

## Alpha 4000 Software Function Setting



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## 2. INTRODUCTION

Alpha 4000 is an advanced industrial remote control. It can be widely applied to the industrial purposes, such as: various cranes, tower cranes, production machinery, auto-machinery, auto control machinery...etc.

### 【Professional and wise design】

### 【Visualized Software】

It allows you to set every function of your remote control via software. Base on the system type selected, you may create all kinds of combination with the software to fit different working environments. The modular design of our receiver makes servicing the components a snap. The RF receiving module, decoder module, upper/lower relay boards, and power supply module are all placed independently inside the metal enclosure.

### 【Chip Card – Set Function via Chip Card】

#### 1. Breakdown update or Same system type copy

Portable, easy to carry. If remote control is out of order, you simply need to take out the chip and put it into the chip slot of the same system type to proceed with the operation. Chip data backup can be done by file saving / reading. If same function and setting are needed in the future, you only need to re-call the original file to correct/save data in the chip. Set function via chip card is also lower breakdown of dip-switch and easy operate.

#### 2. Modification for any function

Remove chip card and modify the desired function via software. Such as set one pushbutton to control many relays at a time, one or two speed keeps null, toggle, selector switch, transmitter shutting time is delayed, on/safety off, tandem, pitch & catch functions.

### 【Adjustable PLL RF module】

PLL (Phase Lock Loop) synthesized RF module with user-selectable RF channels (narrow band FM) for the transmitter code transmission. Both transmitter and receiver are channels adjustable. Frequency band is also adjustable via software.

### 【Complete auto-test system】

Multi auto-test functions, including: transmitter low voltage test → warning → auto shutdown (for both transmitter and receiver), encoder board breakdown test, relay output board breakdown test, frequency drift correction, chip self-examining records...etc.

### 【Super power saving】

Receivers MAIN relay is programmed to drop (open) the “Main Line Disconnect Contactor” after several minutes of inactivity. The dropping time can also be adjusted with program. Intermittent data transmitting design for power saving purpose. The fully charged battery can be used for continuous 70~80 hours.



(Fig.1)

**【Electromagnetic induction charge】**

Undisclosed metal and open type contact of battery charger provides immediate charging simply by placing the transmitter on the charging holes. And charging can be finished in 3.5 hours. Upgraded waterproof and construction strength of transmitter fits every kind of environment. DC12 ~24V or AC110~240V are available for charging source voltage. The charger is also equipped with an intelligent charger with voltage, temperature, and overcharging → auto charging function to prevent any battery memory buildup.

**【Transmitter is designed with shock absorbing】**

The shock absorbing rubbers on the four corners of transmitter strengthens the shock absorbing ability.

**【100% Sealed enclosure】**

Both receiver and transmitter enclosures are 100% sealed ensuring trouble free operation in high moisture environment and outdoor applications. To further enhance reliability the receiver enclosure is fully painted inside and out, the door is fully sealed with a gasket and the hinges and key lock are stainless steel.

**【RF receiving module with high sensitivity -122dbm】**

RF receiving module with 122dbm high sensitivity ensure the system is resistant to other radio interference.

**【Access point external antenna】**

The access point external antenna screws on from the outside receiver enclosure and is equipped with internal quick disconnect fitting.

**【Approvals】**

**CE R&TTE FCC NCC**

### 3. System Requirement

#### Suggested Peripherals

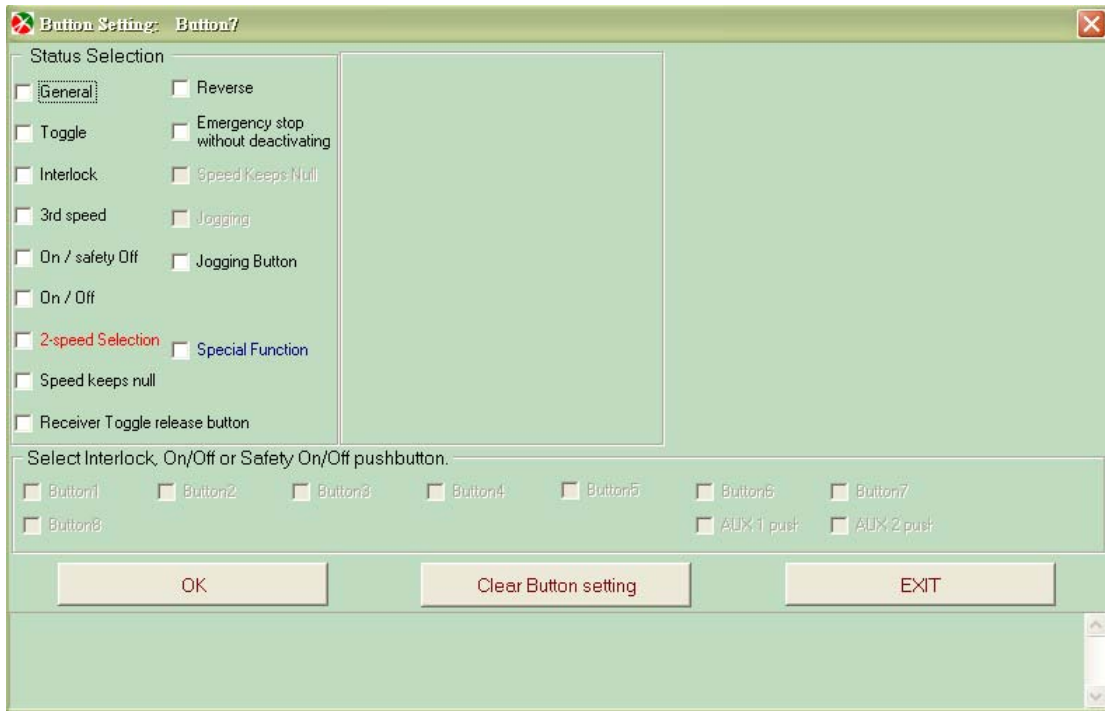
1. CPU : Intel or AMD over 1GHz
2. 256MB RAM
3. Keep 100MB of space in hardware.

#### Software

Desktop: WIN98, WIN98SE, WIN2000, WINXP, VISTA  
Best view: 1024 \* 768 pixels up

4. Selection of Pushbutton Function

4-1. Selection of Single-Speed Pushbutton Function



**General**

- ▼ Single speed only

**Toggle**

- ▼ Depress pushbutton to activate relay, release to deactivate

**Interlock**

- ▼ One pushbutton to one pushbutton or one pushbutton to many pushbutton interlocked. To cancel this function, release all interlocked pushbuttons.

**Accelerate (3-speed)**

- ▼ The existing system is only available for one and two speeds. To accelerate, another pushbutton can be set with 3 speeds by depressing the one/two speed and then accelerate setting pushbutton. It will activate the one and two-speed relays at the same time.

**On / Safety Off**

- ▼ One pushbutton for On, one for Safety Off. When On pushbutton is set, another pushbutton will be automatically set as Safety Off. To release, depress Off and On pushbutton at the same time.

**On / Off**

- ▼ One pushbutton for On, one for Off. When On pushbutton is set, another pushbutton will be automatically set as Off.

**0-speed output**

- ▼ When pushbutton is released, one or several relays will be activated. Press the pushbutton to deactivate the relay for the protection that crane can be started when speed is back to zero.

**Selector switch**

- ▼ For single 3-stage selector switch. (The 3-stage selector switch can only be functioning when system is installed with 3-stage selector switch)

**Reverse motion**

- ▼ General equipment is powered with A contact. (normal open) For some special equipment powered with B contact (normal close), reverse relay cannot be used with others at the same time.

## Main relay remains On by pressing down emergency stop

- ▼ In case of emergency, pressing down the red EMS button will send the “Stop” command which will immediately deactivates the receiver MAIN relay. For special occasion, receiver Main relay remains “On” under “toggle” and “On/Off” status after emergency stop is pressed down. To turn “off” the receiver Main relay, restart transmitter and press release button.

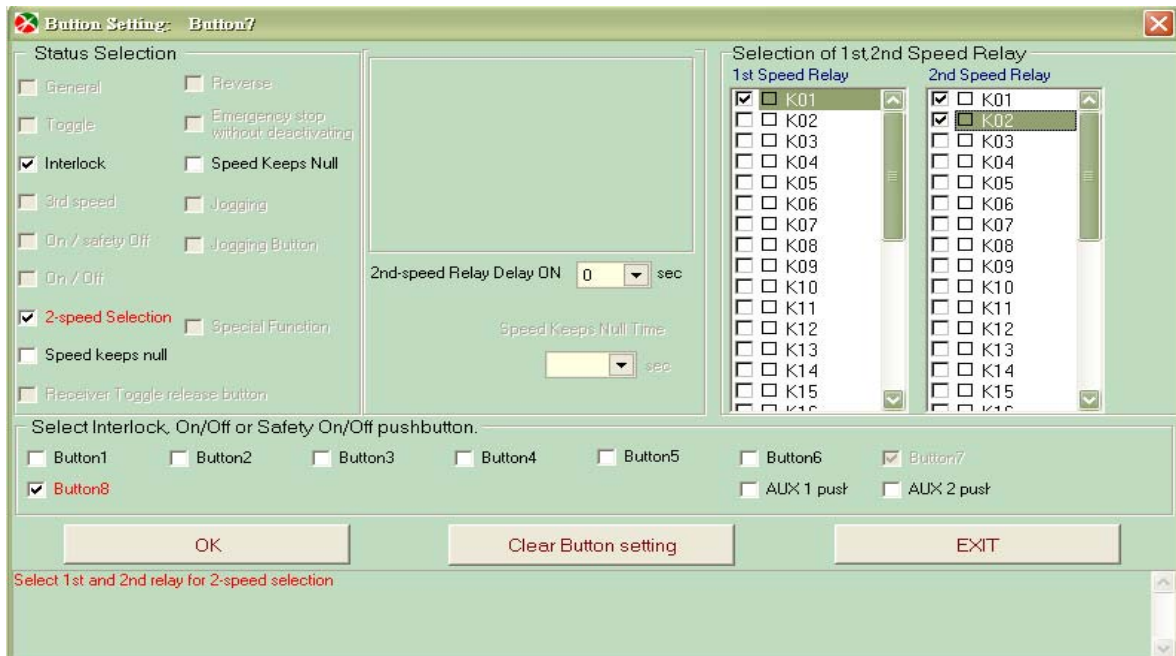
## Jogging

- ▼ For the setting of pushbutton with jogging function, relay is “On” only within the setting time for every pushbutton press. Relay will be turned “Off” after the setting time. It is available when system is under 1-speed status. After all jogging buttons are selected, pick another button for “jogging On/Off button” for this function.

## Toggle group release button

- ▼ Select more than one “toggle group” button and set as a group. Pick another button as “toggle group release button” to turn Off all buttons with toggle function. \*This feature can be set on button position number 7, 8 of 8-pushbutton type ; Button position number 11, 12, 14 of 12-pushbutton and 12-pushbutton + 2 micro button type.

## 4-2. Selection of Double-Speed Pushbutton Function



## Interlock

- ▼ One pushbutton to one pushbutton or one pushbutton to many pushbutton interlocked. To cancel this function, release all interlocked pushbuttons.

## 2-speed selection

- ▼ One and two-speed relays are selectable. Relay can be selected repeatedly. Selectable relays do not include: reverse relay, 0-speed relay, selector switch relay, jogging relay, power start relay, transmitter low voltage relay, ID relay and stop relay.

## 0-speed output

- ▼ When pushbutton is released, one or several relays will be activated. Press the pushbutton to deactivate the relay for the protection that crane can be started when speed is back to zero.

## Speed keeps null

- ▼ When system is decelerating from 2-speed to 1-speed, 1-speed relay will be deactivated with 2-speed one. After setting time is up, reactivate 1-speed relay. It is generally used on Demand crane.

## 2<sup>nd</sup>-speed relay activated delay time

- ▼ When system is accelerating from 1-speed to 2-speed, in case the load of the motor is too heavy to drive, set 2<sup>nd</sup> speed relay activate with delay time for the protection of the motor.



## 5. Description of Software Interface

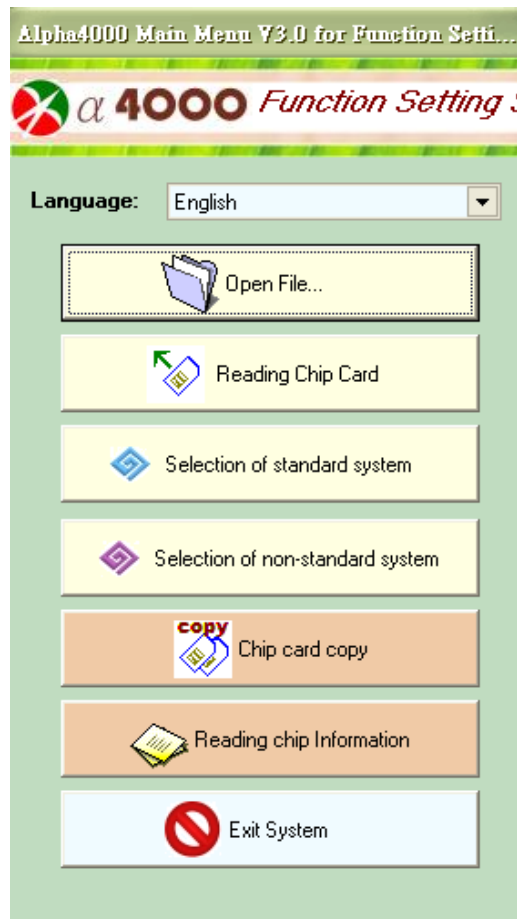
### 5-1. LOGO Start-up Form

From after system is started



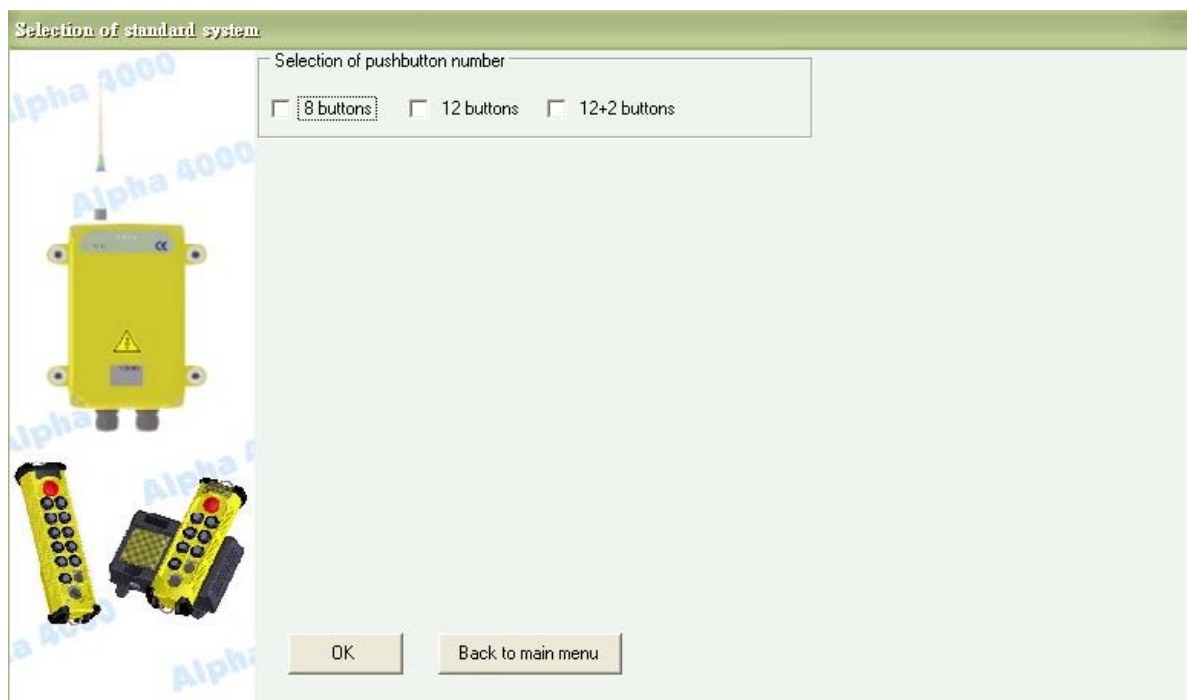
(Figure 5-1)

### 5-2. Alpha 4000 Function Setting Main Menu Form



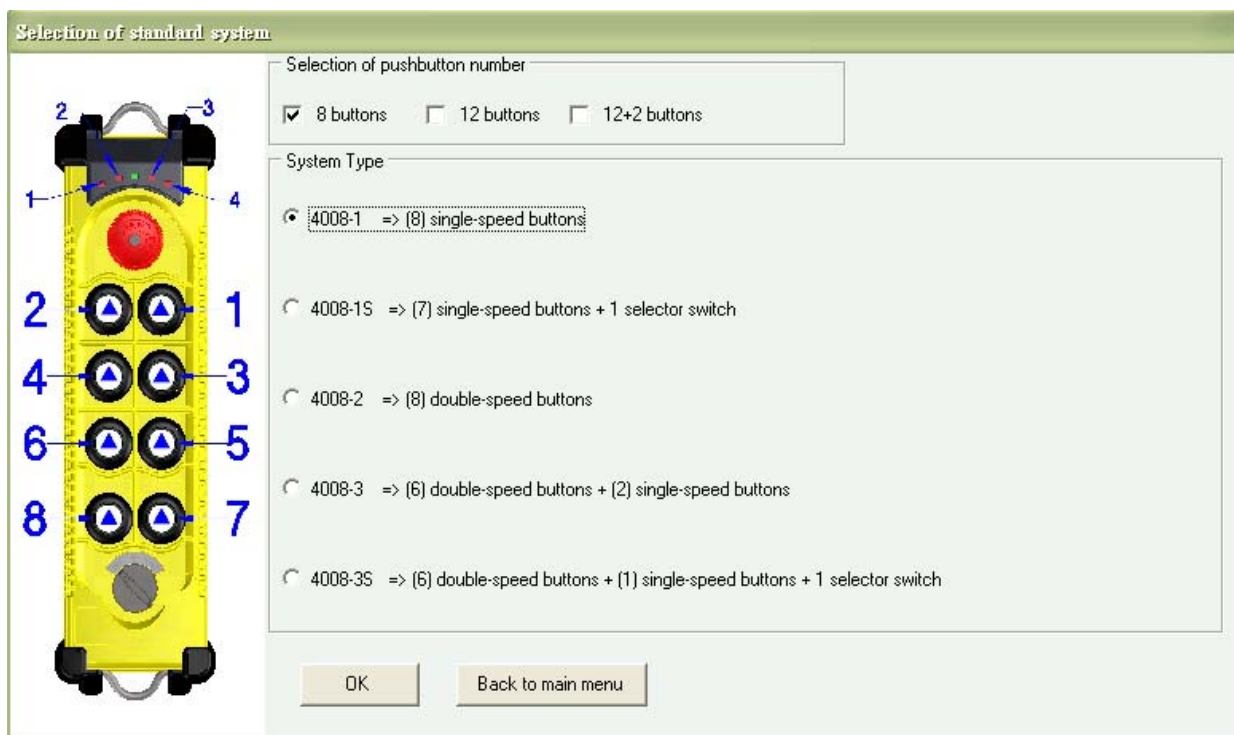
(Figure 5-2)

### 5-3. Alpha 4000 Sample Selection Form (Standard Type)



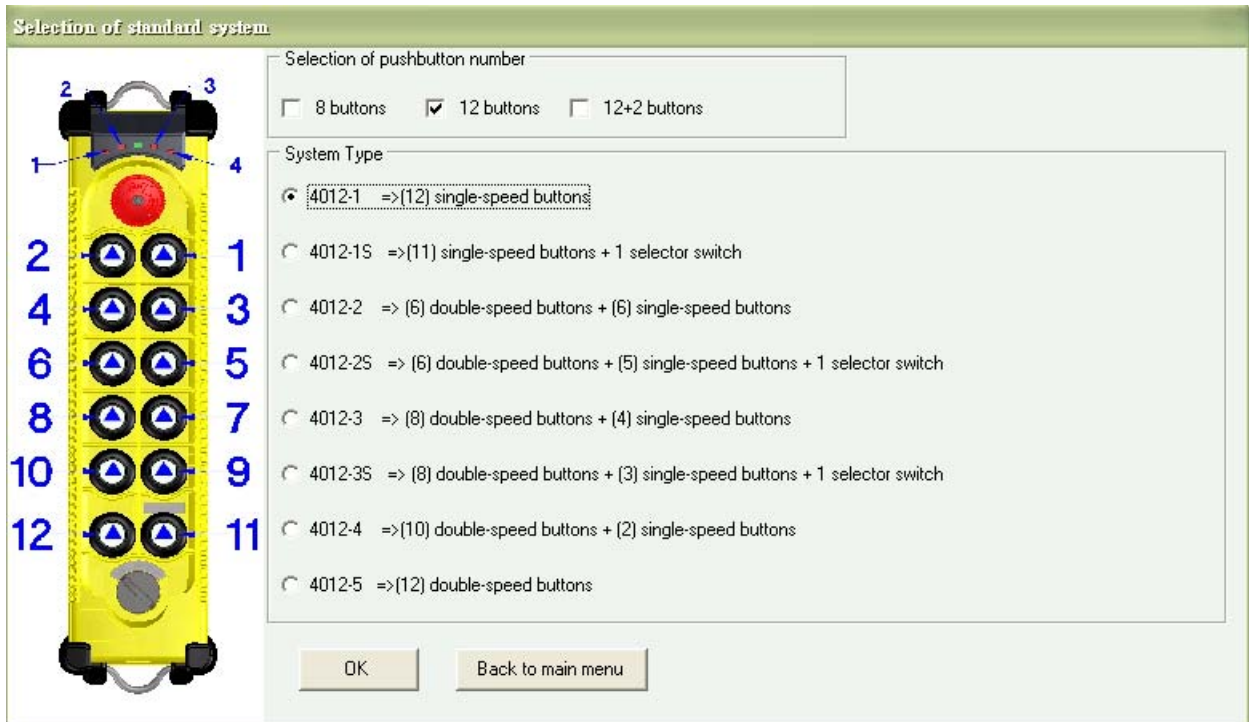
(Figure 5-3)

### 5-4. Selection of 8-Pushbutton (Standard Type)

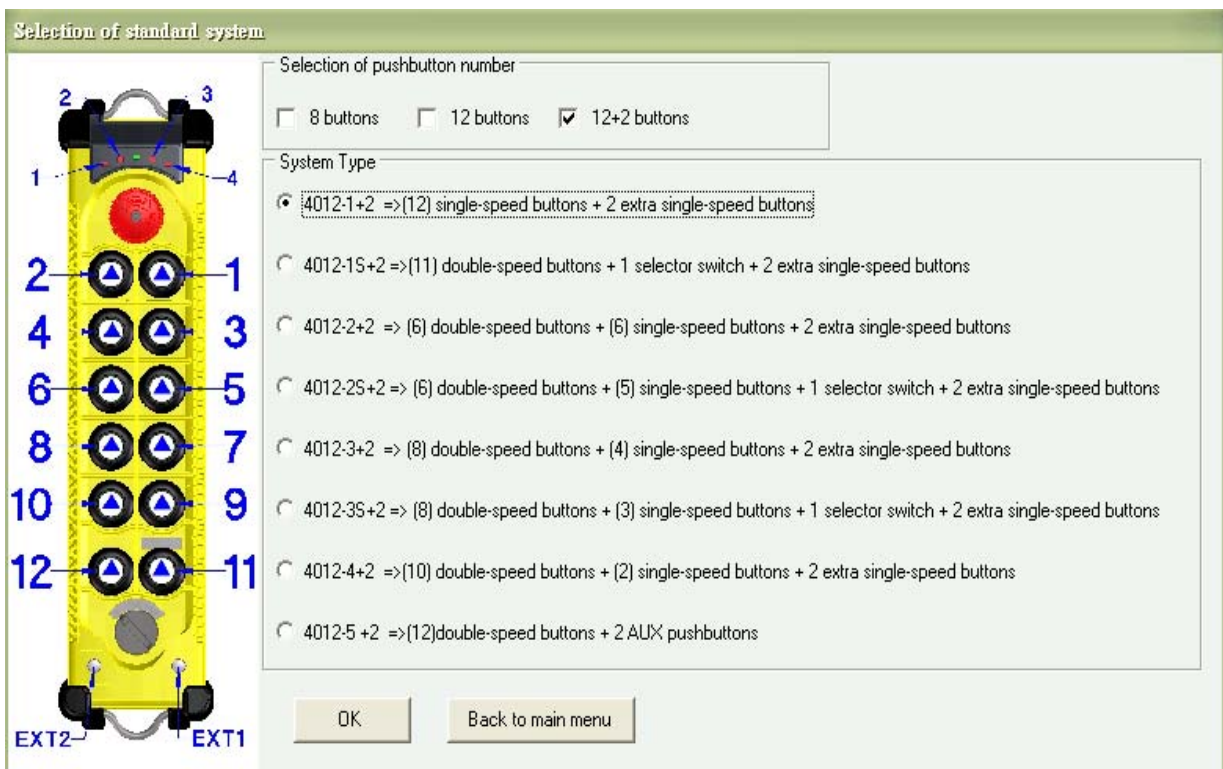


(Figure 5-4)

### 5-5. Selection of 12-Pushbutton and 12-Pushbutton+ 2 Micro Button (Standard Type)



(Figure 5-5-1)

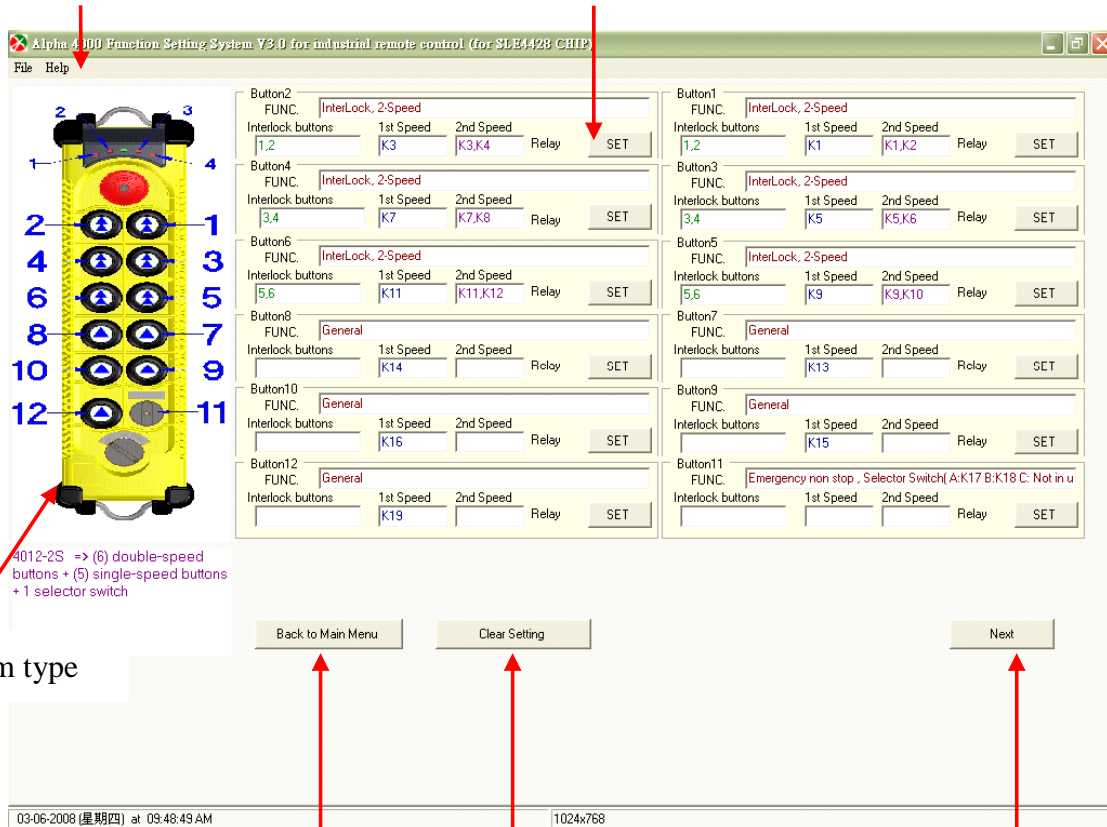


(Figure 5-5-2)

### 5-6. Pushbutton Setting Form

1. Menu

2. 【Set】: Pushbutton function setting



3. System type

4. Back to main menu

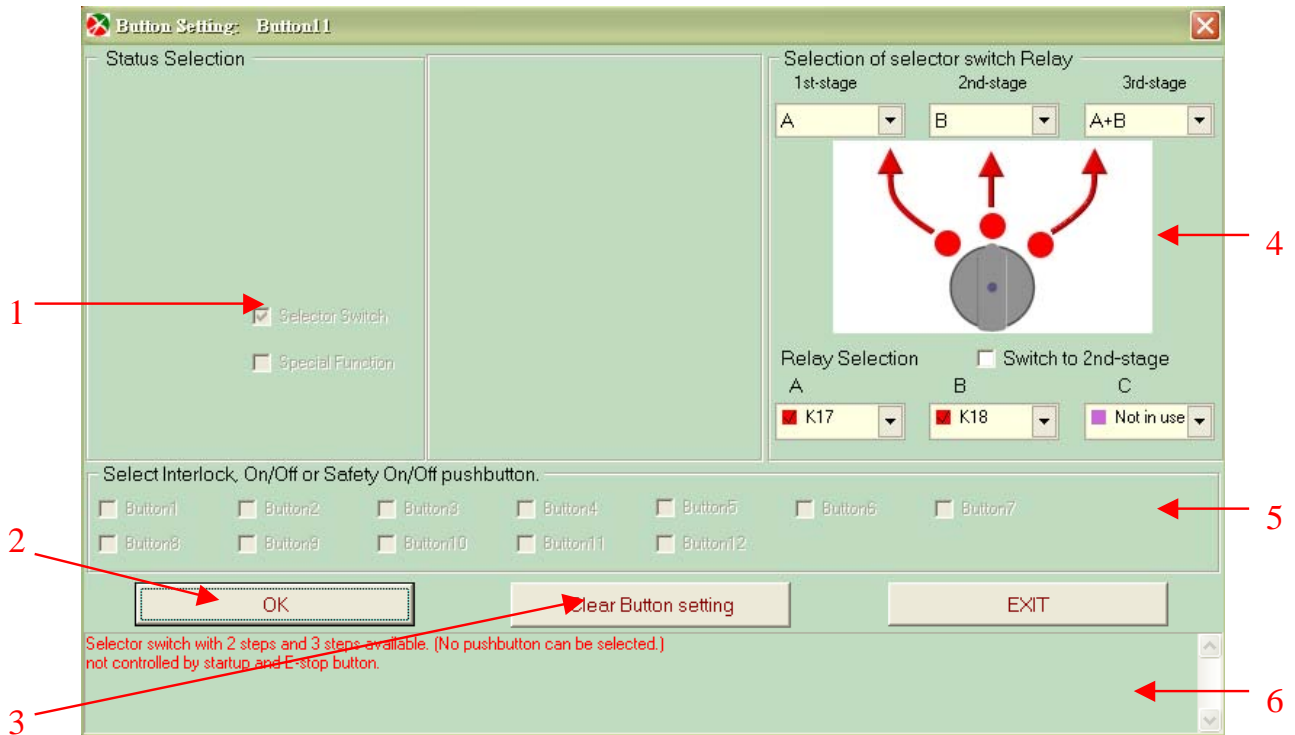
5. Clear system setting

6. Next

(Figure 5-6-1)

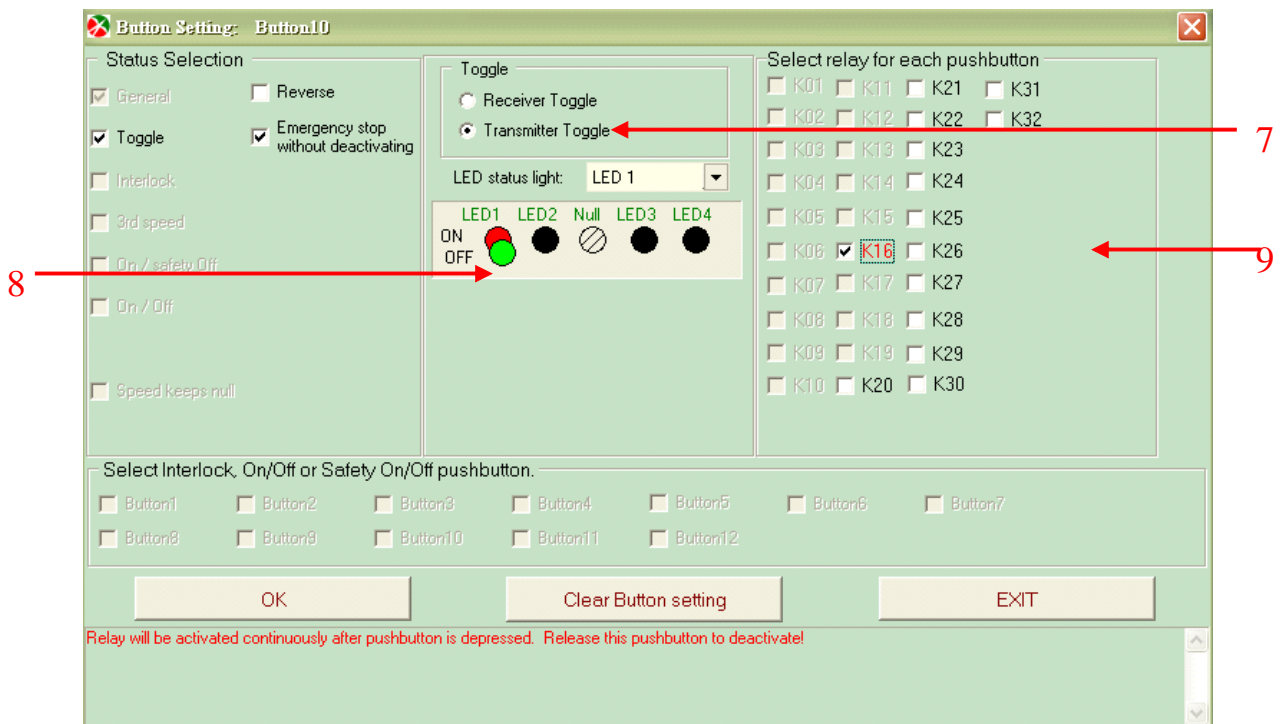
- 1 : Menu
- 2 : 【Set】: pushbutton function setting
- 3 : System type
- 4 : Back to main menu
- 5 : Clear system setting
- 6 : Next

[ SET ] : From Fig. 5-6-1 Pushbutton function setting.  
Click “selector switch”, function form of selector switch appears.



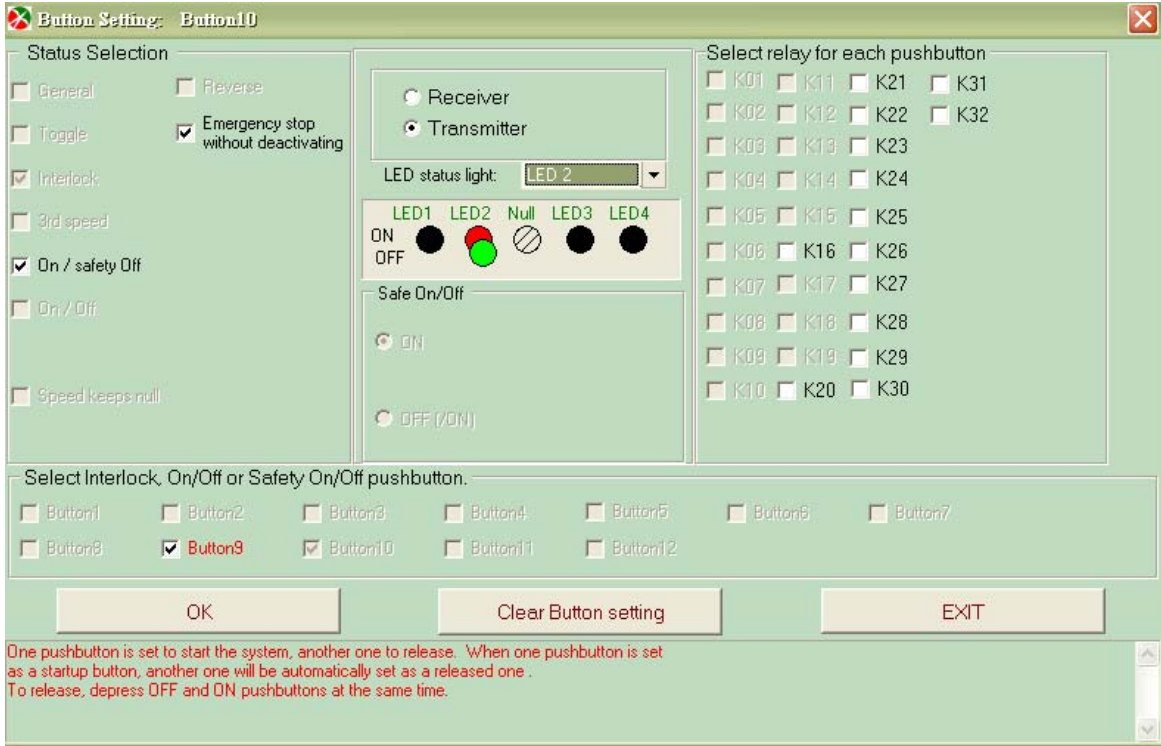
(Figure 5-6-2)

[ SET ] : Form Fig. 5-6-1 Pushbutton function setting.  
Click “Toggle” and “Transmitting toggle”, this form will appear.



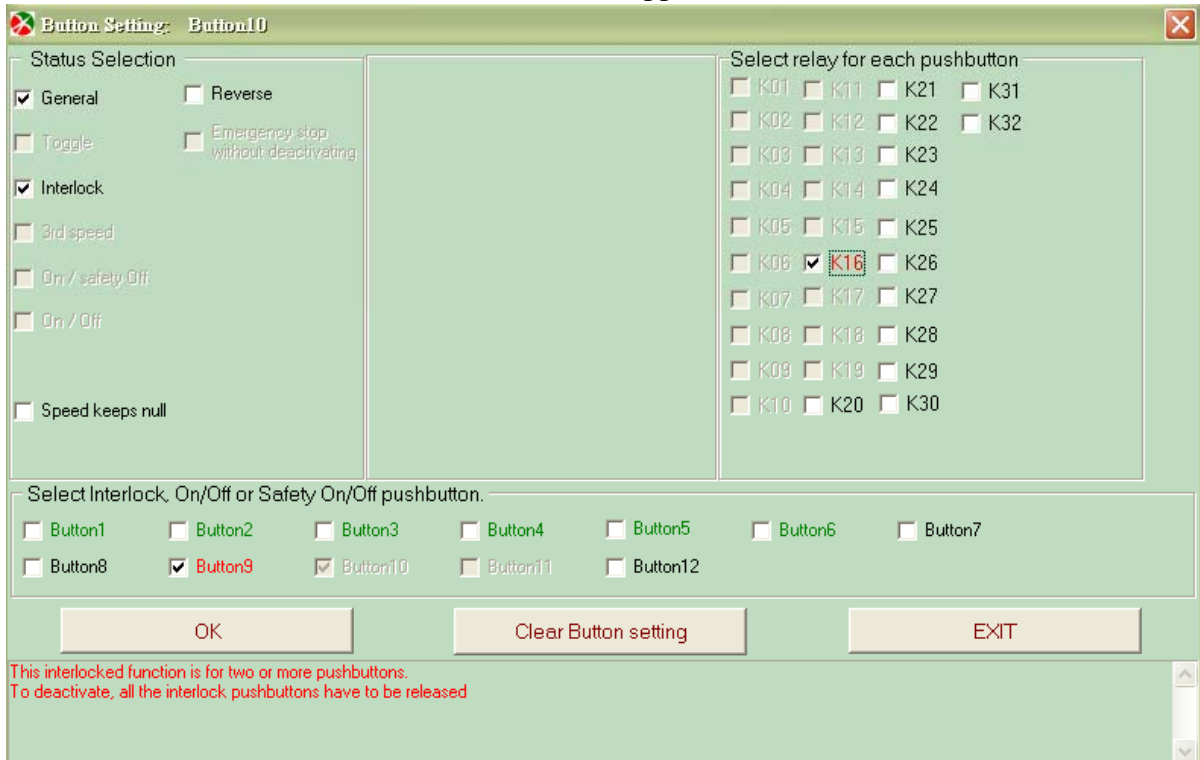
(Figure 5-6-3)

[ SET ] : Form Fig. 5-6-1 Pushbutton function setting.  
Click safe ON/OFF .



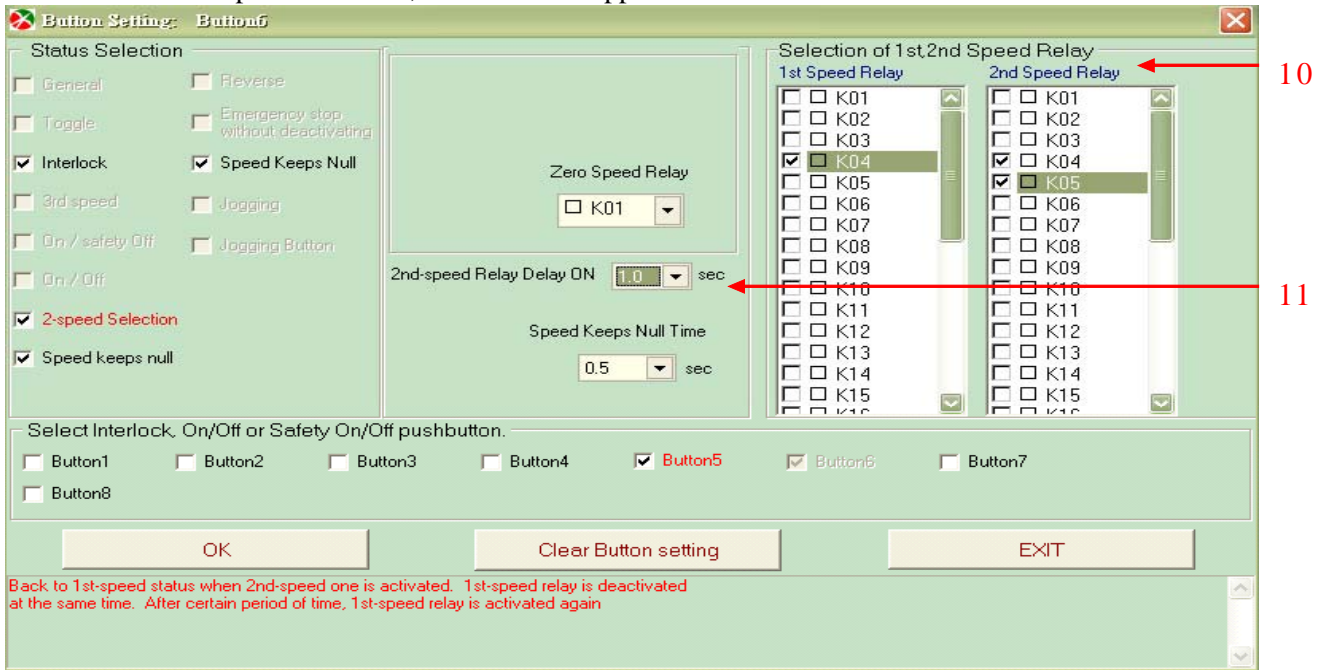
(Figure 5-6-4)

[ SET ] : Form Fig. 5-6-1 Pushbutton setting.  
Click “General” and “Interlock”, this form will appear.



