

Model DVD 280



DVD/CD/CD-R/CD-RW/VCD MP3 Player

Service Manual



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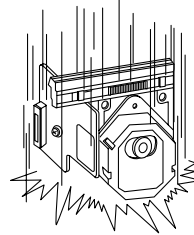
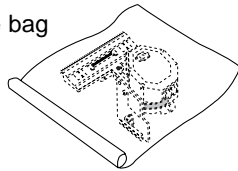
SERVICING PRECAUTIONS

NOTES REGARDING HANDLING OF THE PICK-UP

1. Notes for transport and storage

- 1) The pick-up should always be left in its conductive bag until immediately prior to use.
- 2) The pick-up should never be subjected to external pressure or impact.

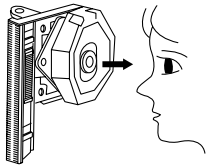
Storage in conductive bag



Drop impact

2. Repair notes

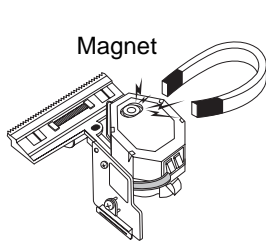
- 1) The pick-up incorporates a strong magnet, and so should never be brought close to magnetic materials.
- 2) The pick-up should always be handled correctly and carefully, taking care to avoid external pressure and impact. If it is subjected to strong pressure or impact, the result may be an operational malfunction and/or damage to the printed-circuit board.
- 3) Each and every pick-up is already individually adjusted to a high degree of precision, and for that reason the adjustment point and installation screws should absolutely never be touched.
- 4) Laser beams may damage the eyes!
Absolutely never permit laser beams to enter the eyes!
Also NEVER switch ON the power to the laser output part (lens, etc.) of the pick-up if it is damaged.



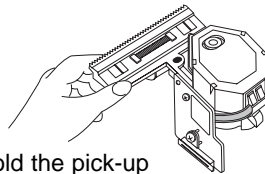
NEVER look directly at the laser beam, and don't let contact fingers or other exposed skin.

5) Cleaning the lens surface

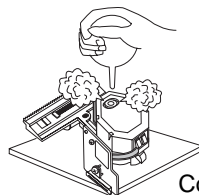
If there is dust on the lens surface, the dust should be cleaned away by using an air bush (such as used for camera lens). The lens is held by a delicate spring. When cleaning the lens surface, therefore, a cotton swab should be used, taking care not to distort this.



Magnet

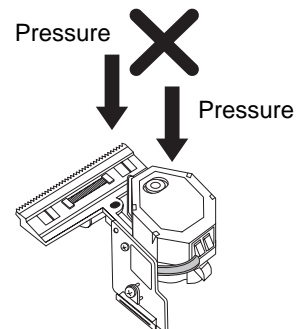
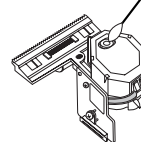


How to hold the pick-up



Conductive Sheet

Cotton swab



6) Never attempt to disassemble the pick-up.

Spring by excess pressure. If the lens is extremely dirty, apply isopropyl alcohol to the cotton swab. (Do not use any other liquid cleaners, because they will damage the lens.) Take care not to use too much of this alcohol on the swab, and do not allow the alcohol to get inside the pick-up.

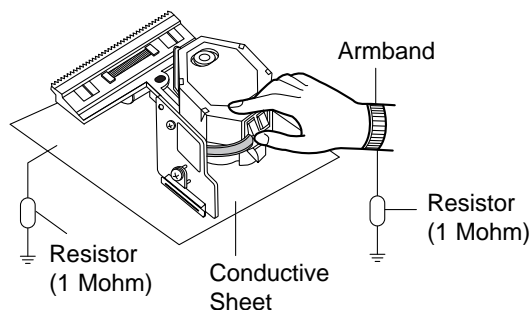
NOTES REGARDING COMPACT DISC PLAYER REPAIRS

1. Preparations

- 1) Compact disc players incorporate a great many ICs as well as the pick-up (laser diode). These components are sensitive to, and easily affected by, static electricity. If such static electricity is high voltage, components can be damaged, and for that reason components should be handled with care.
- 2) The pick-up is composed of many optical components and other high-precision components. Care must be taken, therefore, to avoid repair or storage where the temperature of humidity is high, where strong magnetism is present, or where there is excessive dust.

2. Notes for repair

- 1) Before replacing a component part, first disconnect the power supply lead wire from the unit
- 2) All equipment, measuring instruments and tools must be grounded.
- 3) The workbench should be covered with a conductive sheet and grounded.
When removing the laser pick-up from its conductive bag, do not place the pick-up on the bag. (This is because there is the possibility of damage by static electricity.)
- 4) To prevent AC leakage, the metal part of the soldering iron should be grounded.
- 5) Workers should be grounded by an armband (1M Ω)
- 6) Care should be taken not to permit the laser pick-up to come in contact with clothing, in order to prevent static electricity changes in the clothing to escape from the armband.
- 7) The laser beam from the pick-up should NEVER be directly facing the eyes or bare skin.



ESD PRECAUTIONS

Electrostatically Sensitive Devices (ESD)

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically Sensitive Devices (ESD). Examples of typical ESD devices are integrated circuits and some field-effect transistors and semiconductor chip components. The following techniques should be used to help reduce the incidence of component damage caused by static electricity.

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any electrostatic charge on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging wrist strap device, which should be removed for potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ESD devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.
3. Use only a grounded-tip soldering iron to solder or unsolder ESD devices.
4. Use only an anti-static solder removal device. Some solder removal devices not classified as "anti-static" can generate electrical charges sufficient to damage ESD devices.
5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ESD devices.
6. Do not remove a replacement ESD device from its protective package until immediately before you are ready to install it. (Most replacement ESD devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive materials).
7. Immediately before removing the protective material from the leads of a replacement ESD device, touch the protective material to the chassis or circuit assembly into which the device will be installed.

CAUTION : BE SURE NO POWER IS APPLIED TO THE CHASSIS OR CIRCUIT, AND OBSERVE ALL OTHER SAFETY PRECAUTIONS.

8. Minimize bodily motions when handling unpackaged replacement ESD devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity sufficient to damage an ESD device).

DVD280 TECHNICAL SPECIFICATIONS

Applicable Disc:	Disc formats: 5-inch (12cm) or 3-inch (8cm) DVD-Video, standard conforming DVD-R, DVD+R, DVD-RW, DVD+RW, VCD, SVCD, CD, CD-R, MP3, WMA, JPEG or CD-RW discs Region code: DVD Movie disc with Code shown on rear panel of unit only DVD-Layers: Single Side/Single Layer, Single Side/Dual Layer, Dual Side/Dual Layer Audio formats: Linear PCM, MPEG, MLP/CPPM Dolby Digital or DTS Audio Discs	
Video Signal System:	PAL and NTSC	
Composite Video Output:	1V p-p/75 ohms, sync negative polarity	
S-Video Output:	Y/Luminance: 1V p-p/75 ohms, sync negative polarity C/Chrominance: 0.286V p-p	
Component Video Output:	Y: 1V p-p/75 ohms, sync negative polarity Pr: 0.7V p-p/75 ohms Pb: 0.7V p-p/75 ohms	
Analog Audio Output:	2V rms max	
Frequency Response:	DVD (Linear PCM):	2Hz – 22kHz +0/–0.5dB (48kHz sampling) 2Hz – 44kHz +0/–0.5dB (96kHz sampling)
	CD:	2Hz – 20kHz +0/–0.5dB
Signal/Noise Ratio (SNR):	113dB (A-weighted)	
Dynamic Range:	DVD: 100dB (18-bit)/105dB (20-bit) CD/DVD: 96dB (16-bit)	
THD/1kHz:	DVD/CD: 0.0025%	
Wow & Flutter:	Below Measurable Limits	
AC Power:	110 – 240V/50 – 60Hz	
Power Consumption:	12 Watts (On)/20 Watts (Max)	
Dimensions (W x H x D):	440mm x 89mm x 298mm (17-5/16" x 3-1/2" x 11-3/4")	
Weight:	3.1kg (6.9 lb)	

Depth measurement includes knobs and connectors.

Height measurement includes feet and chassis.

All specifications subject to change without notice.

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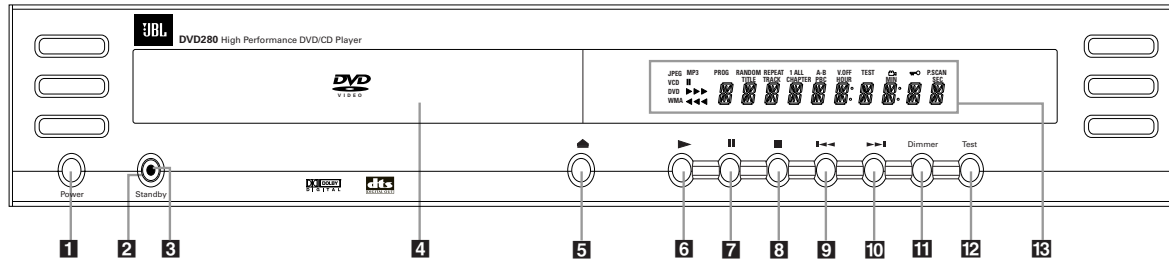
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FRONT-PANEL CONTROLS



- | | | |
|---------------------------------|--------------------------|------------------------------------|
| 1 Main Power On/Off | 6 Play | 11 Dimmer |
| 2 Power On/Off (Standby) | 7 Pause | 12 Test |
| 3 Power Indicator | 8 Stop | 13 Main Information Display |
| 4 Disc Drawer | 9 Skip (Previous) | |
| 5 Eject | 10 Skip (Next) | |

1 Main Power On/Off: Press this switch to apply power to the DVD280. Once the unit has been turned on with this switch, the **Power Indicator 3** will light up in red, and the DVD280 may be turned on from either the front panel or remote control. Press the switch again to turn the unit completely off.

2 Power On/Off (Standby): Press the button once to turn the DVD280 on, and the **Power Indicator 3** will turn orange. Press it again to put the unit in the Standby mode and the **Power Indicator 3** will turn back to red. Note that in order for this switch to operate, the **Main Power Switch 1** must be pressed in so that it is in the ON position.

3 Power Indicator: This LED will be illuminated in red when the unit is in the Standby mode to signal that the unit is ready to be turned on. When the unit is in operation, the indicator will turn orange.

4 Disc Drawer: This drawer is used to hold the discs played in the unit. Be certain to seat all discs carefully within the recess in the drawer. Do not press down on the drawer when it is open, to avoid damage to the player.

5 Eject: Press this button to open or close the disc tray.

6 Play: Press to initiate playback or to resume playback after the **Pause Button 7 10** has been pressed.

7 Pause: Press this button to momentarily pause playback. To resume playback, press the button again. If a DVD is playing, action will freeze and a still picture will be displayed when the button is pressed.

8 Stop: Press this button once to place the disc in the Resume mode. Playback will stop, but as long as the tray is not opened or the disc changed, DVD playback will continue from the same point on the disc when the **Play Button 6 12** is pressed again. Resume will also work if the unit was turned off. To stop a disc and have play start from the beginning, press the button twice.

9 Skip (Previous): Press this button to move backward through the music tracks on a CD or the chapters on a DVD.

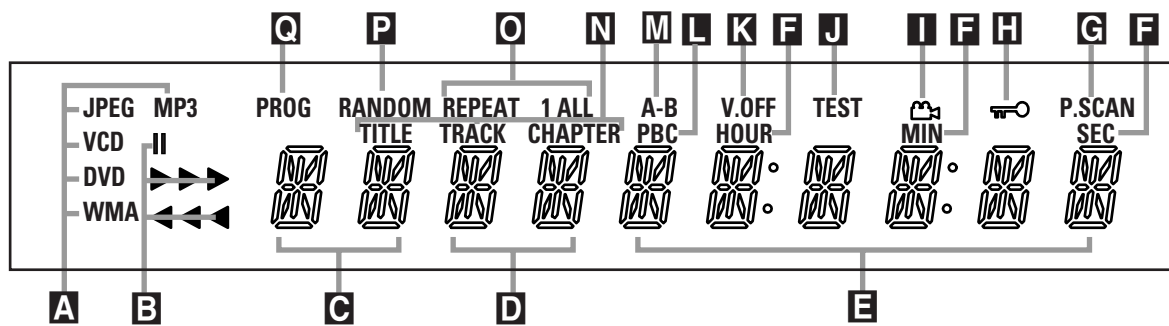
10 Skip (Next): Press to move forward through the music tracks on a CD or the chapters on a DVD.

11 Dimmer: Press this button to reduce the brightness of the **Main Information Display 13** by 50% or to turn the display off completely in the following order: FULL BRIGHTNESS → HALF BRIGHTNESS → OFF → FULL BRIGHTNESS.

