relay, Motor curtain HVAC control initial Address
- C- Change the initial addresses to the desired one (**kindly check 2.6.1 for addresses range**).
- D- Give name of each Dimmer, Relay Module (Remark).
- E- Check each Lighting channel circuit if working and connected good
- F- Give name for each channel (remark).
- G- Make an excel sheet for all your Dimmers, relays, other module address and circuit name.
- H- Make Area for each Dimmer, Relay module if required .
- I- Make Scene and Sequence for each Module if required .
- J- Make safety power restore and delay time for scenes and safety as required.
- K- Check the curtain module gives it address and name.
- L- Set the channel name, the running time open and close running time.
- M- Give the switch (6 gangs) and panel (DDP) its addresses and game.
- N- Assign the panel button to the corresponding scene or channel.
- O- Set the button graphic picture for the DDP for each button.
- P- Check the HVAC address give it address and name.
- Q- Set the On OFF delay sequence.
- R- Set the VAV Voltage output if required.
- S- Set the safety HVAC running sequence
- T- assign the DDP Panel to its HVAC unit.
- U- Set the FAN speed, cool set point, type, adjust temperature sensor on the panel setting.
- V- Set the required graphic for AC, and panel basic setting
- W- Search for PIR motion sensor and give it address and name
- X- Set the sensitivity, way of triggering, motion, no movement delay and commands
- Y-connect the Z-audio 2 to the s-bus And address it
- Z- Test and enhance your programming.



Following the basic Programming steps procedure will save the programmers time and effort.

3- Relays and Dimmers Programming

Relays and Dimmers are the main modules for every lighting control system, the Leading Edge Dimmer, and smart relay save 30-70% of your lighting Energy consumption.

3-1 Relays and Dimmers type overview

S-bus Dimmers and Relay have many types that you can install in any project

1- Dimmers

- DIN-Rail Mount Dimmer 2ch 6A
- DIN-Rail Mount Dimmer 4ch 3A
- DIN-Rail Mount Dimmer 6ch 2A

2- Relay ON/OFF controller

- DIN-Rail Mount, Relay Module 3CH, 1A
- DIN-Rail Mount, Relay Module 4CH, 20A
- DIN-Rail Mount, Relay Module 4CH, 16A
- DIN-Rail Mount, Relay Module 6CH, 16A
- DIN-Rail Mount, Relay Module 8CH, 10A
- DIN-Rail Mount, Relay Module 12CH, 10A

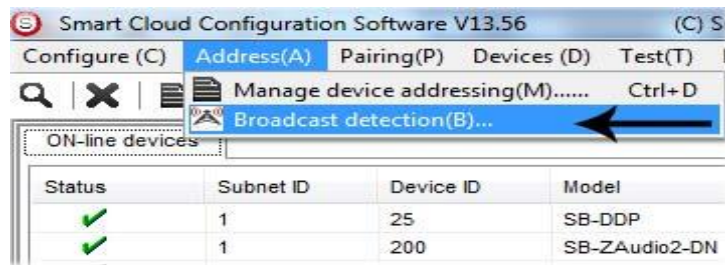
3-2 Setting Relay and Dimmers Address

When you install the Dimmer or relay first time, it takes default address as Subnet ID 1, Device ID 6. To change the address and check the communication you should use the *Broadcast Address Device Search* as you see in the section 2-5 before)

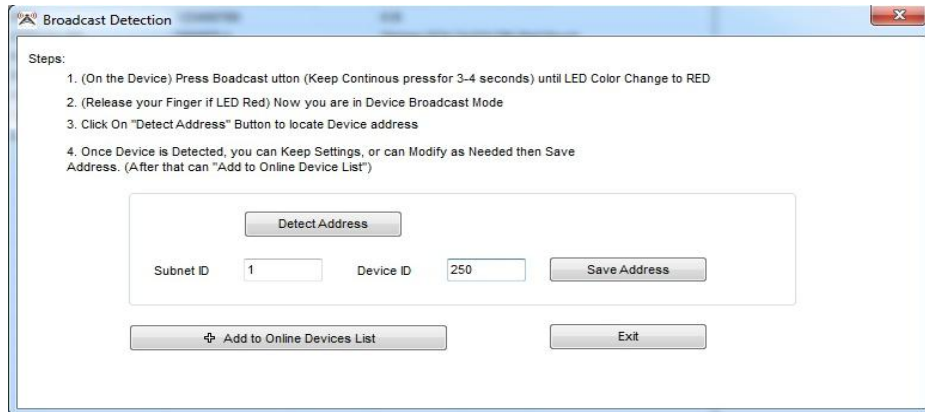
Every Din rail Module have Broadcast button as you can see in this Picture



- On your software Click **Address**



- Go to your device like Dimmer or Relay then keep pressing the broadcast Address button for 3-4 seconds until LED color change to RED.
- In your software in the Broadcast Detection window click the **Detect Address** Button.





- Your Device ID and Subnet will appear Automatically
- To change the address just type the new subnet ID or device ID you want, then click **Save Address**
- Click **Add to Online Devices list** to load your device in the Devices Network List.
- Click **Exit** to Close the Window

3-3 Channels search and Remarks

After you finish editing the initial Address for each Dimmer and Relay, Search for all Modules in the network using the Advanced Search, after that you can start giving different Name in the remarks for each Module.

- Double click on the Module that you see on the List after searching to open it for editing
- In the Remarks field type the name of the Module
- Click save after you type the name

 *Without giving name to the Dimmers or Relays in your Project, the program will be hard for any programmer to understand, troubleshoot, and enhance the program in the future; name and remarks always will help every programmer to do the programming*

 *Always Give the Dimmers and Relay name that refer to its Location, for example if the Dimmer install in the floor 10 Apartment 20 then you can give it name for example DIM-10-20-A the next Dimmer in the same apartment can be DIM-10-20-B and so on and sticker Labeling can be stick on the dimmer Module itself with the same name*

Testing Channels online:

After we gave Address and name to the Dimmer, now we must test it channel and gave it name.

- In your software Menu go to **Test**
- set the Interval of seconds that will be flash the Light channel ON/OFF within this time (2 seconds is Default) after Editing it Click Save
- Edit the Subnet ID, Device ID of your Dimmer or Relay and Its Light Channel you want to test then click save

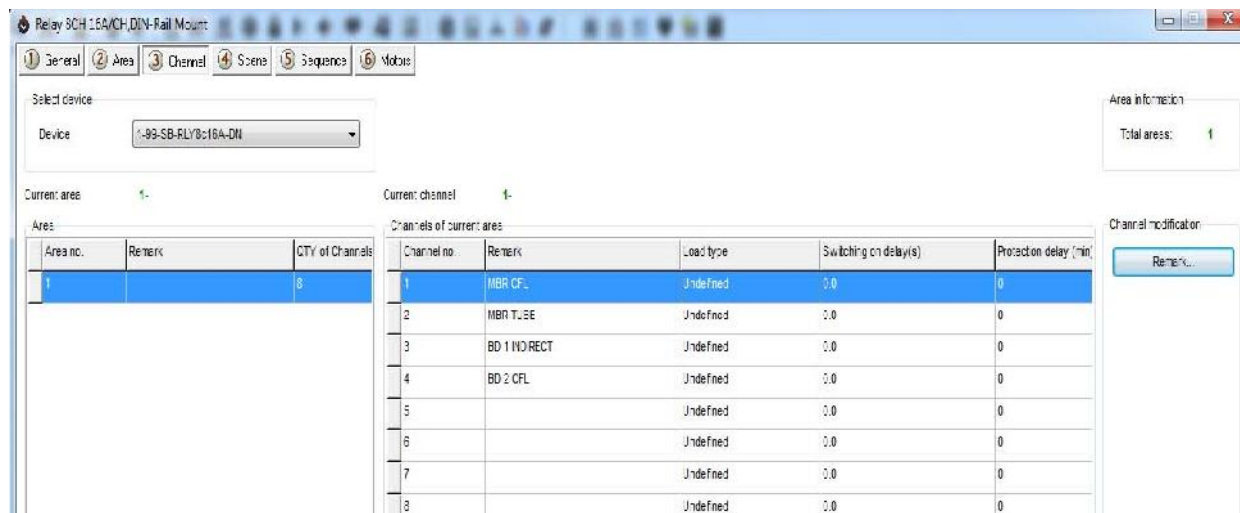
- Click start test button, then light icon will start Flashing ON/OFF
- Go to the channel light in your project that connect to this channel and see if the light is flashing or not.
- If the light channel is flashing ON/OFF that mean your connection is fine, then you can click stop test.
- Give the name of this Light channel in the channel remarks field then click save
- Go for the next light channel test, click save and follow the same steps for each module channels in your project.



Channel Remarks is very important for any programming, Programmer should edit all the remarks in simple and clear way to refer to the lights Channel name.

3-4 Relay Channels Setting

Relay channel setting will allow you to edit the channel remarks in faster way if you have the List of your connected channels on your relay before testing it, also you can edit for each channel the load type remarks, Switch On Delay (Seconds), and Protection ON Delay (Minutes)



Double click on any relay Module on the List the relay setting window will appear go to the Channel tab, and start editing

Channel Remarks: it is another fast way to type your channels of your module in simple way.

Load type: to edit every channel load type as reference remarks

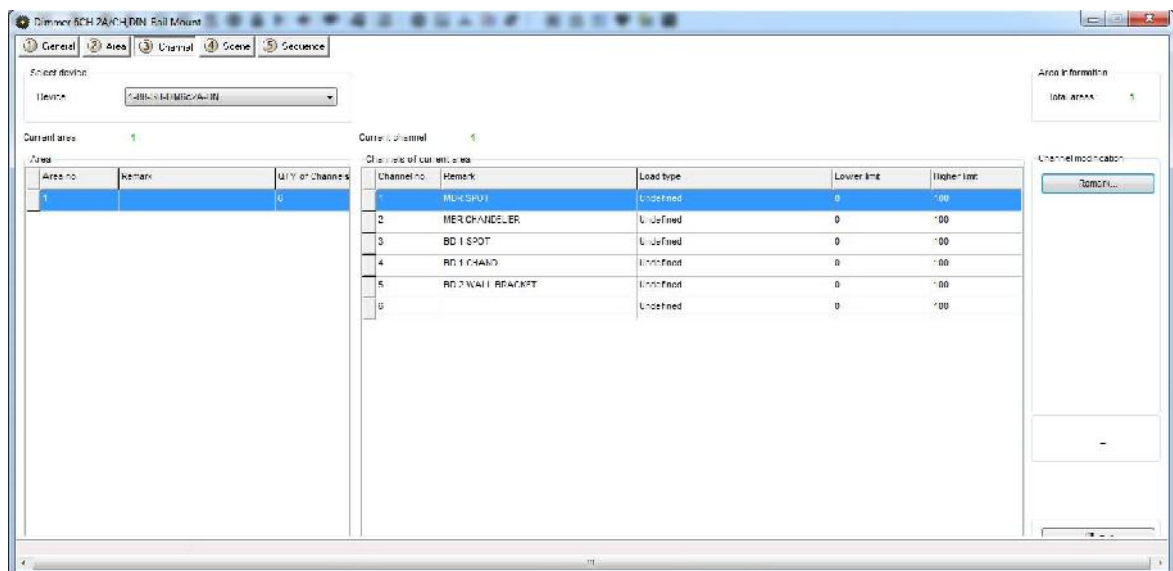
Switching On Delay: for industry and some motors connection needs to delay the Relay to be ON from (0 to 25 seconds) for each channel

Protection Delay: is used for industry use mainly and some heavy duty Machines for safety ON by long time delay range from (0 – 60 Minutes)

3-5 Dimmer Channel Setting

In the Dimmer channel setting you can edit your Dimmer Lighting channel Remarks, Load type remarks, Lower Limit, Higher Limit.

Double click on any Dimmer Module on the List then the Dimmer setting window will appear go to the Channel tab, and start editing



Channel Remarks: it is another fast way to type your channels of your module in simple way.

Load type: to edit every channel load type as reference remarks

Lower Limit: in this setting you can sit the lower Limit that you can dim to, beyond this level the Light will turn off totally.



Lower Limit Option is useful when you connect a florescent Light that can't be dimmable to Dimmer module channel and you don't want it to be flickering when low voltage supply the florescent



if you don't want the florescent light to be ON while you make diming with fade time for all your channels than you can set the channel Lower Limit as 90% if connected to florescent or not dimmable light

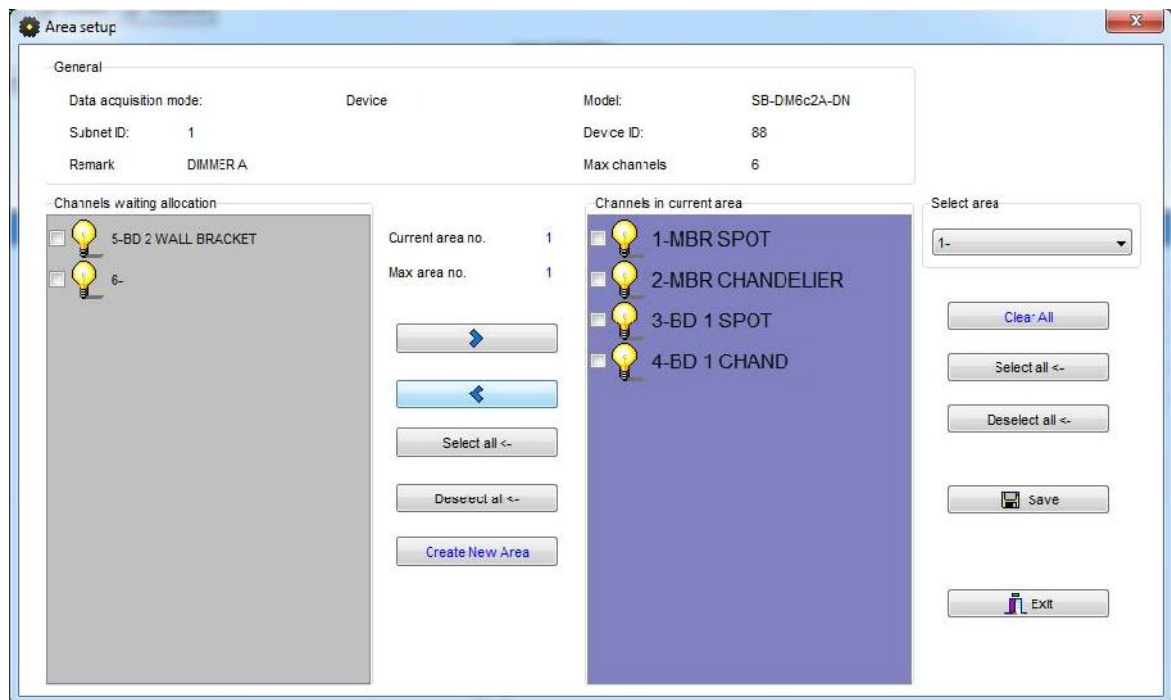
Higher Limit: in this setting you can sit the Higher Limit that you can Ramp to, Beyond this level the Light will turn ON to the maximum level.

3-6 Area Setting

In the Area setting you will divide your dimmer or Relay channels to different Area according to your project installation, each Area will have its scenes and sequences.

For example: if you have an apartment of 2 bed rooms, all its channels connected to the same dimmer, that mean you can divide the dimmer channels into 2 areas , type name for each area and later you can set the scenes and sequences of each Area separately.

