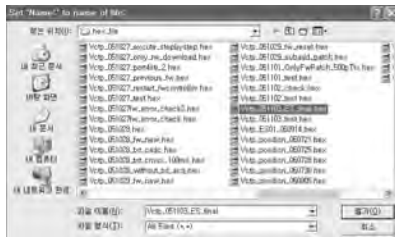
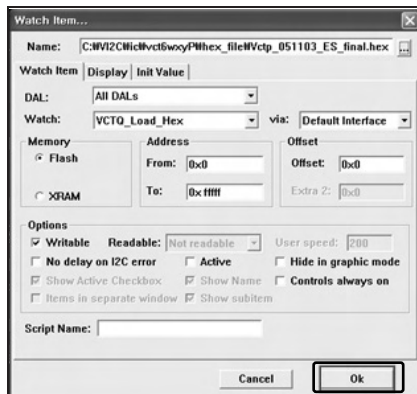


- 9) Choose the Hex file in folder and execute downloading with click "open button".



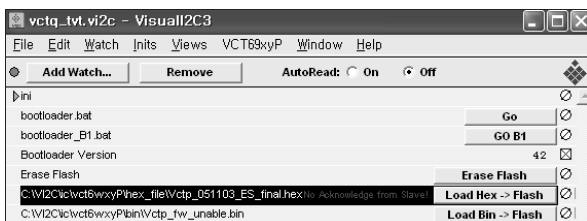
- 10) Click OK button at the "edit window"



- 11) Under Downloading progress.

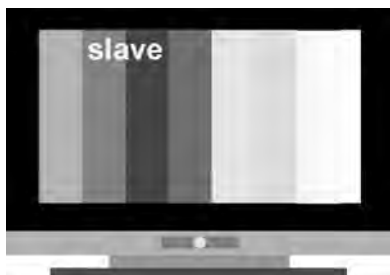


- 12) If download is failed, for example "No acknowledge from slave", execute download again from (1).

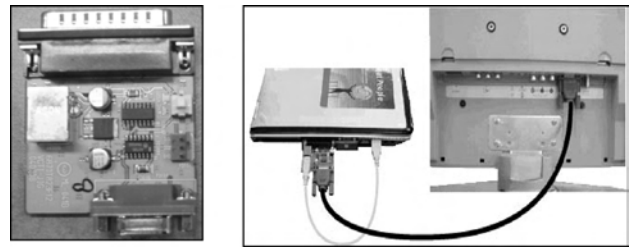


### (3) Download method 3 (SET)

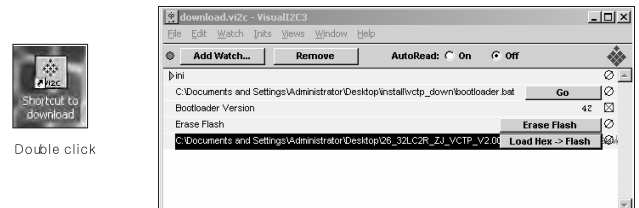
- 1) Push the "Tilt" button in an Adjust Remocon Then the LCD TV will change a "slave mode".



- 2) Connect Zig to TV using a D-sub cable.



- 3) Execute 'Download\_CS.vi2c' program in PC, then a main widow will be opened.



- 4) Click "GO" button.

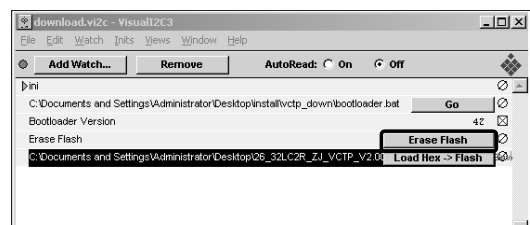


If you don't push the "go", the Hex file would not be downloaded although the download proceeds normally at first glance.

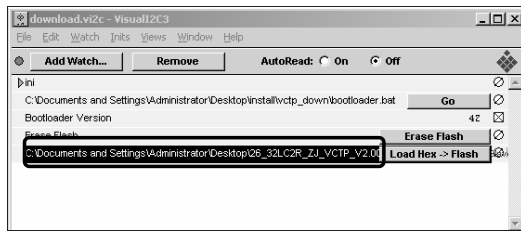
- 5) Double click the blue box and confirm "Bootloader Version" as 42.



