

# **Service Manual**

**M-Vision CINE 400-3D**

**HTD-8650 QDPAA/AB/AC**

**HTD-8650 QDPBA/BB/BC**



## 1. Serial (RS-232) Interface Requirements

The RS-232 connection parameters will be as follows:

**Bits per second: 9600**

**Data bits: 8**

**Parity: None**

**Stop bits: 1**

**Flow control: None**

Commands will use only ASCII characters which can be entered using a typical terminal emulator like Windows HyperTerminal. Spaces and tabs can be used to improve readability and will be ignored by the projector. All commands must end with a carriage return (ASCII hex 0D), shown as [CR] below, to signify that the projector can now read and execute the command.

There is a type of command be supported: operation commands. Operation commands tell the projector exactly what to do.

Commands start with letters:

**op** for operations commands.

### Operations Commands

Operations commands allow more flexible and direct control of the projector. The syntax for operations commands is as follows:

**op <operation> <command> [CR]**

The command type can be one of 5 functions as shown in table 5.1

Table 5.1 : List of operations command functions			
No.	Function	Command	Action on unit
1	Set	= <value>	Makes the unit take that value.
2	Get	?	Asks what the current value is.
3	Increment	+	Adds 1 to the current value.
4	Decrement	-	Subtracts 1 from the current value.
5	Execute	(none)	Performs an action such as a reset.

For all but Execute functions the response from the projector will be the command and “= <value>” where <value> is the current value or “NA” if the value is not available. For Execute functions the response will be the same command. All responses will be in CAPS.

See below for some operations command examples:

Input: op bright? [CR]

Response: OP BRIGHT = 100 [CR]

Input: op bright + [CR]

Response: OP BRIGHT = 101 [CR]

Input: op bright = 127 [CR]

Response: OP BRIGHT = 127 [CR]

Input: op bright - [CR]

Response: OP BRIGHT = 126 [CR]

Input: op resync [CR]

Response: OP RESYNC [CR]

Input: op sharp.mode = 1 [CR]

Command	Operators	Description	Notes
ASPECT	= ?	0: 16:9 1: Theaterscope (Letterbox) 2: 4:3 3: 4:3 Narrow 4: 16:10 5: 5:4 6: Native	
RECALL.MEM	= ?	0: Preset A 1: Preset B 2: Preset C 3: Preset D 4: Default	
SAVE.MEM	=	0: Preset A 1: Preset B 2: Preset C 3: Preset D	

BRIGHTNESS	= ?	0-200	
CONTRAST	= ?	0-200	
SATURATION	= ?	0-200	
HUE	= ?	0-200	
SHARPNESS	= ?	0-200	
NR	= ?	0-200	Noise Reduction
OVERSCAN	= ?	0: Off 1: Crop 2: Zoom	
INPUT	= ?	0: HDMI 1 1: HDMI 2 2: Dub15 (RGB) 3: COMP1 (RCA) 4: COMP2 (BNC)	
RESYNC	(execute)	Re-lock the input signal	
S3D.INPUTTYPE	= ?	0: AUTO 1: Side-By-Side 2: Top-And-Botto 3: Dual-pipe	
S3D.DLPLINK	= ?	0: Disable 1: Enable	Only allow to run in 3D mode
S3D.CHSWAP	= ?	0: Normal 1: Swap (eye swap of FPGA)	Only allow to run in 3D mode
S3D.DARKTIME	= ?	0: 3D DarkTime 1.0 ms 1: 3D DarkTime 1.5 ms 2: 3D DarkTime 2.0 ms 3: 3D DarkTime 2.5 ms	Only allow to run in 3D mode
S3D.SYNCDELAY	= ?	0-60 (default 30 = 0ms ,0 = -3ms ,60 = 3ms)	Only allow to run in 3D mode SyncDelay = value * 0.1 - 3 (ms)
S3D.24P.MODE	= ?	0: 96Hz 1:144Hz	1080p24 output frame rate setting for 3D
COLORSPACE	= ?	0: AUTO 1: ITU709 2: ITU601 3: RGB PC 4: RGB VIDEO	

GAMMA	= ?	0 = CRT 1 = Film 2 = Video 3 = Punch 4 = Graphics	
COLOR.TEMP	= ?	0: 5500K 1: 6500K 2: 7500K 3: 9300K 4: Native	
COLOR.GAMUT	= ?	0 = Auto 1 = REC709 2 = SMPTE C 3 = EBU 4 = Native	
BC	= ?	0: Off 1: On	
ADCONTRAST	= ?	0: Off (Def) 1: On	Note: Adaptive Contrast, the feature of Genum.
hori.pos	= ?	0-200	
vert.pos	= ?	0-200	
PHASE	= ?	0-200	Effect for ADC source only
TRACKING	= ?	0-200	Effect for ADC source only
SYNC.LEVEL	= ?	0-200	Effect for ADC source only
RED.OFFSET	= ?	0-200	
GREEN.OFFSET	= ?	0-200	
BLUE.OFFSET	= ?	0-200	
RED.GAIN	= ?	0-200	
GREEN.GAIN	= ?	0-200	
BLUE.GAIN	= ?	0-200	
BLANK.SCREEN	= ?	0: Logo(splash) 1: Black 2: BLUE 3: WHITE	

AUTO.POWEROFF	= ?	0: Off 1: On	
AUTO.POWERON	= ?	0: Off 1: On	
PROJ.MODE	= ?	0: Front Tabletop 1: Front Ceiling 2: Rear Tabletop 3: Rear Ceiling	
LOGO.DISP	= ?	0:disable the splash display when power startup 1:enable the splash display when power startup	
LAMP.POW	= ?	0: Economy 1: Standard	
TRIG1	= ?	0: Screen (Def) 1: 16:9 2: Theaterscope 3: 4:3 4: 4:3 Narrow 5: RS-232 6: RS-232:ON 7: RS-232:OFF	
TRIG2	= ?	0: Screen 1: 16:9 (Def) 2: Theaterscope 3: 4:3 4: 4:3 Narrow 5: RS-232 6: RS-232:ON 7: RS-232:OFF	
PIXEL.CLOCK	?		Query the information of input signal
SIGNAL	?		Query the information of input signal
V.REFRESH	?		Query the information of input signal
H.REFRESH	?		Query the information of input signal

LAMP.HOURS	?		
TOTAL.HOURS	?		
FACTORY.RESET	(execute)	(Factory reset function in OSD menu for user)	
BLUE.ONLY	= ?	0: Off (Def) 1: On	
ALTITUDE	= ?	0: Auto (Def) 1: High	
SOFT.VERSION	?	get the software version	Current only reply the NXP version.
POWON	(execute)	Power the projector on	
POWOFF	(execute)	Power the projector off	
ACT.SOURCE	?		Query current input source
IR.ENABLE	= ?	0: Off (Disable) 1: On (Enable) (Def)	
OSD.TIMER	= ?	0: Always On 1:10 sec 2:30 sec 3:60 sec	Note: Default setting is 2 (= 30s), current only command support.
OSD.MENUPOS	= ?	0: Left Upper 1: Right Upper 2: Left Bottom 3: Right Bottom 4: Center	
OSD.TRANS	= ?	0: 0% 1: 25% 2: 50% 3: 75%	
OSD.MSGBOX	= ?	0: Off 1: ON	
COLOR.MODE	= ?	0: Bright (for 2D mode) (Def) 1: D65 Bright (for 2D mode)	
STATUS.CHECK	?	0 = Standby 1 = Warm up 2 = Imaging 3 = Cooling 4 = Error	

PRERR	(execute)		Query the error log
BOOTOP	= ?	3: for bootloader 4: for NXP 9: for FPGA 10: for FE FPGA	Note: for firmware upgrade.
PATTERN	= ?	0 = Off 1 = White 2 = Black 3 = Red 4 = Green 5 = Blue 6 = Cyan 7 = Magenta 8 = Yellow 9 = ANSI Checkerboard 10 = Focus Grid 11 = V Burst 12 = H Burst 13 = Color bar	OSD pattern
PICTURE.MUTE	= ?	0: Off 1: On	Only allow to run in 2D mode

Below for R&D engineer and factory use only, NOT for customer.			
FACTORY.RESETALL	(execute)		Note: reset all the settings to factory default. (for factory use)
FACTORY.SN	=	max 13 characters input	Note: for factory use.
CW.INDEX	= ?		Note: color wheel index adjustment, for factory use.
BURN	= ?	0: Off 1: On	Burn-In.
EDID.WRITE	(execute)	Update the EDID for HDMI and Dsub15	
EDID.READ	(execute)	Read the EDID contents of HDMI and Dsub15	
ENV.CHECK	= ?	0: Off 1: On	

DLP.CHECK	= ?	0: Off 1: On	
TC	?	Get thermal temperature value	
FAN1	= ?	Get/Set the FAN speed	
FAN2	= ?	Get/Set the FAN speed	
FAN3	= ?	Get/Set the FAN speed	
FAN4	= ?	Get/Set the FAN speed	
FAN5	= ?	Get/Set the FAN speed	
FAN6	= ?	Get/Set the FAN speed	
FAN7	= ?	Get/Set the FAN speed	
FAN8	= ?	Get/Set the FAN speed	
FAN9	= ?	Get/Set the FAN speed	
LAMP.RESET	(execute)		
LAMP.SN	= ?		
LAMP.DUMP	(execute)		
LAMP.REPORT	(execute)		
LAMP.VOL	?		
DEMSG	= ?	0: Off 1: On	Note: Enable/Disable debug message output to serial console.
DLBA	(execute)		for Ballast firmware upgrade.
DLGF	(execute)	for download the Gennum and Ballast Waveform	

## 2. Error Code & Troubleshooting

### 2-1. HTD-8650 QDPAA/AB/AC Error Code

Error Code			
01	OverTempInlet	50	InterLockOpen
02	OverTempDMD	51	AirFilterError
07	OverTempBallast1	60	DMDInitFail
20	FanInitError	61	OsdLoadError
21	Fan1RataateError	62	ExGpioFail
22	Fan2RataateError	63	GF9450NoResponse
23	Fan3RataateError	64	VideoBdInitFail
24	Fan4RataateError	65	SystemI2CFail
25	Fan5RataateError	66	EepromFail
26	Fan6RataateError	67	EdidFail
27	Fan7RataateError	68	EEpVersionFail
28	Fan8RataateError	69	RstGennum
40	LampInitFail		+
41	LampLitFail		+
42	Ballast1UartError		+

01	OverTempInlet—Inlet NTC thermal sensor is over temperature. Temp. is over spec. Check and replace Inlet thermal sensor
02	OverTempDMD –DMD NTC thermal sensor is over temperature. Temp. is over spec. Check and replace DMD thermal sensor
07	OverTempBallast1—Ballast is over temperature. Check and replace Ballast thermal state <ul style="list-style-type: none"> <li>a). To check if all fans are working.</li> <li>b). To wait the cooling Mode finished.</li> <li>c). To read back the ballast temp through serial interface (DB9 connector).</li> </ul>
20	FanInitError— Fans error when system power on. Anyone fan could be error when power on. Thus, check and replace error fan you find out.
21	Fan1RataateError –Fan1 locked, Fan1 get error during projector working. Check and replace fan 1

	.
22	Fan2RataError —Fan2 locked, Fan2 get error during projector working. Check and replace fan 2
23	Fan3RataError —Fan3 locked, Fan3 get error during projector working. Check and replace fan 3.
24	Fan4RataError—Fan4 locked, Fan4 get error during projector working. Check and replace fan 4.
25	Fan5RataError—Fan5 locked, Fan5 get error during projector working. Check and replace fan 5.
26	Fan6RataError —Fan6 locked, Fan6 get error during projector working. Check and replace fan 6.
27	Fan7RataError —Fan7 locked, Fan7 get error during projector working. Check and replace fan 7.
28	Fan8RataError —Fan8 locked, Fan8 get error during projector working. Check and replace fan 8.
40	LampInitFail—Lamp ignited fail 3 times when system power on. Check and replace ballast and power board. a). To check the ballast control cable between Ballast and Micro controller BD. b). To check the Lamp c). To check the power cable of Ballast
41	LampLitFail – Lamp shut down while system is working. Check and replace lamp. a). To check the Lamp b). To check the fans
42	Ballast1UartError –Ballast UART communication fail. Check and replace ballast and power board. a). To check the ballast control cable between Ballast and Micro controller BD. b). To check the ballast
50	InterLockOpen –Lamp door was opened. Check the lamp door a). To check the Lamp door. b). To check the cable between Interlock BD and Micro Controller BD.
51	AirFilterError –Check and replace air filter.
60	DMDInitFail –DDP3021 communication fail when system power on. Check and replace DMD chip, DMD board, W2 board, Ballast, and Power board

	<p>a). To check the power cable between Power BD and DMD BD.</p> <p>b). To check the 30 pins cable between Control BD and DMD BD.</p> <p>c). To check the 30 pins connector if the pin broken.</p>
61	OsdLoadError –OSD load error. Check and replace the video board, and then micro control board.
62	ExGpioFail – PCF8575 external GPIO communication fail, it can crash system. Check and replace micro control board, and then video board.
63	GF9450NoResponse –GENNUM SPI communication fail when system power on. Check and replace the video board.
64	VideoBdInitFail –Check and replace the video board.
65	SystemI2CFail –System hardware I2C communication fail, it can crash system. Check the video board, and then micro control board.
66	EepromFail –Check sum of EEPROM error. Check and replace the micro control board.
67	EdidFail –Check sum of EDID error. Check and replace the micro control board.
68	EEpVersionFail –Check version of EEPROM fails. Check and replace the control board.
69	RstGennum –Gennum Reset. Check and replace the video board

## 2-2. HTD-8650 QDPBA/BB/BC Error Code

Error Code			
1	Inlet NTC thermal sensor is over temperature	41	Lamp shut down while system is working
3	Lamp 1 over temperature	42	Ballast UART communication fail
7	Ballast 1 over temperature	50	Lamp door was opened
20	Fans initial error when system power on	52	PCF8575 external GPIO communication fail, it can crash system
21	Fan1 locked	53	System I2C communication fail
22	Fan2 locked	54	Write eeprom fail
23	Fan3 locked	60	DLP(DDP3021) communication fail
24	Fan4 locked	61	Video board init fail
25	Fan5locked	62	DCF FPGA communication fail when system power on
26	Fan6 locked	63	OSD loading error
27	Fan7locked	64	Scaler(GF9452) no response
28	Fan8locked		
29	Fan9 locked		
40	Lamp ignited fail 3 times when system power on		

01	Inlet NTC thermal sensor is over temperature – <b>Inlet NTC thermal sensor is over temperature. Temp. is over spec. Check and replace Inlet thermal sensor</b>
03	Lamp 1 over temperature – <b>Lamp over temperature. Check and replace Lamp1 thermal state</b> <ul style="list-style-type: none"> <li>a). To wait the cooling Mode finished.</li> <li>b). To check the thermal sensor if shorted.</li> </ul>
07	Ballast 1 over temperature– <b>Ballast is over temperature. Check and replace Ballast thermal state</b> <ul style="list-style-type: none"> <li>a). To check if all fans are working.</li> <li>b). To wait the cooling Mode finished.</li> <li>c). To read back the ballast temp through serial interface (DB9 connector).</li> </ul>
20	Fans initial error when system power on– <b>Fans error when system power on. Anyone fan could be error when power on. Thus, check and replace error fan you find out.</b>
21	Fan1 locked – <b>Fan1 locked and Fan1 get error during projector working. Check and replace fan 1</b>
22	Fan2 locked – <b>Fan2 locked and Fan2 get error during projector working. Check and replace fan 2.</b>
23	Fan3 locked – <b>Fan3 locked and Fan3 get error during projector working. Check and replace fan 3.</b>
24	Fan4 locked – <b>Fan4 locked and Fan4 get error during projector working. Check and replace fan 4.</b>
25	Fan5 locked– <b>Fan5 locked and Fan5 get error during projector working. Check and replace fan 5.</b>
26	Fan6 locked– <b>Fan6 locked and Fan6 get error during projector working. Check and replace fan 6.</b>
27	Fan7 locked– <b>Fan7 locked and Fan7 get error during projector working. Check and replace fan 7.</b>
28	Fan8 locked – <b>Fan8 locked and Fan8 get error during projector working. Check and replace fan 8.</b>
29	Fan9 locked – <b>Fan9 locked and Fan9 get error during projector working. Check and replace fan 9.</b>
40	Lamp ignited fail 3 times when system power on– <b>Lamp ignited fail 3 times when system power on. Check and replace ballast and power board.</b> <ul style="list-style-type: none"> <li>a). To check the ballast control cable between Ballast and</li> </ul>

	<b>Micro controller BD.</b> b). To check the Lamp c). To check the power cable of Ballast
41	Lamp shut down while system is working– <b>Lamp shut down while system is working. Check and replace lamp.</b> a). To check the Lamp b). To check the fans
42	Ballast UART communication fail– <b>Ballast UART communication fail. Check and replace ballast and power board.</b> a). To check the ballast control cable between Ballast and Micro controller BD. b). To check the ballast
50	Lamp door was opened– <b>Lamp door was opened. Check the lamp door</b> a). To check the Lamp door. b). To check the cable between Interlock BD and Micro Controller BD.
52	PCF8575 external GPIO communication fail, it can crash system – <b>PCF8575 external GPIO communication fail, it can crash system. Check and replace micro control board, and then video board.</b>
53	System I2C communication fail – <b>System hardware I2C communication fail, it can crash system. Check the video board, and then micro control board.</b>
54	Write eeprom fail – <b>Check version of EEPROM fails. Check and replace the control board.</b>
60	DLP(DDP3021) communication fail– <b>DDP3021 communication fail when system power on. Check and replace DMD chip, DMD board, W2 board, Ballast, and Power board</b> a). To check the power cable between Power BD and DMD BD. b). To check the 30 pins cable between Control BD and DMD BD. c). To check the 30 pins connector if the pin broken.
61	Video board init fail – <b>Check and replace the video board.</b>
62	DCF FPGA communication fail when system power on – <b>Check and replace DMD chip, DMD board.</b>
63	OSD loading error – <b>OSD load error. Check and replace the video</b>

	<b>board, and then micro control board.</b>
<b>64</b>	<b>Scaler(GF9452) no response – F GENNUM SPI communication fail when system power on. Check and replace the video board.</b>

## 2-3. LED Indicator

### HTD-8650 QDPAA/AB/AC LED Indicator

	Blue (Power)	Red (Issue)
Standby	Blue	
Cooling / Warm up	Blue	
Power on / Normal	Blue	
Lamp fail		Red
Lamp door open		Red
Fan fail		Red
Over Temperature		Red
Filter fail		Red
System Error		Red

### HTD-8650 QDPBA/BB/BC LED Indicator

	Amber (Standby)	Blue (Power)	Red (Issue)
Standby	Amber		
Cooling / Warm up	Amber		
Power on / Normal	Amber	Blue	
Lamp fail			Red
Lamp door open			Red
Fan fail			Red
Over temperature			Red
System error			Red

## **2-4. RS-232 Retrieve Error Code Comment**

**At first, please connect RS-232 cable between PC and projector, and then plug power cord. Then, please enter RS-232 system interface (Confirm your computer parameter setting is right, please refer to page 35. If it is not right, it can not connect with projector).**

Step1. When you turn on the projector, please immediately key in “**op demsg = 1**”, and system will feedback “**OP DEMSG = 1**”.

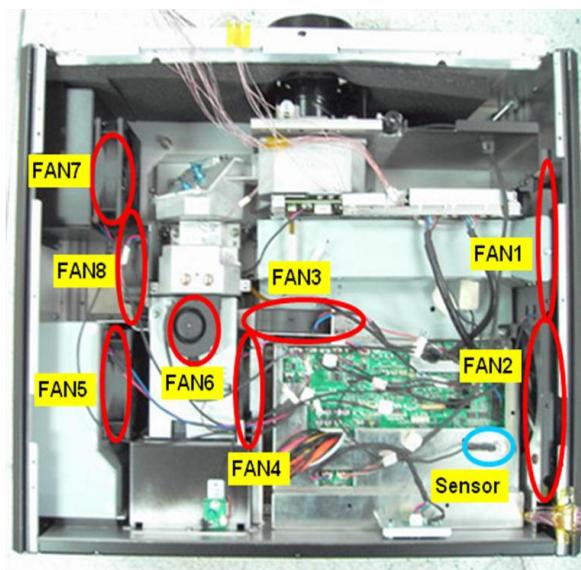
Then, it will display current status messages. Please copy and send these messages content to your service center for further confirmation.

Step2. Next, please key in “**op prerr**”, then it will show latest error codes.

And, the first one of all error codes will be the current root cause of defective symptom. Then, you can refer page 17, 18 and 19 to replace defective parts or module.

### 3. Fan Rotational Speed

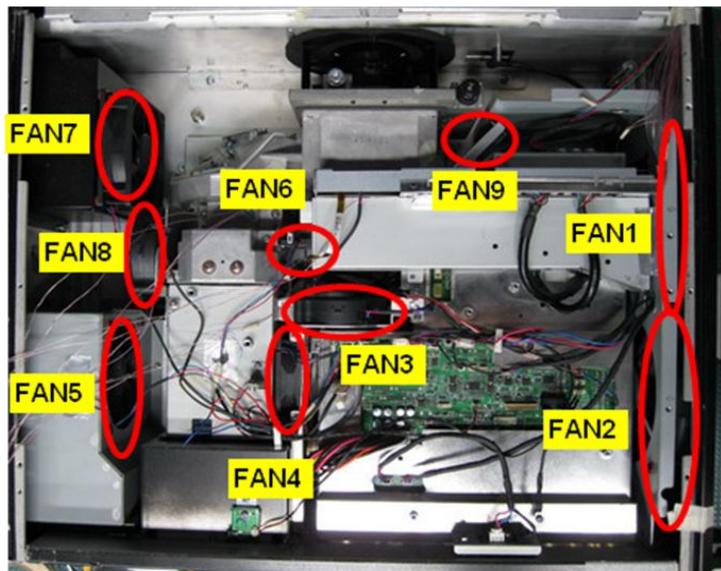
#### HTD-8650 QDPAA/AB/AC Error Code



Ambient			<28C	29C	30C	31C	32C	33C	34C	>35C	45C
Tc			31	32	33	34	35	36	37	38	47
FAN 1	DMD & Ballast Fan	AFB0912M-AF00	1600	1700	1800	1900	2000	2100	2200	2300	
FAN 2	Power Fan	NFB1212M-F00	1000	1200	1300	1400	1500	1600	1650	1700	
FAN 3	Lamp Burner Blower1	BFB0712HD-SE06	3200	3200	3200	3200	3200	3200	3200	3200	
FAN 4	Lamp & Exhaust Fan	AFB0812LD-SE21	2000	2150	2300	2450	2600	2700	2800	3000	
FAN 5	Exhaust Fan	AFB0912M-AF00	1600	1700	1800	1900	2000	2100	2200	2300	
FAN 6	CW Fan	BFB0512M-SE02	3000	3200	3400	3600	3850	4050	4300	4500	
FAN 7	Front Exhaust Fan	AFB0912M-AF00	1600	1700	1800	1900	2000	2100	2200	2300	
FAN 8	Lamp Burner Blower2	BFB0712HD-SE06	4300	4300	4300	4300	4300	4300	4300	4300	

shut down

## HTD-8650 QDPBA/BB/BC Error Code



Normal Table

Ambient			<28C	29C	30C	31C	32C	33C	34C	>35C	45C
Tc			31	32	33	34	35	36	37	38	47
FAN 1	DMD & Ballast Fan	AFB0912H-AF00	1600	1800	2000	2200	2400	2600	2800	2800	
FAN 2	Power Fan	NFB1212M-F00	1000	1200	1300	1400	1500	1600	1650	1700	
FAN 3	Lamp Burner Blower1	BFB0712HD-SE06	3200	3200	3200	3200	3200	3200	3200	3200	
FAN 4	Lamp & Exhaust Fan	AFB0812LD-SE21	2000	2150	2300	2450	2600	2700	2800	3000	
FAN 5	Exhaust Fan	AFB0912M-AF00	1600	1700	1800	1900	2000	2100	2200	2300	
FAN 6	CW Fan	BFB0512HA-CF00	4000	4300	4600	4900	5200	5500	5800	6000	
FAN 7	Front Exhaust Fan	AFB0912M-AF00	1600	1700	1800	1900	2000	2100	2200	2300	
FAN 8	Lamp Burner Blower2	BFB0712HD-SE06	4300	4300	4300	4300	4300	4300	4300	4300	
FAN 9	DMD front cooling	BFB0512HA-CF00	4000	4300	460	4900	5200	5500	5800	6000	

shut down

Normal Ceiling

Ambient			<28C	29C	30C	31C	32C	33C	34C	>35C	45C
Tc			31	32	33	34	35	36	37	38	47
FAN 1	DMD & Ballast Fan	AFB0912H-AF00	1600	1800	2000	2200	2400	2600	2800	2800	
FAN 2	Power Fan	NFB1212M-F00	1000	1200	1300	1400	1500	1600	1650	1700	
FAN 3	Lamp Burner Blower1	BFB0712HD-SE06	4300	4300	4300	4300	4300	4300	4300	4300	
FAN 4	Lamp & Exhaust Fan	AFB0812LD-SE21	2000	2150	2300	2450	2600	2700	2800	3000	
FAN 5	Exhaust Fan	AFB0912M-AF00	1600	1700	1800	1900	2000	2100	2200	2300	
FAN 6	CW Fan	BFB0512HA-CF00	4000	4300	4600	4900	5200	5500	5800	6000	

shut down

FAN 7	Front Exhaust Fan	AFB0912M-AF00	1600	1700	1800	1900	2000	2100	2200	2300	
FAN 8	Lamp Burner Blower2	BFB0712HD-SE06	3200	3200	3200	3200	3200	3200	3200	3200	
FAN 9	DMD front cooling	BFB0512HA-CF00	4000	4300	4600	4900	5200	5500	5800	6000	