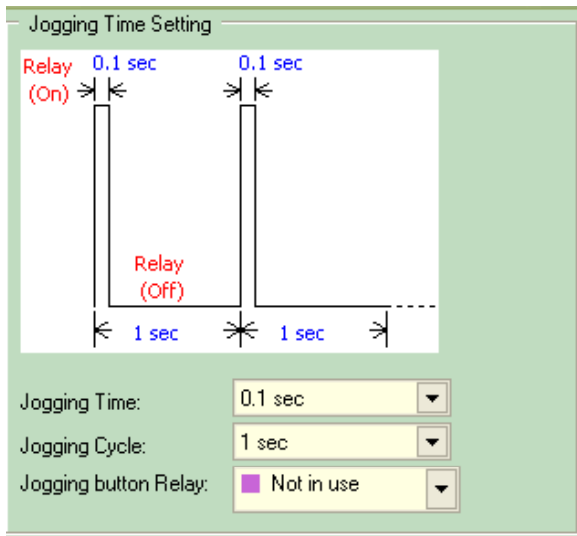
(Figure 5-6-5)

[ SET ] : Form Fig. 5-6-1 Pushbutton setting.  
 Click “double-speed function”, this form will appear

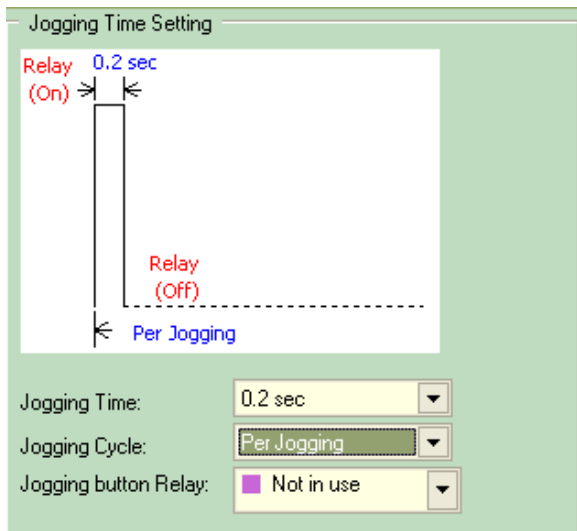


(Figure 5-6-6)

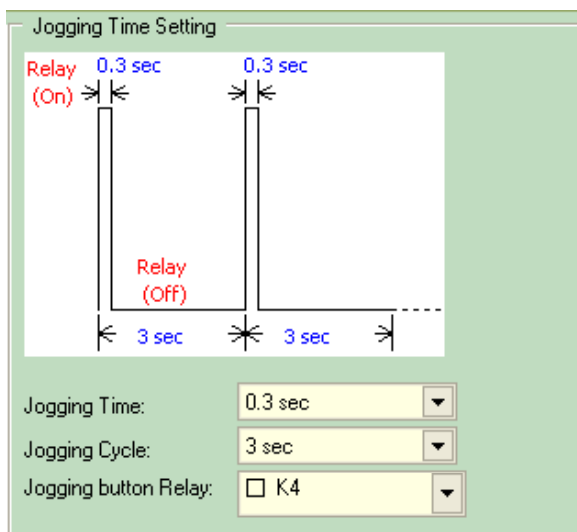
- 1 : Status selection of pushbutton function  
 Set base on hardware function: single speed, double speed, 3 speeds.  
 Please refer to Table of Contents – “Table of pushbutton function selection, P.5~6”.
- 2 : ”Confirm” button. After pushbutton function is set, click “Confirm” button to save.
- 3 : ”Clear setting” button. Click this button to clear all settings of this pushbutton.
- 4 : Selection of 3-stage selector switch
- 5 : Area of pushbutton interlock selection: Selection of pushbutton interlock.
- 6 : Message description: description of pushbutton function
- 7 : Toggle: press pushbutton to activate the toggle relay, release to deactivate.  
 Receiver toggle: Toggle function activates on receiver  
 Transmitter toggle: Toggle function activates on transmitter. Set the corresponding LED.  
 Maximum 4pcs
- 8 : LED status selection (LED1~LED4): maximum 4 LEDS for every type. No repetition.
- 9 : Selection panel of single speed relay
- 10 : Selection panel of double speed relay: 1<sup>st</sup> and 2<sup>nd</sup> speed relay
- 11 : 2<sup>nd</sup> speed delay time: Time delay from 1<sup>st</sup> to 2<sup>nd</sup> speed  
 Jogging time: After jogging function is set, select lasting time of each motion.  
 Speed keeps null time: When 2<sup>nd</sup> speed is switched back to 1<sup>st</sup> speed, the 1<sup>st</sup> speed relay will be released. When the null time is up, the 1<sup>st</sup> speed relay will be activated again.



(Figure 5-6-7)



(Figure 5-6-8)



(Figure 5-6-9)

### Selection of Jogging:

**Jogging time:**

Time for each jogging

**Jogging period:**

Activate every several seconds.

Activate only once is One Step is selected.

**Jogging switch relay:**

Relay is activated when jogging function is started.

**Note 1:**

To set jogging function, one pushbutton has to be set as jogging switch to start or cancel jogging function of other pushbuttons.

**Note 2:**

The jogging function can only be set on 1-speed pushbutton.

**Note 3:**

Jogging can only be set on single speed type, so does jogging switch.

But this function can only be set on:

8-pushbutton type: 7th, 8<sup>th</sup> pushbutton

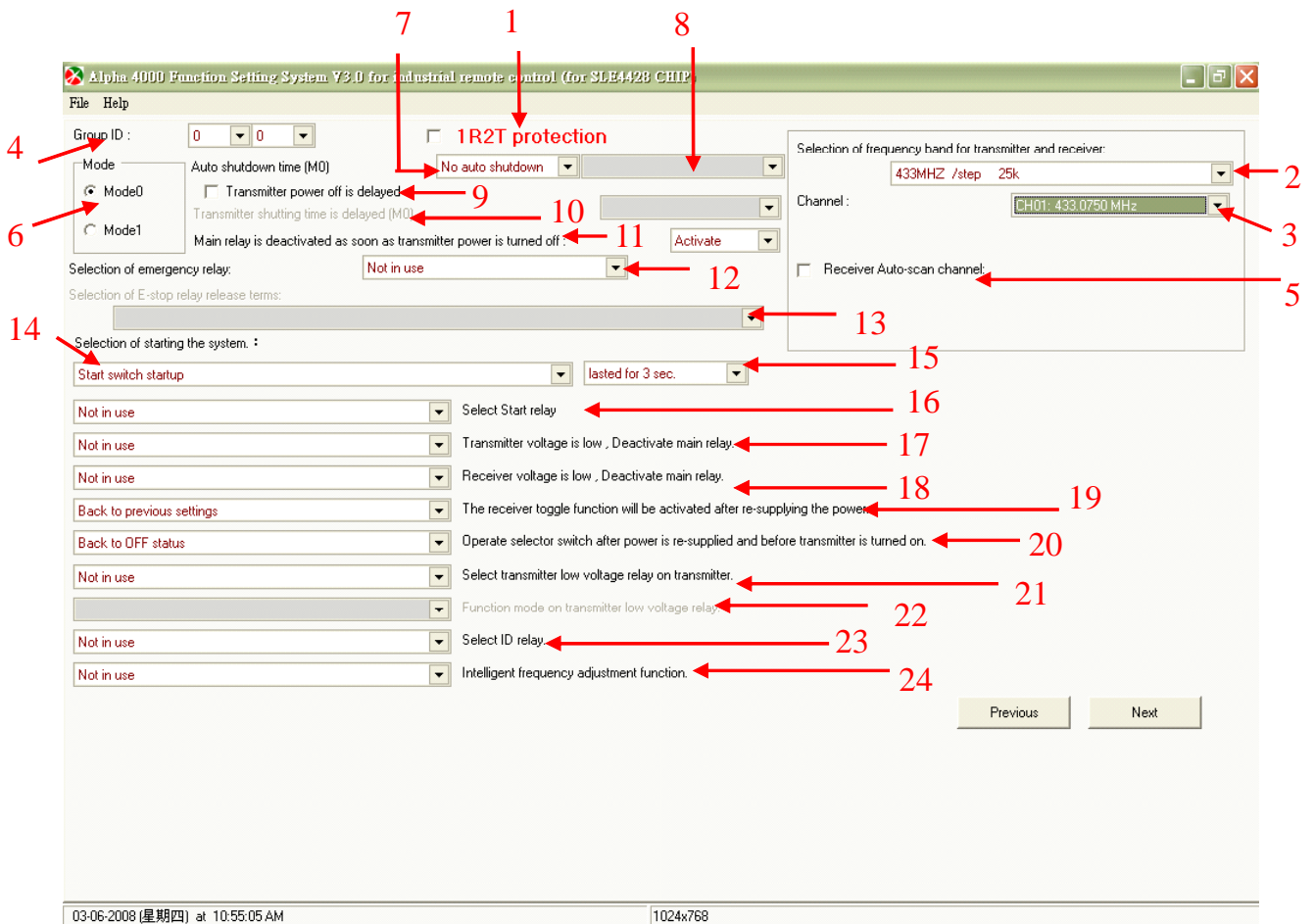
12-pushbutton type: 11<sup>th</sup>, 12<sup>th</sup> pushbutton

12+2-pushbutton type: 11th, 12<sup>th</sup> pushbuttons

Depends on the hardware.

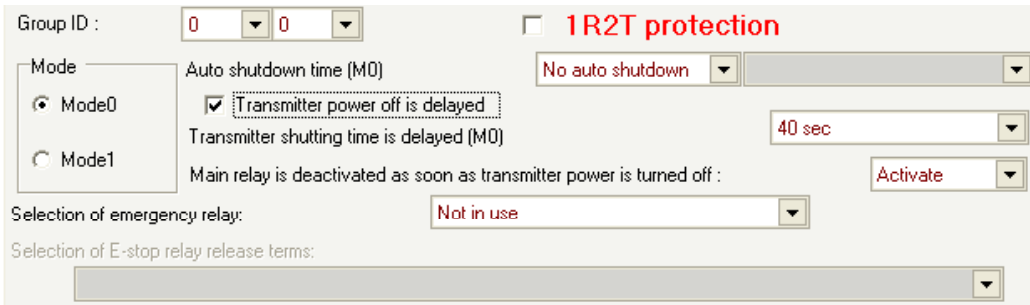


5-7. Description of Frequency Setting Form



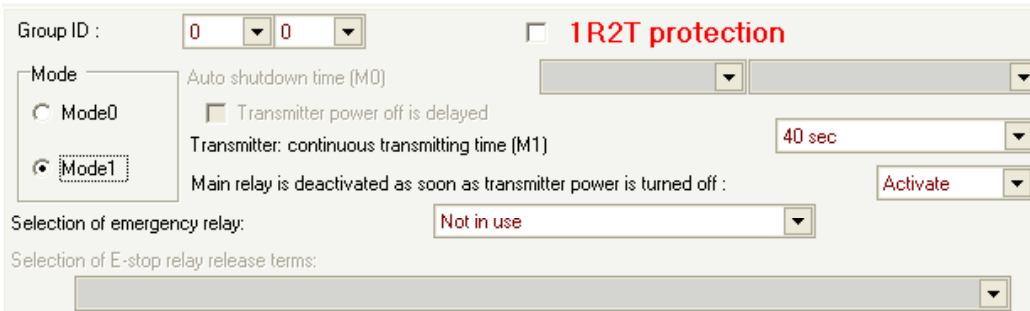
( Figure 5-7-1)

- 1 : 1R2T (1 receiver, 2 transmitters)
- 2 : Select frequency and channel:  
(Please refer to Appendix A for Frequency (RF) Channels Table)
- 433MHZ /step 25k (In-plant setting)
- 418MHZ /step 25k
- 447MHZ /step 12.5k
- 480MHZ /step 25k
- 301MHZ /step 25k
- 173MHZ /step 12.5k
- 350MHZ /step 25k
- 3 : Select channel base on band setting
- 4 : Group ID code. (Please refer to Appendix B: Group ID Code Table) ; The other numbers of ID code is set by dip-switch of hardware.
- 5 : Range of auto-frequency scanning receiver
- 6 : Mode selection: Mode 0 , Mode 1  
Mode 0: receiver auto shut off time  
Mode 1: transmitter continuous transmitting time



Select mode0

(Figure 5-7-2)



Select mode1

(Figure 5-7-3)

(Note 1) Mode 0: no signal will be transmitting when there is no transmitter pushbutton is depressed, but receiver main relay will be remain connected within setting time.

(Note 2) M1: Signal will be sending continuously within setting time when pushbutton is depressed. Receiver main relay will be connected all the time. If setting time of inactivity, the receiver main relay will be deactivated (open) immediately.

- 7 : Receiver auto shut off time: within 5~60 minutes or not in use
- 8 : Sleep mode: After receiver is auto shut off, press any button on transmitter to re-activate MAIN relay.  
Shut off: After receiver is auto shut off, press START on transmitter to reactivate receiver.
- 9 : Transmitter shut off time delay  
This function can be selected only when the system is under MODE 0. After this function is activated, transmitter delay shut off time has to be reset.
- 10 : Transmitter delay shut off time: 40 second ~ 60 minutes or no shut off. This function can be selected only when the system is under MODE 0.
- 11 : Transmitter shut off and emergency code is sent (POS) to deactivate main relay: turn On or Off. If this function is turned On, then transmitter will send emergency code to receiver when it is shut off.
- 12 : Stop relay: the stop relay will be activated when emergency stop button is depressed.

- 13 : Selection of Stop relay
  - a. The Stop relay will be deactivated when the Stop code is ended.
  - b. The Stop relay will be deactivated when no Stop code is received.
  
- 14 : System startup selection :
  - 14-1. Rotate power selector switch clockwise to start the system
    - a. Last for 3 seconds.
    - b. Last for 5 seconds
    - c. Immediately
  - 14-2. Power startup.
  - 14-3. Any pushbutton startup (3-stage selector switch excluded)
  - 14-4. Infrared startup
  
- 15 : Refer to 14-1, after the transmitter startup function is activated :
  - a. Last for 3 seconds: rotate clockwise, last for 3 seconds and release.
  - b. Last for 5 seconds: rotate clockwise, last for 5 seconds and release.
  - c. Immediately: rotate clockwise and release at once.
  
- 16 : Select Power startup relay: the relay will be automatically activated after Power relay is startup
  
- 17 : Transmitter low voltage. Main relay is deactivated.
  
- 18 : Receiver low voltage. Main relay is deactivated.
  
- 19 : Toggle function will be reset automatically after power off: including Start, Close.
  
- 20 : Position of selector switch will be reset automatically after power off: including Start, Close.
  
- 21 : Transmitter low voltage relay
  
- 22 : Transmitter low voltage (LV) relay mode
  - a. Continuous activate for every 2 seconds. (1 sec. On; 1 sec. Off, 0.5Hz automatic On/Off)
  - b. Continuous ON
  
- 23 : ID relay
  
- 24 : Wise type frequency adjustment function  
Including:
  - a. Not in use.
  - b. Start once: When this function is set into chip card, it will be activated only when power is On.
  - c. Activate whenever power is On: The frequency adjustment will be proceed whenever power is On.

### 5-8. Description of Pushbutton List

The screenshot shows a software window titled "Alpha 4000 Function Setting System 73.0 for industrial remote control (for SLE4428 CHIP)". The window contains a table with the following data:

Pushbutton	Function	1st Speed (Relay)	2nd Speed (Relay)	Interlock (Pushbutton)	Context
1	InterLock, 2-Speed	K1	K1,K2	1,2	
2	InterLock, 2-Speed	K3	K3,K4	1,2	
3	InterLock, 2-Speed	K5	K5,K6	3,4	
4	InterLock, 2-Speed	K7	K7,K8	3,4	
5	InterLock, 2-Speed	K9	K9,K10	5,6	
6	InterLock, 2-Speed	K11	K11,K12	5,6	
7	InterLock, 2-Speed	K13	K13,K14	7,8	
8	InterLock, 2-Speed	K15	K15,K16	7,8	
9	InterLock, 2-Speed	K17	K17,K18	9,10	
10	InterLock, 2-Speed	K19	K19,K20	9,10	
11	InterLock, 2-Speed	K21	K21,K22	11,12	
12	InterLock, 2-Speed	K23	K23,K24	11,12	
AUX1	General	K25			
AUX2	General	K26			

Below the table, there is a control panel with the following buttons: "Print pushbutton list", "Save as .txt file", "Save xls File", "Previous", and "Next". Red arrows point from the text labels below to the corresponding buttons in the interface.

Print pushbutton list      Save as TEXT File      Save as Excel File

(Figure 5-9)

There are 4 types of chip card operation setting:

### Method 1: Read System Setting form File

Step A: Insert chip card into chip card programmer and connect it with PC. After program s started, select “Open File” on main menu.

Step B: Select the file you would like to open. In plant setting “default.ini” file is suggested.

Step C: After file is read, burn-in the file data into chip card as remote control function settings.

Remark: “Open File” can be used to save all serial numbers, function settings and customers into “Files”

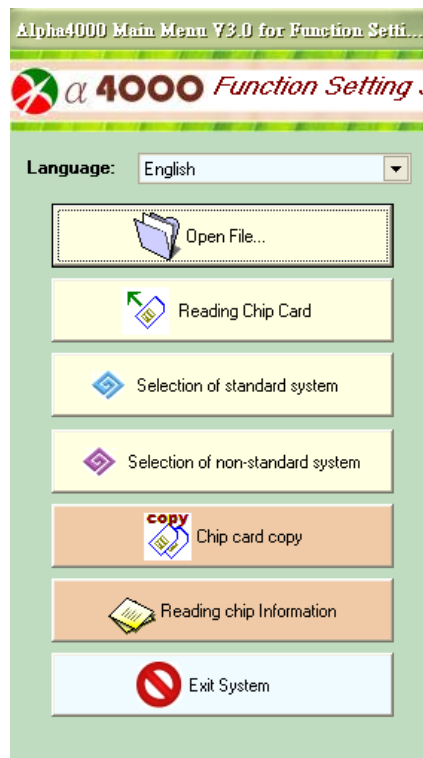
**Note: Please set the suitable system type base on hardware function. Operation error might occur if select system type is different from the actual hardware.**

Select “Open File” on Main Menu → click “Select File”

A. → click “Pushbutton Setting” to change setting → click “Frequency setting “to change setting → click “List” → click “Read chip card” to write into chip card.

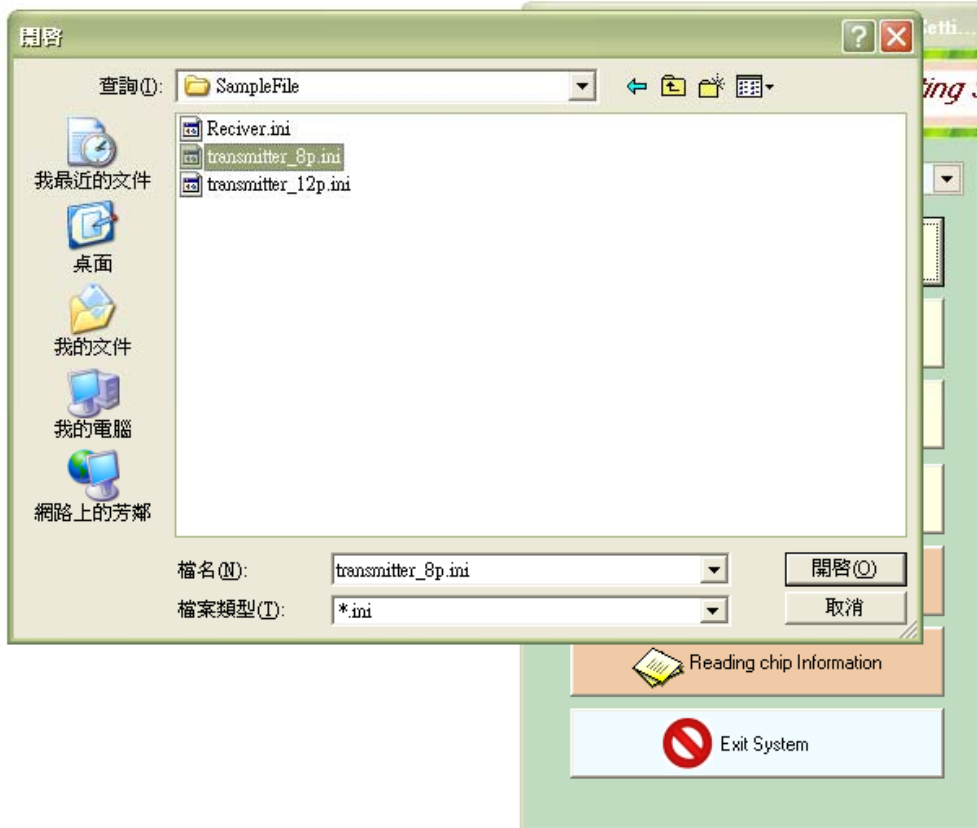
B. → No change in setting. Select the suitable file and write in the data into the chip card.

Type 1: Insert chip card into chip card programmer and connect the 9-pin RS232 cable of programmer to PC COM port. After program is started, select “Open File” on main menu.



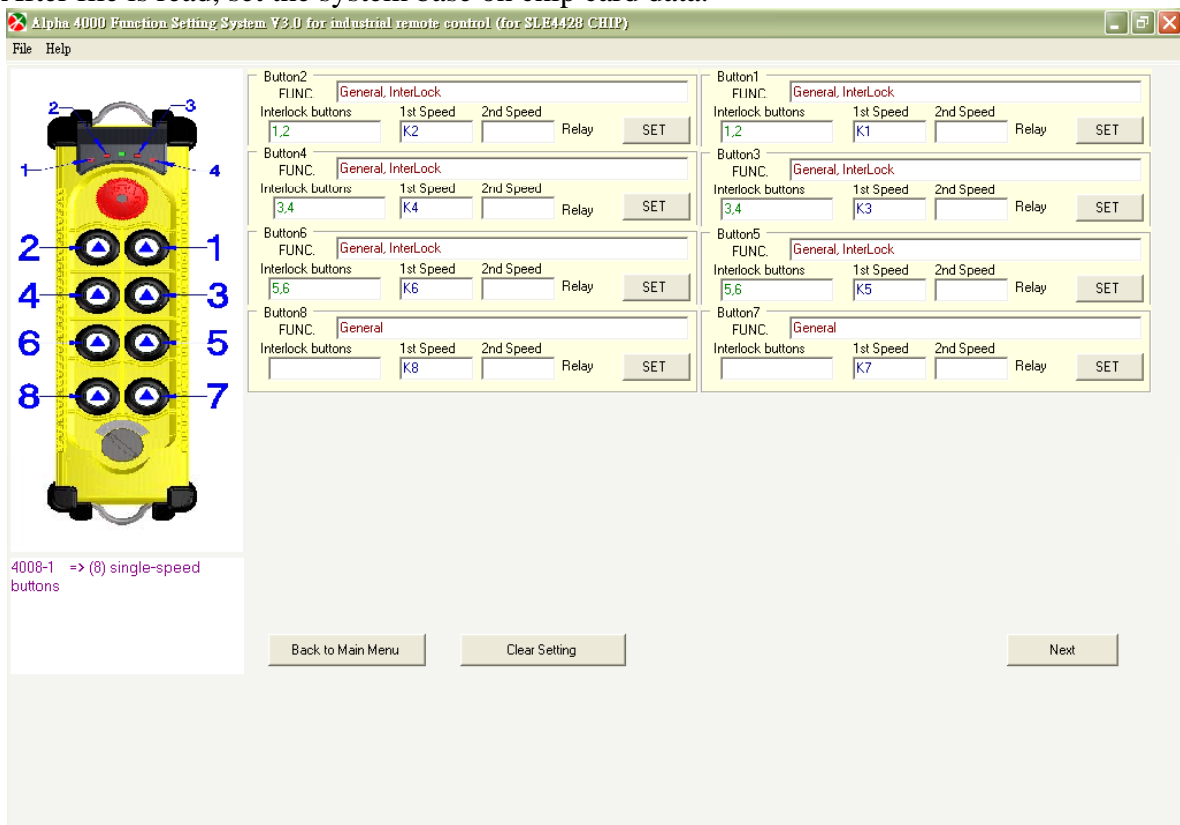
(Figure 6-1-1)

Type 2: Select the file you would like to open. In-plant setting “default.ini” file is suggested.



(Figure 6-1-2)

Type 3: After file is read, set the system base on chip card data.



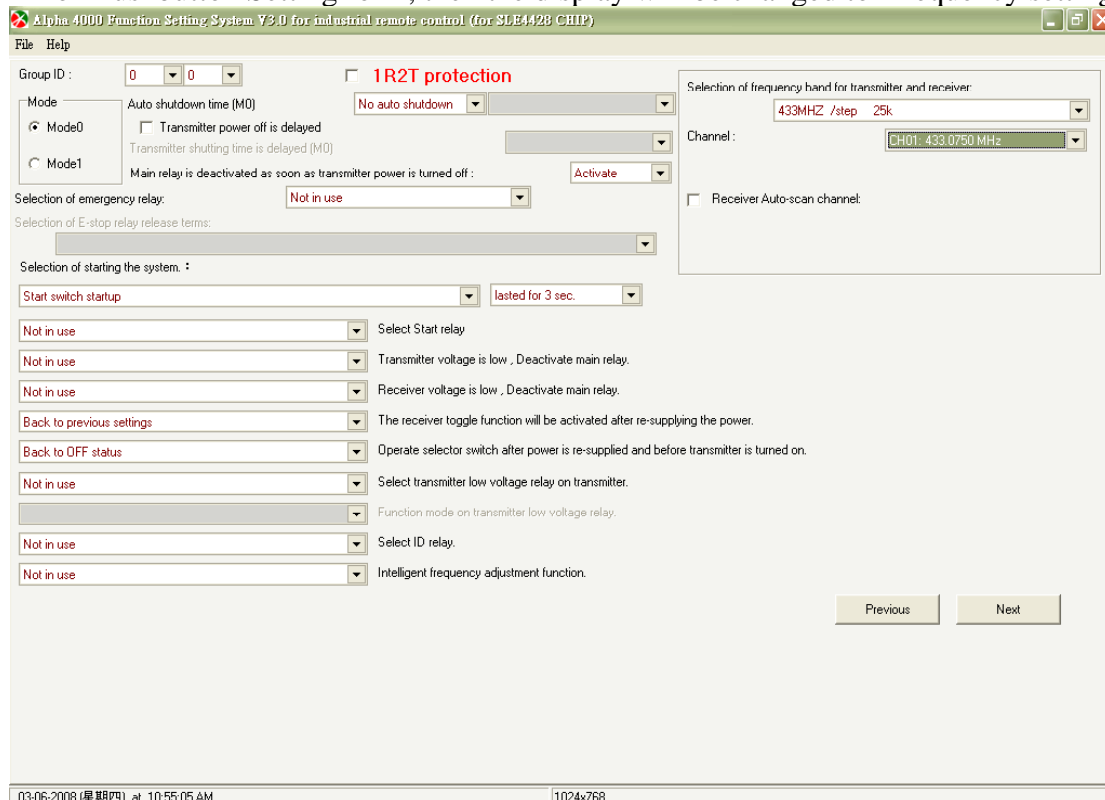
(Figure 6-1-3)

For example: Tickle “pushbutton 2 setting” on main form. The pushbutton setting display will show the setting of this single speed pushbutton. For any function changes, you may set on this menu. **If reset cannot be done, click “clear button setting” and back to “main menu” for reset. Or back to “main menu”, then select “selection of non-standard system type” and set for what is needed one by one.**



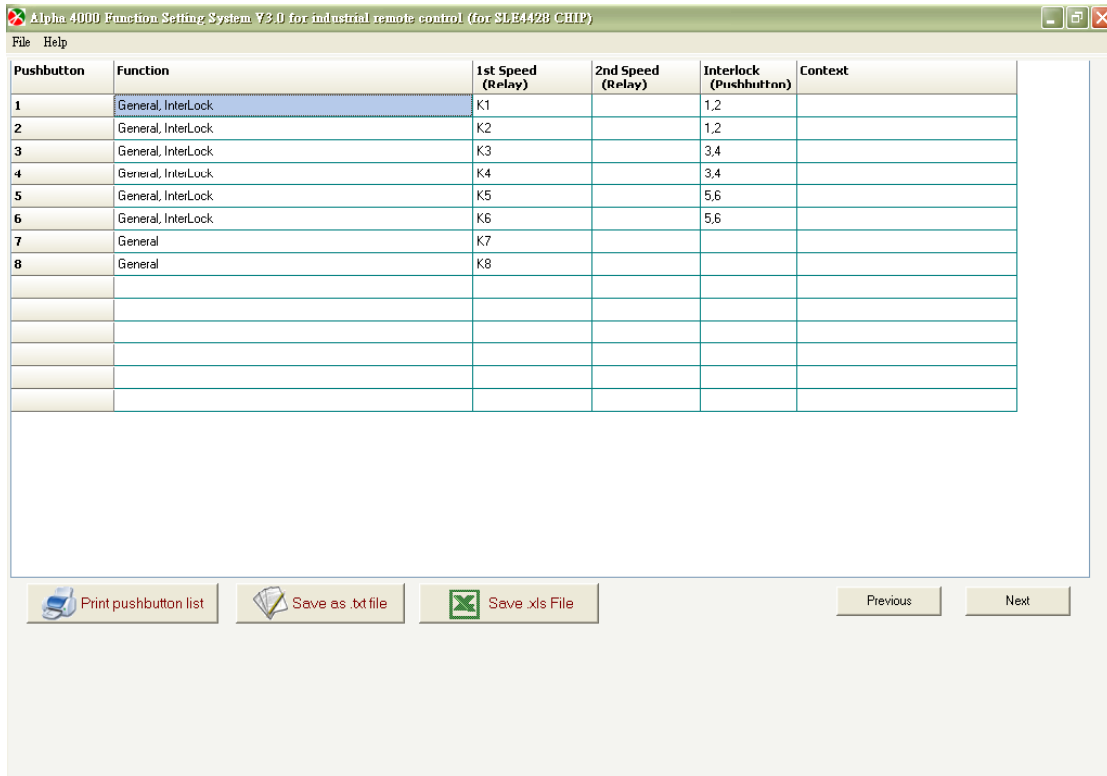
(Figure 6-1-4)

Click NEXT on Pushbutton Setting form, then the display will be changed to “frequency setting”.



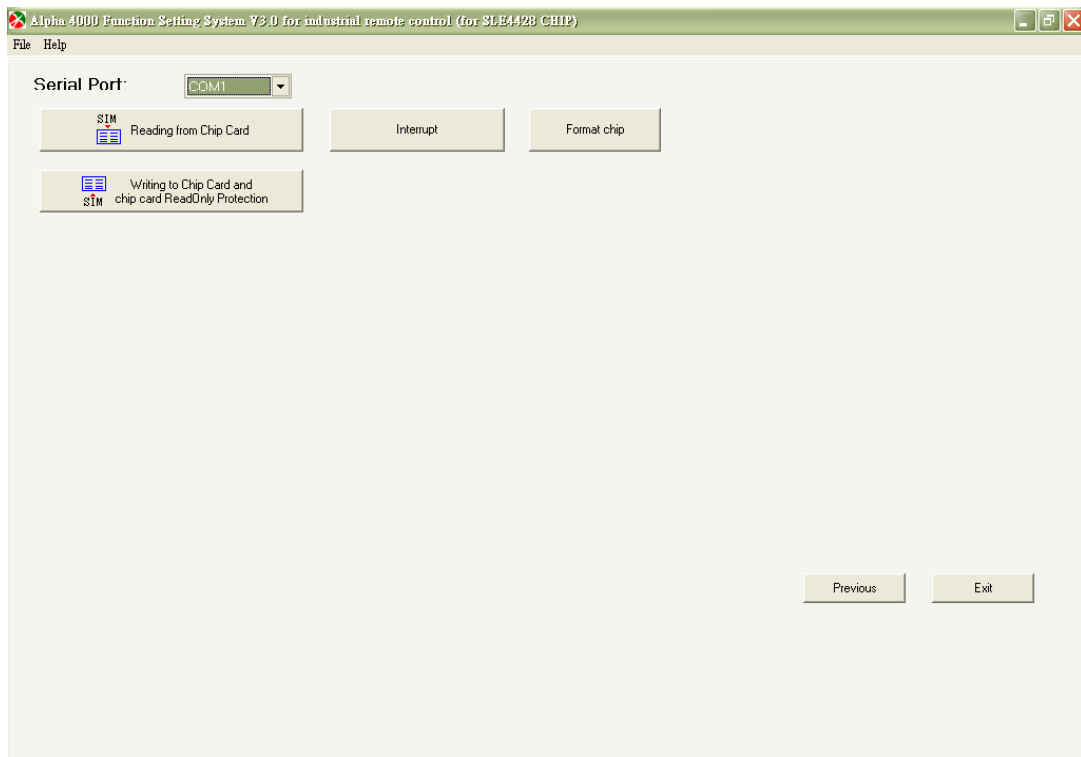
(Figure 6-1-5)

Pushbutton list shows the current status of pushbutton setting.



(Figure 6-1-6)

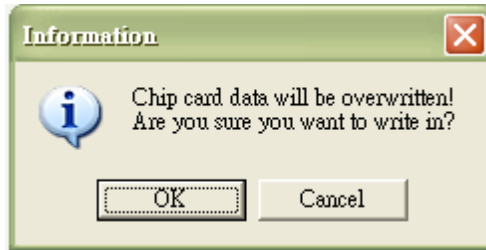
### Chip card read/write-in display



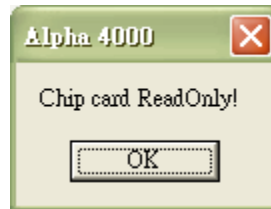
(Figure 6-1-7)



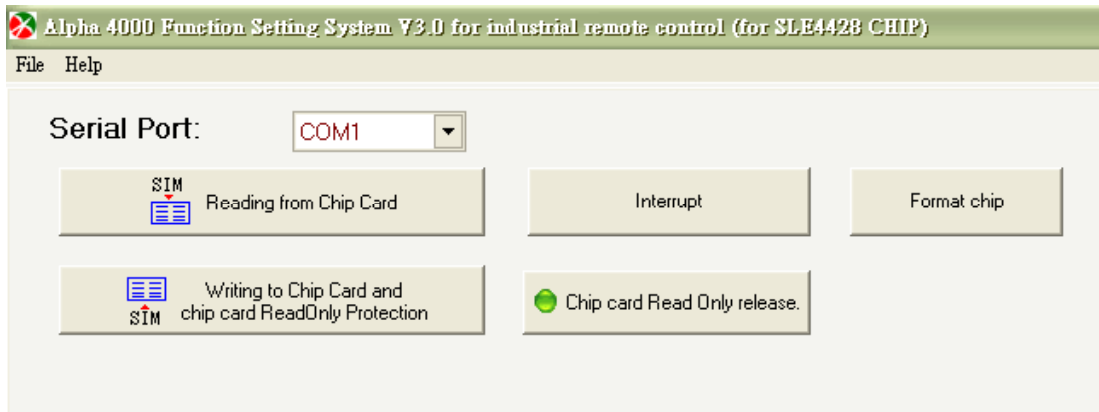
Press “write-in chip card”, then “Are you sure you want to write-in?” shows. Press “OK” to start and “Cancel” to exit and back to main menu.



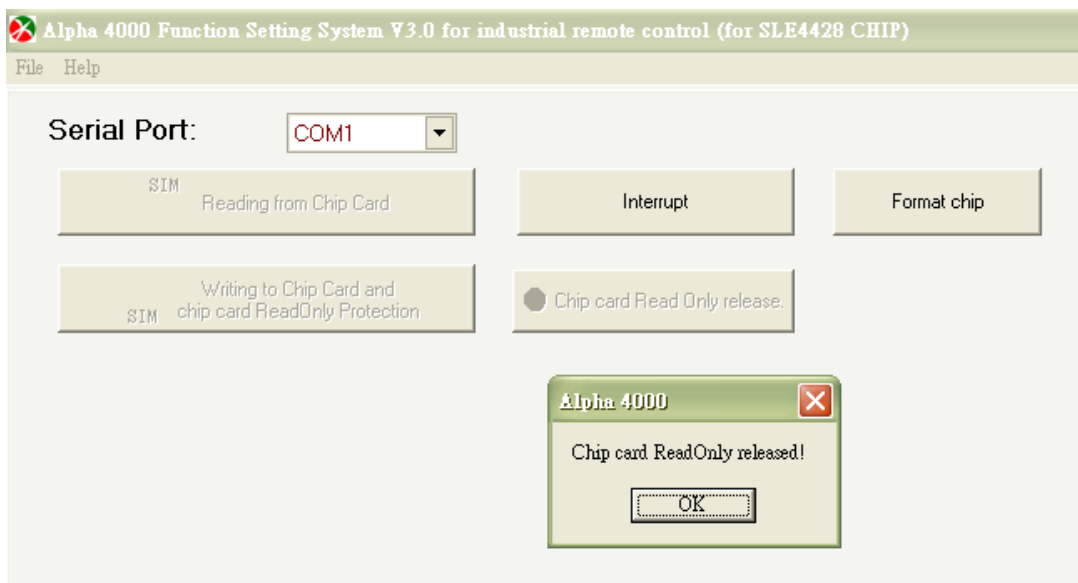
(Figure 6-1-8)



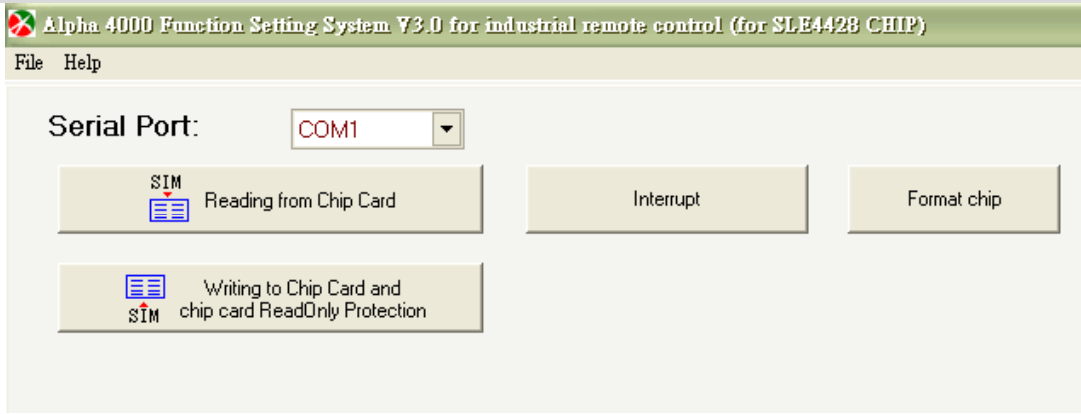
(Figure 6-1-9)



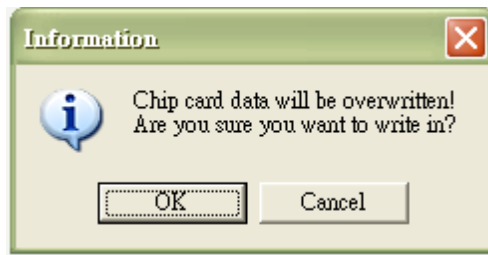
(Figure 6-1-10)



(Figure 6-1-11)

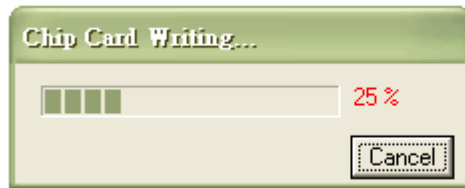


(Figure 6-1-12)



(Figure 6-1-13)

Chip card is writing in.....



(Figure 6-1-14)

“Chip card burning success” shows after writing in successfully, error message shows if not.



(Figure 6-1-15)

## Method 2: Read File from Chip Card A and Burn-in to Chip Card B

**Step 1:** Insert chip card into its burner and connect it to computer. After program is started, click “Open file” on main menu.

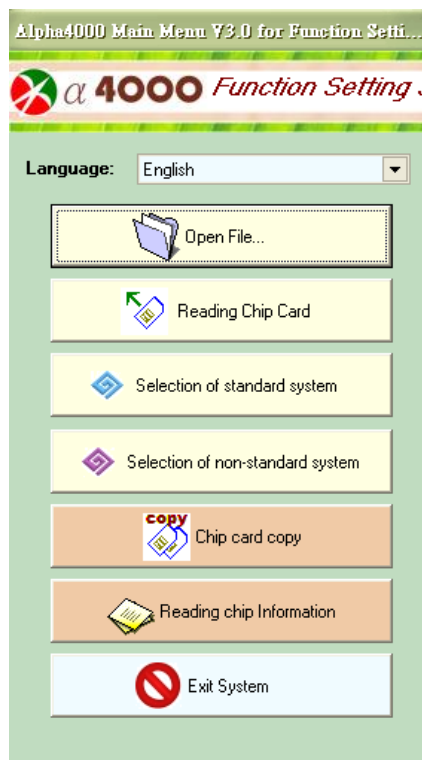
**Step 2:** After reading chip card data, set remote control according to chip card data. Reset if needed and then burn-in or copy the data into new chip card.

**Note:** Please set the suitable system type base on hardware function. Operation error might occur if select system type is different from the actual hardware.

Insert the original chip card → select “Read chip card” on main menu →

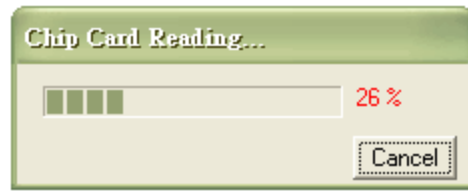
- A. → click “Pushbutton Setting” to change setting → click “Frequency setting “to change setting → click “Write-in chip card” to write into new chip card
- B. → “Pushbutton setting”, “Frequency setting”, “List” → “Read chip card” → copy to new chip card

1. Insert chip card into its burner and connect the 9-pin RS232 cable of programmer to PC COM port. After program is started, click “Open file” on main menu.



(Figure 6-2-1)

2. Reading chip card



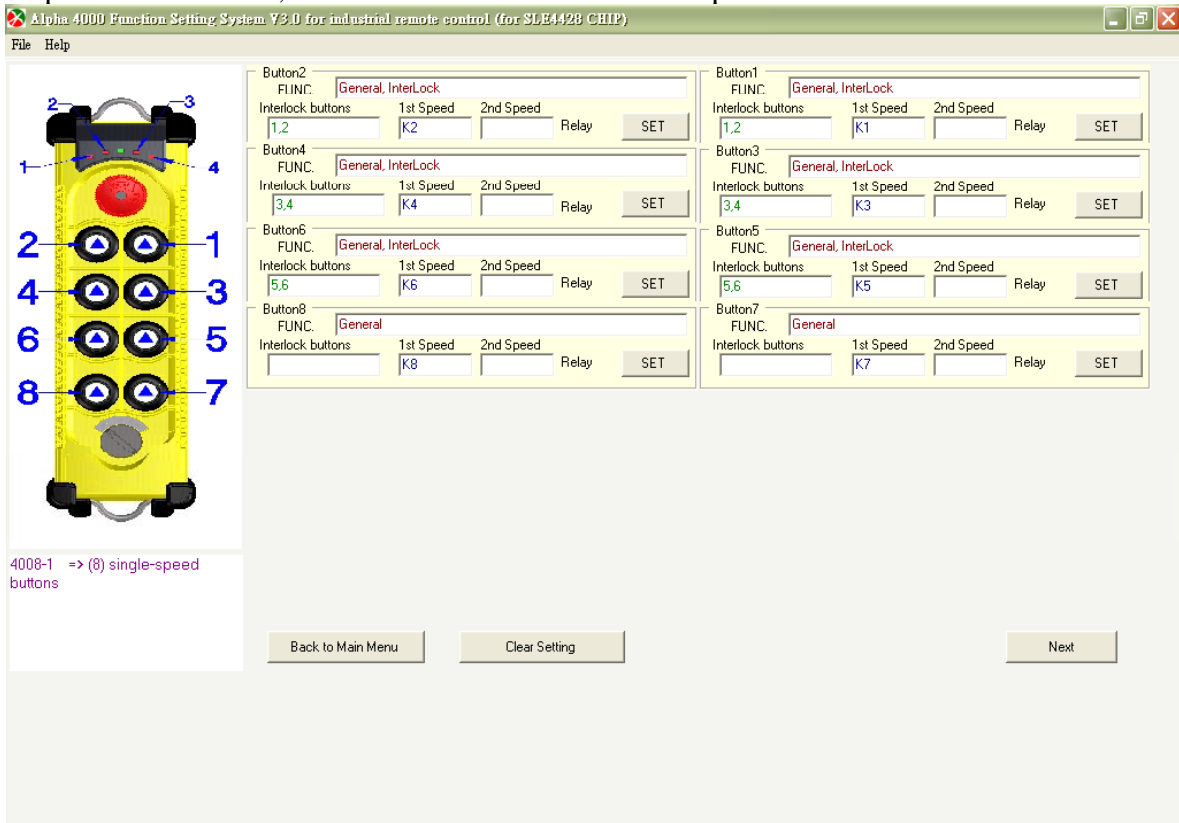
(Figure 6-2-2)

3. "Chip card burning success" shows after writing in successfully.