- Double click on any Dimmer or relay on the List
- Got to **Area** Tab
- Click **Area Setup**
- By default all channels is included in Area 1, Remove the channel that not belong to this area by checking them and click the **Left Arrow**.



- Click **Create Area** to Add new Area
- Insert the remaining channels on this Area by pressing the **Right Arrow**
- When you create all you Area and assign Channels to it, Click **Save** and Click **Exit** to close your Area Setting
- Click **Area Remarks** and edit your Area names, then Click **Save** then **Exit**.

3-7 Scene Setting

After you complete your Area setting, then you can assign Different Scenes for Each Area you create

- Click on the **scene** tab
- **Select the Area** on the select Area section
- Input the scene number you want to edit From ... To then click **confirm**
- Click **scene setup** to edit your scenes

Dimmer 6CH 2A/CH/DIN-Rail Mount

① General ② Area ③ Channel ④ **Scene** ⑤ Sequence

Select device
Device: 1-36-S3-DM8c24-DN

Select area
Area: 1-

Scene Resume

Input scene no. from 0 To 3 Confirm

Scene information

Scene no.	Remark	Running time(mm:ss)
0		0:0
1		0:0
2		0:0
3		0:0

Current channel

Channels information of current scene

Channel no.	Remark	Intensity %
1	MBR SPOT	0
2	MBR CHANDELIER	0
3	BO 1 SPOT	0
4	BO 1 CHAND	0
5	BO 2 WALL BRACKET	0
6		0

Area information
Total areas: 1

Scene information
Current scene no.: 0
Start scene no.: 0
End scene no.: 0

- Edit the scene by modifying the output brightness and then click the next scene on the right list to edit it.
- Edit the scene running fade time on Minutes and seconds
- After you finish editing your scenes, click **save** and **exit**.
- Click **Remarks** to give the hint name for your scenes, click **save** and **exit**

You have many tools to help you editing the scenes

- ☐ **Modify running time synchronously**
- ☐ **Modify scene intensity synchronously**
- ☐ **ON-site run scene**

- **Modify Running time Synchronously** to apply the change effect for all the scenes running time together
- **Modify scene intensity Synchronously**, to modify all channels output level together
- **On-site Output scene**, to see the effect Live on your room before saving the scene.



Creating Area and scenes in the Modules is recommended for faster respond that control many channels in the same command.



Every area has Scene 0 and it is not modifiable, and always Pre-Programmed as scene Off that set all the channels Lights of the area to 0%.

3-8 Scene Resume

This setting is very important for the dimmer in case of Power failure.

The scene restore is the specified scene that the dimmer module will run it once the Power restore after the electricity down.

- Click **scene** tab then click on scene Resume
- Select one of 2 options,
- **1- Resume the same scene before power off,**
- **2- specify scene**

Scene Resume when power on		
General		
Subnet ID:	1	Device ID: 88
Model:	SB-DIM6c2A-DN	Remark DIMMER A
Max area No.	1	
Scene Resume when power on		
Area number	Resume Mode	Scene No.
1	Specify Scene Resume the same scene as before power off Specify Scene	0

Save Exit

- Remember Scene **0** it mean all Lights on the Area will be OFF when the Power restores.

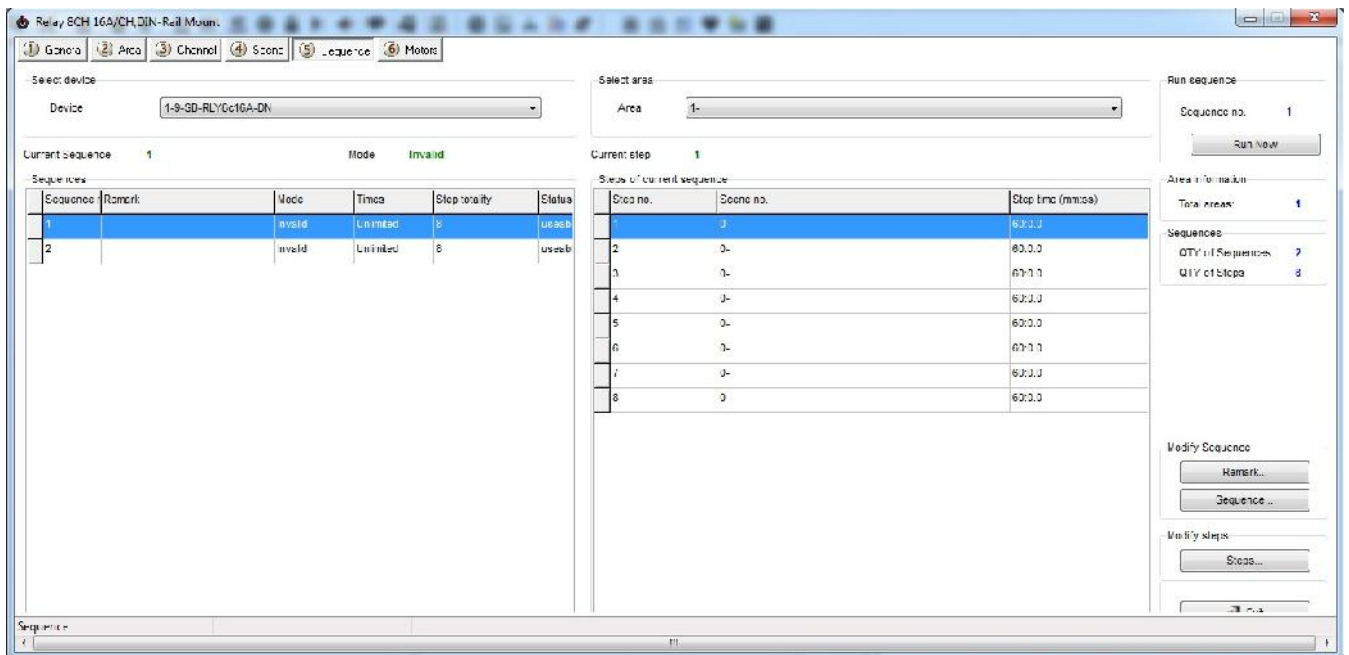


Restore to scene 0 is useful for many applications to save the Electrical parts when the power came in higher load from the main usually.

3-9 Sequence Setting

Sequence setting is used to make Lights show and some other needed application in industry, security and others.

- Click on the Sequence tap



- Click on **sequence** Button to edit the sequence
- Select the mode you want

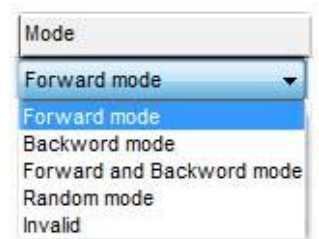
Invalid: not used

Random: well run the sequence scenes in random way

Forward, and backward: will run the scenes from first scene to last one then from last to first

Backward: will run the sequence scene from last to first

Forward: will run the sequence scene from first to Last



Times: the sequence can be **Unlimited** forever running, or will run from 1 time to 99 times.

Step totally: is the sequence scenes steps number that want to be include it in the Sequence

- After you finish editing your sequence setting, Click **save** and **exit**.

Edit step

General

Data acquisition mode: Device: Model: SB-HLY4c20/A DN

Subnet ID: 1 Device ID: 16

Remark: SMART RELAY420

Current area: 1- Current sequence: 1-

Modify step information

Step no.	Scene no.	Step time (min:ss)
1	0	00:0.0
2	0	00:0.0
3	0	00:0.0
4	0	00:0.0

Modify step time synchronously

Hint:
minimal step time is 1.6 S

- Click **Remarks** to edit your Sequence name
- Click **Steps** to edit your sequence steps
- Edit your **scene number** in each step
- Edit your step time **interval on** Minutes, seconds and part of seconds
- Click **Save** and **exit**



Relay Module that support the sequence like SB-DN-R0816 and SB-DN-R0420, its Minimum step time interval can be 1 second.

4- Panel Switch Programming (6 gang)

4-1 Panel Switch Type Overview

The Switch panel in the wall is your interface to control your lights, curtain and other application

The S-bus button switch panels have many types, including the 6 button panel, 4 button panel, 3 buttons panel, 2 buttons panel, and 1 button panel.

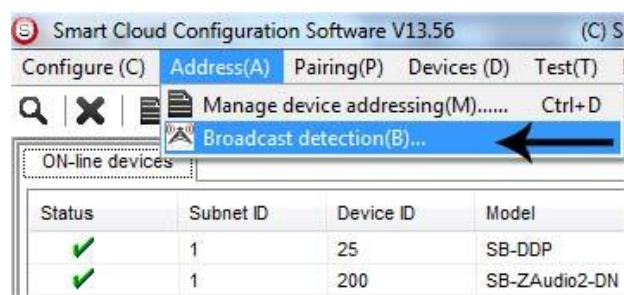
4-2 Panel Switch Address and basic setting

To change the address and check the communication you should use the *Broadcast Address Device Search* as you see in the section 2-5 before) Every Switch Panel has broadcast button inside it



Just click first button and keep pressing until red color coming.

- On your software Click **Address**



- On your Panel keep pressing the broadcast Address button for 4-5 seconds until LED turn ON
- In your software in the set broadcast detection window press the **Detect Address**
- Your Device ID and Subnet well appear Automatically

- To change the address just type the new subnet ID or device ID you want then press **Save Address**
- Press **ADD** to load your device in the Devices Network List
- Press **Exit** to Close the Window

After you load the Panel to the network, double click on it.

- In the basic setting you can type the panel name **remarks**, change its address subnet, and device ID
- Also you can change the **Backlight** brightness and **LED** indicator brightness of the Buttons

Indicator intensity

Back Light

Status Light

Modify subnet ID and device ID according to MAC

Subnet ID Device ID

4-3 Panel Switch button Remarks and Modes

When we go to the Panel setting tab we will see all the buttons listed on the screen, by pressing the **mode** button we can change the Button function as you can see on this picture

Edit: button mode

General

Data acquisition mode: Device Model: SB-6BS

Subnet ID 1 Device ID: 78

Remark 123456789 Button totality 6

Modify button mode

1 Single on/off 2 Single on/off

3 Single on/off 4 Single on/off

5 Single on/off 6 Single on/off

Invalid
Single on/off
Single on
Single off
Combination On
Combination Off
Pressing Or/Release Off
Combination on/off
Dblclick and Single Or/Off
Dblclick and Combination On/Off

Panel Switch Button Mode Setting

How to use	Where to use example	Function	Mode
No use	When you have extra button that you don't need to use it	No function	Invalid
Single Press	In room off mode to close the Light channel	To OFF Light or scene, every time you press it	Single OFF
Single Press	Usually used to trigger scene like visitor, meeting mode etc..	To run scene ON , or Lights on every time you press	Single ON
Single Press ON , Single Press OFF, keep pressing Dim/ keep pressing Ramp	Widely use for ON/OFF light , scene by single press	The classical use of toggling of single press ON/OFF	Single ON/OFF
Single Press	to Run complex mode that required more than 1 scene and mode by single press	To trigger up to 99 different commands every time the button pressed	Combination ON
Single Press	To OFF complex mode that required more than 1 scene and mode by single press	To OFF up to 99 commands every time the button pressed	Combination OFF
Single Press ON commands, Single Press OFF commands	To run ON and OFF complex mode that required more than 1 scene and mode by single press	To trigger up to 99 commands toggling between ON/OFF each time the button pressed	Combination ON/OFF
Double fast click on the right button side to trigger double click function, Single Press ON, Single Press OFF, keep pressing Dim/ keep pressing Ramp	Used as extra function to trigger any other scenes on double click of the same button, like Double click can trigger ALL room off	To use the double click to run up to 49 commands while single press will toggle between ON/OFF of different commands	Double click, single switch

Double fast click on the right button side to trigger double click function, Single Press ON, Single Press OFF	Used as extra function to trigger any other scenes on double click and different one for single Press	To use the double click to run up to 49 commands while single press will toggle between 50 commands ON/OFF	Double click, Combination switch
Keep pressing to keep sending on command, On release the OFF command will trigger	Used for example in Bell, gate motor , some IR commands	To run 1 command as momentary pressing	Pressing on release off

- To edit Button Remarks press **Remark** edit then **Save** and **Exit**



be careful when using Combination mode, the button will not have 2 way feedback statues , then the panel LED cannot be updated if the lights channel ON or OFF from other devices.

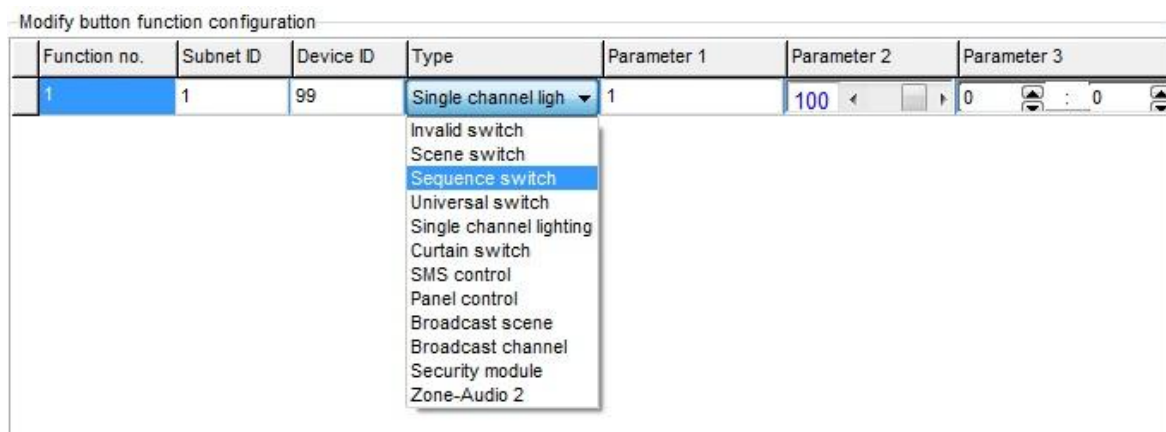


Try always to use Single ON/OFF, cause its 2 way updated and simple friendly use for the end user.

4-4 Panel Switch button Function settings

For each button you can make different functions of different commands

- On the panel window go to key assignment
- Press on the Function button
- Press on type popup menu and you can select the function you want as you can see on the picture



- Press Save and Exit.