12 Test: Press this button to display a test picture on the screen, which enables you to optimally adjust the color parameters on your video display, such as brightness, contrast, color intensity and tint.

13 Main Information Display: This display delivers messages and status information to help you operate the DVD player. See page 12 for a complete explanation of the display.

FRONT-PANEL INFORMATION DISPLAY



- A** Disc-Type Indicators
- B** Playback-Mode Indicators
- C** Title Number Indicators
- D** Chapter/Track Number Indicators
- E** Time Indicators
- F** Hour/Minute/Second Indicators
- G** Progressive Scan Indicator

- H** Parental Lock Indicator
- I** Angle Indicator
- J** Test Indicator
- K** V-OFF Indicator
- L** VCD Playback Control Indicator
- M** A-B Repeat Indicator
- N** Chapter/Track/Title Indicators

- O** Repeat Indicators
- P** Random Indicator
- Q** Program Indicator

A Disc-Type Indicators: The **DVD**, **CD**, **JPEG**, **MP3**, **VCD** or **WMA** indicator will light to show the type of disc currently being played.

B Playback-Mode Indicators: These indicators light to show the current playback mode:

► Lights when a disc is playing in the normal mode.

►► Lights when the disc is in the Fast Search Forward mode. The on-screen banner display indicates the selected speed (2x, 16x, 64x, 200x). The third triangle will light when the search speed reaches 16x, and will remain lit if the speed is increased to 64x or 200x.

▯▯ Lights when the disc is paused.

◄◄ Lights when the disc is in the Fast Search Reverse mode. The on-screen banner display indicates the selected speed (2x, 16x, 64x, 200x). The third triangle will light when the search speed reaches 16x, and will remain lit if the speed is increased to 64x or 200x.

Note that the fast-search speeds above are for DVDs only. Fast-search is also available for VCDs, SVCDs and CDs, but only at two speeds, 4x and 32x. Fast-search is not available for MP3s or WMAs.

C Title Number Indicators: These two positions in the display will show the current title number when a DVD disc is playing.

D Chapter/Track Number Indicators: When a DVD disc is playing, these two positions in the display will show the current chapter. When a CD is playing, they will show the current track number.

E Time Indicators: These positions in the display will show the running time of a disc in play. When a DVD is playing, these indicators will show the time elapsed or remaining for the current chapter or title. When a CD, VCD or SVCD is playing, these indicators will show the time elapsed or remaining for the current track or disc. When an MP3 or WMA file is playing, these indicators will show the elapsed time for the current file. See page 35 for more information on the time display.

NOTE: The indicators **CDE** will also display text messages about the DVD280's status, including **READING** when a disc is loading, and **DISC ERROR** when a disc is not compatible with the DVD280.

F Hour/Minute/Second Indicators: These indicators are used with the **Time Indicators E** to show current, remaining or total time.

G Progressive Scan Indicator: This indicator lights when the DVD280's progressive scan video outputs are activated.

H Parental Lock Indicator: This indicator lights when the parental lock system is engaged in order to prevent anyone from changing the rating level without a code.

I Angle Indicator: This indicator blinks when alternative viewing angles are available on the DVD currently playing.

J Test Indicator: This indicator lights when the video test screen is activated.

K V-OFF Indicator: This indicator lights when the unit's video output has been turned off by pressing the **Video Off Button 15** on the remote control.

L VCD Playback Control Indicator: This indicator lights when the playback control function is turned on for VCDs.

M A-B Repeat Indicator: This indicator lights when a specific passage for repeat playback has been selected.

N Chapter/Track/Title Indicators: These indicators are used with the **Title Number Indicators C** and the **Chapter/Track Number Indicators D** to display the current track for CDs, VCDs and SVCDs, and the current Title and Chapter for DVDs.

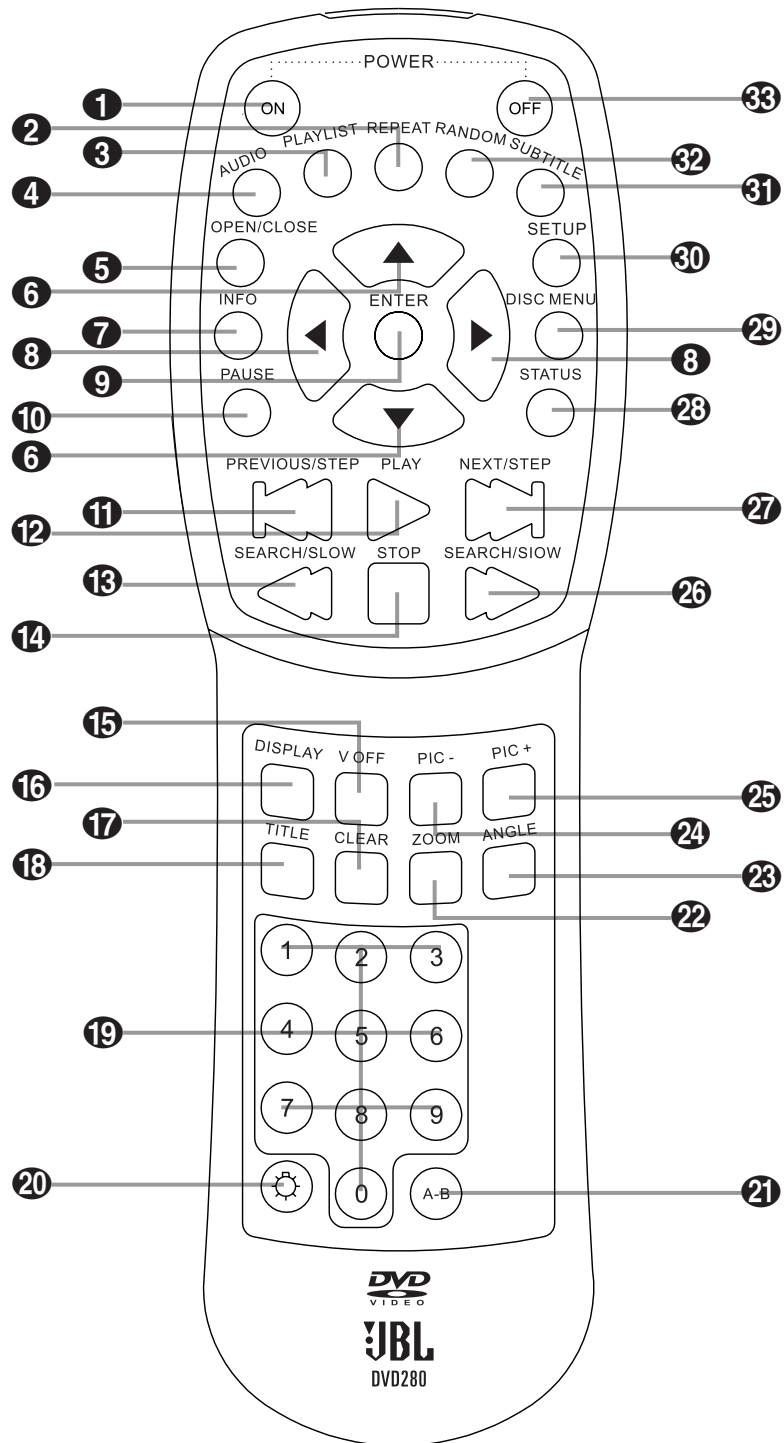
O Repeat Indicators: These indicators light when any of the Repeat functions are in use.

P Random Indicator: This indicator lights when the unit is in the Random Play mode.

Q Program Indicator: This indicator lights when the Playlist has been set to the programmed order using the Player Menu of the Graphic User Interface. See page 43 for more information.

REMOTE CONTROL FUNCTIONS

- 1 Power On
- 2 Repeat
- 3 Playlist
- 4 Audio
- 5 Eject
- 6 Navigation ▲/▼ Buttons
- 7 Info
- 8 Navigation ◀▶ Buttons
- 9 Enter
- 10 Pause
- 11 Skip/Step (Previous)
- 12 Play
- 13 Search/Slow Reverse
- 14 Stop
- 15 Video Off
- 16 Display Dimmer
- 17 Clear
- 18 Title
- 19 Numeric Keys
- 20 Light
- 21 A-B Repeat
- 22 Zoom
- 23 Angle
- 24 Pic -
- 25 Pic +
- 26 Search/Slow Forward
- 27 Skip/Step (Next)
- 28 Status
- 29 Disc Menu
- 30 Setup
- 31 Subtitle
- 32 Random
- 33 Power Off



REMOTE CONTROL FUNCTIONS

- 1 Power On:** Turns on the player when it is in Standby mode (the JBL logo appears on-screen).
- 2 Repeat:** Press to go to the Repeat menu. You can repeat a title, chapter, track, programmed playlist or the entire disc.
- 3 Playlist:** Press this button to access the playlist on-screen menu. See page 43 for more information on programming playlists.
- 4 Audio:** Press to access various audio languages on a DVD (if the DVD contains multiple audio streams). This button may also allow you to access different audio formats on DVD discs, such as switching to the linear PCM or Dolby Digital 5.1 tracks (or other formats), if they've been recorded on the disc.
- 5 Eject:** Press to open or close the Disc Drawer **4**.
- 6 Navigation ▲/▼ Buttons:** Use to select and execute items or settings.
- 7 Info:** Press for detailed information on the disc playing (Video/Audio bit rate, Movie aspect ratio and others). Note that the unit will not react to any transport button as long as the info menu is displayed. Press again to remove information from screen.
- 8 Navigation ◀▶ Buttons:** Use to select and execute items or settings.
- 9 Enter:** Use to execute selections in the menu system or as prompted.
- 10 Pause:** Freezes a picture (with DVD/VCD) and pauses the playback signal (CD) when a disc is playing. Press again for normal playback.
- 11 Skip/Step (Previous):** Press to go to the beginning of the current track. Press again quickly to go to the beginning of the previous track. When the **Pause Button 10** has been pressed during playback, the picture reverses frame by frame each time this button is pressed. The step function is only available for DVDs, VCDs and SVCDs.
- 12 Play:** Press this button to begin playback of the disc (closes the **Disc Drawer 4** first, if it is open).
- 13 Search/Slow (Reverse):** Allows you to search in reverse through a disc while it is in Play mode. Each time you press this button while a DVD is playing, the search speed changes as below:
R. SEARCH 2x → R. SEARCH 16x → R. SEARCH 64x → R. SEARCH 200x → R. SEARCH 2x
Two fast-search speeds are available for VCDs, SVCDs and CDs: 4x and 32x. Fast-search is not available for MP3s or WMAs.
This button also allows you to play movies in Slow mode. Each time you press this button while a DVD is playing, and after pressing the **Pause Button 10**, the slow speed will be changed as below:
R. SLOW 1/2x → R. SLOW 1/4x → R. SLOW 1/8x → R. SLOW 1/16x → R. SLOW 1/2x
Slow-speed playback is not available for CDs, or for MP3 and WMA discs. Two slow-play speeds are available for VCDs and SVCDs: 1/2x and 1/4x. See page 30 for more information on fast-search and slow-play.
- 14 Stop:** Stops playing a disc. When a disc is playing, if you press the **Stop Button 8 14** once, then the **Play Button 6 12**, the disc will resume play; i.e., it will start from the same point on the disc where the unit was stopped. If you press the **Stop Button 8 14** twice, then the **Play Button 6 12**, the disc will start play from the beginning. The resume function is not available for CDs. The resume function is available after the unit has been placed in the Standby mode by pressing the **Power On/Off (Standby) Button 2 33** and then powered on again, but only for DVDs.
- 15 Video Off:** Press to turn off video output for improved performance from audio-only discs. Press again to restore video output (see page 39).
- 16 Display Dimmer:** Press to change the brightness of the front-panel display or to turn the display off completely in the following order: FULL BRIGHTNESS → HALF BRIGHTNESS → OFF → FULL BRIGHTNESS
- 17 Clear:** Press to remove the On-Screen Banner Display from the screen.
- 18 Title:** Press this button while a disc is playing to display the current title number. Press it again to jump to the next numbered title on the disc. Note that this function often remains active even when the disc's software prohibits title jumping using the **Skip/Step (Next) Button 27**.
- 19 Numeric Keys:** Select numbers by pressing these buttons.
- 20 Light:** Press to illuminate the buttons on the remote control.
- 21 A-B Repeat:** Press to select the beginning and end of passage A-B, which will play repeatedly.
- 22 Zoom:** When a DVD, JPEG, VCD or SVCD disc is playing, press this button to zoom the picture so that it is enlarged. There are four steps to the zoom function, each progressively larger. Press through each of the zoom stages to return to a normal picture. Use the **Navigation ▲/▼/◀▶ Buttons 6 8** to view different areas of the enlarged image. Only two enlargement sizes are available for VCDs and SVCDs (2x and 4x).
- 23 Angle:** Press to access various camera angles on a DVD (if the DVD contains multiple camera angles). When a JPEG is being displayed, pressing the **Angle Button 23** repeatedly causes the on-screen image to rotate clockwise by 90 degrees each press. If the disc also contains audio MP3 or WMA files, this portion of the disc must be deactivated by pressing the **Setup Button 30** to display the on-screen menu system. Use the **▲/▼/◀▶ Navigation Buttons 6 8** to highlight the Audio icon on the left side of the Player Menu, and press the **Enter Button 9** to deactivate it.
- 24 Pic-:** When playing a disc containing JPEG still image files, press this button to view the previous picture.
- 25 Pic+:** When playing a disc containing JPEG still image files, press this button to view the next picture.