(Figure 6-2-3)

4. After chip card data is read, set remote controller base on chip card data.



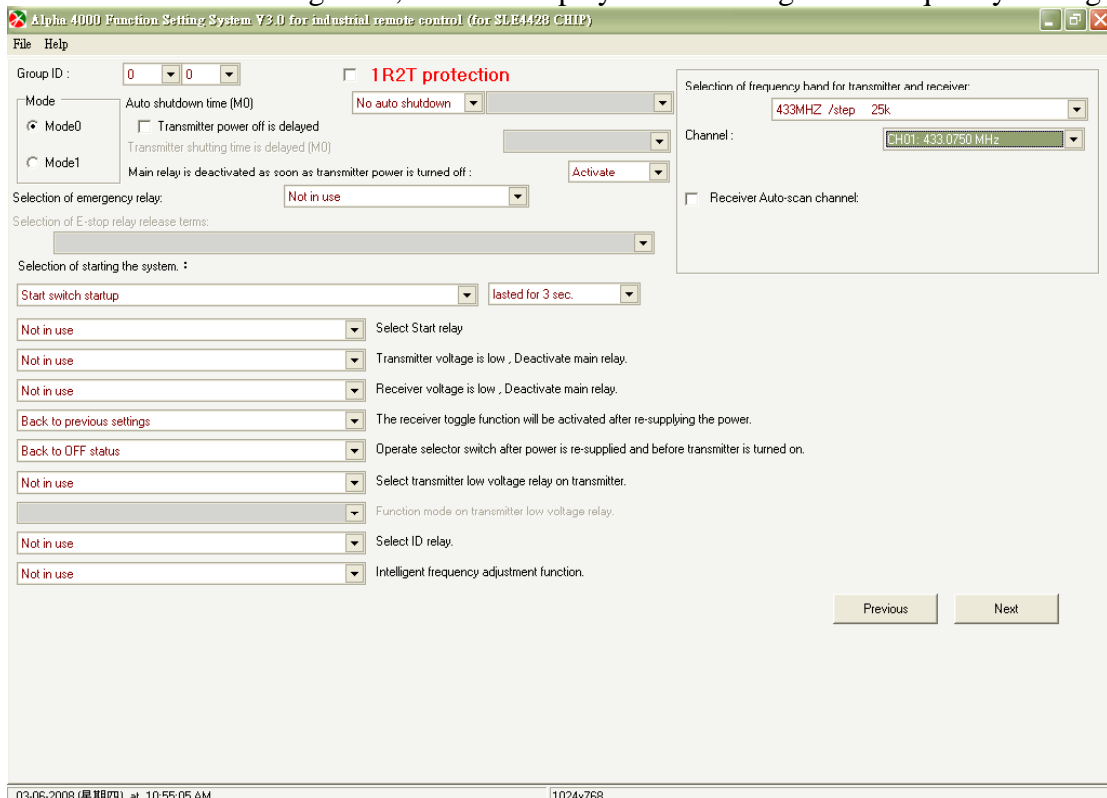
(Figure 6-2-4)

For example: Tickle “pushbutton 2 setting” on main form. The pushbutton setting display shows the setting of this single speed pushbutton. For any function changes, you may set on this menu. **If reset cannot be done, click “clear button setting” and back to “main menu” to reset. Or back to “main menu”, then select “selection of non-standard system type” and set for what is needed one by one.**



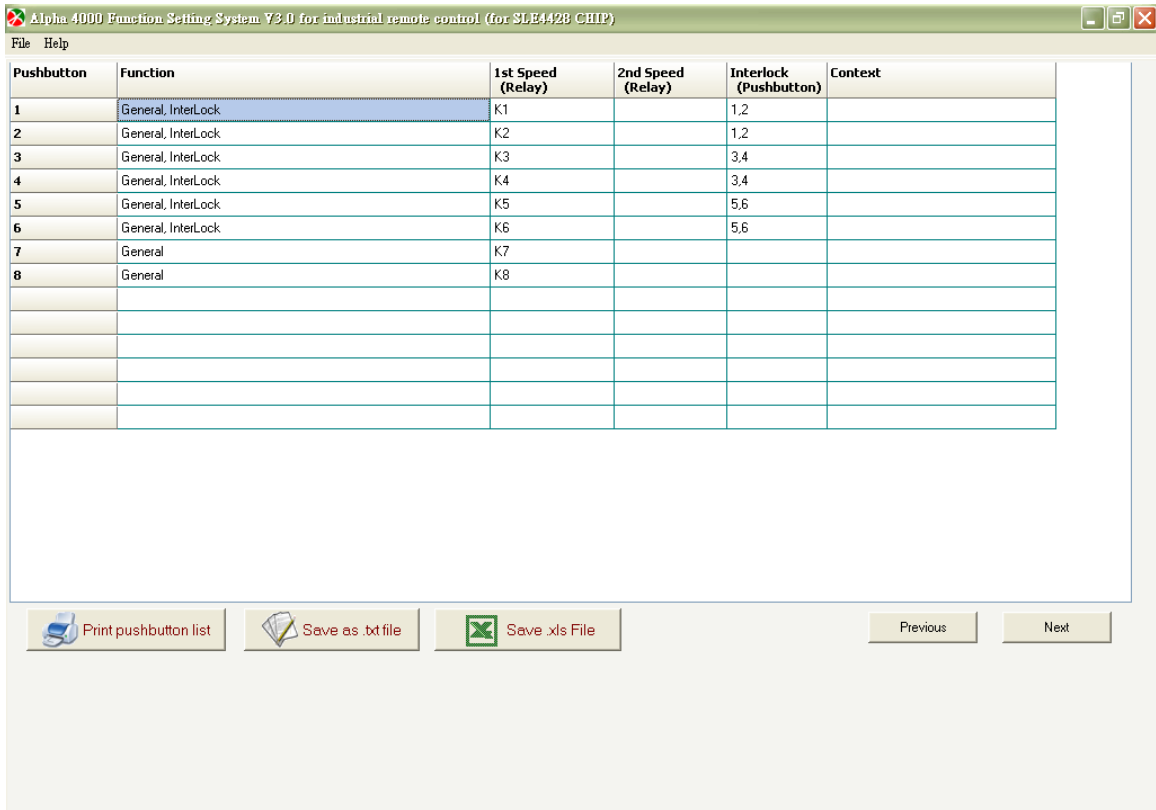
(Figure 6-2-5)

Click NEXT on Pushbutton Setting form, then the display will be changed to “frequency setting”.



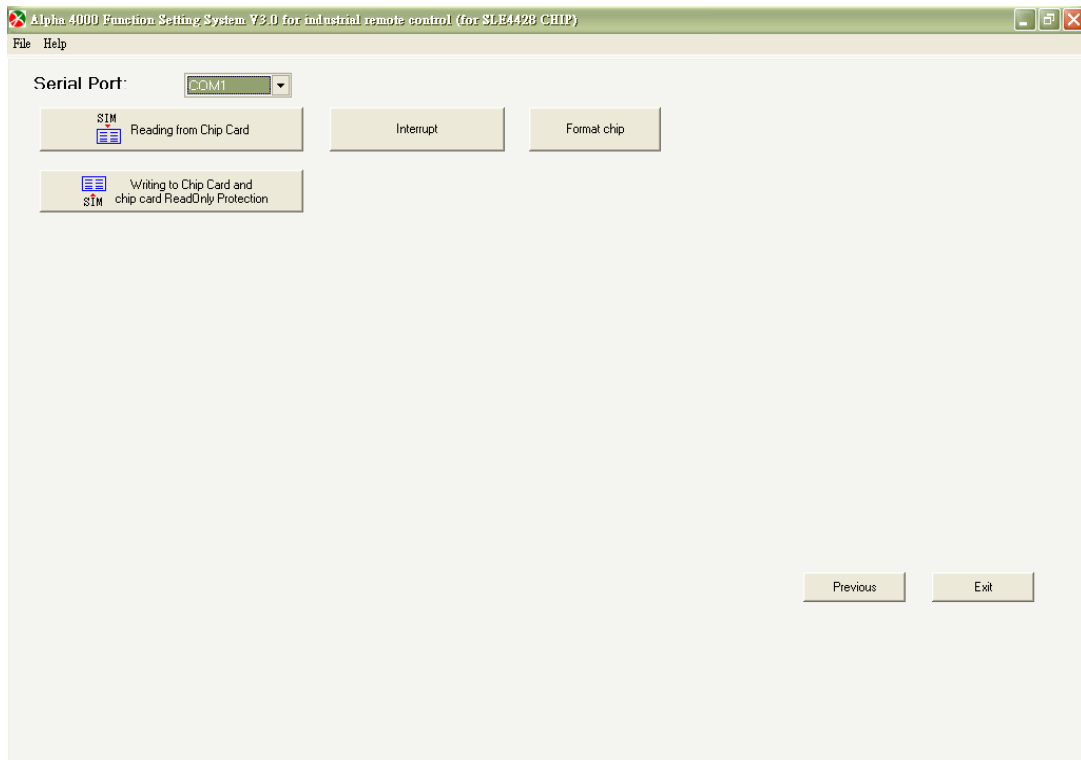
(Figure 6-2-6)

Pushbutton list shows the current status of pushbutton setting.



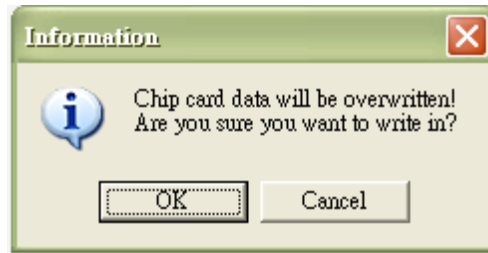
(Figure 6-2-7)

Chip card read/write-in display



(Figure 6-2-8)

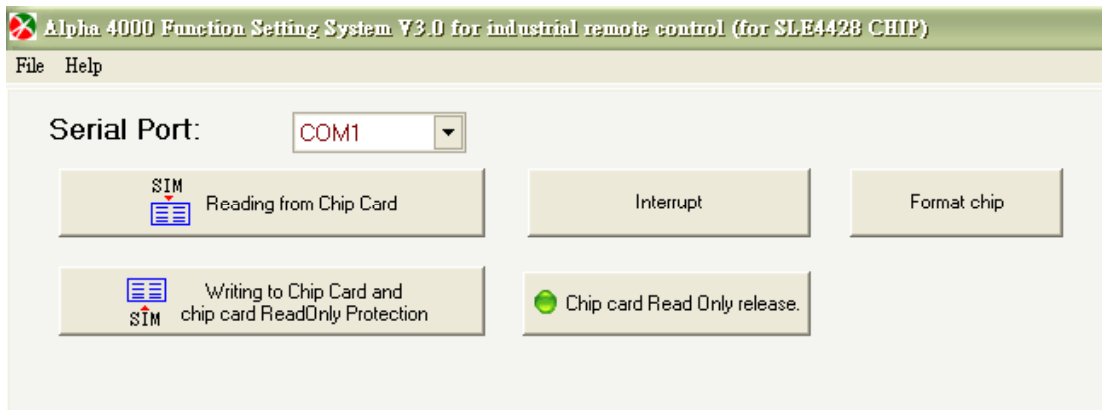
Press “write-in chip card”, then “Are you sure you want to write-in?” shows. Press “OK” to start and “Cancel” to exit and back to main menu.



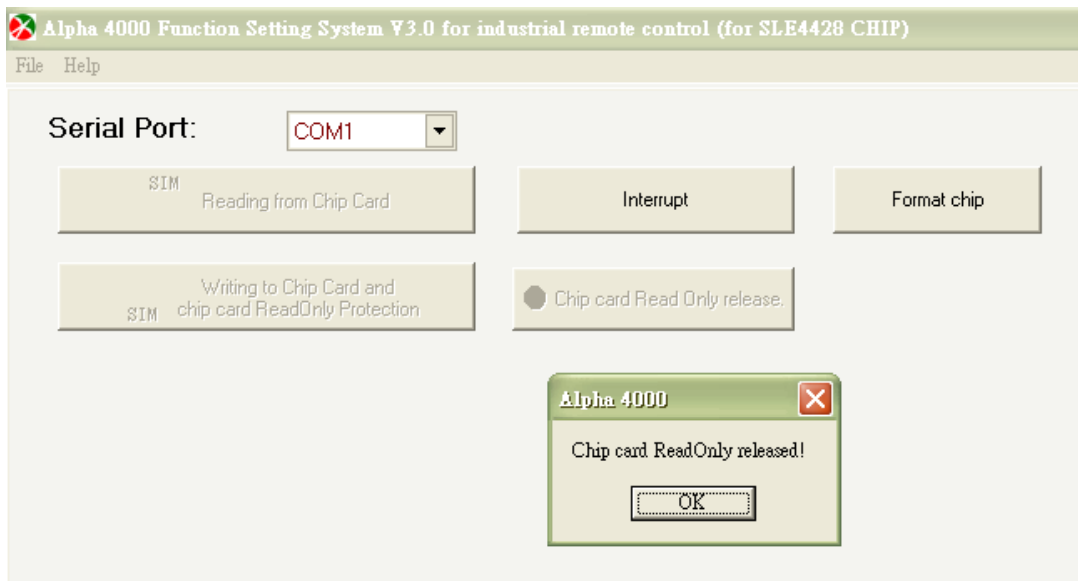
(Figure 6-2-9)



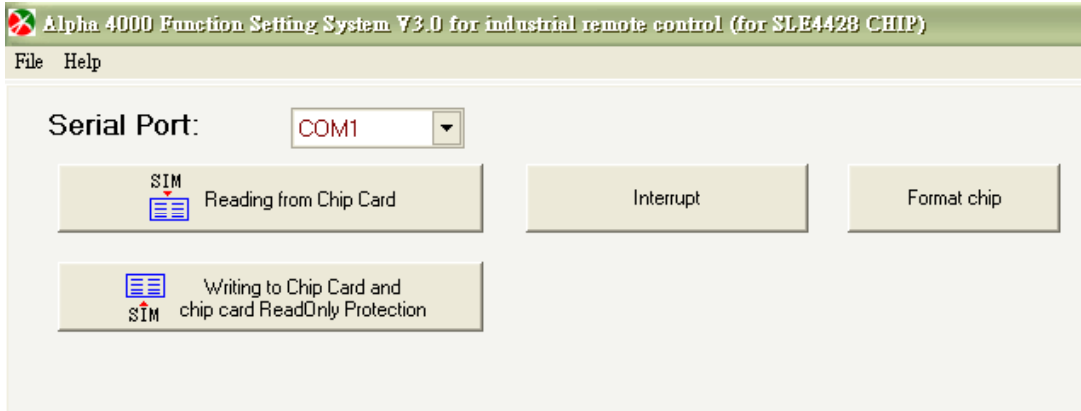
(Figure 6-2-10)



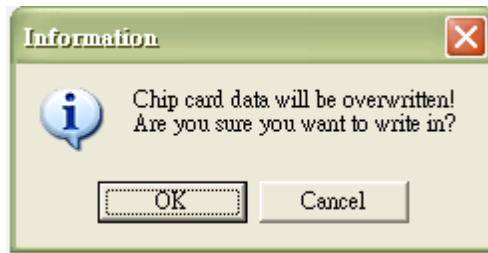
(Figure 6-2-11)



(Figure 6-2-12)

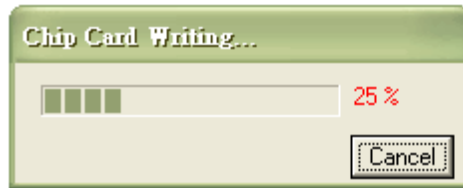


(Figure 6-2-13)



(Figure 6-2-14)

Chip card is writing in.....



(Figure 6-2-15)

“Chip card burning success” shows after writing in successfully, error message shows if not.



(Figure 6-2-16)



### Method 3: Click [Selection of Standard System Type] form Main Menu.

“Selection of standard system type” → The standard in-plant setting systems, including: 8-pushbutton, 12-pushbutton and 12+2-pushbutton types.

**Steps:** Insert chip card into its burner and connect it to computer. After program is started, click “selection of standard system type” on main menu. Then select the setting needed by following the procedure until chip card is written-in.

**Note:** Please set the suitable system type base on hardware function. Operation error might occur if select system type is different from the actual hardware.

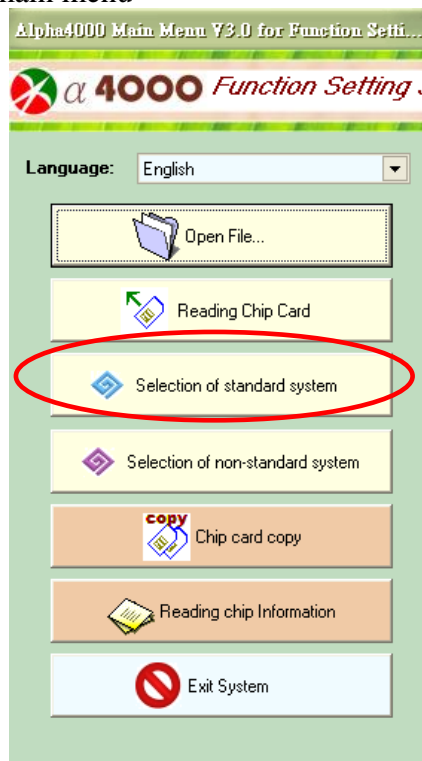
Select “Selection of standard system type” on main menu → →

→ “Selection of Alpha 4000 example”

- A. → If setting cannot be changed, please back to main menu again and select “Selection of non-standard system type” to reset function for every pushbutton.
- B. → Click “pushbutton setting” to change data → click “frequency setting” to change data → “list” → click “write-in chip card” to write-in data into new chip card.
- C. → Click “pushbutton setting” and not change the original data → click “write-in chip card” to write-in data into new chip card.

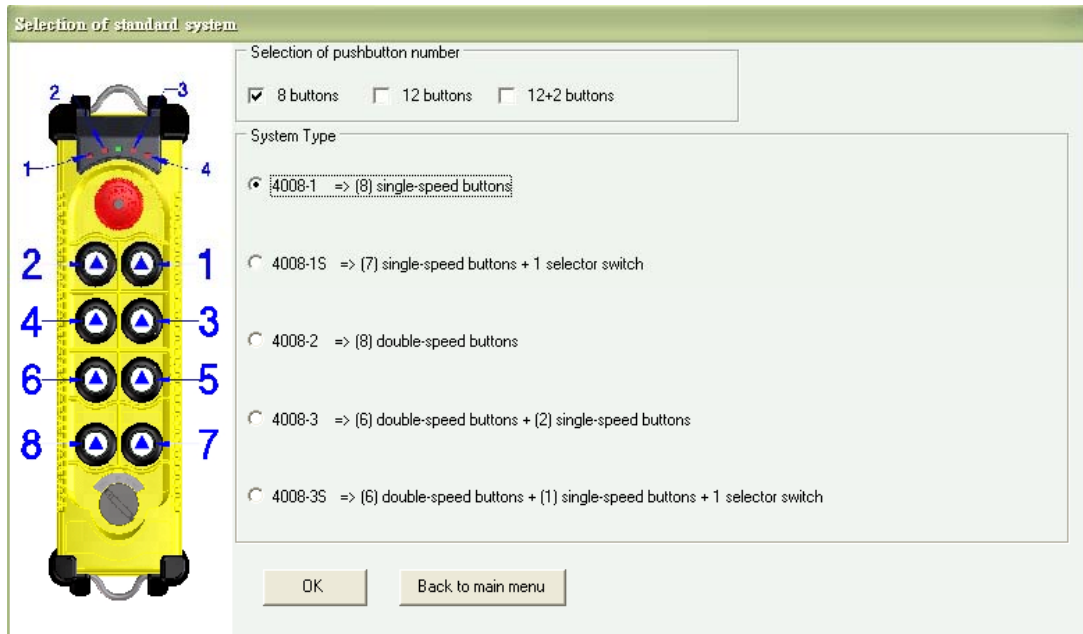
#### (1) 8-Pushbutton Type Operation

Click “Standard Type Selection” on main menu



(Figure 6-3-1-1)

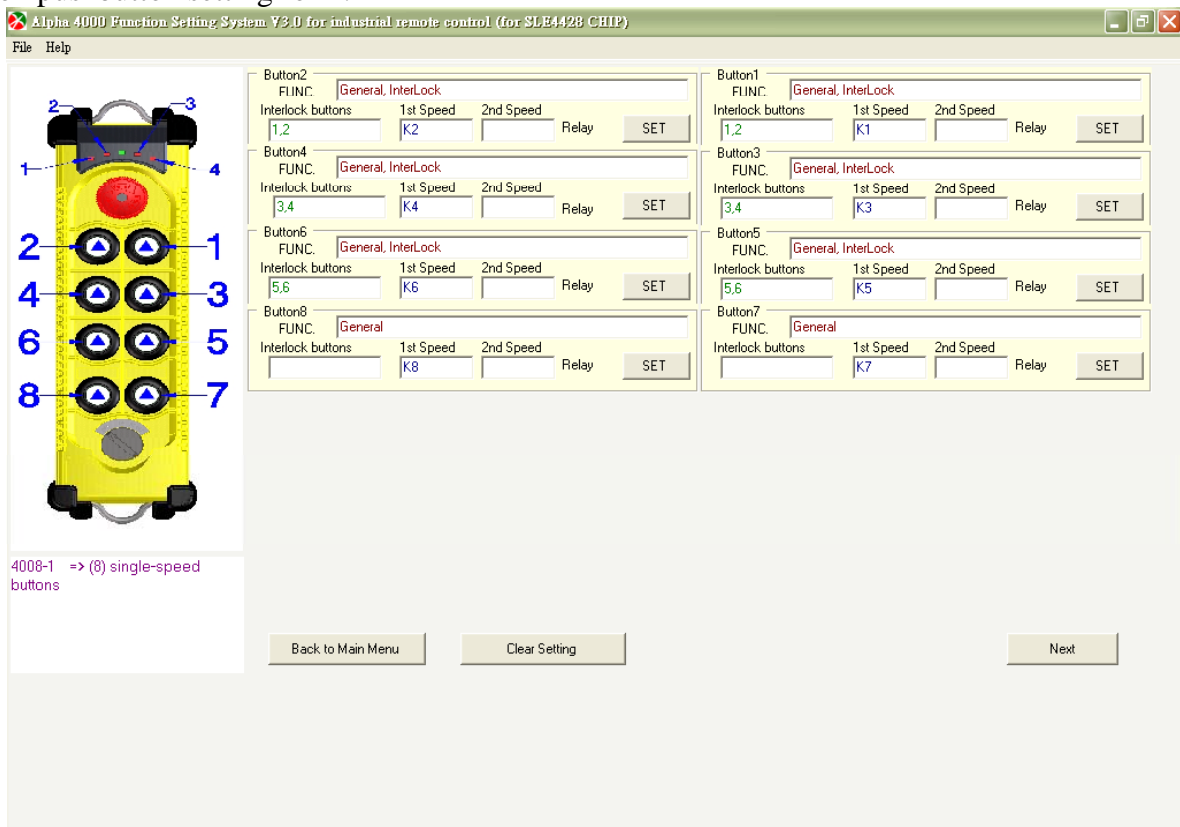
Click “8 pushbuttons” on “Selection of pushbutton number”, then, select type “4008-1 => 8 single speed pushbuttons.



(Figure 6-3-1-2)

**Main Form: display current pushbutton function settings**

Click “SET” on this menu for the change of pushbutton functions. After the clicking, select the function needed on pushbutton setting form.



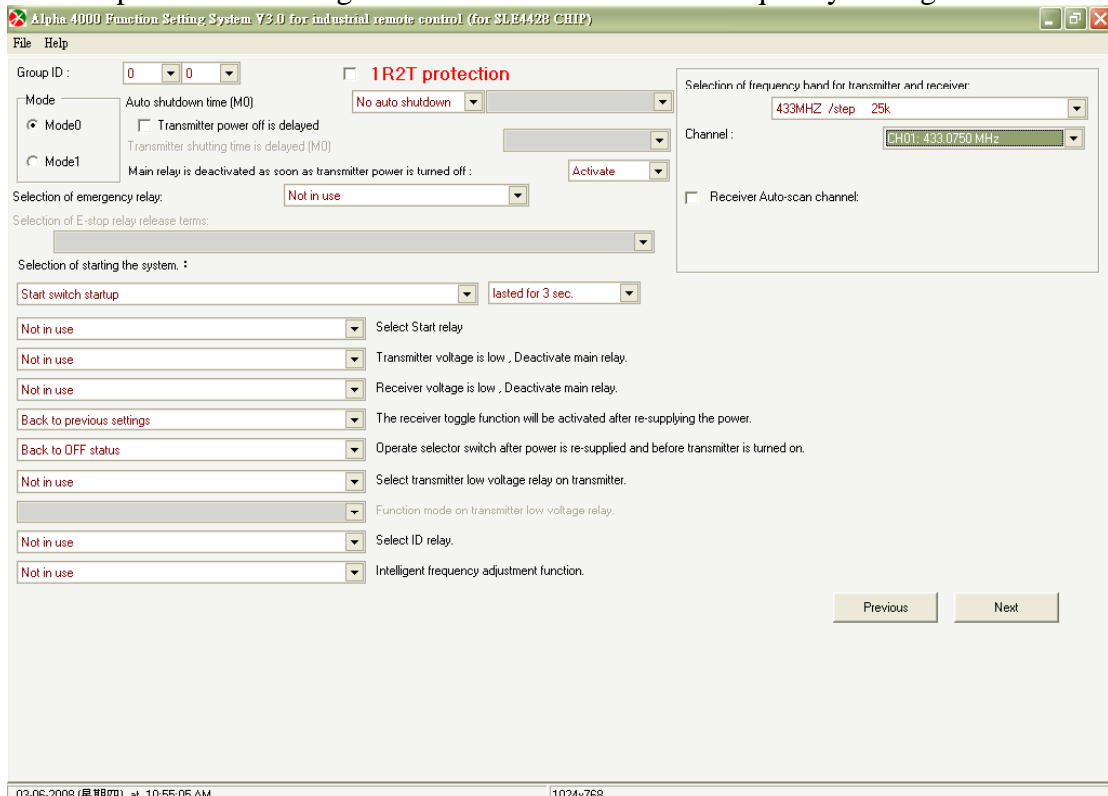
(Figure 6-3-1-3)

**For example:** Tickle “pushbutton 2 setting” on main form. The pushbutton setting display will show the setting of this single speed pushbutton. For any function changes, you may set on this menu. **If reset cannot be done, click “clear button setting” and back to “main menu” to reset. Or back to “main menu”, then select “selection of non-standard system type” and set for what is needed one by one.**



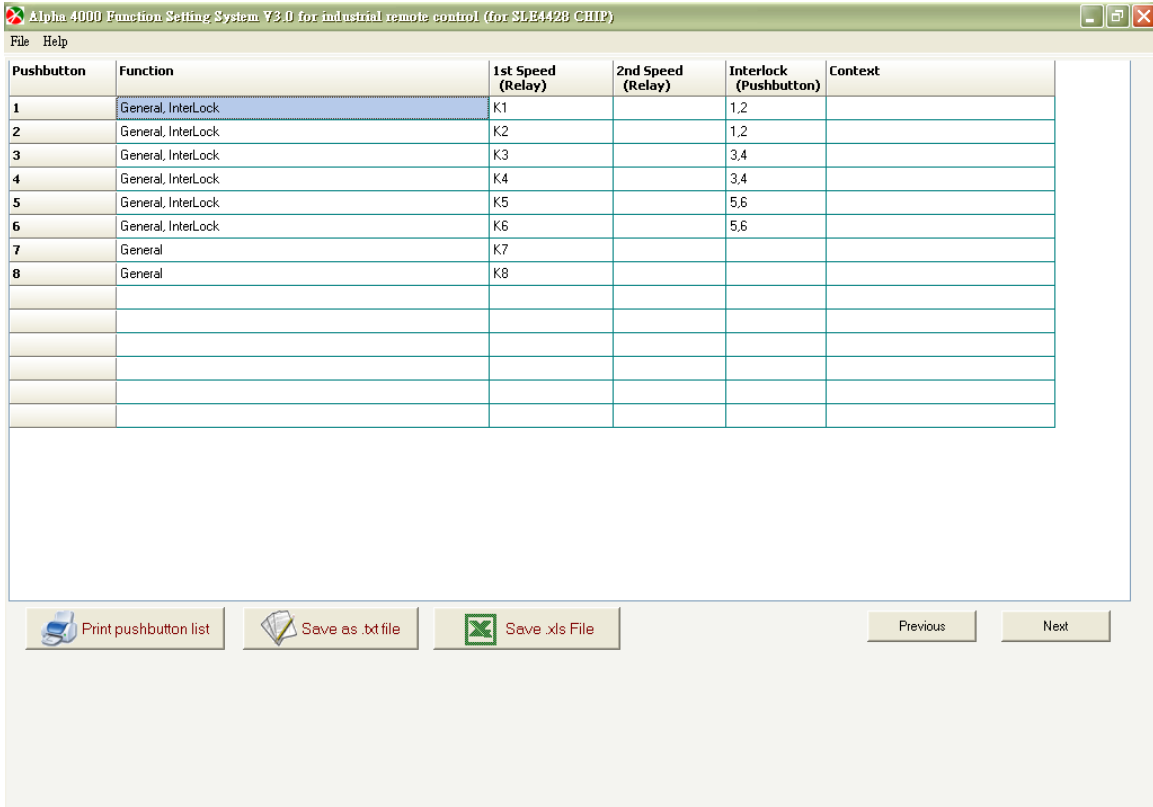
(Figure 6-3-1-4)

Click “Next” on pushbutton setting form and it will switch to “Frequency setting” form.



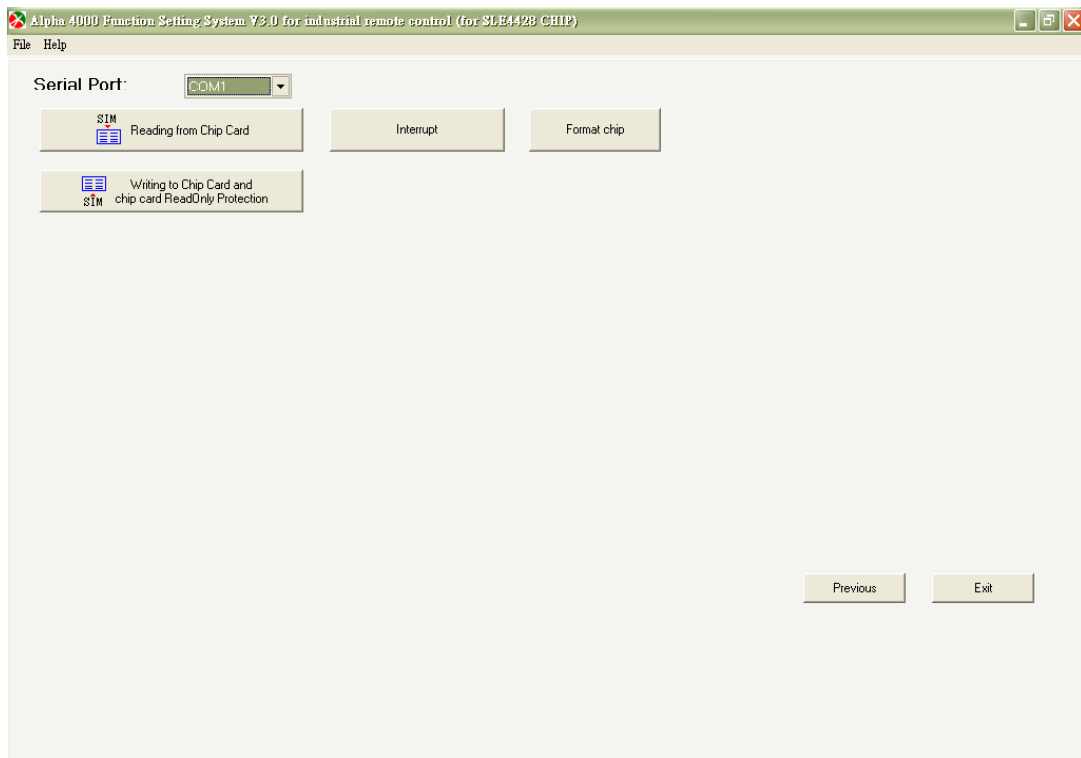
(Figure 6-3-1-5)

“Pushbutton list” shows the current pushbutton setting



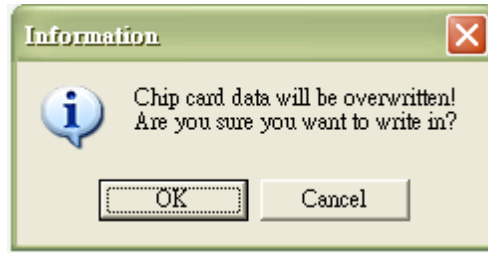
(Figure 6-3-1-6)

Chip card reading/write-in form

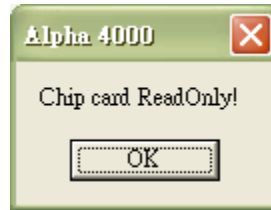


(Figure 6-3-1-7)

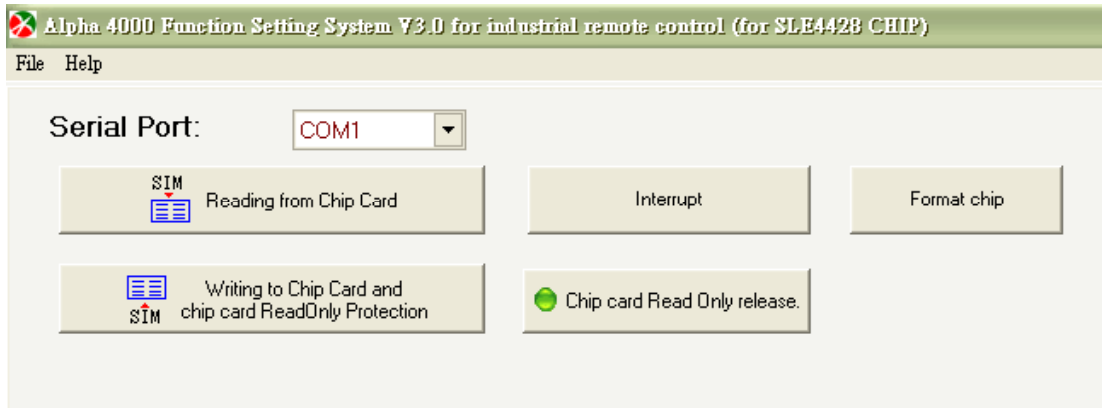
Click “write-in chip card” on this form, then it shows “Are you sure you want to write-in?” Press “OK” to start or “Cancel” to exit and back to main form.



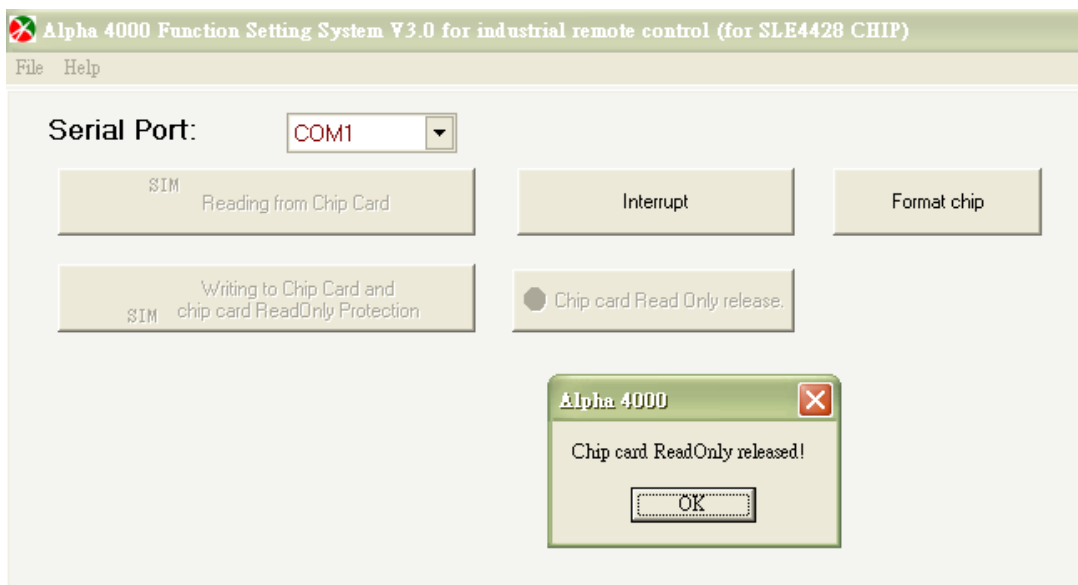
(Figure 6-3-1-8)



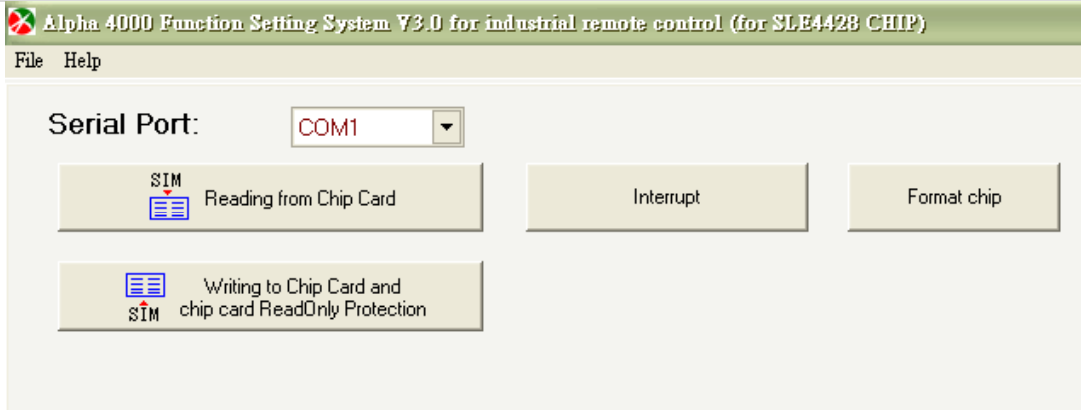
(Figure 6-3-1-9)



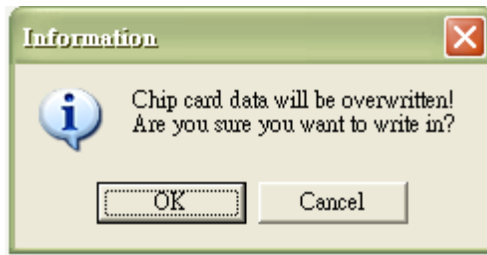
(Figure 6-3-1-10)



(Figure 6-3-1-11)

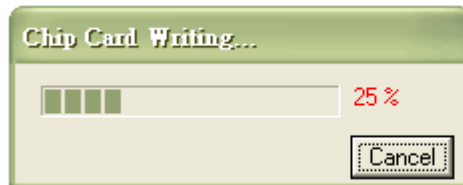


(Figure 6-3-1-12)



(Figure 6-3-1-13)

Chip card is writing in.....



(Figure 6-3-1-14)

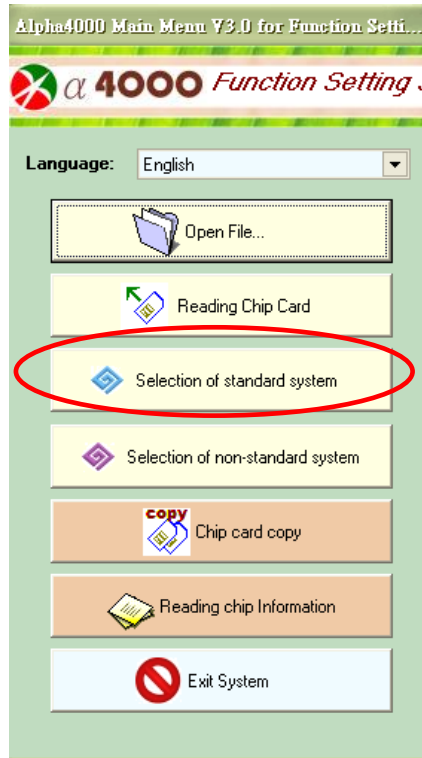
“Chip card burn-in successfully” shows if the write-in is successful, error message shows if not.



(Figure 6-3-1-15)

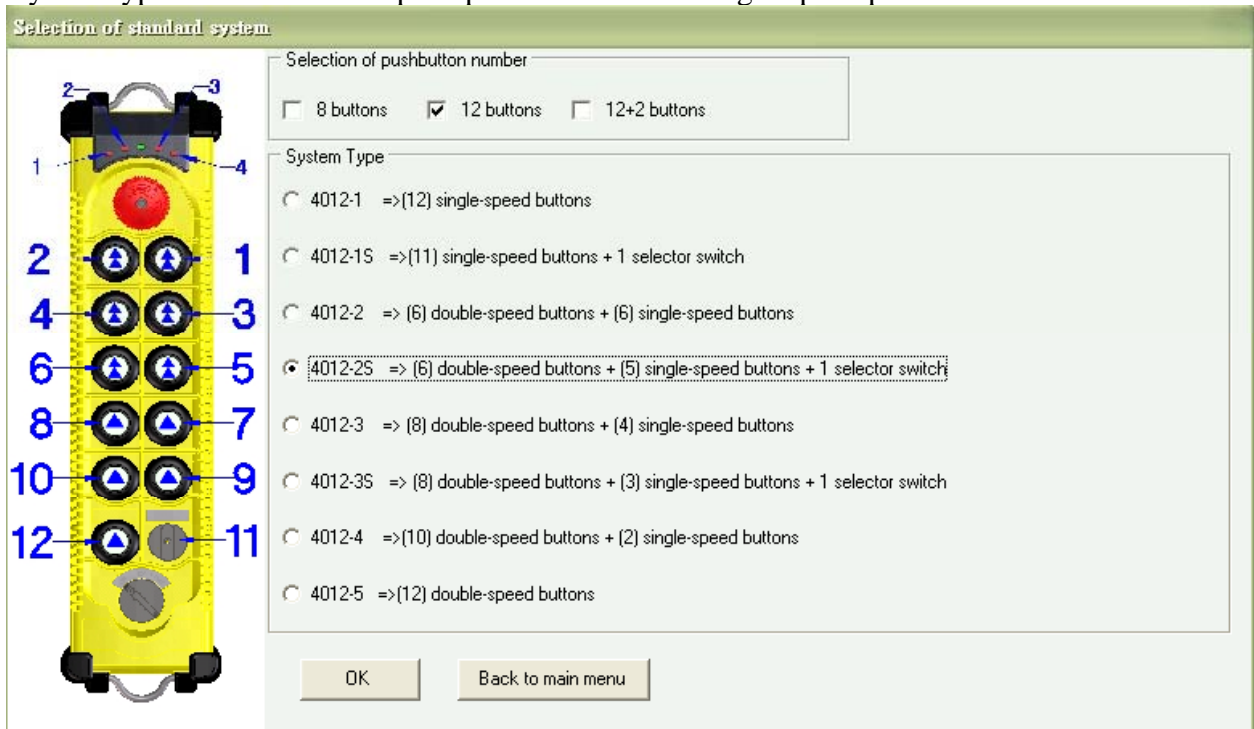
(2) 12-Pushbutton Type Operation

Click “Selection of standard system” on main menu



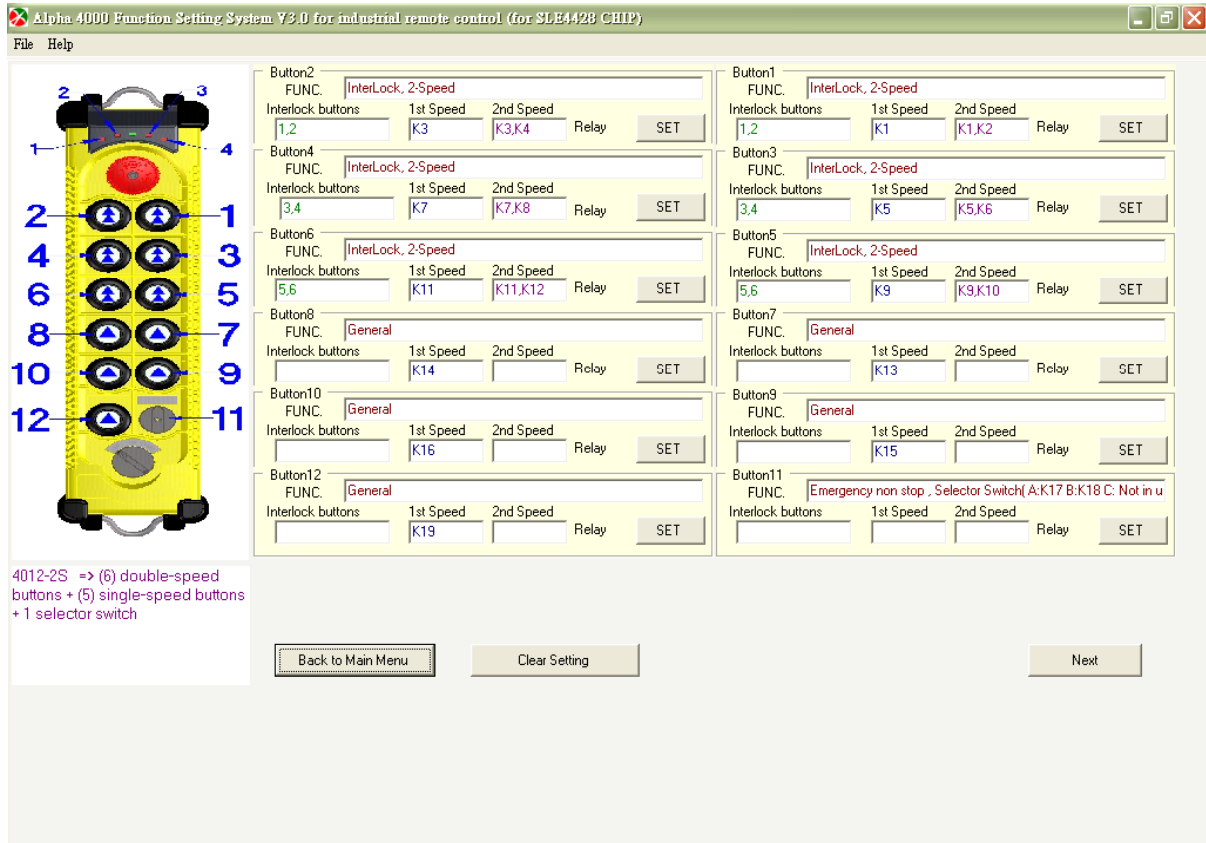
(Figure 6-3-2-1)

Select system type with six double-speed pushbutton + five single-speed pushbuttons + one selector switch



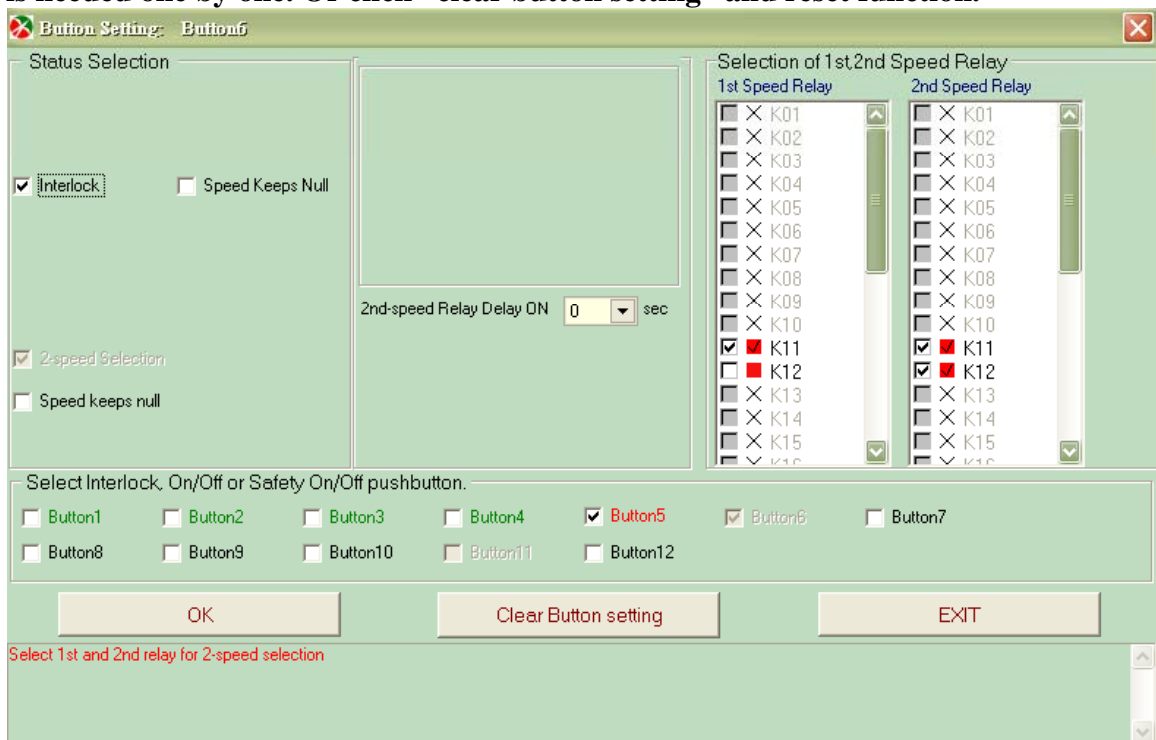
(Figure 6-3-2-2)

Main form shows the current pushbutton settings. To change pushbutton function, select “Pushbutton Setting” this menu.