The Button Function of switch panel you can make is listed down on this table

Parameter 3	Parameter 2	Parameter 1	Function type
N/A	N/A	N/A	Invalid
N/A	Scene Number	Area Number	Scene Switch
N/A	Sequence Number	Area Number	Sequence Switch
N/A	ON / OFF	Switch Number	Universal Switch
Fade time 0S - 60 M	Brightness 0-100%	Channel Number	Single channel Lights
N/A	Stop / ON/ OFF	Switch Number	Curtain Switch
N/A	ON / OFF	IR Function	Panel control
N/A	ON / OFF	Lock key of panel	Panel control
N/A	ON / OFF	AC Power	Panel control
N/A	0-30 C , 32- 86F	AC Cooling Temp	Panel control
N/A	Auto/high/med/slow	AC FAN Speed	Panel control
N/A	Auto/Cooling/Heating/FAN	AC Mode	Panel control
N/A	0-30 C , 32- 86F	AC Heating Temp	Panel control
N/A	0-30 C , 32- 86F	AC Auto temp	Panel control
N/A	1-5 C/F	Rise temp	Panel control
N/A	1-5 C/F	Reduce Temp	Panel control
N/A	ON / OFF	LCD Backlit	Panel control
N/A	ON / OFF	Lock AC page	Panel control
N/A	ON / OFF	LCD status light	Panel control
Valid/INVA	Button No.	Lock Button	Panel control
Valid/INVA	Page No.	Lock page	Panel control
Valid/INVA	Button No.	Control button status	Panel control
Valid/INVA	Page No.	Go to page	Panel control
N/A	ON/OFF	Floor heating Pow	Panel control
N/A	Normal/day/night/auto/ away	Floor heating mode	Panel control
N/A	Scene Number	All Area	Broadcast scene
Fade time	Brightness 0-100%	ALL Channel	Broadcast
N/A	Away,night,disarm,panic ...	Area No.	Security
N/A	Sd-card , FTP, audio in, radio	Source control	Zone -Audio
N/A	Prev and next song, stop , play	Play control	Zone -Audio
Song No.	Play list No.	Play Specify Song	Zone -Audio

Each Function type is necessary for different Action

Example of each one as the table below

Example of using	Function Type
Is to disable the function	Invalid
Used to trigger the Scene that you create on the Dimmer or Relay Area	Scene Switch
Used To trigger the Sequence that you create on the Dimmer or relay Area	Sequence Switch
Used to send infrared code number, play show control list , set logic flag On or Off, set the hotel door bell services , disable or enable (Motion sensor, light intensity, zone port automation)	Universal Switch
Used to turn one channel lights on./off with special level and running fade time	Single channel Lights
Used to open, close or stop the curtain channel	Curtain Switch
Used to turn the Air condition , ON/OFF	Panel control , AC Power
Used to set the Air condition cooling desired temperature to 0-30 C , 32- 86F	Panel control Cooling Temp
Used to set the Fan type between Auto, High , Medium , Low	Panel control FAN Speed
Used to set the AC mode to run as Auto, Cooling, Heating , Fan only	Panel control AC Mode
Used to set the Air condition heating desired temperature to 0-30 C , 32- 86F	Panel control Heating Temp
Used to set the Air condition Auto mode desired temperature to 0-30 C , 32- 86F	Panel control Auto temp
Used to Rise the Temperature by 1-5 C	Panel control Up temp
Used to Lower the Temperature by 1-5 C	Panel control Down Temp
Used to set the Backlightof LCD ON / OFF	Panel control LCD Backlit
Used to trigger same scene number for all the Areas of the dimmer or relay	Broadcast scene
Used to turn ON/OFF or set channel to brightness level for the all channel of Dimmer or relay	Broadcast Channel



When choosing **Combination** or **double click** mode you have to input the function target number **from ... to** then press **confirm**

Input function no. from To

Function configuration of current button

Function no.	Subnet ID	Device ID	Type	Parameter 1	Parameter 2	Parameter 3
1	1	99	Single channel lighting control	1(Channel no.)	100(Intensity %)	0:0(Running time)
2	2	89	Single channel lighting control	1(Channel no.)	100(Intensity %)	0:0(Running time)
3	3	89	Single channel lighting control	1(Channel no.)	100(Intensity %)	0:0(Running time)
4	4	89	Single channel lighting control	1(Channel no.)	100(Intensity %)	0:0(Running time)
5	5	89	Single channel lighting control	1(Channel no.)	100(Intensity %)	0:0(Running time)



When using **double click** / **Combination** you can change between each function setting in the radio log as the picture below

Input function no. from To ☒ Switch ☐ Double click



Double click always will save the commands from 51 to 99, be careful when you change the button mode from double click to Combination mode only then the old setting of commands from 51 to 99 will remain Active.



Try always to refresh the page, to make sure not old wrong setting appears on the page, to refresh the page press right click on the mouse then press on **Refresh (Clear buffer memory, reread data from device)**

Useful tools for editing your Functions

There are some useful tools to help you while you are making setting for multi functions together like the one in Combination and double click mode

Edit button function configuration

General

Data acquisition mode: **Device** Mode: **SB-BBS**

Subnet ID: **1** Device ID: **78**

Remark: **123456789** Current button: **1**

Mode: **ButtonClick and Combination**

☐ Modify subnet ID synchronously ☐ Modify the intensity synchronously

☐ Modify device ID synchronously ☐ Modify parameter 3 synchronously

☐ Modify type synchronously

Modify button function configuration

Function no.	Subnet ID	Device ID	Type	Parameter 1	Parameter 2	Parameter 3
1	1	89	Single channel lighting control	1(Channel no.)	100(Intensity %)	0:0(Running time)
2	2	89	Single channel lighting control	1(Channel no.)	100(Intensity %)	0:0(Running time)
3	3	89	Single channel lighting control	1(Channel no.)	100(Intensity %)	0:0(Running time)
4	4	89	Single channel lighting control	1(Channel no.)	100(Intensity %)	0:0(Running time)
5	5	89	Single channel lighting control	1(Channel no.)	100(Intensity %)	0:0(Running time)

Modify Subnet ID synchronously: to modify all subnet ID together and save the time of editing each one alone

Modify Device ID synchronously: to modify all Device ID together and save the time of editing each one alone

Modify type synchronously: to modify all function type together and save the time of editing each one alone

Modify the intensity synchronously: to modify all Level brightness intensity together and save the time of editing each one alone

Modify parameter 3 synchronously: to modify all the parameter 3 together and save the time of editing each one alone which is depend on the type.

4-5 Panel Switch button Memory, Dimming, and LED Setting

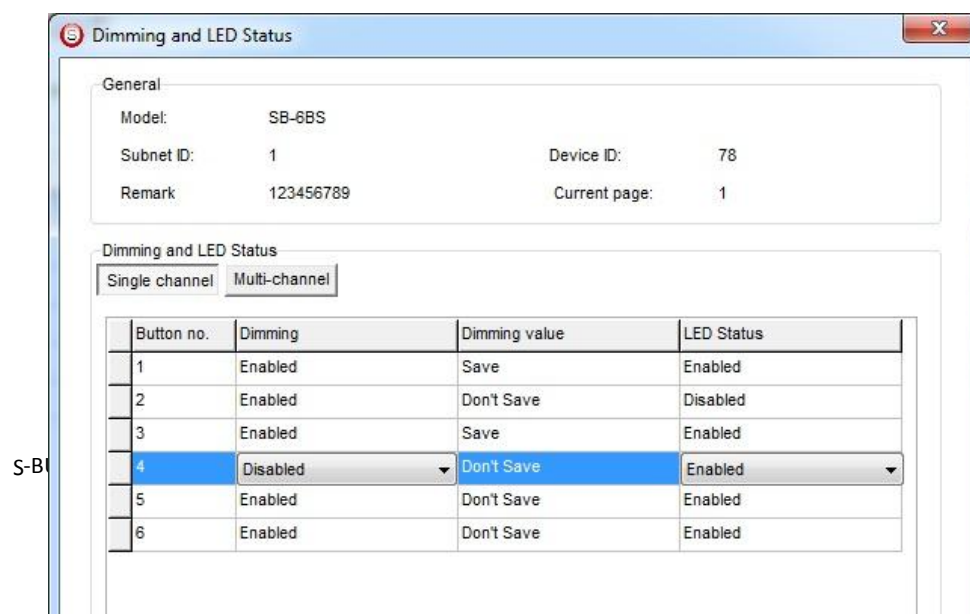
Beside the Button mode and function there are three important setting for each button

We can categorize it as:

- 1- **Dimming Enable / Disable:** it is simple setting you can use Dimming when your target lights is dimmable, while using not dimmable when your target is not Dimmable Lights.
- 2- **Save / Don't save :** the **save** will save the last Dimming value, every time you switch ON the light channel it will go to the last lights brightness Level you set before switching it OFF, while the **Don't save** will turn the lights brightness to the maximum level and not save the last statues.
- 3- **LED enable / Disable Setting,** you can enable your 2 way Button LED statues, while in some situation you need always to disable the button LED.

How to make LED, Dimming, Save /don't save setting

- Go to **Button Assignment** tab on the panel setting
- Press on **Set button**
- Select the setting for each button you need



Mutual Exclusion Function

This function is used on switch panel to link between two or more combination ON/OFF button mode to consider them as 1 group, and to prevent the confusion of using two related macros together.

- On the **Button Assignment** press on the **Mode linking** button
- Set the value to **YES** for all the buttons of combination ON/OFF to be as 1 group together

Buton no.	Remark	Mode	Enable mode linking
1	button 1	Combinaton On	NO
2	button 2	Combinaton on/off	YES
3	button 3	Single on/off	N/A
4	button 4	Single on/off	N/A
5	button 5	Single on/off	N/A
6	button 6	Single on/off	N/A



Try to make two buttons as combination ON/OFF with many commands and set them mutual exclusion to YES and recognize the difference



Mutual exclusion is active only on Combination ON/OFF for the 6button panel, while its active on all combination modes and double click modes of the DDP and new series of Wall switch panels).

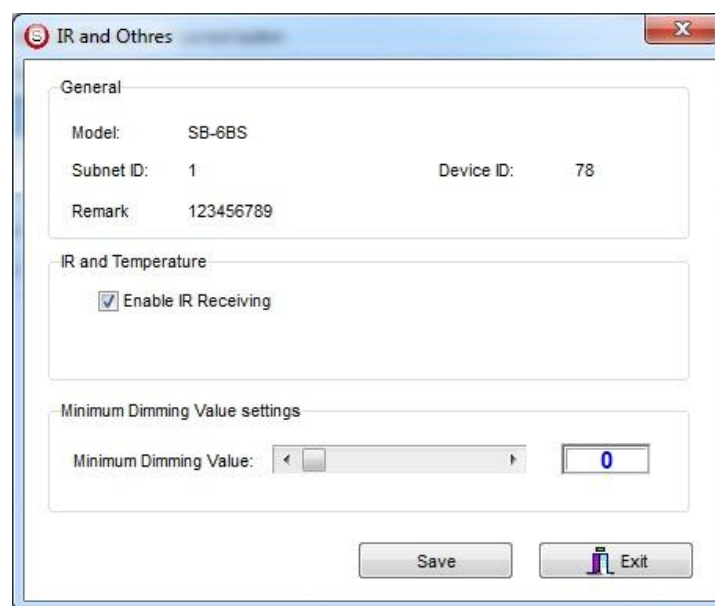
4-7 Panel Switch Setup (Minimum Dimming Value and Infrared)


Minimum Dimming value: is used to force the panel not to dim the light from the button by keep pressing it in order not to go below the minimum level of dimming


Infrared function: is used to enable or disable the IR receiving function on the panel,


To make the setting of the of the Minimum Level and IR setting

- Go to **Button Assignment** tab
- Press **setup** button
- Adjust the Minimum Dimming Value from 0% - 50%
- Uncheck the Infrared receiving function to disable or check the box to enable it



 *Minimum level is very important and useful function to avoid the confusion for the user when he dims some **SAVE VALUE** button to 10% and the spot lights will appear as OFF while it is 10% dimming, when the user press the button single press it will toggle between 10% and 0% and the user will think the lights is burned cause he will not notice the 10%.*

 *Minimum level recommended being as **20%** so the lights will not go below this level when the user keep pressing the button.*

 *IR disabling is useful when 2 panel near each other in 1 room and the remote control sending to the both panel and the functions is confusing the user, disabling 1 panel IR is recommended on this situation.*

5- HVAC2 Programming

HVAC module is the main module that control most of central air condition types, like AHU, FCU, VAV

5-1 Introduction of HVAC Module

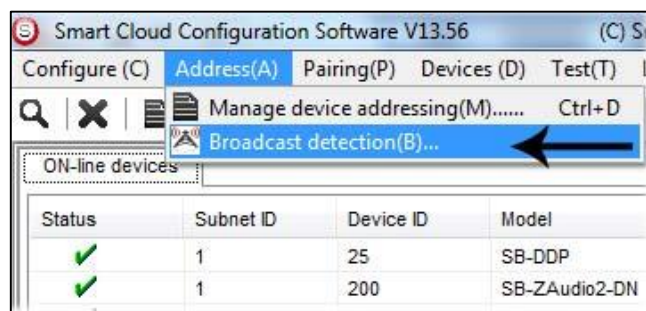
The HVAC module have 3 Mode relay type you can configure it as your requirement, each relay can be (Cool, heat, Aux (humidifier, dehumidifier))

with 2 FAN speed relays as slow and fast, with VAV control DC 0-10 V for 3 air speed as Slow, Medium and high

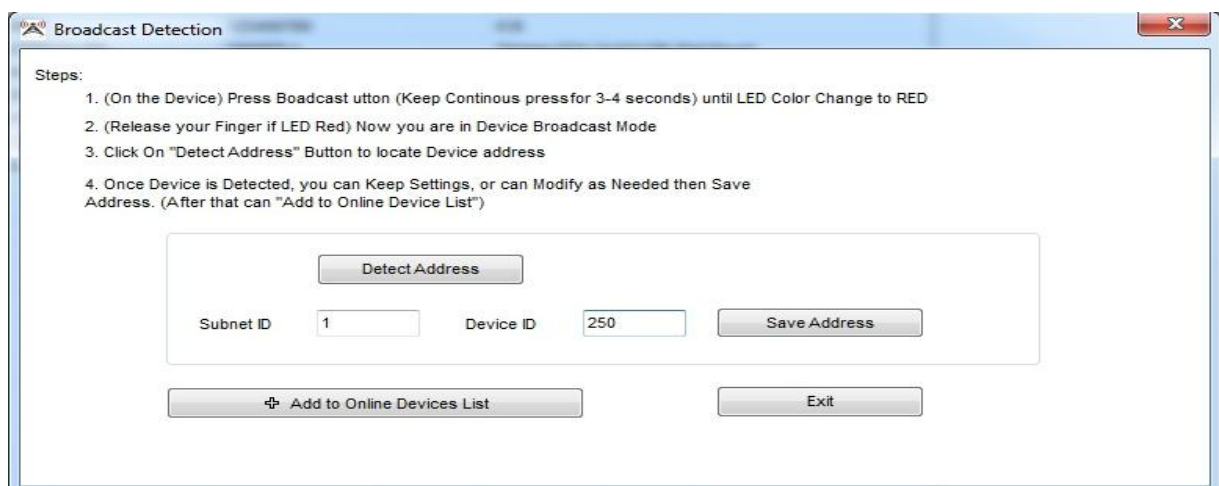
5-2 HVAC Address and Testing

Like all Din Rail Mount Modules, the HVAC module has its Broadcast Address button; to get the HVAC address you can do the following

- On your software Press **Address Management/ Modify Address**



- Go to your HVAC Module device, and then keep pressing the broadcast Address button for 3-4 seconds until its LED color change to RED
- In your software in the Broadcast detection window press the **Detect Address Button**



- Your Device ID and Subnet will appear Automatically
- To change the address just type the new subnet ID or device ID you want then press **Save Address**
- Press **ADD** to load your device in the Devices Network List
- Press **Exit** to Close the Window

After you load the device to your list, double click on the Module to open its configuration

On the basic information, you can add the name Remarks of your HVAC,



It is recommended to give the name of the room or place that the HVAC is installed or running its AC, for example you can type the remarks of the HVAC as Living AC

After you give the Address and name remarks for your HVAC module, it is the time to start checking the connection of the module to the unit.

To test the commands and see if the AC unit responding do the following

- On the HVAC page go to the **HVAC** tab
- In the test command section Select the fan speed you want to test it
- Press test then the relay of HVAC Fan should respond



Before you test the AC Mode cooling heating Modes or 0-10V output, you should configure the AC Mode and VAV setting (see 6-4, 6-5)

5-3 HVAC Startup and Switch off Safety Delay

Compressor Startup safety Delay is one of the most important settings you should take care about when you make the setting of the HVAC module

The compressor delay will prevent the HVAC Module to turn the compressor ON directly after it Turned off , Delay time of minutes or seconds always preventing

the Direct ON after OFF operation, that will keep your Central unite safe, without damaging your compressors and unites.