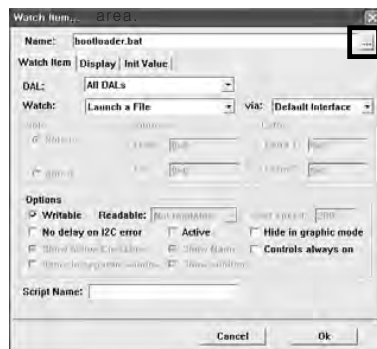
- 6) Click the "Erase Flash" button



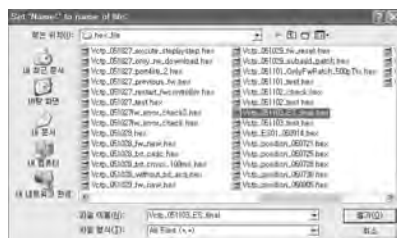
- 7) Double click the download file low then, "edit" window will be opened.



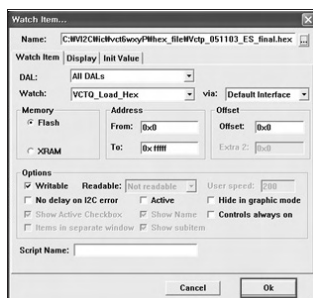
- 8) Click the choice button I n the "edit window", then "file choice window" will be opened



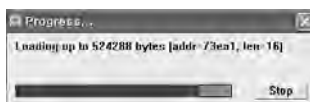
- 9) Choose the Hex file in folder and execute downloading with click "open button"



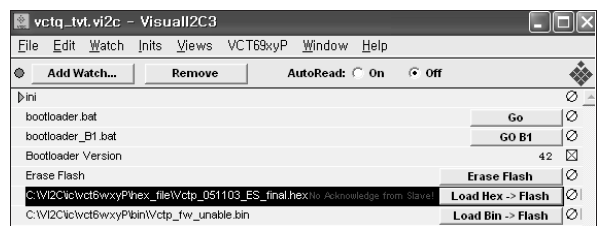
- 10) Click OK button at the "edit window"



- 11) Downloading

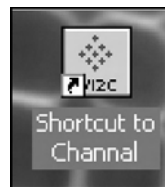


- 12) If download is failed, for example "No acknowledge from slave", execute download again from (1).

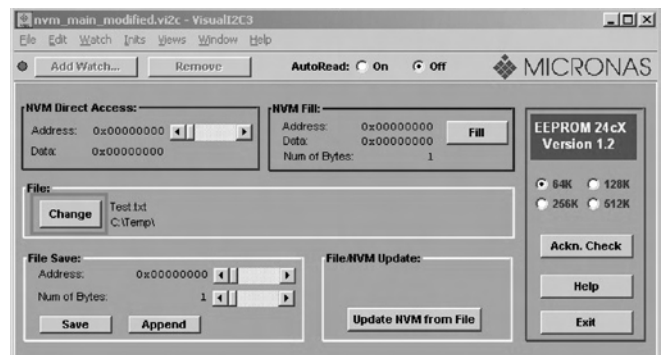


### 4.3. Channel memory download

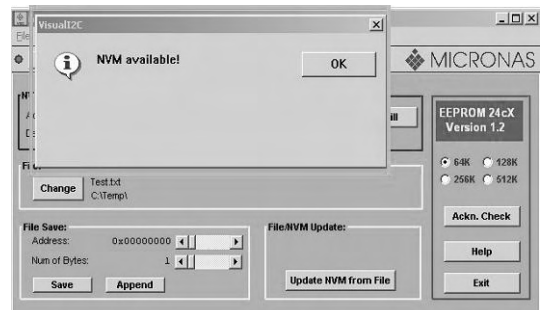
- (1) Connect the download jig to D-sub jack.  
(2) Execute 'Channel.vi2c' program in PC, then a main window will be opened.



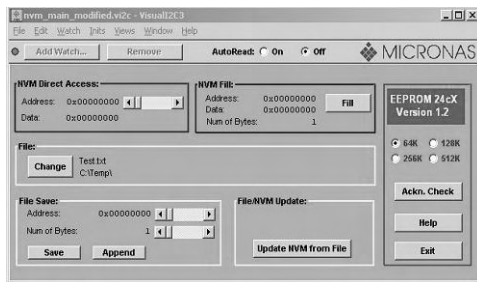
- (3) Push the button change and select the Channel memory data.