26 Search/Slow (Forward): Allows you to search forward through a disc while it is in Play mode. Each time you press this button while a DVD is playing, the search speed changes as below:

F. SEARCH 2x → F. SEARCH 16x → F. SEARCH 64x → F. SEARCH 200x → F. SEARCH 2x

Two fast-search speeds are available for VCDs, SVCDs and CDs: 4x and 32x. Fast-search is not available for MP3s or WMAs.

This button also allows you to play movies in Slow mode. Each time you press this button while a DVD is playing, and after pressing the **Pause Button 10**, the slow speed will be changed as below:

F. SLOW 1/2x → F. SLOW 1/4x → F. SLOW 1/8x → F. SLOW 1/16x → F. SLOW 1/2x

Slow-speed playback is not available for CDs, or for MP3 and WMA discs.

Two slow-play speeds are available for VCDs and SVCDs: 1/2x and 1/4x. See page 30 for more information on fast-search and slow-play.

27 Skip/Step (Next): Press to go to the beginning of the next track. When the **Pause Button 10** has been pressed during playback, the picture advances frame by frame each time this button is pressed. The step function is only available for DVDs, VCDs and SVCDs.

28 Status: Press while a disc is playing to view the on-screen status banner display. Use the **Navigation ▲/▼/◀/▶ Buttons 6 8** to move through the different features in the Banner Display. When a value is highlighted, such as Track Number or Time Remaining, press the **Enter Button 9** to select it. The banner will display the available options. Scroll through the options using the **Navigation ◀▶ Buttons 8** and press the **Enter Button 9** to select the desired option.

29 Disc Menu: Displays the DVD disc menu on-screen in Play mode.

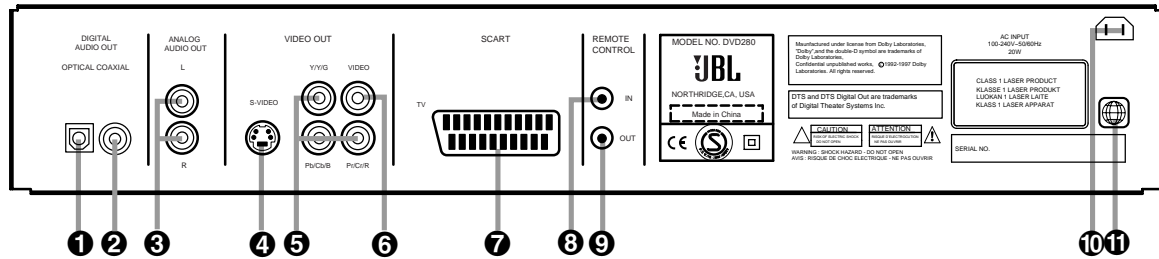
30 Setup: Press to access the DVD280's on-screen menu system.

31 Subtitle: When a DVD is playing, press to select a subtitle language or to turn subtitles off.

32 Random: Press for playback in random order. The Random function is not available when playing DVDs, except for random playback of a programmed playlist. It is available when playing both commercial and recordable audio CDs and VCDs, and discs containing MP3, WMA or JPEG files.

33 Power Off: Turns off the player to Standby mode.

REAR-PANEL CONNECTIONS



- ❶ Optical Digital Output
- ❷ Coaxial Digital Output
- ❸ Analog Audio Outputs
- ❹ S-Video Output

- ❺ Component Video Outputs
- ❻ Composite Video Output
- ❼ SCART Out (TV)
- ❽ Remote Control Input

- ❾ Remote Control Output
- ❿ AC Power Cord Jack
- ⓫ Region Code

❶ **Optical Digital Output:** Connect this jack to the optical digital input of an A/V receiver or surround processor for Dolby Digital, DTS or PCM audio playback.

❷ **Coaxial Digital Output:** Connect this jack to the coaxial digital input of an A/V receiver or surround processor for Dolby Digital, DTS or PCM audio playback.

NOTES:

- Connect either the **Optical Digital Output** ❶ or the **Coaxial Digital Output** ❷ to a corresponding digital audio input on your receiver or processor, but not both.
- The coaxial digital output should only be connected to a digital input. Even though it is the same RCA-type connector as standard analog audio connections, **DO NOT** connect it to a conventional analog input jack.
- ❸ **Analog Audio Outputs:** You may connect these outputs to the DVD Audio inputs on your receiver or processor in addition to the optical or coaxial digital audio connection. You may also need to make these connections if your receiver or processor does not have digital audio inputs, or if you are connecting the DVD280 directly to a television.

❹ **S-Video Output:** Connect this jack to the S-video input on a television or video projector, or to an S-video input on an A/V receiver or processor if you are using that type of device for S-video input switching.

❺ **Component Video Outputs:** These outputs carry the component video signals for connection to display monitors with component video inputs. For standard analog TVs or projectors

with inputs marked Y/Pr/Pb or Y/Cr/Cb, connect these outputs to the corresponding inputs. If you have a high-definition television or projector that is compatible with high-scan-rate progressive video (480P), connect these jacks to the HD component inputs. **PROGRESSIVE** must be selected in the Video menu, if you are using a progressive scan display device, in order to take advantage of the progressive scan circuitry. See the "Scan Type" section on page 26 for more information on progressive scan video.

IMPORTANT: These jacks should **NOT** be connected to standard composite video inputs.

❻ **Composite Video Output:** Connect this jack to the video input on a television or video projector, or to a video input on an A/V receiver or processor if you are using that type of device for video input switching.

❼ **SCART Out (TV):** If your TV has a SCART socket, you may connect a SCART cable to your TV and to your DVD player for improved video quality. The SCART cable carries both audio and video. Select Composite Video or RGB video for the SCART connector's video output signal (see page 26).

❽ **Remote Control Input:** Connect the output of a remote infrared sensor, or the remote control output of another compatible product, to this jack. This will enable the remote control to operate even when the front-panel remote sensor on the DVD280 is blocked. This jack may also be used with compatible IR remote control-based automation systems.

❾ **Remote Control Output:** Connect this jack to the infrared (IR) input jack of another compatible remote-controlled product to have the built-in remote sensor on the DVD280 provide IR signals to other compatible products.

❿ **AC Power Cord Jack:** Connect the correct plug for your area here and to an AC outlet. If the outlet is controlled by a switch, make certain that it is in the ON position.

⓫ **Region Code:** This player is designed and manufactured for compatibility with Region Management Information that is encoded on most DVD discs. This Region Code is usually displayed on the DVD case and the disc. This player has been configured by the factory for playback of discs containing a specific Region Code, which is indicated on the carton and here on the rear panel of the unit, and for discs that do not contain Region Code information. If there is any other Region Code on a disc, it will not play on the DVD280. Consult with your local JBL dealer or distributor if you have any questions regarding the Region Code setting of this player.

NOTE: You'll find more details about all audio/video connections under Setup and Connections on the following pages.

SETUP AND CONNECTIONS

- Ensure that the power switch of this unit (and of other equipment to be connected) is set to "Off" before commencing connection.
- Do not block the ventilation holes of any of the equipment and arrange them so that air can circulate freely.
- Read through the instructions before connecting other equipment.
- Ensure that you observe the color-coding when connecting audio and video cables.

VIDEO NOTES:

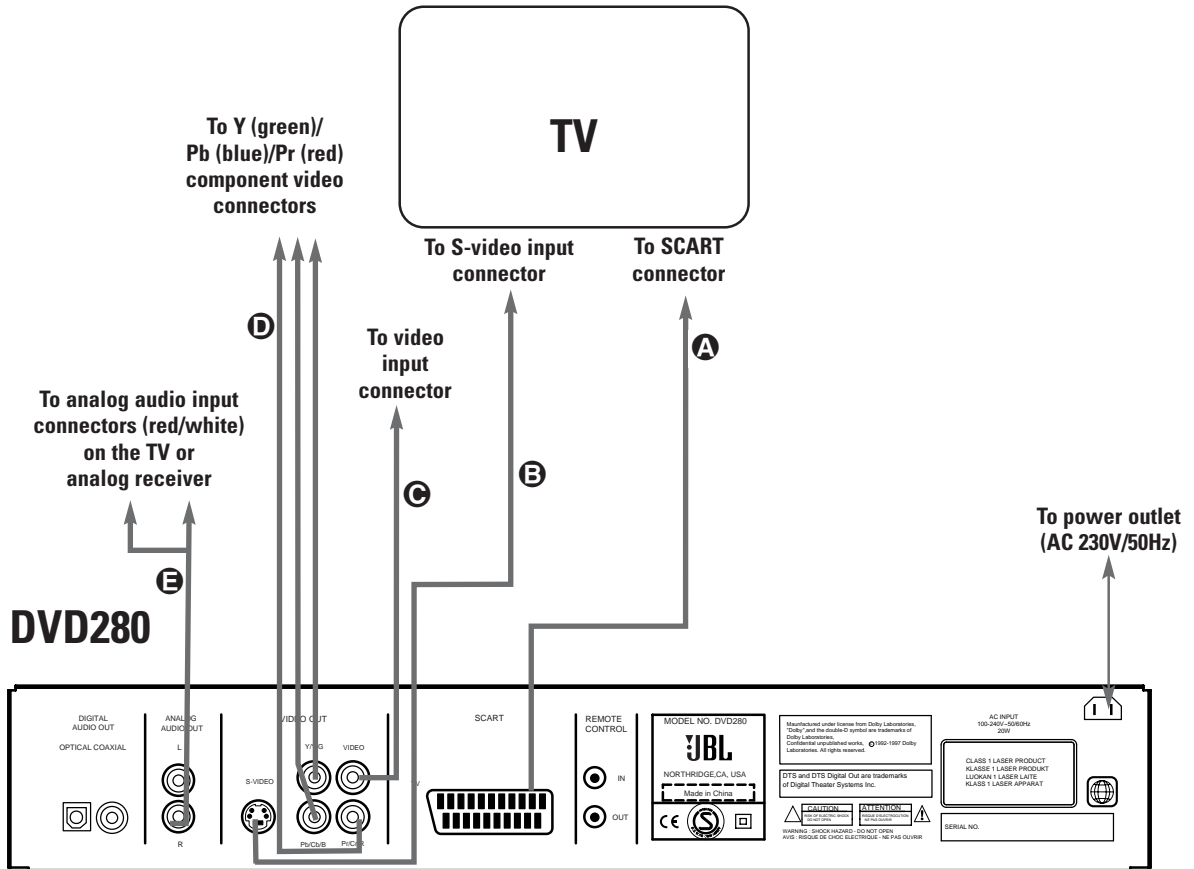
- While we suggest the use of component video for higher quality pictures, you may also use the standard S-video or composite video connection if your TV does not have component video inputs. *Never connect more than one video output from the DVD player to your TV or A/V receiver; use only one of them.*
- The composite video output (yellow) combines the complete video signal (composite) and sends it to the TV (or to the A/V receiver) by one cable only. Use the video output when your TV set is equipped with a video input jack only.
- The S (separate) video output connector separates the color (C) and luminance (Y) signals before transmitting them to the TV set in order to achieve a sharper picture. Use the S-video cable when connecting the player to a TV equipped with an S-video input for improved picture clarity.
- The component video outputs further separate the color components of the video signal, optimizing the DVD280's video performance. Component video connections are preferred, when available, on your TV or receiver. If you are using a television or video display that is compatible with high-resolution 480P video signals, make sure to use the input jacks on the video marked "HD Component," if available. Also, make sure to configure the display's input settings for use with "480P" video signals. You will also need to change the scan type in the DVD280's Video Setup menu from "Interlaced" to "Progressive." See page 26.
- Some TVs are equipped with SCART connectors rather than with a normal video input (yellow cinch). In that case, the SCART connection should be used. It will provide the audio signal, so no connection from the **Analog Audio Outputs ③** to the TV is necessary. Separate analog audio connections to the TV are needed only if your TV is connected to the **Component Video Outputs ⑤**, the **Composite Video Output ⑥** or the **S-Video Output ④**. If you will be using a receiver or processor with component, S- or composite video connections, then no audio connection needs to be made to the TV. If you will be using a receiver or processor with the SCART connection to the TV, then turn the volume control on the TV all the way down.