ECO Table

Ambient			<28C	29C	30C	31C	32C	33C	34C	>35C	45C
Tc			31	32	33	34	35	36	37	38	47
FAN 1	DMD & Ballast Fan	AFB0912H-AF00	1300	1500	1700	2100	2300	2500	2700	2800	
FAN 2	Power Fan	NFB1212M-F00	1000	1200	1300	1400	1500	1600	1650	1700	
FAN 3	Lamp Burner Blower1	BFB0712HD-SE06	3000	3000	3000	3000	3000	3000	3000	3000	
FAN 4	Lamp & Exhaust Fan	AFB0812LD-SE21	2000	2150	2300	2450	2600	2700	2800	3000	
FAN 5	Exhaust Fan	AFB0912M-AF00	1300	1500	1700	1900	2000	2100	2200	2300	
FAN 6	CW Fan	BFB0512HA-CF00	4000	4300	4600	4900	5200	5500	5800	6000	
FAN 7	Front Exhaust Fan	AFB0912M-AF00	1300	1500	1700	1900	2000	2100	2200	2300	
FAN 8	Lamp Burner Blower2	BFB0712HD-SE06	4000	4000	4000	4000	4000	4000	4000	4000	
FAN 9	DMD front cooling	BFB0512HA-CF00	4000	4300	4600	4900	5200	5500	5800	6000	

shut down

ECO Ceiling

Ambient			<28C	29C	30C	31C	32C	33C	34C	>35C	45C
Tc			31	32	33	34	35	36	37	38	47
FAN 1	DMD & Ballast Fan	AFB0912H-AF00	1300	1500	1700	2100	2300	2500	2700	2800	
FAN 2	Power Fan	NFB1212M-F00	1000	1200	1300	1400	1500	1600	1650	1700	
FAN 3	Lamp Burner Blower1	BFB0712HD-SE06	4000	4000	4000	4000	4000	4000	4000	4000	
FAN 4	Lamp & Exhaust Fan	AFB0812LD-SE21	2000	2150	2300	2450	2600	2700	2800	3000	
FAN 5	Exhaust Fan	AFB0912M-AF00	1300	1500	1700	1900	2000	2100	2200	2300	
FAN 6	CW Fan	BFB0512HA-CF00	4000	4300	4600	4900	5200	5500	5800	6000	
FAN 7	Front Exhaust Fan	AFB0912M-AF00	1300	1500	1700	1900	2000	2100	2200	2300	
FAN 8	Lamp Burner Blower2	BFB0712HD-SE06	3000	3000	3000	3000	3000	3000	3000	3000	
FAN 9	DMD front cooling	BFB0512HA-CF00	4000	4300	4600	4900	5200	5500	5800	6000	

shut down

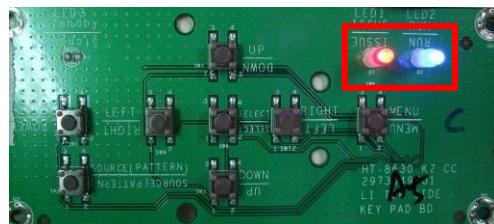
## 4. Firmware Download

### HTD-8650 QDPAA/AB/AC

#### 4.1-1 How To Download Micro Control BD IC318(First Time)

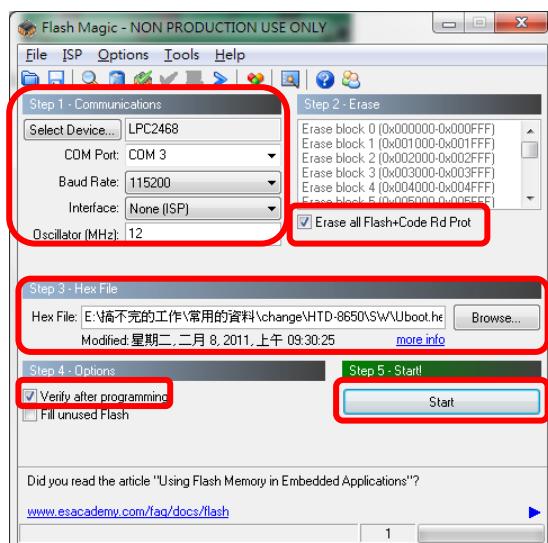
1. First connect J200 from Power BD.
2. Connect CN304 from Keypad BD.
3. Connect RS-232 From PC.
4. Hold Power Key, and then plug in power cord.

You can see the state, like the follow.

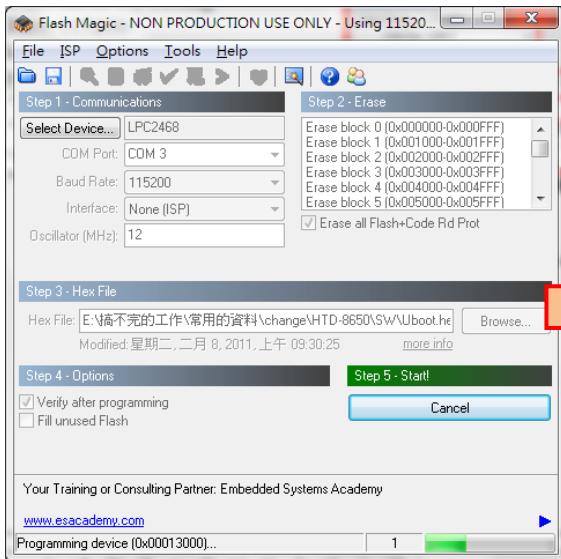


5.Run Flash Magic Application, and setting like follow.

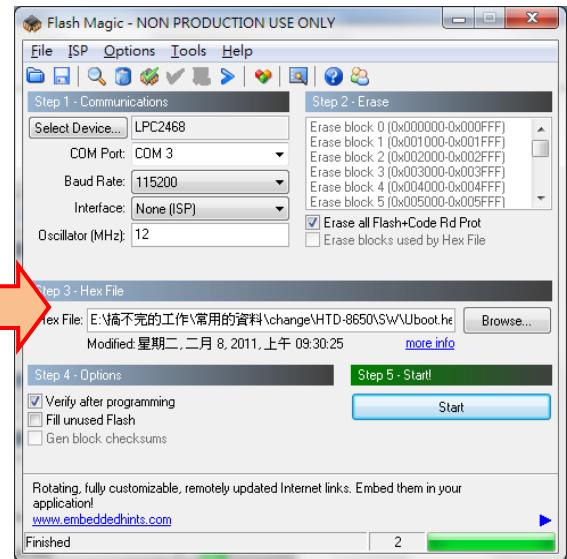
- 5-1.Device: LPC2348
- 5-2. COM Port: check PC Setting
- 5-3. Baud Rate: 115200
- 5-4. Interface: None(ISP)
- 5-5. Oscillator(MHz): 12
- 5-6. Click “Erase all Flash+Code RD Port”.
- 5-7. Click “Verify after programming”
- 5-8. Choose file what you want to download.
- 5-9. Click “Start” to start to download.



## Downloading

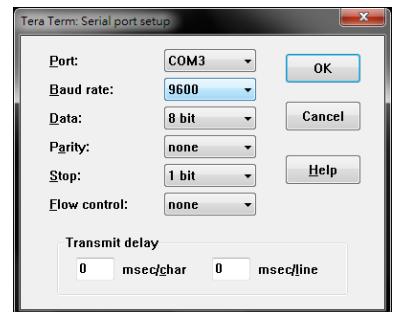


## Done

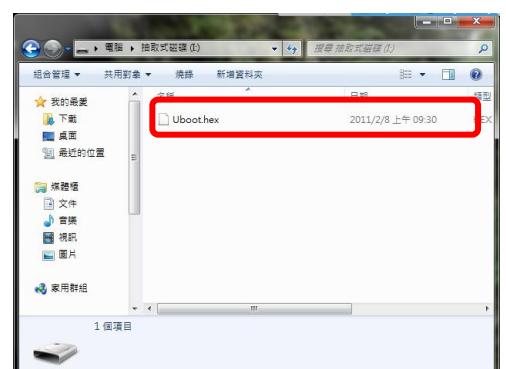


### 4.1-2 How To Download Micro Control BD IC318 (Re-download)

1. The unit is full set.
2. Connect RS-232. (Baud Rate is 9600)



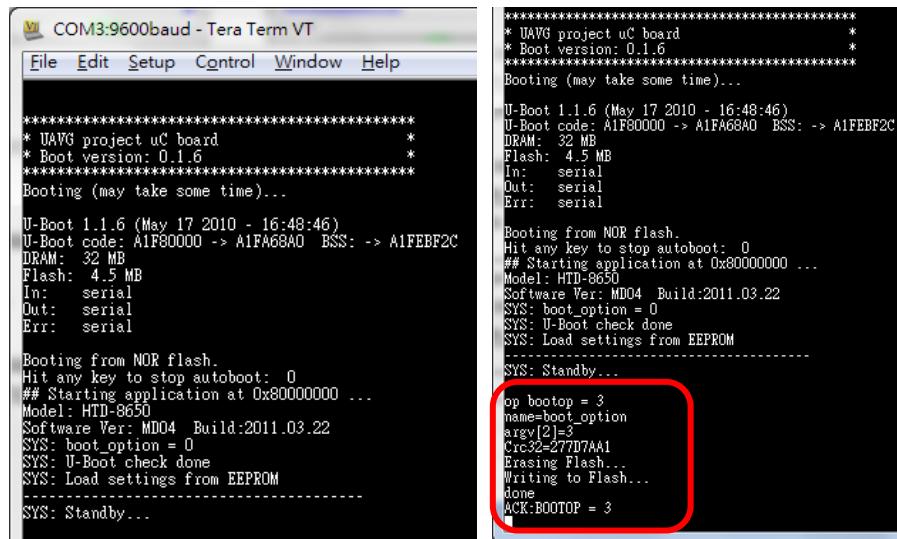
3. Put file to flash Disk and plug into unit  
(The file name is must “Uboot.hex”  
at root directory)



4. Plug in Power Cord.

5. You'll see some massage like follow

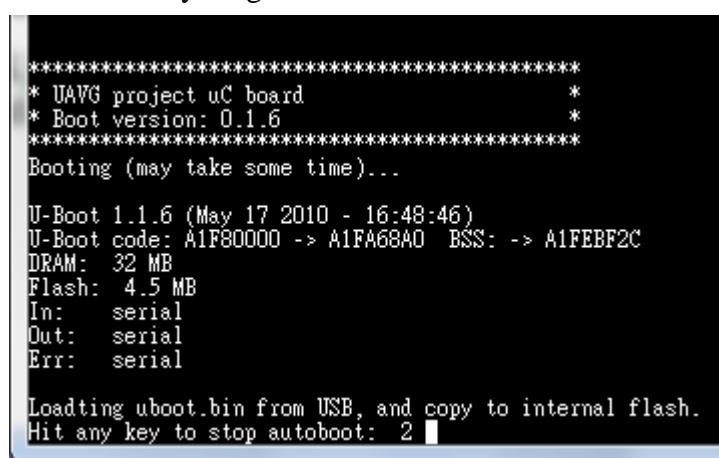
Key in “OP△BOOTOP△=△3” (△ is space)



```
*****  
* UAVG project uC board *  
* Boot version: 0.1.6 *  
*****  
Booting (may take some time)...  
  
U-Boot 1.1.6 (May 17 2010 - 16:48:46)  
U-Boot code: A1F80000 -> A1FA68A0 BSS: -> A1FEBF2C  
DRAM: 32 MB  
Flash: 4.5 MB  
In: serial  
Out: serial  
Err: serial  
  
Booting from NOR flash.  
Hit any key to stop autoboot: 0  
## Starting application at 0x80000000 ...  
Model: HTD-8650  
Software Ver: MD04 Build:2011.03.22  
SYS: boot_option = 0  
SYS: U-Boot check done  
SYS: Load settings from EEPROM  
-----  
SYS: Standby...  
  
op bootop = 3  
name=boot_option  
argv[2]=3  
Crc32=277D7AA1  
Erasing Flash...  
Writing to Flash...  
done  
ACK:BOOTOP = 3
```

When you see “ACK:BOOTOP = 3”, you can unplug power cord.  
And plug power cord again.

Don't do anything at this time.



```
*****  
* UAVG project uC board *  
* Boot version: 0.1.6 *  
*****  
Booting (may take some time)...  
  
U-Boot 1.1.6 (May 17 2010 - 16:48:46)  
U-Boot code: A1F80000 -> A1FA68A0 BSS: -> A1FEBF2C  
DRAM: 32 MB  
Flash: 4.5 MB  
In: serial  
Out: serial  
Err: serial  
  
Loadting uboot.bin from USB, and copy to internal flash.  
Hit any key to stop autoboot: 2
```

Wait about 5 Second, you'll see like follow.

It's means "Download OK"

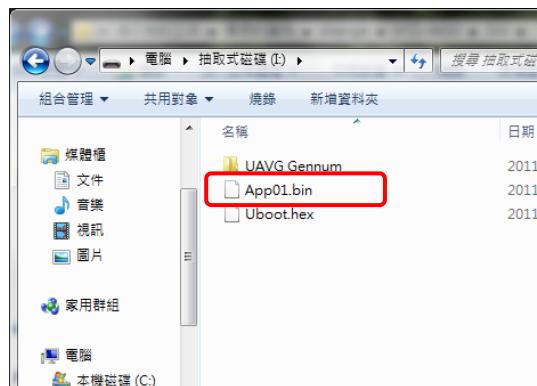
```
Booting (may take some time)...
U-Boot 1.1.6 (May 17 2010 - 16:48:46)
U-Boot code: A1F80000 -> A1FA68A0 ESS: -> A1FEBP2C
DRAM: 32 MB
Flash: 4.5 MB
In: serial
Out: serial
Err: serial

Loading uboot.bin from USB, and copy to internal flash.
Hit any key to stop autoboot: 0
(Ps)start NSR
USB: scanning bus for devices... 2 USB Device(s) found
scanning bus for storage devices... 1 Storage Device(s) found
reading uboot.bin

** Unable to read "uboot.bin" from usb 0:1 **
cmd 'fatload' exe fail, stoped.
## Starting application at 0x80000000 ...
Model: HTD-8650
Software Ver: MDD4 Build:2011.03.22
SYS: boot_option = 3
name=boot_option
argv[2]=0
Cxx20-0x35079C
Erasing Flash...
Writing to Flash...
done
SYS: U-boot check done
SYS: Load settings from EEPROM
-----
SYS: Standby...
```

#### 4.2 How To Download Micro Control BD IC330

1. The unit is full set.
2. Connect RS-232. (Baud Rate is 9600)
3. Put file to flash Disk and plug into unit  
(The file name is must "App01.bin"  
at root directory)



4. Plug in Power Cord.

5. You'll see some massage like follow

Key in “OP△BOOTOP△=△4” (△ is space)

```
*****  
* UAVG project uC board          *  
* Boot version: 0.1.6            *  
*****  
Booting (may take some time)...  
  
U-Boot 1.1.6 (May 17 2010 - 16:48:46)  
U-Boot code: A1F80000 -> A1FA68AO BSS: -> A1FEBF2C  
DRAM: 32 MB  
Flash: 4.5 MB  
In: serial  
Out: serial  
Err: serial  
  
Booting from NOR flash.  
Hit any key to stop autoboot: 0  
## Starting application at 0x80000000 ...  
Model: HTD-8650  
Software Ver: MD04 Build:2011.03.22  
SYS: boot_option = 0  
SYS: U-Boot check done  
SYS: Load settings from EEPROM  
-----  
SYS: Standby...  
  
op bootop = 4  
name=boot_option  
argv[2]=4  
Crc32-66C7ABE0  
Erasing Flash...  
Writing to Flash...  
done  
ACK:BOOTOP = 4
```

When you see “ACK:BOOTOP = 4”, you can unplug power cord.

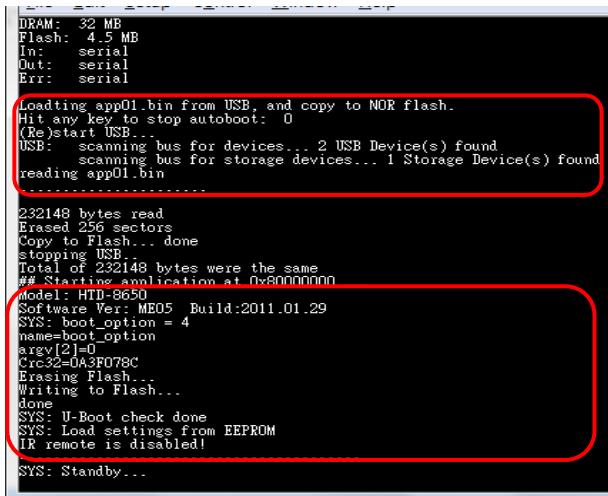
And plug power cord again.

Don't do anything at this time.

```
*****  
* UAVG project uC board          *  
* Boot version: 0.1.6            *  
*****  
Booting (may take some time)...  
  
U-Boot 1.1.6 (May 17 2010 - 16:48:46)  
U-Boot code: A1F80000 -> A1FA68AO BSS: -> A1FEBF2C  
DRAM: 32 MB  
Flash: 4.5 MB  
In: serial  
Out: serial  
Err: serial  
  
Loadting uboot.bin from USB, and copy to internal flash.  
Hit any key to stop autoboot: 2
```

Wait about 20 Second, you'll see like follow.

It's means "Download OK"



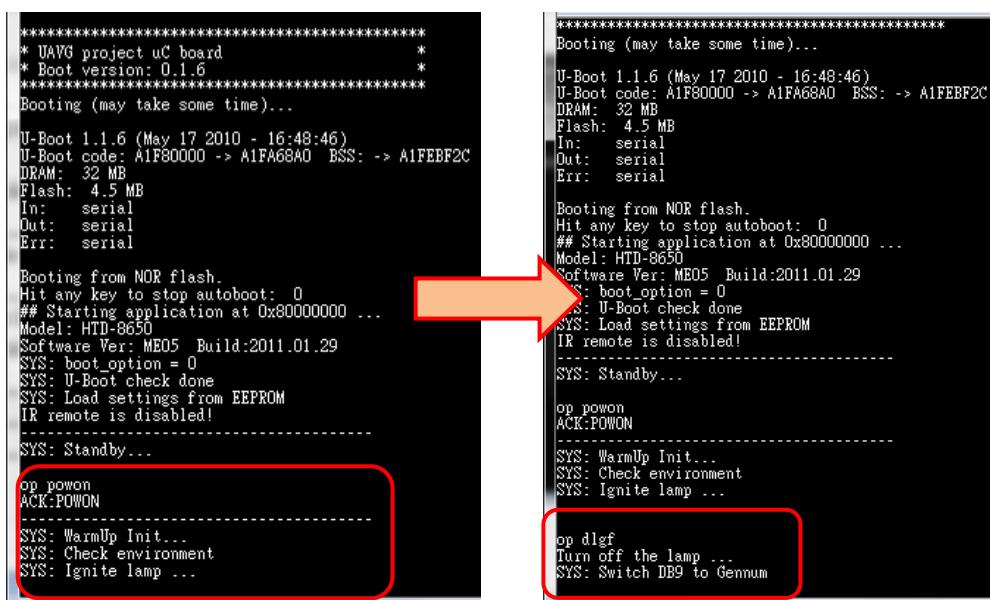
```
DRAM: 32 MB
Flash: 4.5 MB
In: serial
Out: serial
Err: serial

Loading app01.bin from USB, and copy to NOR flash.
Hit any key to stop autoboot: 0
(Re)start USB...
USB: scanning bus for devices... 2 USB Device(s) found
scanning bus for storage devices... 1 Storage Device(s) found
reading app01.bin

232148 bytes read
Erase 256 sectors
Copy to Flash... done
Copying USB
Size: 232148 bytes were the same
## Starting application at 0x80000000
Model: HTD-8650
Software Ver: ME05 Build:2011.01.29
SYS: boot_option = 4
name=boot_option
argv[2]=0
Crc-32=0xA3F078C
Erasing Flash...
Writing to Flash...
done
SYS: U-Boot check done
SYS: Load settings from EEPROM
IR remote is disabled!
SYS: Standby...
```

#### 4.3 How To Download Video BD IC626

1. The unit is full set.
2. Connect RS-232. (Baud Rate is 9600)
3. Key in "op△powon" to power on.
4. Key in "op△dlgf" to switch DB9 to Genum.

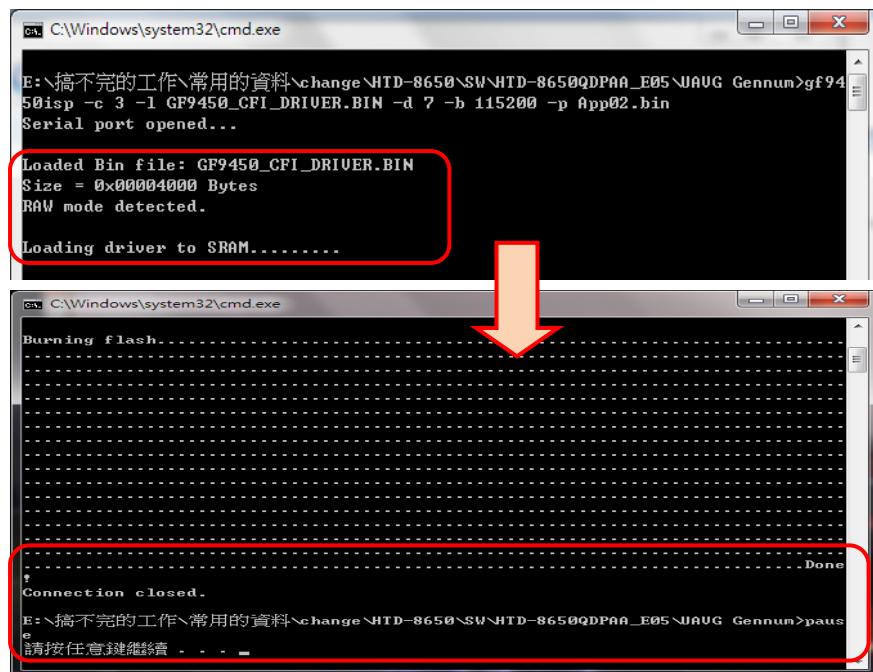
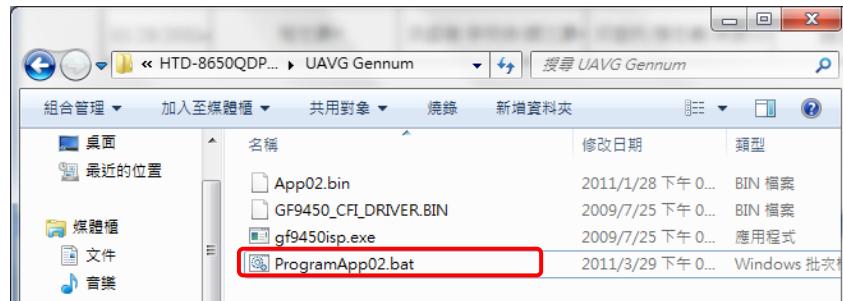


\*\*\*\*\*  
\* UAVG project uC board \*  
\* Boot version: 0.1.6 \*  
\*\*\*\*\*  
Booting (may take some time)...  
  
U-Boot 1.1.6 (May 17 2010 - 16:48:46)  
U-Boot code: A1F80000 -> A1FA68A0 BSS: -> A1FEBF2C  
DRAM: 32 MB  
Flash: 4.5 MB  
In: serial  
Out: serial  
Err: serial  
  
Booting from NOR flash.  
Hit any key to stop autoboot: 0  
## Starting application at 0x80000000 ...  
Model: HTD-8650  
Software Ver: ME05 Build:2011.01.29  
SYS: boot\_option = 0  
SYS: U-Boot check done  
SYS: Load settings from EEPROM  
IR remote is disabled!  
  