(Figure 6-3-2-3)

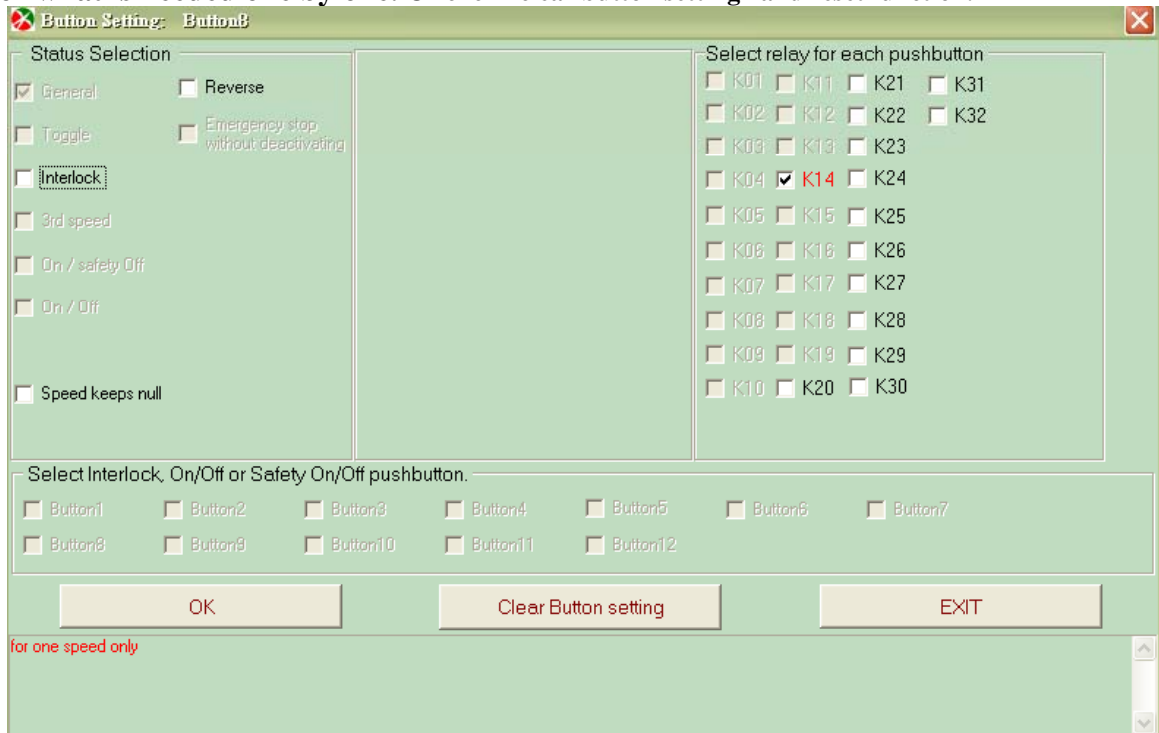
**For example:** Tickle “pushbutton 6 setting” on main form. The pushbutton setting display will show the setting of this double speed pushbutton. For any function changes, you may set on this menu. **If reset cannot be done, then back to “main menu” and select “selection of non-standard system type” and set for what is needed one by one. Or click “clear button setting” and reset function.**



(Figure 6-3-2-4)

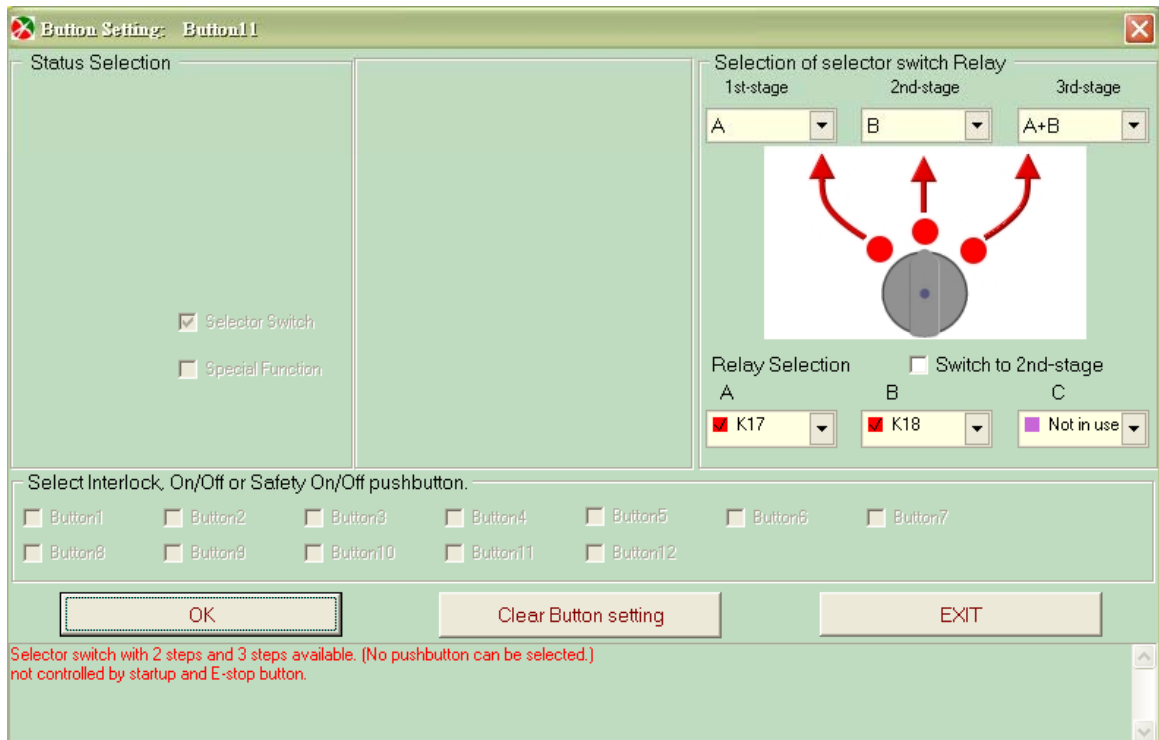


**For example:** Click pushbutton 8 “SET” on main form for function setting, “Pushbutton setting” form shows general function setting for this pushbutton. For any function changes, you may set on this menu. **If reset cannot be done, then back to “main menu” and select “selection of non-standard system type” and set for what is needed one by one. Or click “clear button setting” and reset function.**



(Figure 6-3-2-5)

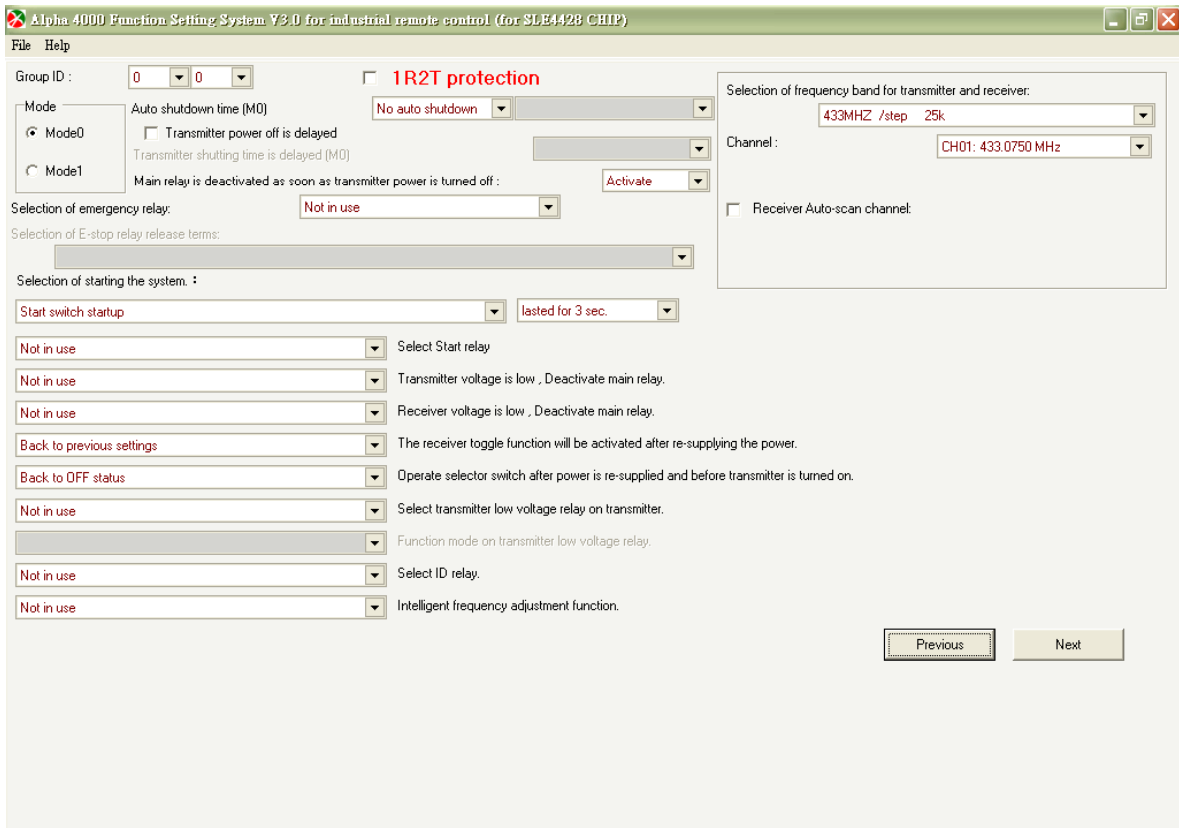
**For example:** Click pushbutton 11 “SET” on main form for function setting, “Pushbutton setting” form will the selection of this selector switch. For any function changes, you may set on this menu. **If reset cannot be done, then back to “main menu” and select “selection of non-standard system type” and set for what is needed one by one. Or click “clear button setting” and reset function.**



(Figure 6-3-2-6)

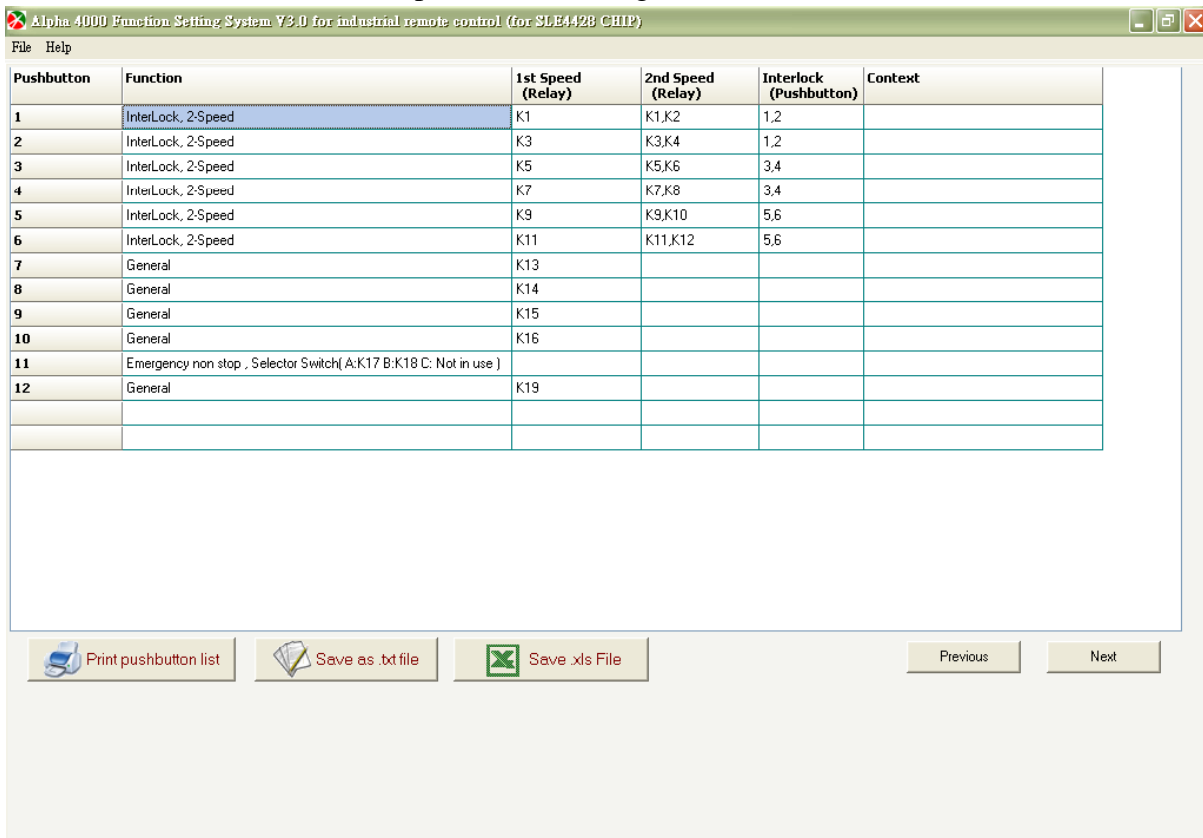
**Frequency setting form:**

Depending on your own hardware, set the frequency band and other settings base on your own demand.



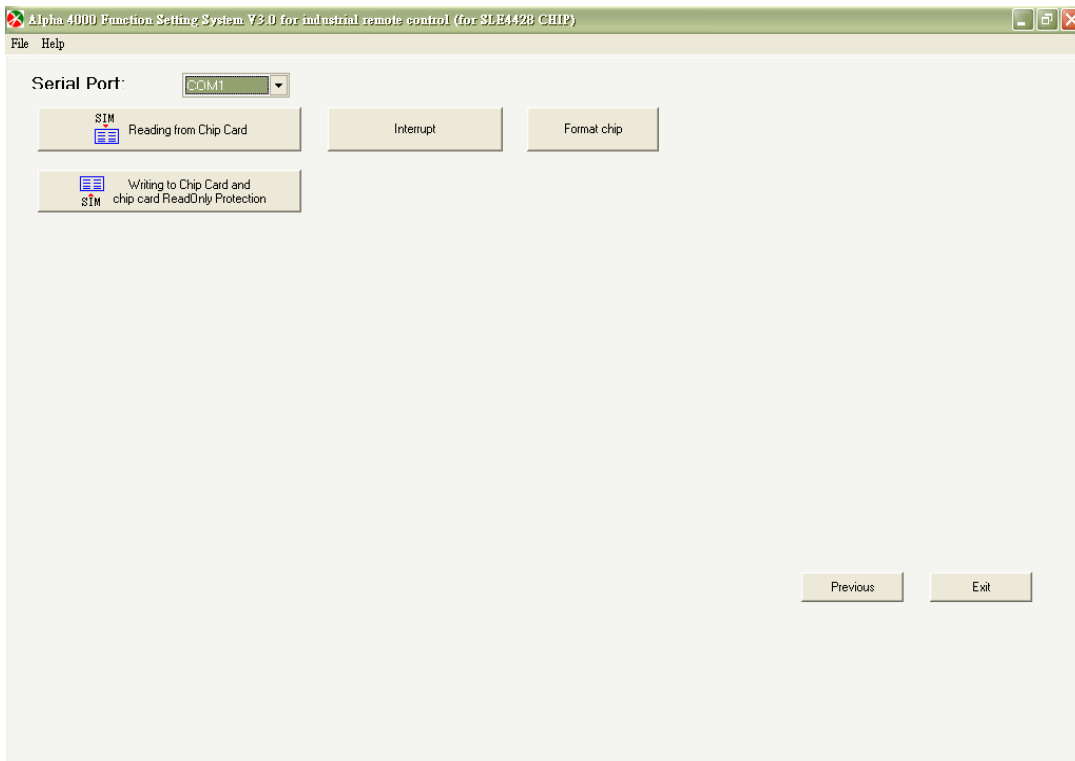
(Figure 6-3-2-7)

Pushbutton list form shows the current pushbutton setting.



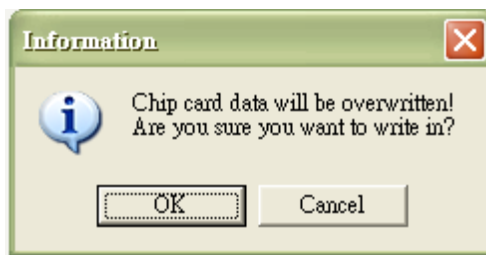
(Figure 6-3-2-8)

### Chip card reading/write-in form

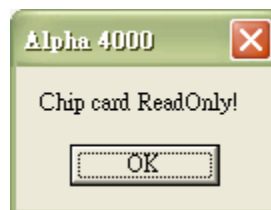


(Figure 6-3-2-9)

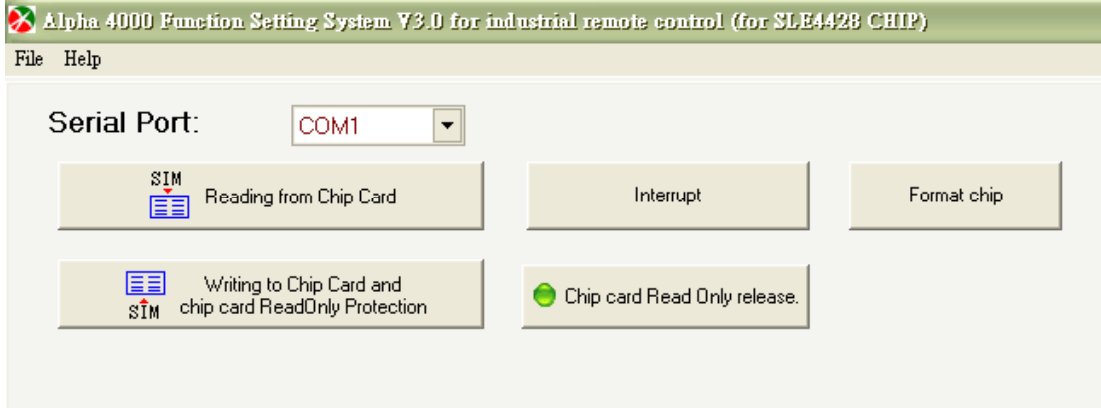
Click “write-in chip card”, then “Are you sure you want to write-in” message shows. Click ”OK” to start or “Cancel” to exit and back to main form.



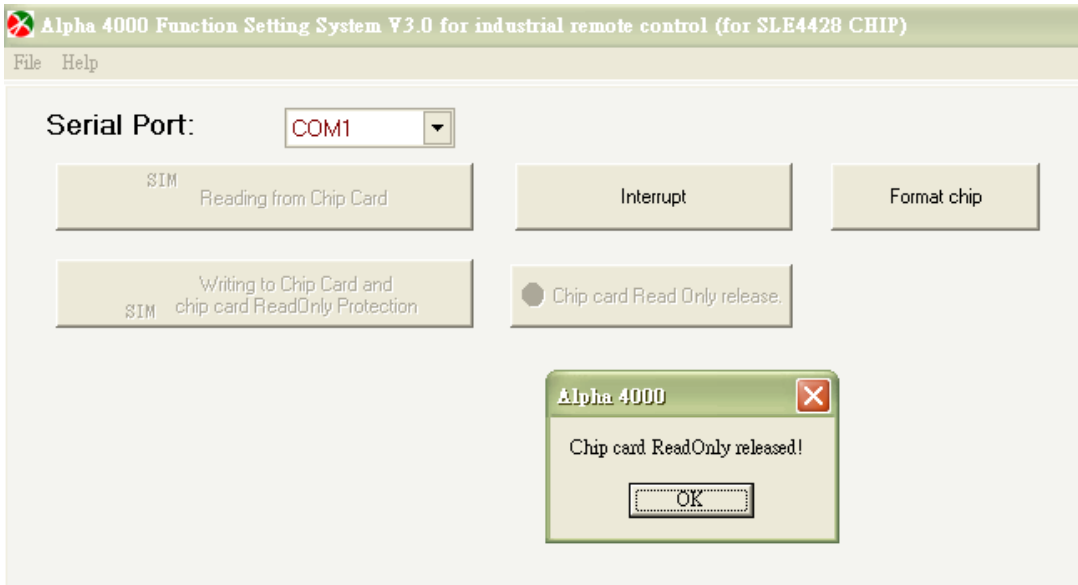
(Figure 6-3-2-10)



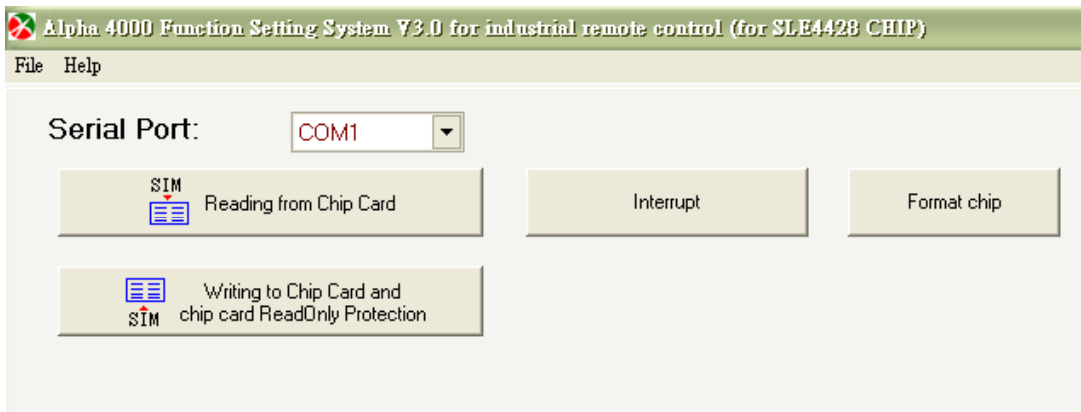
(Figure 6-3-2-11)



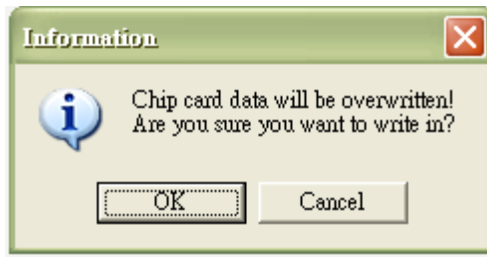
(Figure 6-3-2-12)



(Figure 6-3-2-13)

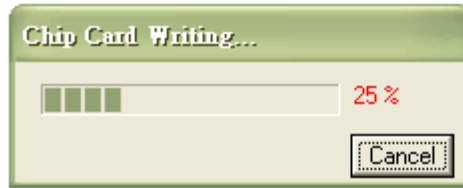


(Figure 6-3-2-14)



(Figure 6-3-2-15)

Chip card write-in



(Figure 6-3-2-16)

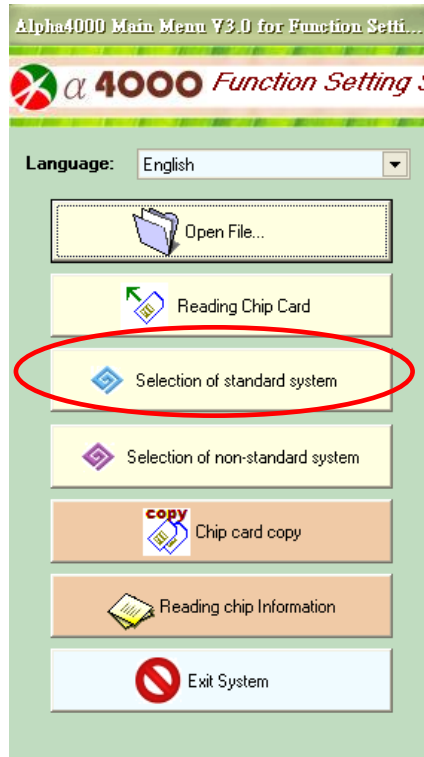
After writing in successfully, “chip card burning successfully” message shows, if not, “error” message shows.



(Figure 6-3-2-17)

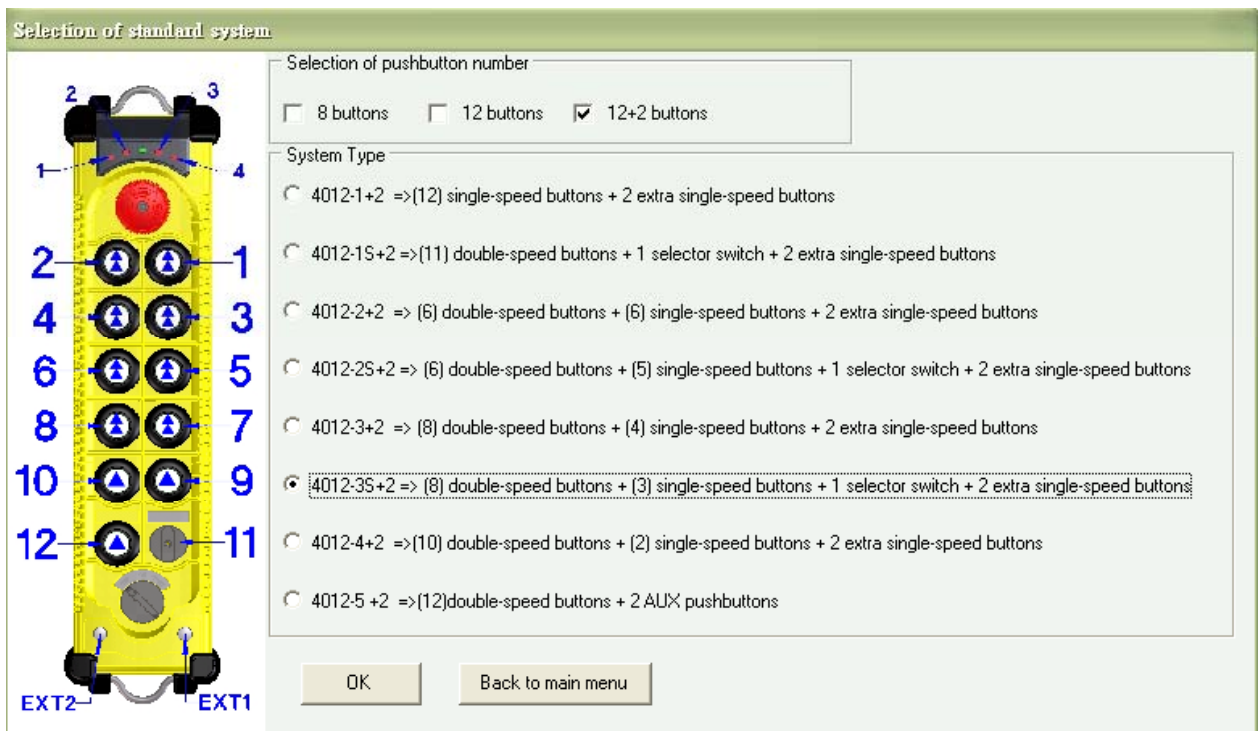
(3) 12+2-Pushbutton Type Operation

Start the program, move to main menu and click “Selection of standard type”.



(Figure 6-3-3-1)

Select “12+2 buttons” on “Selection of pushbutton number”, then select “4012-3S+2” on system type.



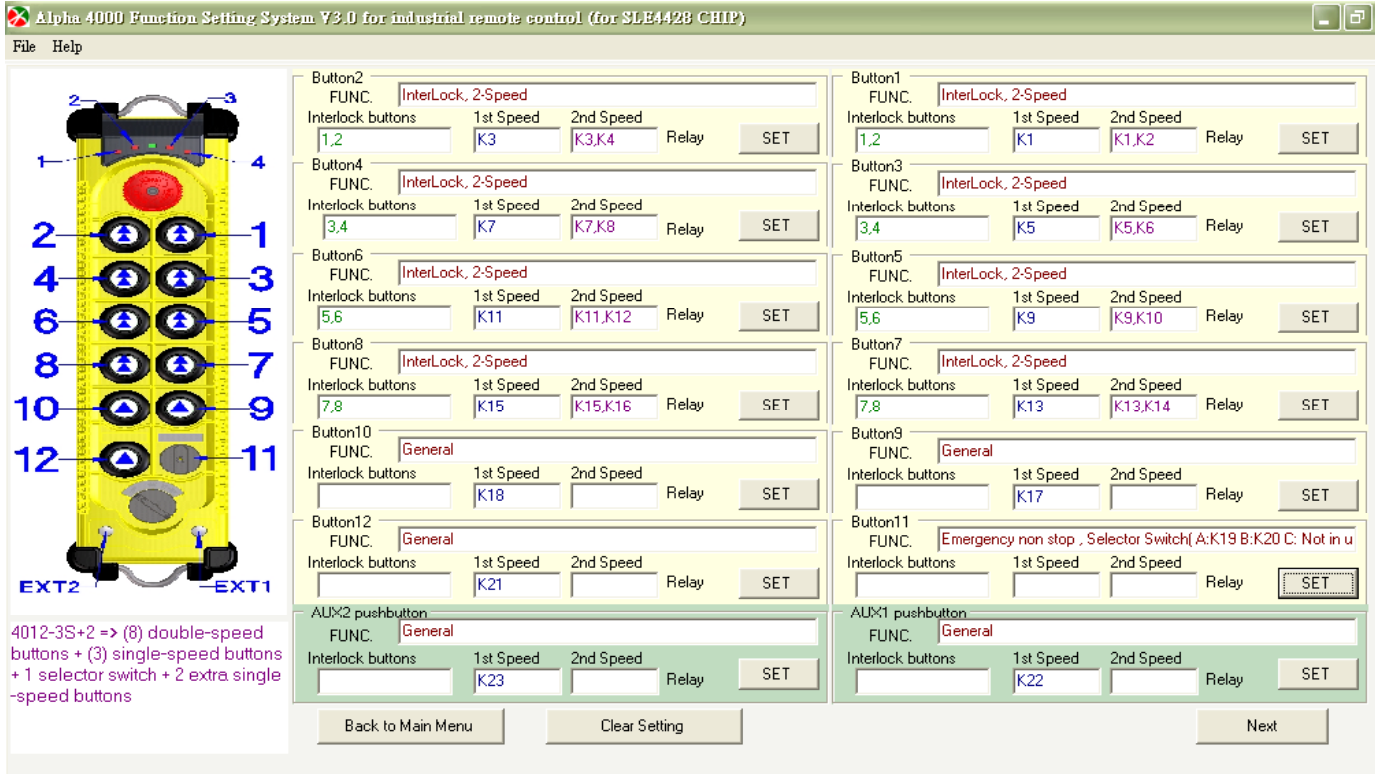
(Figure 6-3-3-2)

p.s. Please set the suitable system type base on hardware function.

Note: Operation error might occur if select system type is different from the actual hardware.

**Main form for remote control function setting**

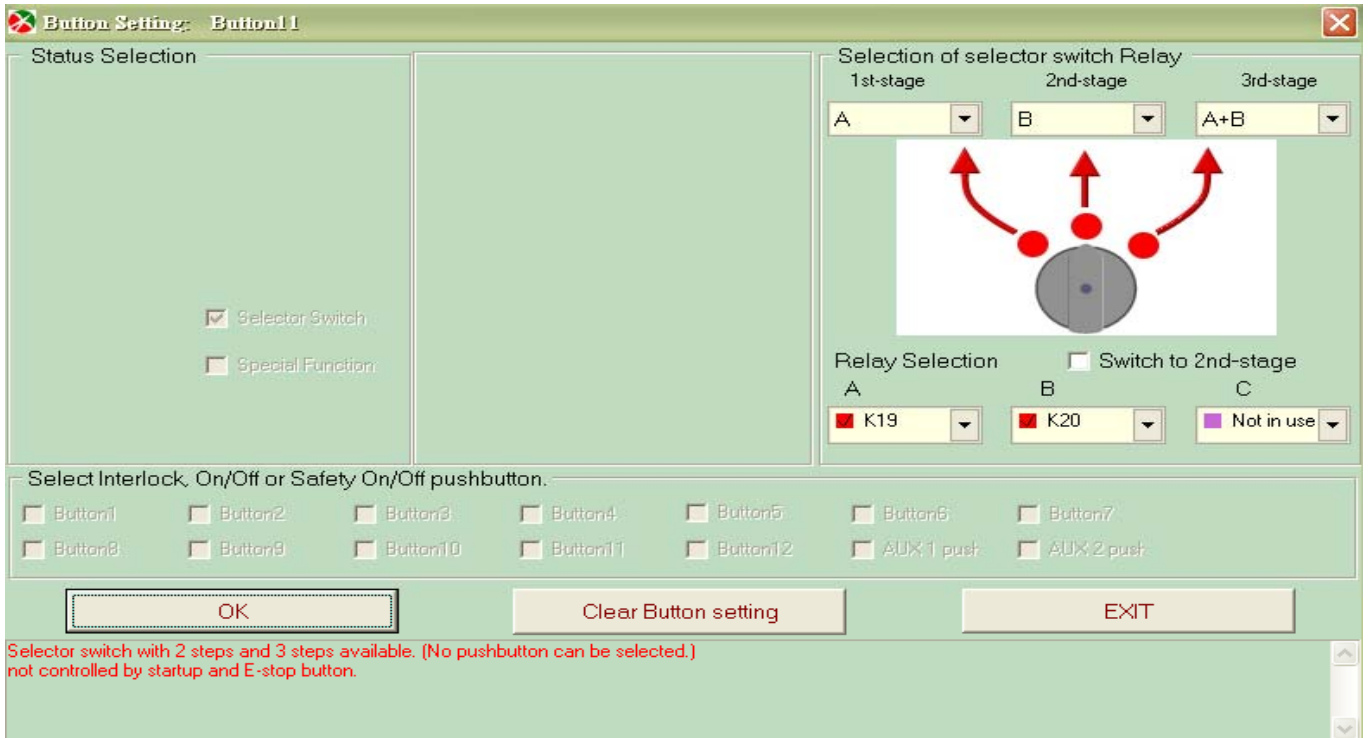
To change pushbutton function, click “SET” and select function needed per each pushbutton on “Pushbutton setting” form.



(Figure 6-3-3-3)

**Setting form for selector switch**

Click “SET” on “Pushbutton 11” of main form. The “Pushbutton setting form” shows that this pushbutton is set as “Selector switch”. To change the function, select the function needed on this form.



(Figure 6-3-3-4)

Double speed setting form

The screenshot shows the 'Button Setting: Button8' dialog box. It is divided into several sections:

- Status Selection:** Contains checkboxes for  Interlock,  Speed Keeps Null,  2-speed Selection, and  Speed keeps null. A '2nd-speed Relay Delay ON' field is set to 0 sec.
- Selection of 1st,2nd Speed Relay:** Two vertical lists of relays (K01-K15). The 1st Speed Relay list has  K15 selected. The 2nd Speed Relay list also has  K15 selected.
- Select Interlock, On/Off or Safety On/Off pushbutton:** A row of checkboxes for Button1 through Button12 and AUX 1/AUX 2 push.  Button7 is selected.
- Buttons:** OK, Clear Button setting, and EXIT.
- Footer:** A red note says 'Select 1st and 2nd relay for 2-speed selection'.

(Figure 6-3-3-5)

Single speed setting form

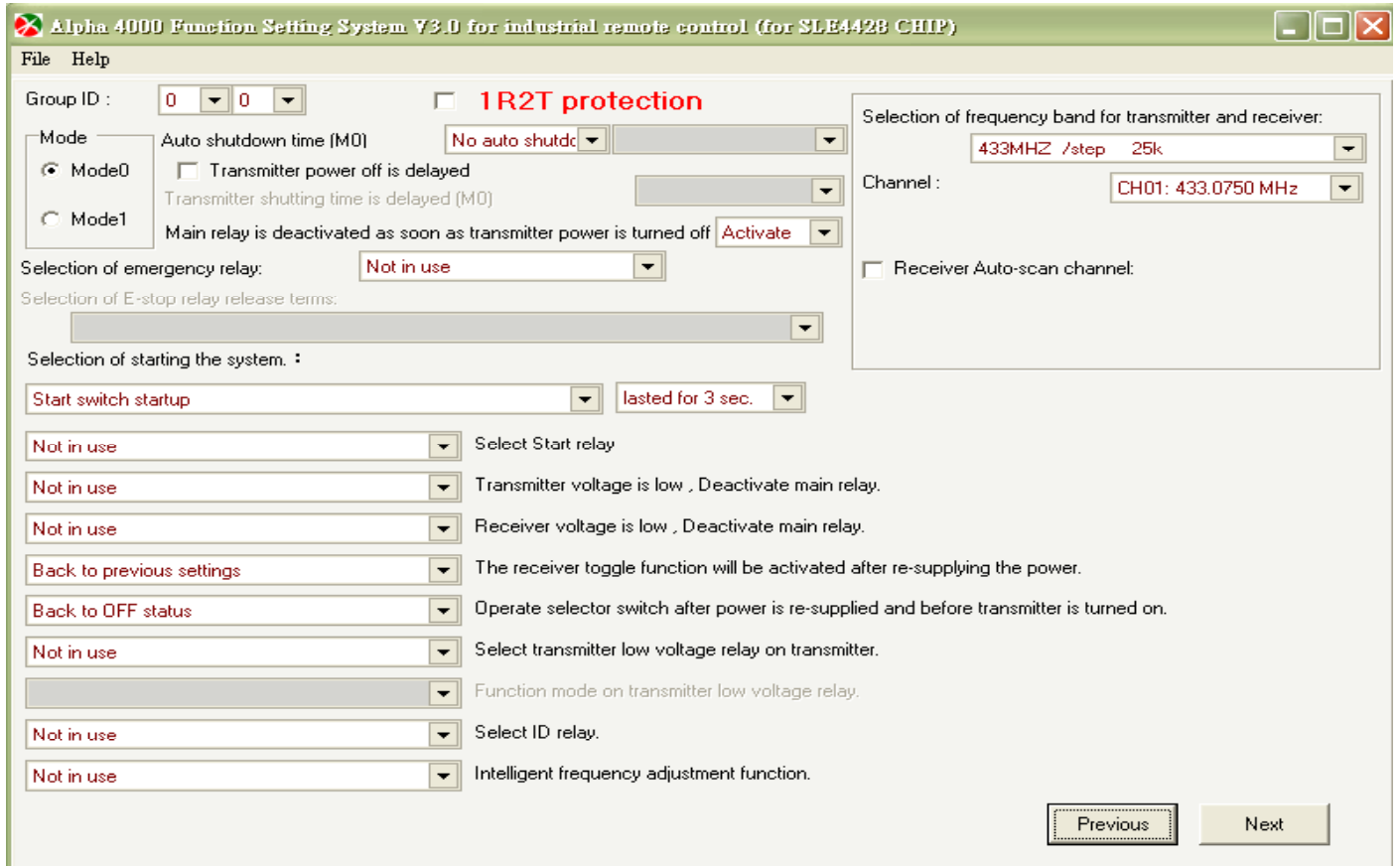
The screenshot shows the 'Button Setting: AUX2 pushbutton' dialog box. It is divided into several sections:

- Status Selection:** Contains checkboxes for  General,  Reverse,  Toggle,  Emergency stop without deactivating,  Interlock, and  Receiver Toggle release button.
- Select relay for each pushbutton:** A grid of checkboxes for relays K01-K30.  K23 is selected.
- Select Interlock, On/Off or Safety On/Off pushbutton:** A row of checkboxes for Button1 through Button12 and AUX 1/AUX 2 push. No buttons are selected.
- Buttons:** OK, Clear Button setting, and EXIT.
- Footer:** A red note says 'for one speed only'.

(Figure 6-3-3-6)



Frequency setting form



(Figure 6-3-3-7)

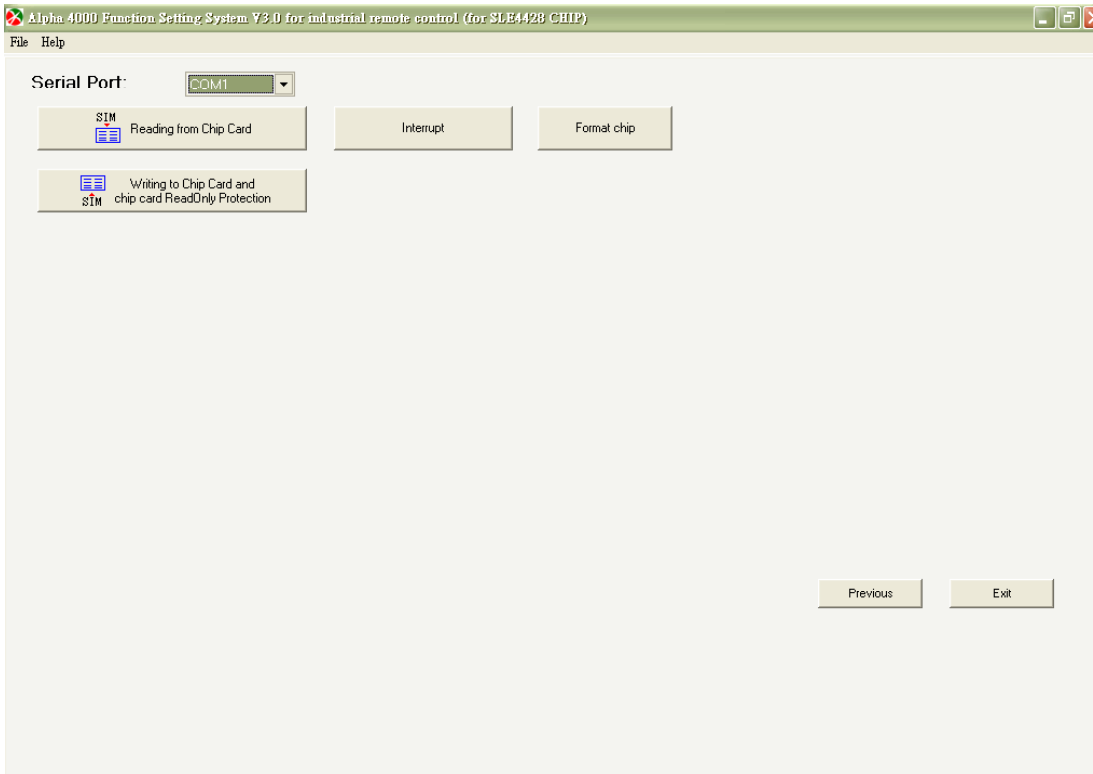
List of Pushbutton Function

Pushbutton	Function	1st Speed (Relay)	2nd Speed (Relay)	Interlock (Pushbutton)	Context
1	InterLock, 2-Speed	K1	K1,K2	1,2	
2	InterLock, 2-Speed	K3	K3,K4	1,2	
3	InterLock, 2-Speed	K5	K5,K6	3,4	
4	InterLock, 2-Speed	K7	K7,K8	3,4	
5	InterLock, 2-Speed	K9	K9,K10	5,6	
6	InterLock, 2-Speed	K11	K11,K12	5,6	
7	InterLock, 2-Speed	K13	K13,K14	7,8	
8	InterLock, 2-Speed	K15	K15,K16	7,8	
9	General	K17			
10	General	K18			
11	Emergency non stop, Selector Switch( A:K19 B:K20 C: Not in use )				
12	General	K21			
AUX1	General	K22			
AUX2	General	K23			

Navigation buttons 'Print pushbutton list', 'Save as .txt file', 'Save .xls File', 'Previous', and 'Next' are visible at the bottom.

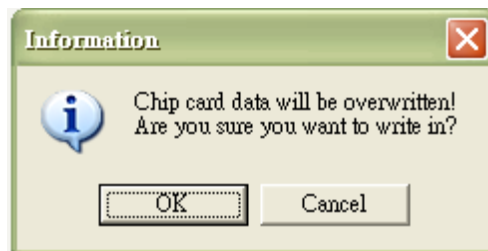
(Figure 6-3-3-8)

### Chip card reading/write-in form

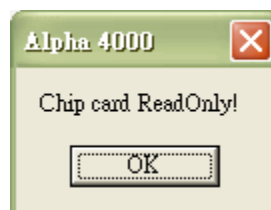


(Figure 6-3-3-9)

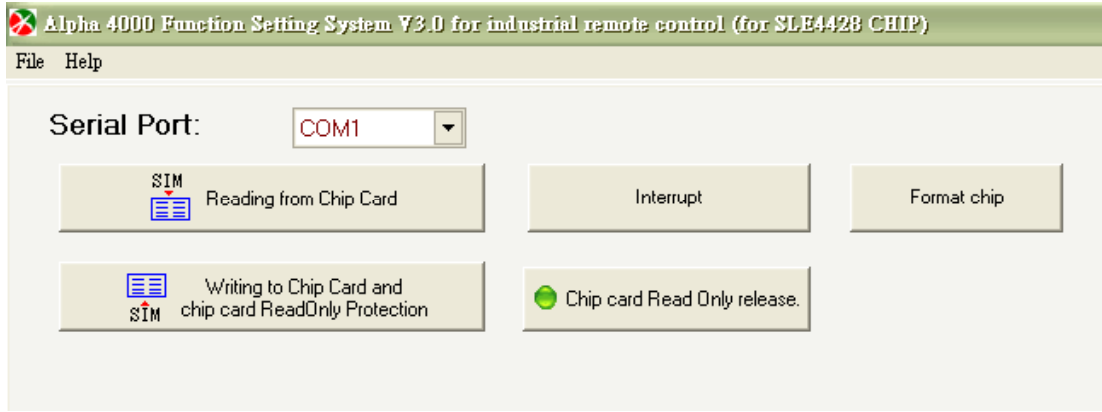
Click “chip card write-in” button, message “Are you sure you want to write-in?” Click “OK” to start or “Cancel” to exit and back to main form.