To do the AC delay setting

- On the HVAC page go to **HVAC**
- Go to **Delay** section
- Set the **delay for compressor startup**, select (Minutes 1-10) or (seconds 3-127), this setting will prevent the compressor to ON after OFF by this delay Minutes / seconds.



Compressor startup delay is the most important safety setting to protect your AC unit

Setting	Unit	Value
Delay for Compressor Startup	Second	3
Delay for Switching off Compressor	Second	10
Delay for Fan startup	Second	5
Delay for Switching off fan	Second	2

Beside the compressor startup delay there is other function you can set in the Air condition delay section as following

Delay for switching OFF compressor: every time you switch your AC unite, the HVAC will give 0-10 seconds delay time to off your compressor.

Delay for FAN startup: every time you start your Fan, the HVAC will give 0-10 seconds delay time to start your Fan.

Delay for switching OFF Fan: every time you stop your fan, the HVAC will give 0-10 seconds delay time to stop your Fan.

Press **save** when you finish your setting





it is highly recommended to set your compressor switch off delay to 10 seconds to give more time for the user to change his AC mode between FAN ,Heat, Cool, and make sure he select his mode, that will prevent switching OFF the compressor while the user still selecting his AC mode.



it is recommended to give different OFF time for both compressor and FAN, for example if your compressor OFF delay is 10 seconds, make your Fan OFF delay is 8 seconds, this will be better for relay action and power

consumption by gradually OFF Process.

 In case of power down, when the power restore to the HVAC module, the HVAC will return to its last Running mode.

 Always Read the AC unit instruction and installation manuals before any installation or programming to fit the best requirement for your AC control

5-4 HVAC Mode Configuration and safety Running Sequence

In this setting you will configure the HVAC Mode compressor Relays (M1 M2 M3).

Each one can be as (cool, Heat, Auxiliary or disable),

AC Mode

Switch 1

Function

Cool

Sequence Run-time(Mins)

1st step (ON)

15

2nd step (OFF)

2

3rd step (ON)

8

4th step (OFF)

2

Save

Switch 2

Function

Cool

Sequence Run-time(Mins)

1st step (ON)

10

2nd step (OFF)

5

3rd step (ON)

7

4th step (OFF)

3

Save

Switch 3

Function

Heat

Sequence Run-time(Mins)

1st step (ON)

15

2nd step (OFF)

2

3rd step (ON)

8

4th step (OFF)

2

Save

In the AC Mode configuration you can set the function mode for each relay switch, this module support single stage and multi stage Unites, for example if you have a big unit of 2 cool compressors , then you can set the switch1 and switch 2 as cool.

The table below shows you the setting and function table of your HVAC mode configuration

Setting	Usage of this Function
Function Cool	Used to configure the relay switch that will be connecting to the central AC unit cooling compressor wire
Function Heat	Used to configure the relay switch that will be connecting to the central AC unit Heating compressor wire
Function Auxiliary	Used to configure the relay switch that will be connecting to the Humidifier, dehumidifier, fresh air motor wires, FAN
Function Disable	To Disable the Relay switch , it is used when there is no connection to the relay, and it is important to disable it to save the unnecessary consumption
Sequence Running time 1st step ON, 2nd step OFF	Used for safety <u>startup sequence</u> to rest the compressor after couple of minutes of starting by 2 nd step OFF minutes
Sequence Running time 3rd step ON, 4th step OFF	Used for safety <u>running sequence</u> to rest the compressor after couple of minutes of running by 4 th step OFF minutes especially in case of multi stage compressor to let one rest while the other is starting and vice versa

Example of double stage cooling unit safety running sequence setting This setting will let the both compressor to run as startup sequence together for 20 minutes (1st , 2nd steps) while in the running time (3rd , 4th steps) , each compressor will (start and stop) in different times to rest and save the Consumption of AC

Cool	Function	Switch 1
20	1 st step ON	
0	2 nd step OFF	
9	3 rd step ON	
3	4 th step OFF	
Cool	Function	Switch 2
20	1 st step ON	
5	2 nd step OFF	
12	3 rd step ON	
4	4 th step OFF	



*Value **0** Minute will disable the step in the safety sequence settings*



Safety running sequence is important to keep and extend the life of your Central AC unit.



It is recommended for every long running time to set the off step at least to 3 minutes to make the unit rest

HVAC VAV Fan Voltage Output Setting 6-5

VAV setting is to set the Variable DC Voltage output for each fan speed from 0-10 VDC or 4-20 mA

- Go to **HVAC** on the AC page
- Go to **VAV fan voltage setting**
- Set the Value of **Voltage** or **Ampir** (current) **you** want to give in each Fan speed Mode

VAV Fan voltage Settings
☒ Voltage output
☐ Current output

High

9
(V)

Medium

4
(V)

Low

1
(V)


Save


VAV Fan voltage Settings

☐ Voltage output ☒ Current output

High	20	(MA)
Medium	12	(MA)
Low	4	(MA)

Save

 Some VAV unit use 0-5 V, also you can modify your HVAC module VAV voltage setting to adapt with 0-5 V, for example you can set it as (Low 1V, Medium 3V, high 5V).

 You can change between the outputs (**Voltage** or **Current**) from the radio button like the picture above.

6- DDP LCD Panel (Basic Lighting and HVAC Function)

In this lesson we will learn about some of the function of the DDP that will cover the Lighting, scenes and HVAC setting.

6-1 DDP Overview

The wall **Dynamic Display Panel** DDP is the first LCD panel in the world that can control lights, shade, security, air-condition, music, infrared. With built in temp sensor .

The DDP has (4 commands button + 1 button to change between pages) of 4 multi usage pages with AC master page and 8 slave AC pages, music page, password page, and the settings pages.

Each button can be used as single press, keep press, double click, right and left pressing, momentary pressing function

6-2 DDP Address Page Password and Language Setting

The DDP panel Address setting can be set by S-bus configuration software, or manually from the DDP panel setting

To set the Address manually, please do the following:

- On your DDP panel keep pressing on the **buttons (1 and 4)** together for couple of second
- Setting page will appear for you as you can see



- As you can see from the menu the 4 button function will be (button 1 confirm, button 2 Arrow up, button 3 Arrow down, button 4 back)
- Go to **system** and press button1 confirm
- Another list menu will appear as you see



- You can see the **address** consist of 2 number which refer to the subnet ID, and device ID
- change the address by using button 2,3 for arrow up+ arrow down- , press button 1 to confirm, and to go to the next setting , press button 4 back to exit the setting
- Also in the system list menu you can change the **Backlight** brightness level from 0-10, **IR** receiving function by enabling or disabling it.
- Also you have the **power save** setting , to set the Delay time by seconds to dim the Backlight to the specify Level as you can see on the **Delay** and **LEVEL** setting
- **Page to** setting to let the DDP LCD to show the default page after the delay time finish.
- After you finish your setting you can press button 4 back and exit.



Changing the Address manually is more convenience and faster for programmer to assign the panels by its address in any new project

Also you can use the password setting to lock the pages by protected password

To set the password settings, do the following:

- On your DDP panel keep pressing on the **buttons (1 and 4)** together for couple of second.
- Setting page will appear for you as you can see.



- Go to **password** by pressing button 3 arrow down then press button 1 confirm
- The password page will appear as following



- In the **PAGE** setting you can select the page number you need to lock by password, then press button 1 confirm
- In the **USED** you can use the arrow up to enable or disable the password page protection then press button 1 confirm



- In the **PASSWORD** you can press button 3 Arrow down to change the password the following menu will appear



- To change the password you should enter your old password and then your new password, the **default password is 0000**
- In the **OLD** type your password by using button 2, 3 to change the number and button 1 confirm to go to the next number digit

- In the **NEW** use the same buttons to type your new password
 - After you finish press button 4 back
- The following page will appear to confirm the password new setting



- Select between YES or NO by pressing button 2,3.
- To **save** the change select yes and press button 1 confirm
- The page that protected by password will be locked after 20 seconds automatically and cannot be open unless you type your right password

To change the setting menu language, do the following

- On your DDP panel Keep pressing on the **buttons (1 and 4)** together for couple of second
- Setting page will appear for you as you can see
- Go to Language setting and press button 1
- Chose between the language you have then press confirm button 1



The DDP Language setting will affect the default picture showing on the AC page.

7-3 DDP Basic setting

Double click on the Panel on the search List

You can type the Name of the Panel Location in the **Remarks**

In the **LCD Backlight** you can

- Adjust the Backlight of the LCD from 0-100%
- Adjust the LED statues Brightness from 0-100%

Also from General you can Change the subnet and device ID of the Panel

DDP

General Button Assignment Air conditioning Floor Heating Music Page Remote Control

Select device

Device: 1-SB-DDP

Address

Model: SB-DDP

Subnet ID: 1 Device ID: 1

Remark

Remark: GF MBR Save

MAC address

MAC: 53 14 00 03 00 03 00 32

LCD backlight and LED

LCD Back Light: 100

LED: 100 Save


Modify subnet ID and device ID according to MAC

Subnet ID: Device ID: Save

Read flag of showing Temperature or Temperature_Clock

☐ Show Temperature Only ☒ Show Temperature_Clock Both Save

Picture



Exit

Go to Pages tab

DDP

General Button Assignment Air conditioning Floor Heating Music Page Remote Control

Page displays Backlight display and other settings

Backlight display

☒ Always Show ☐ Designate specific time

Backlight Brightness: 100%

Panel page jump when Idle

☐ Deactivate jump ☒ Select "jump to" page

Page no.: 1 (1-7)

Jump delay: 5 (5-150s)

Save

Backlight Display and Other Settings

In this page you can make the Backlight Display setting

You have two options

- Always Show: will keep the Backlight ON all the time
- Designate specific time: to put timeout from 10-99 seconds to go to the Save mode of Backlight brightness level



It is recommended always to set the Backlight to 0% after time in all bed rooms so the Backlight will not disturb the user while he is sleeping

Page jump setting

You have two options for this setting

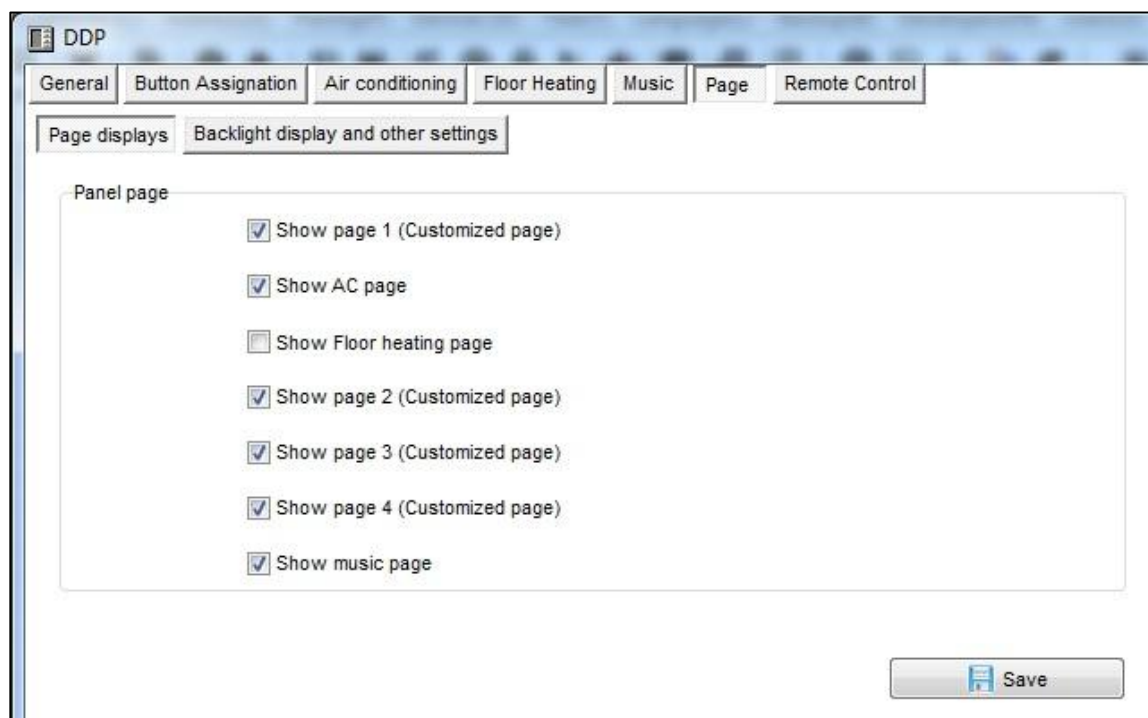
- Never jump: the page will remain and will never change automatically, for example if the user put the DDP panel to page 3 it will remain on page 3 until he change the page by himself
- Designate jump page: the DDP panel will jump to page Number(*) after Jump delay from 5-150 seconds



It is recommended always to put the Jumping page to Default lighting page for example page 1, cause the user will use his lighting mostly in his room more than Air-condition or music or other function

Page displays

In this tab you can enable or disable showing the page in the panel





Always disable the page that you don't need in your panel to make your Pages more friendly use and save time to navigate between the needed pages only.

7-4 DDP 4 Pages Button Remarks and Modes

Go to **Button Assignment** tab on the DDP Panel setting
You have total 4 pages in you LCD Panel you can configure it according to your needs, to move between pages use the **Combo box** as shown on this Picture

Button no.	Remark	Mode
1	SPOT	Single on/off
2	LED	Single on/off
3	CHAN	Single on/off
4	BRACKET	Single on/off

Remarks Edit

- Press on **Remarks** Button
- Type your Remarks for each button
- Press **save**
- Go to the next page and do the same for each button

Mode Edit

- Press on **Mode** button
- Edit your button mode for each button
- Press save
- Repeat it for each page you need to configure its button

Mode	How to use	Where to use example	Function
Invalid	No use	When you have extra button that you don't need to use it	No function
Single OFF	Single Press	In room off mode to close the Light channel	To OFF Light or scene,
Single ON	Single Press	Usually used to trigger scene like visitor, meeting mode etc...	To run scene ON , or Lights on every time
Single ON/OFF	Single Press ON , Single Press OFF,	Widely use for ON/OFF light , scene by single press	The classical use of toggling of
Combination ON	Single Press	to Run complex mode that required more than 1 scene and mode by single press	To trigger up to 99 different commands every time
Combination OFF	Single Press	To OFF complex mode that required more than 1 scene and mode by single press	To OFF up to 99 commands every time the button
Combination ON/OFF	Single Press ON, Single Press OFF	To run ON and OFF complex mode that required more than 1 scene	toggling between ON/OFF up to 99
Separated Single	Press on the Right side ON, Left side OFF	Used to open close curtain, Lights,	To trigger single command ON/OFF
Separated Combination on	Press on the Right side ON 50 commands, Left side OFF other 50	Used to trigger different IR, as CH+,CH- , VOL+ , VOL-, curtain Open close , different IR codes triggering	To trigger 50 commands by pressing Right side, other 50 commands

Double fast click on the right button side to trigger double click function, Single Press ON, Single Press OFF, keep pressing Dim/ keep pressing Ramp	Used as extra function to trigger any other scenes on double click of the same button, like Double click can trigger ALL room off	To use the double click to run up to 49 commands while single press will toggle between ON/OFF of different commands	Double click, single switch
Double fast click on the right button side to trigger double click function, Single Press ON, Single Press OFF	Used as extra function to trigger any other scenes on double click and different one for single Press	To use the double click to run up to 49 commands while single press will toggle between 50 commands ON/OFF	Double click, Combination switch
Keep pressing to keep sending on command, On release the OFF command will trigger	Used for example in Bell, gate motor , some IR commands	To run 1 command as momentary pressing	Momentary
Keep pressing to go to Alarm setting, double click to Active and inactive	Used for reminders for meetings, or get up daily, or medicine reminders	To have clock alarm to run many commands on time	Clock



It is recommended using separated Mode always to send IR like TV CH +, CH - , or to open close the Curtain.