SYS: Standby...  
  
op powon  
ACK:POWON  
  
SYS: WarmUp Init...  
SYS: Check environment  
SYS: Ignite lamp ...

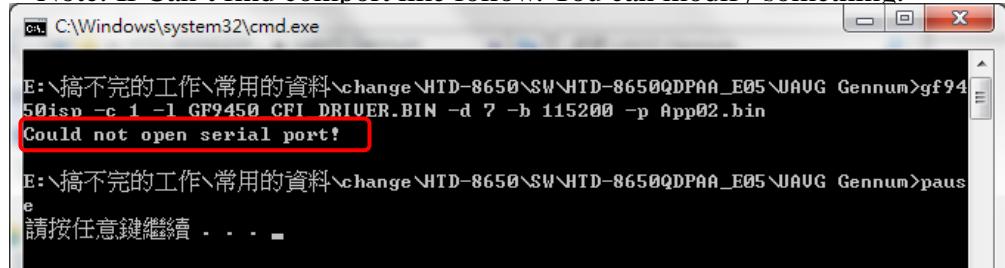
\*\*\*\*\*  
Booting (may take some time)...  
  
U-Boot 1.1.6 (May 17 2010 - 16:48:46)  
U-Boot code: A1F80000 -> A1FA68A0 BSS: -> A1FEBF2C  
DRAM: 32 MB  
Flash: 4.5 MB  
In: serial  
Out: serial  
Err: serial  
  
Booting from NOR flash.  
Hit any key to stop autoboot: 0  
## Starting application at 0x80000000 ...  
Model: HTD-8650  
Software Ver: ME05 Build:2011.01.29  
SYS: boot\_option = 0  
SYS: U-Boot check done  
SYS: Load settings from EEPROM  
IR remote is disabled!  
  
SYS: Standby...  
  
op powon  
ACK:POWON  
  
SYS: WarmUp Init...  
SYS: Check environment  
SYS: Ignite lamp ...  
  
op dlgf  
Turn off the lamp ...  
SYS: Switch DB9 to Genum

5. Close Tera Term, and select file to download.

And You'll see like follow.



Note: If Can't find comport like follow. You can modify something.



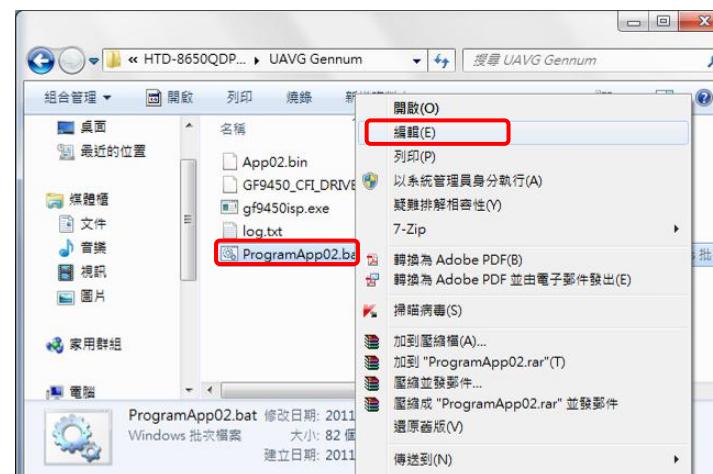
```
E:\搞不完的工作\常用的資料\change\HTD-8650\SW\HTD-8650QDPAA_E05\UAVG Genum>gf9450isp -c 1 -l GF9450_CFI_DRIVER.BIN -d 7 -b 115200 -p App02.bin  
Could not open serial port!  
E:\搞不完的工作\常用的資料\change\HTD-8650\SW\HTD-8650QDPAA_E05\UAVG Genum>pause  
請按任意鍵繼續 . . .
```

First please check com port of your computer.

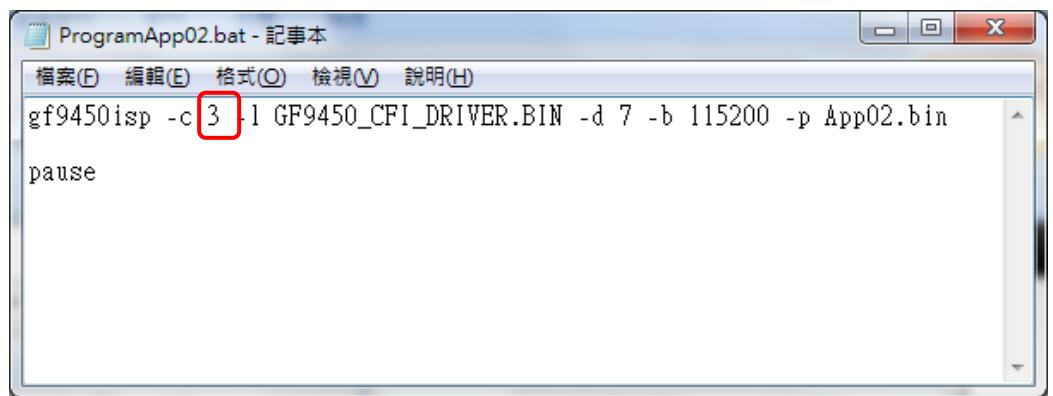
And then you can modify something like follow.

Click Right key at mouse  
at "ProgramApp02.bat"

And choose “編輯”



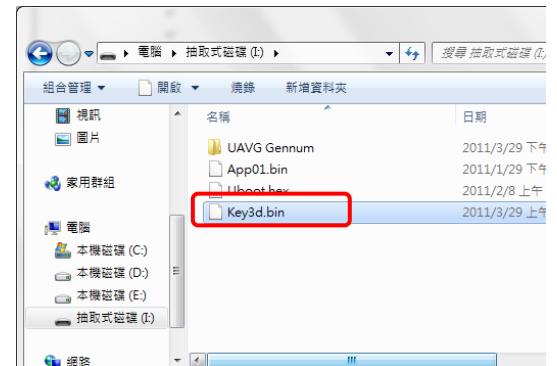
You can modify like follow, the space is for setting Com port.



```
ProgramApp02.bat - 記事本  
檔案(F) 編輯(E) 格式(O) 檢視(V) 說明(H)  
gf9450isp -c 3 -l GF9450_CFI_DRIVER.BIN -d 7 -b 115200 -p App02.bin  
pause
```

#### 4.4 How To Download DMD BD IC76

1. The unit is full set.
2. Connect RS-232. (Baud Rate is 9600)
3. Put file to flash Disk and plug into unit  
(The file name is must “key3d.bin”  
at root directory)



4. Plug in Power Cord.

5. You'll see some massage like follow

Key in “OP△BOOTOP△=△9 (△ is space)

A screenshot of a Tera Term VT terminal window titled 'COM3:9600baud - Tera Term VT'. The window shows U-Boot boot logs and a user input command. The user input 'op bootop = 9' is highlighted with a red box.

```
* UAVG project uC board *
* Boot version: 0.1.6
*****
Booting (may take some time)...

U-Boot 1.1.6 (May 17 2010 - 16:48:46)
U-Boot code: A1F80000 -> A1FA68A0 BSS: -> A1FEBF2C
DRAM: 32 MB
Flash: 4.5 MB
In: serial
Out: serial
Err: serial

Booting from NOR flash.
Hit any key to stop autoboot: 0
## Starting application at 0x80000000 ...
Model: HTD-8650
Software Ver: M004 Build:2011.03.22
SYS: boot_option = 0
SYS: U-Boot check done
SYS: Load settings from EEPROM
IK remote is disabled!
-----
SYS: Standby...

op bootop = 9
name=boot_option
argv[2]=9
Crc32=C8F0744F
Erasing Flash...
Writing to Flash...
done
ACK:BOOTOP = 9
```

When you see “ACK:BOOTOP = 9, you can unplug power cord.

And plug power cord again.

Don't do anything at this time.

```
*****
* UAVG project uC board          *
* Boot version: 0.1.6              *
*****
Booting (may take some time)...

U-Boot 1.1.6 (May 17 2010 - 16:48:46)
U-Boot code: A1F80000 -> A1FA68A0  BSS: -> A1FEBF2C
DRAM: 32 MB
Flash: 4.5 MB
In:   serial
Out:  serial
Err:  serial

Loading uboot.bin from USB, and copy to internal flash.
Hit any key to stop autoboot: 2
```

Wait about 110 second, you'll see like follow.

It's means "Download OK"

```
COM3:9600baud - Tera Term VT
File Edit Setup Control Window Help
*****
* UAVG project uC board          *
* Boot version: 0.1.6              *
*****
Booting (may take some time)...

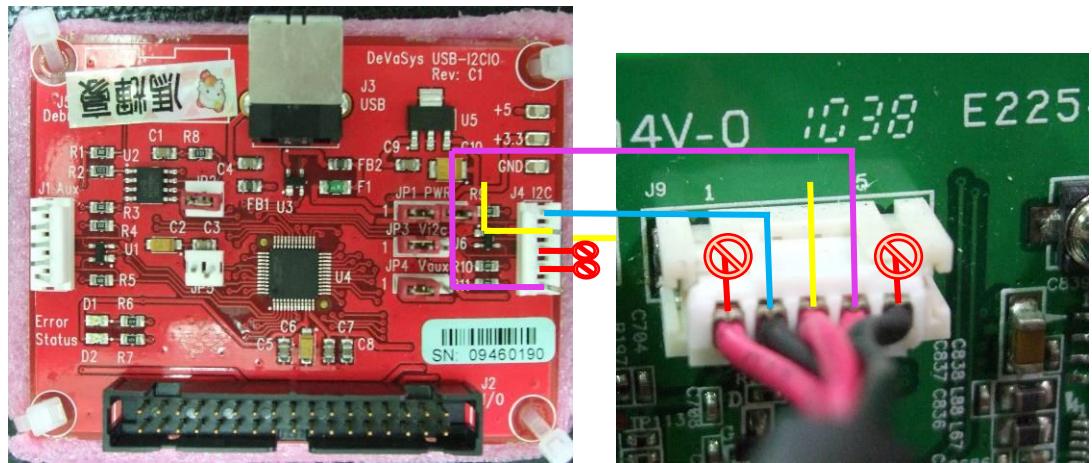
U-Boot 1.1.6 (May 17 2010 - 16:48:46)
U-Boot code: A1F80000 -> A1FA68A0  BSS: -> A1FEBF2C
DRAM: 32 MB
Flash: 4.5 MB
In:   serial
Out:  serial
Err:  serial

Loading key3d.bin from USB, and copy to FPGA's flash.
power on system
Hit any key to stop autoboot: 0
(Re)start USB...
USB:  scanning bus for devices... 2 USB Device(s) found
      scanning bus for storage devices... 1 Storage Device(s) found
reading key3d.bin
.....
1484404 bytes read
EEPROM @0x0 write: addr a0000000 off 0000 count 1484404 ... SPI_W addr=0x00000000, buf=0x00000000, Len=1484404
.....done
stopping USB..

COM3:9600baud - Tera Term VT
File Edit Setup Control Window Help
Loading key3d.bin from USB, and copy to FPGA's flash.
power on system
Hit any key to stop autoboot: 0
(Re)start USB...
USB:  scanning bus for devices... 2 USB Device(s) found
      scanning bus for storage devices... 1 Storage Device(s) found
reading key3d.bin
.....
1484404 bytes read
EEPROM @0x0 write: addr a0000000 off 0000 count 1484404 ... SPI_W addr=0x00000000, buf=0x00000000, Len=1484404
.....done
stopping USB..
.....done
Total of 1484404 bytes were the same
## Starting application at 0x80000000 ...
Model: HII-8850
Software Ver: M005 Build:2011.01.29
SYS: boot_option = 9
name=boot_option
argv[2]=0
Crc32=043F078C
Erasing Flash...
Writing to Flash...
done
SYS: U-Boot check done
SYS: Load settings from EEPROM
IR remote is disabled!
.....
SYS: Standby...
```

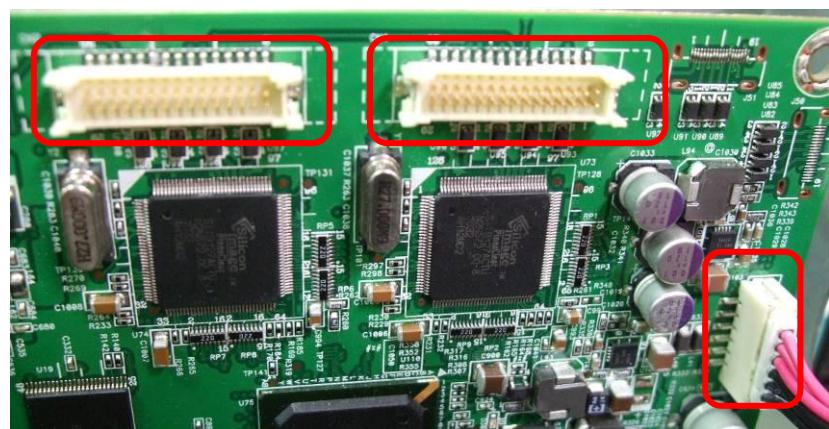
## 4.5 How To Download DMD BD U18/U19

### 1. Make Jig

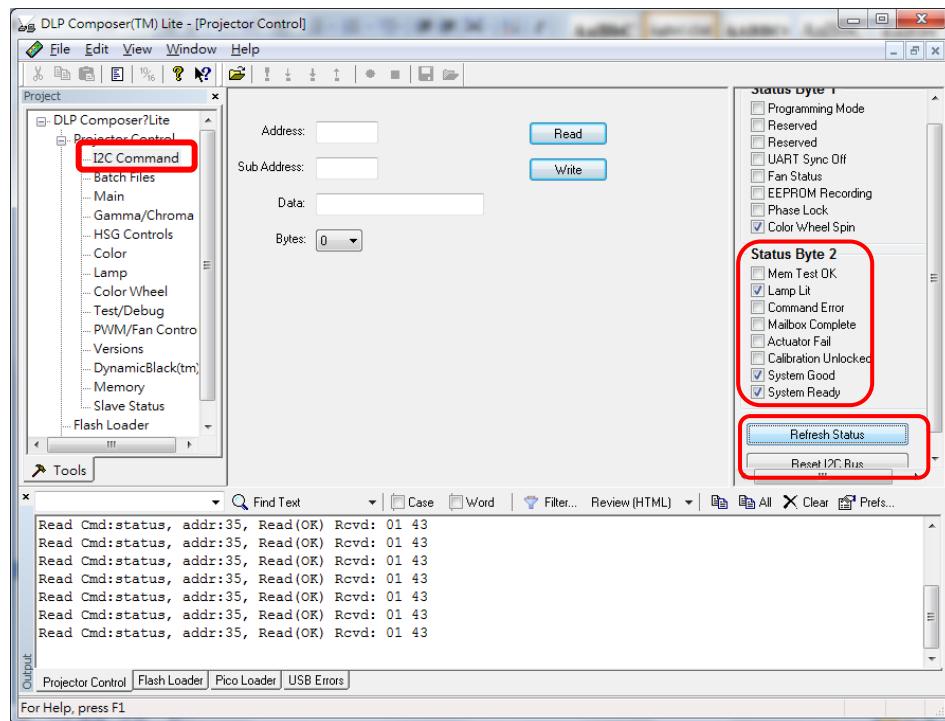


Remove CN1 & CN2

And Check J6 Pin1,2,3 is 12V, Pin4,5,6 is GND.



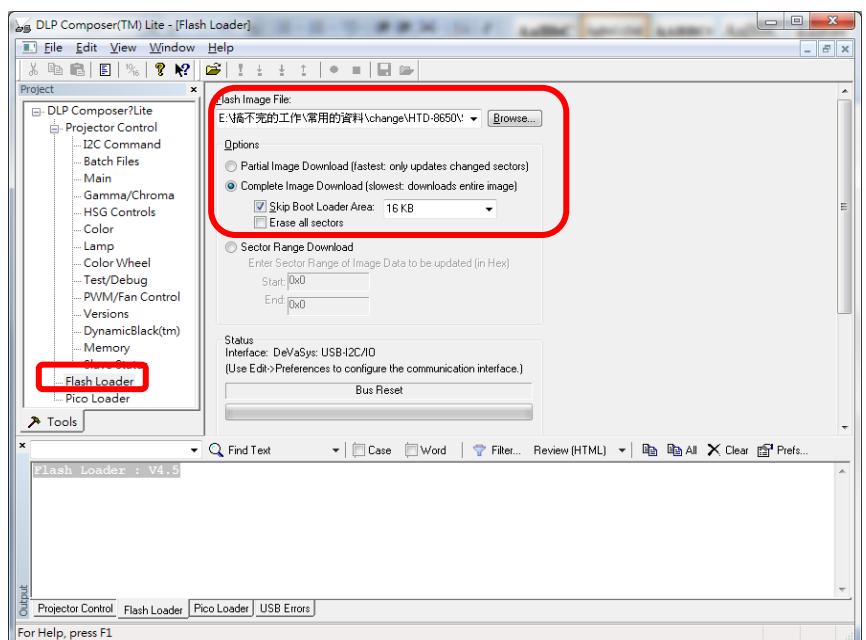
Run DLP Composer and check state.



If state is fine

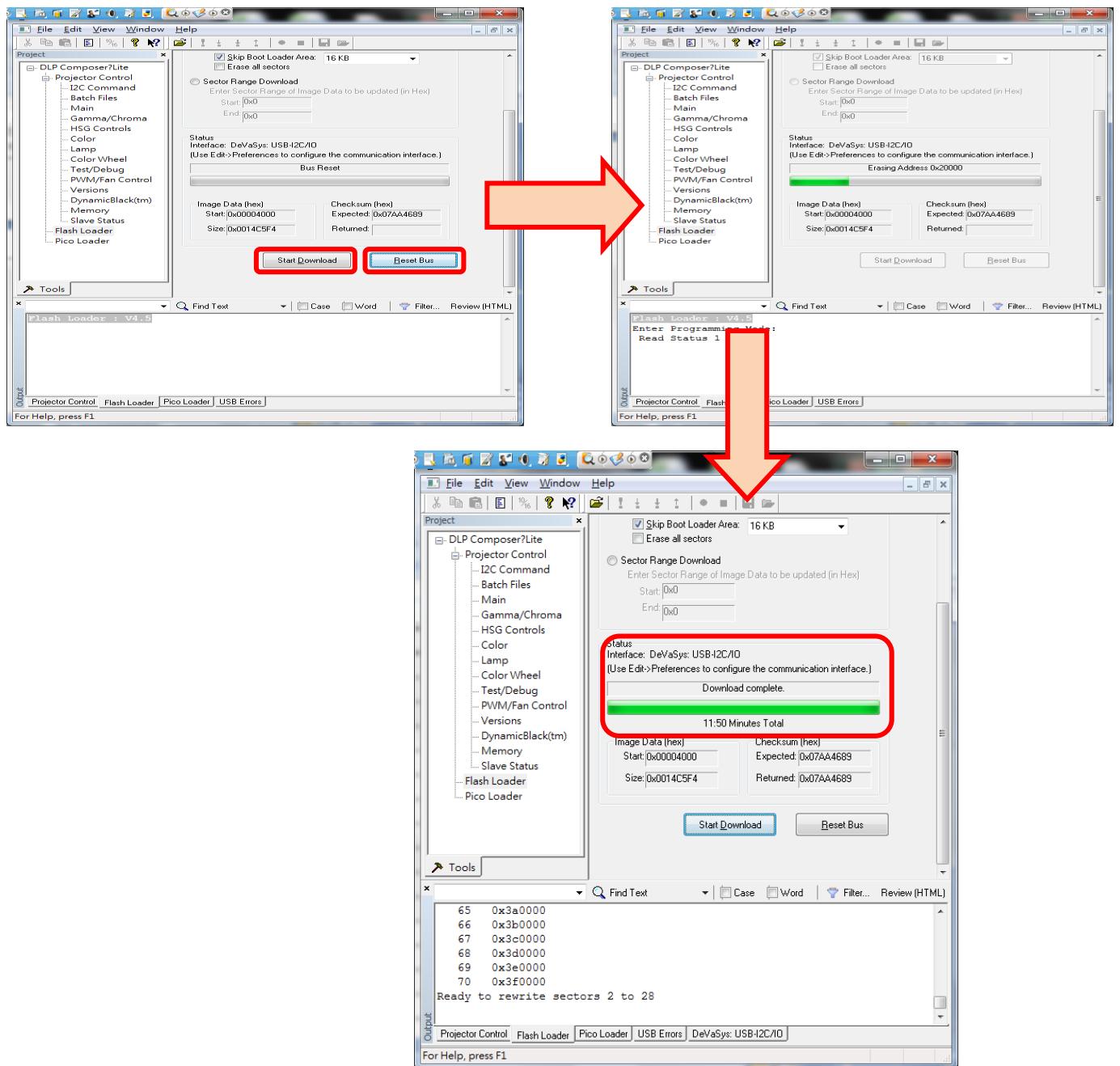
click "Flash Loader"

select file



Click "Reset Bus"

Click "Start Download"

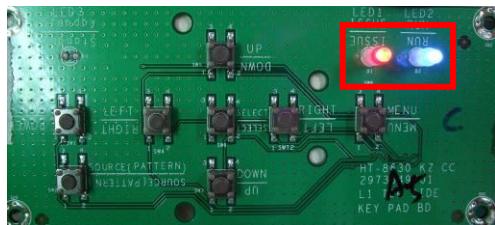


## HTD-8650 QDPBA/BB/BC

### 4.1-1 How To Download Micro Control BD IC318(First Time)

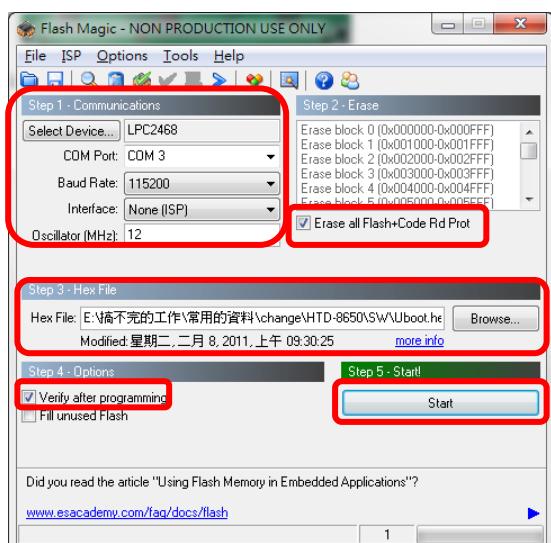
1. First connect J200 from Power BD.
2. Connect CN304 from Keypad BD.
3. Connect RS-232 From PC.
4. Hold Power Key, and then plug in power cord.

You can see the state, like the follow.

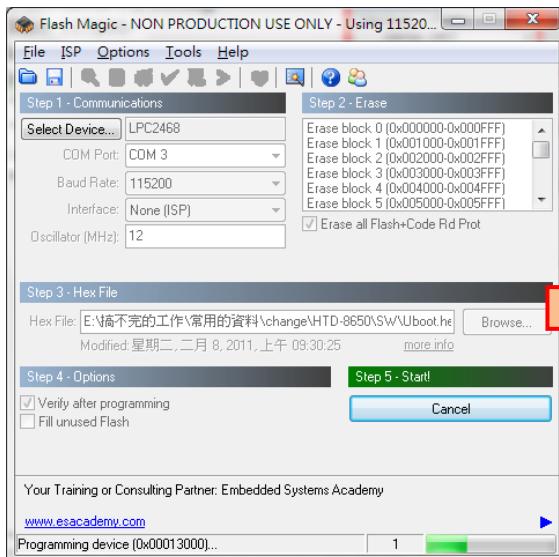


### 5.Run Flash Magic Application, and setting like follow.

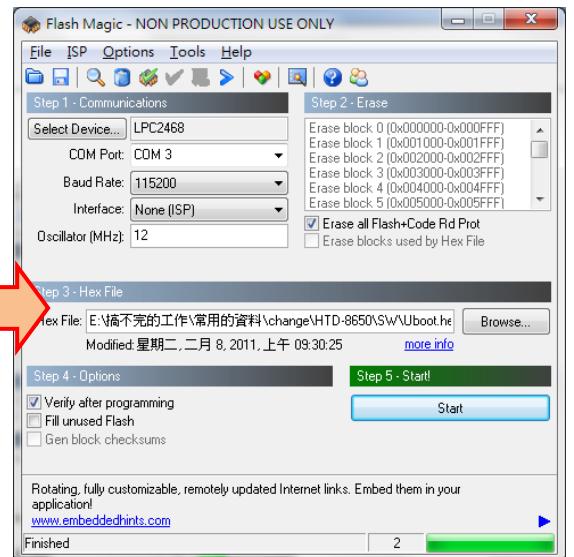
- 5-1.Device: LPC2348
- 5-2. COM Port: check PC Setting
- 5-3. Baud Rate: 115200
- 5-4. Interface: None(ISP)
- 5-5. Oscillator(MHz): 12
- 5-6. Click “Erase all Flash+Code RD Port”.
- 5-7. Click “Verify after programming”
- 5-8. Choose file what you want download.
- 5-9. Click “Start” to start to download.