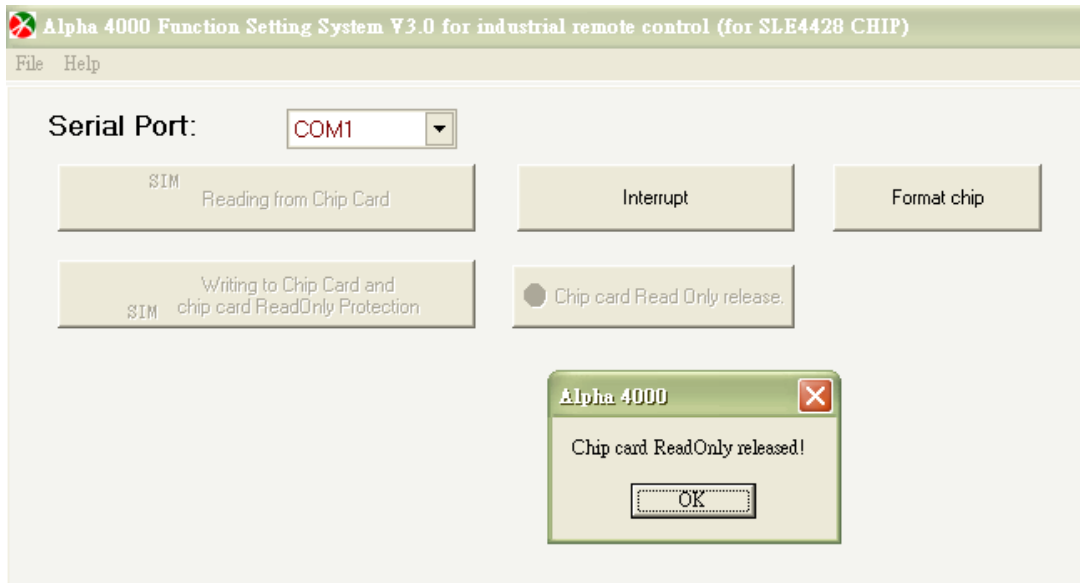
(Figure 6-3-3-10)



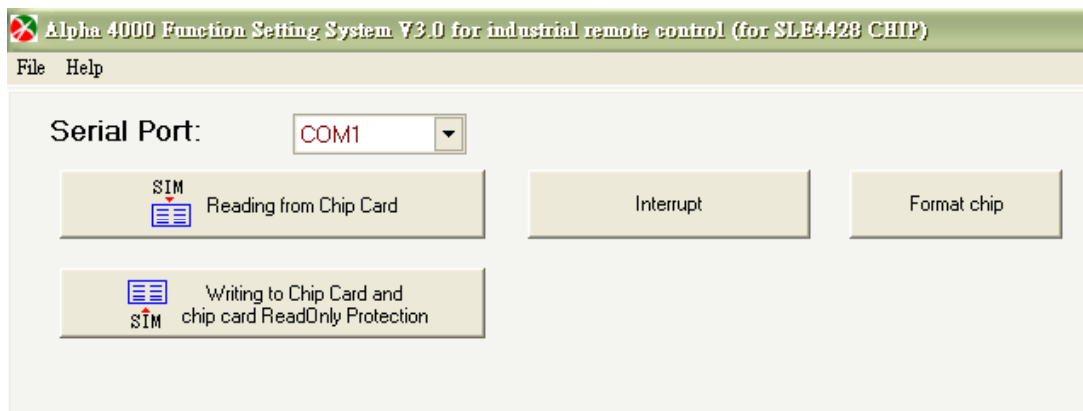
(Figure 6-3-3-11)



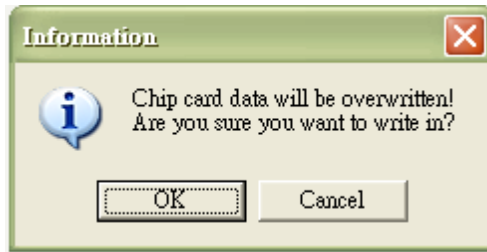
(Figure 6-3-3-12)



(Figure 6-3-3-13)

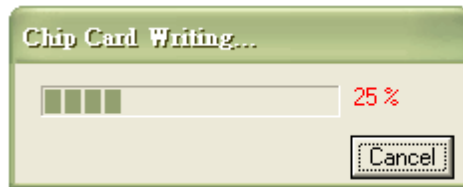


(Figure 6-3-3-14)



(Figure 6-3-3-15)

Chip card is writing in.....



(Figure 6-3-3-16)

After chip card is written-in successfully, message "chip card burning successfully" shows. If not, error message shows.



(Figure 6-3-3-17)

### Method 4: Click [Selection of Non-standard System Type] From Main Menu

“Selection of non-standard system type” → System function can be set base on individual needs, including 8-pushbutton, 12-pushbutton & 12+2-pushbutton types.

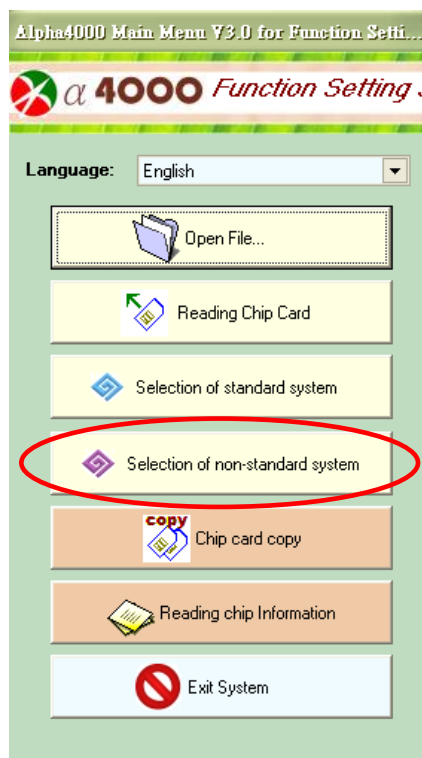
**S Steps:** Insert chip card into its burner and connect it to computer. After program is started, click “Selection of non-standard system type” on main menu. Then select the setting needed by following the procedure until chip card is written-in.

**Note:** When setting of non-standard system is proceed, considering the possibility of various combinations, please pay special attention to the logic among each pushbutton and others. Please also set the suitable system type base on hardware function. Operation error might occur if select system type is different from the actual hardware.

Select “Selection of non-standard system type” on main menu → click “system type” → set pushbutton function one by one on “pushbutton setting” → click “frequency setting” for the setting of frequency and other functions → “list” → click “read/ write-in chip card” for writing-in new chip card.

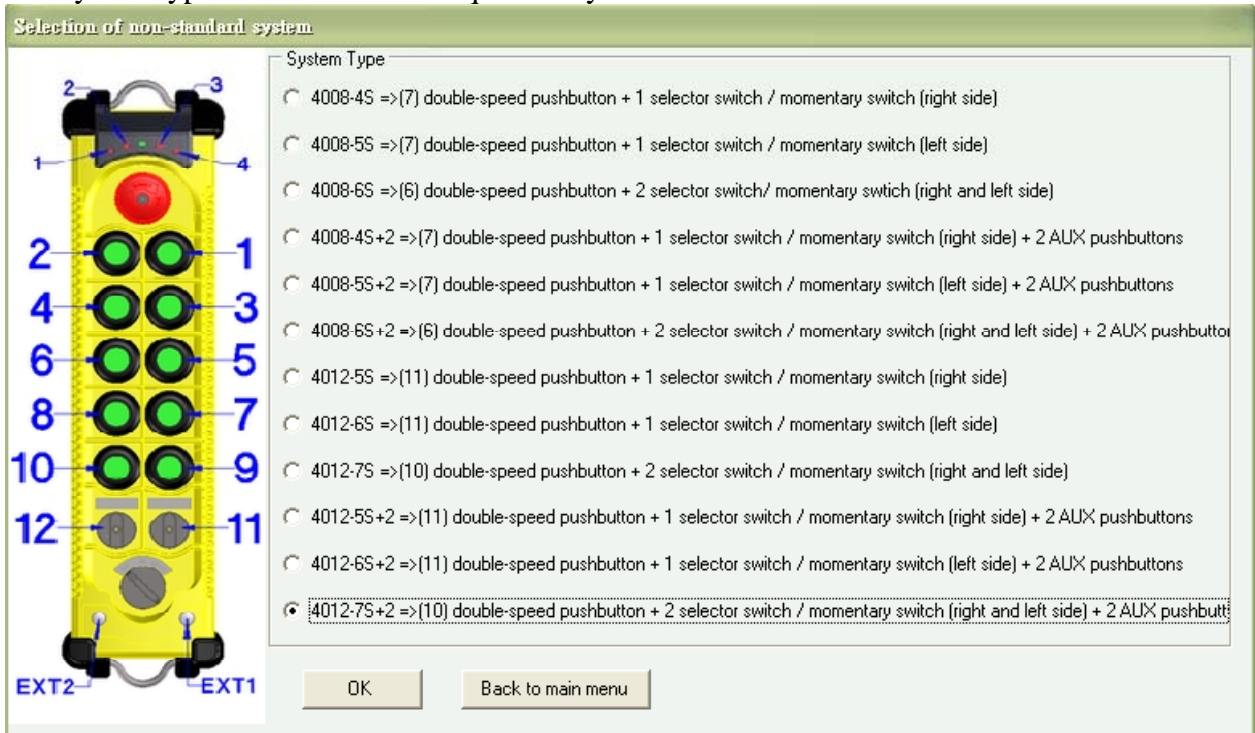
#### Non-standard system type setting operation

Click “Selection of non-standard system” on main menu



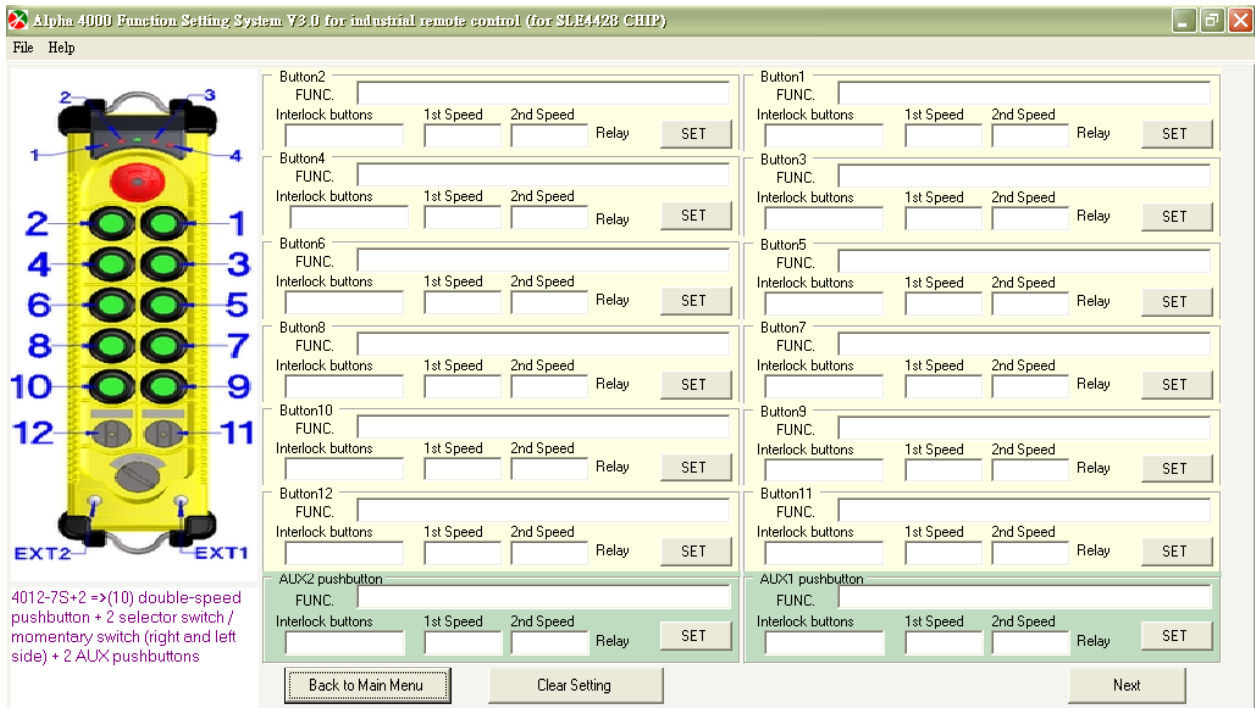
(Figure 6-4-1)

Select the system type that matches the request of system hardware



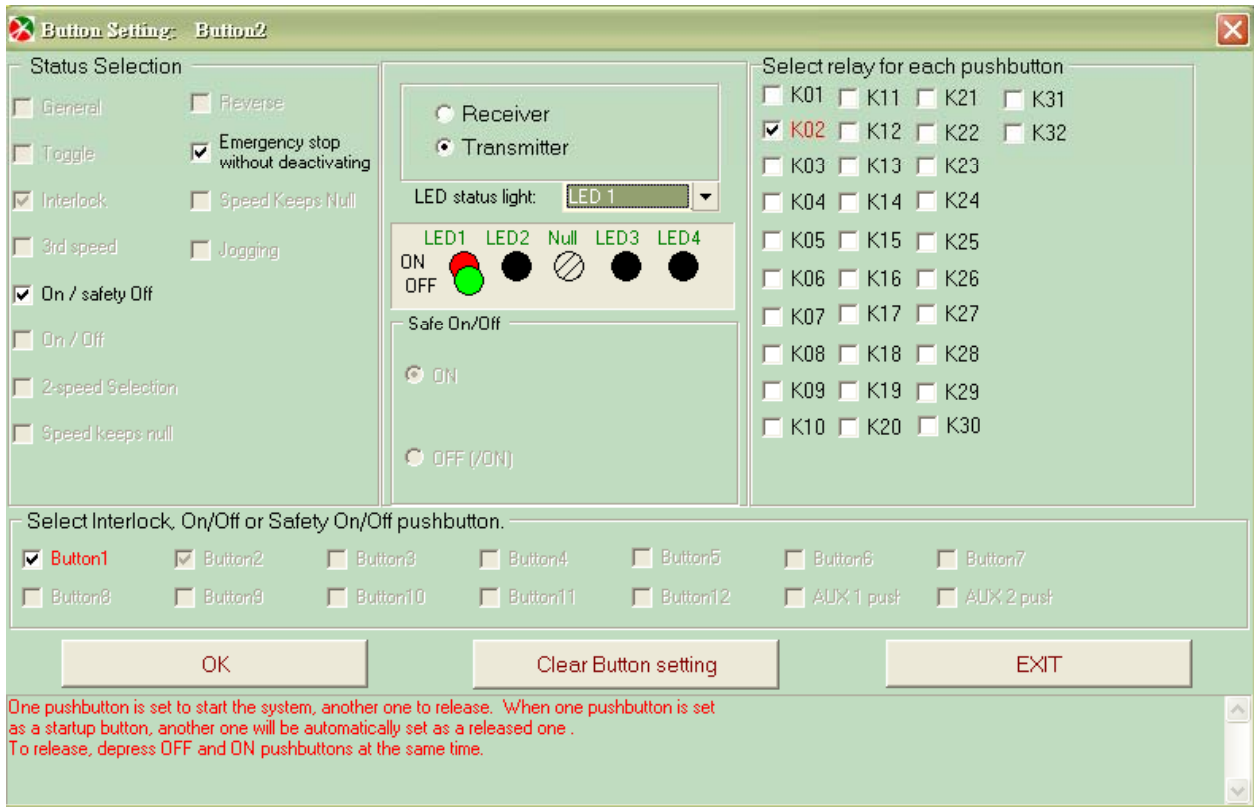
(Figure 6-4-2)

Move the cursor to “SET” of Pushbutton 2 and click.



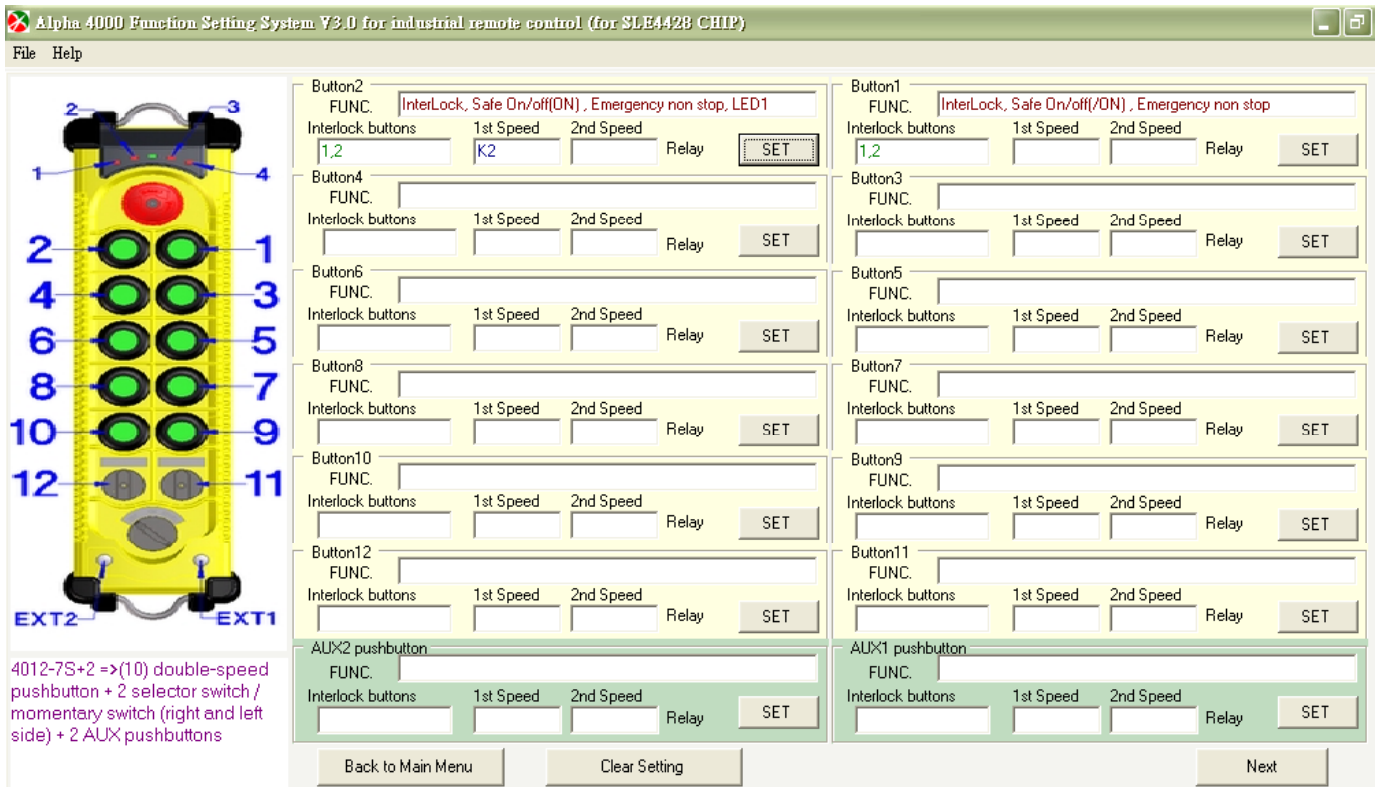
(Figure 6-4-3)

Select “On/Safety OFF” for pushbutton 2, then choose one LED (optional) and select relay for this pushbutton.



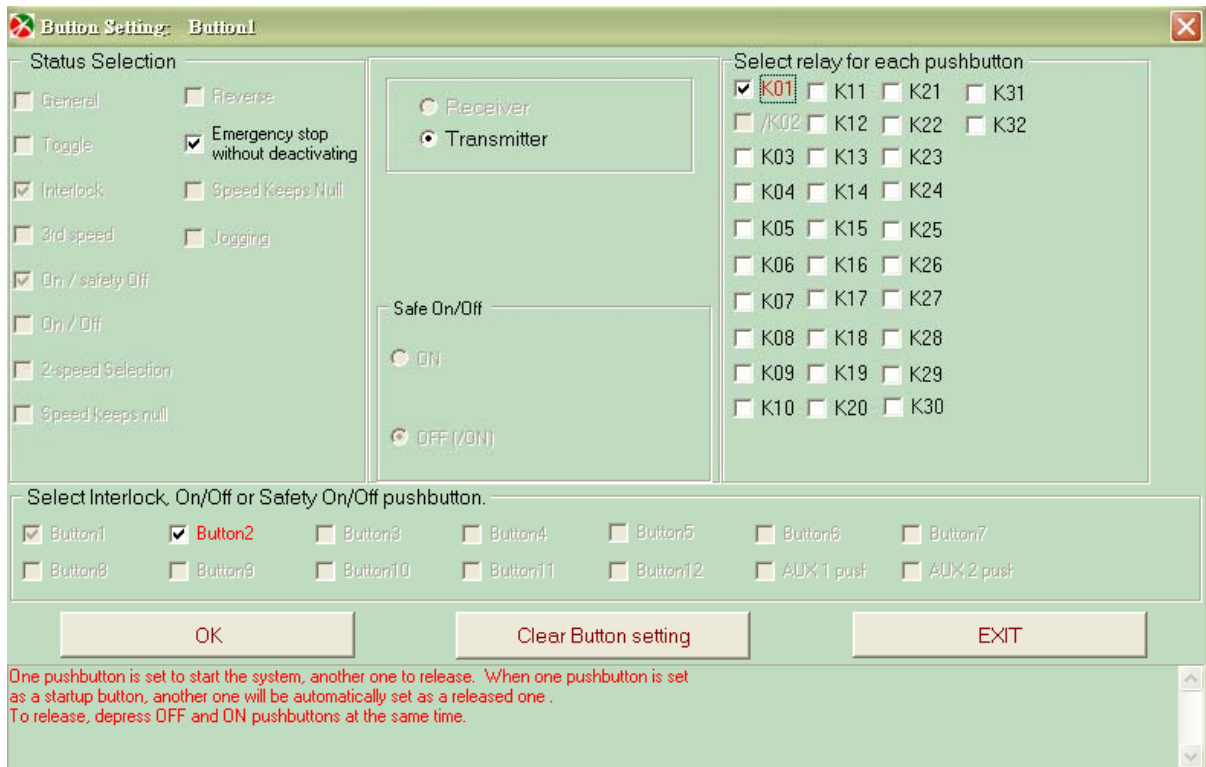
(Figure 6-4-4)

Back to main form, you will see that Safe On/Off function is set for pushbutton 1 and 2. Then select Pushbutton 1.



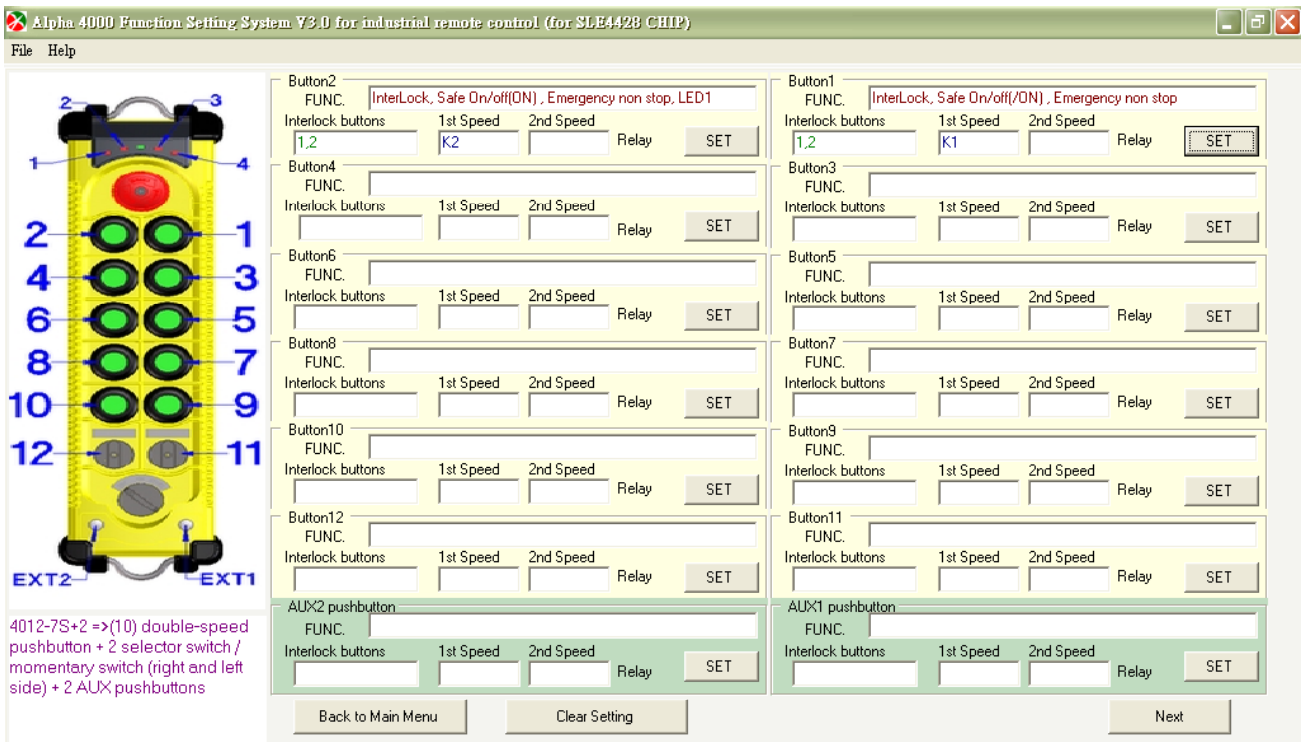
(Figure 6-4-5)

Set the start safety On/Off relay of another pushbutton.



(Figure 6-4-6)

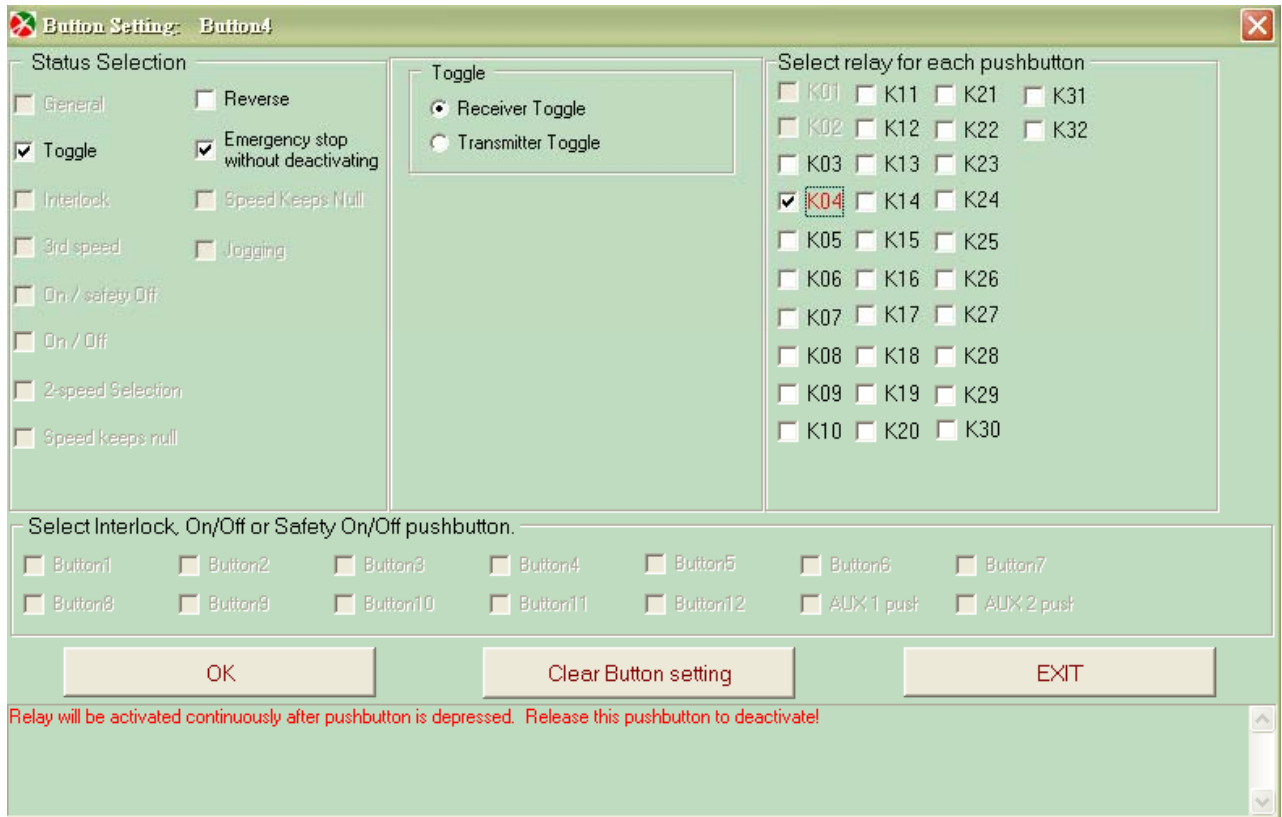
The selected On/Safety Off relay is K1.



(Figure 6-4-7)

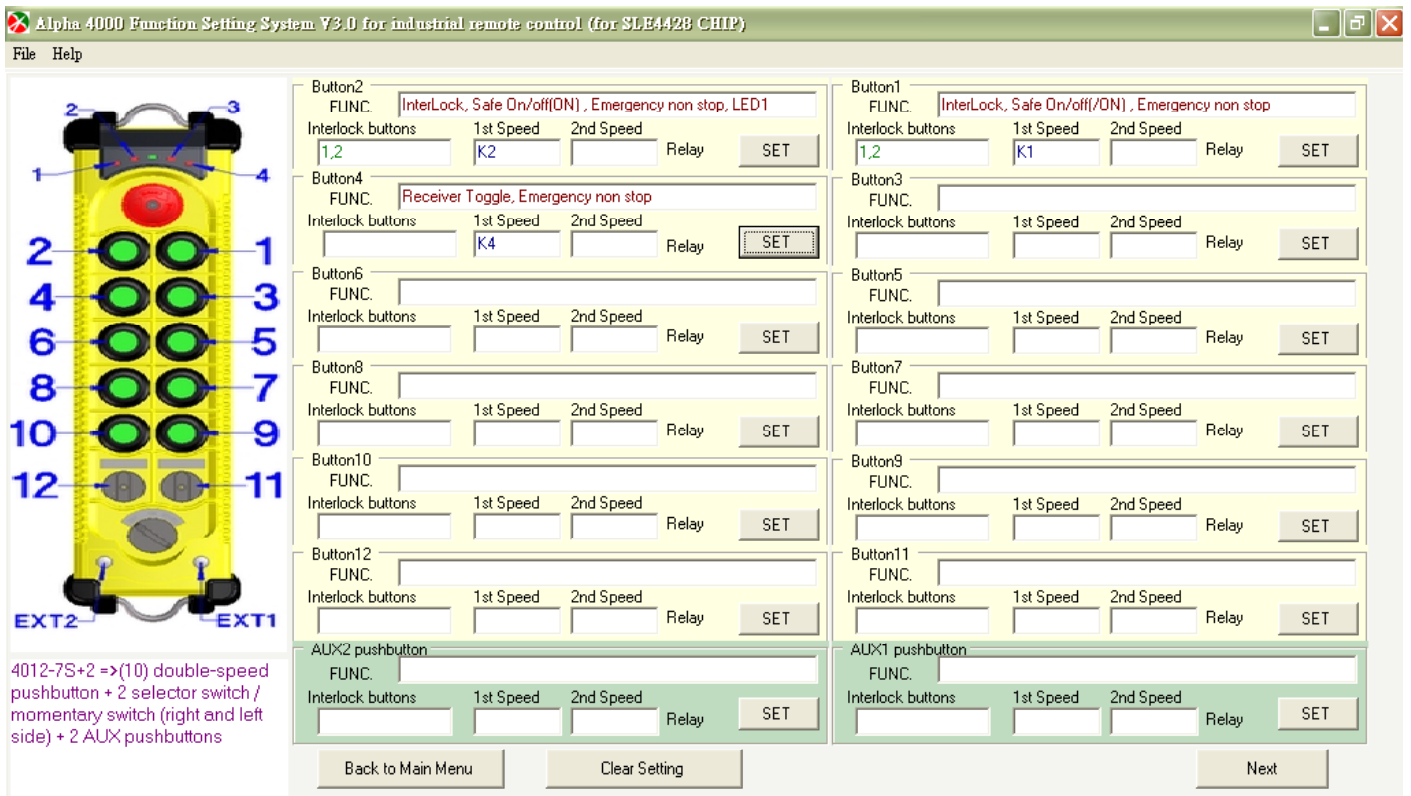


Click “SET” of Pushbutton 4 again for the receiver toggle function selected. Select “Toggle” and “K04” relay



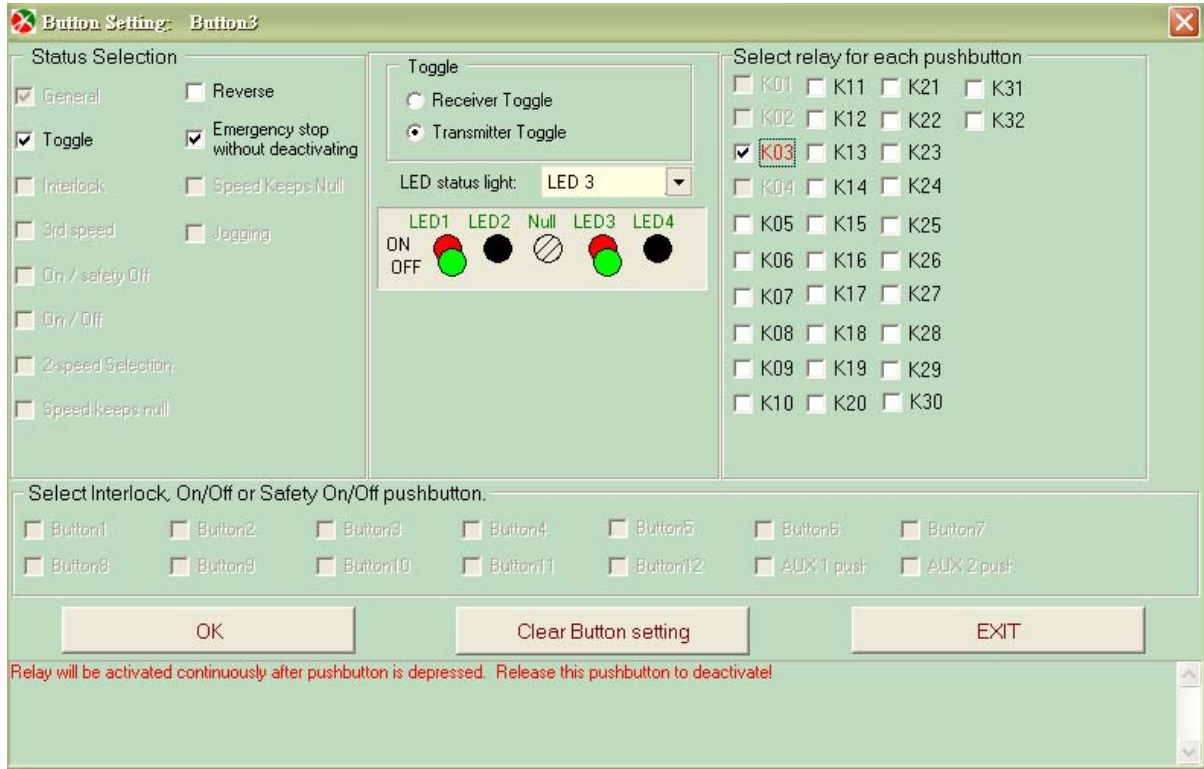
(Figure 6-4-8)

Back to main form for the previous receiver toggle setting.



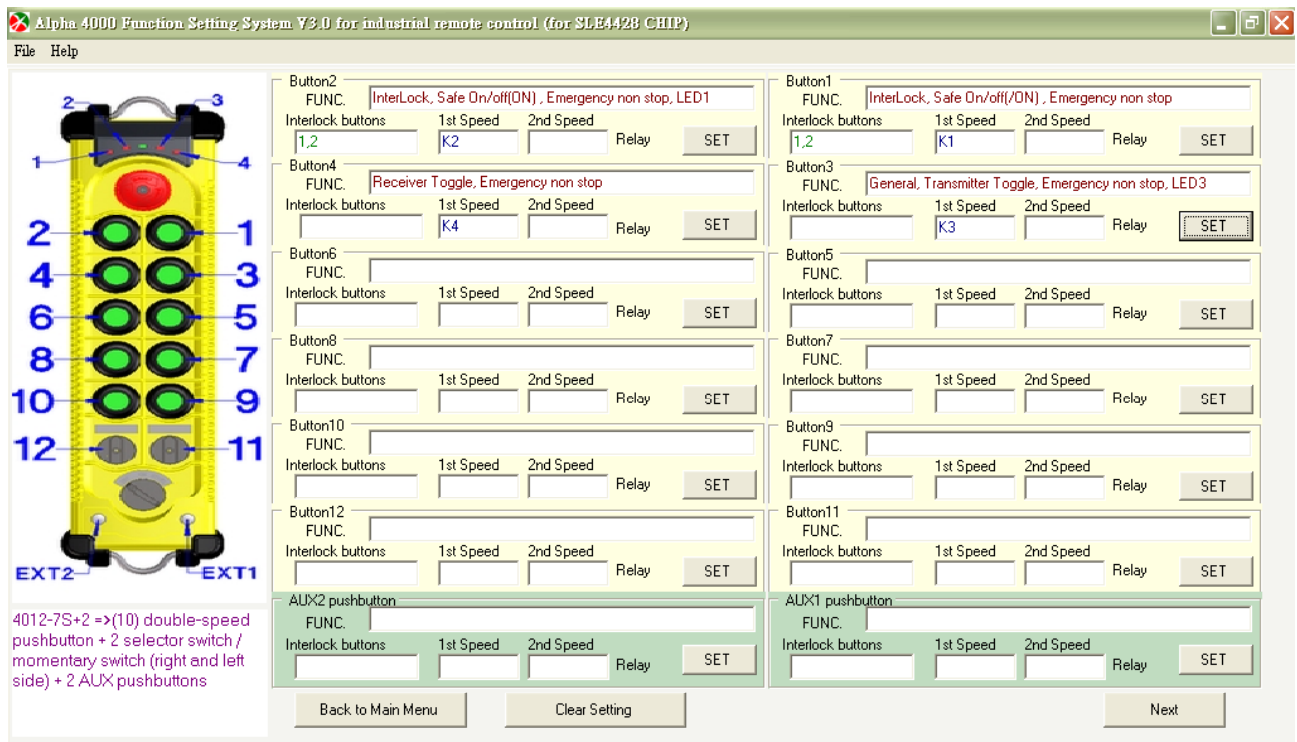
(Figure 6-4-9)

Set “Toggle” function for Pushbutton 3, then select LED 3 and relay K043.



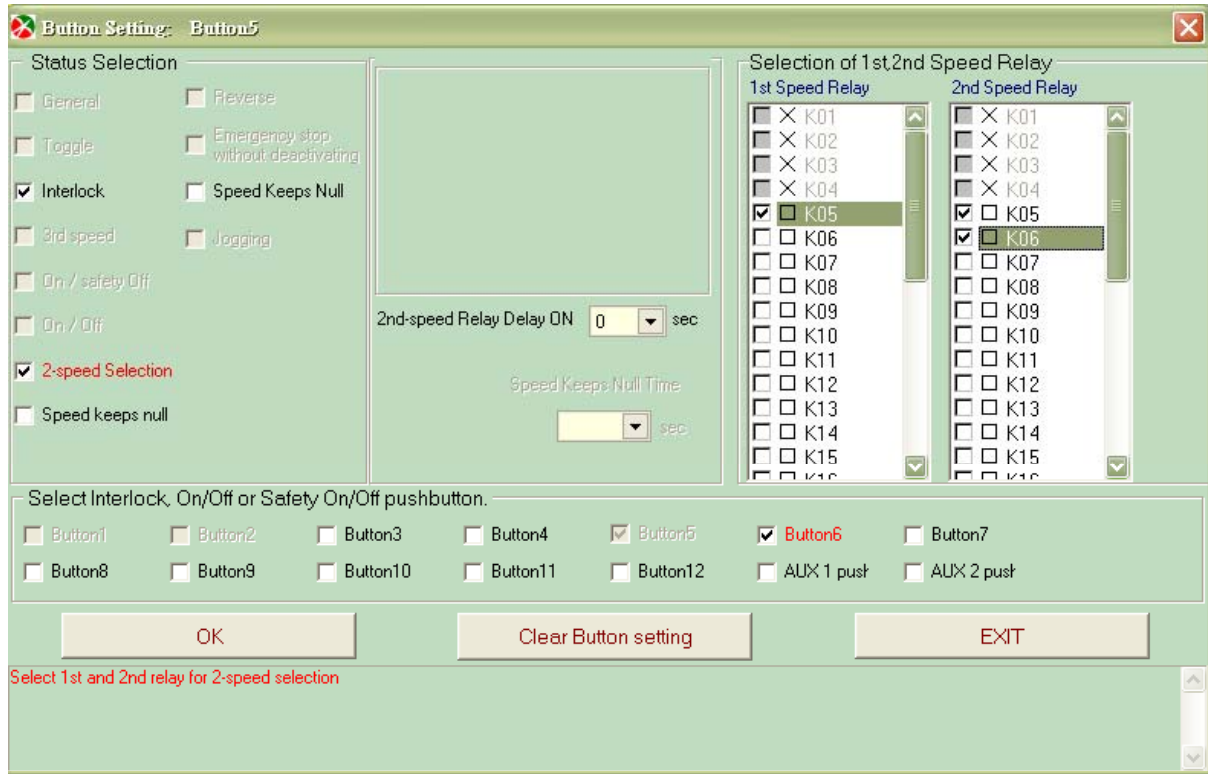
(Figure 6-4-10)

Display of previous transmitter toggle setting



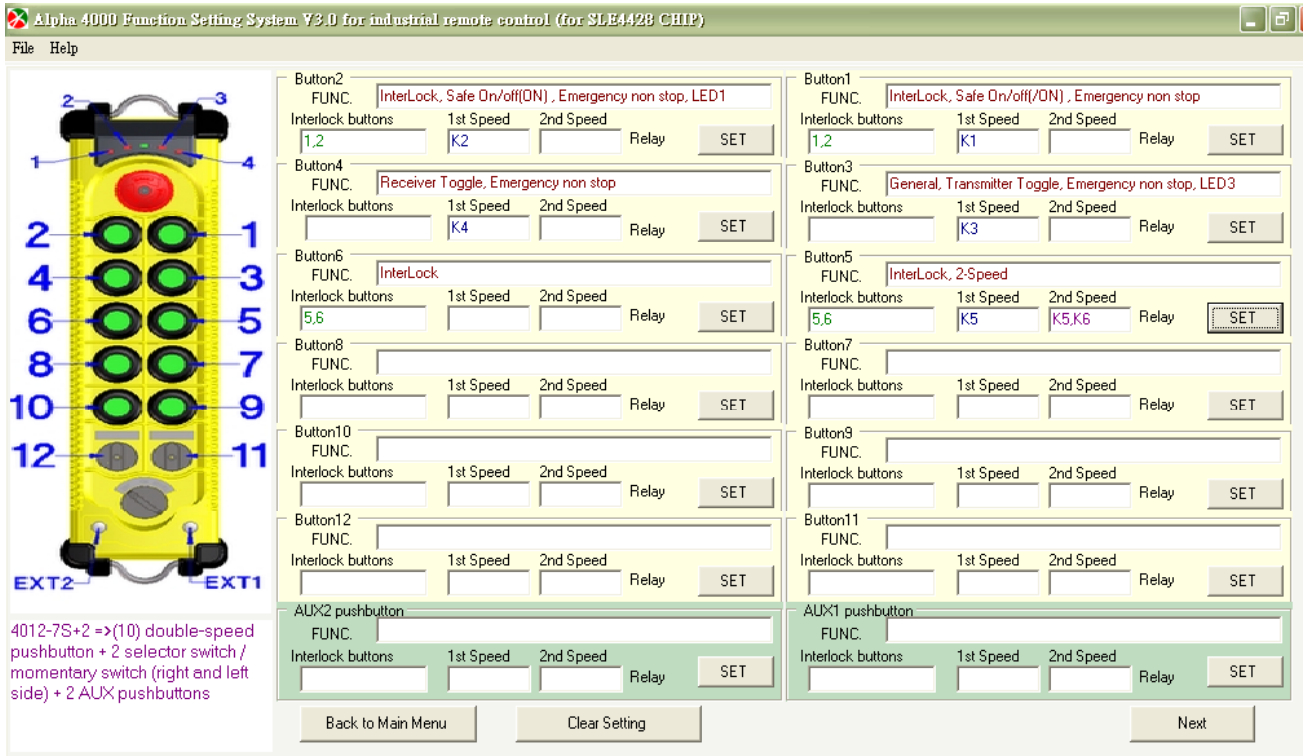
(Figure 6-4-11)

Click “SET” of Pushbutton 5. Select “double speed function”, then, select “K05” and “K06” relays



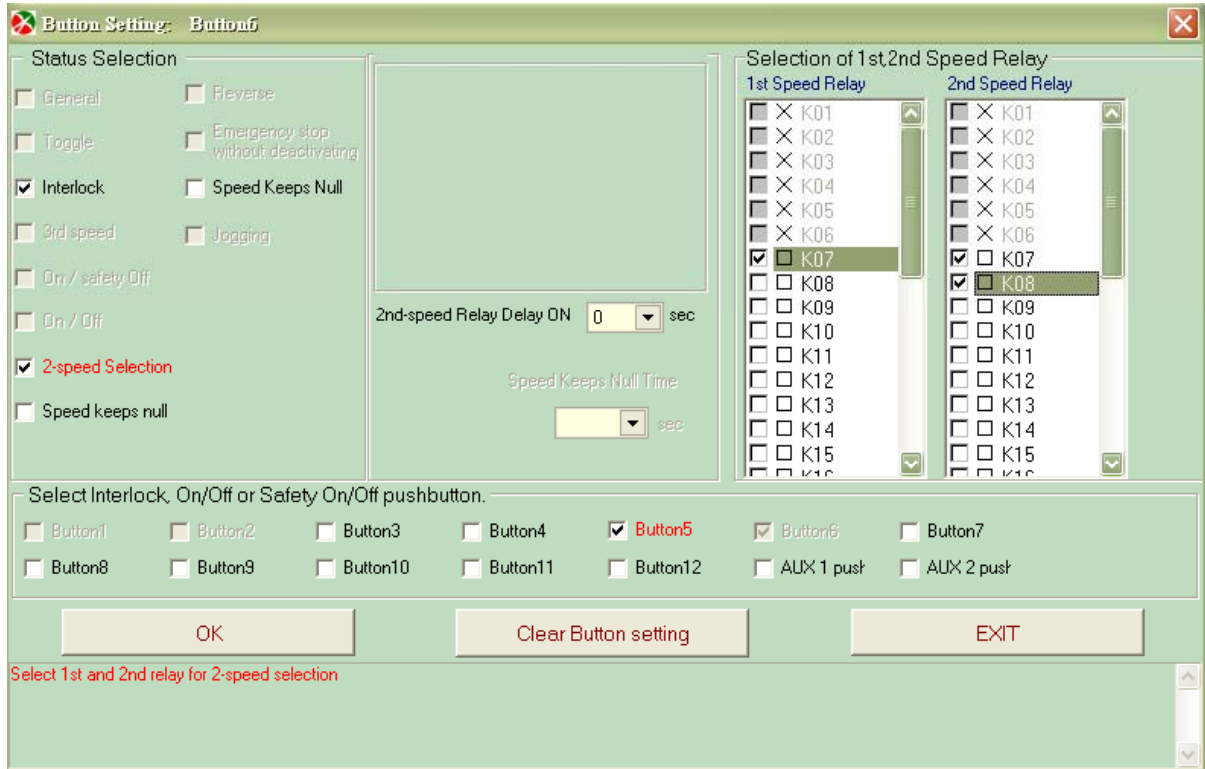
(Figure 6-4-12)

Display the previous double speed function selected. If both pushbutton 5 & 6 are needed double speed function. Click “Set” on Pushbutton 6 for the setting of double speed function on Pushbutton 6.