IMPORTANT NOTES ON SCART AND RGB FORMAT:

- Your DVD280 is equipped with a SCART connector for direct connection to a compatible TV.
- The SCART connector provides the video signal as well as audio (stereo L/R) signals.
- The SCART connector for the TV provides the composite video signal or the direct RGB signal, delivering the best video performance possible, selectable in the on-screen menu system. To view RGB video on your TV, the RGB-compatible SCART connector on the TV must be used and the DVD280's TV SCART connector must be set to "RGB" (see page 26).
- Note that with RGB video, the color intensity cannot be adjusted with most TVs.
- When the RGB video signal is used, DVDs recorded with the NTSC format can be viewed even on non-NTSC-compatible TVs, as long as the Region Code is correct for your area.

Connecting to a TV Only

When using the DVD280 with a television but no audio receiver or processor, connect it as follows. *Either* make only the SCART connection **A** from the DVD280 to the TV, *or* make the analog audio connection **E** and *one* of the video connections (S-video **B**, composite video **C** or component video **D**). Remember to plug in the power cord.



SETUP AND CONNECTIONS

Connecting to a Receiver/Amplifier With a Dolby Digital or DTS Decoder

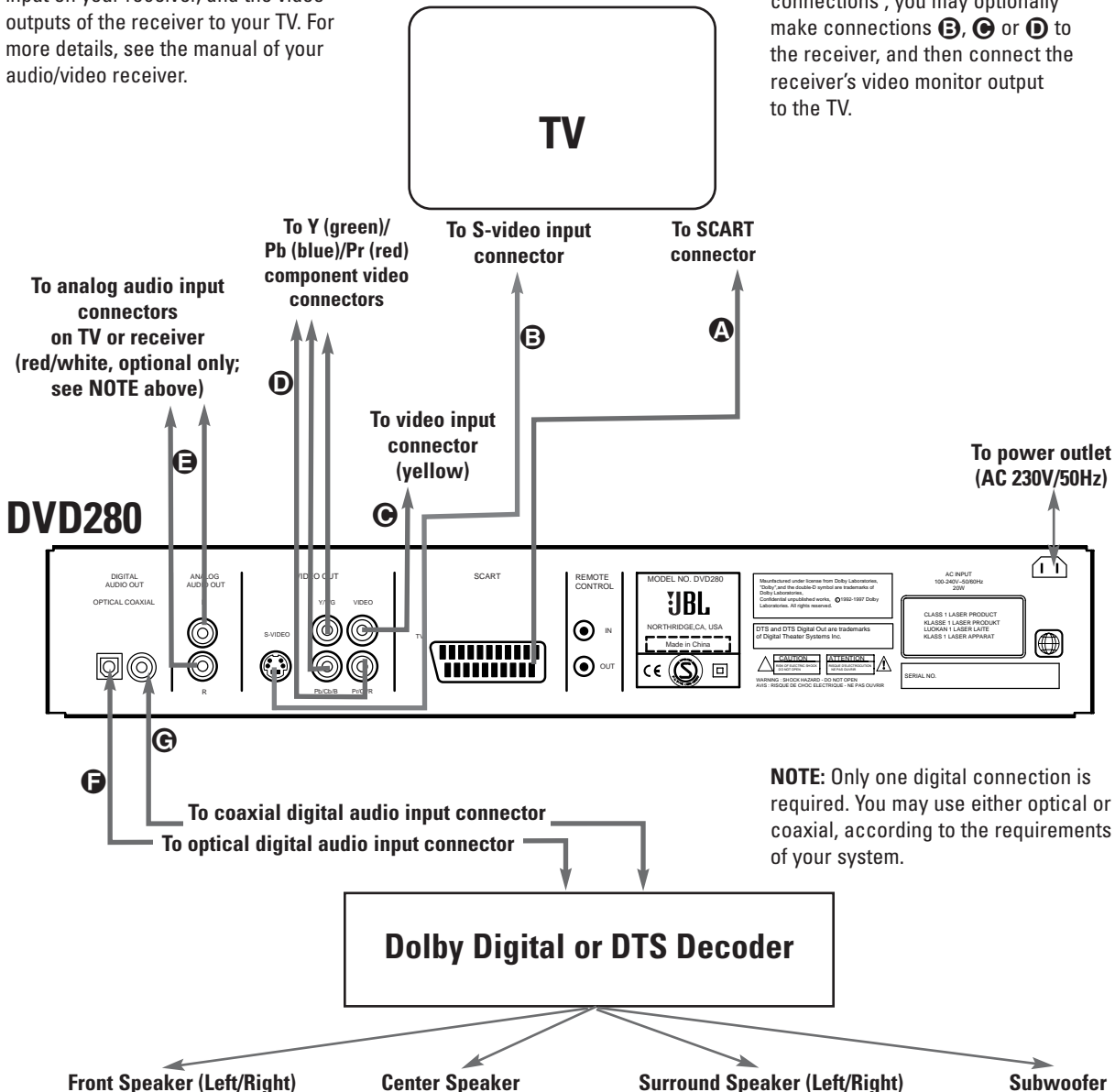
When DVDs encoded in Dolby Digital or DTS are played, the Dolby Digital or DTS bitstream is outputted from the player's optical or coaxial digital audio output. When the player is connected to a Dolby Digital or DTS decoder, you can enjoy theater-quality audio in your home. An optical digital audio cable or coaxial audio cable (not supplied) is required for these connections, as shown below. Only one connection is needed, not both at the same time.

NOTE: With multiple video sources, your audio/video receiver can be used for selecting the video signal and routing it to the TV. Connect the **Component 5**, **Composite 6** or **S-Video 4** output of the DVD280 to the correct video input on your receiver, and the video outputs of the receiver to your TV. For more details, see the manual of your audio/video receiver.

NOTE FOR ANALOG AUDIO: The connection from the **Analog Audio Output 3** to the TV is optional. If you plan on using your DVD280 alone, without turning on your complete system, this connection must be made, unless you've used the **SCART 7** connection; then you can turn up the TV's volume, as needed. The **Analog Audio Outputs 3** may also be connected to the standard analog left/right DVD or CD inputs on your receiver or processor, if you wish to use the DVD280 as the input for a multiroom system.

Connecting to a Receiver

When using the DVD280 with an audio receiver or processor, connect it as follows. First, make either the **SCART connection A** or one of the video connections (**S-video B**, **composite video C** or **component video D**) to the TV. If you will sometimes use the TV without the audio component and you did not choose the **SCART connection A**, you may optionally make the analog audio connection **E** to the TV. Second, make either the optical digital audio connection **F** or the coaxial digital audio connection **G**, to the receiver or processor. If your receiver or processor is equipped with video connections, you may optionally make connections **B**, **C** or **D** to the receiver, and then connect the receiver's video monitor output to the TV.



NOTE: Only one digital connection is required. You may use either optical or coaxial, according to the requirements of your system.

TEST SCREEN

DVD is one of the highest quality sources ever made available for in-home playback of prerecorded pictures and sound. In order to make certain that your home theater system is fully optimized to take advantage of DVD's superb picture quality, the DVD280 offers a built-in video test signal that makes it easy to calibrate your TV or video display for proper playback.

Test Screen

To utilize the built-in test screen, press the **Test Button** **12** at any time while the player is in Stop or Resume mode or access it from within the Video Adjustments submenu of the on-screen menu system (see Figure 31). When the button is pressed, the test screen will appear, allowing the following adjustments to be made:

- The proper color intensity setting on your TV.
- Proper color adjustments using the color bars, which should be (left to right) black, white, yellow, cyan (turquoise), green, magenta (purple), red, blue and black.
- The proper color transition, seen as sharp separation of the bars.
- The performance of the color filter in your TV (with "Video" signals); bar edges should show no vertical crawling dots.

With the gray scale and the black/white fields below the color bars, the brightness and contrast of your screen can be adjusted.

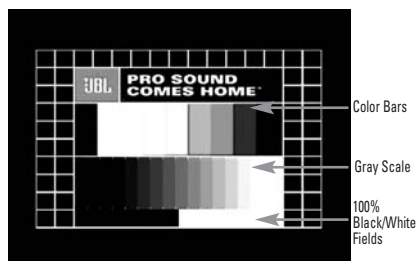


Figure 35

TV Picture Adjustment With Test Screen Brightness Adjustment

1. Turn down the color control on your TV until the color bars are visible in black and white.
2. Adjust the contrast to the lowest level where you still can see all

bars within the gray scale in the test picture separately and clearly.

3. Adjust the brightness so that the bars in the gray scale are all visible. The bar furthest to the left has to be as black as possible rather than gray, but the next gradation must clearly be distinct from it. All the bars in the gray scale should be gradually and evenly changing from black to white, going from left to right.

Contrast Adjustment

1. Adjust the contrast on your TV until you see a bright white bar in the lower right corner of the screen and a deep-dark-black bar at the left. The optimal contrast setting will depend on your preference and the surrounding light in the TV room.
2. If the brightness of the white bar no longer increases when the contrast is turned up or the borders of the white letters in the logo at the top of the test screen bloom (over-light) into the black areas (drastically decreasing the sharpness of the type), the contrast has been turned up too much. Reduce the contrast until these effects disappear and the video still looks realistic.
3. If you are watching TV with customary surrounding daylight, adjust the contrast so that a normal video picture has about the same look as the surroundings in your room. That way the eye is relaxed when watching the TV picture. This contrast setting may be reduced when the surrounding light is dimmed, thereby usually improving the sharpness of a video significantly.
4. The gray scale in the middle line needs to have the same clear difference between each bar as before the contrast adjustment. If not, go back to "Brightness Adjustment" and repeat Step 3 and then "Contrast Adjustment," making only minor adjustments each time for optimization.

Color Adjustment

1. When the brightness and contrast are set optimally, turn up the color control to the level of your preference. Adjust to the level where the colors look strong but still natural, not overdone. If the color level is

too high, depending on the TV, some of the bars will seem wider or the color intensity will not increase while the control is turned up. Then the color control must be reduced again. Ultimately, you also should test the color intensity with a video – e.g., pictures of natural faces, flowers, fruit and vegetables, and other common natural articles for an optimal setting of the color intensity.

2. If your TV has a Tint option (this is available or effective only with NTSC signals, not with PAL), use the large white bar below the gray scale to tweak the warmth of the picture. Every viewer has a preference as to how the glow of the picture should be. Some prefer a little colder picture, some a warmer glow. The Tint function on your TV and the white bar can be used to control this. Adjust the Tint to the level at which you feel the white color has the tone you prefer.