## Downloading

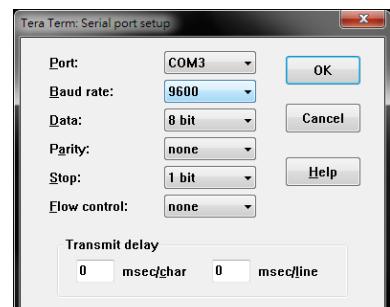


## Done

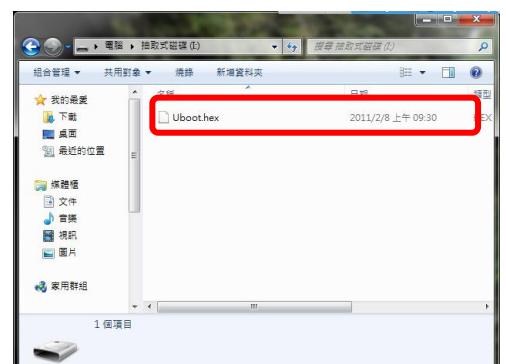


### 4.1-2 How To Download Micro Control BD IC318 (Re-download)

6. The unit is full set.
7. Connect RS-232. (Baud Rate is 9600)



8. Put file to flash Disk and plug into unit  
(The file name is must “Uboot.hex”  
at root directory)



9. Plug in Power Cord.

10. You'll see some massage like follow

Key in “OP△BOOTOP△=△3” (△ is space)

```
*****  
* UAVG project uC board          *  
* Boot version: 0.1.6            *  
*****  
Booting (may take some time)...  
  
U-Boot 1.1.6 (May 17 2010 - 16:48:46)  
U-Boot code: A1F80000 -> A1FA68A0 BSS: -> A1FEBF2C  
DRAM: 32 MB  
Flash: 4.5 MB  
In: serial  
Out: serial  
Err: serial  
  
Booting from NOR flash.  
Hit any key to stop autoboot: 0  
## Starting application at 0x80000000 ...  
Model: HTD-8650  
Software Ver: MD04 Build:2011.03.22  
SYS: boot_option = 0  
SYS: U-Boot check done  
SYS: Load settings from EEPROM  
-----  
SYS: Standby...  
  
op bootop = 3  
name=boot_option  
argv[2]=3  
Crc32=277D7AA1  
Erasing Flash...  
Writing to Flash...  
done  
ACK:BOOTOP = 3
```

When you see “ACK:BOOTOP = 3”, you can unplug power cord.

And plug power cord again.

Don't do anything at this time.

```
*****  
* UAVG project uC board          *  
* Boot version: 0.1.6            *  
*****  
Booting (may take some time)...  
  
U-Boot 1.1.6 (May 17 2010 - 16:48:46)  
U-Boot code: A1F80000 -> A1FA68A0 BSS: -> A1FEBF2C  
DRAM: 32 MB  
Flash: 4.5 MB  
In: serial  
Out: serial  
Err: serial  
  
Loadting uboot.bin from USB, and copy to internal flash.  
Hit any key to stop autoboot: 2
```

Wait about 5 Second, you'll see like follow.

It's means "Download OK"

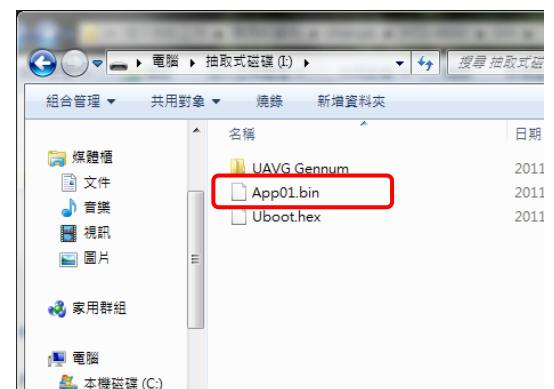
```
Booting (may take some time)...
U-Boot 1.1.6 (May 17 2010 - 16:48:46)
U-Boot code: A1F80000 -> A1FA68A0 ESS: -> A1FEBP2C
DRAM: 32 MB
Flash: 4.5 MB
In: serial
Out: serial
Err: serial

Loading uboot.bin from USB, and copy to internal flash.
Hit any key to stop autoboot: 0
(Press start USB)
USB: scanning bus for devices... 2 USB Device(s) found
scanning bus for storage devices... 1 Storage Device(s) found
reading uboot.bin

** Unable to read "uboot.bin" from usb 0:1 **
cmd 'fatload' exe fail, stopped.
## Starting application at 0x80000000 ...
Model: HTD-8650
Software Ver: MD04 Build:2011.03.22
SYS: boot_option = 3
name=boot_option
argv[2]=0
c222-0a35079c
Erasing Flash...
Writing to Flash...
done
NFS: U-boot check done
SYS: Load settings from EEPROM
-----
SYS: Standby...
```

#### 4.2 How To Download Micro Control BD IC330

6. The unit is full set.
7. Connect RS-232. (Baud Rate is 9600)
8. Put file to flash Disk and plug into unit  
(The file name is must "App01.bin"  
at root directory)



9. Plug in Power Cord.

10. You'll see some message like follow

Key in “OP△BOOTOP△=△4” (△ is space)

```
*****  
* UAVG project uC board *  
* Boot version: 0.1.6 *  
*****  
Booting (may take some time)...  
  
U-Boot 1.1.6 (May 17 2010 - 16:48:46)  
U-Boot code: A1F80000 -> A1FA68A0 BSS: -> A1FEBF2C  
DRAM: 32 MB  
Flash: 4.5 MB  
In: serial  
Out: serial  
Err: serial  
  
Booting from NOR flash.  
Hit any key to stop autoboot: 0  
## Starting application at 0x80000000 ...  
Model: HTD-8650  
Software Ver: MD04 Build:2011.03.22  
SYS: boot_option = 0  
SYS: U-Boot check done  
SYS: Load settings from EEPROM  
-----  
SYS: Standby...  
  
op bootop = 4  
name=boot_option  
argv[2]=4  
Crc32=66C7ABE0  
Erasing Flash...  
Writing to Flash...  
done  
ACK:BOOTOP = 4
```

When you see “ACK:BOOTOP = 4”, you can unplug power cord.

And plug power cord again.

Don't do anything at this time.

```
*****  
* UAVG project uC board *  
* Boot version: 0.1.6 *  
*****  
Booting (may take some time)...  
  
U-Boot 1.1.6 (May 17 2010 - 16:48:46)  
U-Boot code: A1F80000 -> A1FA68A0 BSS: -> A1FEBF2C  
DRAM: 32 MB  
Flash: 4.5 MB  
In: serial  
Out: serial  
Err: serial  
  
Loading uboot.bin from USB, and copy to internal flash.  
Hit any key to stop autoboot: 2 █
```

Wait about 20 Second, you'll see like follow.

It's means "Download OK"

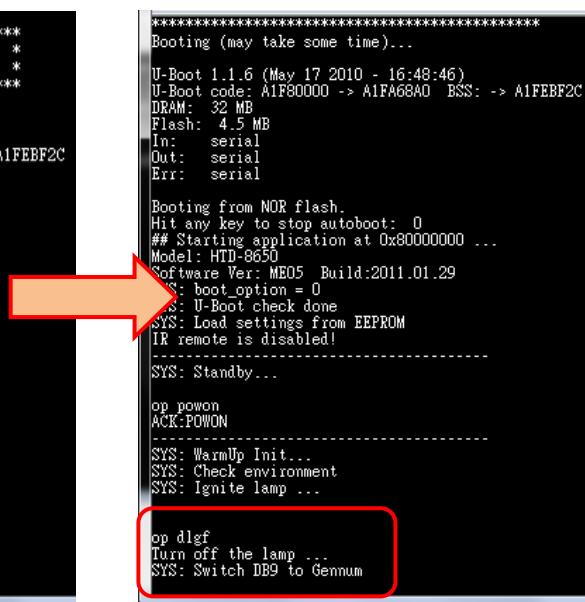
```
DRAM: 32 MB
Flash: 4.5 MB
In: serial
Out: serial
Err: serial

Loading app01.bin from USB, and copy to NOR flash.
Hit any key to stop autoboot: 0
(Re)start USB...
USB: scanning bus for devices... 2 USB Device(s) found
      scanning bus for storage devices... 1 Storage Device(s) found
reading app01.bin

232148 bytes read
Erased 256 sectors
Copy to Flash... done
stopping USB...
Total of 232148 bytes were the same
## Starting application at 0x80000000
Model: HHD-8650
Software Ver: MEO5 Build:2011.01.29
SYS: boot_option = 4
name=boot_option
argv[2]=0
Crc32=0A3F078C
Erasing Flash...
Writing to Flash...
done
SYS: U-Boot check done
SYS: Load settings from EEPROM
IR remote is disabled!
SYS: Standby...
```

#### 4.3 How To Download Video BD IC26

6. The unit is full set.
7. Connect RS-232. (Baud Rate is 9600)
8. Key in "op△powon" to power on.
9. Key in "op△dlgf" to switch DB9 to Gennum.



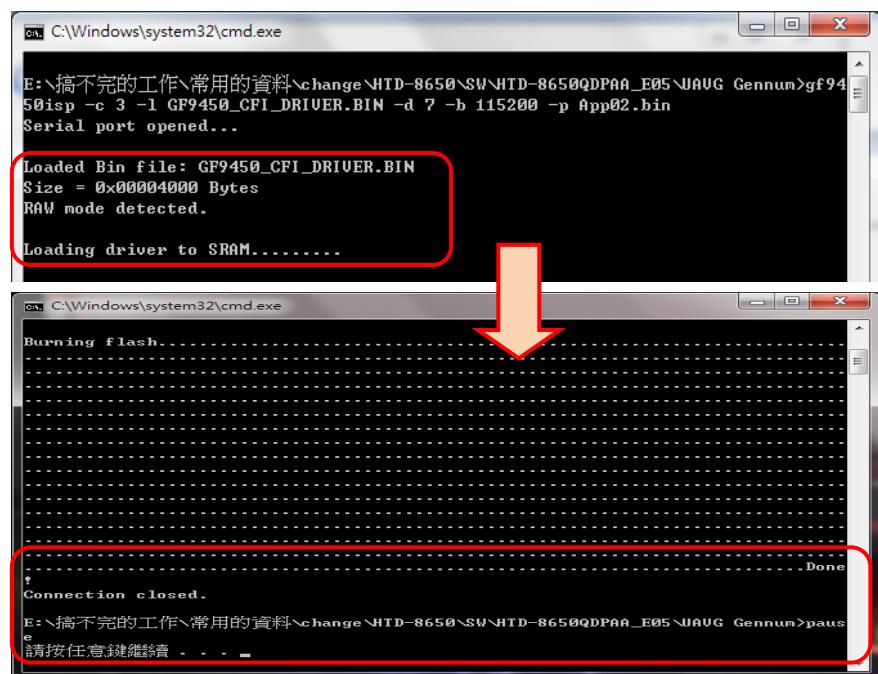
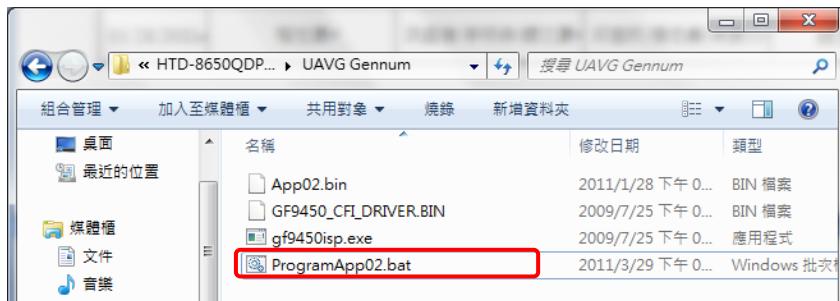
```
*****
* UAVG project uc board *
* Boot version: 0.1.6 *
*****
Booting (may take some time)...  
U-Boot 1.1.6 (May 17 2010 - 16:48:46)
U-Boot code: A1F80000 -> A1FA68AO BSS: -> A1FEBF2C
DRAM: 32 MB
Flash: 4.5 MB
In: serial
Out: serial
Err: serial

Booting from NOR flash.
Hit any key to stop autoboot: 0
## Starting application at 0x80000000 ...
Model: HHD-8650
Software Ver: MEO5 Build:2011.01.29
SYS: boot_option = 0
SYS: U-Boot check done
SYS: Load settings from EEPROM
IR remote is disabled!
-----
SYS: Standby...
op powon
ACK:POWON
-----
SYS: WarmUp Init...
SYS: Check environment
SYS: Ignite lamp ...

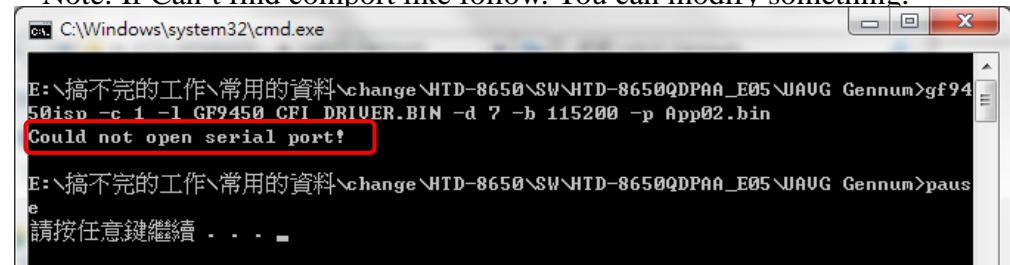
op dlgf
Turn off the lamp ...
SYS: Switch DB9 to Gennum
```

10. Close Tera Term, and select file to download.

And You'll see like follow.



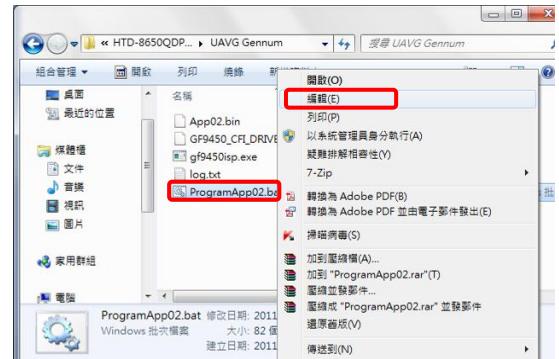
Note: If Can't find comport like follow. You can modify something.



First please check com port of your computer.  
And then you can modify something like follow.

Click Right key at mouse  
at “ProgramApp02.bat”

And choose “編輯”



You can modify like follow, the space is for setting Com port.

```
gf9450isp -c 3 -l GF9450_CFI_DRIVER.BIN -d 7 -b 115200 -p App02.bin
pause
```

#### 4.4 How To Download FORMATTER BD IC76

6. The unit is full set.
7. Connect RS-232. (Baud Rate is 9600)
8. Put file to flash Disk and plug into unit  
(The file name is must “dcffpga.bin”  
at root directory)



9. Plug in Power Cord.
10. You'll see some massage like follow

Key in “OP△BOOTOP△=△9 (△ is space)

```

COM3:9600baud - Tera Term VT
File Edit Setup Control Window Help

*****
* UAVG project uC board          *
* Boot version: 0.1.6            *
*****
Booting (may take some time)...

U-Boot 1.1.6 (May 17 2010 - 16:48:46)
U-Boot code: A1F80000 -> A1FA68A0 BSS: -> A1FEBF2C
DRAM: 32 MB
Flash: 4.5 MB
In: serial
Out: serial
Err: serial

Booting from NOR flash.
Hit any key to stop autoboot: 0
## Starting application at 0x80000000 ...
Model: HTD-8650
Software Ver: MDO4 Build:2011.03.22
SYS: boot_option = 0
SYS: U-Boot check done
SYS: Load settings from EEPROM
-----
SYS: Standby...

*****
```

```

* UAVG project uC board          *
* Boot version: 0.1.6            *
*****
Booting (may take some time)...

U-Boot 1.1.6 (May 17 2010 - 16:48:46)
U-Boot code: A1F80000 -> A1FA68A0 BSS: -> A1FEBF2C
DRAM: 32 MB
Flash: 4.5 MB
In: serial
Out: serial
Err: serial

Booting from NOR flash.
Hit any key to stop autoboot: 0
## Starting application at 0x80000000 ...
Model: HTD-8650
Software Ver: MEO5 Build:2011.01.29
SYS: boot_option = 0
SYS: U-Boot check done
SYS: Load settings from EEPROM
IR remote is disabled!
-----
SYS: Standby...

op bootop = 9
name=boot_option
argv[2]=9
Crc32=c8F0744F
Erasing Flash...
Writing to Flash...
done
ACK:BOOTOP = 9
```

When you see “ACK:BOOTOP = 9”, you can unplug power cord.  
And plug power cord again.

Don't do anything at this time.

```

*****
* UAVG project uC board          *
* Boot version: 0.1.6            *
*****
Booting (may take some time)...

U-Boot 1.1.6 (May 17 2010 - 16:48:46)
U-Boot code: A1F80000 -> A1FA68A0 BSS: -> A1FEBF2C
DRAM: 32 MB
Flash: 4.5 MB
In: serial
Out: serial
Err: serial

Loading uboot.bin from USB, and copy to internal flash.
Hit any key to stop autoboot: 2 █
```

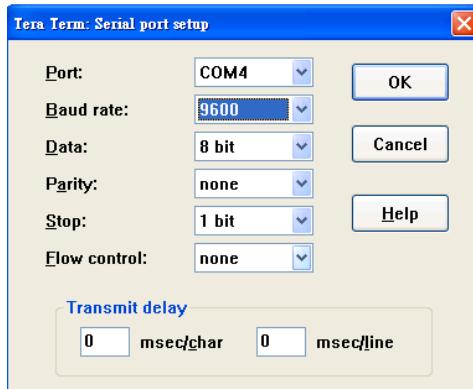
Wait about 110 second, you'll see like follow.

It means “Download OK”

```
*****  
* JAVG project uC board *  
* Boot version: 0.1.6 *  
*****  
Booting (may take some time)...  
U-Boot 1.1.6 (May 17 2010 - 16:48:46)  
U-Boot code: A1F80000 -> A1FA68A0 BSS: -> A1FEEB2C  
DRAM: 32 MB  
Flash: 4.5 MB  
In: serial  
Out: serial  
Err: serial  
  
Loading key3d.bin from USB, and copy to FPGA's flash.  
power on system  
Hit any key to stop autoboot: 0  
(Re)start USB...  
USB: scanning bus for devices... 2 USB Device(s) found  
scanning bus for storage devices... 1 Storage Device(s) found  
reading key3d.bin  
  
1484404 bytes read  
EEPROM @0x0 write: addr a0000000 off 0000 count 1484404 ... SPI_W addr=0x00000000, buf=0x00000000, Len=1484404 .....done  
stopping USB...  
  
EEPROM @0x0 read: addr a0200000 off 0000 count 1484404 ... done  
total of 1484404 bytes were the same  
## Starting application at 0x80000000 ...  
Model: M1U-8809  
Software Ver: M805 Build:2011.01.29  
SYS: boot_option = 9  
name=boot_option  
argv[2]=0  
Crc32=043F078C  
Erasing Flash...  
Writing to Flash...  
done  
SYS: U-Boot check done  
SYS: Load settings from EEPROM  
IR remote is disabled!  
  
SYS: Standby...
```

#### 4.4.4 How To Download Video BD U11

1. The unit is full set.
2. Connect RS-232. (Baud Rate is 9600)



3Put file to flash Disk and plug into unit  
(The file name is must “fefpga.bin” at root directory)



Plug in Power Cord.

5. You'll see some message like follow

```
COM2:9600baud - Tera Term VT
File Edit Setup Control Window Help
* Boot version: 0.2.3 (2011.11.02) *
*****
Booting (may take some time)...
U-Boot 1.1.6 (Nov 2 2011 - 09:19:43)
U-Boot code: A1F80000 -> A1FA65C4 BSS: -> A1FEB2C
DRAM: 32 MB
Flash: 128 MB
In: serial
Out: serial
Err: serial
Key in "OP\BOOTOP△=△10 (△ is space)"
```

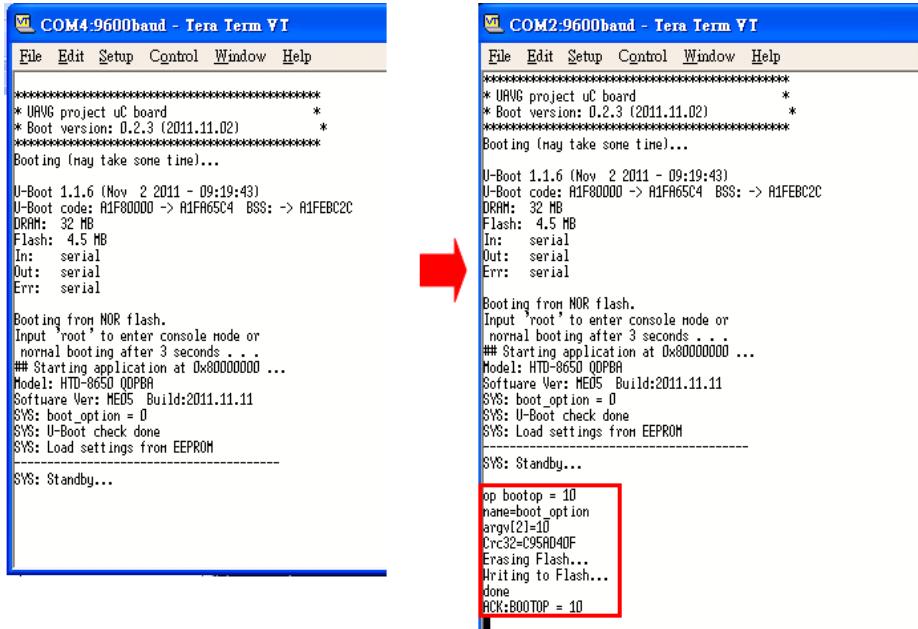
7695972 (0x756e64) bytes read
stopping USB.

SPI: write flash(offset=0x0 length=0x756e64) from addr 0xA0000000 ...
Flash detect: "M25P64" Size=8192KB (128 Sector)
Writing sector (0 to 117):117 done.

SPI: read flash(offset=0x0 length=0x756e64) to addr 0xA0800000 ...
memCmp: 0xa0000000 <-> 0xa0800000, len=0x756e64
Total of 7695972 bytes were the same.
## Starting application at 0x80000000 ...
Model: HTD-8650 QDPBA
Software Ver: MEOS Build:2011.11.11
SYS: boot\_option = 10
name=boot\_option
args[2]=0
Crc32=BD47R110
Erasing Flash...
Writing to Flash...
done
SYS: U-Boot check done
SYS: Load settings from EEPROM
-----
SYS: Standby...

When you see “ACK:BOOTOP = 10”, you can unplug power cord.  
And plug power cord again.

Wait few times, and then you’ll see some message



```

COM4:9600band - Tera Term VT
File Edit Setup Control Window Help
*****
* URCG project uC board *
* Boot version: 0.2.3 (2011.11.02) *
*****
Booting (may take some time)...
U-Boot 1.1.6 (Nov 2 2011 - 09:19:43)
U-Boot code: A1F80000 -> A1F65C4 B88: -> A1FEB2C
DRAM: 32 MB
Flash: 4.5 MB
In: serial
Out: serial
Err: serial

Booting from NOR flash.
Input 'root' to enter console mode or
normal booting after 3 seconds ...
## Starting application at 0x80000000 ...
Model: HTD-8650 QDPBA
Software Ver: MEOS Build:2011.11.11
SYS: boot_option = 0
SYS: U-Boot check done
SYS: Load settings from EEPROM
-----
SYS: Standby...

SYS: Standby...