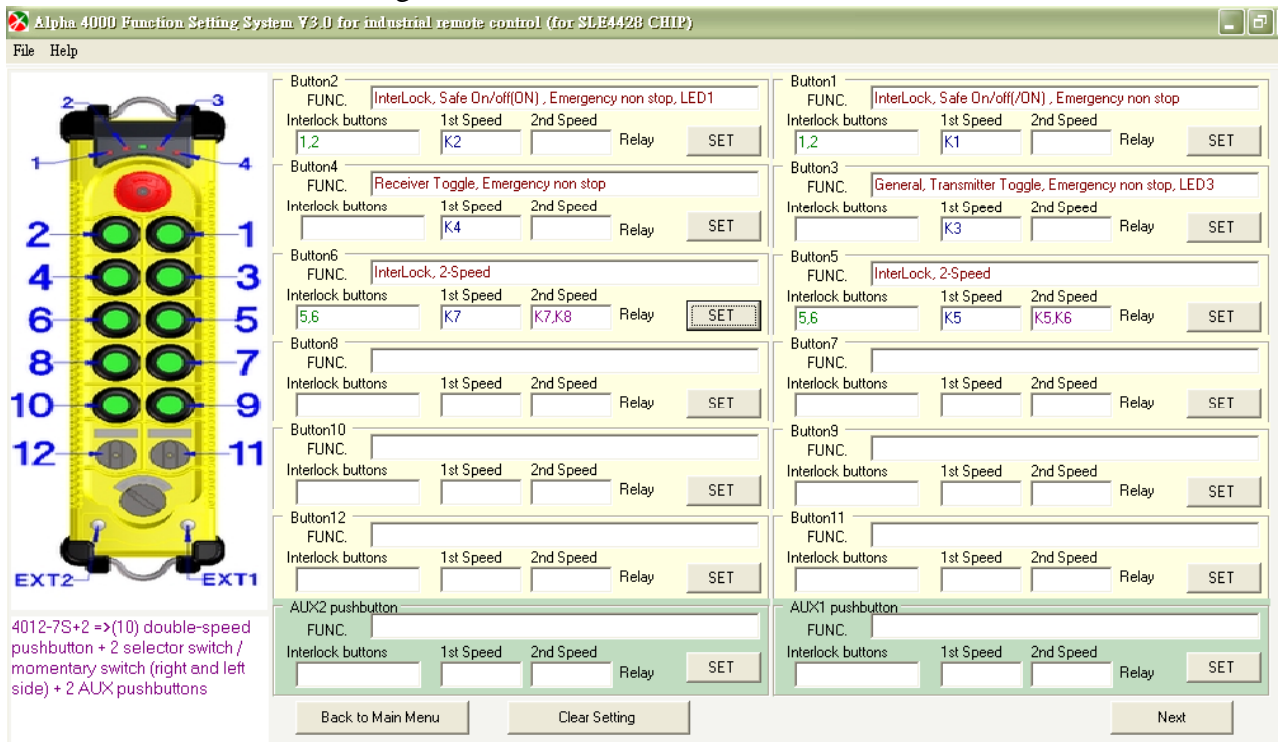
(Figure 6-4-13)

Then set double speed function on Pushbutton 6, then, select “K07” and “K08” relays.



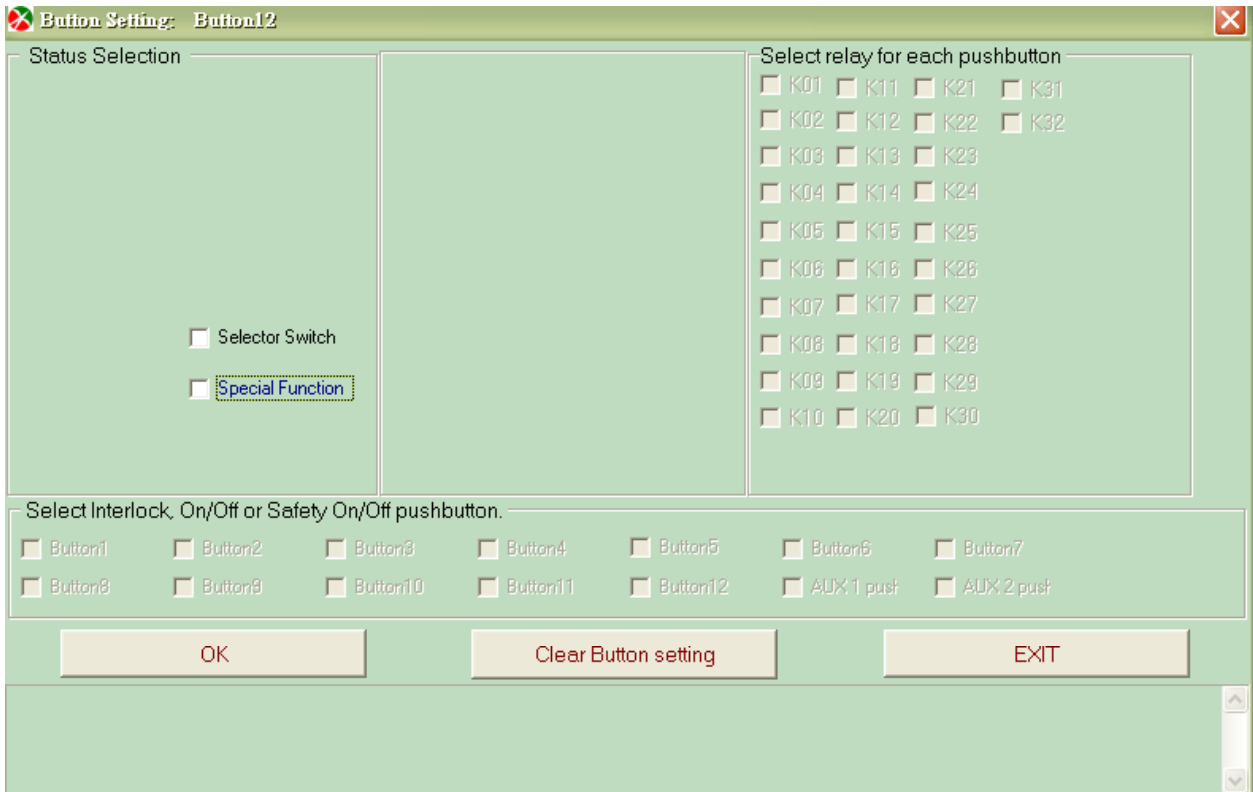
(Figure 6-4-14)

Back to main form for current setting.



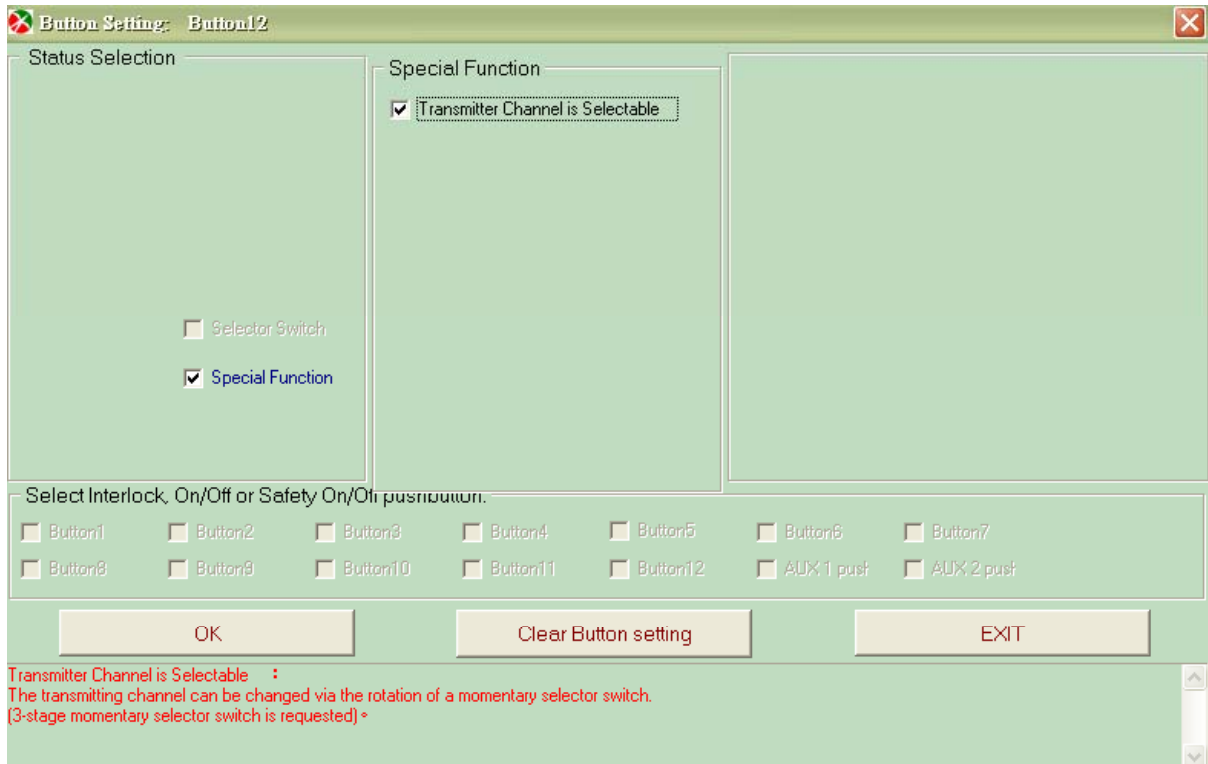
(Figure 6-4-15)

Click Pushbutton 12 on main form. Function of “Selector switch” and “Special function pushbutton” is available on this display.



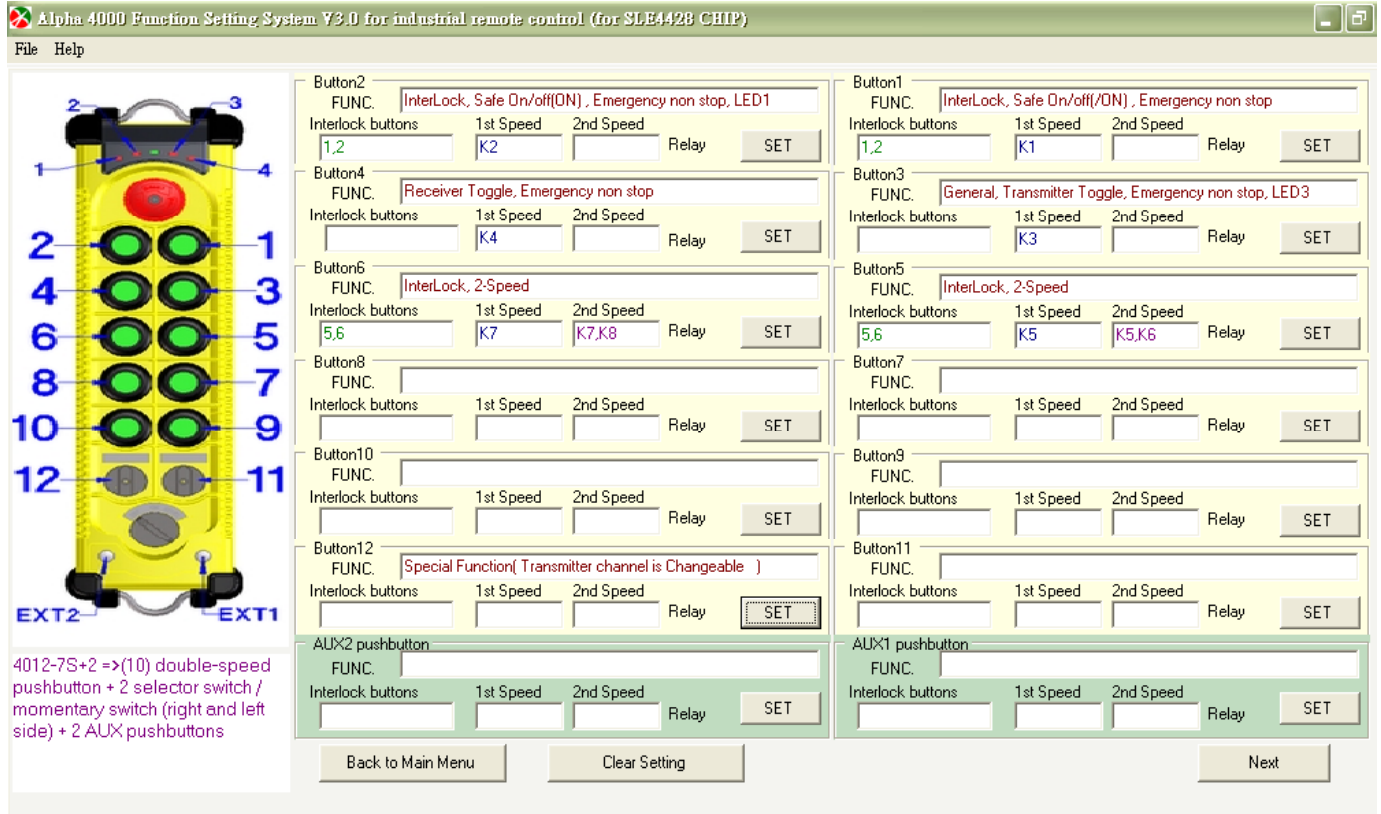
(Figure 6-4-16)

Pushbutton 12: selection for special function button “Transmitter channels is selectable”



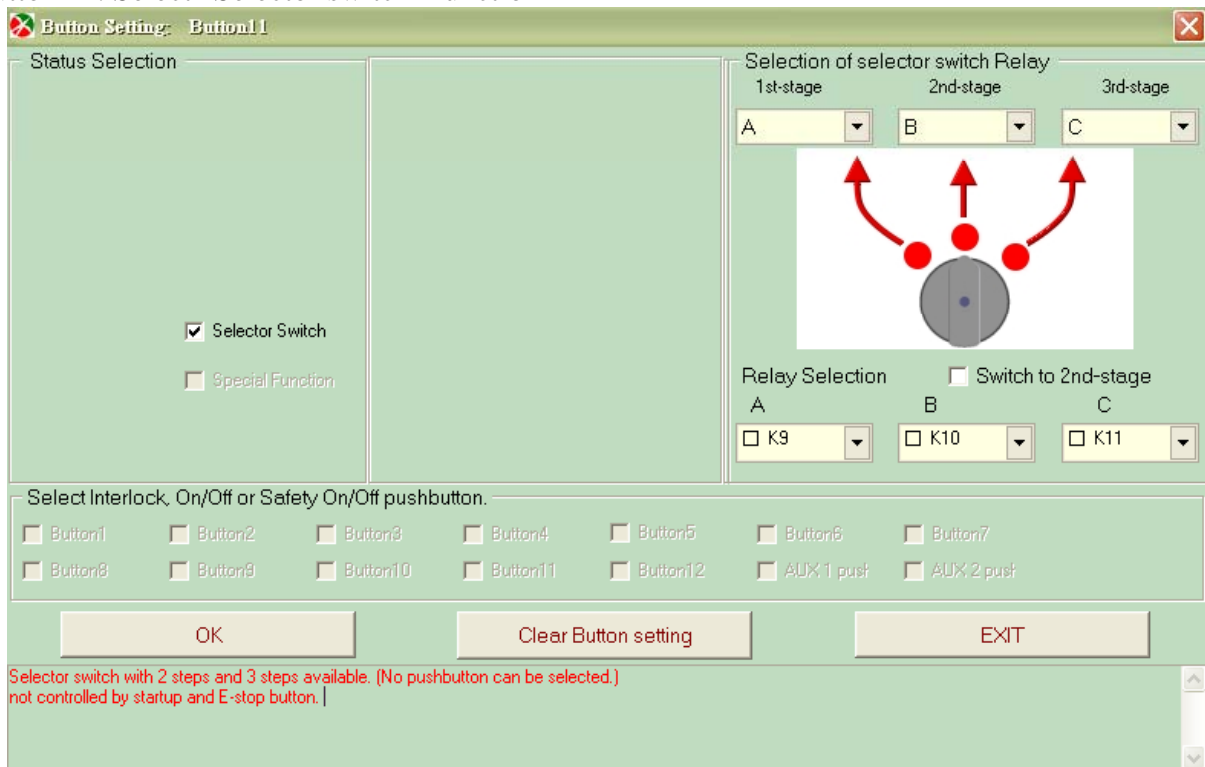
(Figure 6-4-17)

Back to main form for current setting.



(Figure 6-4-18)

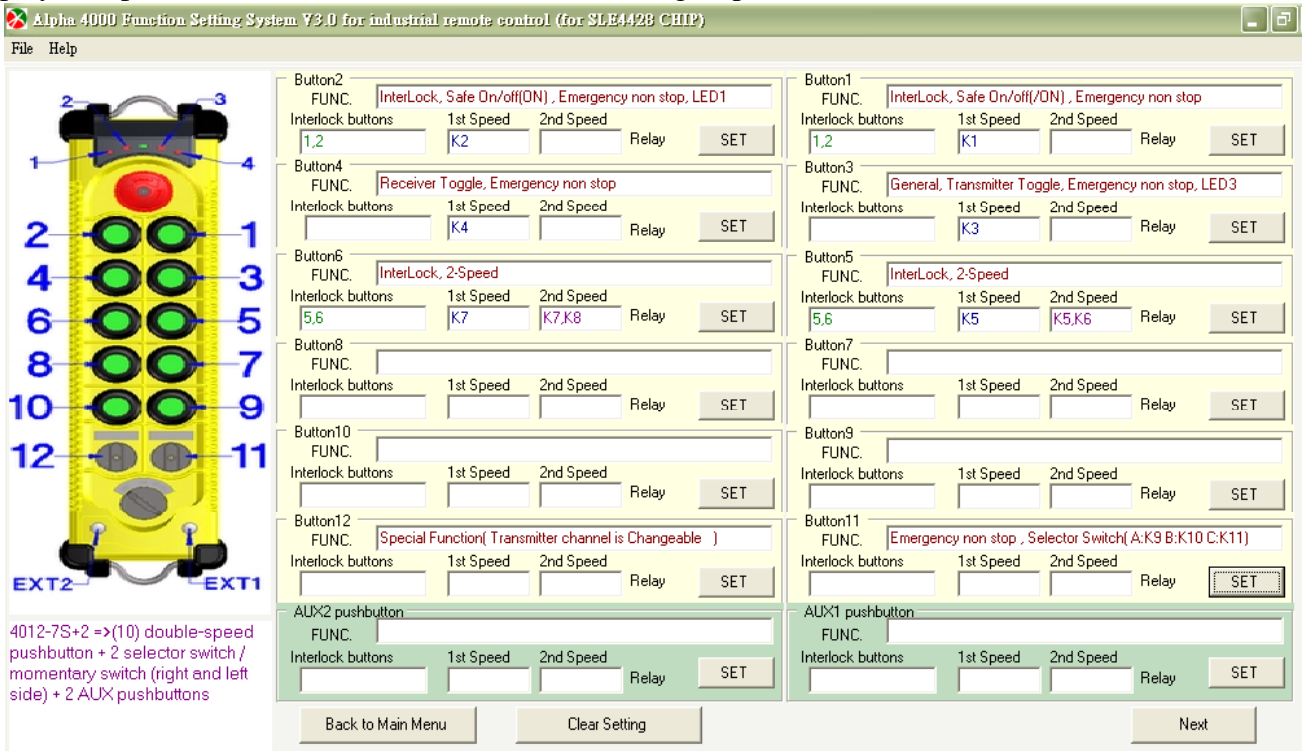
Pushbutton 11: Select “Selector switch” function



(Figure 6-4-19)

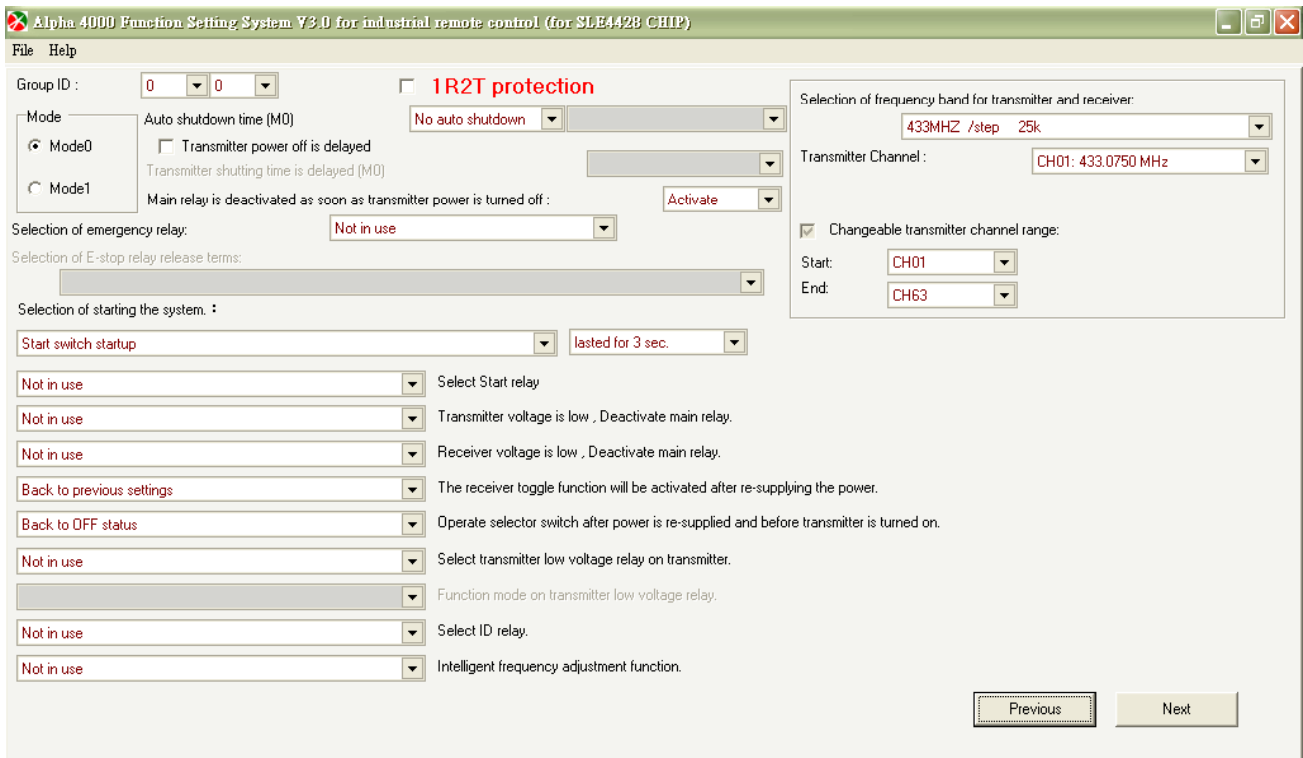
p.s. Available for each selecting scroll, including, Nop, A、B、C、A+B、B+C、A+C、A+B+C

Display for special function and selected switches setting of previous 2 forms.



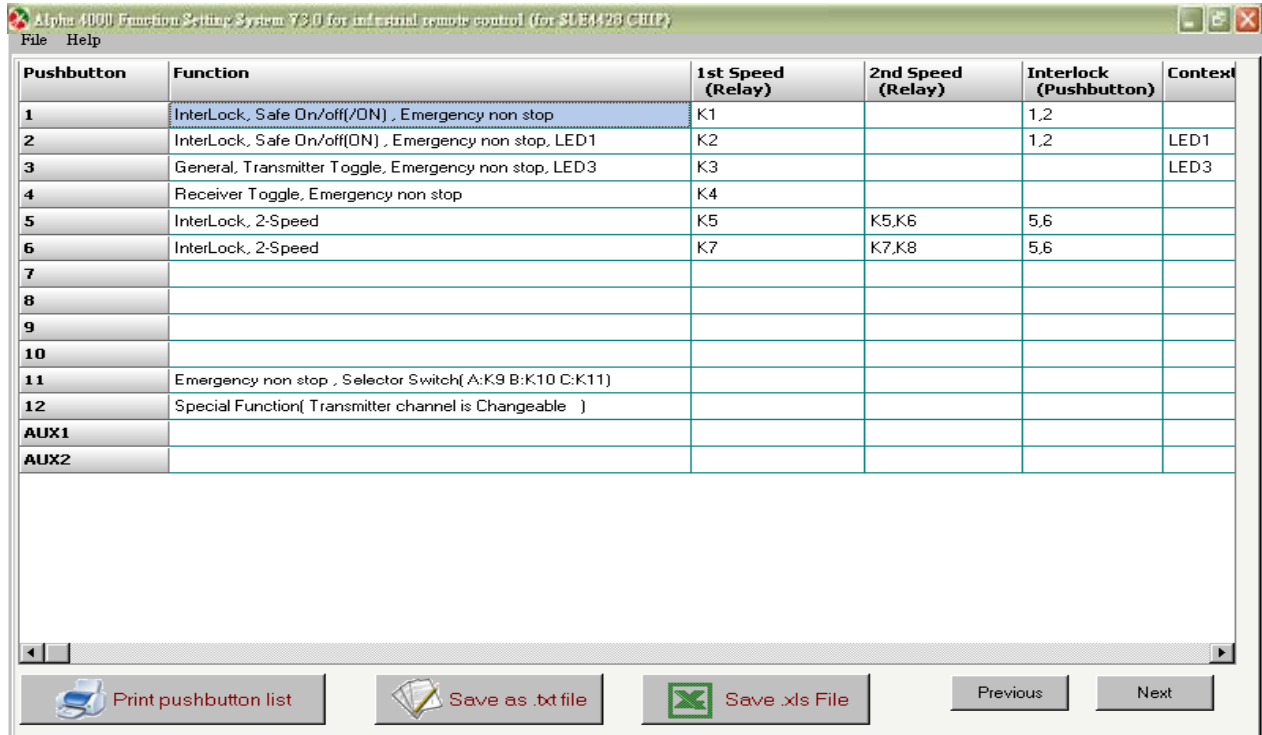
(Figure 6-4-20)

Selection of special function “Transmitter channel is selectable”  
Set transmitter channel range and group ID code. For example, in South Africa area set group ID “50”



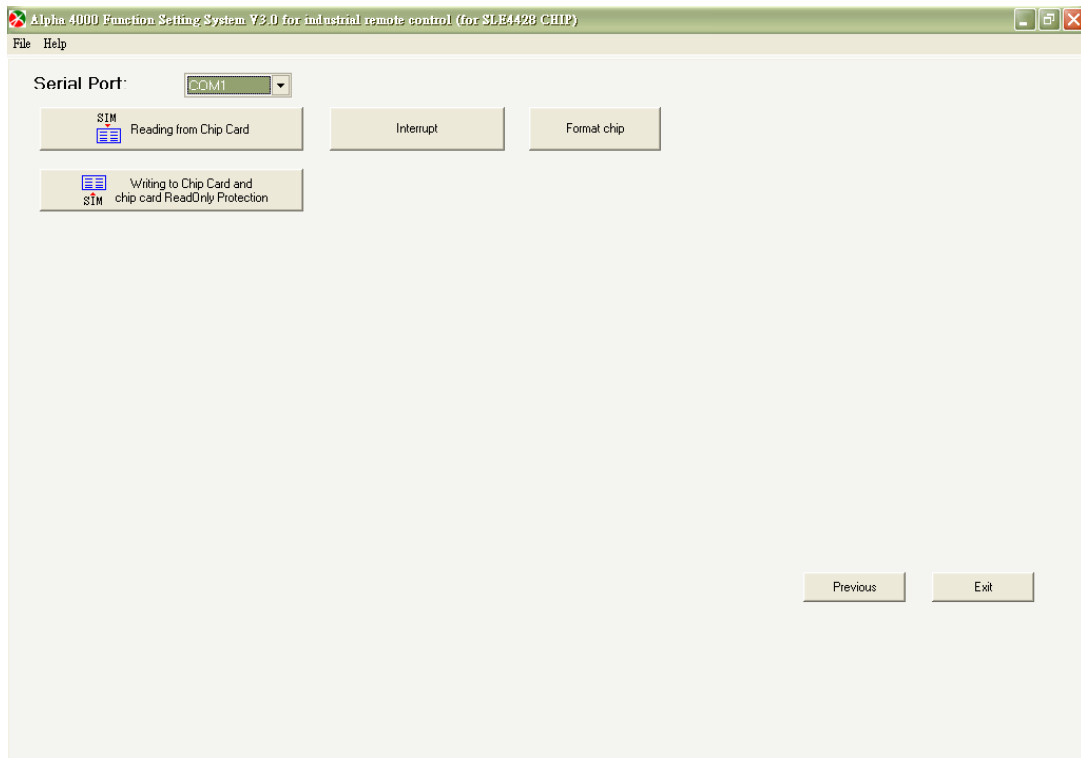
(Figure 6-4-21)

Pushbutton setting list



(Figure 6-4-22)

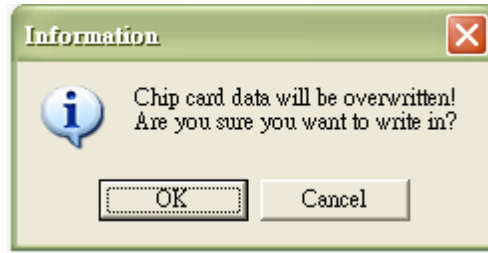
Chip card reading/write in form



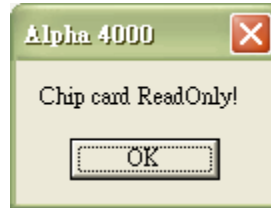
(Figure 6-4-23)



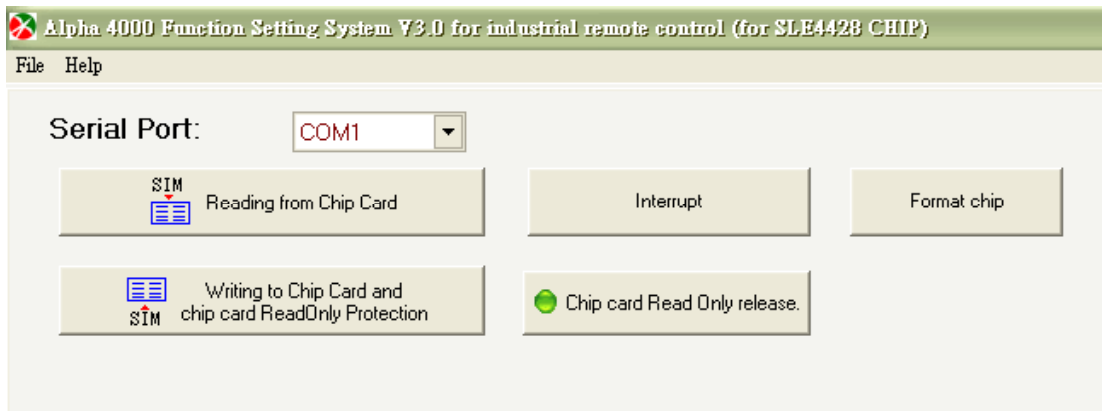
Click “write-in chip card”, then “Are you sure you want to write in?” message shows.  
Click “OK” to start or “Cancel” to exit and back to main form.



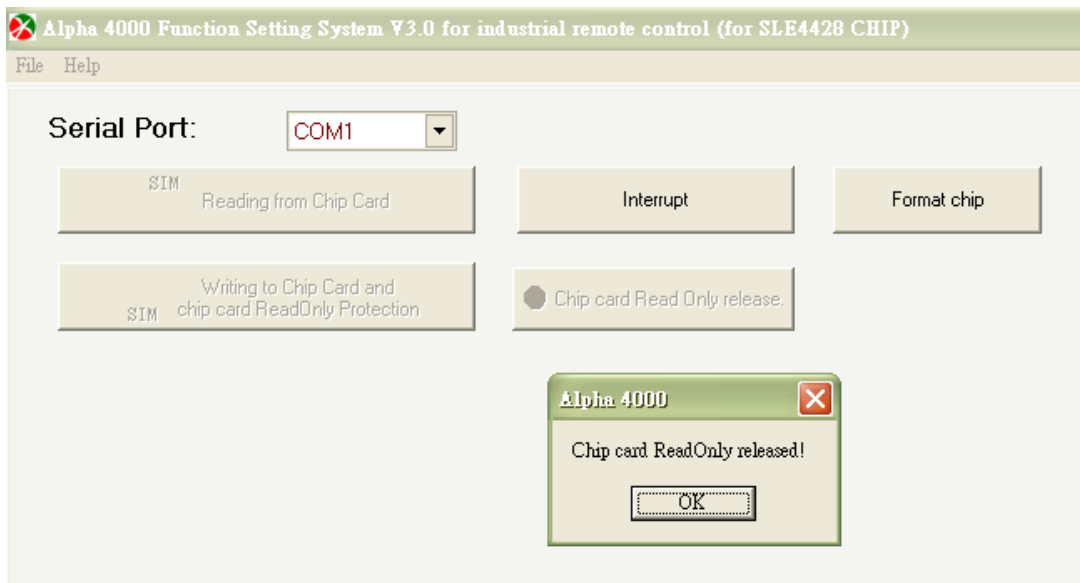
(Figure 6-4-24)



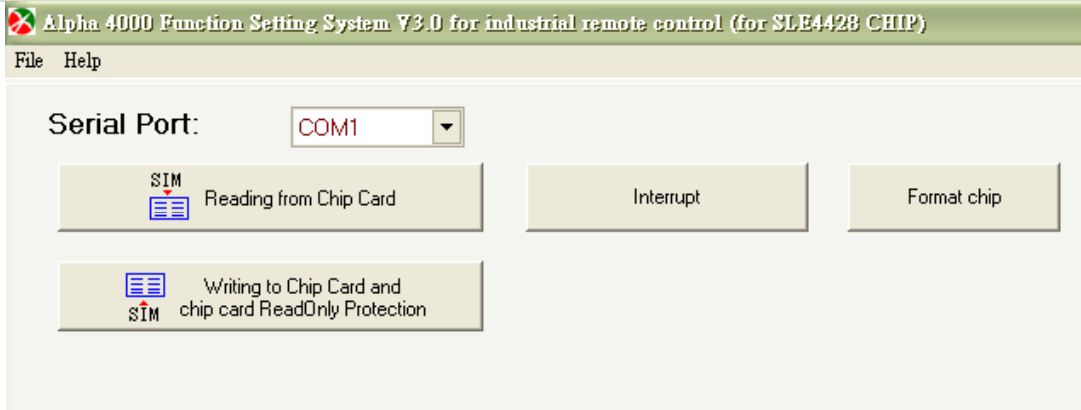
(Figure 6-4-25)



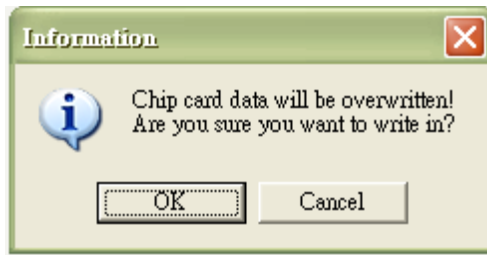
(Figure 6-4-26)



(Figure 6-4-27)

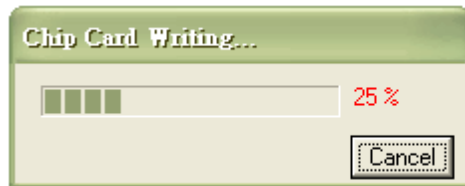


(Figure 6-4-28)



(Figure 6-4-29)

Chip card is writing in.....



(Figure 6-4-30)

After writing in successfully, “chip card burning successfully” message shows. If not, error message shows.



(Figure 6-4-31)

### Method 5: Duplicate/Copy directly via Chip Card

Select copy/backup program from chip card. There are two types of copy origin, including: read from chip card and from file.

Copy from chip card →

A. → “Read chip card” → “Copy to chip card”

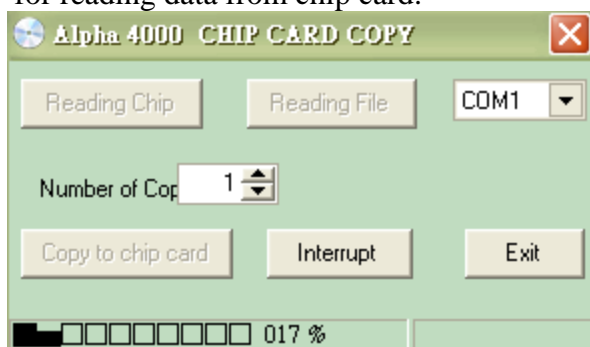
B. → “Read file” → “Copy to chip card”

First, “Read chip card” from origin



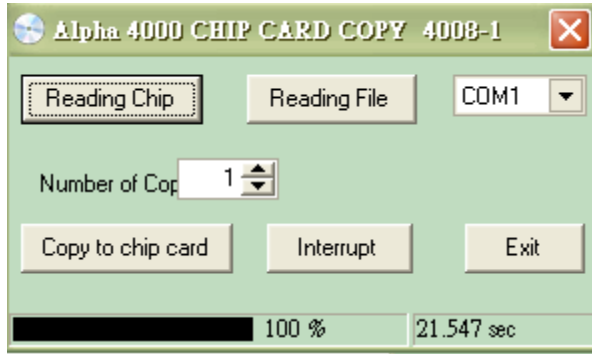
(Figure 6-5-1)

Click “Reading Chip” for reading data from chip card.



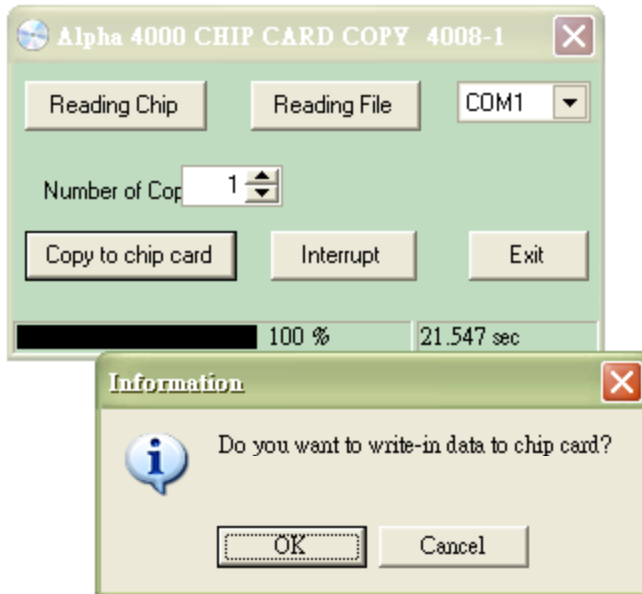
(Figure 6-5-2)

After reading successfully, then insert new chip card into programmer, select number of copy and click “copy to chip card”



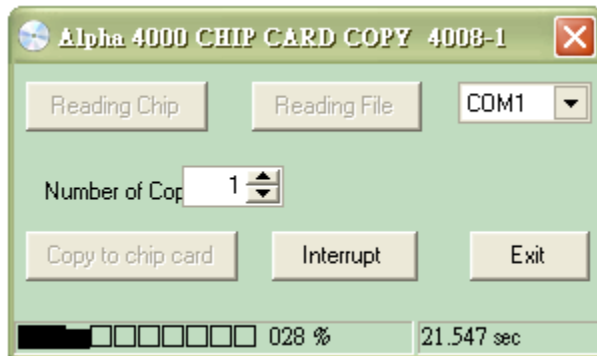
(Figure 6-5-3)

When pressing “Copy to chip card”, messages “Do you want to write-in data to chip card” will show.



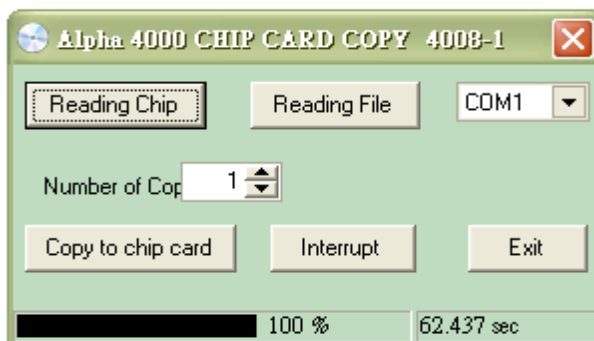
(Figure 6-5-4)

Click “OK” and copy starts.



(Figure 6-5-5)

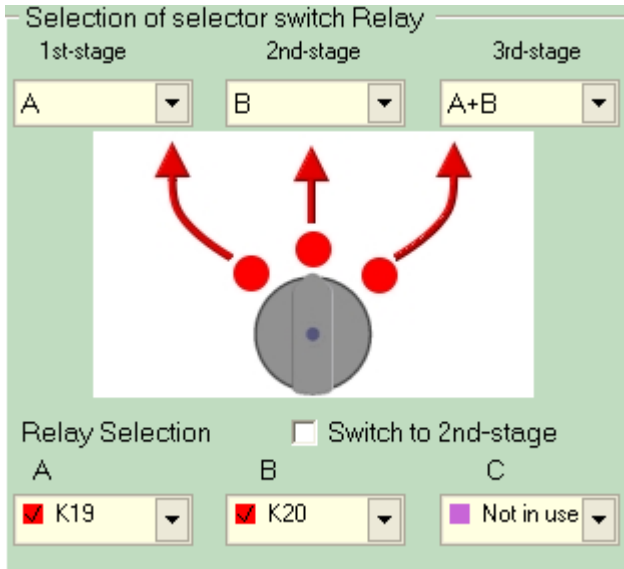
Copy success



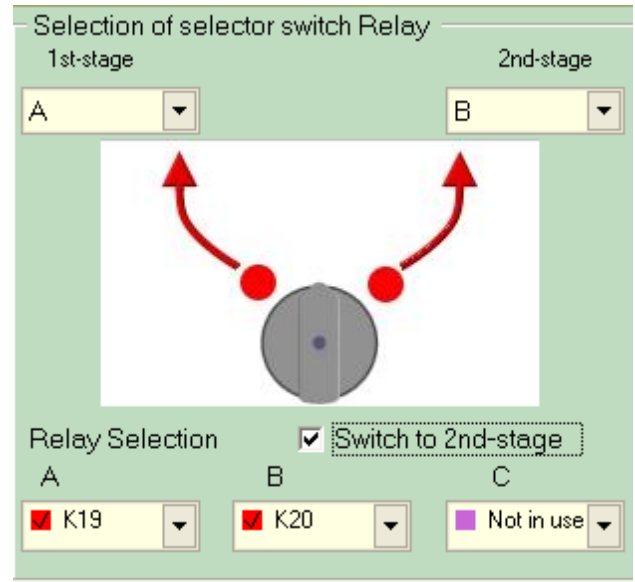
(Figure 6-5-6)

**7. Selector Switch: 3-Step and 2-Step:**

Base on the hardware used, selector switch are available with 3-step and 2-step ones. Software setting steps are as below:



(Figure 7-1 : 3-Step selector switch)



(Figure 7-2 : 2-step selector switch)

p.s. Please set the suitable software according to actual hardware.

Note: When press Emergency Stop Switch, the selection function status:

System with general function : Selection function can be used.