It is not recommended to use Separated Mode for Lighting Purpose, because the button is small and will confuse the user in darkness and in using; it is recommended to use the Single ON/OFF Mode for Lighting

7-5 DDP buttons function setting

For each button you can make different functions of different commands

- On the panel window go to **button assignation**
- Press on the **Function** button
- Press on type popup menu and you can select the function you want as you can see on the picture

Modify button function configuration

Function no.	Subnet ID	Device ID	Type	Parameter 1	Parameter 2	Parameter 3
1	1	202	Universal switch	200	On	N/A

- Invalid switch
- Scene switch
- Sequence switch
- Universal switch
- Single channel lighting
- Curtain switch
- SMS control
- Panel control
- Broadcast scene
- Broadcast channel
- Security module
- Zone-Audio 2

- Press Save and Exit.

The Button Function of the DDP panel you can make is listed down on this table

Function type	Parameter 1	Parameter 2	Parameter 3
Invalid	N/A	N/A	N/A
Scene	Area	Scene Number	N/A
Sequence	Area	Sequence Number	N/A
Universal	Switch	ON / OFF	N/A
Single channel	Channel Number	Brightness 0-100%	Fade time 0S - 60 M
Curtain	Switch	Stop / ON/ OFF	N/A
GPRS	Message	Message SMS Number	N/A
Panel	IR Function	ON / OFF	N/A
Panel control	Lock key of	ON / OFF	N/A
Panel	AC Power	ON / OFF	N/A
Panel	Cooling	0-30 C , 32- 86F	N/A
Panel	FAN Speed	Auto/high/med/slow	N/A
Panel	AC Mode	Auto/Cooling/Heating/FAN	N/A
Panel	Heating	0-30 C , 32- 86F	N/A
Panel	Auto temp	0-30 C , 32- 86F	N/A
Panel	Rise temp	1-5 C/F	N/A
Panel	decrease	1-5 C/F	N/A
Panel	LCD Backlit	ON / OFF	N/A
Panel	Lock key of	ON/OFF	N/A
Broadcast	All Area	Scene Number	N/A
Broadcast Channel	ALL Channel	Brightness 0-100%	Fade time 0S - 60 M
Security	Area	Arming Mode	N/A

Each Function type is necessary for different Action

Example of each one as the table below

Example of using	Function Type
Is to disable the function	Invalid
Used to trigger the Scene that you create on the Dimmer or Relay Area	Scene Switch
Used To trigger the Sequence that you create on the Dimmer or relay Area	Sequence Switch
Used to send infrared code number, play show control list , set logic flag On or Off, set the hotel door bell services , disable or enable (Motion sensor, light intensity, zone port automation)	Universal Switch
Used to turn one channel lights on./off with special level and running fade time	Single channel Lights
Used to open, close or stop the curtain channel	Curtain Switch
Used to send SMS as alert, Help, Emergency , or information	GPRS Control
Used to turn the Air condition , ON/OFF	Panel control , AC Power
Used to set the Air condition cooling desired temperature to 0-30 C , 32- 86F	Panel control Cooling Temp
Used to set the Fan type between Auto, High , Medium , Low	Panel control FAN Speed
Used to set the AC mode to run as Auto, Cooling, Heating , Fan only	Panel control AC Mode
Used to set the Air condition heating desired temperature to 0-30 C , 32- 86F	Panel control Heating Temp
Used to set the Air condition Auto mode desired temperature to 0-30 C , 32- 86F	Panel control Auto temp
Used to Rise the Temperature by 1-5 C	Panel control Rise temp
Used to Lower the Temperature by 1-5 C	Panel control Decrease Temp
Used to set the Backlightof LCD ON / OFF	Panel control LCD Backlit
Used to Hold your AC, so no one can control it, or to lock other room AC. Like children room AC	Lock key of AC
Used to trigger same scene number for all the Areas of the dimmer or relay	Broadcast scene
Used to turn ON/OFF or set channel to brightness level for the all channel of Dimmer or relay	Broadcast Channel
Use to Arm your home in deferent level, like Vacation Away Night, or Disarm, also used to trigger panic , Fire, Emergency	Security Module

6-6 DDP Buttons Memory, Dimming, and LED Setting

Beside the Button mode and function there are three important setting for each button

We can categorize it as:

- **Save/Don't save:** the **Save** will save the last Dimming value, every time you switch ON the light channel it will go to the last lights brightness Level you set before switching it OFF, while the **Don't save** will turn the lights brightness to the maximum level and not save the last statues.
- **Dimming / not Dimming setting:** it is simple setting you can use **Enabled** when your target light is dimmable, while using **Disabled** when your target is not Dimmable Lights.
- **LED enable / Disable Setting,** you can enable your 2 way Button LED Statues, while in some situation you need always to disable the button LED.

How to make LED, Dimming, Memory/toggling setting

- Go to **Button assignation** tab on the panel setting
- Press on **Dimming and LED**
- Select the setting for each button you need

The screenshot shows a software window titled "Dimming and LED Status". It has a "General" tab with fields for Model (SB-DDP), Subnet ID (1), Device ID (1), Remark (GF MBR), and Current page (1). Below this is the "Dimming and LED Status" section with two tabs: "Single channel" and "Multi-channel". The "Single channel" tab is active, displaying a table with four columns: "Button no.", "Dimming", "Dimming value", and "LED Status". The table contains four rows of data for buttons 1 through 4. Button 2 is highlighted with a blue background. At the bottom of the window are "Save" and "Exit" buttons.

Button no.	Dimming	Dimming value	LED Status
1	Enabled	Save	Enabled
2	Disabled	Don't Save	Disabled
3	Enabled	Don't Save	Enabled
4	Enabled	Don't Save	Enabled



Always make the button diming setting Invalid if you control ON/OFF Relay channel, so the user will not confuse in dimming it without any response from the Channel.

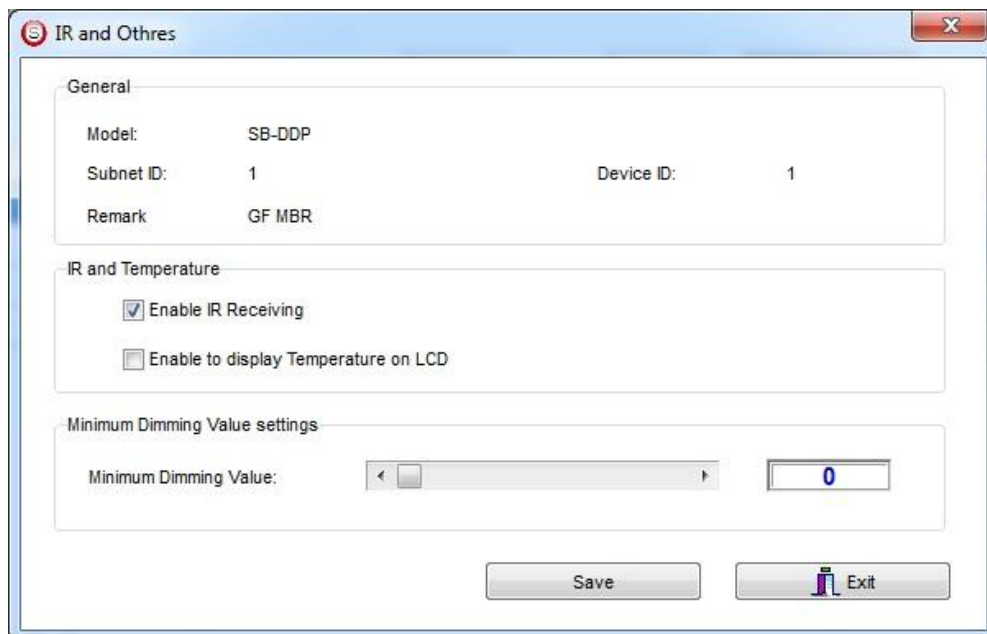
6-7 DDP Setup (Minimum Diming Value and Infrared)


Minimum Dimming value: is used to force the panel not to dim the light from the button by keep pressing it in order not to go below the minimum level of dimming


Infrared function: is used to enable or disable the IR receiving function on the panel,

To make the setting of the of the Minimum Level and IR setting

- Go to **Button Assigation** tab
- Press **IR AND OTHERS** button
- Adjust the Minimum Dimming Value from 0% - 50%
- Uncheck the **Infrared receiving** function to disable or check the box to enable it
- Uncheck the **Display Temp on LCD** function to disable or check the box to enable it



 *be careful when you make the Dimming function valid and Memory, sometimes the user will keep pressing on the button to dim the light to 7% Level and then he will turn it off and on by single press and the Light will change from 0% to 7%, then the user will think the lights is not working. To solve this problem use the minimum dimming value to prevent the user to dim less than the minimum dim level.*

 *It is recommended always to set the minimum Dim level for all panels that control the Dimmers to 20% - 30%. .*

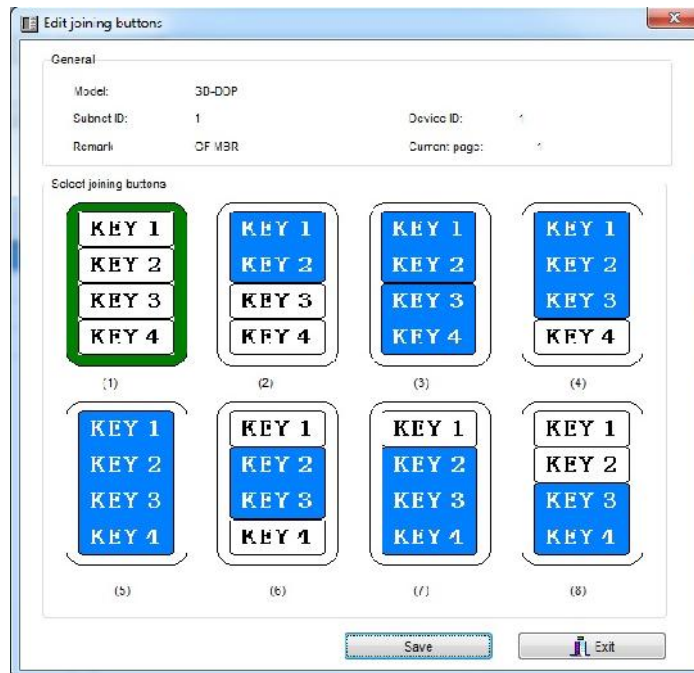
7-8 DDP Combination Way

DDP Combination way is very useful for giant people whom have big Fingers, and old people who can't see the small buttons

You can combine two buttons or more to make it as one button

To make the combination in the Button Assignment tab

- Press on **Joining** button
- Select the way you want to combine your button
- Press **save**.





6-9 DDP Button Picture Edit and Download

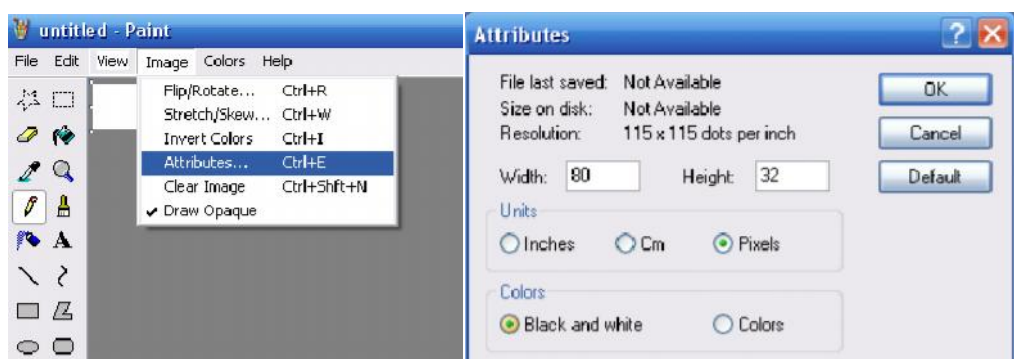
You can download bmp Format Picture for each button for both normal Statues and ON statues

To download the Picture

- In the Button Assignment tab select the page you want to download the picture to it from 1-4
- Press on **Pic downloads** button
- Select **Normal Statues or On Statues** for the Picture you want to download.
- **Double click** on the white square
- Brows where the Picture file you need to download then press **open**
- Press **download button** for this picture or you can select all the picture you need in this page then press **Download all in the current statues** button
- You can see the download bar running from 0-100%.

 *You have to be careful for the size of the picture that is written near each button for example, Size W= 80, H= 32 , you can see deferent size you have depend on the combination way*

 *All pictures should be black and white setting and bmp format, to do that in simple way go to windows paint program and set the Image/Attribute and set the Pixels size and the black and white setting then save your picture as bmp.*



6-10 DDP Mutual Exclusion Function

Mutual Exclusion Function

This function is used on switch panel to link between two or more combination ON/OFF button mode to consider them as 1 group, and to prevent the confusion of using 2 related macros scenes together.

- On the **Button Assignment** press on the **mode linking** button
- Set the value to **YES** for all the buttons of combination mode, or double click mode to be as 1 group together

The screenshot shows a software window titled "Edit mode linking". It contains a "General" section with fields for Model (SB-DDP), Subnet ID (1), Device ID (1), Remark (GF MBR), and Current page (1). Below this is a "Condition:" section with a list of button modes: "The button mode must be the following:", "Combination On", "Combination off", "Combination On/Off", and "Dbclick and Combination On/Off". The main part of the window is a table titled "Edit mode linking" with four columns: "Button no.", "Remark", "Mode", and "Enable mode linking". The table contains four rows of data, all with "Single on/off" in the Mode column and "N/A" in the Enable mode linking column. At the bottom right, there are "Save" and "Exit" buttons.

Button no.	Remark	Mode	Enable mode linking
1	curtain	Single on/off	N/A
2	LED	Single on/off	N/A
3	CHAN	Single on/off	N/A
4	BRACKET	Single on/off	N/A

6-11 DDP Air condition Basic Setting and testing

Go to Air condition tab, you can in this page enable or disable the AC function of the LCD DDP panel, and make all the other AC setting

In the **basic information** of Air condition edit the Subnet and device ID for the HVAC Module that related to the panel room then press **save**

For Example if your HVAC Module address is subnet 1 , device ID 113 then type that in the Air condition panel setting and save

Also you must enable the DDP to control the normal HVAC module by activate the **Automatic Control**

Control Desert Cooler

☒ Automatic control

Save

Also you can test your AC control in the **Ac control** section

AC Control

26 C

☐ Power On

☐ Lock

Cool Setpoint: 25 C

Heat Setpoint: 30 C

Auto Setpoint: 25 C

Dry Setpoint: 16 C

FAN Speed: High

Mode: FAN

Current Status: Auto,FAN

Save

6-12 DDP AC Page control Setup

On the Air condition tab press **other Setup** button

In the temperature Type you can change the function and display settings

Temperature Type: can be (C) Celsius or (F) Fahrenheit

AC control information: you can enable or disable the options of Fan speed

The screenshot shows a software window titled "Air-condition collocation information" with four tabs: "Temperature model", "Time type", "Temp Range", and "Sensor Model Settings". The "Temperature model" tab is active. It contains three main sections:

- Temperature type:** A dropdown menu set to "C" and a "Save" button.
- Air-condition Control information:** A section with checkboxes for "FAN speed" (Auto, High, Medium, Low) and "Mode" (Cool, Heat, FAN, Auto, Dehumadifair). There is a "Save" button at the bottom right of this section.
- Set Power-Saving:** A section with radio buttons for "Enable/Disable" (selected), "Power-saving", and "Power-nosaving". There is also a checkbox for "Windsweeper" and a "Fan switch off compress" label. A "Save" button is at the bottom right.

