

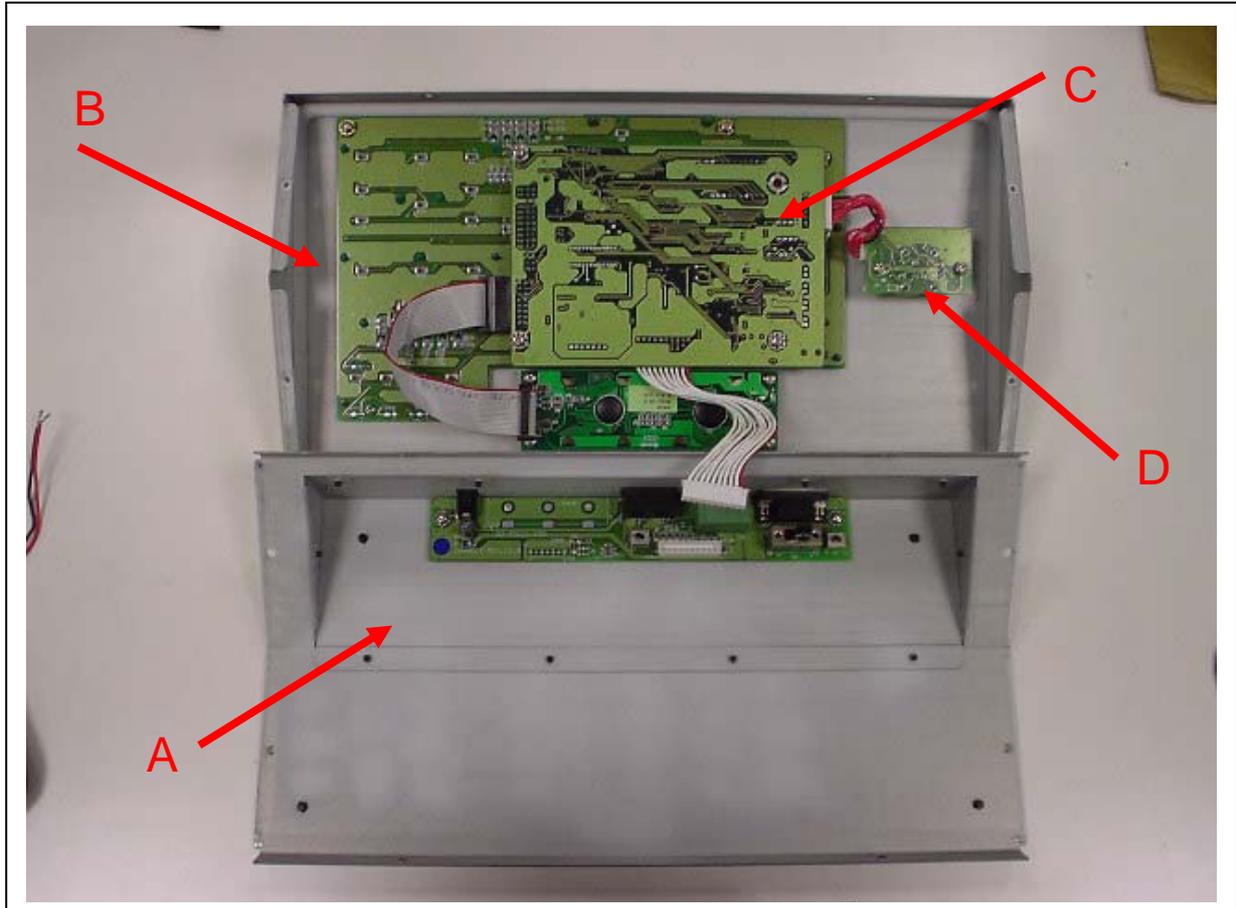
D731X SERIES
TROUBLESHOOTING GUIDE – CLASS 1
V1.1

* The Class1 maintenance means trained technician can fix the failure through PCB replacement process.