Convergence and Edge Focus

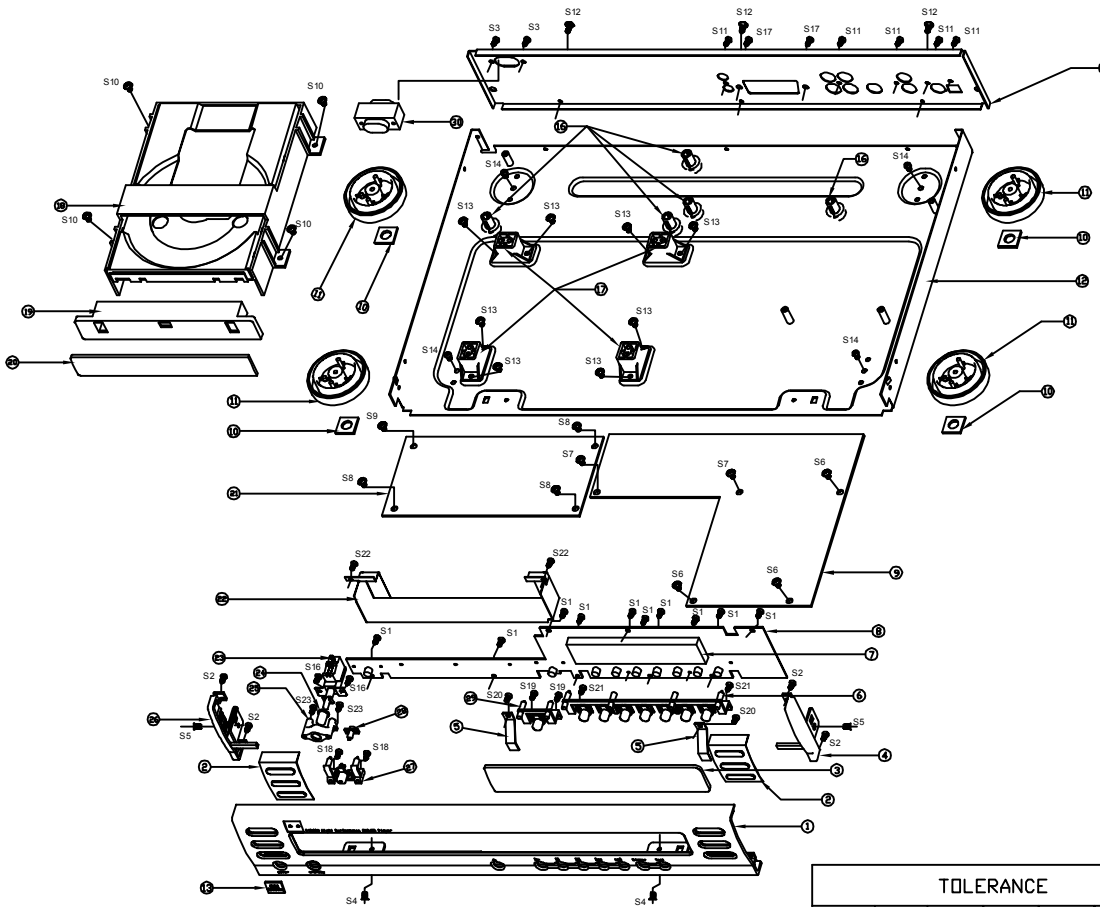
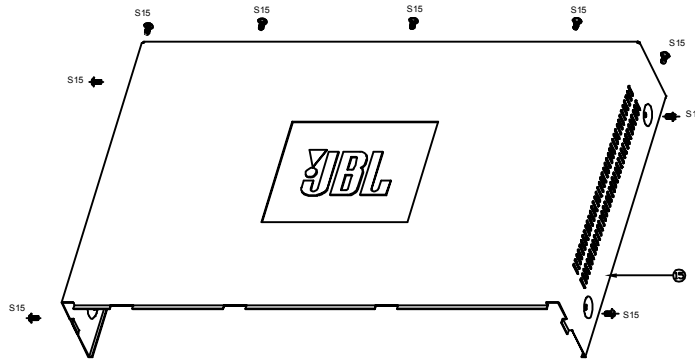
The crosshatch pattern that surrounds the test screen may be used to evaluate edge focus and convergence in front- or rear-projection video displays. However, the controls used to adjust these parameters are often not user-accessible. In any event, these adjustments are extremely complex, and require proper training and experience to avoid worsening the situation. Therefore, it is recommended that if you are unable to improve the picture using the available controls, contact the video display manufacturer's authorized service representative for assistance.

When all desired setup and configuration entries have been made, scroll to the "Done" button at the bottom right of the Video Adjustment submenu and select it to return to the on-screen menu system. Then, press the **Setup Button** **10** to remove the menu displays from the screen. The features accessed using the Player Menu of the on-screen menu system will be described on pages 31–34. The unit will return to normal operation and you are ready to enjoy the finest in DVD or CD playback!

TROUBLESHOOTING GUIDE

TROUBLESHOOTING GUIDE

SYMPTOM	POSSIBLE CAUSE	SOLUTION
Unit does not turn on	<ul style="list-style-type: none"> • Main Power Switch 1 turned off • No AC power • Standby pressed within 4 seconds after Main Power Switch 	<ul style="list-style-type: none"> • Press in Main Power Switch 1. • Check AC power plug and make certain any switched outlet is turned on. • Press the Standby Switch at least 4 seconds after the unit has been turned on by the Main Power Switch 1.
Disc does not play	<ul style="list-style-type: none"> • Disc loaded improperly • Incorrect disc type • Invalid Region Code • Rating is above parental preset 	<ul style="list-style-type: none"> • Load disc label-side up; align the disc with the guides and place it in its proper position. • Check to see that disc is CD, CD-R, CD-RW, VCD, SVCD, MP3, WMA, DVD-R, DVD-RW, DVD+R, DVD+RW (standard conforming) or DVD-Video; other types will not play. • Make sure disc's Region Code matches code shown on rear panel of unit. • Enter password to override or change rating settings (see page 23).
No picture	<ul style="list-style-type: none"> • Intermittent connections • Wrong input • Progressive Scan output selected • Video Off feature active 	<ul style="list-style-type: none"> • Check all video connections. • Check input selection of TV or receiver. • Use Progressive Scan mode only with compatible TV. • Press Video Off Button 15 to reactivate video circuitry (see page 39).
No sound	<ul style="list-style-type: none"> • Intermittent connections • Incorrect digital audio selection • DVD disc is in fast or slow mode • Surround receiver not compatible with 96kHz PCM audio 	<ul style="list-style-type: none"> • Check all audio connections. • Check digital audio settings. • There is no audio playback on DVD discs during fast or slow modes. • Use analog audio outputs.
Picture is distorted or jumps during fast-forward or reverse play	<ul style="list-style-type: none"> • MPEG-2 decoding 	<ul style="list-style-type: none"> • It is a normal artifact of DVD playback for pictures to jump or show some distortion during rapid play.
Some remote buttons do not operate during DVD play; prohibited symbol  appears (see below)	<ul style="list-style-type: none"> • Function not permitted at this time 	<ul style="list-style-type: none"> • With most DVDs, some functions are not permitted at certain times (e.g., Track Skip) or at all (e.g., direct audio track selection).
The OSD menu is in a foreign language	<ul style="list-style-type: none"> • Incorrect OSD language 	<ul style="list-style-type: none"> • Change OSD language selection (see page 22).
The  symbol appears	<ul style="list-style-type: none"> • Requested function not available at this time 	<ul style="list-style-type: none"> • Certain functions may be disabled by the DVD itself during passages of a disc.
Picture is displayed in the wrong aspect ratio	<ul style="list-style-type: none"> • Incorrect match of aspect ratio settings to disc 	<ul style="list-style-type: none"> • Change aspect ratio settings (see page 25).
Remote control inoperative	<ul style="list-style-type: none"> • Weak batteries • Sensor is blocked 	<ul style="list-style-type: none"> • Change both batteries. • Clear path to sensor or use optional outboard remote sensor.
Disc will not copy to VCR	<ul style="list-style-type: none"> • Copy protection 	<ul style="list-style-type: none"> • Many DVDs are encoded with copy protection to prevent copying to VCR.

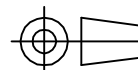


Item	SPECIFICATION	Qty	Parts No.
1	Front panel DVD280-01	1	380-EVD28091-8400
2	Net cover on front panel DVD280-15	2	385-DVD28015-3900
3	Len for VFD	1	331-8VD28002-0000
4	Right baffle	1	330-0VD28006-9000
5	Len support DVD280-21	2	380-DVD28021-3400
6	Functional key button	1	331-1VD28007-9000
7	VFD22-1101C	1	190-00VDV280-0120
8	1286C	1	300-D001286C-0001
9	1297C-1	1	300-C01297C1-0002
10	Pedestal underley SD003	4	350-00SD003-0200
11	Pedestal	4	331-400VDV205-9000
12	Chassis DVD280-17	1	380-BVD28017-8200
13	"JBL"brand	1	600-000JBL04-9910
14	back panel DVD280-19	1	380-CVD28019-8100
15	top cover DVD280-18	1	380-AVD28018-8100
16	PCB plasic fram	5	332-3C007128-8010
17	Loader support	4	330-3VD28022-9000
18	Loader	1	206-0000V34-2202
19	Disc tray door	1	330-2VD28094-9000
20	Len for tray door	1	331-800VDV208-0000
21	1254C	1	300-A01254C-0001
22	Baffle for PCB	1	380-F0280380-0100
23	Power switch, PS4E-SA-024	1	170-A4ESA024-0000
24	Power switch button	1	331-1VD28009-9000
25	Power switch button flap	1	330-3VD28011-9000
26	Left baffle	1	330-0VD28005-9000
27	Standby button	1	331-1VD28008-9000
28	Standby button lampshade	1	331-5VD28016-7000
29	Open/Close button	1	331-2VD28014-9000
30	Power jack, SA-2S-165	1	510-DA02S165-0000
S1	SCREW ST PAHC M3*8	10	381-00300613-2300
S2	SCREW ST PAHC M3*10	4	381-00301011-2300
S3	SCREW ST PAHC M3*8	2	381-00300811-2200
S4	SCREW ST KBN M3*6	2	381-00300632-1212
S5	SCREW ST KBTTC M3*6	2	381-00300634-1202
S6	SCREW ST PVMC M3*6	3	381-00300610-1311
S7	SCREW ST PVMC M3*8	2	381-00301814-1311
S8	SCREW ST PVMC M3*8	3	381-00301810-1311
S9	SCREW ST PVMC M3*6	1	381-00300610-1311
S10	SCREW ST PVMC M3*10	4	381-00301011-1310
S11	SCREW ST PAHC M3*8	5	381-00300811-2200
S12	SCREW ST PVMC M3*6	3	381-00300614-1211
S13	SCREW ST PVMC M3*6	8	381-00300614-1312
S14	SCREW ST PTHD M3*8	4	381-00400811-2200
S15	SCREW ST PVMC M3*8	9	381-00300810-1112
S16	SCREW ST PAHC M3*6	2	381-00300611-2300
S17	SCREW ST PVMC M3*10	2	381-00301010-1211
S18	SCREW ST PAHC M3*6	2	381-00300611-2300
S19	SCREW ST PAHC M3*6	2	381-00300611-2300
S20	SCREW ST PAHC M3*6	2	381-00300611-2300
S21	SCREW ST PAHC M3*10	2	381-00300611-1301
S22	SCREW ST PAHC M3*6	2	381-00300611-2301
S23	SCREW ST PAHC M3*6	2	381-00300611-2301
S24			

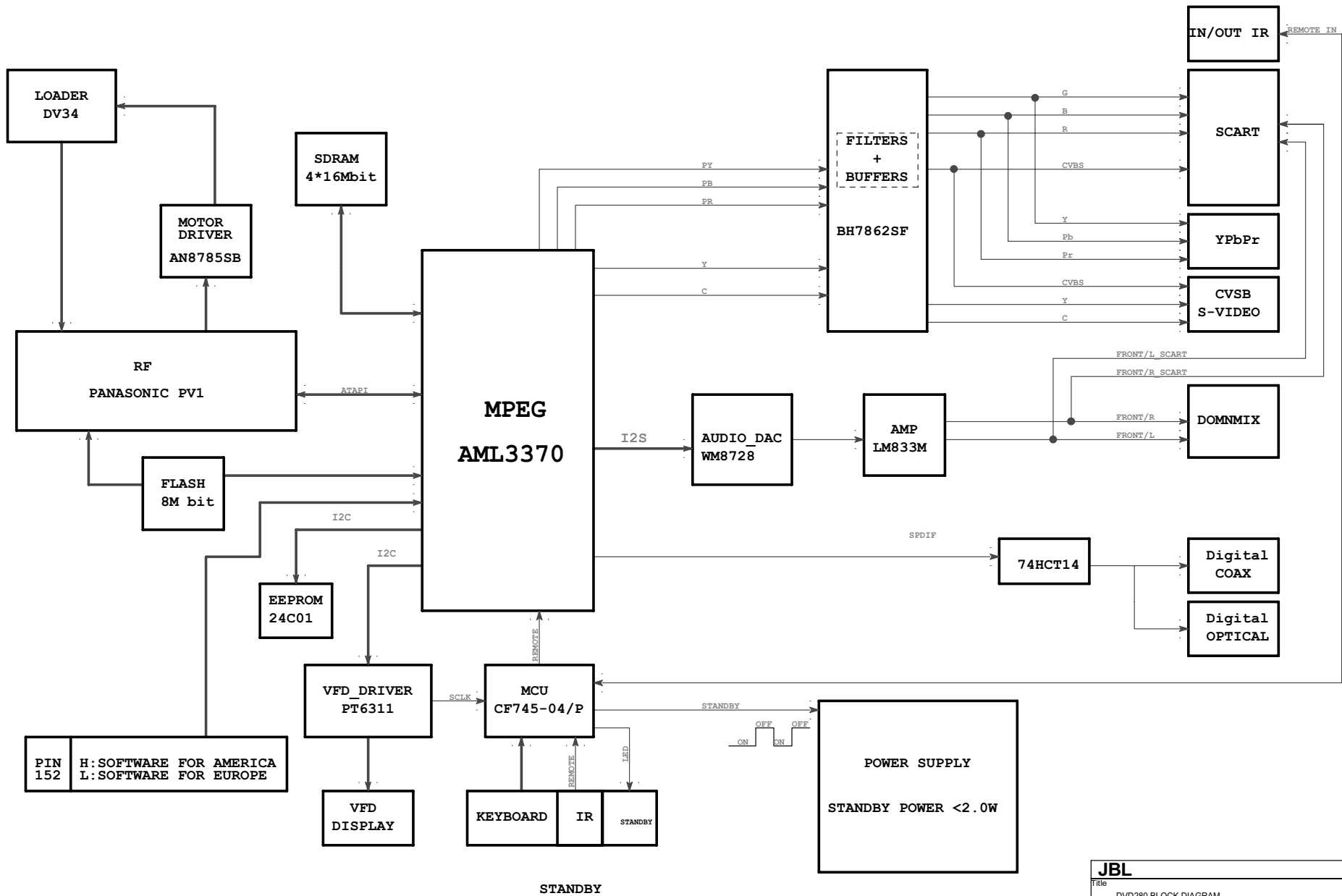
TOLERANCE					
DIM/TOL					
XX	±0.10	±0.15	±0.50	±1.00	±2.00
XX.X	±0.05	±0.10	±0.20	±0.50	±1.00
XX.XX	±0.02	±0.05	±0.10	±0.20	±0.50
ANGEL	TOL.				
XX	±1'				
XX.X	±0.5'				
XX.XX	±0.2'				