System with “Catch and Release” function : Selection function can be used.

System with “Tandem” function : Selection function can’t be used.

System with “IR2T protection” function : Selection function can’t be used.

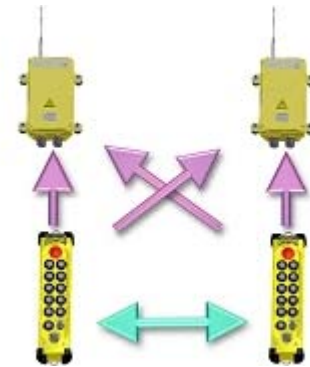
**8. Special Function Operation**

**8-1. Tandem ( Dual Master ) Mode**

**❖ 【Tandem (Dual Master) Mode】**

This mode allows two operators controlling two crane systems independently or one operator controlling two crane systems simultaneously.

(Crane I, Crane II, Crane I+II)



(Figure 8-1-1)

**★ Tandem Mode :**

To operate in Tandem mode, please keep depressing the Tandem pushbutton and rotate the power switch to START position and release.

To change the status, for example: from I+II to II

Step 1: depress emergency stop switch to deactivate main relays of Crane I and II

Step 2: release Tandem pushbutton

Step 3: keep depressing Tandem pushbutton again and rotate the power switch to START position and you will see the LED status light changes

Step 4: release emergency stop switch

Step 5: rotate the power switch to START position and then you could control Crane II

If change the status, for example, from I to I+II, II to I+II, I to II: you may follow Step 2 ~ Step 3 only.

Note that the Tandem pushbutton can only be set on the 7<sup>th</sup> single-speed pushbutton for Alpha 4008 and 11<sup>th</sup> single-speed pushbutton for Alpha 4012. The two transmitters operated in Tandem mode should have different channels and identical ID. It is only available under Mode 1. Please refer to below for LED status of Tandem mode operation.

- Crane I : LED position 1: Red Light (LED position 2: Green Light)
- Crane II : LED position 2: Red Light ( LED position 1: Green Light )
- Crane I+II : LED position 1 & 2: Red Light

## How to set “Tandem Mode “ to transmitter and receiver chip cards:

**Step 1:** select Standard System types on MAIN MENU

**Step 2:** select the desired number of pushbutton

**Step 3:** select the desired system type

**Step 4:** move to Pushbutton 7 or Pushbutton 11 and click SET

**Step 5:** click “Clear Pushbutton Setting”

**Step 6:** back to Pushbutton 7 or Pushbutton 11 and click SET again

**Step 7:** select Special Function

**Step 8:** select Tandem Mode

**Step 9:** select either “back to in-plant setting (e.g. I)” or “back to previous setting” (e.g. I+II)

**Step 10:** click OK

**Step 11:** setting for Pushbutton 11 will show “special function (Tandem Mode)”

**Step 12:** click NEXT

**Step 13:** select GID (Group ID)

**Step 14:** burn-in chip for Transmitter 1, Transmitter 2, Receiver 1 & Receiver 2 one by one. It’s highly suggested that the burned-in chip card is sliding in back to either the transmitter or receiver where it belongs to, so that the mixing up can be prevented.

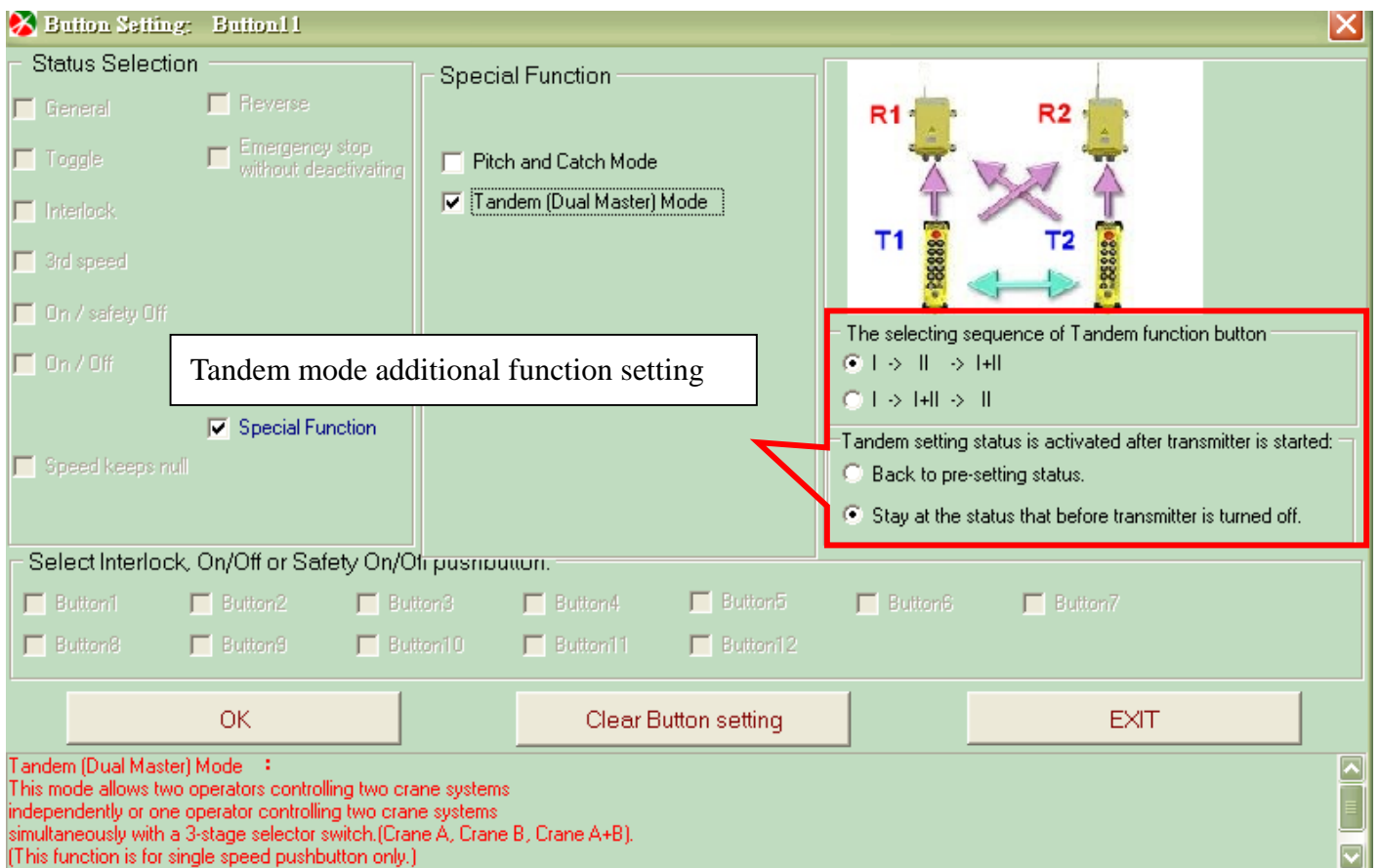


Figure 8-1-2 : Select Tandem Mode and additional function setting on Pushbutton Setting Form

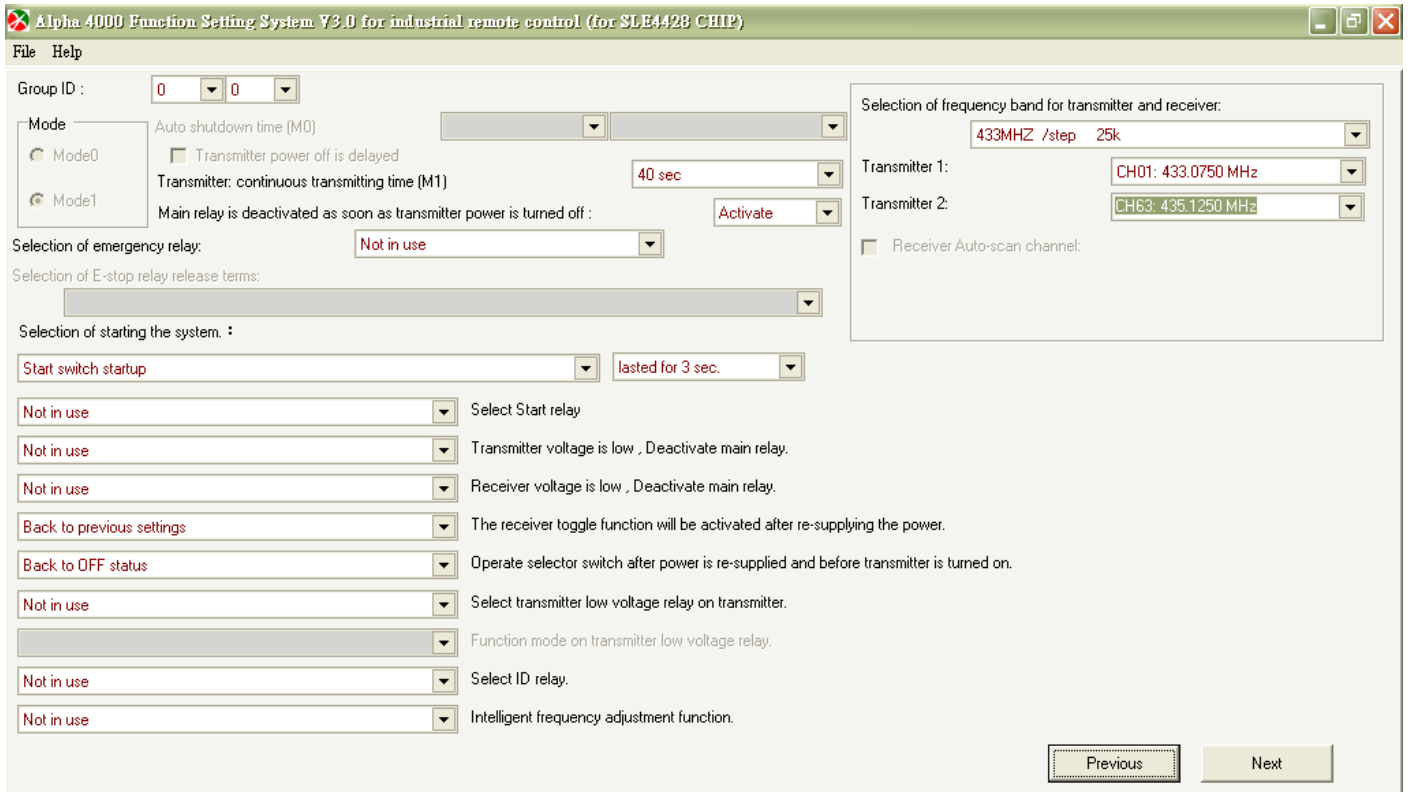


Figure 8-1-3 : Set 2 transmitter channels on Frequency Setting Form

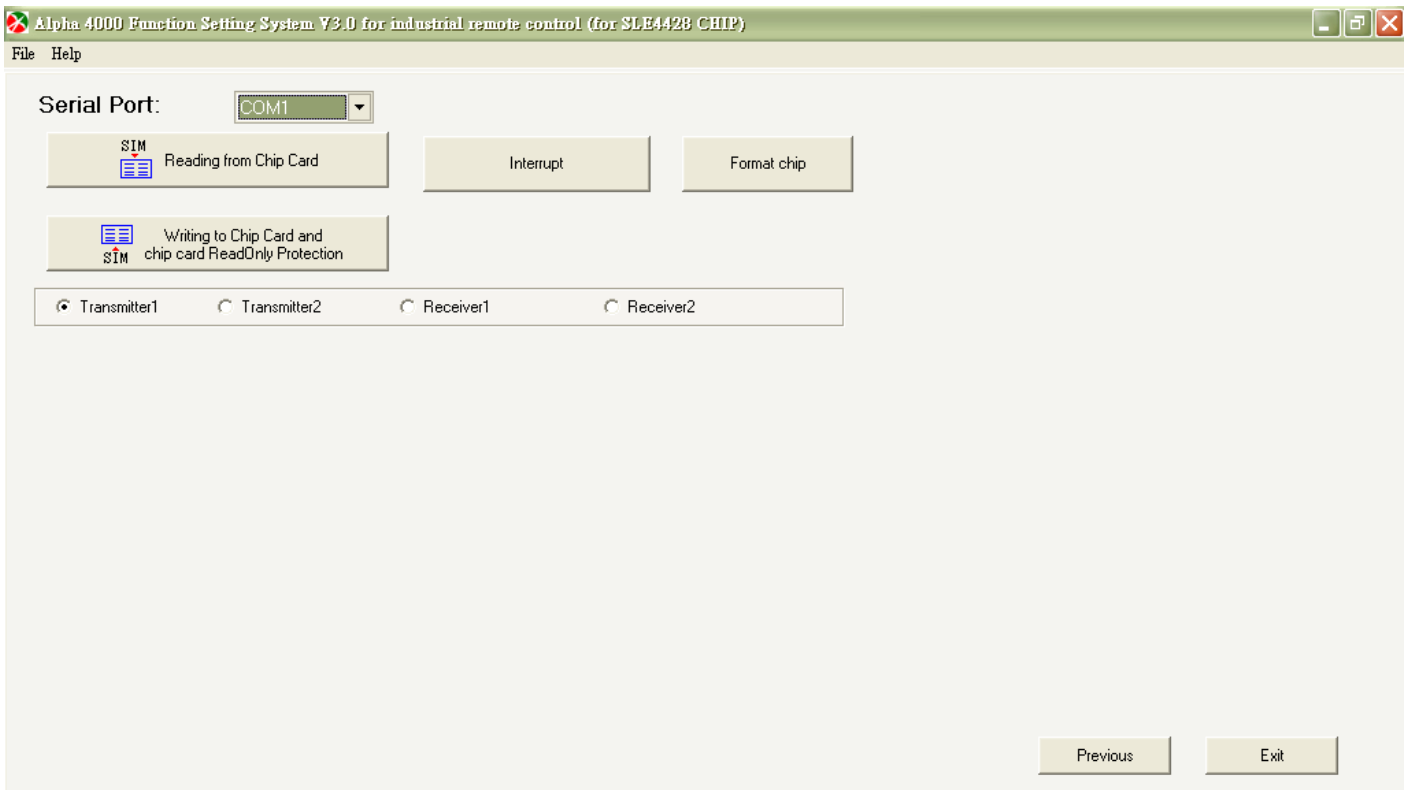


Figure 8-1-4 : By following the instructions, the operator can burn in transmitter and receiver chip cards one by one on Reading/Writing Chip Card Form



**8-2. Pitch and Catch Mode****❖ 【Pitch and Catch Mode】**

This mode allows two operators controlling one crane system from opposite ends of a long or cross travel.



( Figure 8-2-1 )

**★ Pitch and Catch Mode :**

To operate in Pitch and Catch Mode, please depress the Release pushbutton and then rotate the power switch to START position and release. The power of the receiver will be off (main relay will be deactivated). Then, either turn on Transmitter 1 or Transmitter 2, the transmitter which be turned on (activate main relay of the receiver) first will control the Crane.

Note that the Release pushbutton can only be set on the 7<sup>th</sup> single-speed pushbutton for Alpha 4008 and 11<sup>th</sup> single-speed pushbutton for Alpha 4012. The two transmitters operated in Pitch and Catch mode should have different channels and same identical ID. It is only available under Mode 1.

**How to set “Pitch and Catch Mode” to transmitter and receiver chip cards:**

**Step 1:** select standard or nonstandard system types on MAIN MENU

**Step 2:** select the desired number of pushbutton

**Step 3:** select the desired system type

**Step 4:** move to Pushbutton 7 or Pushbutton 11 and click SET

**Step 5:** click “Clear Pushbutton Setting”

**Step 6:** back to Pushbutton 7 or Pushbutton 11 and click SET again

**Step 7:** select Special Function

**Step 8:** select Pitch and Catch Mode

**Step 9:** click OK

**Step 10:** setting for Pushbutton 7 or 11 will show “special function (Pitch and Catch Mode)”

**Step 11:** click NEXT

**Step 12:** select Frequency Band for transmitter and receiver, then, select two different channels for Transmitter and Transmitter 2.

**Step 13:** click NEXT

**Step 14:** click NEXT on Pushbutton List Form

**Step 15:** burn-in transmitter 1, transmitter 2 and receiver chip cards one by one on Reading/Writing Chip Card Form

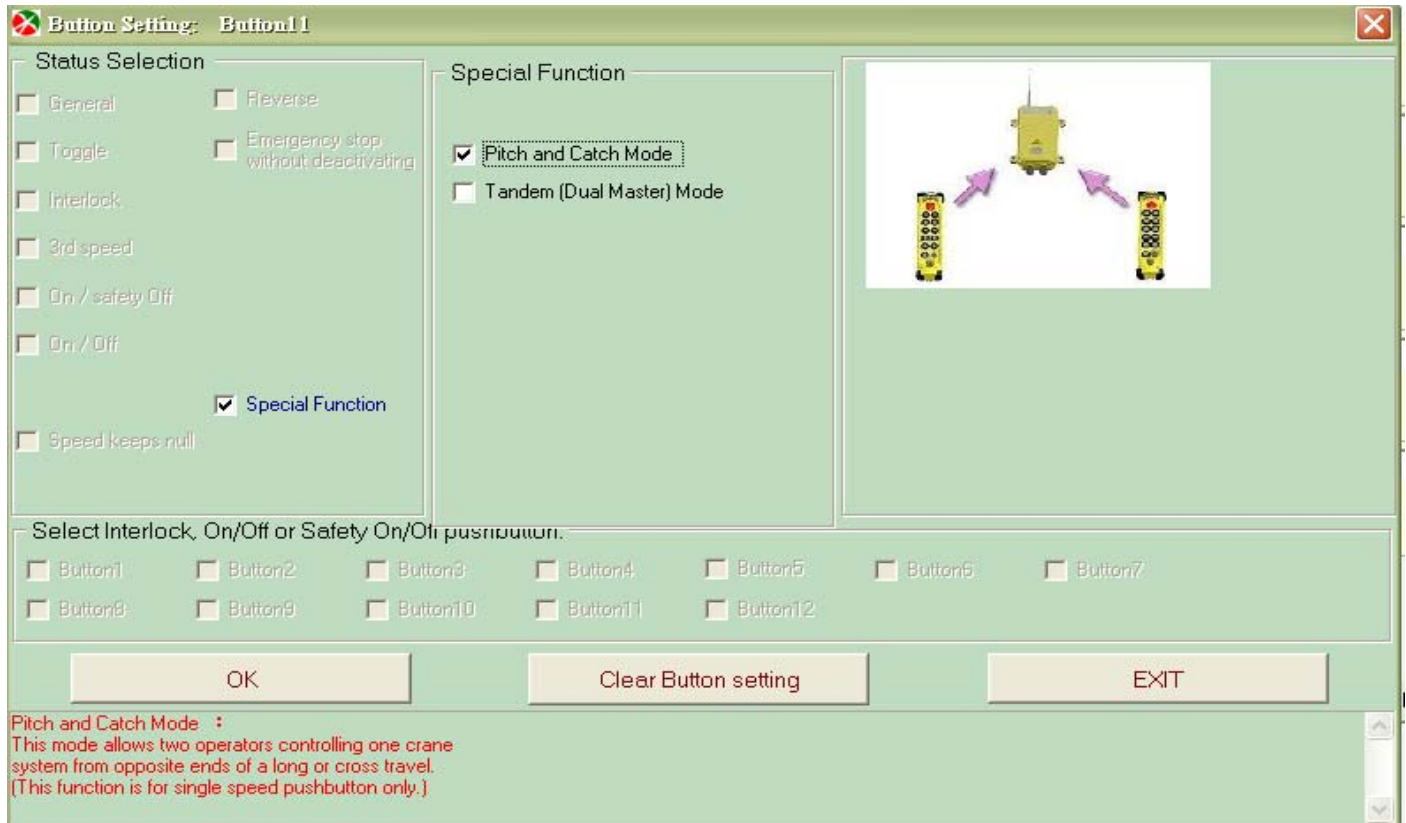


Figure 8-2-2 : Select Pitch and Catch Mode on Pushbutton Setting Form

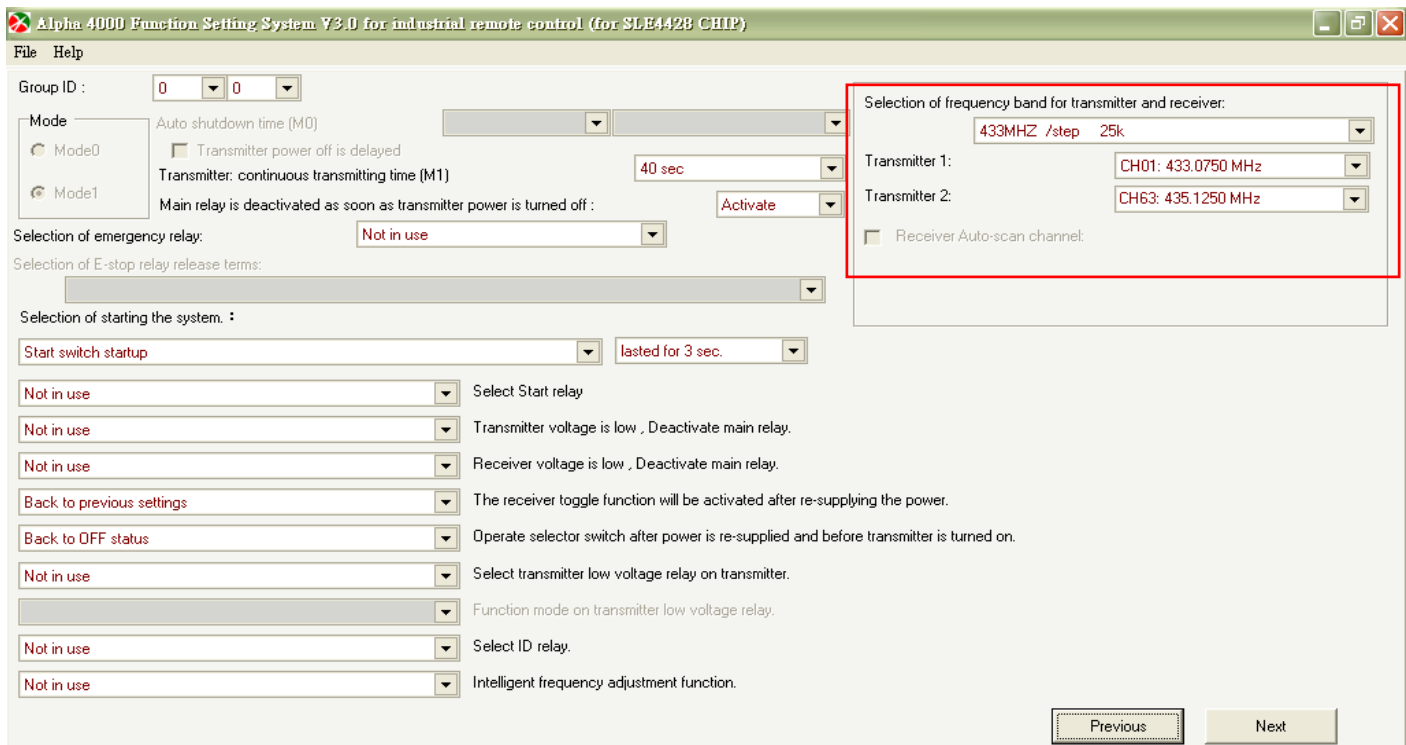


Figure 8-2-3 : Set two different channels for Transmitter 1 and Transmitter 2 on Frequency Setting Form

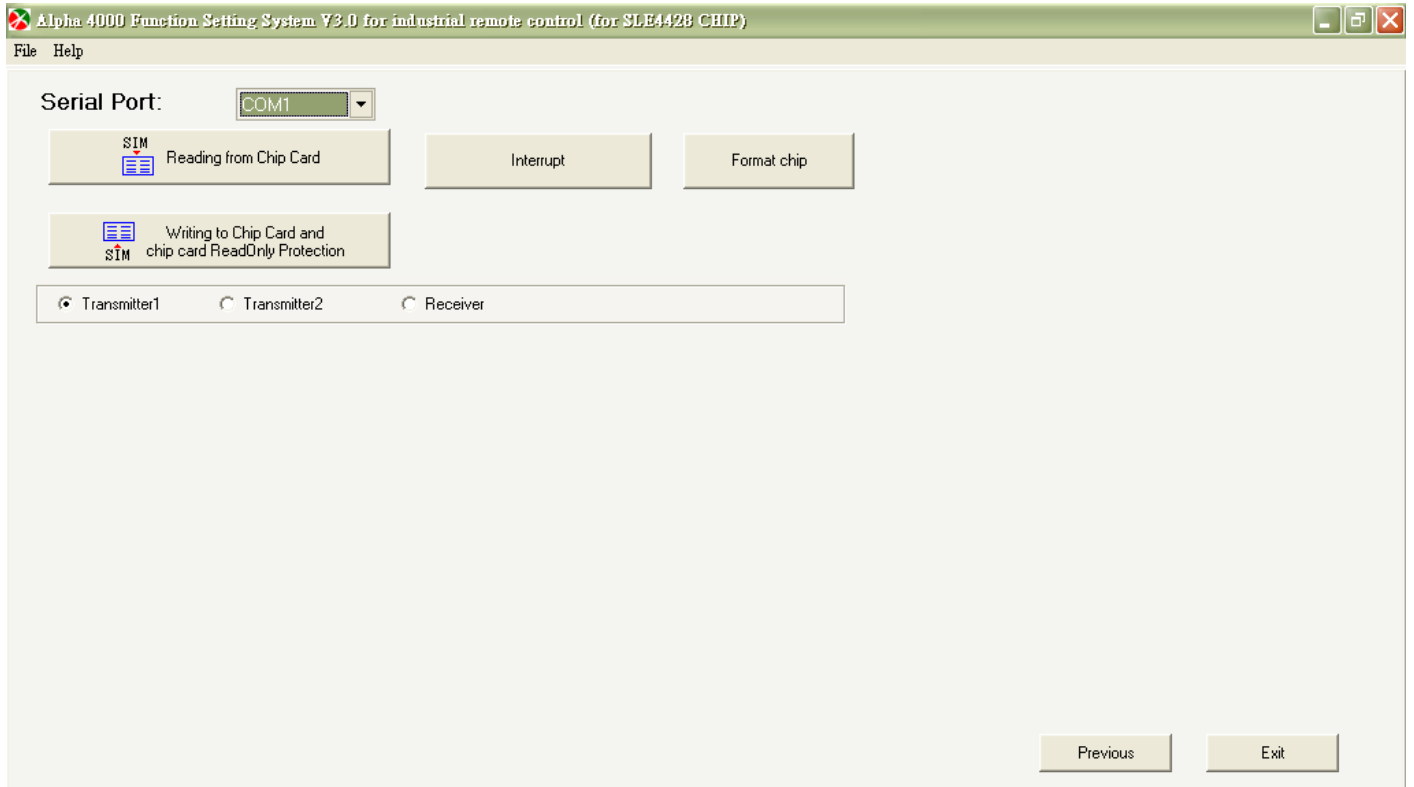
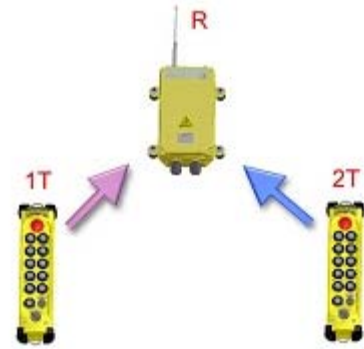


Figure 8-2-4 : Burn-in transmitter and receiver chip cards one by one on Reading/Writing Chip Card Form

**8-3. 1R2T Protection****【1R2T Protection】**

Two transmitters to one receiver.  
For safety purpose, only one transmitter can control the receiver at a time.



( Figure 8-3-1 )

**★ 1R2T Protection****How to switch Transmitter 1/ Transmitter 2 to control the receiver in 1R2T protection function:**

When the transmitter that controls the receiver is low-battery / depress emergency stop button / rotate the power switch to OFF position. The main relay of receiver will be deactivated. Then, either turn on Transmitter 1 again or turn on Transmitter 2, the transmitter which be turned on first will control the receiver.

Note that the two transmitters operated in 1R2T Protection shall have same channels and identical ID.

**How to set “1R2T Protection” function to transmitter and receiver chip cards:**

**Step 1:** select standard or on-standard system types on Main Menu

**Step 2:** select the desired number of pushbutton

**Step 3:** select the desired system type

**Step 4:** click OK

**Step 5:** click NEXT on Pushbutton Setting Form

**Step 6:** click 1R2T Protection on Frequency Setting Form

**Step 7:** click NEXT

**Step 8:** click NEXT on Pushbutton List Form

**Step 9:** by following the instructions, the operator can burn in transmitter 1, transmitter 2 and receiver chip cards one by one on Reading/Writing Chip Card Form

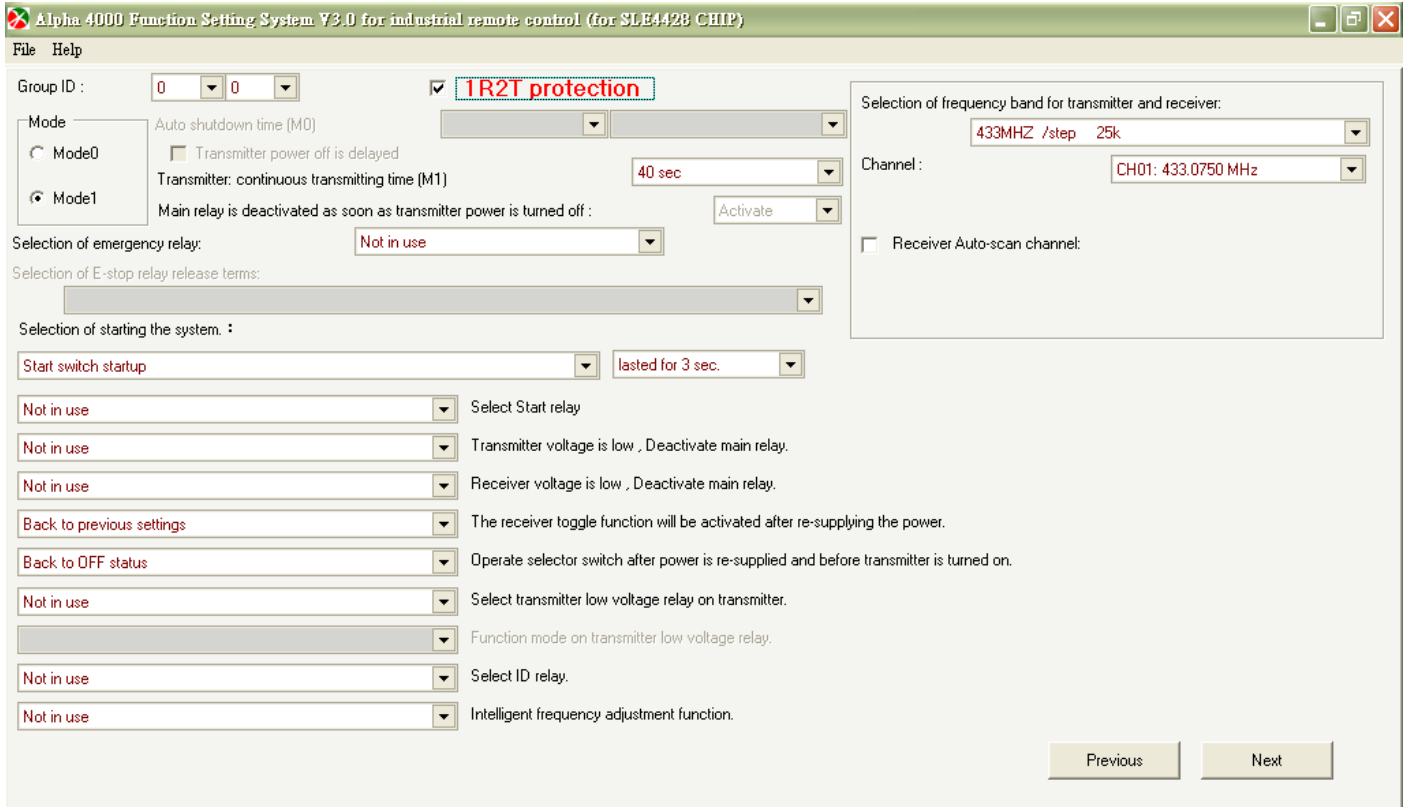


Figure 8-3-2 : Select “1R2T Protection” on Frequency Setting Form

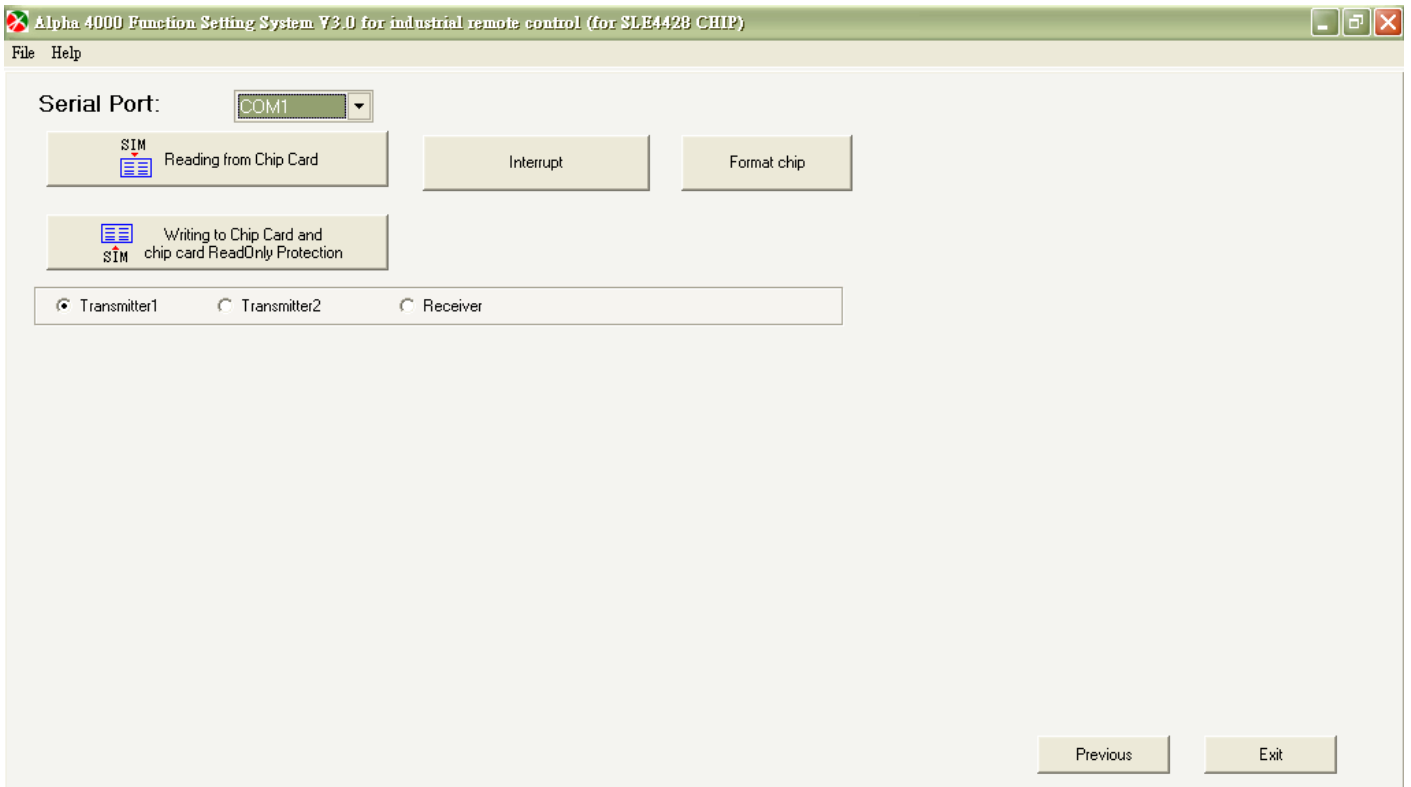
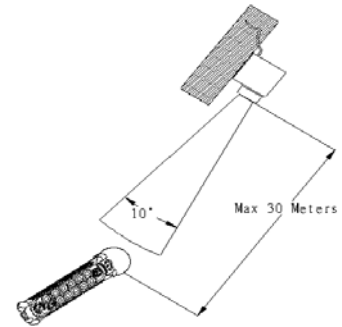


Figure 8-3-3 : Burn-in transmitter and receiver chip cards one by one on Reading/Writing Chip Card Form

## 8-4. Infrared Start-up

### ❖ 【Infrared Start-up function】

Transmitting signal to infrared start-up module to activate the main relay of receiver



How to set “Infrared Start-up“ function to transmitter and receiver chip cards:

- Step 1: select standard or on-standard system types on Main Menu
- Step 2: select the desired number of pushbutton
- Step 3: select the desired system type
- Step 4: click OK
- Step 5: click NEXT on Pushbutton Setting Form
- Step 6: select “Infrared Startup” on Frequency Setting Form
- Step 7: click NEXT
- Step 8: click NEXT on Pushbutton List Form
- Step 9: burn-in transmitter and receiver chip cards one by one on Reading/Writing Chip Card Form

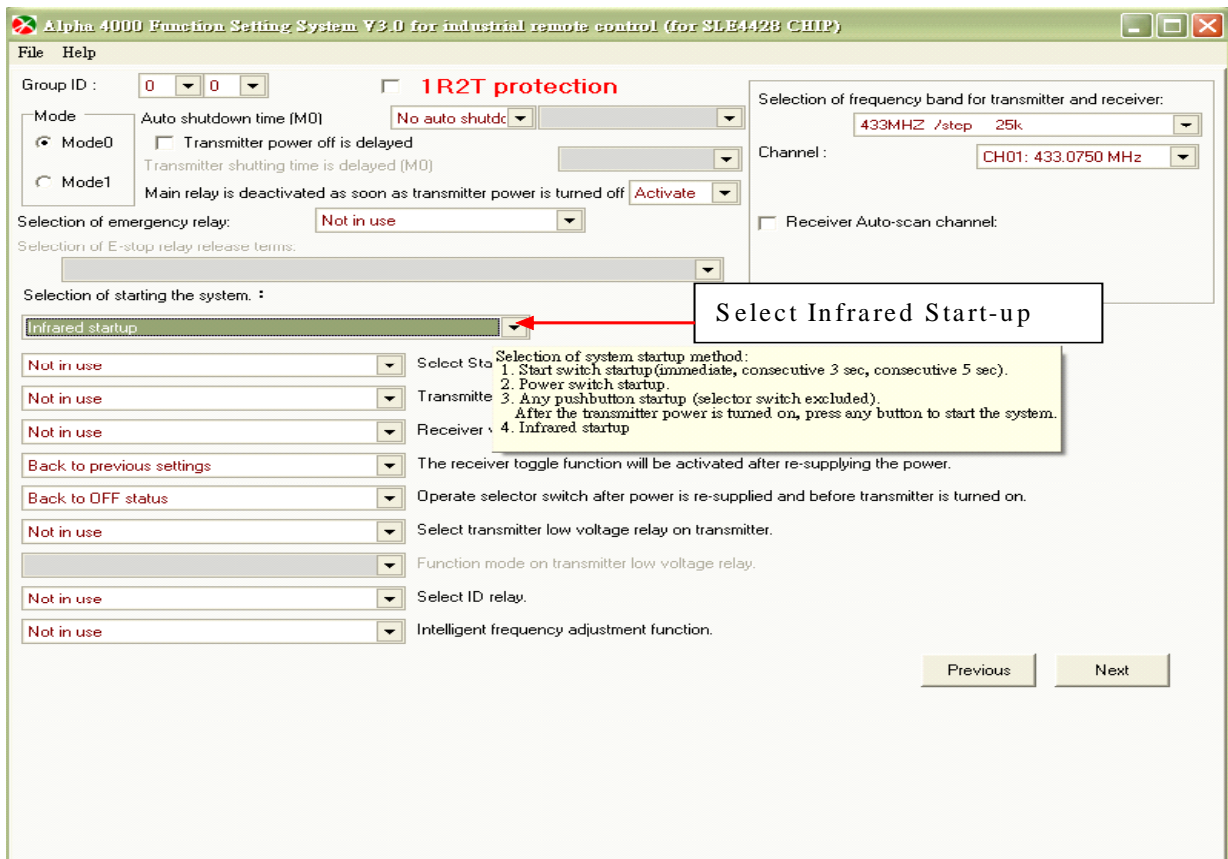


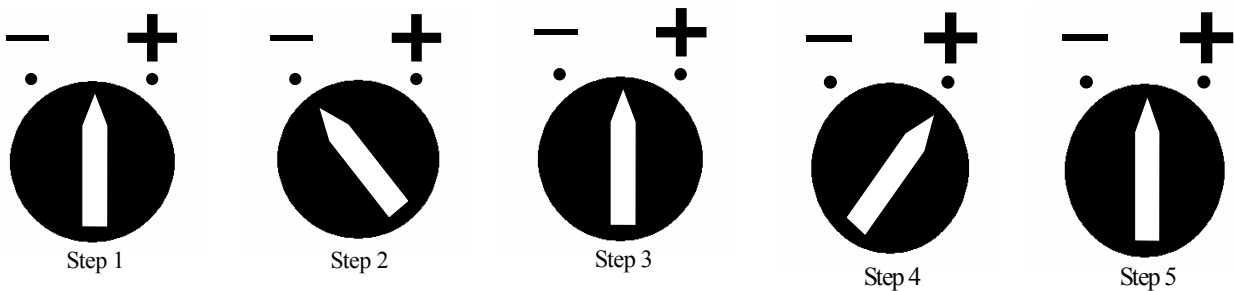
Figure 8-4-1 : Select Infrared Startup on Frequency Setting Form

**8-5. Transmitter Channel is Selectable**

• **【Transmitter Channel is Selectable】**

Operate a 3-step automatic return momentary selector switch to select transmitter channel. Transmitter Channel is selectable function can be set on the 7<sup>th</sup> single speed pushbutton on 8-pushbutton system types, 11<sup>th</sup> single speed pushbutton on 12-pushbutton and 12+2-pushbutton system types.

- ★ Transmitter shall have a 3-step automatic return momentary selector switch.  
Start “Transmitter Channel is Selectable” function and identify Start channel and End channel on transmitter chip card. When transmitter is operated in this function, receiver will AUTOSCAN new channel.
- ★ Operate in “Transmitter Channel is Selectable” function, do not depress any pushbutton and rotate the 3-stage momentary selector switch follow Step 1 to Step5 in one second. Then the transmitter stop transmitting and after transmitter displays start-up LED, you can start to select channel.



- ★ Rotating the 3-stage momentary selector switch form middle → left to decrease one number of channel, rotate the 3-stage momentary selector switch form middle → right position to increase one number of channel.

For example: If channel range is set form 01 to 20 and the channel in use is 05. Rotate the selector switch form middle to left position, the channel will be change to 04. In opposite, rotate form middle to right position, the channel will be change to 06.

For example: If channel range is set form 01 to 20 and the channel in use is 01. Rotate the selector switch form middle to left position, the channel change to 20. In opposite, if the channel in use is 20, rotate the selector switch form middle to right position, the channel will be change to 01.

## 8.SPECIAL FUNCTION OPERATION

- ★ The status of transmitter channel shows pervious setting, not in-plant setting.
- ★ Channel number under 10 Green LED is displayed. Channel number over 10, Red LED and Green LED are displayed alternately. Digit in tens of channel number display Red LED, digit in ones of channel number display Green LED (Please refer Table One)
- ★ Transmitter channel between 1 ~ 9, LED display a constant green light.

**Transmitter Channel LED Display**

Red LED					Green LED				
Digit in Tens	1	2	3	4	Digit in Ones	1	2	3	4
10	BLINK				1	LIGHT/ BLINK			
20		BLINK			2		LIGHT/ BLINK		
30			BLINK		3			LIGHT/ BLINK	
40				BLINK	4				LIGHT/ BLINK
50	BLINK			BLINK	5	LIGHT/ BLINK			LIGHT/ BLINK
60		BLINK		BLINK	6		LIGHT/ BLINK		LIGHT/ BLINK
70			BLINK	BLINK	7			LIGHT/ BLINK	LIGHT/ BLINK
80	BLINK		BLINK	BLINK	8	LIGHT/ BLINK		LIGHT/ BLINK	LIGHT/ BLINK
90		BLINK	BLINK	BLINK	9		LIGHT/ BLINK	LIGHT/ BLINK	LIGHT/ BLINK

( Table One )

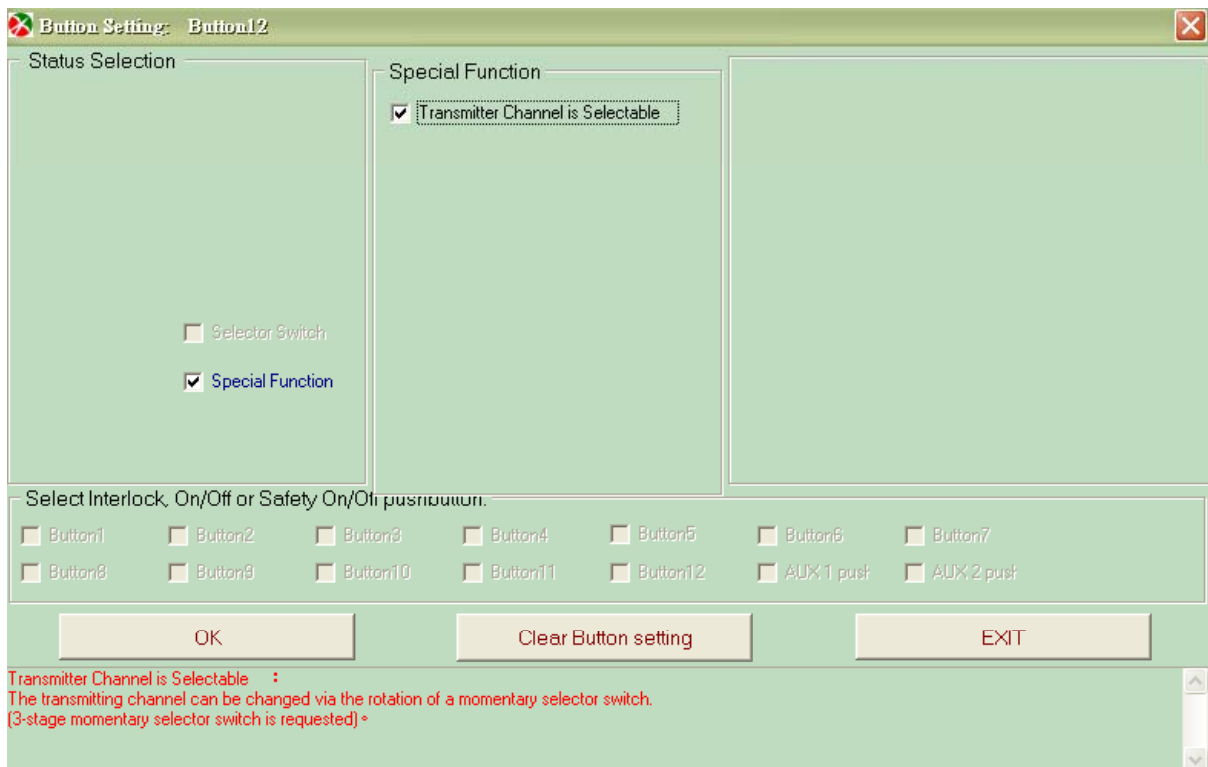
For example :

- CH 1→ Transmitter Status LED 1 displays a green blinking light.
- CH 8→ Transmitter Status LED 1 & 3 & 4 display green blinking lights. ( 1 + 3 + 4 = 8 )
- CH 14→ Transmitter Status LED 1 displays a red blinking light, LED 4 display a green blinking light.
- CH 20→ Transmitter Status LED 2 displays a red blinking light.
- CH 33→ Transmitter Status LED 3 displays red & green LED blinking lights alternately.