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1. CONSTRUCTION



- A: Rear Panel**
- B: Front Panel**
- C: Main Board**
- D: Joystick Module**

2. THE MOST FREQUENT FAILURES

2.1 RS 485 communication Problem

Symptom: Can not control speed dome or the other devices

Defect possibilities: RS485 transceiver damaged

Action: Replace Main Board

2.2 Joystick broken

Action: a) Replace joystick module, b) Carry out joystick calibration

2.3 LCD no display

Symptom: After plug in the power, there's no LCD display

Defect possibilities:

- (1). Firmware erased by mistake
- (2). Internal power circuit broken

Action:

- (1). Download firmware again
- (2). Replace Main Board

3. DETAIL REPAIR INSTRUCTION

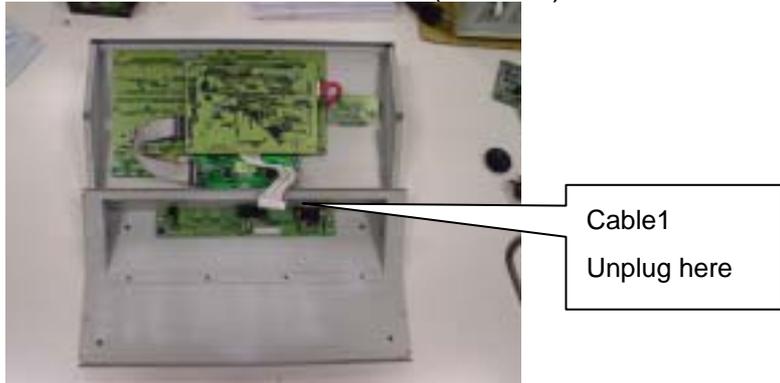
3.1 RS 485 communication Problem

Please follow the figures below to replace Main Board

3.1.1 Dismantle eight screws



3.1.2 Unplug cable between Main Board and Rear Panel (Cable 1)

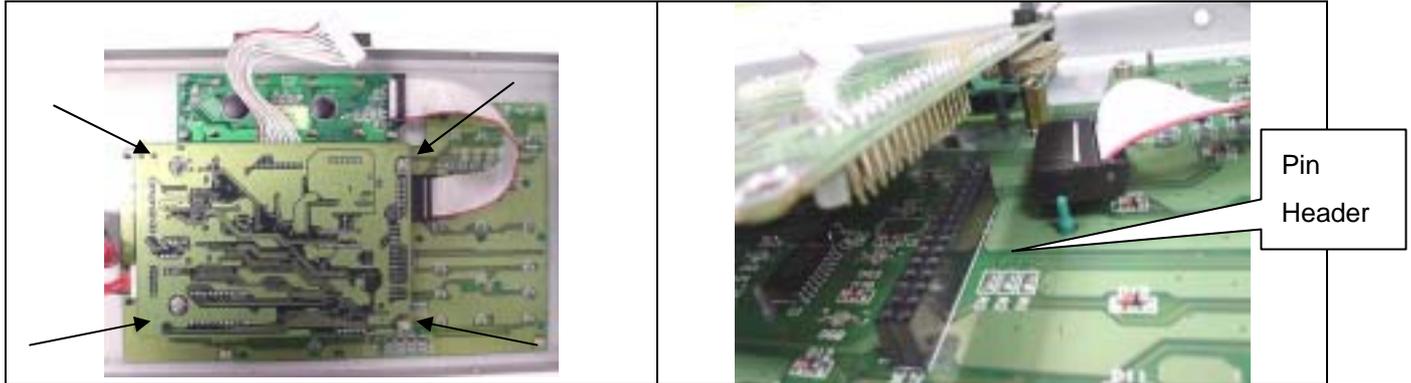


Notice: When you put down the front panel, please be careful not to break the joystick