EXPLODE VIEW	MODEL	DVD280
	DWG. NO.	
	PART NO.	
DWG. BY:	MATERIAL	
	SCALE	1 : 1
	FINISH	
APPR. BY:	PAGE	1 OF 1

MARK	REVISION RECORD	DR.	DATE
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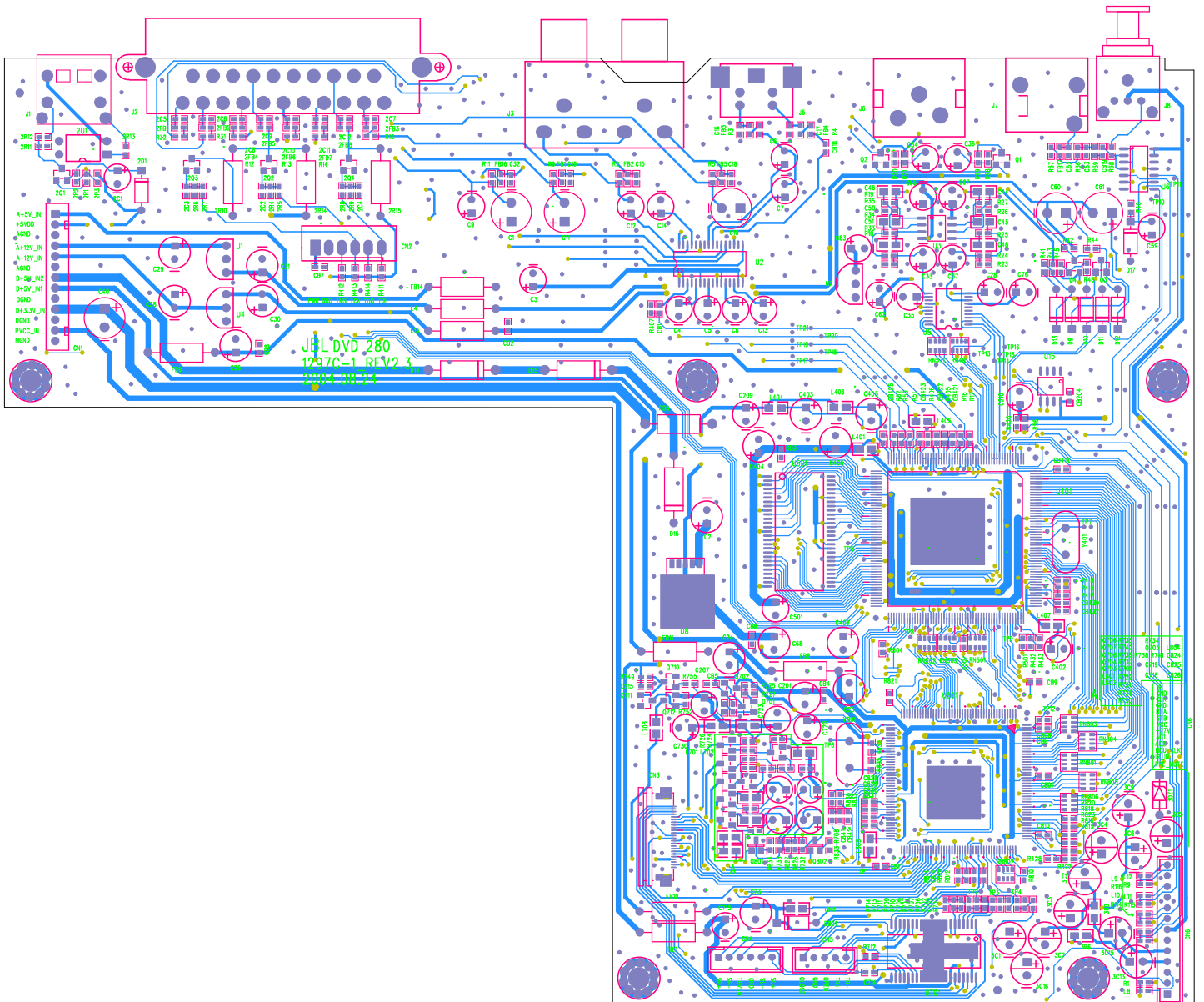


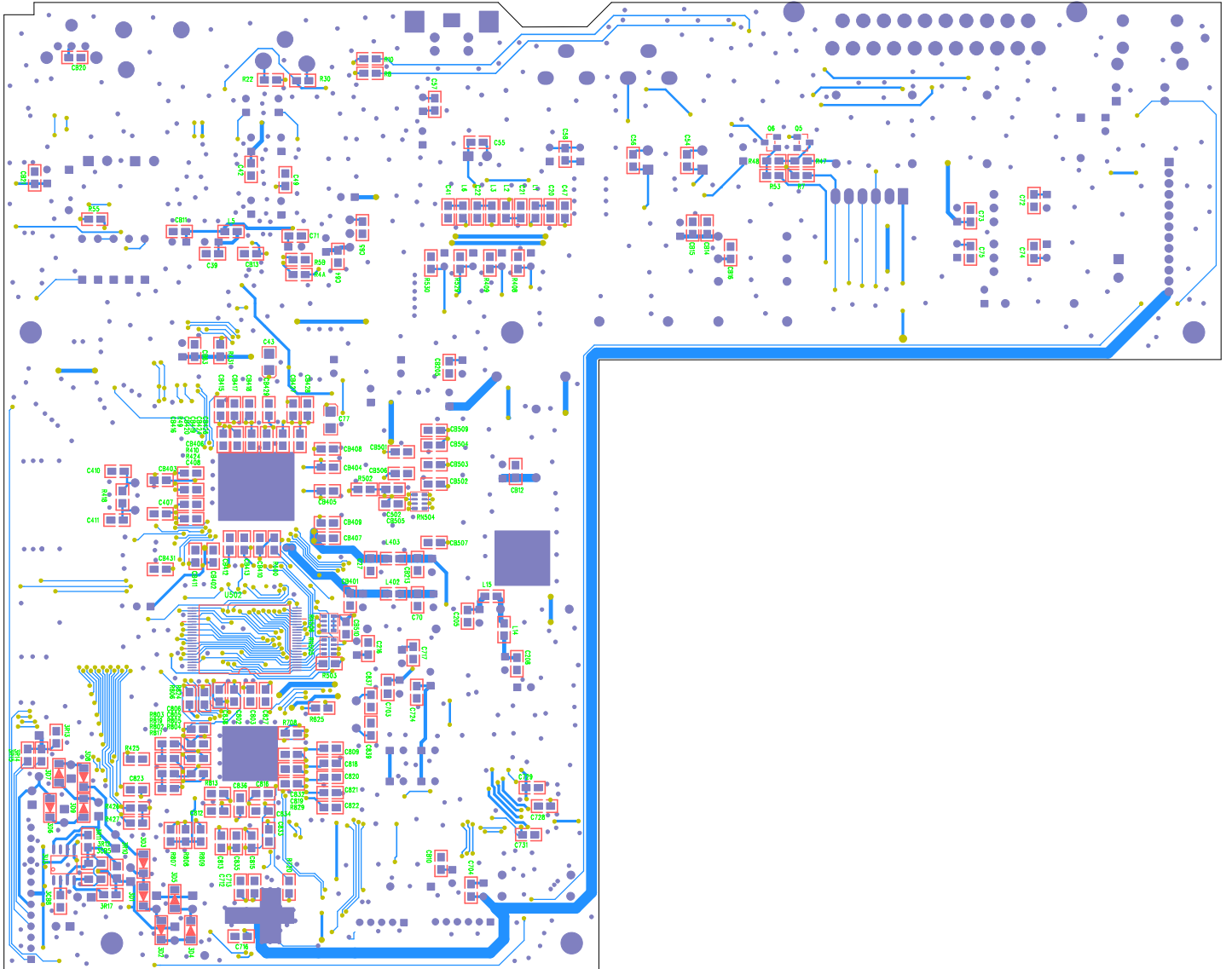
DVD280 BLOCK DIAGRAM

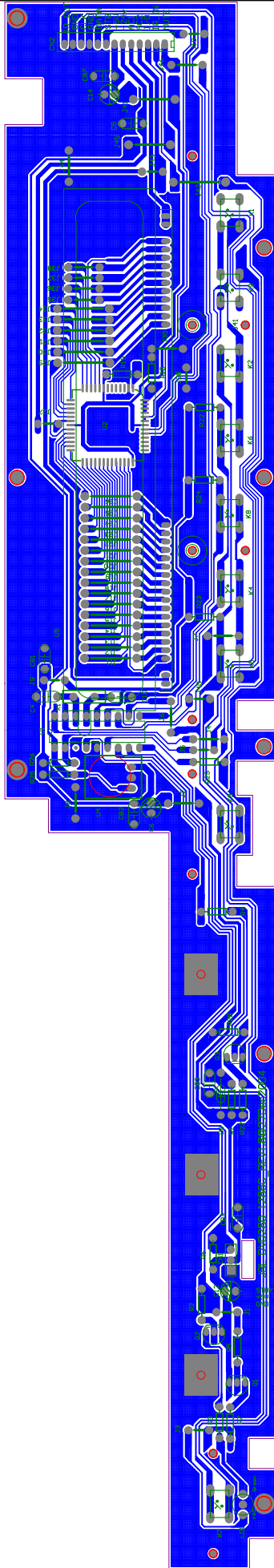


PIN 152
 H: SOFTWARE FOR AMERICA
 L: SOFTWARE FOR EUROPE

JBL		
Title DVD280 BLOCK DIAGRAM		
Size A3	Document Number 1297C-1	Rev 2.3
Date: Wednesday, February 16, 2005	Sheet 2	of 15