- (4) Check the communication is OK or not.  
=> Push the Read area (Ackn. Check) and check Cyan area is OK message.



(5) Push the Update NVM from File



#### 4.4. Tool Option Area Option Change

Before PCB check, have to change the Tool option and Area option

Option values are below

(If on changed the option, the input menu can differ the model spec.)

The input methods are same as other chassises(Use adj Key on the Adjust Remocon)

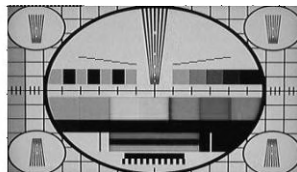
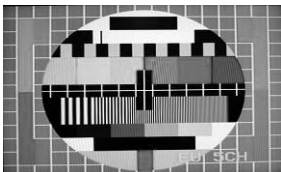
Tool Option		
Inch	ZA	TA
26	02240	04288
32	02256	04304
37	02264	04312
42	02272	04320
Area Option	Depend on PR	

#### 4.5. Color carrier Adjustment (Inspection process)

(1) Tuning the RF signal

ZA, TA : PAL Philips Pattern(with color Bar)

MA : NTSC Digital Pattern(with color Bar)

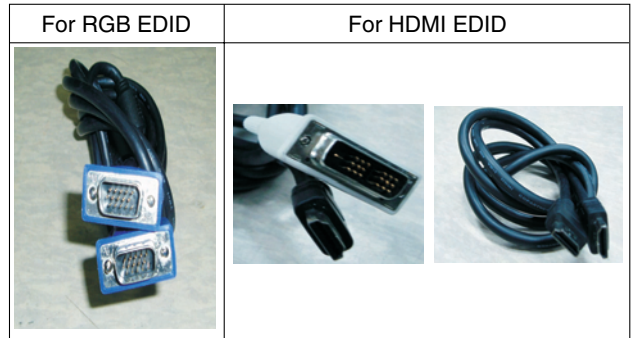


(2) push the "adj" key in the adjustment remocon.

### 5. EDID(The Extended Display Identification Data ) /DDC(Display Data Channel) download

\* Caution

- Use the proper signal cable for EDID Download.
- Never connect HDMI & D-SUB Cable at the same time.
- Use the proper cables below for EDID Writing.



\* EDID Data

Item	Condition	Data
Manufacturer ID	GSM	1E6D
Version	Digital : 1	01
Revision	Digital :3	03

<EDID DATA Analog Set : 128bytes>

Addr	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F
0000	00	FF	FF	FF	FF	FF	FF	00	1E	6D	(a)			(b)		
0010		(c)	01	03	08	46	27	78	0A	D9	B0	A3	57	49	9C	25
0020	11	49	4B	A1	08	00	31	40	01	01	01	01	45	40	01	01
0030	61	40	01	01	01	01	1B	21	50	A0	51	00	1E	30	48	88
0040	35	00	BC	88	21	00	00	1C	4E	1F	00	80	51	00	1E	30
0050	40	80	37	0	BC	88	21	00	00	18	00	00	00	FD	00	3A
0060	3F	1F	32	09	00	0A	20	20	20	20	20	20		(d)		
0070																(e)

< EDID DATA HDMI Set : 256bytes>

Addr	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F
0000	00	FF	FF	FF	FF	FF	FF	00	1E	6D	(a)			(b)		
0010		(c)	01	3	80	5C	34	96	0A	F3	30	A7	54	42	AA	26
0020	0F	48	4C	00	00	00	01	01	01	01	01	01	01	01	01	01
0030	01	01	01	01	01	01	8C	0A	D0	8A	20	E0	2D	10	10	3E
0040	96	00	C4	8E	21	00	00	18				(d)				
0050						(e)					00	00	00	FD	00	2D
0060	41	19	32	8	00	0A	20	20	20	20	20	20	00	00	00	00
0070	00	00	00	00	00	00	00	00	00	00	00	00	00	00	01	(e)
0080	02	03	1E	72	23	09	07	02	4B	10	1F	07	16	81	03	05
0090	14	13	12	04	83	01	00	00	65	03	0C	00	10	00	01	1D
00A0	80	18	71	1C	16	20	58	2C	25	00	C4	8E	21	00	00	9E
00B0	01	1D	80	D0	72	1C	16	20	10	2C	25	80	C4	8E	21	00
00C0	00	9E	01	1D	00	BC	52	D0	1E	20	B8	28	55	40	C4	8E
00D0	21	00	00	1E	8C	0A	D0	90	20	40	31	20	0C	40	55	00
00E0	C4	8E	21	00	00	18	01	1D	00	72	51	D0	1E	20	6E	28
00F0	55	00	C4	8E	21	00	00	1E	00	00	00	00	00	00	00	(e)