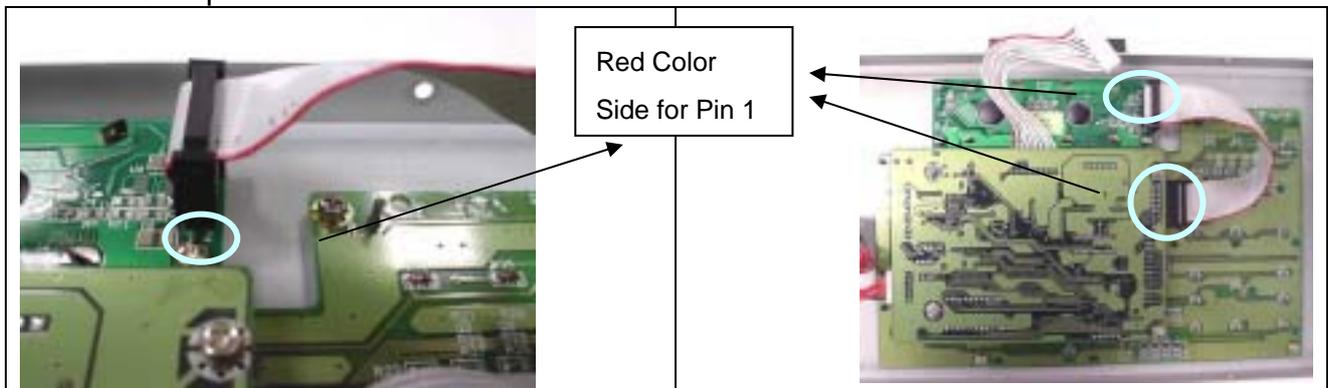
3.1.3 Unplug cable between Main Board and LCD display (Cable 2), cable between Main Board and Joystick module (Cable 3)



3.1.4 Dismantle four screws and remove the Main Board from the Pin Header



3.1.5 Replace a new Main Board and restore the cables



Notice: When plug in cable 2 please make sure the red-color side of cable 2 should connect to pin 1

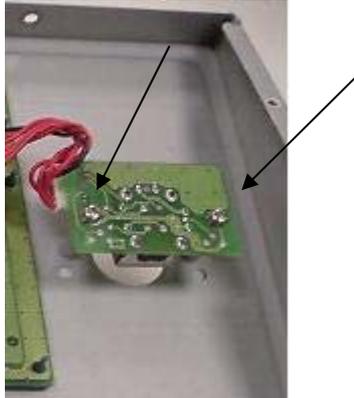
3.2 Joystick broken

Please follow the figures below to replace Joystick module

3.2.1 Follow instruction 3.1.1 and 3.1.2 to disassemble the front and rear panel of 731X control keyboard

3.2.2 Ref. 3.1.3, unplug cable between Main Board and Joystick module (Cable 3)

3.2.3 Dismantle two screws, replace new Joystick and restore in the adverse order.



3.2.4 Follow the procedure below to calibrate the joystick

Joystick calibration : Press and hold "SET SEQ" button then connect the power, the D731X will enter joystick calibration mode.