Like **High low Medium**, and Mode type like **cooling, fan, heating**, and **Auto**, to disable it to appear as option on the DDP panel

Power saving: if enable then the Fan will stop with the compressor when the room temperature become equal or below the desired temperature when FAN mode on Auto.

Time type you can set your time display format.

Temperature range you can set your higher and lower set point for each mode (cool, heat, Auto) so the user can not go above the higher limit, or below the lower limit.

Temperature Range

Cooling Range:

Low-limit: 0 °C

High-limit: 30 °C

Heating Range:

Low-limit: 0 °C

High-limit: 30 °C

Auto Range:

Low-limit: 0 °C

High-limit: 30 °C

Dry Range:

Low-limit: 0 °C

Device ID of target Device: 30 °C

Save



It is recommended always to set the Limit for Cooling, heating and auto, so the user will not make the desired to freezing or very hot level for each mode and to prevent children to do so.

Sensor Model setting: to refer to the Indoor temp sensor (DDP temp sensor), Outside sensor (Pro HVAC temp sensor). Or Average between both sensors

6-13 DDP Temp Calibration and Lock function

You can Calibrate your DDP temp sensor to give you exact room temperature, for example: sometimes the DDP installed in place where the sun striking it or near heat or cold source, or if the temperature near the wall is not as the temp in the room, then you have to adjust the temp sensor level to be as the reasonable room temperature where the people set or sleep

To do that

- Go to **Air-condition tab** then go to **temperature calibration** section, you can adjust it (-8 to +8 degree).
- Press **save**

Temperature Calibration

Temperature Calibration on DDP: 0 °C

Save

Another function is to lock the AC page, you need this function in public area that no need for user to play with Air-condition and the whole control will be centralized from the Automation controller

- Go to **AC control** section, and enable the **Lock** or disable it
- Press **save**

AC Control

26 C

☐ Power On ☐ Lock

6-14 DDP Slave to other DDP AC setting

One of the unique functions of the DDP is that can control up to 8 other AC Of other panel.

To set the AC Panel slave on the Air condition tab

- go to **slave information** section
- Select **Slave NO** from 1-8
- Type the slave DDP **Subnet** , and **Device ID** no
- check **Enable**
- Press **save**
- Do the same steps for the other slaves up to 8

Slave information

Slave NO. ☐ Enable current slave No

Subnet ID of related DDP Device ID of related DDP



To navigate between slaves AC, on the DDP panel when you are in the AC Page5, go back by Arrow back then you will see the slave AC, press Arrow back again to see more slave AC

6-15 DDP Broadcast Function

This function is important to update the others Devices in the network about the current room temperature

It is useful for Automation and BMS system

Setting broadcast temp to subnet 255, device ID 255 will update all the devices in the Network



Broadcast Temperature

☐ Enable Temperature Broadcast

Subnet ID of target Device: Device ID of target Device:

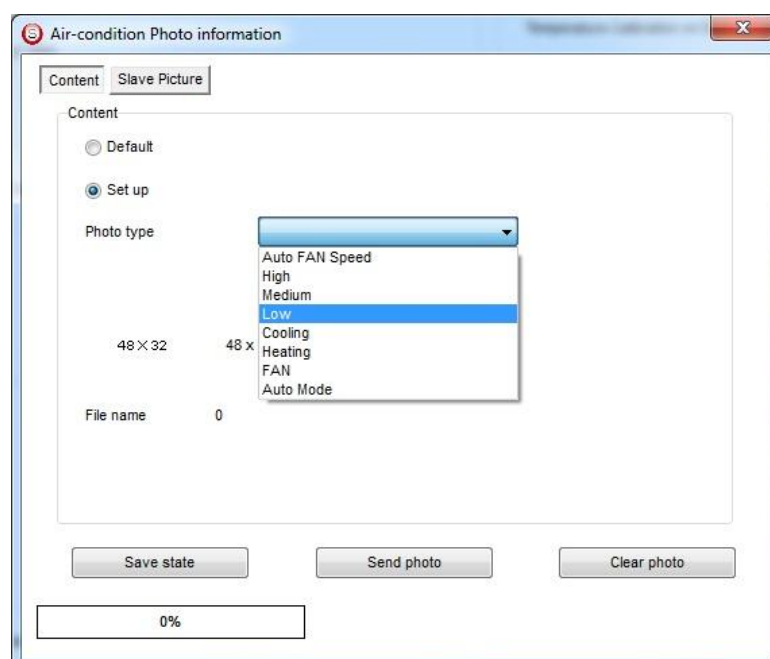
if Subnet ID and Device ID both equal 255, it means broadcast to all devices

 Save

6-16 DDP AC Graphic setting

In the AC Graphic you can put new Icon for cooling, Heating, Fan, also you can change the English text to any language by downloading bmp file, and to put Room names Picture for all the 8 slaves AC

- Press on the **AC Graphic** button
- In the Content tab you can keep your icon as a default or change it by set up option
- Select the **photo type** and press on the picture
- Brows and open the bmp picture you want picture should be 48 *32 pixel size
- Press **send photo** button to download the picture
- Press **save statues**



Air-condition Photo information

Content Slave Picture

Content

☐ Default

☒ Set up

Photo type

48 x 32 48 x

File name 0

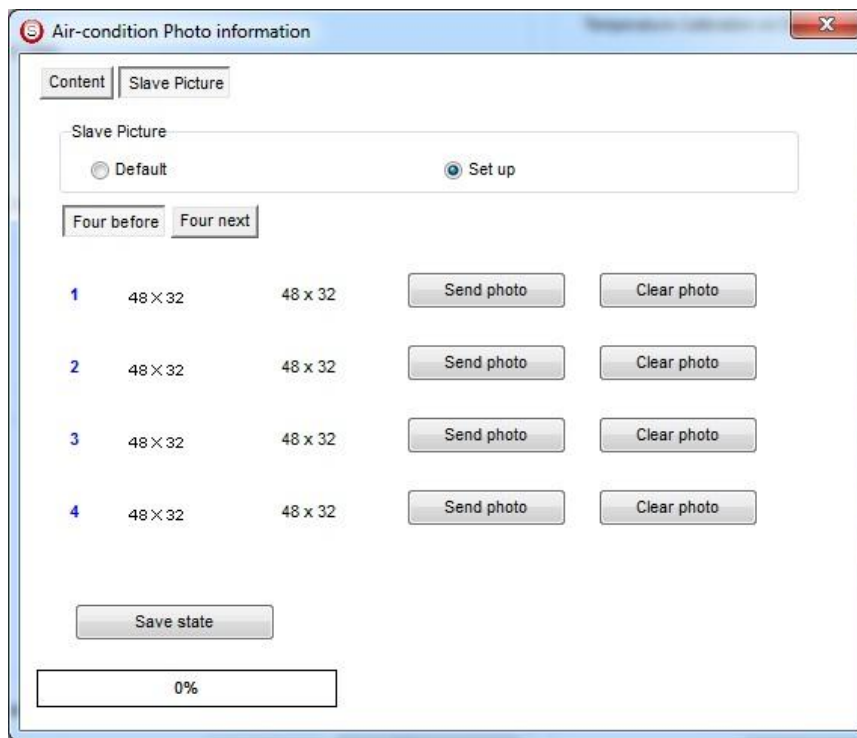
Auto FAN Speed
High
Medium
Low
Cooling
Heating
FAN
Auto Mode

Save state Send photo Clear photo

0%

Also you can put picture for the room for the 1-8 AC slave control

- Go to slave Picture
- Select set up
- Select the tab of 1-4 slave and the other tab for 5-8 rooms picture
- Brows the picture and press on send photo picture to upload it.
- Press **save states**



6-17 DDP Infrared Function overviews.

Also you can use the AC Page to send different Infrared command to control your split AC, or any new models of dry contact

Control Type

☐ By HVAC

☒ By IR/Relays

Control AC by IR

Infrared Control

Cooling temperature

FAN speed

Cooling Heating

On/off

Heating temperature

Auto Temperature

Dry Temperature

Wind Swept

meter 1

Parameter 2

Parameter 3

Save

	NO.	Subr		meter 1	Parameter 2	Parameter 3

7- Z-audio 2 (Music system) :

7-1 Z-Audio Overview:

Distributed Audio Zone Player and Amplifier. Can Deliver up to RMS 48 Watts of Stereo. With Balanced Out to connect to Pre-Amplifier Booster. With Built in FM Radio Tuner, Built in SD Card Reader slot. Can Stream Digital Audio through LAN/FTP from any PC or NAS on the Network. Advanced PA Port that can detect Audio Announcement Automatically mute current playing source, then switch back to the same music source again once announcement is completed. Additional RCA Stereo Input from Direct Local Source Feed to allow local Music ports to connect direct from TV, DVD, iPod Dock or any other Source.

7-2 Z-audio basic setting:

Z-Audio2 is an IP based and also is smart-bus G4 enabled, thus you can connect 1470 devices.

In General tab you can notice "network parameter " section which you can change the Z-audio IP.

Network parameter

IP: 192.168.10.252 Port: 6000

Route IP: 192.168.10.1

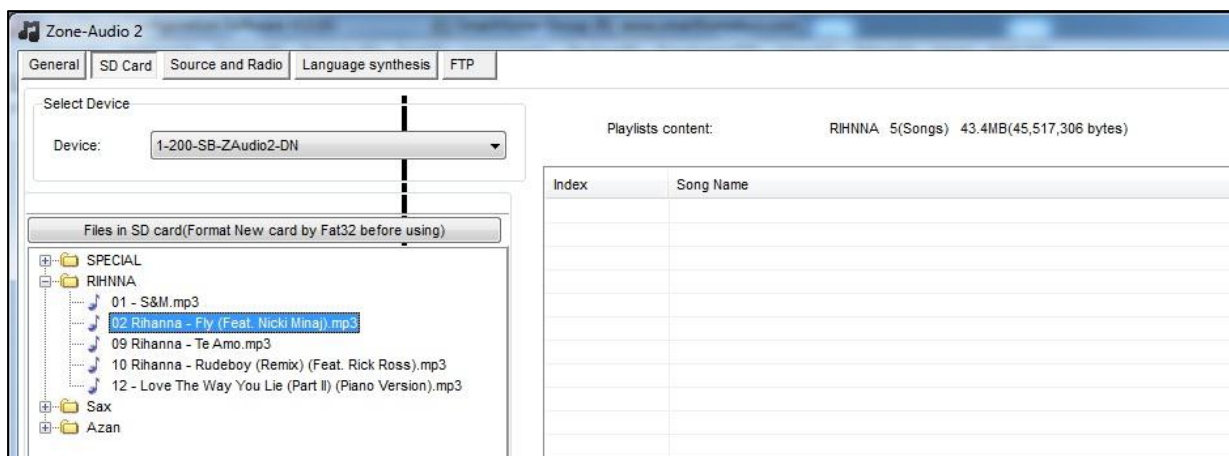
IP MAC: S B C 255 255 255

Save

- In Z-Audio you will see "SD-CARD" tab where you can modify your SD-cards Files



When you put the SD-cards for first time the Z-audio Automatically will create empty folder called "Special " DO NOT delete this folder.



- In " Source and Radio " tab you can enable or disable what kind of source do you want to show it on **DDP**

1. SD-card
2. Audio In
3. PA in
4. Radio
5. FTP

Zone-Audio 2

General SD Card **Source and Radio** Language synthesis FTP

Select Device

Device: 1-200-SB-ZAudio2-DN

Enabled/Disabled source

☒ SD-card ☒ PA In ☒ Audio In

☒ FTP ☒ Radio

Save

In FTP tab you can activate the FTP server by putting the FTP setting (user name, password, Server IP).

Zone-Audio 2

General SD Card Source and Radio Language synthesis **FTP**

Select Device

Device: 1-200-SB-ZAudio2-DN

FTP

Server IP: 192.168.10.124

Server Type: Server-U(Recommended)

User Name: semos

Password: ****

File Encode: ASCII

Save

7-3 How to control from DDP:

To make pairing between Z-audio and DDP there are three ways :

1- By software :

- Double Click on DDP on smart cloud software
- Go to " Music" tab
- Put the the Device ID and sub net ID for the Z-audio
- Click save

2- By DDP :

- Go to music page on DDP.
- Press the first button and keep pressing for 3 sec.
- Choose "Zone".
- Put the device ID and subnet ID.
- Press exit button to save (button No 4).

3- By manual programming (pairing):

- On the Z-audio keep pressing Broadcast Button For 7 sec (till the Blue light is blinking)
- Go to music page on DDP , one click first button one click
- Wait for max 15 sec , Now the pairing is done.

8- 9in 1 Sensor PIR Programming

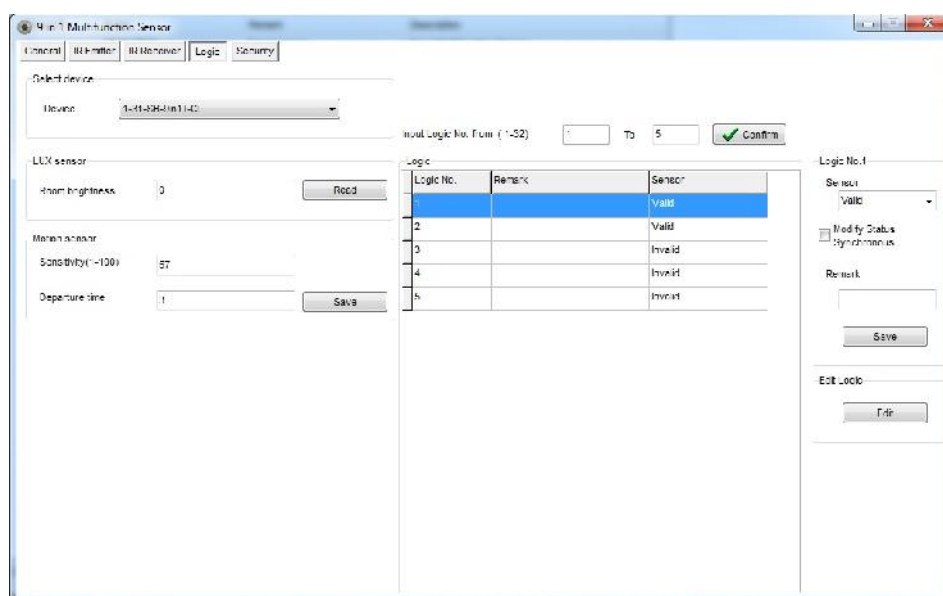
8-1 S-BUS 9 in 1 sensor Overview

Smart bus have perfect sensor for ceiling and wall type, this sensor is used multi function one of them for trigger the lights on automatically and to turn the lights off if no movement for desired minutes for saving energy

8-2 PIR 9 in 1 sensor Basic setting

Double click on the 9 in 1 sensor on the List

- Go to "Logic" tab.