=> Detail EDID Options are below(a, b, c, d, e)

#### a. Product ID

Model Name	Product ID		
	DEC	HEX	EDID table
32LC4R	30113(A)	75A1	A175
	30114(D)	75A2	A275
32LC7R	30115 (A)	75A3	A375
	30116 (D)	75A4	A475
42LC4R	40075 (A)	9C8B	8B9C
	40076 (D)	9C8C	8C9C
42LC7R	40077(A)	9C8D	8D9C
	40078(D)	9C8E	8E9C

b. Serial No : Controlled on production line

c. Month, Year : Controlled on production line

ex) Monthly: '03' => '03'

Year: '2005' => '0F'

d. Model Name(Hex):

Model Name	Model Name(HEX)															
32LC4R-ZA	00	00	00	FC	00	33	32	4C	43	34	52	2D	5A	41	0A	20
42LC4R-ZA	00	00	00	FC	00	34	32	4C	43	34	52	2D	5A	41	0A	20

e. Checksum (7EH) : Changeable by total EDID data

## 5.1. Sequence of Adjustment

(1) DDC data of Analog-RGB

1) Init the data

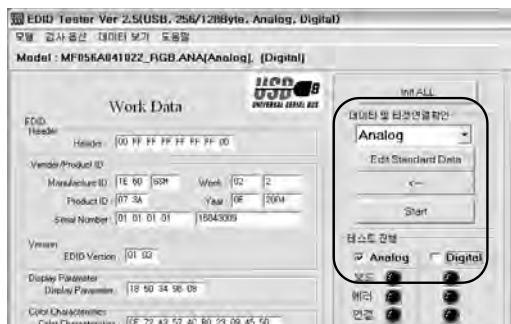


2) Load the EDID data. (Open file)

[Analog - RGB : LP78A\_RGB.ANA]

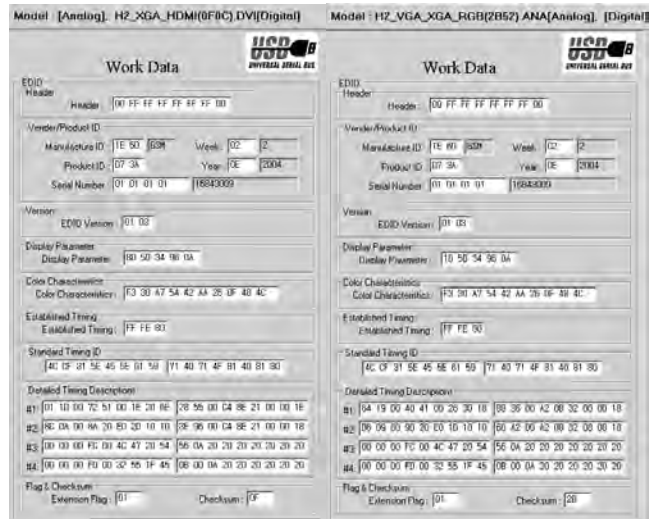
[Digital - HDMI : LP78A\_HDMI.DVI]

3) Set the S/W as below



4) Push the "Write Data & Verify" button. And confirm "Yes".

5) If the writing is finished, you will see the "OK" message.



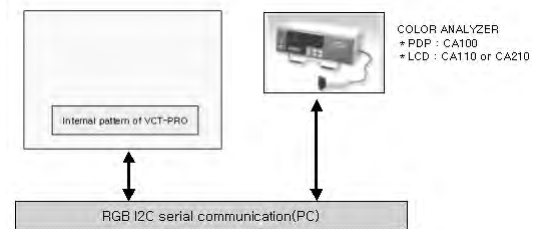
<EDID DATA>

## 6. Adjustment of White Balance

### 6.1. Required Equipment

- (1) Remote control for adjustment
- (2) Color Analyzer (CA-110 or CA-210 or same product)
- (3) Auto W/B adjustment instrument(only for Auto adjustment)