```

```

COM2:9600band - Tera Term VT
File Edit Setup Control Window Help
*****
* URCG project uC board *
* Boot version: 0.2.3 (2011.11.02) *
*****
Booting (may take some time)...
U-Boot 1.1.6 (Nov 2 2011 - 09:19:43)
U-Boot code: A1F80000 -> A1F65C4 B88: -> A1FEB2C
DRAM: 32 MB
Flash: 4.5 MB
In: serial
Out: serial
Err: serial

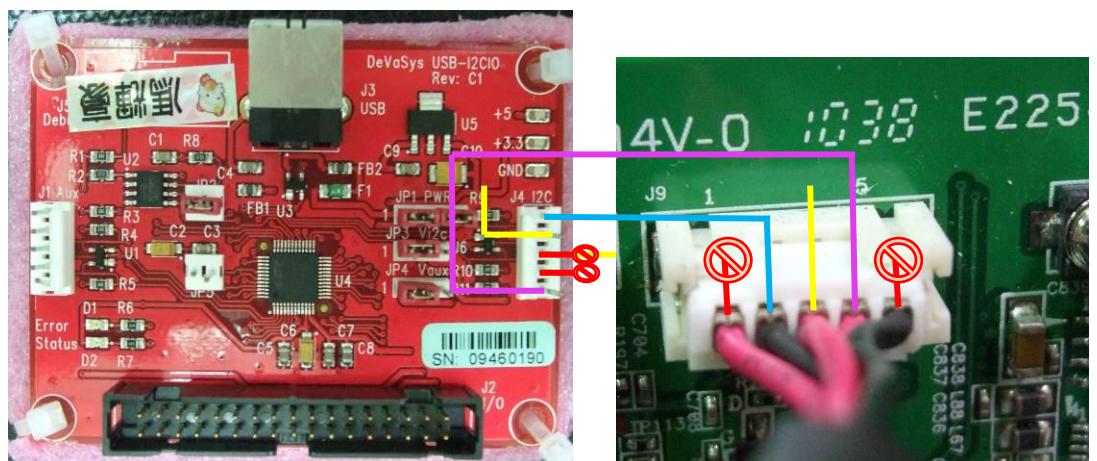
Booting from NOR flash.
Input 'root' to enter console mode or
normal booting after 3 seconds ...
## Starting application at 0x80000000 ...
Model: HTD-8650 QDPBA
Software Ver: MEOS Build:2011.11.11
SYS: boot_option = 0
SYS: U-Boot check done
SYS: Load settings from EEPROM
-----
SYS: Standby...
op bootop = 10
name=boot_option
argv[2]=10
Crc32=C95B040F
Erasing Flash...
Writing to Flash...
done
ACK:BOOTOP = 10

```

It means “Download OK”

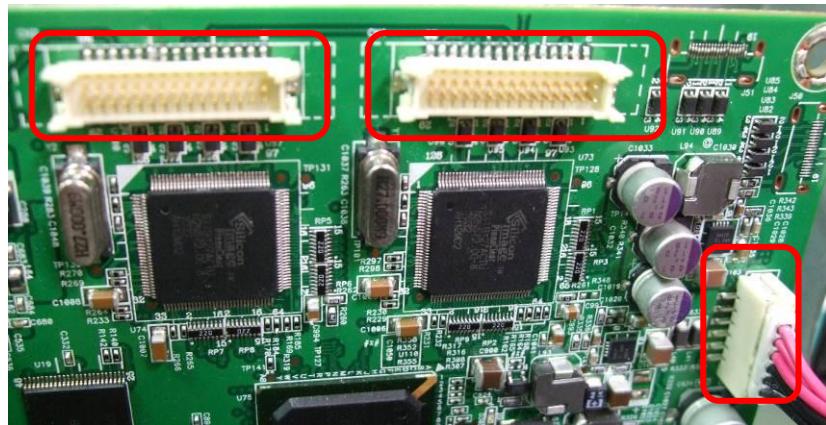
## 4.5 How To Download FORMATTER BD U18/U19

### 1. Make Jig

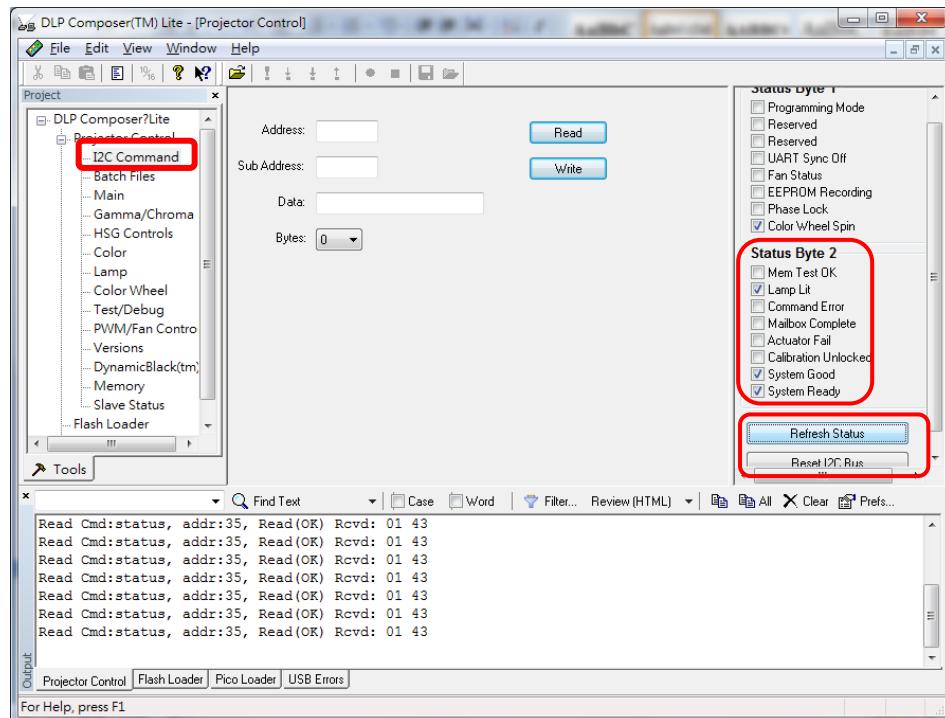


Remove CN1 & CN2

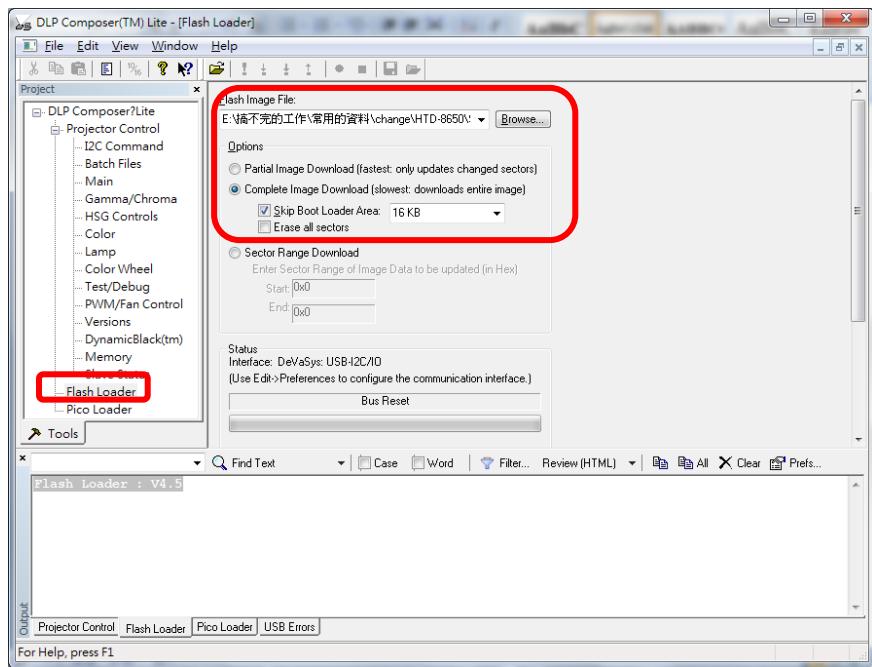
And Check J6 Pin1,2,3 is 12V, Pin4,5,6 is GND.



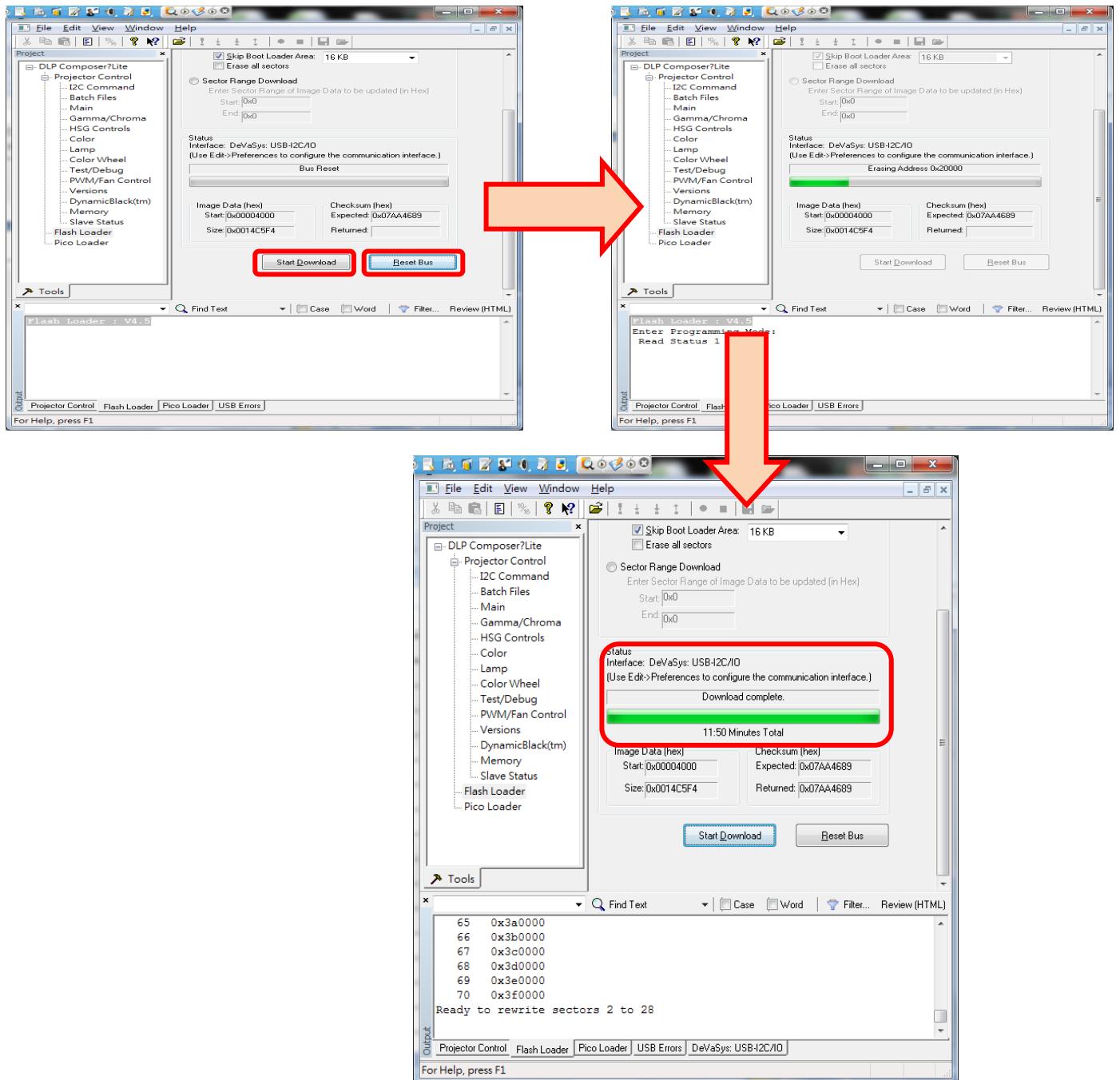
Run DLP Composer and check state.



If state is fine  
click “Flash Loader”  
select file



Click “Reset Bus”  
Click “Start Download”



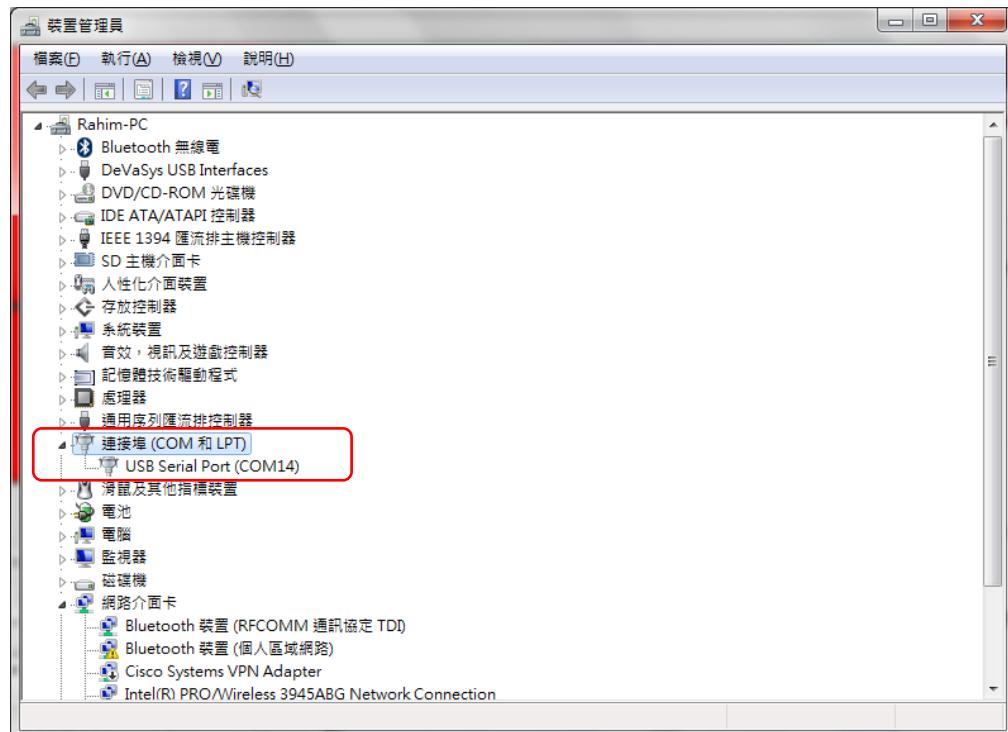
#### 4.6 Ballast Download



First, please prepare Philp Ballast Download Jig.

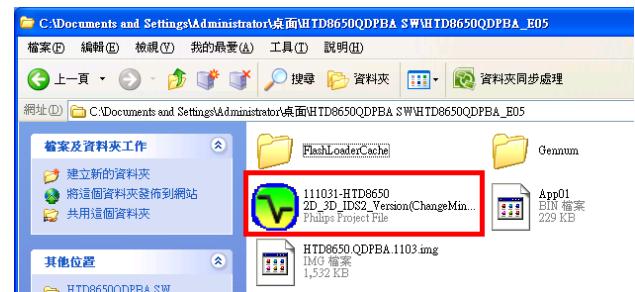
USB Port connect to PC , another way connect to ballast.

You can find com port in your PC, when you plug in USB

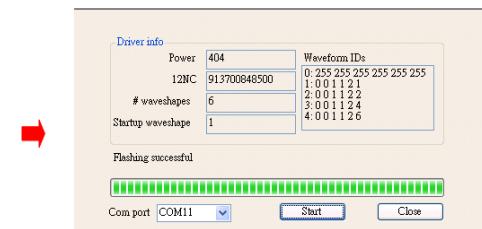
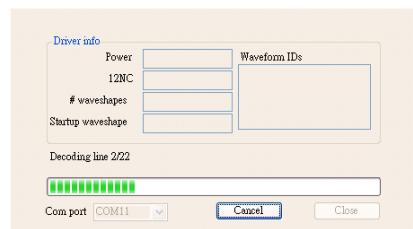
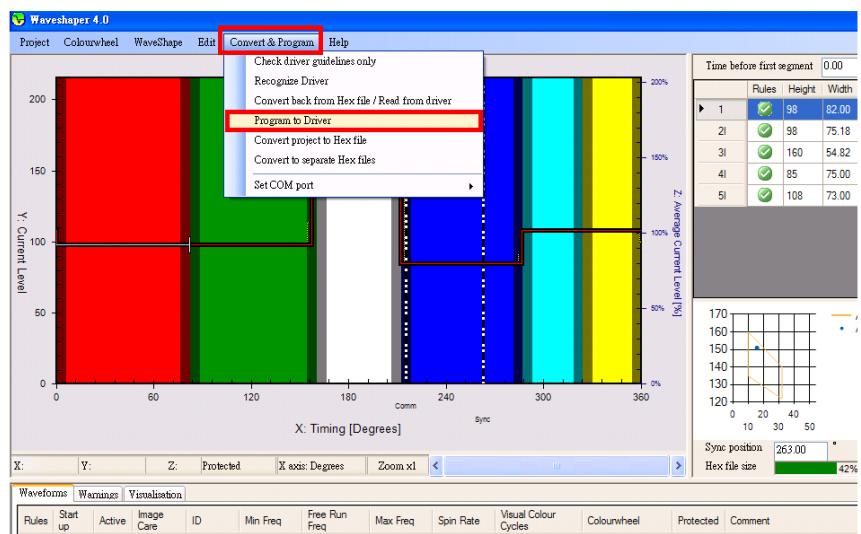


The PC need install “Waveshaper4.0”.

Double Click the file what you want.

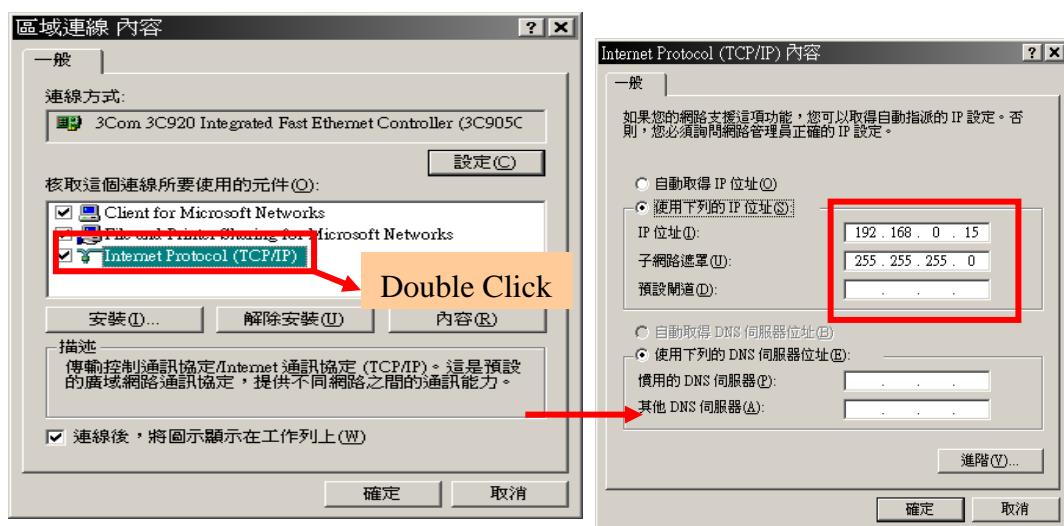


Click “Convert & Program” and Click “Program to Driver”



#### 4.7 Firmware download procedure for RJ-45(Micro Control BD) IC315

1. Connect the AC power of the projector and power on projector
2. Connect the RJ-45 cable between the projector and the PC.  
And make sure that the two LEDs of the RJ-45 module are lit after connecting the RJ-45 cable between the PC and the projector.
3. Properly setup the IP for the PC and make sure that the PC and the projector are in the same subnet. For example, the default IP of the projector is 192.168.0.100.
4. So the IP of the PC should be set as 192.168.0.15 for example.



4. Key in the projector IP on the web browser (the recommended web browser is IE 6.0 or later version, the default IP is 192.168.0.100) to see the embedded webpage.



5. Make sure the DHCP is “Disable”, if current state is “Enable”, switch it to “Disable” and click “Save” button to save the setting.

The screenshot shows a configuration interface titled "IP Configuration". It has a table for "MANUAL ADDRESS" with the following data:

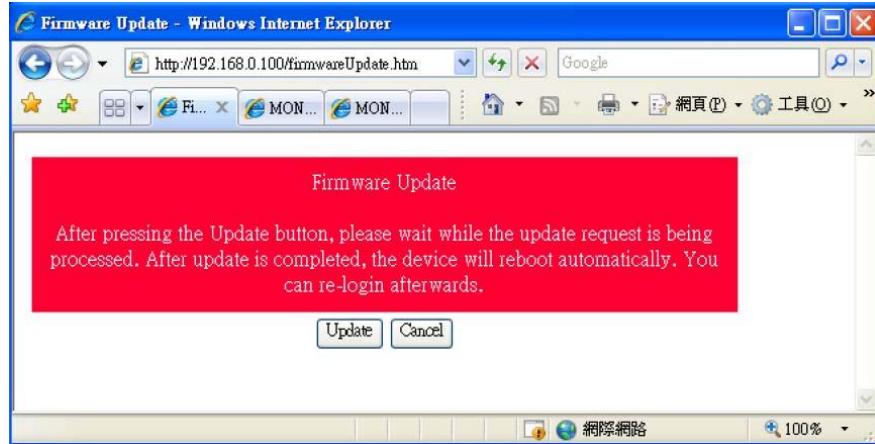
MANUAL ADDRESS	
IP Address:	192 . 168 . 0 . 100
Subnet Mask:	255 . 255 . 255 . 0
Default Gateway:	192 . 168 . 1 . 254
DHCP Client	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
Firmware Version:	[TGI_FW_VERSION]

Below the table is a "Save" button.

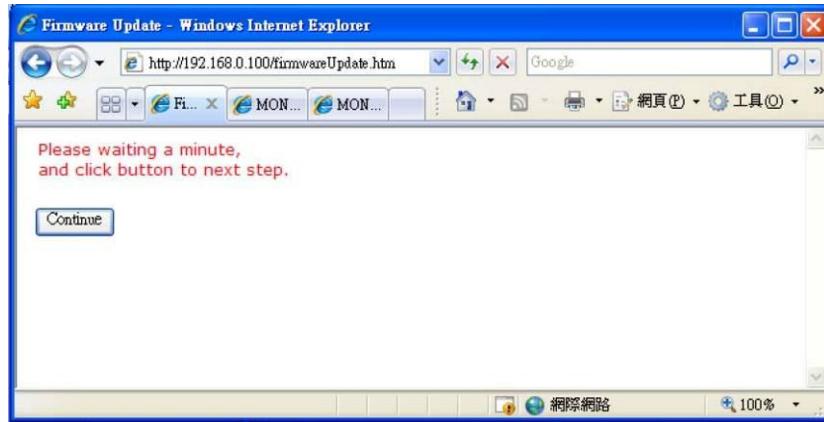
6. Key in the IP address and followed by “/firmwareUpdate.htm” on the URL box as below to activate the firmware update procedure

<http://192.168.0.100/firmwareUpdate.htm>

And click the “Update” button to start the firmware upgrade process.