- You will find on the left side the "Lux" sensor section which is measure the brightness for the area.

To read the current value just press "**Read**" button.

- You will find also "Motion" Sensor section , here you can change the **sensitivity** for the sensor and the **Departure** time which is the time you to switch off the Light of sensing .

LUX sensor

Room brightness

Motion sensor

Sensitivity(1-100)

Departure time

In the middle you have the events list:

Input Logic No. from (1-32)
To

Logic

Logic No.	Remark	Sensor
1	movement	Valid
2	no movement	Valid
3		Invalid
4		Invalid
5		Invalid

Logic No.1

Sensor

Valid

☐ Modify Status Synchronous

Remark

movement

Save

Edit Logic

Edit

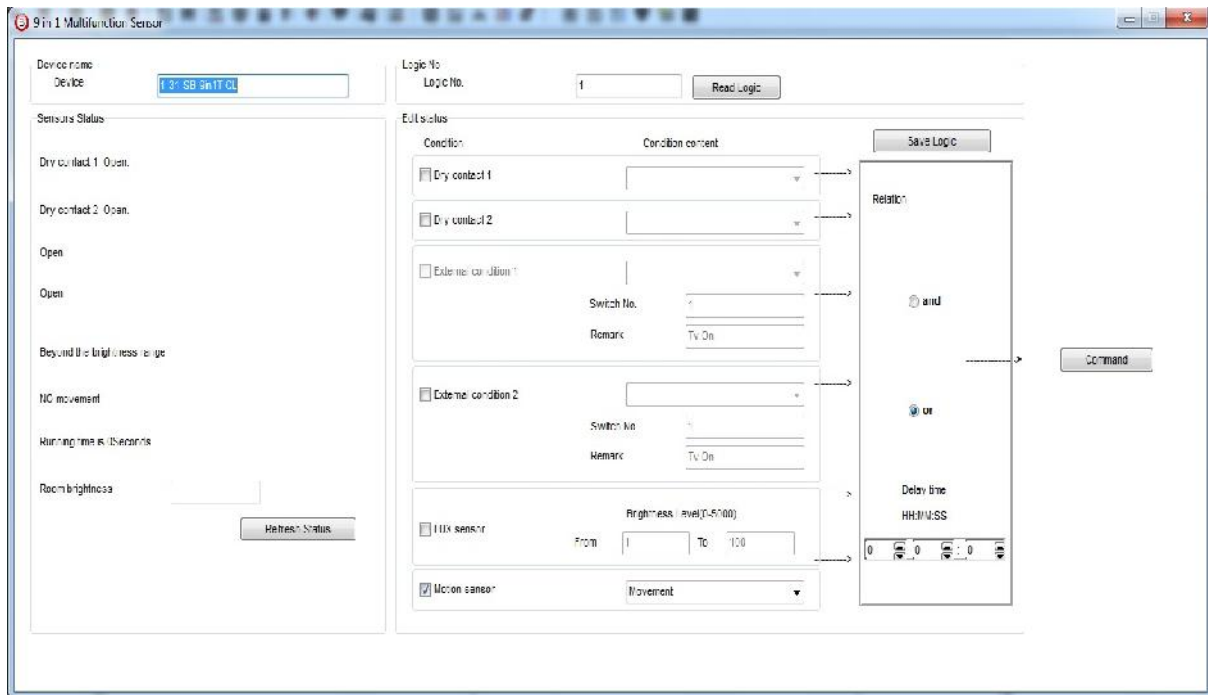
For example logic No.1 for " **movement** " event that mean when is there any movement the "X" of commands will execute.

- ⚠ " **Movement** " it's just a name , you can put any remark you want from "remark" field .
- ⚠ You can create up to 32 events .

In the previous picture we create two events **movement** , **no movement**

- ⚠ To create any event must **valid** it from the same window in sensor section, then remark it, if you don't want this event any more you can easily **invalid** it .

- To Edit the event press **Edit** button from edit logic section



All what you see now just for event No.1, double click on Event 2 from the events list then you will see deferent window.

This window it's divided for two section **status** and **Edit** section.

In **status** section you can check:

- Two dry contact status (built in **9in1**).
- Two external conditions status (for more info check **12- Logic Module**).
- Motion sensor status.
- Room brightness value.

In **Edit** section you can configure:

- Two dry contact.
- Two external conditions.
- LUX sensor (Brightness sensor).
- motion sensor.

Edit status

Condition

Condition content

☒ Dry contact 1

Connect

☒ Dry contact 2

Disconnect

☐ External condition 1

Switch No. 1

Remark Tv On

☒ External condition 2

ON

Switch No. 1

Remark Tv On

☒ LUX sensor

Brightness Level(0-5000)

From 1 To 100

☒ Motion sensor

Movement

Also you will notice the **Relation** block, this is very important block:

Save Logic

Relation

☒ and
☐ or

Delay time

HH:MM:SS

0 0 0

Command

Here you choose how many condition you want at the same time.

Example : If I put the conditions in the **Edit status** section like the following :

The screenshot shows the 'Edit status' configuration window. On the left, there are six condition entries:

- ☐ Dry contact 1: Condition content is 'Connect'.
- ☐ Dry contact 2: Condition content is 'Disconnect'.
- ☐ External condition 1: Condition content is empty.
- ☐ External condition 2: Condition content is 'ON'. Switch No. is '1', Remark is 'Tv On'.
- ☒ LUX sensor: Condition content is 'Brightness Level(0-5000)'. From is '1', To is '100'. An arrow points to this condition.
- ☒ Motion sensor: Condition content is 'Movement'. An arrow points to this condition.

On the right, the 'Relation' section shows 'and' selected. Below it, the 'Delay time' is set to '00:00:00'. A 'Command' button is located to the right of the logic panel. A 'Save Logic' button is at the top right of the main panel.

THAT mean : if the brightness in the room between **1** and **100**

AND

If there is **movement**

Then execute whatever you put in **command** button after **zero** delay time



Movement here not remarks its fixed indicating if there is movement or not

EX2: what if I want to turn on light if there is **movement** and turn it off if **no movement** after 20 min ?

- A-** We have to create two events with any remark ,one for movement and one for no movement.
- For movement event we have to put check just on **motion sensor** and choose **movement**.

A configuration window with a checkbox labeled 'Motion sensor' which is checked. To its right is a dropdown menu currently showing 'Movement'.

- Press **Command** button and put your Light address

Modify commands

	Command NO	Subnet ID	Device ID	Type	Parameter 1	Parameter 2	Parameter 3
	0	1	50	Single channel lighting	1(Channel no.)	100(Intensity %)	0:0(Running time(mm:ss))

- B-** In the event No. 2 we have to assign it to switch off the light if there is no movement after 20 min.

Put check the motion sensor and choose **no movement** and in delay time put 20 on min field .

A configuration window with two sections. The top section has a checkbox for 'LUX sensor' (unchecked) and a 'Brightness Level(0-5000)' range from '1' to '100'. The bottom section has a checkbox for 'Motion sensor' (checked) and a dropdown menu showing 'No movement'. To the right of these sections is a 'Delay time' field labeled 'HH:MM:SS' with a digital display showing '0 : 20 : 0'.

8-4 Learning and send IR codes :

9 in 1 Multifunction Sensor

General | IR Emitter | IR Receiver | Logic | Security

Select device
Device: 1-31-SB-9in1T-CL

Please input IR No. from (1-249) 1 To 5

IR information

IR number	Remark	Status
1	Tv On	Enabled
2	CH+	Enabled
3	CH-	Enabled
4		Enabled
5		Enabled

Current IR Information
IR No: 1 Total QTY for enabled IR: 5
Total QTY for disabled IR: 0

There are total 249 universal swith No. each univesal switch ID can be used in both IR Emitter and Logic. But a universal switch No can not be used in two functions at the same time.

Download code to current IR No

Select device:
Select code:

Remark:

Current IR

Group edit

Delete All

Test IR Code you have downloaded

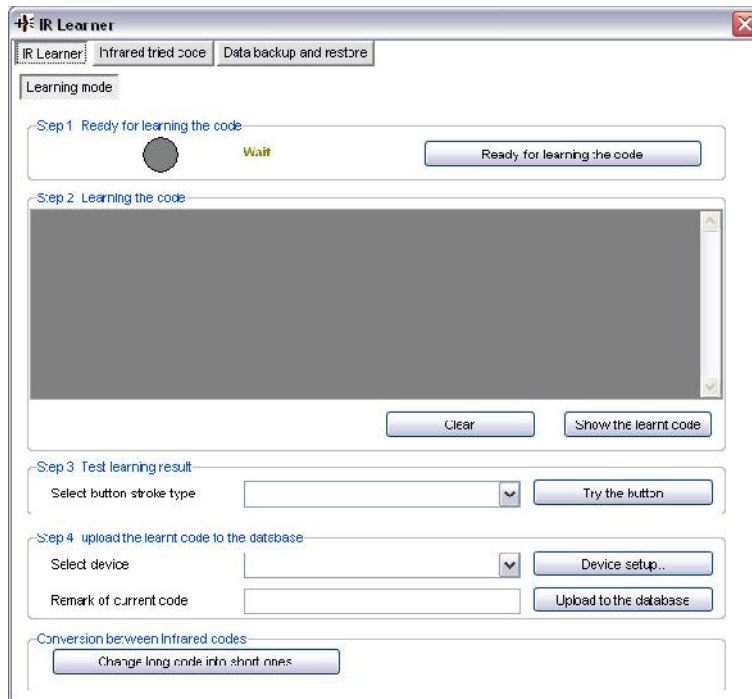
Way of Pressing
☒ Once
☐ Hold on button
☐ Continuously hold on button

Current status: Standby

If you want to control any devices has a remote you need first to save its IR codes, For that, connect your IR Learner install the driver (WIN XP):



- Press **Leran IR** button you will get this window :



- Click on **Ready for Learning** button the grey circle it will be green :



- Put your Remote in front of IR learner and press the desire button you want to its code.
- Once you press you will get the success notification :



- Now Select single press then go to Device setup

Step 3 Test learning result

Select button stroke type:

Step 4 upload the learnt code to the database

Select device:

Remark of current code:

- Create new device with remark then click on add :

Device setup

Device information

ID	Remark
1	Smart IR Remote(Big)
2	AUX AC

Add device

Remark:

Edit device

ID:

Remark:

- Click Exit
- after you create your devise you can choose it from **select device** (I choose T.V remote)
- Remark your code to recognize it later Ex : **CH+**
- Click **upload to data base** button.

Step 4 upload the learnt code to the database

Select device:

Remark of current code:

- High light on any row in **IR Information** table (I chose No.1)
- Go to **Download code** section choose your device and code
- Click **download now**.

Please input IR No. from (1-249) To

IR information

IR number	Remark	Status
1	TV REMOTE_CH+	Enabled
2	CH+	Enabled
3	CH-	Enabled
4		Enabled
5		Enabled

Download code to current IR No-

Select device:

Select code:

-) to send this code through **DDP** just choose any button :

Modify button function configuration

Function no.	Subnet ID	Device ID	Type	Parameter 1	Parameter 2	Parameter 3
1	1	31	Universal switch	1	On	N/A

Device ID= 31 → you 9 in 1 ID

Type = Universal → must be to send IR code

Parameter 1 = 1 → where we save first code (CH+)

Parameter 2 = on → to execute the command

9- Rs 232/485 Module:


9-1 RS232/485 overview:

PC/IP Interface and 3rd Party Integration RS-232 & RS-485. This Module is multi Purpose, it can be used for programming S.BUS, and a bridge between computer Smart-BUS networks, can also be used as Network Bridge in the big projects with thousands of devices. It is the Touch Screen to SBUS Bridge. Same device is used for 3rd Party Integration. Can send more than 1980 ASCII and/or Hexadecimal Command with **50** ASCII Character Message Length for more flexibility. 2 way communication that can receive up to **99** ASCII, HEX string commands to do up to **20** different commands for each message received Fixed ASCII S-BUS Protocol with Send Command Delay option Adjustable baud rate.

Accordingly you can change the RS 232/485:

Network parameter

IP:	192.168.10.250	Port:	6000
Route IP:	192.168.10.1		
IP MAC:	128	71	255 85 85 85

 Save

9 -2 Rs 232 /485 to S-bus:

This tab is very important if you want to receive an external signal from any third party And convert this signal to S-bus Commands.

Hybrid Integration Link with IP

Control | RS232 to S-BUS | S-BUS to RS232 | RS485 to S-BUS | S-BUS to RS485

Select device: Device: COM5-USB-RS485

RS232 command No: 1 Control mode: ASCII

Corresponding S-BUS commands of current RS232 command

S-BUS command No from 1 To 1 Read

Command	Remark	The first of Input form	Character string
1		Valid	ASCII 1
2		Valid	ASCII 2
3		Invalid	ASCII
4		Invalid	ASCII
5		Invalid	ASCII

Command	Secret ID	Device ID	Type	Parameter 1	Parameter 2	Parameter 3
1	100	2	Broadcast channel	All channels	100(Intensity %)	0.0(Running time)

RS232 Edit

Remark

RS232

S-BUS Edit

S-BUS Command

Exit

Ex : we have RF ID system fixed at the gate and we want to open the motor gate when

the system detect the RF card ?

Note: **RF CARD ID** : 00002324

- After you connect the RS232 wires Double click on RS IP
- Go to “ RS232 to S-BUS”
- Click “RS232” button
- In “character string “ of the new window put your RF card in **ASCII** or **HEX**
- Press “save”
- Exit
- Click on **S-Bus Command** button
- Like any s-BUS command put your relay address and channel No. which you already connect your motor cable.

Modify Commands							
Command NO	Subnet ID	Device ID	Type	Parameter 1	Parameter 2	Parameter 3	
1	1	80	Single channel lighting (1(Channel no.)	100(Intensity %)	0:0(Running time(mm:ss)		

9-3 S-BUS to Rs232:

In RSIP you will notice also “S-bus to Rs232”, this tab if you want to send S-bus command to the external system(Ex: Nuvo) through RS232.

Hybrid Integration Link with IP

General RS232 to S-BUS S-BUS to RS232 RS132 to S-BUS S-BUS to RS485

Current S-Bus command: 1 Current target number: 1

S-BUS Commands

Command no. from (1-99) 1 To 5 [Continue]

Command	Remark	Type	Parameter1	Parameter2
1		Universal switch	1(Switch no.)	On(Switch Stat
2		Universal switch	2(Switch no.)	On(Switch Stat
3		Invalid switch	255	255
4		Invalid switch	255	255
5		Invalid switch	255	255

Corresponding RS232 commands of the S-BUS command

Target no. from 1 To 2 [Continue]

Command	Time	Input form	Character string
1	100ms	ASCII	111
2	Invalid	ASCII	

S-BUS Edit

[Print] [S-BUS Command...]

RS232 Edit

[RS232 Command...]