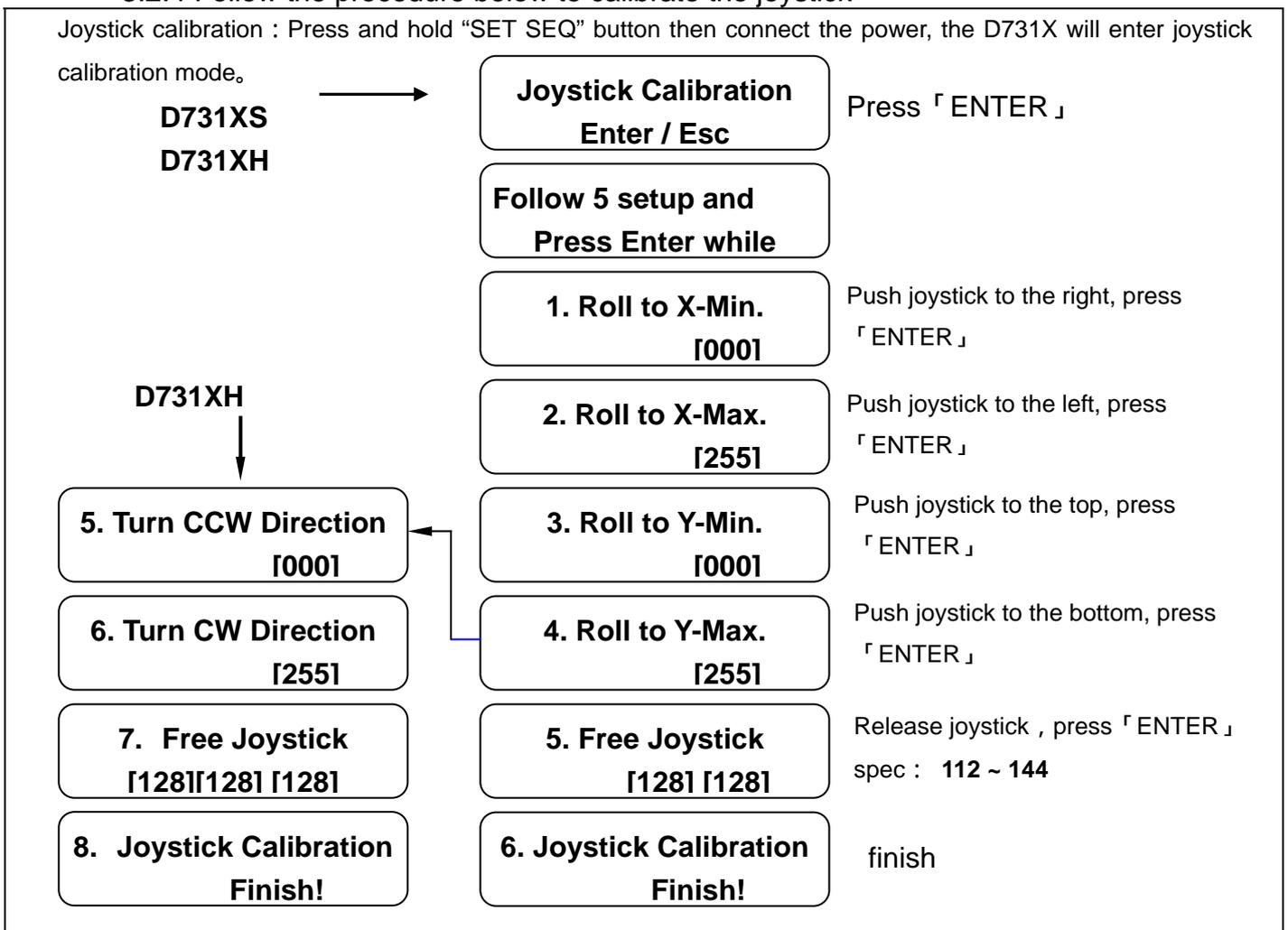


Figure 1. Joystick Calibration Procedure

3.3 LCD no display

Push and hold "SETUP" button, and plug in DC12V power.

If there is still no display on the LCD, it means the internal power circuit was damaged, please follow the instruction in section 3.1 to replace the Main Board.

If the following display appears, it means the firmware was erased by mistake, please follow the procedures below to download the firmware again.

**Press Enter key
to update program**

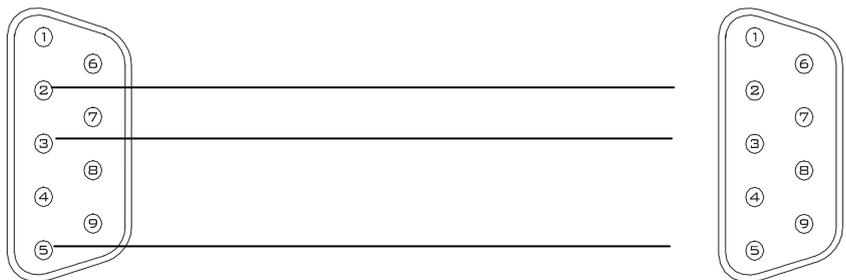
3.3.1 Make sure switch S2 (on the Rear Board)



3.3.2 Prepare a RS-232 cable as below:

- pin2 to pin2 (RXD)
- pin3 to pin3 (TXD)
- pin5 to pin5 (GND)