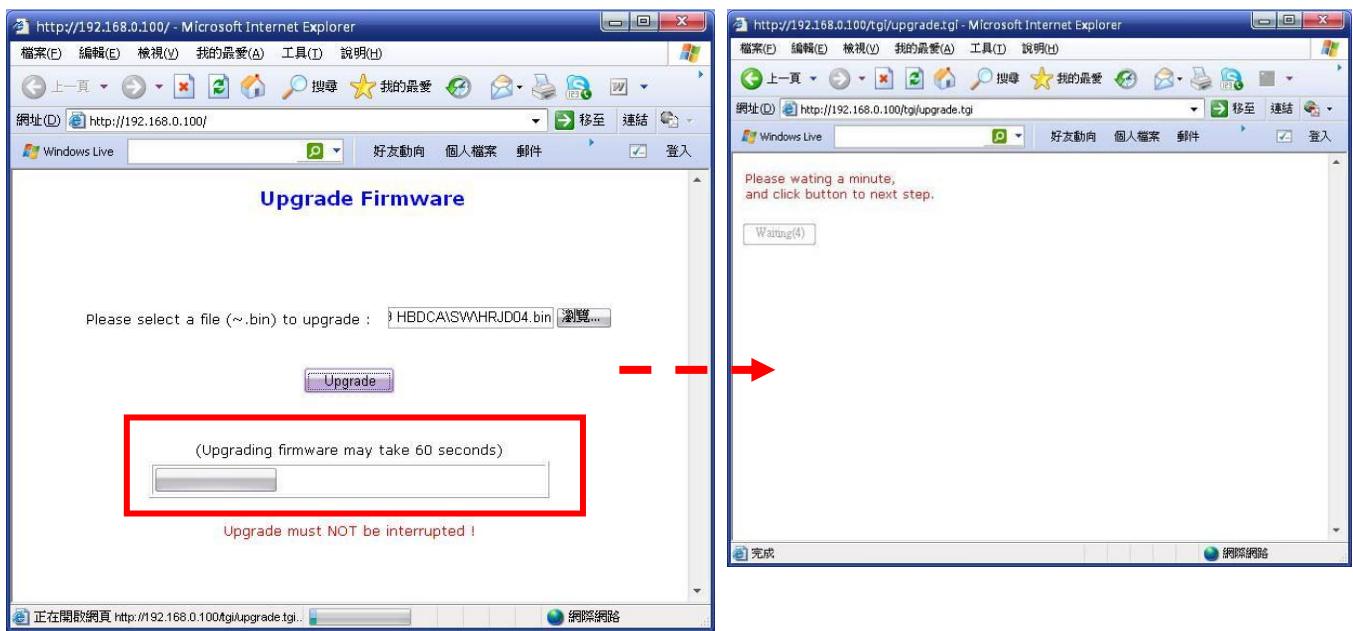
7. The following message will be shown on the display, click “Continue” button to proceed



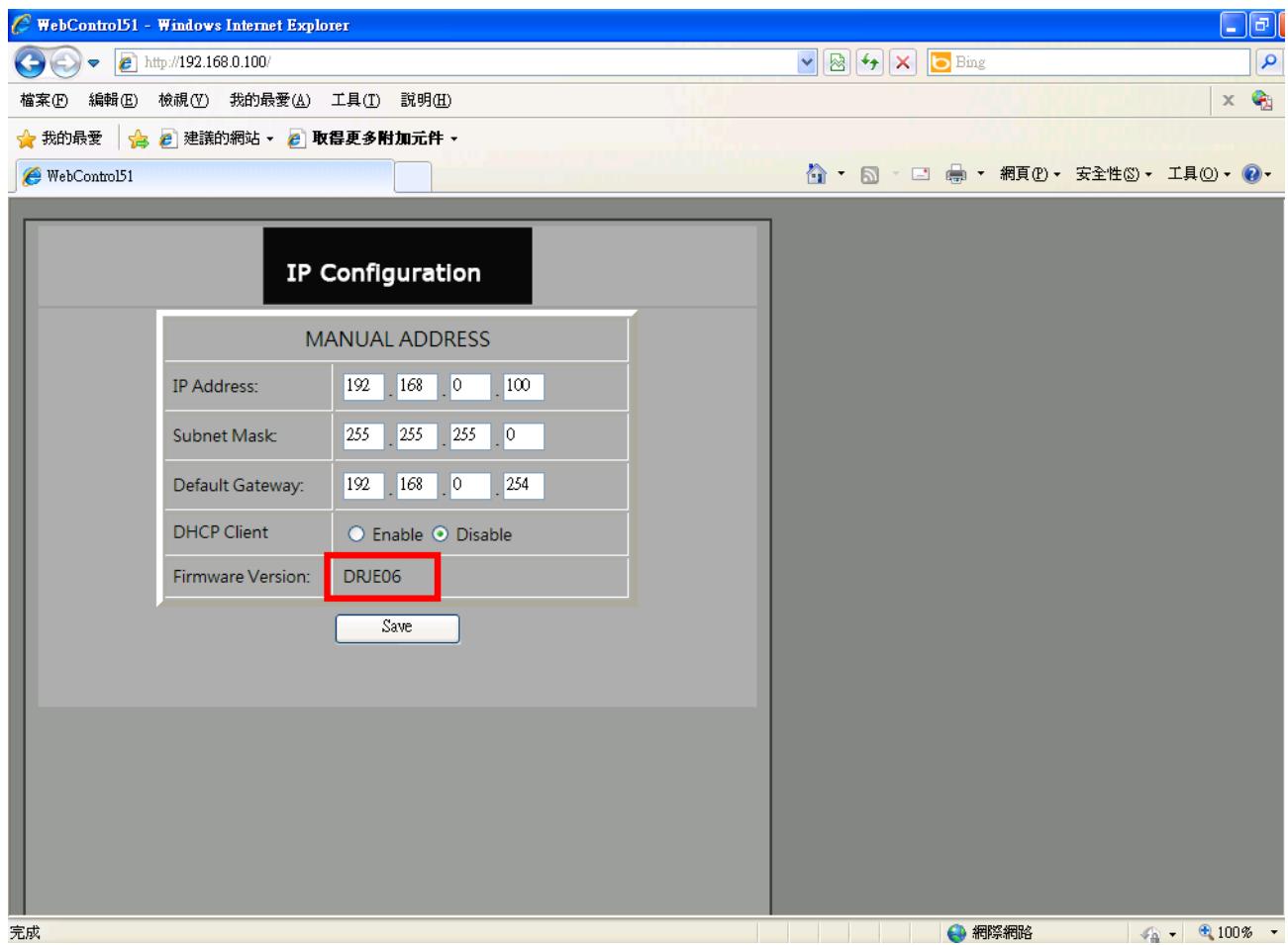
8. Press the “Browse” button and locate the firmware (binary code) to be upgraded. Then press the “Upgrade” button to proceed the download process.



9. Wait until the firmware upgrade process finished.



10. Wait about 10 sec, you can connect “192.168.0.100”.  
When It show that is right version, it download OK



## 5. Key Module Disassembly and Replacement

### (M-Vision CINE 400-3D)

#### ● TOP COVER MODULE

Step 1: Put the projector on the table.



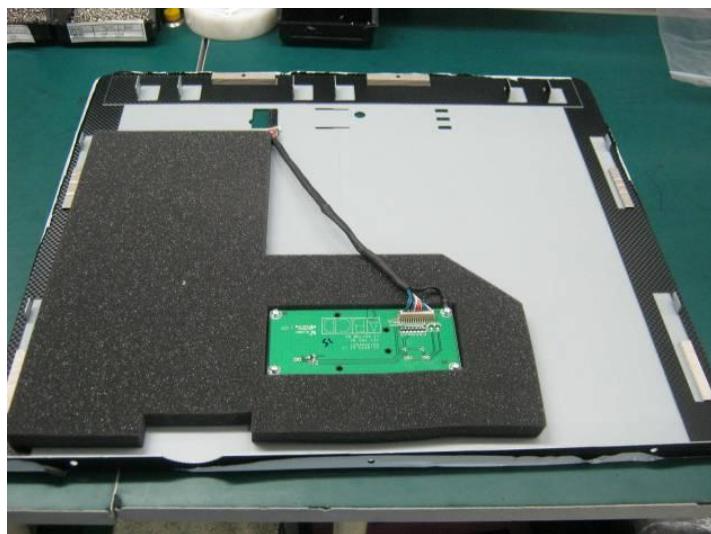
Step 2: Loosen 3 pcs screws on the rear side of Top cover.



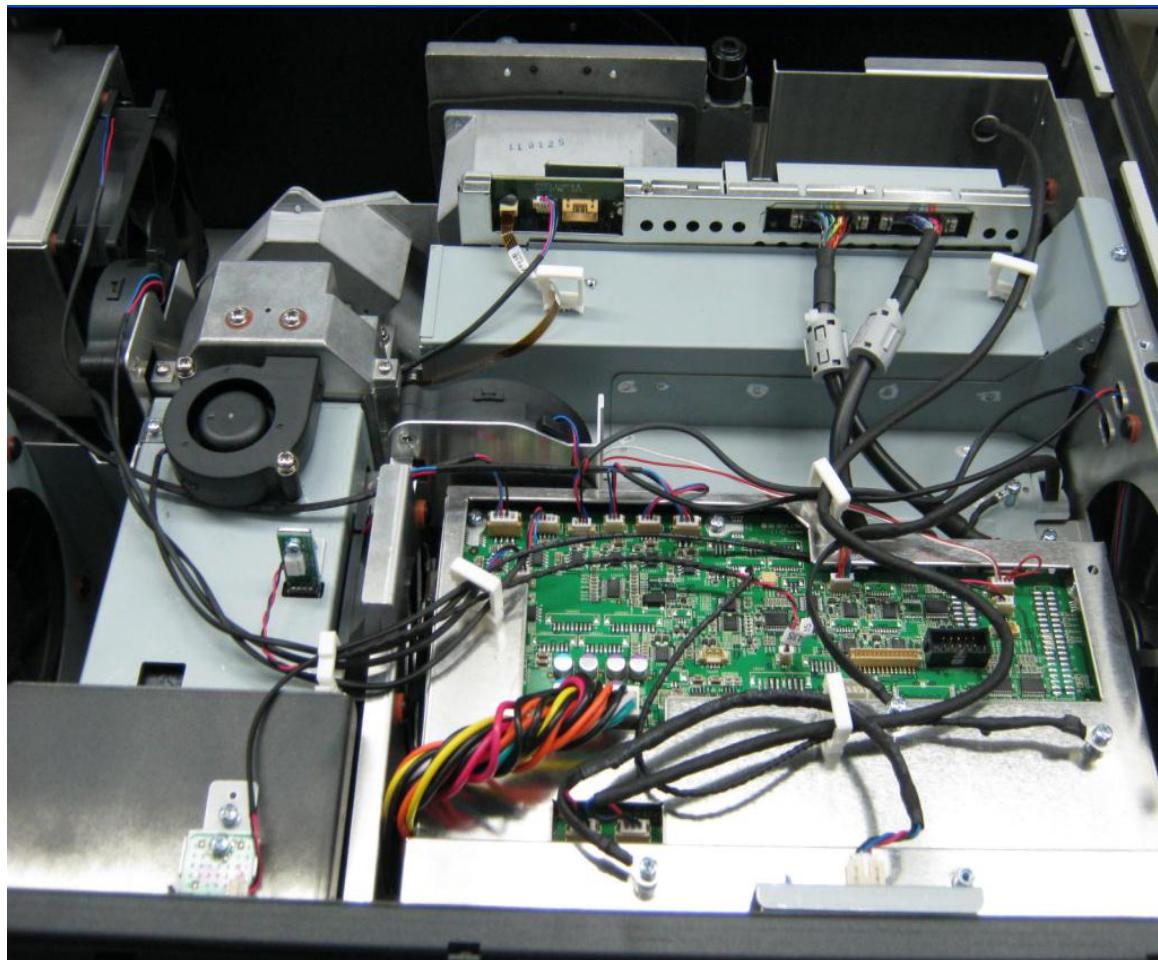
Step 3: Open the top cover and unplug the keypad connector.



Step 4: Take off the top cover to put on the table.

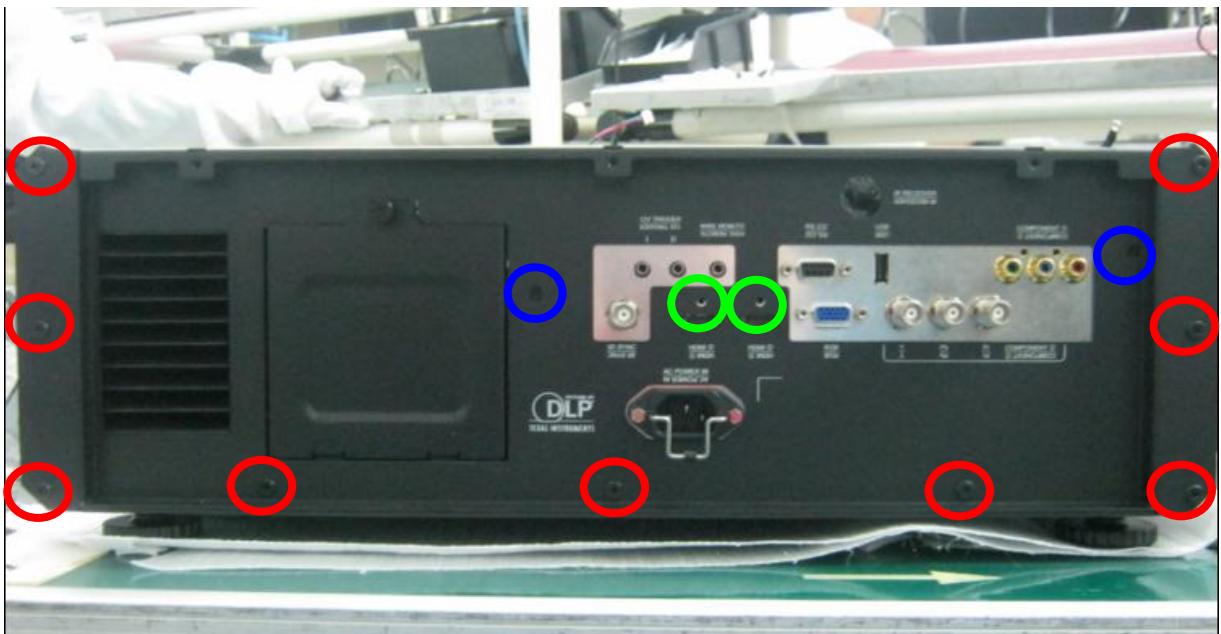


Step 5: Confirm the every connector position and wire dressing from the projector.

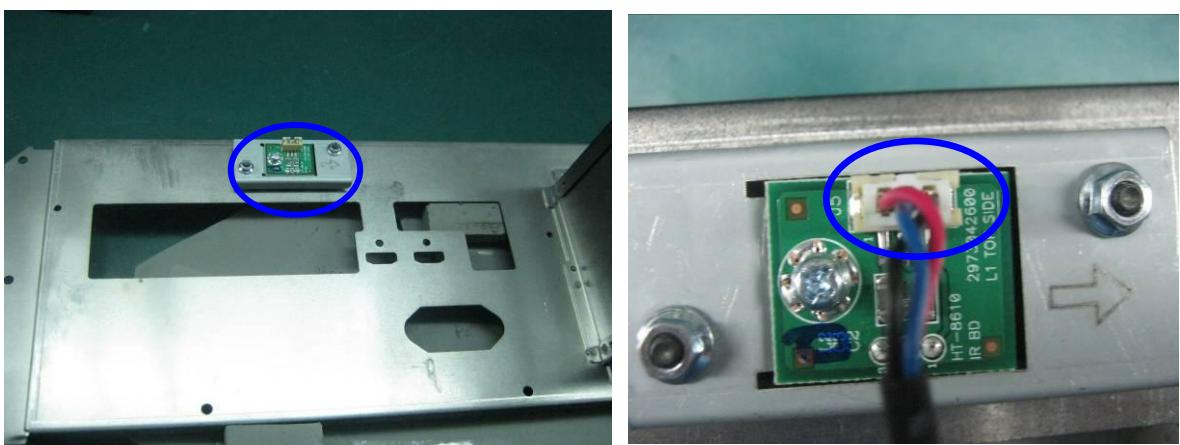


## ● BACK COVER MODULE

Step 1: Loosen 13 pcs screws on the rear cover.



Step 2: Unplug the rear IR connector from rear cover.



Step 3: Take off the rear cover to put on the table.



## ● LEFT COVER MODULE

Step 1: Loose the 7 pcs screws on the left side cover.

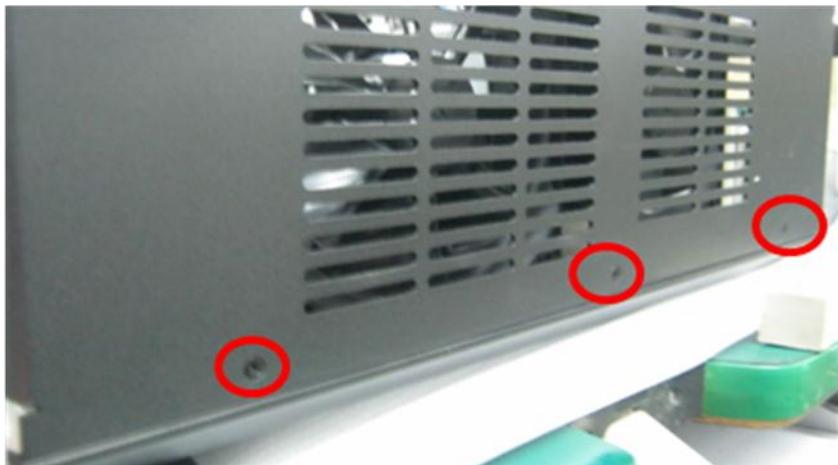


Step 2: Take off the left side cover.



## ● RIGHT COVER MODULE

Step 1: Loose the 3 pcs screws on the right side cover.

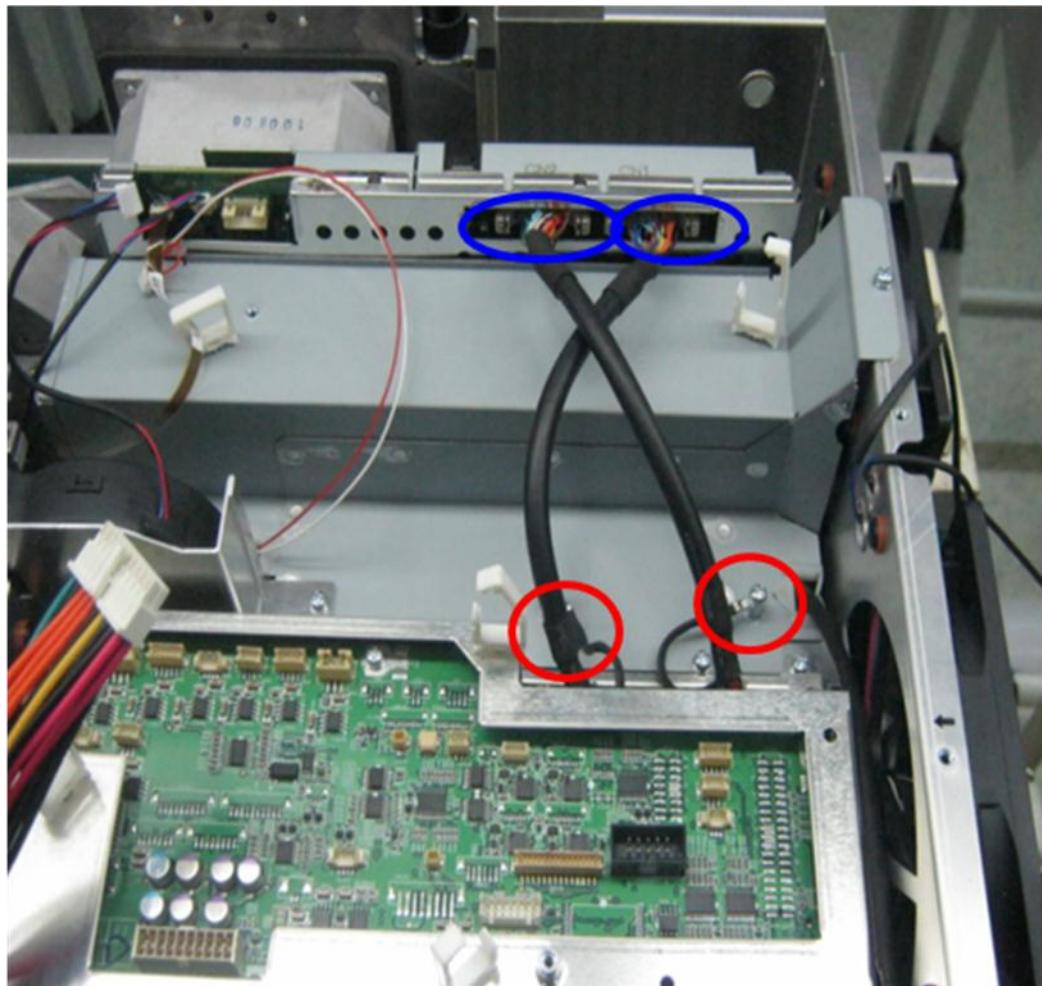


Step 2: Take off the right side cover.

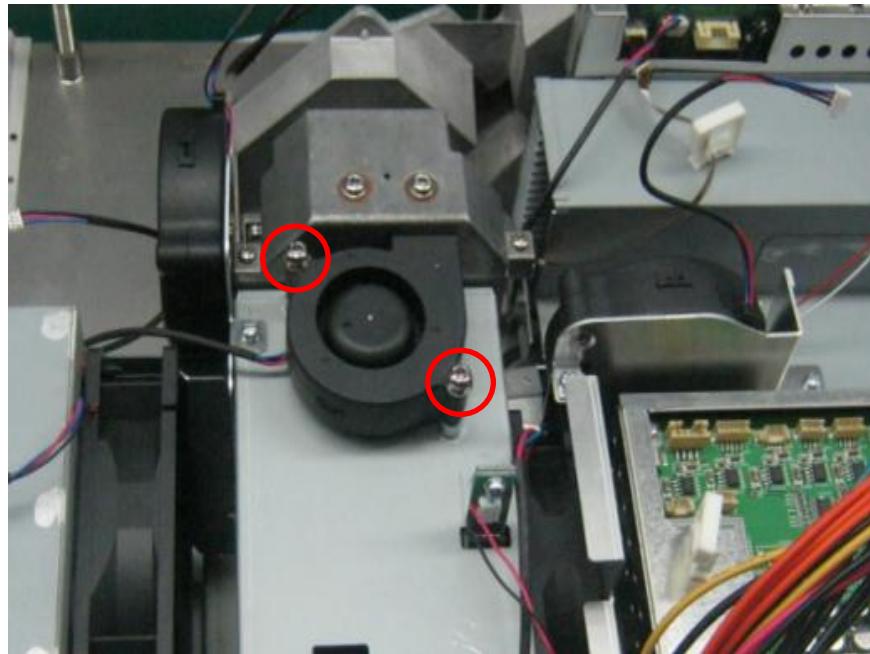


- **CONTROL MODULE (Control Board & Video Board)**

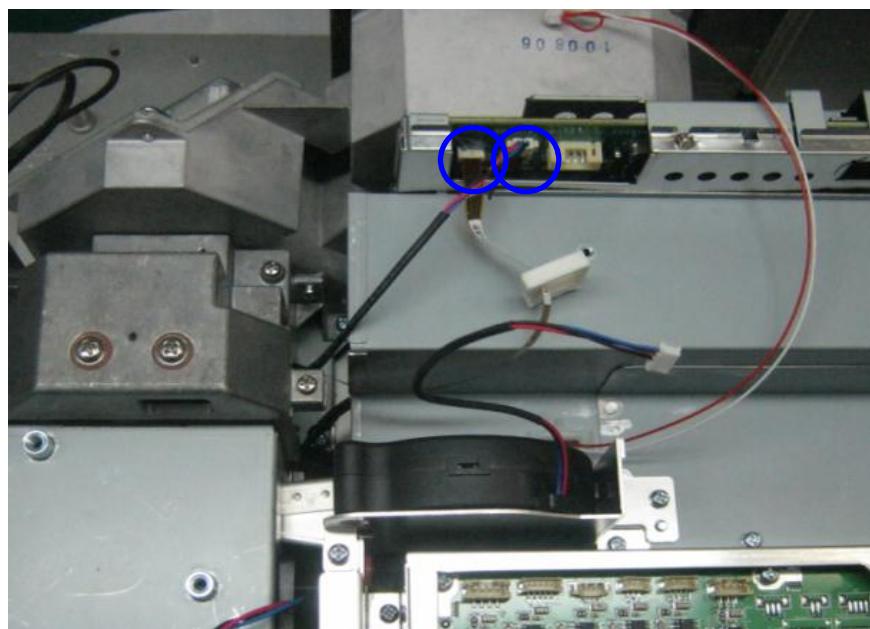
Step 1: Loose the 2 pcs grounding screws on the bracket. And, then unplug 2 pcs connectors from the DMD board.



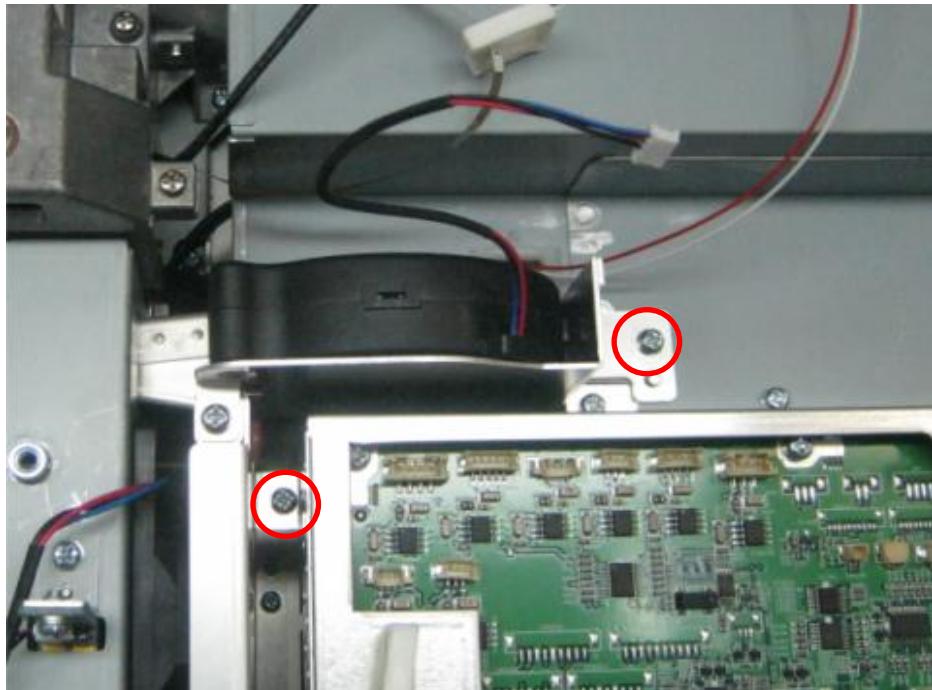
Step 2: Loose the 2 pcs grounding screws on the Fan6 and take off it.