To do that :

- Click **S-BUS Command** Button
- In “type” option choose “universal switch”
- Create your command address in Parameter 1 (1~255)
- Parameter 2 Choose “ON” to execute the RS232 command when this FLAG is ON

S-BUS Commands

Command no. from(1-99) To

Command	Remark	Type	Parameter1	Parameter2
1		Universal switch	1(Switch no.)	On(Switch Stat
2		Universal switch	2(Switch no.)	On(Switch Stat
3		Invalid switch	255	255
4		Invalid switch	255	255
5		Invalid switch	255	255

- click **RS232 Command** button
- put your RS232 command In ASCII or HEX
- save,exit

Corresponding RS232 commands of current S-BUS command

Command NO	The first character	Input form	Character string	Ending Symbol
1	100ms	ASCII	open light	<CR>
2	Invalid	ASCII		NONE

• **To call this command from DDP :**

- Double click on DDP
- Go to button assignation
- In the mode its recommended to select “single on” or “combination on”
- In s-bus command list put your RSIP ID and Subnet
- Type “ universal “
- Parameter 1 “ 1” the rs232 command address (1~255)

S-BUS Commands

Command no. from(1-99) To

Command	Remark	Type	Parameter1	Parameter2
1		Universal switch	1(Switch no.)	On(Switch Stat
2		Universal switch	2(Switch no.)	On(Switch Stat
3		Invalid switch	255	255
4		Invalid switch	255	255
5		Invalid switch	255	255

Parameter 2	Parameter 3
On(Switch Status)	N/A

- Parameter 3 “ On”

Modify button function configuration

Function no.	Subnet ID	Device ID	Type	Parameter 1	Parameter 2	Parameter 3
1	1	251	Universal switch	1(Switch no.)	On(Switch Status)	N/A

Now once you press on DDP first button the RS232 Command is will execute .



In RS485 tabs it's the same exactly like RS232 steps.

10-Logic Module:

10-1 Logic Overview:

Central Time Clock and Main Automation Controller. It is the smart system servant that assist and monitor temperature, events, energy consumption, patterns, with main Targets: maintain, safeguard, protect and economize. It Can Trigger prayer announcements, reminders, alerts, macros, and moods. Each Logic module Consist of 240 tables, Each Table of 4 programmable Logic Lines totaling up to 960 Line of Logics using simplified (and, Or Nand, Nor, with 255 Flags). Logical condition consist of trigger combinations like: time, scene Light channel status, curtain status, room temperature, security mode, day night, time... and so on

10-2 Logic time and location sitting :

In the time and location tab you can easily change the time and the date of the system Also you can select you exact location from **Location** button which is good to calculate Sunrise and sunset time accordingly to your location :

The screenshot shows the 'Time and Location' configuration window for a logic module. It has three tabs: 'General', 'Logic', and 'Time and Location', with the last one being active. The 'Select device' section shows '1-203-SB-Logic2-DN' selected. The 'Date Time of Logic Module' section shows the date 'Saturday, April 21, 2012' and time '12:20:4' (hh:mm:ss). There is a checkbox for 'Modify time synchronously with destine logic device' and buttons for 'PC Time', 'Refresh', and 'Save'. The 'Geographic Location' section includes input fields for Latitude (25 Degree 15 Minute), Longitude (55 Degree 17 Minute), and Time zone (+04:00). A 'Location' button is present. Below these, a box displays 'Sunrise Time 5:51' and 'Sunset Time 18:44'. A 'Save' button is at the bottom right.

Field	Value
Device	1-203-SB-Logic2-DN
Date	Saturday, April 21, 2012
Time	12:20:4 (hh:mm:ss)
Latitude	25 Degree 15 Minute
Longitude	55 Degree 17 Minute
Time zone	(GMT) +04:00
Sunrise Time	5:51
Sunset Time	18:44

For Muslim Prayer times you can check “**method for prayer Times**” then you will get multi options you choose according to your Location “juristic” “Doctrine”.
After you click save you will get prayer times (Fajer, Dhiher, ASR, Magreb, and Isha) :

Geographic Location

Latitude: 25 Degree: 15 Minute

Longitude: 55 Degree: 17 Minute

Time zone: (GMT) +04 : 00) ☒ Method For P

Fajr:	4:28
Sunrise:	5:51
Dhuhr:	12:18
Asr:	15:48
Maghrib:	18:44
Isha:	20:14

Dhuhr, Maghrib Prayer Time

Dhuhr: 1 Maghrib: 1

☐ Day Light Savings

Shift - Hour before (MD): 4 1

Shift - Hour after (MD): 8 1

Juristic Methods (For Asr prayers)

☒ Standard (Imams Shafi, Hanbali, and Maliki) ☐ Hanafi

Method for Prayer Times

- ☐ Muslim World League
- ☐ Egyptian General Authority of Survey
- ☐ University of Islamic Sciences, Karachi
- ☒ Jumr Al-Dura
- ☐ North America
- ☐ Twilight Angle in degrees

Fajr: Isha:

Now for logic tab you have 20 pages , you can put your command here on the black screen

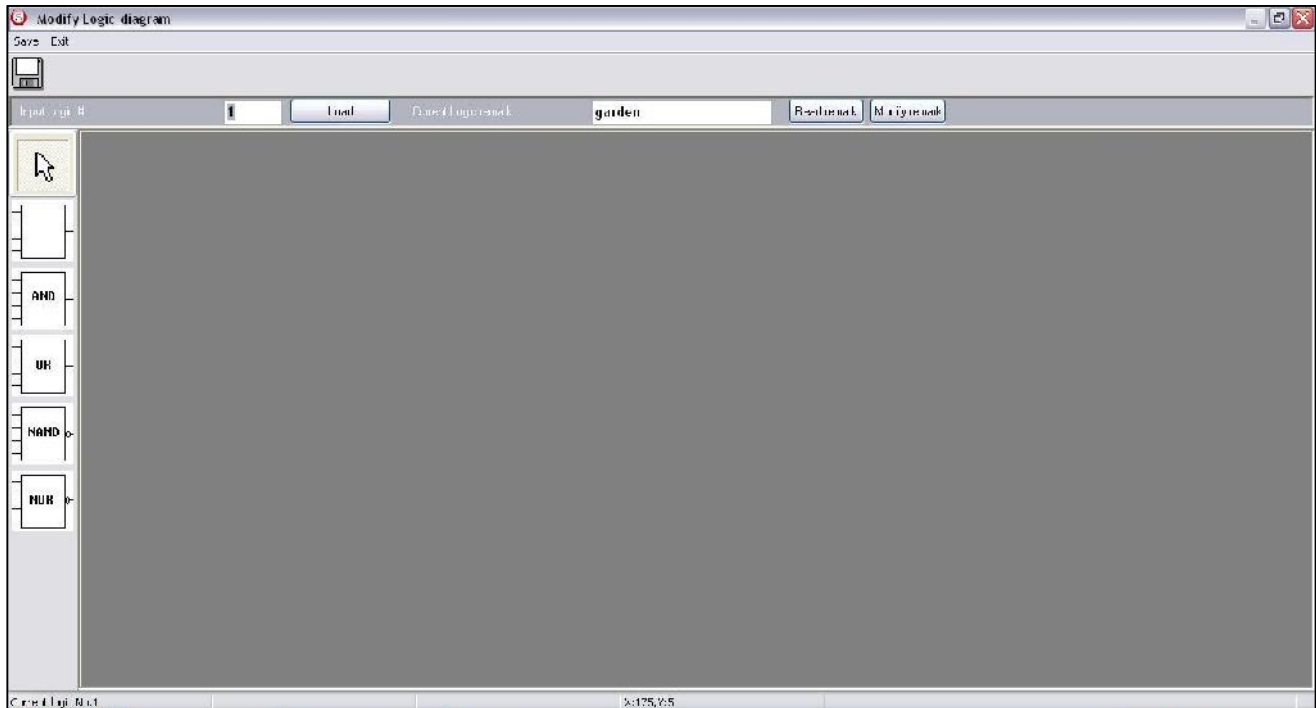
General Logic Transmittal Admin

Select device: Device: 1-203-SB-logic2-DN ☒ Equipment is available Save

Select Logic: Logic ID: Logic1

[Large black area for logic programming]

Double click on the blank screen to enter “Modify mode” :



The concept of the logic like the following:

- Put your conditions as blocks
- If the statuses of these conditions are true then your commands accordingly to your conditions will execute.
- You have on the right side 4 logic blocks you can use them as you want : (And ,Or, Nand , Nor)

10-3 pin setup :

Pin setup indicating to conditions, to put condition:

- Double click on black screen
- Choose the appropriate block (AND, OR, NAND, NOR)
- Right click on the block and select “pin setup”

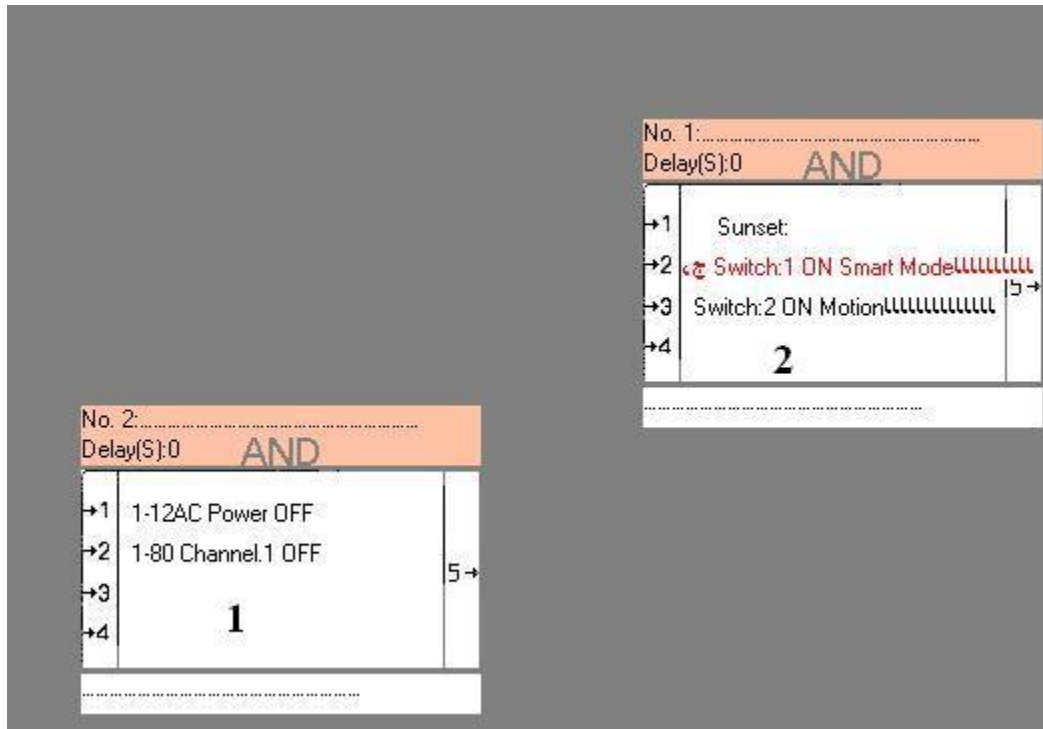
You will get new window :

- In Relation combo box : you can change the type of the block ,
Ex: even if you select and or any one you can change it .
- Delay : execute the command(s) if the condition (s) true after the desire time .
- Select input pin: in each block you have 4 conditions so you can change between them by this option.
- Type : you condition(s) type :

- You have multi option, you can select specific year, date, week and time .
- Ability to check the status of external module (On or Off).
- Ability to check the status of AC (on,off, temp ++).
- Ability to check the status of security (arm,alarm,disarm).
- Ability to check the status logic switches (Flags).

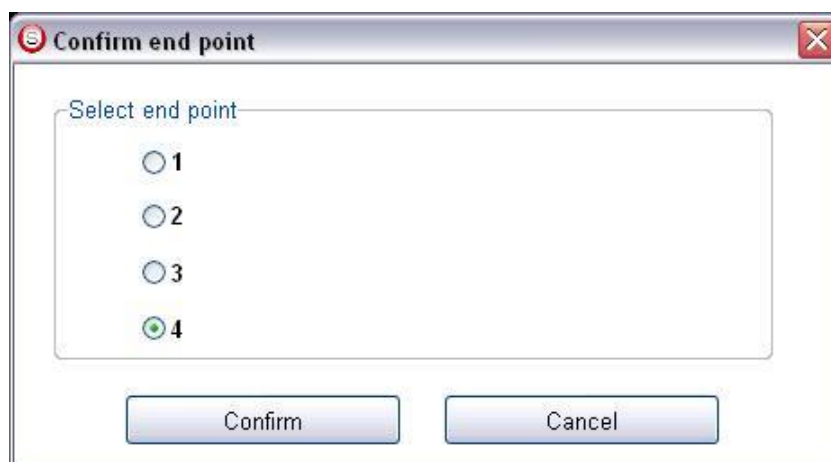
10-5 Linked table :

if you have more than 4 conditions and you want to check the status of all of them at the same time !! There is link table feature for that:

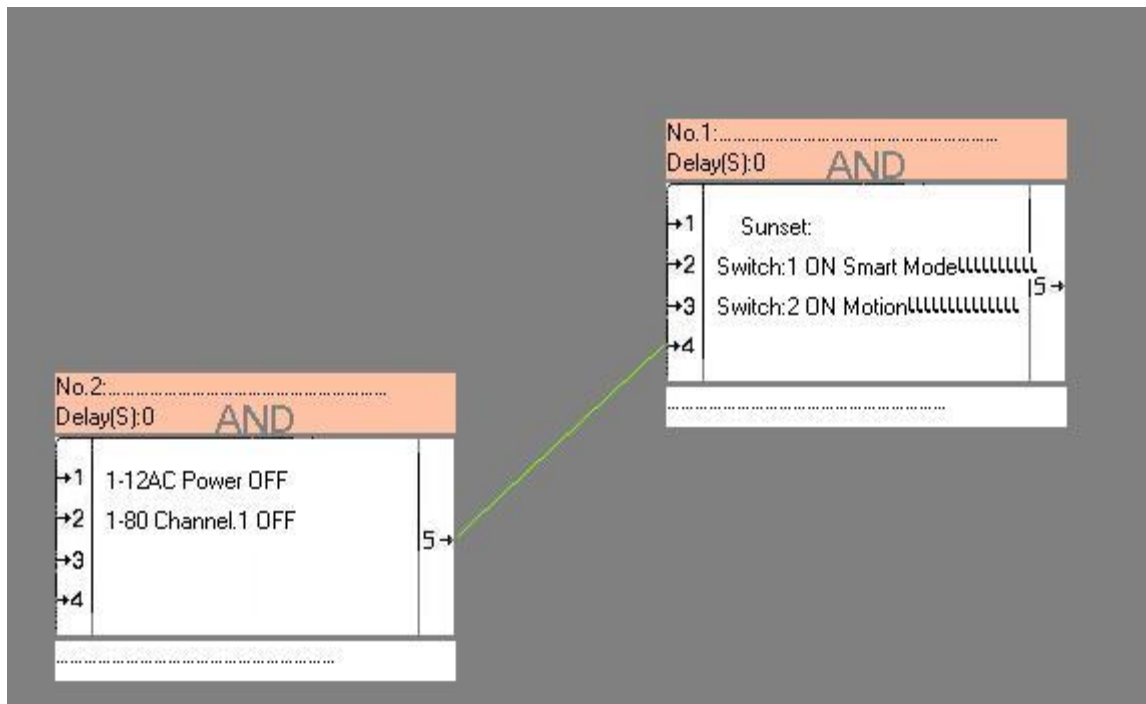


To merge these two conditions to other table:

- Right click on table No.1 and choose “Confirm start point”
 - On table No.2 Right click and choose “Confirm end point “
- You will get new popup window , and because we have condition No 4 of table 2 is empty so we will choose No.4 in this popup window like following :



- To make sure your work is correct you will notice new green line



- To remove this link :
 - Right click on table 2 and choose "confirm end point"
 - Check on "Rmove " and press Confirm :