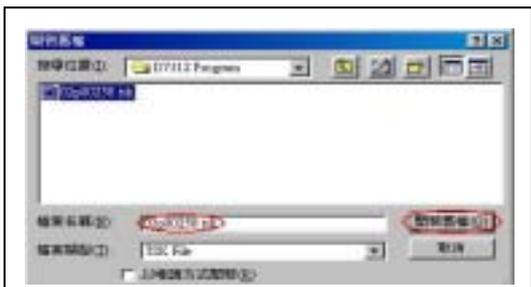
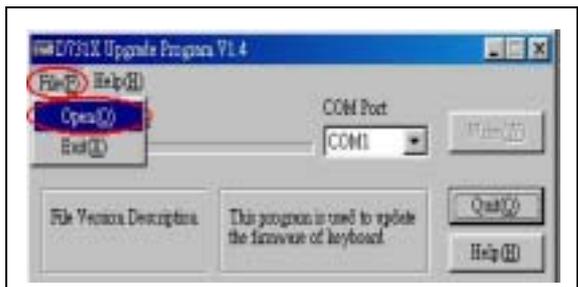
S2 must be set to the S position (right hand side)



9 pin female

9pin female

Connect one end of RS232 cable to Keyboard's RS232 port, another end to COM1 of PC. Execute Upgrade.exe under Windows operating system.



3.3.3 Press and hold “SETUP” button on the D731X front panel, then connect power (DC12V) to D731X , LCD display will show as the following:

**Press Enter key
to update program**

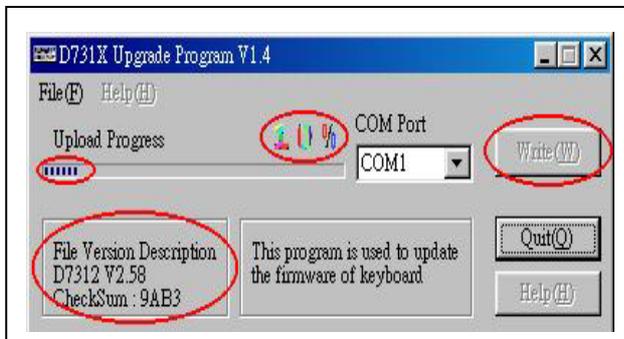
**Are you sure ?
Press 0:No 1:Yes**

**Ready to Down
load !**

Press 「ENTER」

Press 1

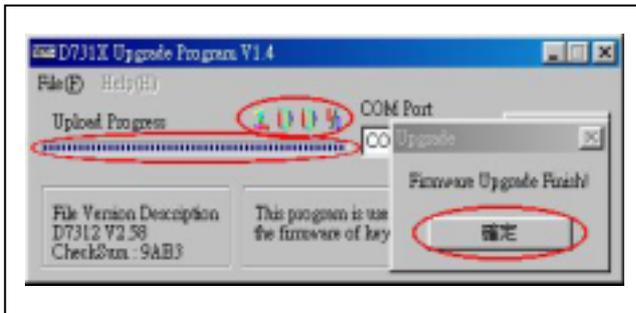
3.3.4 On the PC Press “Write” to begin download ; meanwhile D731X LCD will show 「Receiving ... 」



LCD Display

Receiving . . . XXXXH

3.3.5 Press OK after firmware upgrade finish.



LCD Display

**Updated OK! Please
Restart System**

3.3.6 In section 3.3.4, If download is not successful after pressing “Write” , it means the internal power circuit was damaged; please follow the instruction in section 3.1 to replace the Main Board.

4. APPENDIX

4.1 Spare Parts List

	Item		Model	Part Number
1	Main Board		7312S 7312H 7313S 7313H	38-7312S-M4B 38-7312H-M4B 38-7313S-M4B 38-7313H-M4B
2	2D Joystick Module		All	61-7312A-02A 65-7312A-05A3 38-73121-J2A
3	Housing	Front Panel	7312S 7313S	65-7312A-01A
			7312H 7313H	65-7312A-04A
		Rear Panel	All	65-7312A-02A 65-7312A-03A
4	Package		All	57-7312A-C1A 57-7312A-S1A 57-7312A-S2A

Note: The 2D Joystick Module includes three parts as indicated above
Housing includes Front Panel and Rear Panel, totally three parts.
Package includes three parts.