DVD 280 Electrical Part List				
Main Board (1297C-1)				
Part Number	Qty	Reference Designator	Description	
<i>Resistors</i>				
131-A0C022JT-0000	2	R730 R731	Resistor, chip	2.2Ω 1/10W 0603 5 %
131-A00022JT-0000	2	R38 R725	Resistor, chip	22Ω 1/10W 0603 5 %
131-A00033JT-0000	4	R818 R822 R504 R823	Resistor, chip	33Ω 1/10W 0603 5 %
131-A00056JT-0000	2	R732 R733	Resistor, chip	56Ω 1/10W 0603 5 %
131-A00075FT-4000	15	R2 R3 R4 R5 R6 R11 R12 R13 R14 R15 R16 R50 R51 R52 R407	Resistor, chip	75Ω 1/10W 0603 1 %
131-A00082FT-4000	3	R815 R816 R820	Resistor, chip	82Ω 1/10W 0603 5 %
131-A00091FT-4000	1	R17	Resistor, chip	91Ω 1/10W 0603 1 %
131-A01010JT-0000	2	R43 R835	Resistor, chip	100Ω 1/10W 0603 5 %
131-A01011JT-0000	1	R37	Resistor, chip	110Ω 1/10W 0603 5 %
131-A01015JT-0000	1	R36	Resistor, chip	150Ω 1/10W 0603 5 %
131-A00187FT-4000	2	R405 R406	Resistor, chip	187Ω 1/10W 0603 1 %
131-A01022JT-0000	1	R39	Resistor, chip	220Ω 1/10W 0603 5 %
131-A01027JT-0000	1	2R13	Resistor, chip	270Ω 1/10W 0603 5 %
131-A01033JT-0000	2	R31 R32	Resistor, chip	330Ω 1/10W 0603 5 %
131-A01039JT-0000	1	2R12	Resistor, chip	390Ω 1/10W 0603 5 %
131-A01047JT-0000	4	R826 R827 R833 R834	Resistor, chip	470Ω 1/10W 0603 5 %
131-A01068JT-0000	2	R21 R29	Resistor, chip	680Ω 1/10W 0603 5 %
131-A02010JT-0000	2	R44 R828	Resistor, chip	1KΩ 1/10W 0603 5 %
131-A02012JT-0000	1	R727	Resistor, chip	1.2KΩ 1/10W 0603 5 %
131-A01178FT-4000	2	R24 R33	Resistor, chip	1.78KΩ 1/10W 0603 1 %
131-A02022JT-0000	3	R501 R507 R45	Resistor, chip	2.2KΩ 1/10W 0603 5 %
131-A02027JT-0000	11	R1 R9 R56 R114 R115 R116 R411 R412 R413 R414 R420	Resistor, chip	2.7KΩ 1/10W 0603 5 %
131-A02033JT-0000	5	2R4 2R5 2R6 2R7 2R8	Resistor, chip	3.3KΩ 1/10W 0603 5 %
131-A02047JT-0000	2	2R1 2R11	Resistor, chip	4.7KΩ 1/10W 0603 5 %
131-A02047JT-0000	1	R432	Resistor, chip	4.7KΩ 1/10W 0603 5 %
		R433		only for US version only for EU version and region 3 and 6
131-A01475FT-4000	4	R19 R26 R27 R35	Resistor, chip	4.75KΩ 1/10W 0603 1 %
131-A02056JT-0000	2	R712 R831	Resistor, chip	5.6KΩ 1/10W 0603 5 %
131-A02062JT-0000	1	R707	Resistor, chip	6.2KΩ 1/10W 0603 5 %
131-A02075JT-0000	4	R705 R710 R713 R830	Resistor, chip	7.5KΩ 1/10W 0603 5 %
131-A02075FT-4000	2	R25 R34	Resistor, chip	7.5KΩ 1/10W 0603 1 %
131-A03010JT-0000	26	R18 R20 R23 R28 R41 R42 R46 R417 R416 R428 R709 R714 R734 R735 R736 R737 R738 R741 R742 R749 R755 R810 R812 R821 2R2 2R3	Resistor, chip	10KΩ 1/10W 0603 5 %
131-A03015JT-0000	2	R40 R702	Resistor, chip	15KΩ 1/10W 0603 5 %
131-A03018JT-0000	2	R703 R726	Resistor, chip	18KΩ 1/10W 0603 5 %
131-A03027JT-0000	1	R724	Resistor, chip	27KΩ 1/10W 0603 5 %
131-A03033JT-0000	1	R706	Resistor, chip	33KΩ 1/10W 0603 5 %
131-A03068JT-0000	1	R814	Resistor, chip	68KΩ 1/10W 0603 5 %
131-A05010JT-0000	1	R832	Resistor, chip	1MΩ 1/10W 0603 5 %
130-T41015JT-0000	1	2R15	Fixed carbon film	150Ω 1/4W 5 %
130-T42010JT-0000	2	2R10 2R14	Fixed carbon film	1KΩ 1/4W 5 %



Part Number	Qty	Reference Designator	Description	
Main Board (1297C-1)				
132-0008010J-T100	1	RN571	Resistor, thick film chip network	10Ωx4 1/16W 0603 5 %
132-0008022J-T100	1	RN504	Resistor, thick film chip network	22Ωx4 1/16W 0603 5 %
132-0008033J-T100	4	RN801 RN803 RN804 RN805	Resistor, thick film chip network	33Ωx4 1/16W 0603 5 %
132-0008082J-T100	1	RN806	Resistor, thick film chip network	82Ωx4 1/16W 0603 5 %
132-0008222J-T100	5	RN501 RN502 RN503 RN505 RN506	Resistor, thick film chip network	2.2KΩx4 1/16W 0603 5 %
132-0008310J-T100	1	RN401	Resistor, thick film chip network	10KΩx4 1/16W 0603 5 %
132-0008347J-T100	1	RN802	Resistor, thick film chip network	47KΩx4 1/16W 0603 5 %
131-B00000JT-0000	2	R8 R10	Resistor, chip	0Ω 1/8W 0805 5 %
131-B00000JT-0000	2	3R6 3R9	Resistor, chip	0Ω 1/8W 0805 5 %
131-B00022JT-0000	1	R502	Resistor, chip	22Ω 1/8W 0805 5 %
131-B00027JT-0000	2	R728 R729	Resistor, chip	27Ω 1/8W 0805 5 %
131-B00033JT-0000	2	R817 R819	Resistor, chip	33Ω 1/8W 0805 5 %
131-B00075JT-4000	5	R49 R408 R409 R529 R530	Resistor, chip	75Ω 1/8W 0805 1 %
131-B01010JT-0000	2	3R14 3R15	Resistor, chip	100Ω 1/8W 0805 5 %
131-B01033JT-0000	2	R22 R30	Resistor, chip	330Ω 1/8W 0805 5 %
131-B02010JT-0000	3	R55 R824 R825	Resistor, chip	1KΩ 1/8W 0805 5 %
131-B02020JT-0000	2	R47 R48	Resistor, chip	2KΩ 1/8W 0805 5 %
131-B02022JT-0000	2	R503 3R17	Resistor, chip	2.2KΩ 1/8W 0805 5 %
131-B02027JT-0000	1	R431	Resistor, chip	2.7KΩ 1/8W 0805 5 %
131-B02039JT-0000	1	R829	Resistor, chip	3.9KΩ 1/8W 0805 5 %
131-B02047JT-0000	4	R4A R5B R7 R500	Resistor, chip	4.7KΩ 1/8W 0805 5 %
131-B03010JT-0000	16	R410 R424 R425 R426 R427 R802 R803 R804 R805 R806 R807 R808 R809 3R10 3R11 3R12	Resistor, chip	10KΩ 1/8W 0805 5 %
131-B03015JT-0000	2	R53 R813	Resistor, chip	15KΩ 1/8W 0805 5 %
131-B03018JT-0000	1	R720	Resistor, chip	18KΩ 1/8W 0805 5 %
131-B04010JT-0000	3	R418 R708 3R13	Resistor, chip	100KΩ 1/8W 0805 5 %
Capacitors				
141-C0A020PH-KT00	12	C15 C16 C17 C18 C19 C32 2C7 2C8 2C9 2C10 2C11 2C12	Capacitor,multilayer ceramic, chip	20PF 50V J NPO 0603
141-C0A033PH-KT00	1	C828	Capacitor,multilayer ceramic, chip	33PF 50V J NPO 0603
141-C0A120PH-KT00	2	C706 C711	Capacitor,multilayer ceramic, chip	200PF 50V J NPO 0603
141-C0A156PH-KT00	2	C702 C707	Capacitor,multilayer ceramic, chip	560PF 50V J NPO 0603
141-C0A168PH-KT00	2	2C5 2C6	Capacitor,multilayer ceramic, chip	680PF 50V J NPO 0603
141-C0A122PH-KT00	1	C814	Capacitor,multilayer ceramic, chip	220PF 50V J NPO 0603
141-C0A110PH-KT00	2	C52 C53	Capacitor,multilayer ceramic, chip	100PF 50V J NPO 0603
141-C0A310PH-KT00	1	C842	Capacitor,multilayer ceramic, chip	0.01UF 50V K X7R 0603
141-C0A318PH-KT00	1	C831	Capacitor,multilayer ceramic, chip	0.018UF 50V K X7R 0603
141-C0A410PH-KT00	33	C69 C215 C714 C807 C808 C810 C817 C824 C829 C830 C841 CB1 CB2 CB3 CB4 CB5 CB6 CB7 CB8 CB9 CB18 CB19 CB204 CB414 CB421 CB422 CB423 CB425 CB430 CB432 2C2 2C3 2C4	Capacitor,multilayer ceramic, chip	0.1UF 50V Z Y5V 0603
141-C0B110PH-JT00	2	C44 C46	Capacitor,multilayer ceramic, chip	100PF 50V J NPO 0805
141-C0B168PH-JT00	2	C48 C51	Capacitor,multilayer ceramic, chip	680PF 50V J NPO 0805
141-C0B210PH-JT00	2	C45 C50	Capacitor,multilayer ceramic, chip	1000PF 50V J NPO 0805
141-C0BC68PH-KT00	1	C502	Capacitor,multilayer ceramic, chip	6.8PF 50V J NPO 0805
141-C0B010PH-KT00	4	C408 C823 C837 C839	Capacitor,multilayer ceramic, chip	10PF 50V J NPO 0805
141-C0B022PH-KT00	3	C22 C410 C411	Capacitor,multilayer ceramic, chip	22PF 50V J NPO 0805



Part Number	Qty	Reference Designator	Description		
Main Board (1297C-1)					
141-C0B047PH-KT00	2	C407 C821	Capacitor,multilayer ceramic, chip	47PF 50V J NPO 0805	
141-C0B050PH-KT00	2	C20 C21	Capacitor,multilayer ceramic, chip	51PF 50V J NPO 0805	
141-C0B210PH-KT00	2	CB15 C813	Capacitor,multilayer ceramic, chip	1000PF 50V J NPO 0805	
141-C0B215PH-KT00	1	C815	Capacitor,multilayer ceramic, chip	1500PF 50V J NPO 0805	
141-C0B256PH-KT00	1	C822	Capacitor,multilayer ceramic, chip	5600PF 50V J NPO 0805	
141-C0A310PH-KT00	2	C820 C836	Capacitor,multilayer ceramic, chip	0.01UF 50V K X7R 0805	
141-C0A312PH-KT00	1	3CB5	Capacitor,multilayer ceramic, chip	0.012UF 50V K X7R 0805	
141-C0B333PH-KT00	1	C818	Capacitor,multilayer ceramic, chip	0.033UF 50V K X7R 0805	
141-C0B410PH-KT00	87	C27 C39 C42 C47 C49 C54 C55 C56	Capacitor,multilayer ceramic, chip	0.1UF 50V Z Y5V 0805	
		C57 C58 C64 C65 C70 C71 C72 C73			
		C74 C75 C205 C208 C216 C703 C704 C712			
		C713 C716 C717 C724 C728 C729 C731 C802			
		C803 C805 C806 C809 C812 C819 C827 C832			
		C835 C838 CB10 CB11 CB12 CB13 CB14 CB16			
		CB20 CB21 CB63 CB205 CB213 CB401 CB402 CB403			
		CB404 CB405 CB406 CB407 CB408 CB409 CB410 CB411			
		CB412 CB413 CB415 CB416 CB417 CB418 CB419 CB420			
		CB424 CB426 CB427 CB428 CB429 CB431 CB501 CB502			
CB503 CB504 CB505 CB506 CB507 CB509 CB510					
141-C0B510PH-KT00	4	C816 C833 C834 3CB8	Capacitor,multilayer ceramic, chip	1UF 50V Z Y5V 0805	
140-DCA001UH -0A00	2	C4 C5	Capacitor, AL.electrolytic	1µF 50V 20%	
140-DCAC47UH -0A00	2	C825 C826	Capacitor, AL.electrolytic	4.7µF 50V 20%	
140-DCA010UF -0A00	3	C35 C59 C723	Capacitor, AL.electrolytic	10µF 25V 20%	
140-DCA022UE -0A00	3	C7 C9 C14	Capacitor, AL.electrolytic	22µF 16V 20%	
140-DCA047UE -0A00	11	C8 C13 C33 C34 C36 C37 C66 C67 C718 C719 2C1	Capacitor, AL.electrolytic	47µF 16V 20%	
140-DCA047UH -0A00	11	3C1 3C2 3C3 3C4 3C5 3C6 3C7 3C9 3C13 3C15 3C16	Capacitor, AL.electrolytic	47µF 50V 20%	
140-DCA110UD -0A00	7	C6 C12 C62 C76 C402 C404 C501	Capacitor, AL.electrolytic	100µF 10V 20%	
140-DCA110UE -0A00	5	C63 C207 C715 C720 C730	Capacitor, AL.electrolytic	100µF 16V 20%	
140-DCA110UF -0A00	4	C29 C38 C30 C31	Capacitor, AL.electrolytic	100µF 25V 20%	
140-DCA110UH -0A00	2	C60 C61	Capacitor, AL.electrolytic	100µF 50V 20%	
140-DCA122UD -0A00	4	C3 C26 C28 C210	Capacitor, AL.electrolytic	220µF 10V 20%	
140-DCA122UE -0A00	9	C2 C23 C25 C201 C209 C403 C405 C406 C409	Capacitor, AL.electrolytic	220µF 16V 20%	
140-DCA033UD -0A00	3	C10 C11 C40	Capacitor, AL.electrolytic	330µF 10V 20%	
140-DCA047UD -0A00	2	C24 C68	Capacitor, AL.electrolytic	470µF 10V 20%	
140-DCA215UC -0A00	1	C1	Capacitor, AL.electrolytic	1500µF 6.3V 20%	
<i>Semiconductors</i>					
110-B0IN4148-0A00	8	D9 D10 D11 D12 D13 D17 2D1 D801	Diode	1N4148, In-line Package	
111-B0IN4148-0A00	9	3D1 3D2 3D3 3D4 3D5 3D6 3D7 3D8 3D9	Diode	1N4148, SMD	
110-B0IN5953-0A00	3	D14 D15 D16	Diode	1N5393, In-line Package	
111-D000C061-0T00	1	3DZ1	Zener Diode	Zener Diode, 6.1V, In-line Package	
121-00008050-T400	5	Q701 Q801 Q802 Q5 Q6	Transistor	8050, SMD	SMD
121-00008550-T300	6	Q3 Q4 Q702 Q703 Q704 2Q1	Transistor	8550, SMD	SMD
121-00009014-T000	7	Q705 Q706 Q707 Q708 Q709 Q710 Q711	Transistor	9014, SMD	SMD
121-DTC343TK-T400	5	Q1 Q2 2Q2 2Q3 2Q4	Transistor, ROHM	DTC343TK, SMD	SMD
121-DTA114EK-T400	1	Q712	Transistor, ROHM	DTA114EKA, SMD	SMD
102-00LM833M-6000	1	U3	IC, NS, Pre-amp	LM833M, 8P, MSOP	SMD
102-OAML3370-1000	1	U401	IC, Amlogic, decoder	AML3370, 208P, PQFP	SMD