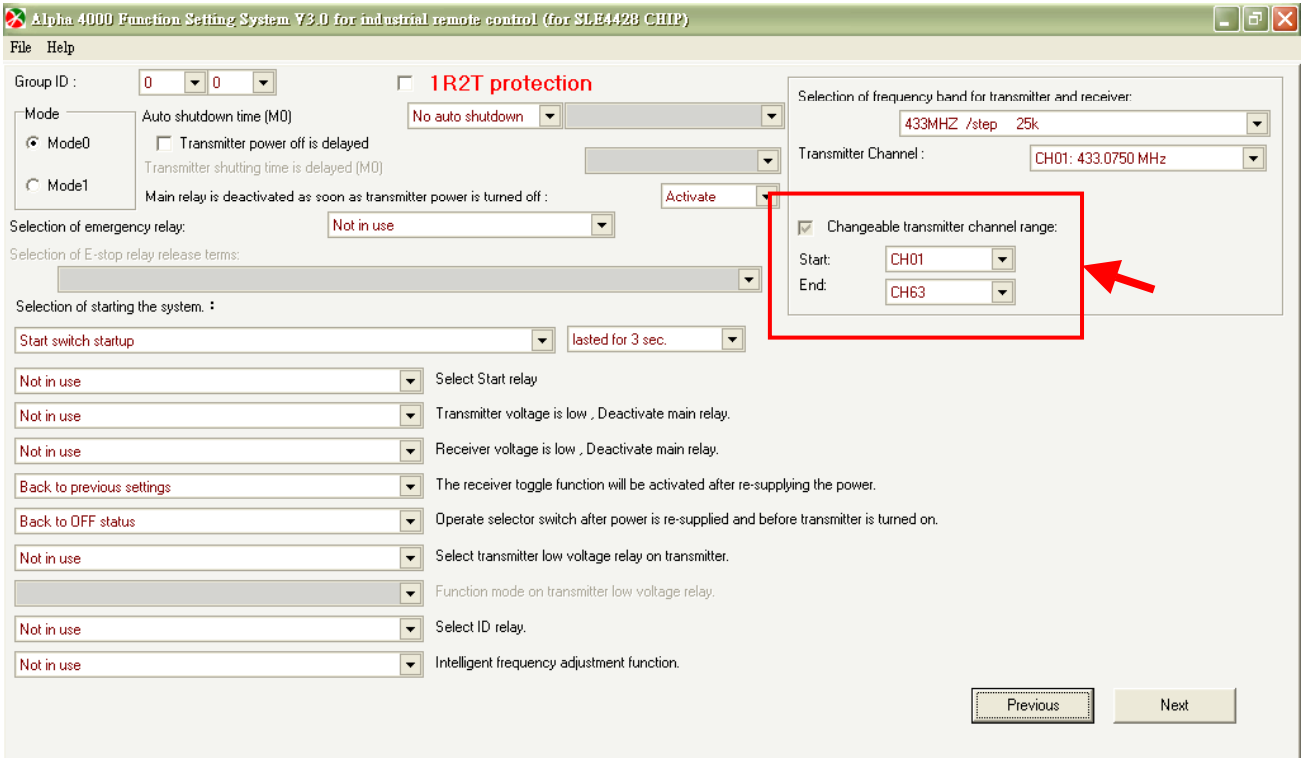
**How to set “Transmitter Channel is Selectable“ function to transmitter and receiver chip cards:**

- Step 1:** select standard or on-standard system types on Main Menu
- Step 2:** select the desired number of pushbutton
- Step 3:** select the desired system type
- Step 4:** click OK
- Step 4:** move to Pushbutton 7 or Pushbutton 11 and click SET
- Step 5:** click “Clear Pushbutton Setting”
- Step 6:** back to Pushbutton 7 or Pushbutton 11 and click SET again
- Step 7:** select Special Function
- Step 8:** select Transmitter Channel is Selectable
- Step 9:** click OK
- Step 10:** setting for Pushbutton 7 or 11 will show “special function (Transmitter Channel is selectable)”
- Step 12:** click NEXT
- Step 13:** “Changeable Channel range of transmitter” is already selected. Select Start and End channels on Frequency Setting Form
- Step 14:** click NEXT on Pushbutton List Form
- Step 15:** burn-in transmitter and receiver chip cards one by one on Reading/Writing Chip Card Form



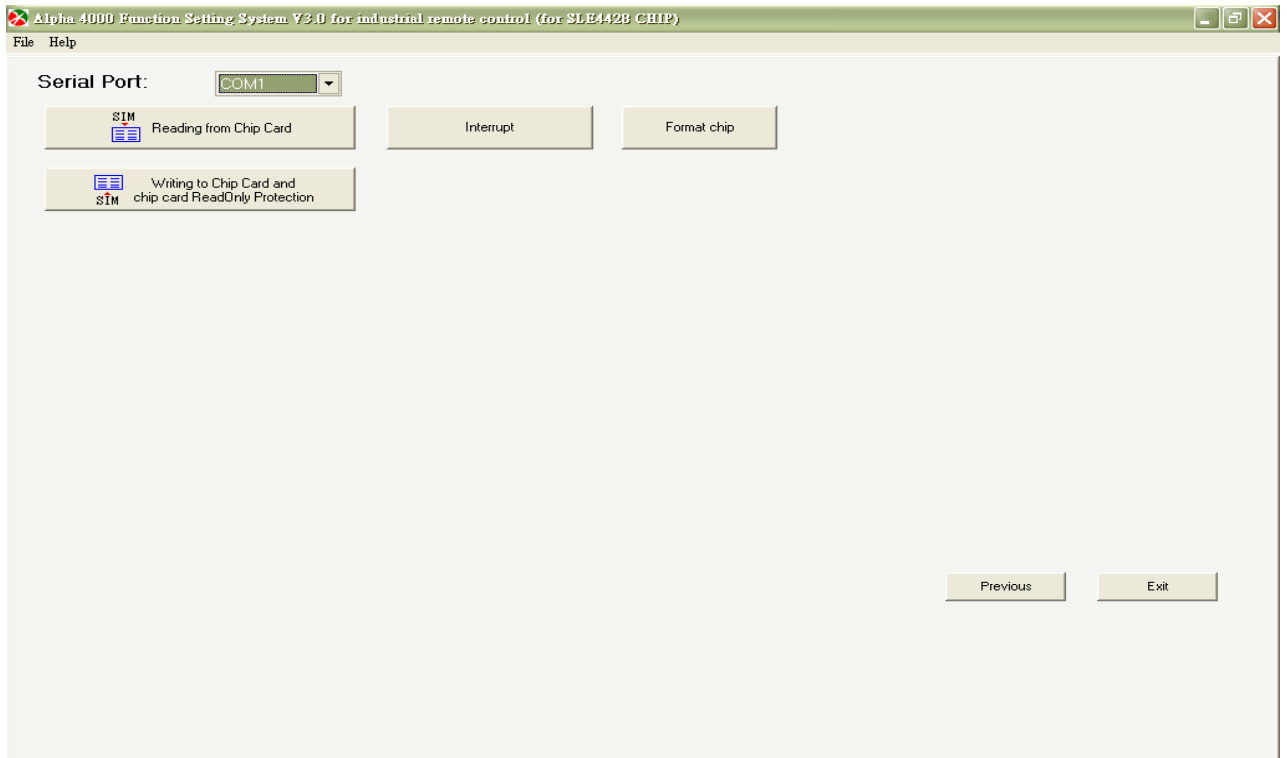
(Figure 8-5-1)

Figure 8-5-1 : Select “Transmitter Channel is Selectable” on Button 7 or Button 11 Form



(Figure 8-5-2)

Figure 8-5-2 : Select “Start and End channels” on Frequency Setting Form



(Figure 8-5-3)

Figure 8-5-3 : Burn-in transmitter and receiver chip cards on Reading/Writing Chip Card Form

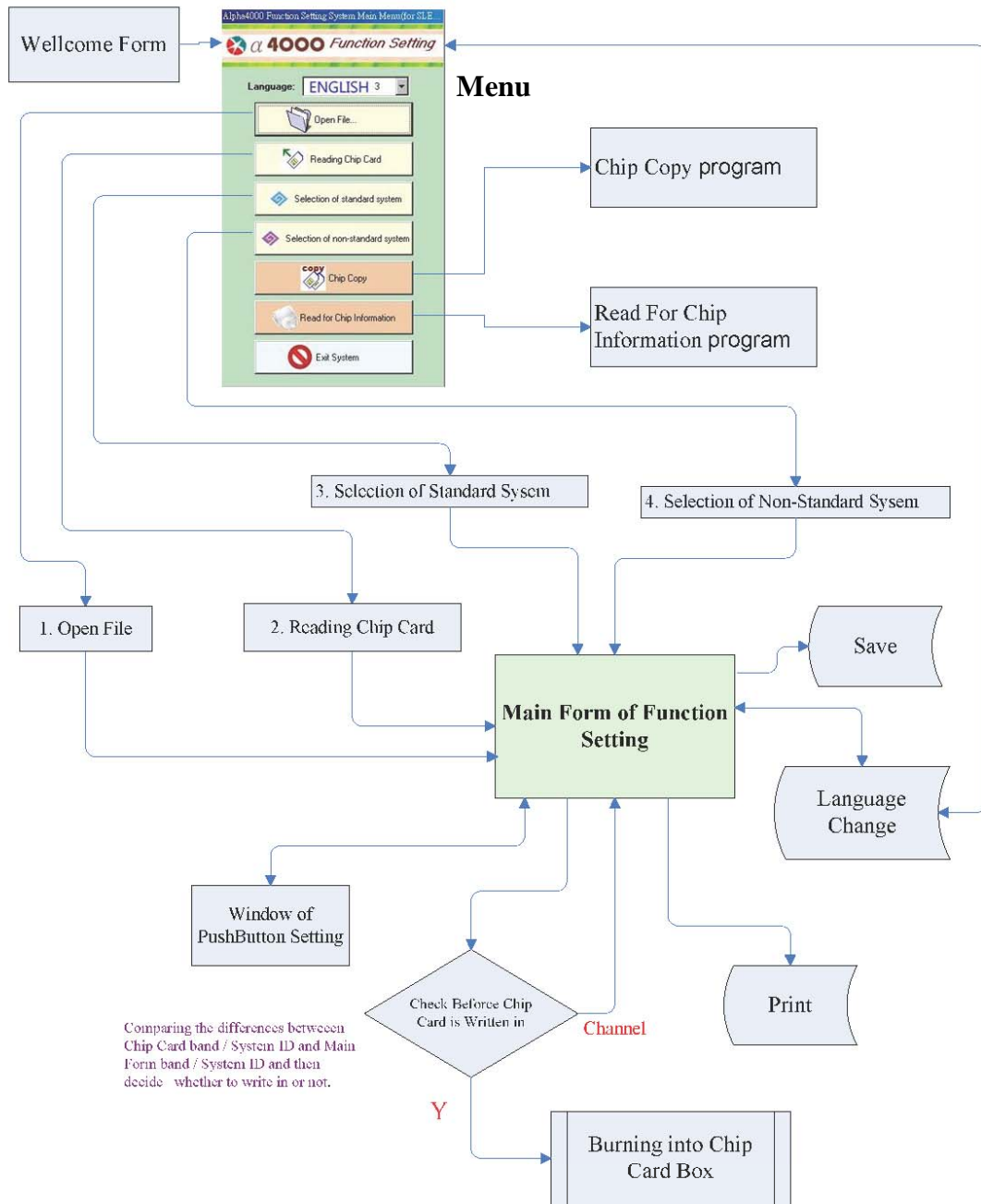
**Standard Type**

8-pushbutton	4008-1 : (8) single-speed pushbuttons	13
	4008-1S : (7) single-speed pushbuttons + (1) selector switch	12
	4008-2 : (8) double-speed pushbuttons	11
	4008-3 : (6) double-speed + (2) single-speed pushbuttons	10
	4008-3S : (6) double-speed + (1) single-speed pushbutton + (1) selector switch	0F
12-pushbutton	4012-1 : (12) single-speed pushbuttons	0E
	4012-1S : (11) single-speed pushbuttons + (1) selector switch	0D
	4012-2 : (6) double-speed + (6) single speed-pushbuttons	0C
	4012-2S : (6) double-speed + (5) single-speed pushbuttons + (1) selector switch	0B
	4012-3 : (8) double-speed + (4) single speed pushbuttons	0A
	4012-3S : (8) double-speed + (3) single speed pushbuttons + (1) selector switch	09
	4012-4 : (10) double-speed + (2) single speed pushbuttons	08
	4012-1 : (12) single-speed pushbuttons	20
12-pushbutton + 2 micro buttons	4012-1+2 : (12) single-speed pushbuttons + (2) micro buttons	07
	4012-1S+2 : (11) single-speed pushbuttons + (1) selector switch + (2) AUX micro buttons	06
	4012-2+2 : (6) double-speed + (6) single-speed pushbuttons + (2) AUX micro buttons	05
	4012-2S+2 : (6) double-speed + (6) single-speed pushbuttons + (2) AUX micro buttons	04
	4012-3+2 : (8) double-speed + (4) single-speed pushbuttons + (2) AUX micro buttons	03
	4012-3S+2 : (8) double-speed + (3) single-speed pushbuttons + (1) selector switch + (2) micro buttons	02
	4012-4+2 : (10) double-speed + (2) single speed pushbuttons + (2) micro buttons	01
	4012-5+2 : (12) double-speed pushbuttons + (2) micro buttons	21

**Non-Standard type**

8-pushbutton	4008-4S : (7) double-speed pushbuttons + (1) selector switch/ automatically switch [right side]	14
	4008-5S : (7) double-speed pushbuttons + (1) selector switch/ automatically switch [left side]	15
	4008-6S : (6) double-speed pushbuttons + (2) selector switch/ automatically switch	16
10-pushbutton	<del>4008-4S+2 : (7) double-speed pushbuttons + (1) selector switch/ automatically switch [right side] + (2) micro buttons</del>	<del>17</del>
	<del>4008-5S+2 : (7) double-speed pushbuttons + (1) selector switch/ automatically switch [left side] + (2) micro buttons</del>	<del>18</del>
	<del>4008-6S+2 : (6) double-speed pushbuttons + (2) selector switch/ automatically switch + (2) micro buttons</del>	<del>19</del>
12-pushbutton	4012-5S : (11) double-speed pushbuttons + (1) selector switch/ automatically switch [right side]	1A
	4012-6S : (11) double-speed pushbuttons + (1) selector switch/ automatically switch [left side]	1B
	4012-7S : (10) double-speed pushbuttons + (2) selector switch/ automatically switch	1C
12-pushbutton + 2 micro buttons	4012-5S+2 : (11) double-speed pushbuttons + (1) selector switch/ automatically switch [right side] + (2) micro buttons	1D
	4012-6S+2 : (11) double-speed pushbuttons + (1) selector switch/ automatically switch [left side] + (2) micro buttons	1E
	4012-7S+2 : (10) double-speed pushbuttons + (2) selector switch/ automatically switch + (2) micro buttons	1F

# 10. Program Flowchart



(Fig. 10-1)

**11. Contact Us**



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## 【433M/25K : Channel 401 ~ 463】

Frequency	Dip Switch 1 2 3 4 5 6	Channel	Frequency	Dip Switch 1 2 3 4 5 6	Channel
433.075 MHz	1 0 0 0 0 0	01	434.400 MHz	0 1 0 0 0 1	34
433.100 MHz	0 1 0 0 0 0	02	434.425 MHz	1 1 0 0 0 1	35
433.125 MHz	1 1 0 0 0 0	03	434.450 MHz	0 0 1 0 0 1	36
433.150 MHz	0 0 1 0 0 0	04	434.475 MHz	1 0 1 0 0 1	37
433.175 MHz	1 0 1 0 0 0	05	434.500 MHz	0 1 1 0 0 1	38
433.200 MHz	0 1 1 0 0 0	06	434.525 MHz	1 1 1 0 0 1	39
433.225 MHz	1 1 1 0 0 0	07	434.550 MHz	0 0 0 1 0 1	40
433.250 MHz	0 0 0 1 0 0	08	434.575 MHz	1 0 0 1 0 1	41
433.275 MHz	1 0 0 1 0 0	09	434.600 MHz	0 1 0 1 0 1	42
433.300 MHz	0 1 0 1 0 0	10	434.625 MHz	1 1 0 1 0 1	43
433.825 MHz	1 1 0 1 0 0	11	434.650 MHz	0 0 1 1 0 1	44
433.850 MHz	0 0 1 1 0 0	12	434.675 MHz	1 0 1 1 0 1	45
433.875 MHz	1 0 1 1 0 0	13	434.700 MHz	0 1 1 1 0 1	46
433.900 MHz	0 1 1 1 0 0	14	434.725 MHz	1 1 1 1 0 1	47
433.925 MHz	1 1 1 1 0 0	15	434.750 MHz	0 0 0 0 1 1	48
433.950 MHz	0 0 0 0 1 0	16	434.775 MHz	1 0 0 0 1 1	49
433.975 MHz	1 0 0 0 1 0	17	433.325 MHz	0 1 0 0 1 1	50
434.000 MHz	0 1 0 0 1 0	18	433.350 MHz	1 1 0 0 1 1	51
434.025 MHz	1 1 0 0 1 0	19	433.375 MHz	0 0 1 0 1 1	52
434.050 MHz	0 0 1 0 1 0	20	433.400 MHz	1 0 1 0 1 1	53
434.075 MHz	1 0 1 0 1 0	21	433.425 MHz	0 1 1 0 1 1	54
434.100 MHz	0 1 1 0 1 0	22	433.450 MHz	1 1 1 0 1 1	55
434.125 MHz	1 1 1 0 1 0	23	433.475 MHz	0 0 0 1 1 1	56
434.150 MHz	0 0 0 1 1 0	24	433.500 MHz	1 0 0 1 1 1	57
434.175 MHz	1 0 0 1 1 0	25	433.525 MHz	0 1 0 1 1 1	58
434.200 MHz	0 1 0 1 1 0	26	433.550 MHz	1 1 0 1 1 1	59
434.225 MHz	1 1 0 1 1 0	27	433.575 MHz	0 0 1 1 1 1	60
434.250 MHz	0 0 1 1 1 0	28	433.600 MHz	1 0 1 1 1 1	61
434.275 MHz	1 0 1 1 1 0	29	433.625 MHz	0 1 1 1 1 1	62
434.300 MHz	0 1 1 1 1 0	30	433.650 MHz	1 1 1 1 1 1	63
434.325 MHz	1 1 1 1 1 0	31			
434.350 MHz	0 0 0 0 0 1	32			
434.375 MHz	1 0 0 0 0 1	33			

Note : Channel 01~20 with FCC certificate ; Total channel 01~63 are available.

**【A4000 All Frequency Channel Table】**

Channel	418M/25k	447M/12.5k	480M/25k	301M/25k	173M/12.5k	350M/25k
01	418.950	447.8750	480.0500	301.1050	173.6250	350.2250
02	418.975	447.8875	480.0750	301.1300	173.6375	350.2500
03	419.000	447.9000	480.1000	301.1550	173.6500	350.2750
04	419.025	447.9125	480.1250	301.1800	173.6625	350.3000
05	419.050	447.9250	480.1500	301.2050	173.6750	350.3250.
06	419.075	447.9375	480.1750	301.2300	173.6875	350.3500
07	419.100	447.9500	480.2000	301.2550	173.7000	350.3750
08	419.125	447.9625	480.2250	301.2800	173.7125	350.4000
09	419.150	447.9750	480.2500	301.3050	173.7250	350.4250
10	419.175	447.9875	480.2750	301.3300	173.7375	350.4500
11	419.200		480.3000	301.3550	173.7500	350.4750
12	419.225		480.3250	301.3800	173.7625	350.5000
13	419.250		480.3500	301.4050	173.7750	350.5250
14	419.275		480.3750	301.4300	173.7875	350.5000
15	419.300		480.4000	301.4550		350.5750
16	419.325		480.4250	301.4800		350.6000
17	419.350		480.4500	301.5050		350.6250
18	419.375		480.4750	301.5300		350.6500
19	419.400		480.5000	301.5550		350.6750
20	419.425		480.5250	301.5800		350.7000
21	419.450		480.5500	301.6050		
22	419.475		480.5750	301.6300		
23	419.500		480.6000	301.6550		
24	419.525		480.6250	301.6800		
25	419.550		480.6500	301.7050		
26	419.575		480.6750	301.7300		
27	419.600		480.7000	301.7550		
28	419.625		480.7250	301.7800		
29	419.650		480.7500	301.8050		
30	419.675		480.7750	301.8300		
31	419.700			301.8550		
32				301.8800		
33				301.9050		

**Appendix B : Group ID Code Table**

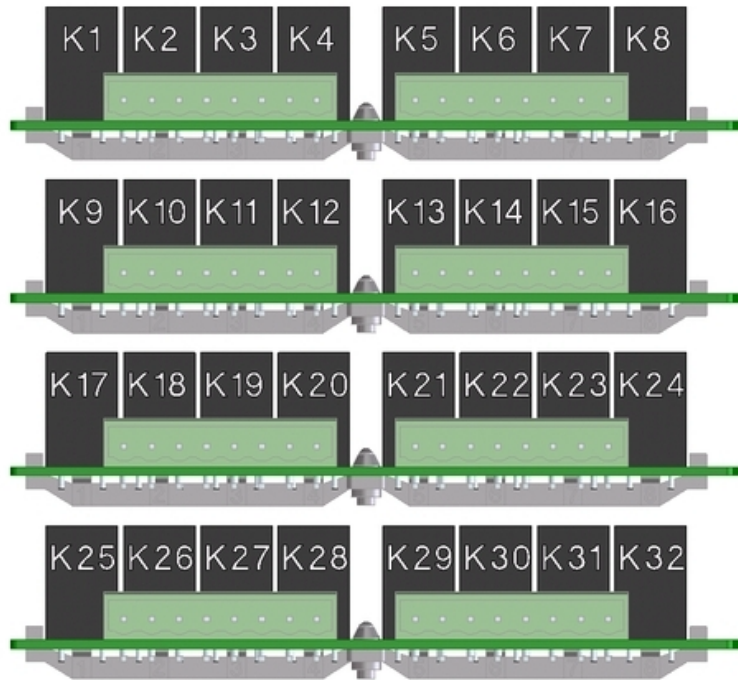
Code	Area
01	US 1
10	US 2
08	US 3
04	US 4
0A	US 5
0D	US 6
07	US 7-1
07	US 7-2
07	US 7-3
03	US 8
12	US 9
18	US 10
1B	US 11
1E	US 12
20	Canada 1
20	Canada 2
22	Canada 3
24	Canada 4
27	Canada 5
A0	Spain 1
A5	Spain 2
B0	Portugal
BB	Ireland 1
BD	Ireland 2
BE	Ireland 3
AA	Italy
C5	Belgium
C8	France 1
CA	France 2
C8	France 3

Code	Area
B4	Germany
CF	England
C3	Holland 1
A3	Holland 2
B7	Swiss 1
B8	Swiss 2
C0	Norway
C2	Denmark
40	Brazil
48	Chile
4C	Argentina
4E	Ecuador
50	South Africa
D1	Turkey
39	U.A.E.
80	India 1
84	India 2
86	India 3
35	Iran
60	Australia
70	Japan
7B	Singapore
74	Korea
88	Philippines
8A	Indonesia
7D	Thailand 1
7E	Thailand 2
7F	Thailand 3
B2	Thailand 4
46	Mexico



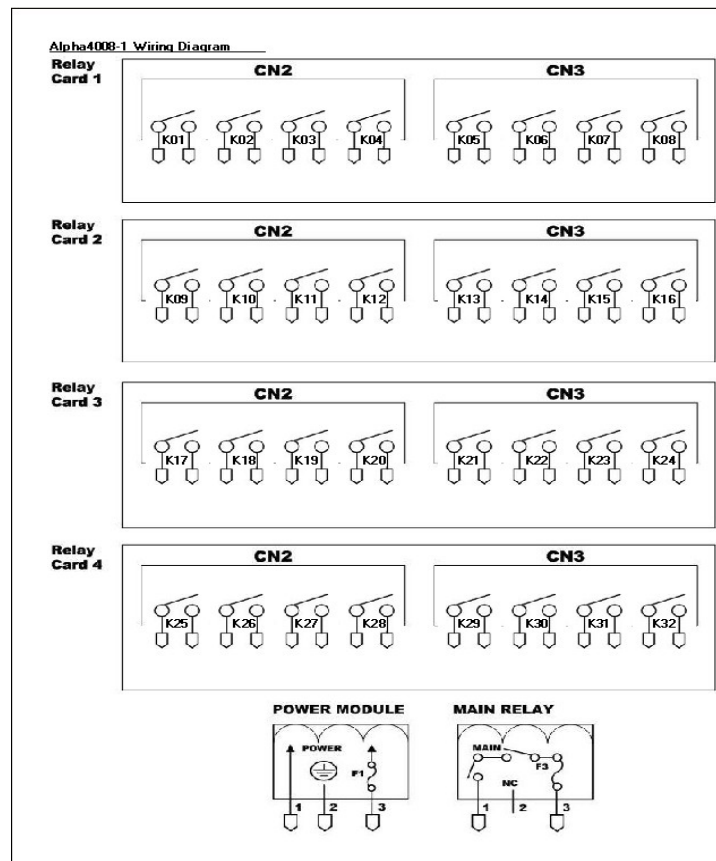
**Appendix C: Relay Card Circuit Diagram**

Virtual wiring diagram:

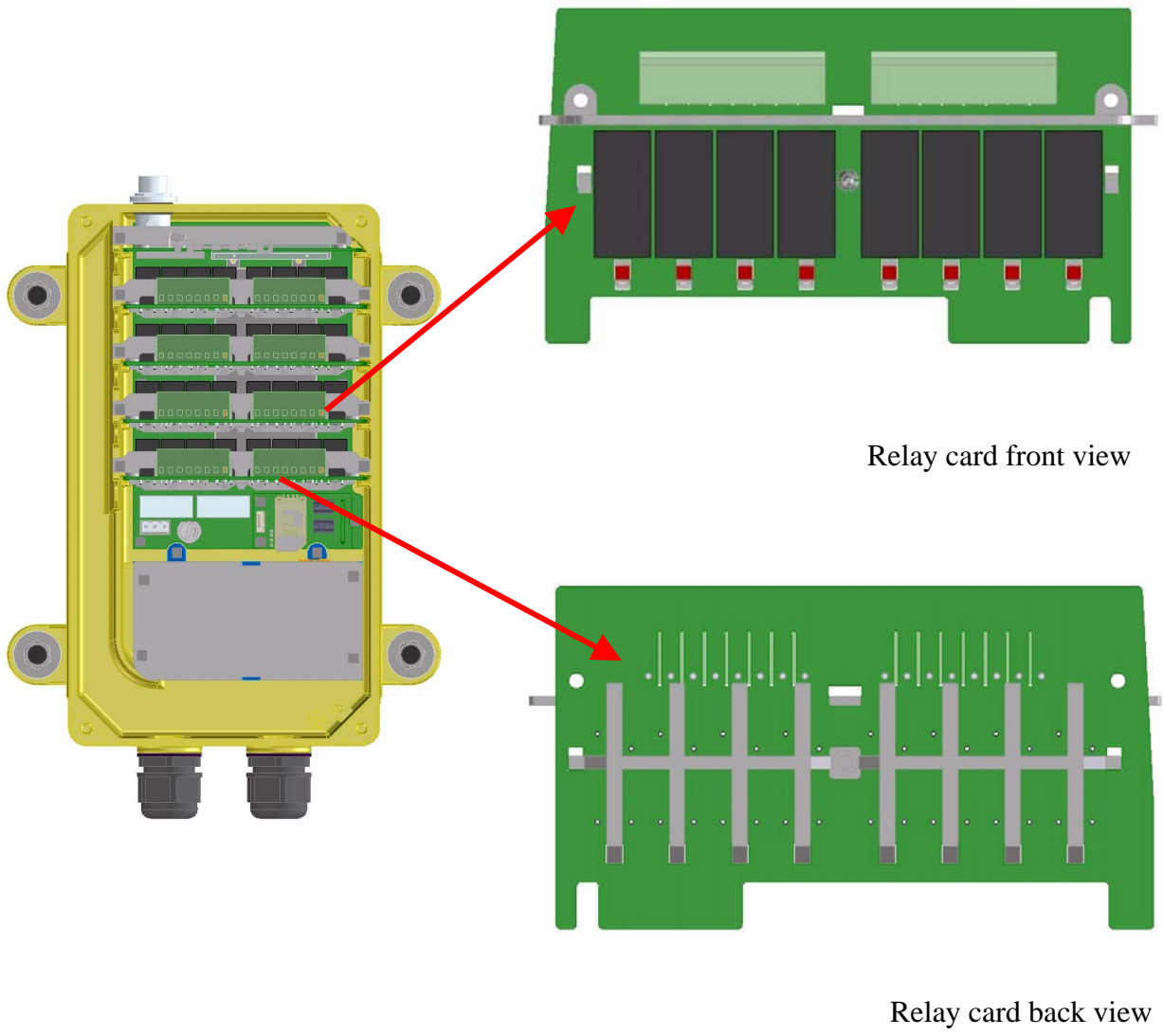


(Fig. C-1)

Position of wiring diagram:



(Fig. C-2)



(Fig. C-3)

**Appendix D: Explanation of Terminology**

- Jogging** : Select either pushbutton for this function. After Jogging is started, depress the pushbutton selected. The relay will be activated every 0.1~0.3 seconds.
- Toggle** : After pushbutton is pressed, relay remains activate. Release the pushbutton to deactivate.
- Speed keeps null** :  
1. When 2-speed is operating, the status will be: single speed relay ON; double speed relay ON.  
2. “Speed keeps null” function is set on 2-speed button. When 2-speed is switch back to 1-speed, the status will be: 1-speed relay OFF; 2-speed relay OFF.  
3. When “Speed keeps null” time is up, the status will be: 1-speed relay ON; 2-speed relay OFF.
- Jogging pushbutton** : For the start or stop of all those switches that jogging function has ever been set.
- Zero speed** : For those pushbuttons set with zero speed function, zero speed relay On when no pushbutton is depressed. After pushbutton is depressed, zero speed relay Off.

**APPENDIX E: SOFTWARE INSTALLATION**

Disc is available with “A4kSetup.exe” program installation and presetting file of current system.

Click “File Installation”, Alpha 4000 program will be automatically installed on “c:\alphi4000\content”  
Another “Fomotech.exe” file will be set on desktop shortcut. Double click it to start the program.

RS232 female port is used on chip card tool connecting port. RS232 connecting cable and RS232 to USB connecting cable are enclosed.

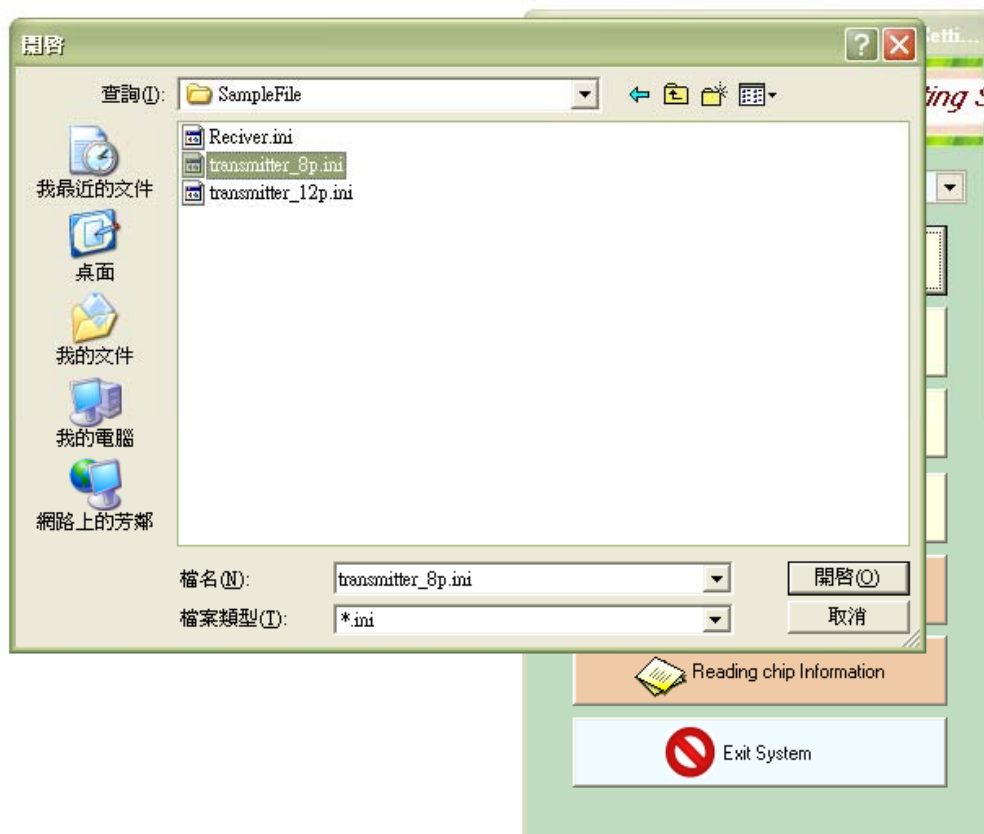
Note: When tooling is written-in, please check if connecting port is connected properly.

To use RS232 to USB connecting cable, please install driving program first.

Preset file: receiver.ini

transmitter\_8p.ini

transmitter\_12p.ini



(Figure E-1)

**Appendix F: Chip Card Q&A****1. What do I do if chip card cannot be written in?**

Answer :

- a. Please check if RS232 connector between burner and PC is connected properly.
- b. Please check if communication port is selected correctly.
- c. Please check if chip card is inserted into burner or if it is connected properly with chip card holder.

**2. What do I do if chip card cannot be written in?**

Answer :

- a. Please check if communication port is selected correctly.
- b. Please check if connection cable is connected properly.
- c. Please check if chip card is inserted tightly into chip card holder.
- d. Please check if burner battery is enough. (Two AA1.5V battery voltages has to over 2V)
- e. If chip card is folded, breakdown or dirty on the back, chip card read/write-in error will occur. Please prepare a blank chip card, retrieve the preset file or the original chip card setting file into disc, and then rewrite into chip card.

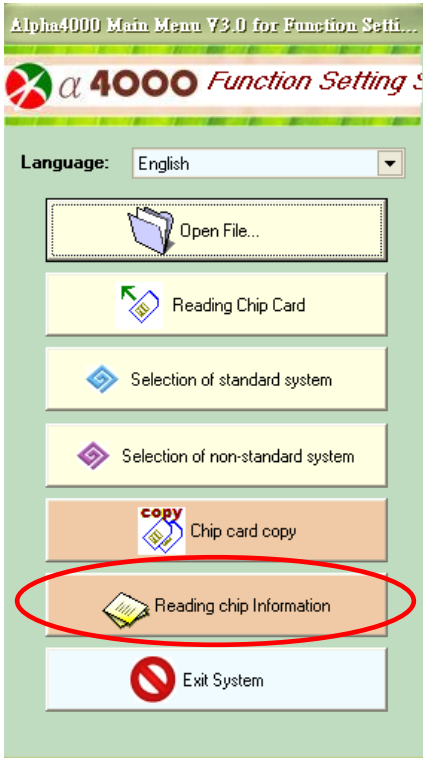
**3. What do I do if receiver & transmitter chip card cannot be communicated?**

Answer :

- a. Please check the setting of receiver chip card and transmitter chip card if the same. When change setting, please change receiver chip card and transmitter chip card both.
- b. Please check if the model type setting of software is matched the remote system correctly.

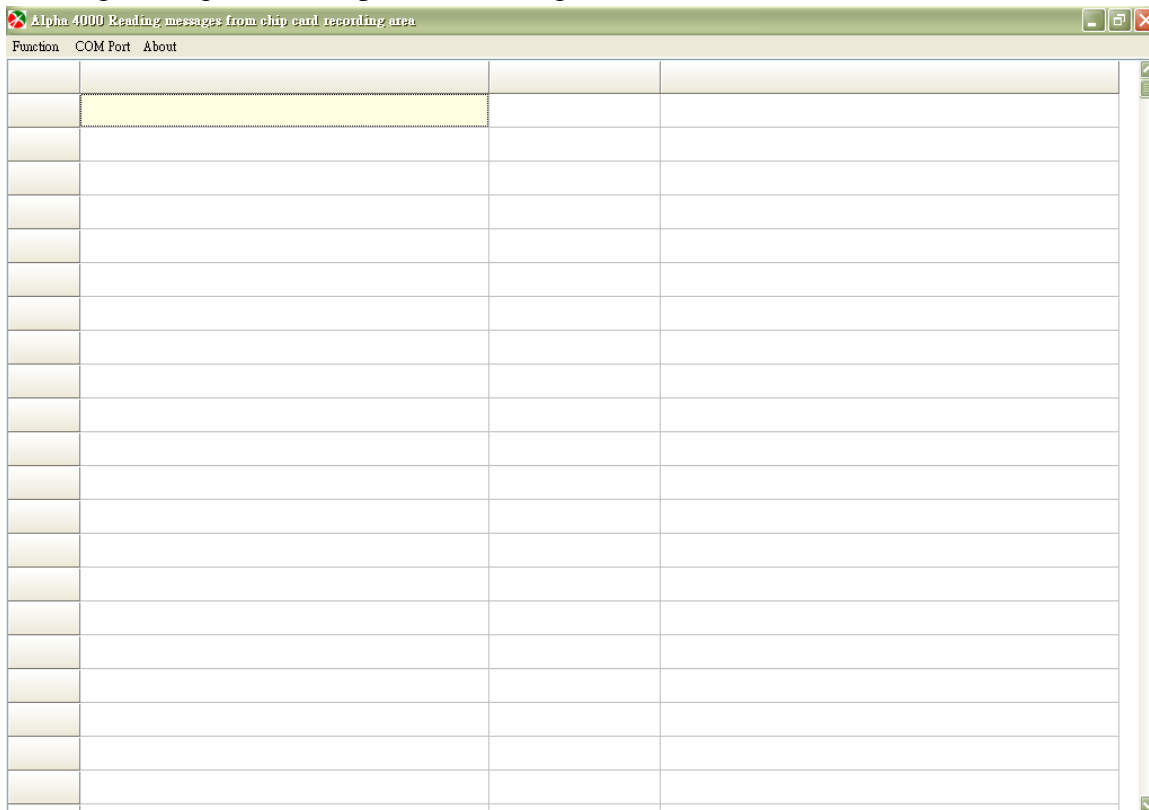
## Appendix G: Read Messages in Chip Card

Select **【Reading chip information】**



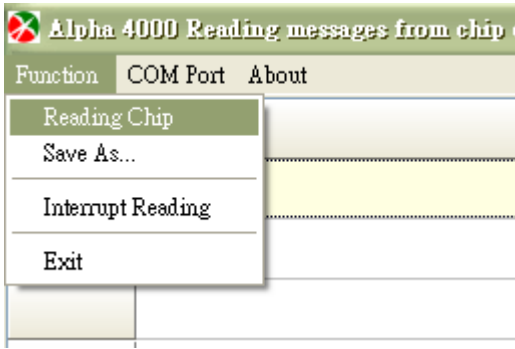
(Figure G-1)

Reading messages from chip card recording area.



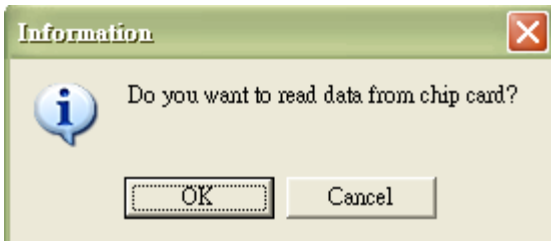
(Figure G-2)

Select **Function** and choose **Reading chip**



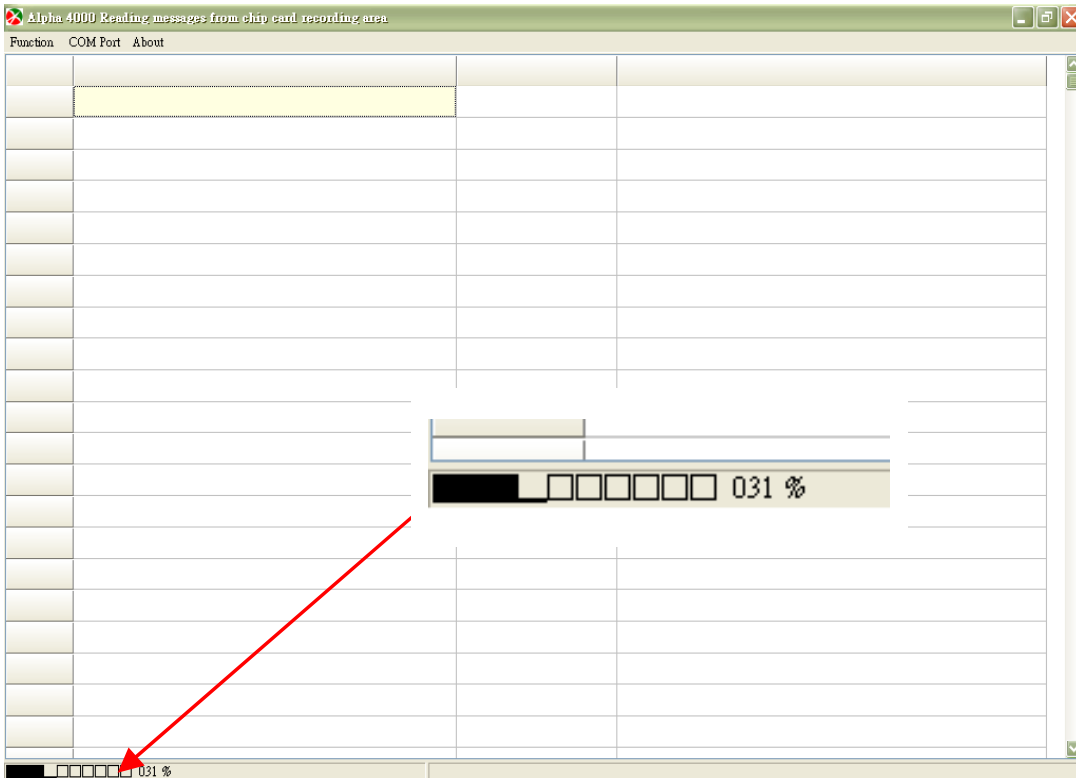
(Figure G-3)

Confirm if you would like to read data from chip card. If yes, press **OK**



(Figure G-4)

Reading data... Progress displays on bottom left.



(Figure G-5)

After data is read, all the information will be displayed on the program table.

Items	Planning Contents	Data	Remark
49	selection of STOP relay	00 h	
50	function for LED1-LED4	00 h	
51			
52	check sum code	5BA2 h	
53			
54	transmitter recording area 060~06F		
55	transmitter recording area 060~06F (chip card auto reset area)		
56	transmitter abnormal function flag 1	00 h	
57	transmitter abnormal function flag 2	00 h	
58	transmitter Toggle records	00 h	
59	transmitter channel records for channel selectable function.	00 h	
60	transmitter channel records for Tandem State function.	00 h	
61	transmitter records for selection of switch.	00 h	
62			
63	transmitter recording area 070~0BF (chip card update recording area)		
64	records of transmitter working time	00 hr : 00 min : 00 sec	
65	transmitter group code & ID of previous chip card records	00,00	
66	changing times of transmitter chip card records	0	
67	time records of transmitter 2nd stage low voltage(second)	0	
68	number records of transmitter 2nd stage low voltage	0	
69	number of transmitter CPU watchdog overflow	0	
70	number of transmitter mode abnormal	0	

100 % 17.140 sec

(Figure G-6)