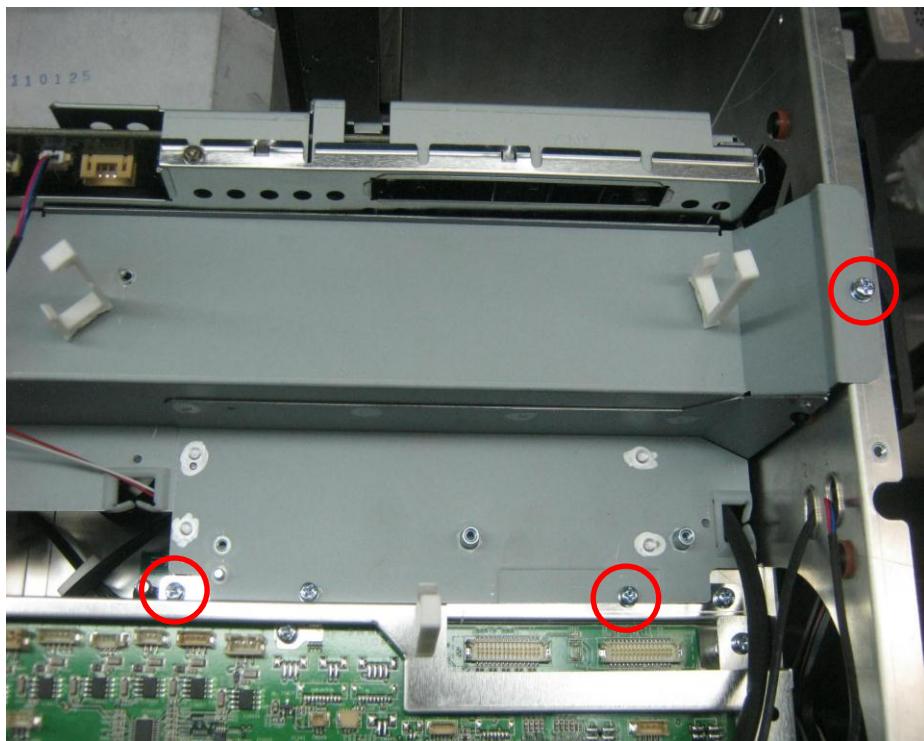
Step 3: Unplug 2 pcs connectors form DMD board.



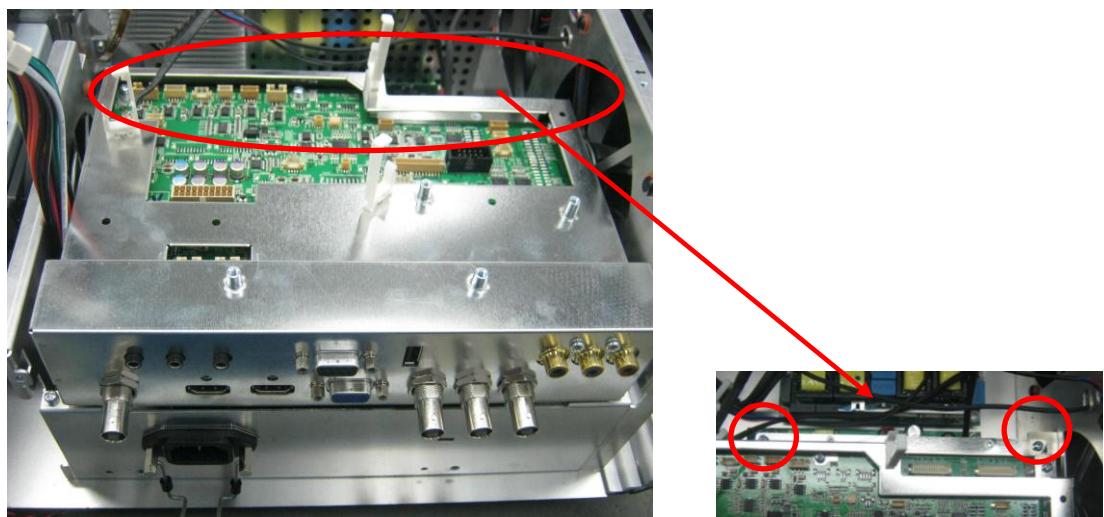
Step 4: Loose the 2 pcs screws on the control module.



Step 5: Loose the 3 pcs screws on the control module and bracket.



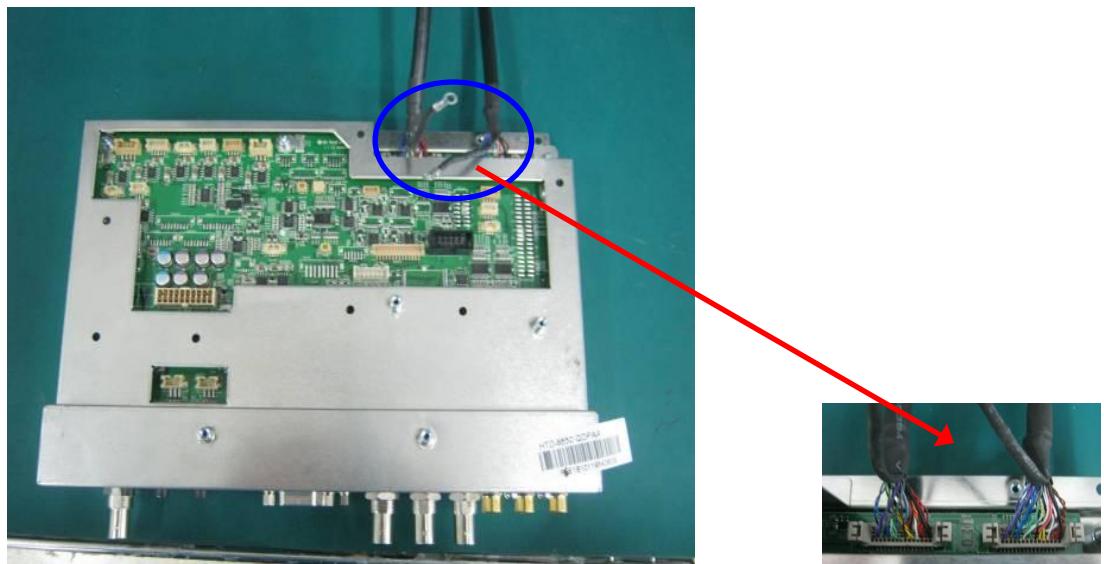
Step 6: Loose the 2 pcs screws on the control module and bracket.



Step 7: Take off the control module.



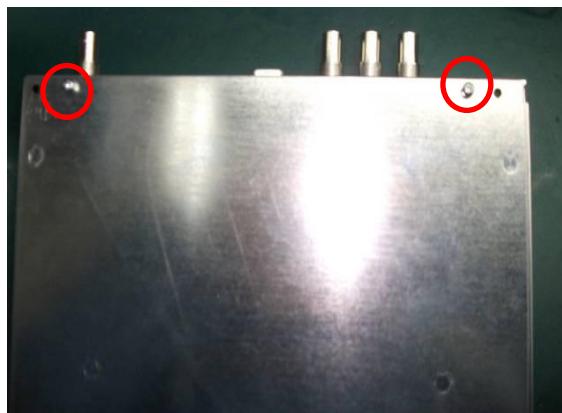
Step 8: Unplug 2 pcs connectors from the control module.



Step 9: Loose the 10 pcs screws on the I/O terminals of control module.



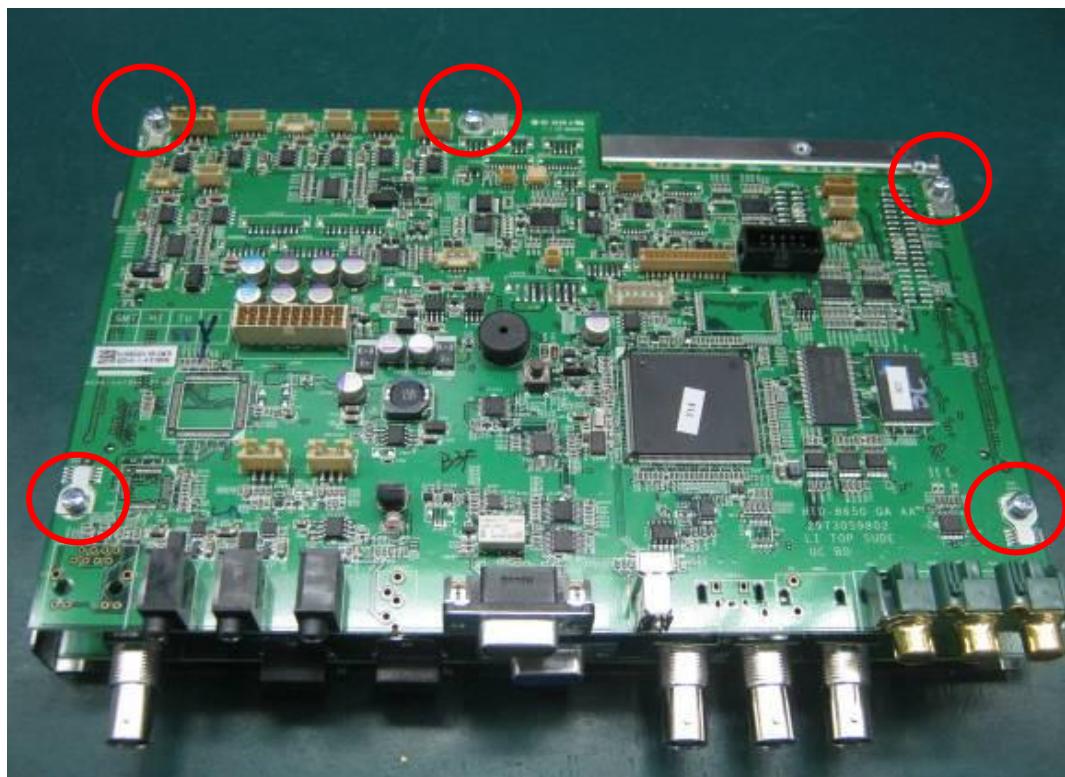
Step 10: Loose the 2 pcs screws on the bottom of control module.



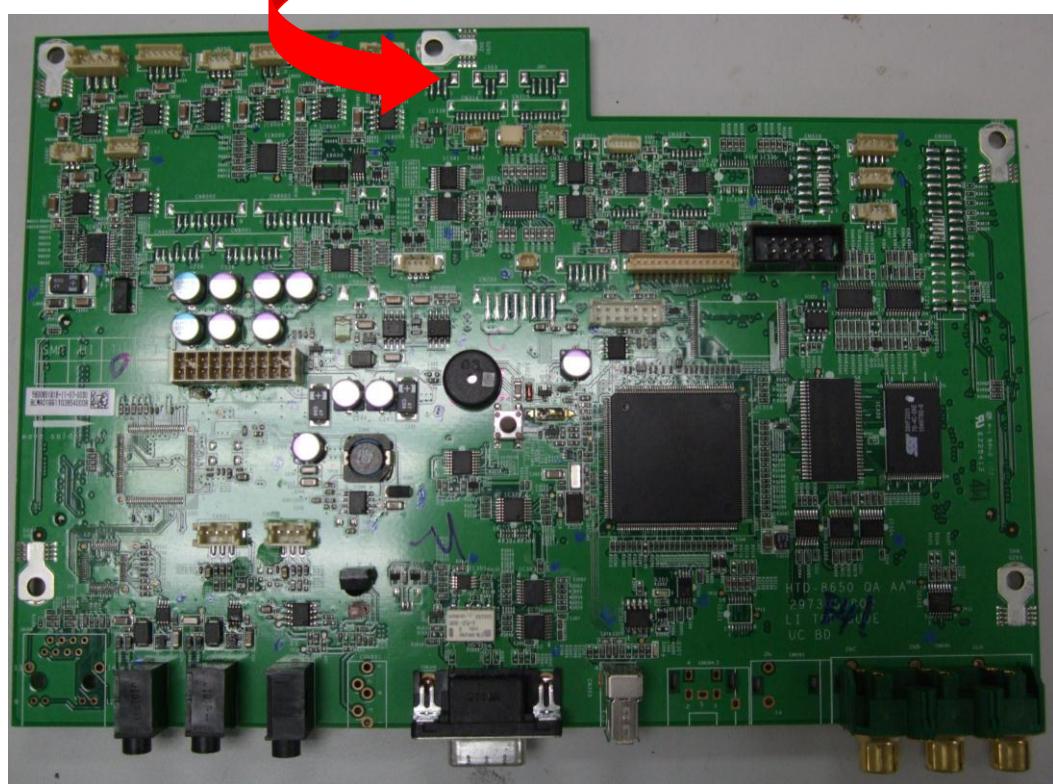
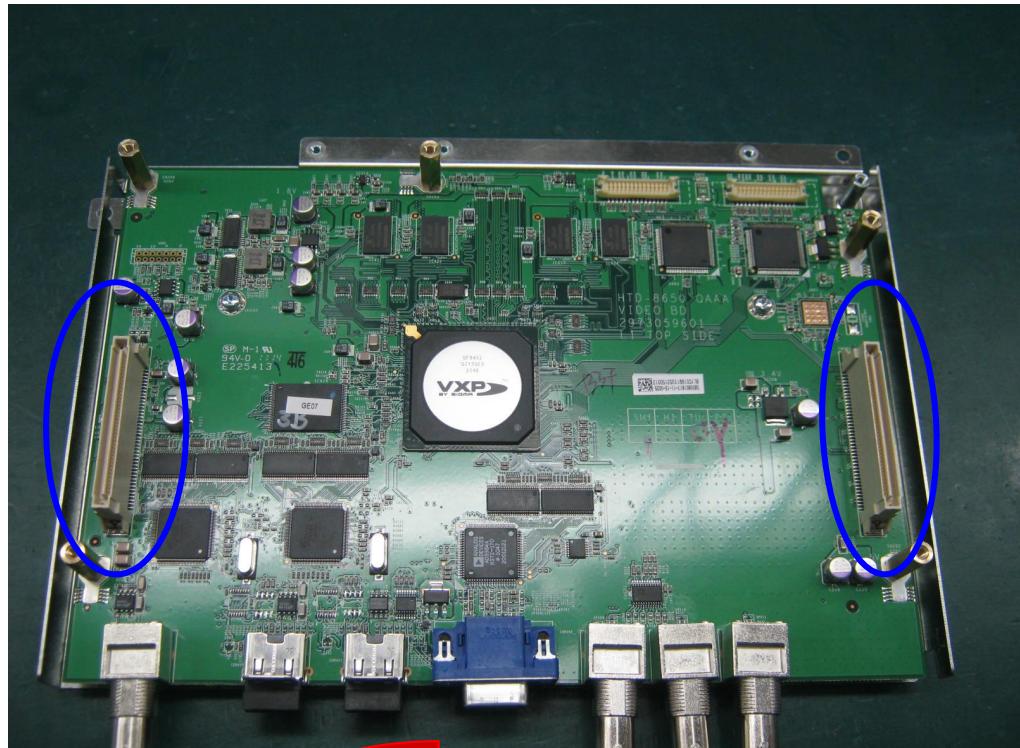
Step 11: Loose the 2 pcs screws on the control module.



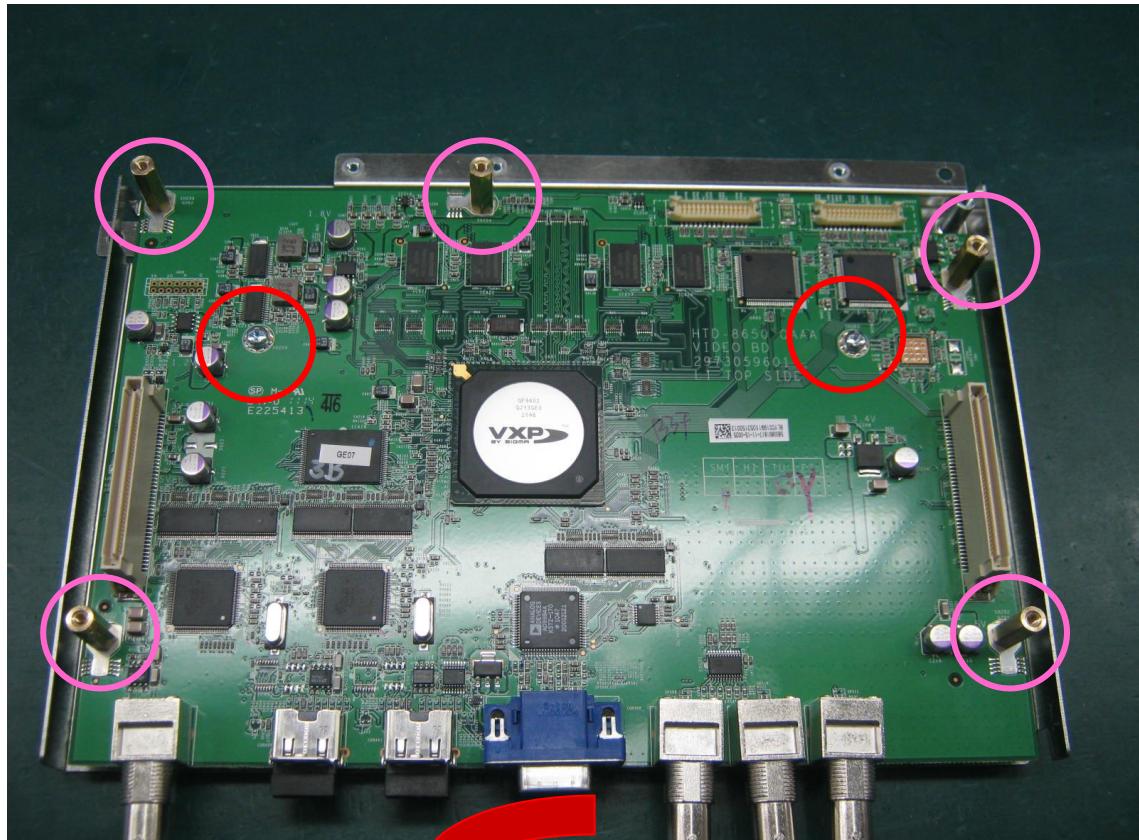
Step 12: Loose the 5 pcs screws on the control module.



Step 13: Take off the control board from video board. Please kindly be carefully board to board connectors.

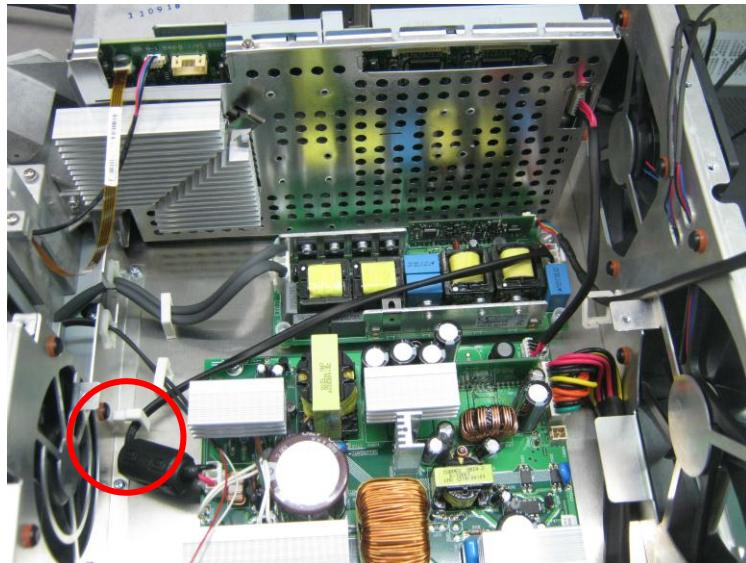
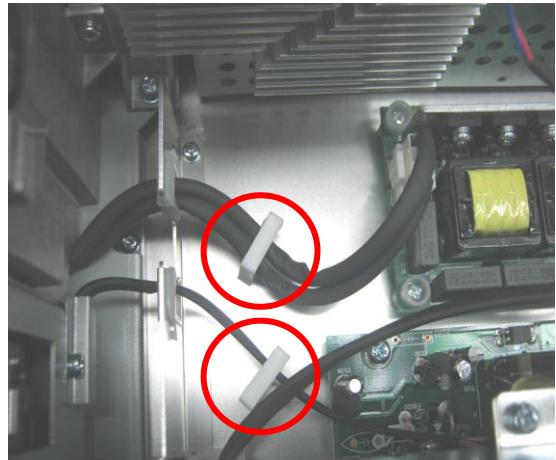
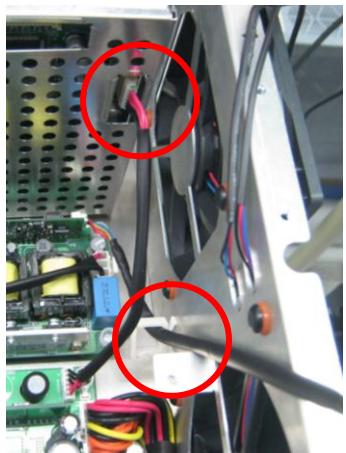


Step 14: Loose the 5 pcs inner hexagon screws and 2 pcs screws on the video board. And, then take off the video board.

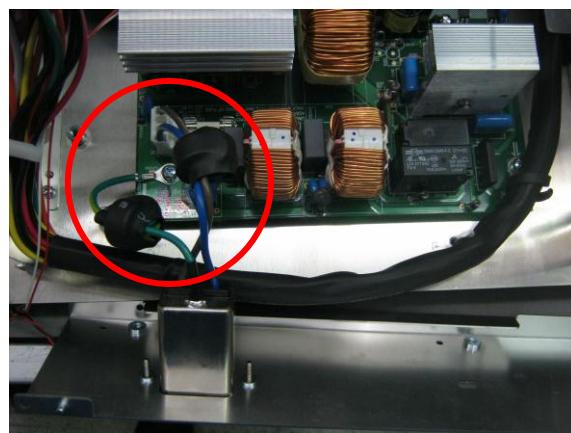
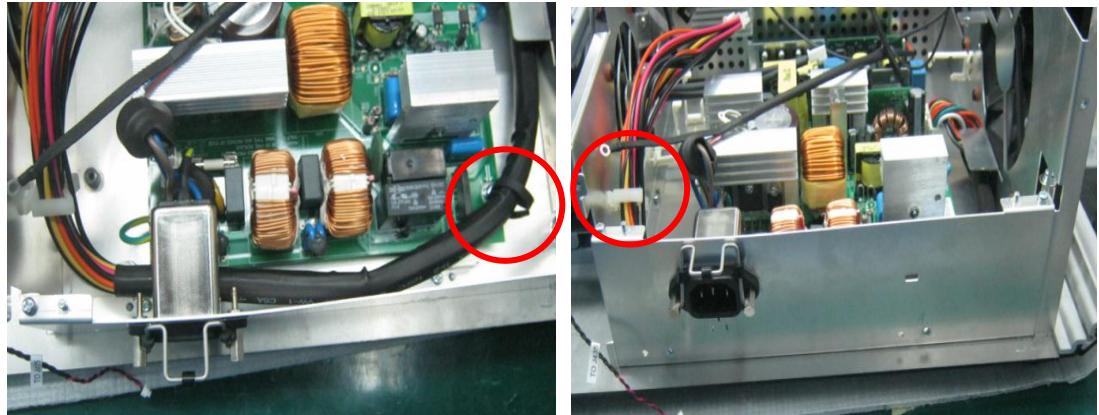


## ● POWER & BALLAST

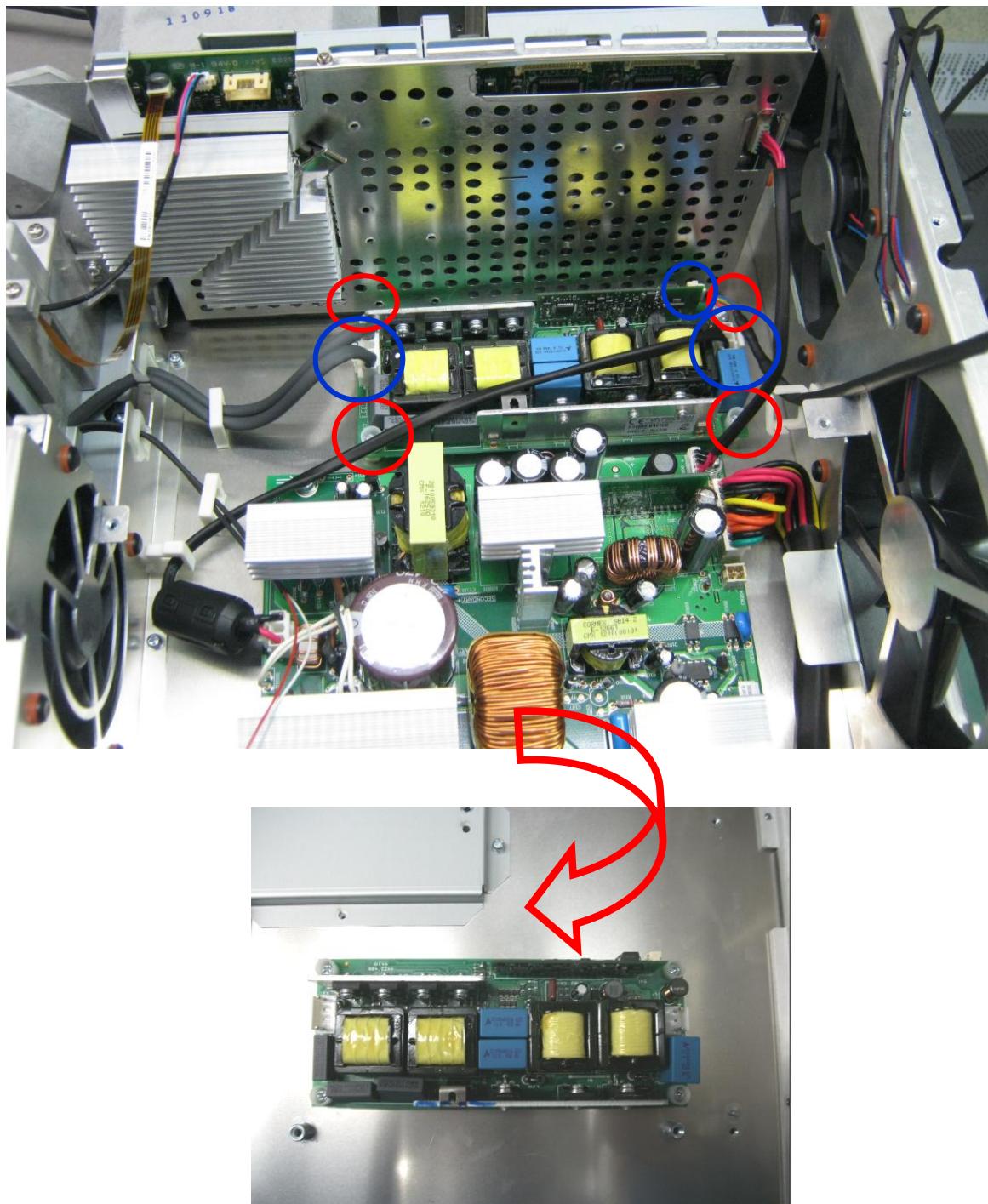
Step 1: Confirm the every wire buckle before taking off the power and ballast board.