### 6.2. Connecting diagram of equipment for measuring (For Automatic Adjustment)



(1) Enter the DDC adjust mode

- Enter the DDC adjust mode at the same time heat-run mode when pushing the power on by power only key
- Enter the adjust mode and change the input mode to AV (ZA : AV3, TA,MA : AV2)when pushing the Front av key
- Maintain the DDC adjust mode with same condition of Heat-run -> Maintain after AC off/on in status of Heat-run pattern display

(2) Release the DDC adjust mode

- Release the adjust mode after AC off/on or std-by off/on in status of finishing the Hear-run mode
- Release the Adjust mode when receiving the aging off command(F3 00 00) from adjustment equipment
- Need to transmit the aging off command to TV set after finishing the adjustment.)

(3) DDC adjustment support command set

Adjustment	CMD(HEX)	ADR	
Aging On/Off	F3	00	FF : ON / OO : OFF
Input select	F4	00	0x10 : TV
			0x20 : AV1(SCART1)
			0x21 : AV2(SCART2)
			0x23 : AV3(Side AV)
			0x40 : Component1
			0x50 : RGB DTV
			0x60 : RGB PC
			0x90 : HDMI1 DTV
R GAIN	16	00	GAIN adjustment
G GAIN	18	00	
B GAIN	1A	00	

### 6.3. Adjustment of White Balance

(For Manual adjustment)

- Operate the zero-calibration of the CA-110 or CA-210, then stick sensor to LCD module when you adjust.
- For manual adjustment, it is also possible by the following sequence

- 1) Select RF no signal by pressing **"POWER ON"** key on remote control for adjustment then operate heat run more than 15 minutes.

(If not executed this step, the condition for W/B will be differ. The W/B condition is Picture Mode : Standard (MA : Optimum), Color Temp : Normal. )

- 2) Changing to the av mode by pushing the input or front av key.

- 3) Display the internal pattern of the VCT-Pro IC by pushing the IN-START.

- 4) Stick sensor to center of the screen and select each items (Red/Green/Blue Gain and Offset) using ▲/▼ (CH+/-) key on R/C.

- 5) Adjust R Gain / B Gain using ◀/▶ (VOL+/-) key on R/C.

- 6) Adjust it until color coordination becomes as below.

(Initially, R/G/B gain and R/G/B offset values are fixed as below)

Red Gain : 80 , Green Gain : 80 , Blue Gain : 80

Red Offset : 80, Green Offset : 80 , Blue Offset : 80

- \* Target Value [Picture Mode : Standard (ZA, TA), Optimum(MA), Color Temp: Normal]

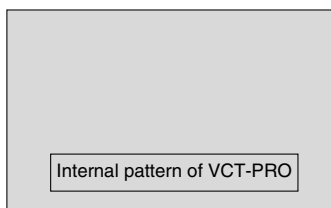
-Normal (9300K) x ; 0.283±0.003 y ; 0.298±0.003

-Luminance(Y) AV : upper 150 cd/m<sup>2</sup> (Typ : 350 cd/m<sup>2</sup>≥)

=> Reference Value(Automatically fixed)

- Cool(11000K): x:0.274±0.003, y: 0.286±0.003

- Warm(7200K) : x:0.303±0.003, y: 0.319±0.003



<Pattern for Adjustment of White Balance>

- 7) When adjustment is completed, Exit adjustment mode using EXIT key on R/C

### 6.4. Input the Shipping Option Data

- 1) Push the ADJ key in a Adjust Remote control.
- 2) Input the Option Number that was specified in the BOM, into the Shipping area.
- 3) The work is finished, Push ■ Key.

## 7. Default Value in Adjustment mode

(Default values maybe modified the module condition)

### 7.1. White Balance

White Bdance		
RED	Gain	80
Green	Gain	80
Blue	Gain	80
Red	Offset	80
Green	Offset	80
Blue	Offset	80

<Default Value on OSD>

## 8. Internal press test

Item	Value	Unit	Remark
Dielectric Voltage (AC <-> FG)	1.5	kV	At 100mA for 1sec (Line)
			At 100mA for 1min (OQC)
Dielectric Voltage (Without FG)	3	kV	At 100mA for 1sec (Line)
			At 100mA for 1min (OQC)

## 9. Sound spec.

Item	Min	Typ	Max	Unit	Remark
Audio Practical Max Output, L(Mono)/R	6	7	9	W	LCD