

APPENDIX D
: BLOCK DIAGRAM

BLOCK DIAGRAM (Main Board)



DESCRIPTION OF BLOCK DIAGRAM

1. Video Control Unit (LGE1854B)

This unit has four functions. These are Transport Stream De-multiplexer, MPEG-2 A/V Decoder, NTSC/PAL/SECAM Video Decoder, Multi-Standard TV Sound Processor.

Transport Stream De-multiplexer DE-MULTIPLEXES TS signal that was DE-MODULATED from LGDT3304. MPEG-2 A/V Decoder supports HD(1080I,720P), SD(480P,480I) resolution, and MPEG-1,MPEG-2,DOLBY,AC-3 FORMAT.

NTSC/PAL/SECAM Video Decoder decodes analog video signal (CVBS) and output RGB signal to VIDEO PROCESSOR.

Multi-Standard TV Sound Processor switches and processes SIF (American BTSC, Korean A2 SYSTEM) and sound of inputted L/R audio.

VIDEO PROCESSOR processes 3D-DEINTERLACING.

OUTPUT INTERFACE part output each of 8 bits R,G,B as 1680x1050 resolution signal And It support SPREAD SPECTRUM for EMI.

2. Power Supply Unit

Power supply unit is composed DC-DC CONVERTER and REGULATOR that is converts 15V, 5V on power board at 12V, 5V, 3.3V, and 1.25V .

20LS7D-UA provides 15V to inverter part and 5V to LCD panel. 23LS7D-UA provides 24V to inverter part and 12V to LCD panel.

And 5V is converted 3.3V , 1.25V , This Converted power support other IC parts on mainboard.

AC inverter using 15V(20LS7D), 24V(23LS7D) makes AC 700 Vrms for driving the backlight ramp of LCD panel.

15V on power board is converted at 12V by DC-DC CONVERTER. And That is provided to SPEAKER. Also 15V on power board is converted at 5V by DC-DC CONVERTER. And That is provided to TUNER.

3. MICOM Unit.

MICOM Unit (8051 CORE) is within Video Controller and It is composed EEPROM storing system control data, Code memory, micom, and reset IC. At first, Micom judges input signal mode after judges horizontal and vertical frequency and polarity of inputted signal.

Micom also set Register values with each IC proper for input signal mode and control .

And the automatic regulation and horizontal/vertical location , clock/clock phase regulation which the user regulates, it will be able to regulate through OSD in order, it controls.