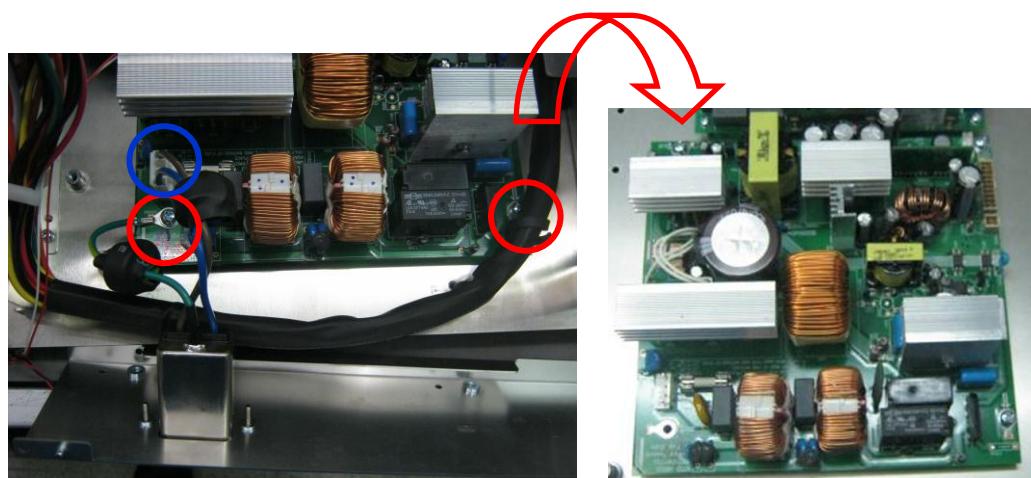
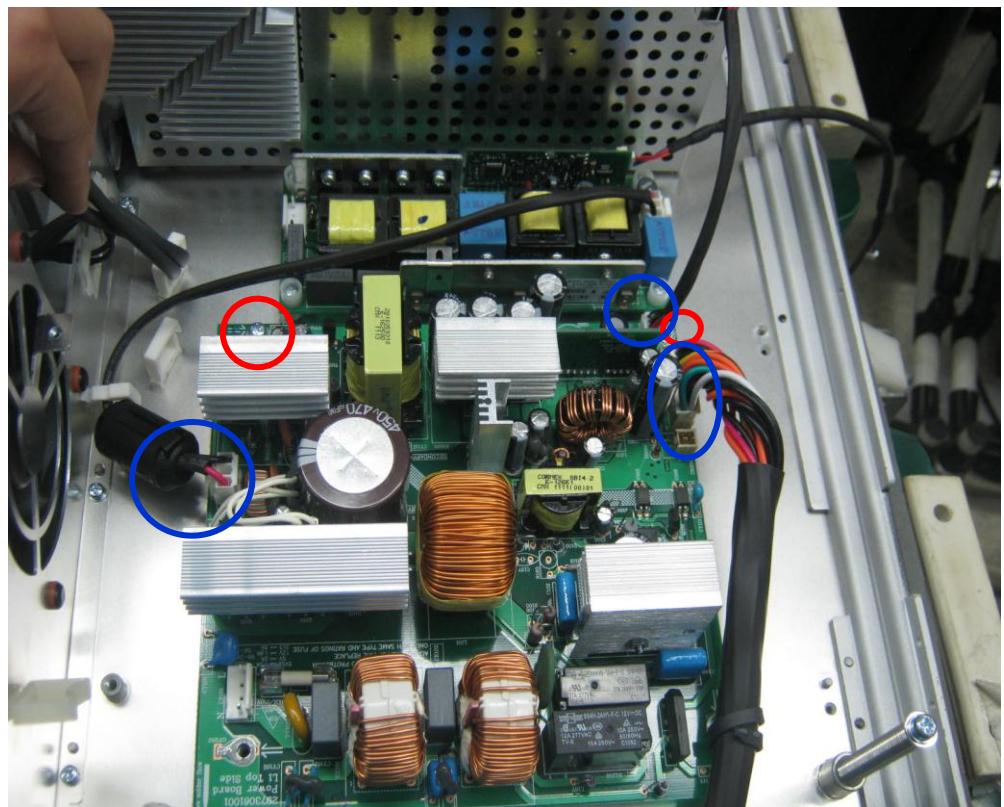
Step 2: Confirm the every wire buckle before taking off the power and ballast board.



Step 3: Loose the 4 pcs screws and unplug 3 connectors to take off the ballast.

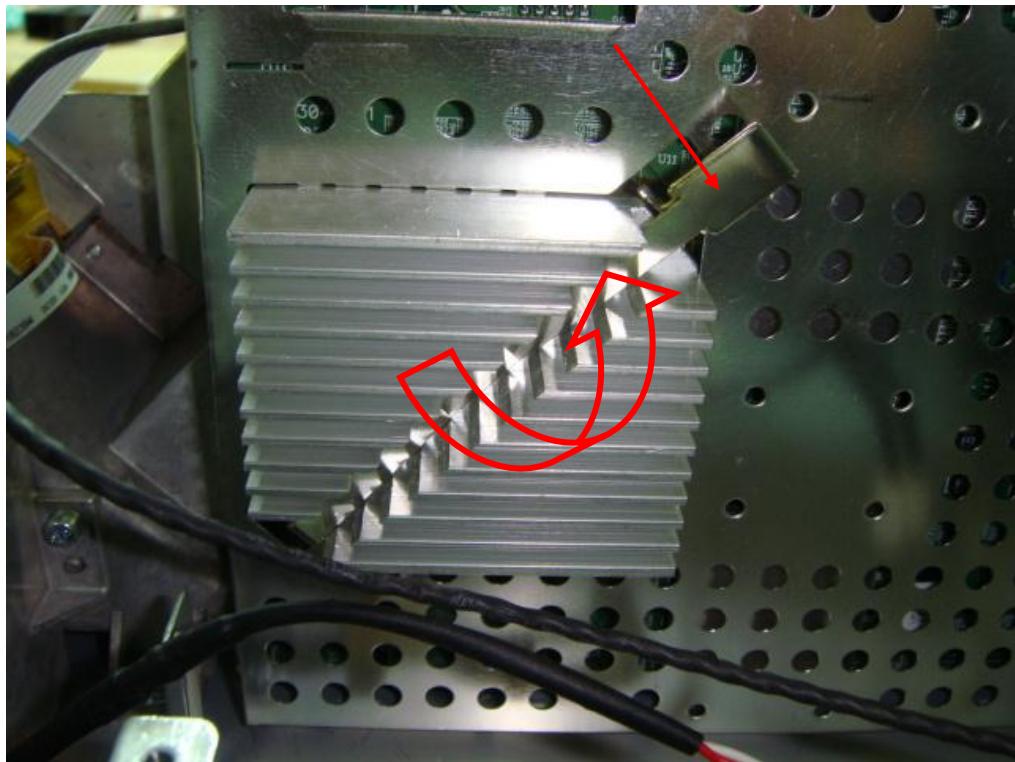


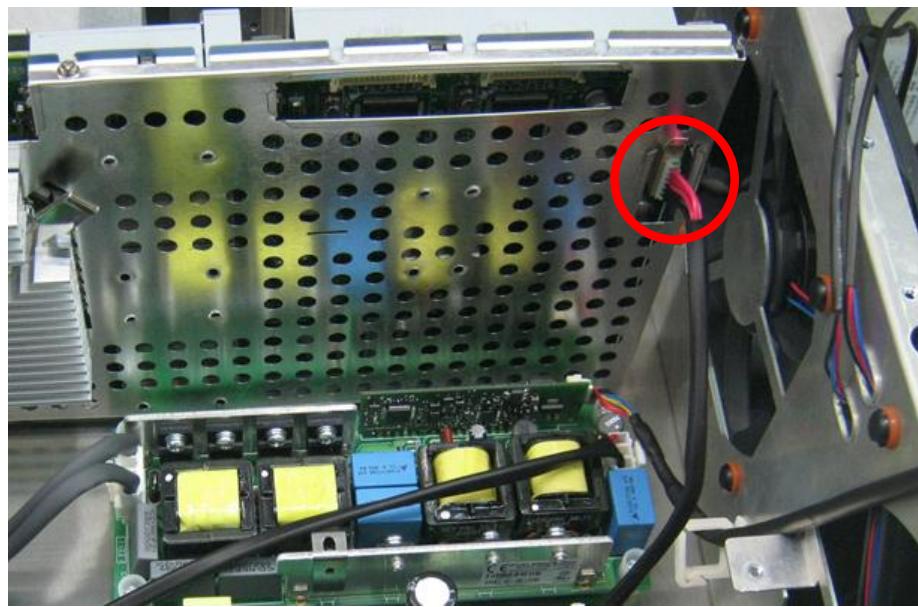
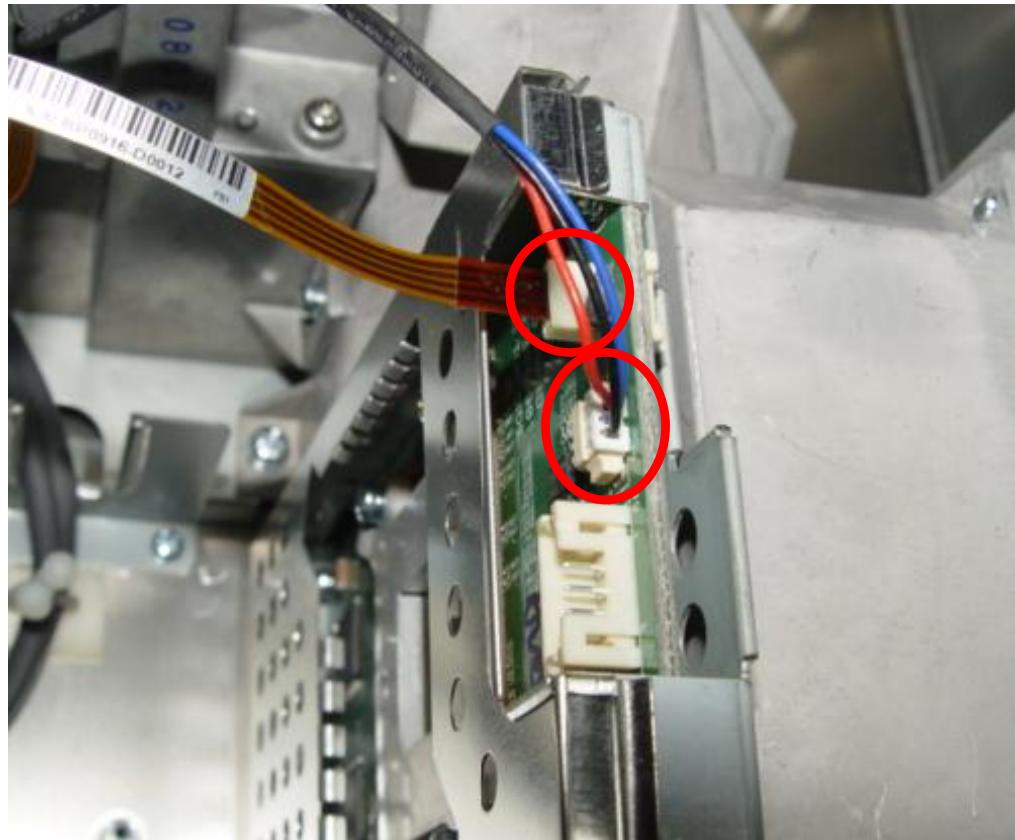
Step 4: Loose the 4 pcs screws and unplug 4 connectors to take off the power board.



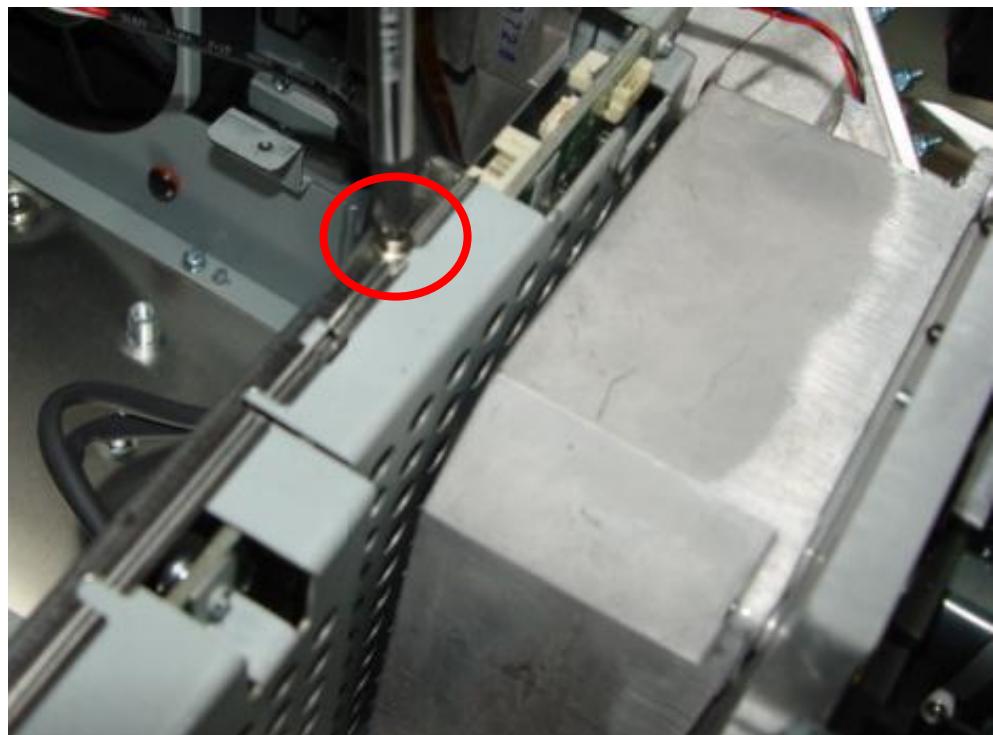
## ● DMD BOARD

Step 1: Pull out the iron latch and unplug 3 connectors.

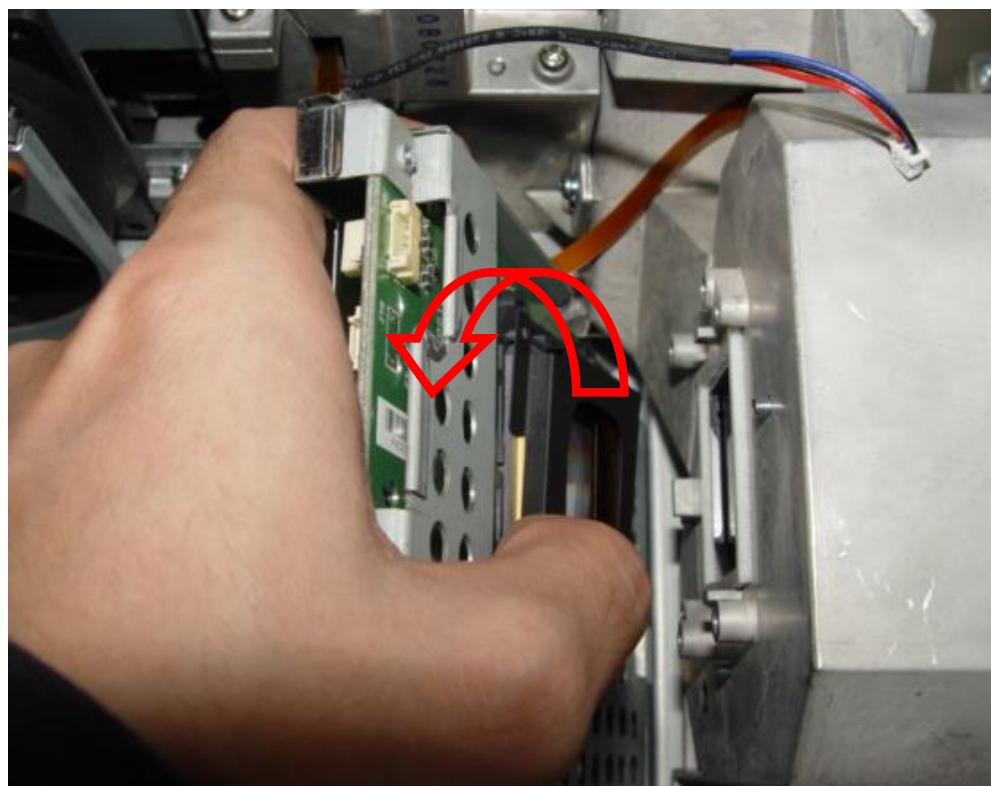
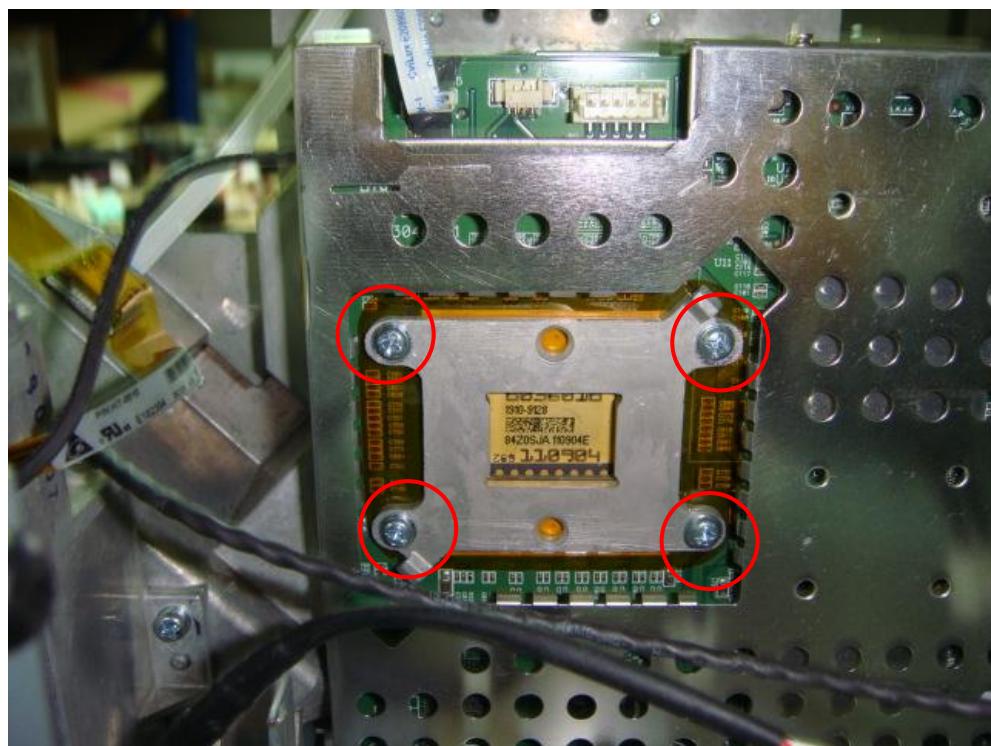




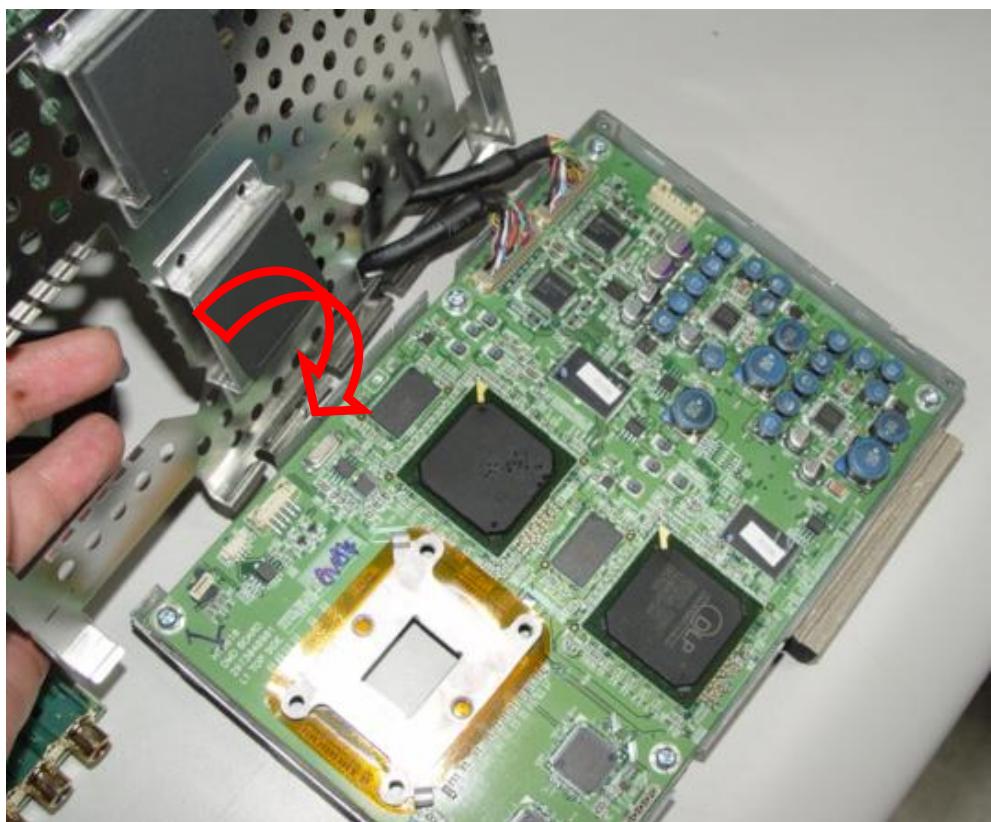
Step 2: Loose 1 screw on DMD Board Module.



Step 3: Loose 4pcs screws of DMD BOARD ASSY, and then take out DMD BOARD ASSY.



Step 4: Take DMD Module cover out and remove it.



Step 5: Loose 6pcs screws and unplug 2 connectors to take out DMD board.