Part Number	Qty	Reference Designator	Description		
Main Board (1297C-1)					
102-0AT24C01-6000	1	U15	IC, Atmel, EEPROM	AT24C01, 8P, SOP	SMD
102-074HCT14-6000	1	U6	IC, Philips, Hex inverting Schmitt trigger	74HCT14, 14P, SO14	SMD
101-29LV800B-8432	1	U502	IC, Fujitsu, Flash memory	MBM29LV800BA-70,48P, TSOP48	firmware burn-in, region 3
101-29LV800B-8462					firmware burn-in, region 6
101-26LV800B-8432			IC, Mxic, Flash memory	MX26LV800BTC-55,48P, TSOP48	firmware burn-in, region 3
101-26LV800B-8462					firmware burn-in, region 6
105-00078L05-8000	1	U7	IC, NS, Voltage Regulator	78L05, 3P, TO-92	SMD
102-AN8785SB-6000	1	U701	IC, Panasonic, Motor Driver	AN8785SB, HSOP042	SMD
101-HY57V641-8800	1	U501	IC, Hyundai, SDRAM	HY57V641620HG, 54P, TSOP54	SMD
100-MN103S47-3000	1	U801	IC, Panasonic, Servo chip	MN103S47JRB, 176P	SMD
105-SHAPC817-1000	1	2U1	IC, Sharp, Photoelectric Coupler	PC817, 4P, DIP	DIP
102-S018EZ01-0000	1	U8	IC, Sharp, Voltage Regulator	O18EZ01, PQ025	SMD
102-00WM8728-7000	1	U5	IC, Wolfson, Audio DAC	WM8728, 20P, SSOP20	SMD
102-BH7862FS-7000	1	U2	IC, Rohm, Video Buffer	BH7862FS, 32P, SSOP-A32	SMD
105-00078L12-8000	1	U1	IC, NS, Voltage Regulator	78L12, 3P, TO-92	TO-92
105-00079L12-8000	1	U4	IC, NS, Voltage Regulator	79L12, 3P, TO-92	TO-92
102-00LM9022-7000	1	3U3	IC, NS, Vacuum Fluorescent Display Filament Driver	LM9022, 8P, SO8	SMD
<i>Miscellaneous</i>					
217-03386003-2200	1	Y801	Fundamental. Oscillator	33.868MHz, In-line Package	
217-02700003-2200	1	Y401	Fundamental. Oscillator	27.0MHz, In-line Package	
151-3B0B39K1-A000	1	L3	Inductor, multilayer ceramic, chip	0.39µH HDW0805UC3R9JGT, 0805	
151-3B0B68K1-A000	2	L1 L2	Inductor, multilayer ceramic, chip	0.68µH HDW0805UC6R8JGT, 0805	
152-1B205001-A000	18	L5 L401 L402 L403 L404 L405 L406 L407 L701 L702 L703 L801 L802 L803 L804 L805 L14 L15	Bead, chip	Impedance is 50Ω, 0805	
153-RH356008-1000	9	L4 L13 FB6 FB7 FB8 FB9 FB10 FB11 FB14	Bead, leaded fixed	Impedance is 50Ω, In-line Package	
152-1A211201-A000	20	FB1 FB2 FB3 FB4 FB5 FB16 FB17 2FB1 2FB2 2FB3 2FB4 2FB5 2FB6 2FB7 2FB8 L8 L9 L10 L11 L12	Bead, chip	Impedance is 120Ω, 0603	
180-0000PH5A-5100	1	CN5	Connector	PH-5A, 5P, In-line Package	
180-0000PH6A-5100	1	CN4	Connector	PH-6A, 6P, In-line Package	
180-000PH13A-5100	1	CN6	Connector	PH-13A, 13P, In-line Package	
180-000PH13A-5100	1	CN1	Connector	PH-13A, 13P, In-line Package	
181-00050241-0100	1	CN3	Connector	24pin 0.5mm connector, SMD	
187-00000000-0940	1	J1	Jack, BeiBaiXiang IR in/out jack	SCJ351P00XS0B00 (BLACK), In line Package	Black
187-00EV021A-0740	1	J2	Jack, QiangSheng SCART output jack	EV-021A, SCART, In-line Package	Europe version
187-0000DSW6-0360	1	J5	Jack, YuanChang S-video output jack	DSW-6, In-line Package	Gilded Antiflamin
186-0AV2841G-1300	1	J6	Jack, YuanChang Audio output jack	AV2-8.4-1G, In-line Package	Down red & up white
186-0AV1846G-1300	1	J7	Jack, YuanChang Coaxial output jack	AV1-8.4-6G, In-line Package	Orange
186-00AV4845-1300	1	J3	Jack, YuanChang Video output jack	AV4-8.4-5, In-line Package	Down blue red & up green yellow
187-1FA513TZ-0540	1	J8	Jack, Sharp, Fiber optic output jack with shutter	GP1FA513TZ, In-line Package	

Part Number	Qty	Reference Designator	Description	
Front Panel (1286C)				
<i>Resistors</i>				
130-T30110JT-0000	1	R29	FIXED CARBON FILM	100Ω 1/6W 5 %
130-T30147JT-0000	1	R4	FIXED CARBON FILM	470Ω 1/6W 5 %
130-T30210JT-0000	1	R27	FIXED CARBON FILM	1KΩ 1/6W 5 %
130-T30222JT-0000	2	R3 R7	FIXED CARBON FILM	2.2KΩ 1/6W 5 %
130-T30247JT-0000	4	R22 R23 R24 R28	FIXED CARBON FILM	4.7KΩ 1/6W 5 %
130-T30310JT-0000	3	R1 R2 R5	FIXED CARBON FILM	10KΩ 1/6W 5 %
130-T30333JT-0000	1	R18	FIXED CARBON FILM	33KΩ 1/6W 5 %
130-T30347JT-0000	1	R19	FIXED CARBON FILM	47KΩ 1/6W 5 %
<i>Capacitors</i>				
140-CHB022PH-KT00	2	C4 C10	RADIAL LEADS MLCC	22P 50V 20 %
140-CHB410PH-KT00	6	CB1 CB2 CB3 CB4 CB7 C5	RADIAL LEADS MLCC	0.1uF 50V 20 %
140-DCA047UD-0A10	1	C6	CAPACITOR,AL.ELECTROLYTIC	47uF 10V 20 %
140-DCA110UD-0A10	1	C14	CAPACITOR,AL.ELECTROLYTIC	100uF 10V 20 %
140-DCA122UD-0A10	1	C12	CAPACITOR,AL.ELECTROLYTIC	220uF 10V 20 %
<i>Semiconductors</i>				
110-B0IN4148-0A00	1	D6	Diode	1N4148, 2P, In-line Package
110-FHFT503M-2T00	1	LD1	Diode, color is blue&amber	HFT503MPOR-1, Φ3, 3P, In-line Package
121-00008050-T400	2	Q1	Transistor	8050, 3P, In-line Package
121-00008550-T300	2	Q2 Q3	Transistor	8550, 3P, In-line Package
103-CF74504P-1222	1	U1	IC, Microchip, MCU	CF745-04/P, 18P, DIP
102-00PT6311-1000	1	U2	IC, Princeton Technology Corp., VFD driv	PT6311 SMD
219-OHS0038B-0100	1	U4	IR receiver	HS0038B, 3P, In-line Package
<i>Miscellaneous</i>				
190-00DVD280-0120	1	U5	VFD	VFD22-1101C
217-00400003-2200	1	X1	Fundamental. Oscillator	4.000MHZ, 2P, In-line Package
170-C0000004-0000	9	K1-K9	Touch switch	6×6
Power Supply Board (1254C)				
<i>Resistors</i>				
130-T45010JT-0000	1	R1	Fixed carbon film	1MΩ 1/4W 5 %
130-T63068JT-0000	1	R2	Fixed carbon film	68KΩ 1W 5 %
130-T64036JT-0000	1	R3	Fixed carbon film	360KΩ 1W 5 %
130-T42022JT-0000	3	R17 R18 R22	Fixed carbon film	2.2KΩ 1/4W 5 %
130-T42051JT-0000	3	R23 R24 R25	Fixed carbon film	5.1KΩ 1/4W 5 %
130-T43010JT-0000	1	R15	Fixed carbon film	10KΩ 1/4W 5 %
130-T40010JT-0000	2	R4 R6	Fixed carbon film	10Ω 1/4W 5 %
130-T43047JT-0000	1	R5	Fixed carbon film	47KΩ 1/4W 5 %

Part Number	Qty	Reference Designator	Description		
Power Supply Board (1254C)					
130-T40047JT-0000	1	R21	Fixed carbon film	47Ω 1/4W 5%	
130-T41010JT-0000	1	R16	Fixed carbon film	100Ω 1/4W 5%	
130-T41022JT-0000	3	R13 R19 R20	Fixed carbon film	220Ω 1/4W 5%	
130-T41068JT-0000	1	R14	Fixed carbon film	680Ω 1/4W 5%	
130-T42010JT-0000	1	R26	Fixed carbon film	1KΩ 1/4W 5%	
Capacitors					
140-CGA410PO-0A00	1	CX1	High-voltage metallized polyester film	0.1uF 275V 20%	X-type
140-CGA147PQ-0A00	2	CY1 CY2	High-voltage metallized polyester film	470PF 400V 20%	Y1-type
140-CGA210PQ-0A00	1	CY3	High-voltage metallized polyester film	1000PF 400V 20%	Y1-type
140-CGA310PW-0A00	1	C1	High-voltage metallized polyester film	0.01uF 1KV 20%	
140-CHB347PF-JA00	2	C2 C13	Radial leads mlcc	0.047uF 50V 20%	
140-CHB368PF-JA00	1	C3	Radial leads mlcc	0.068uF 50V 20%	
140-CHB410PF-JA00	6	C10 C11 C12 C14 C15 C16	Radial leads mlcc	0.1uF 25V 20%	
140-DCAC22UM-0A00	1	EC3	Capacitor, AL.electrolytic	4.7uF 160V 20%	
140-DCAC22UF-0A00	1	EC22	Capacitor, AL.electrolytic	2.2uF 25V 20%	
140-DCA047UH-0A00	1	EC2	Capacitor, AL.electrolytic	47uF 50V 20%	
140-DCF047UQ-0A00	1	EC1	Capacitor, AL.electrolytic	47uF 400V 105°C 20%	18x21mm,105°C
140-DCA047UF-0A00	2	EC17 EC18	Capacitor, AL.electrolytic	47uF 25V 20%	
140-DCA110UF-0A00	2	EC11 EC12	Capacitor, AL.electrolytic	100uF 25V 105°C 20%	
140-DCA122UE-0A00	4	EC5 EC6 EC16 EC21	Capacitor, AL.electrolytic	220uF 16V 105°C 20%	
140-DCA122UF-0A00	4	EC9 EC10 EC14 EC15	Capacitor, AL.electrolytic	220uF 25V 105°C 20%	
140-DCA147UE-0A00	1	EC4	Capacitor, AL.electrolytic	470uF 16V 105°C 20%	
140-DCF210UE-0A00	2	EC19 EC20	Capacitor, AL.electrolytic	1000uF 16V 105°C 20%	
Semiconductors					
110-B0IN4001-0A00	1	D17	Diode	IN4001, In-line Package	
110-B0IN4007-0A00	4	D1 D2 D3 D4	Diode	IN4007, In-line Package	
110-B00FR104-0A00	5	D6 D8 D10 D11 D13	Fast recovery rectifiers diode	FR104, In-line Package	
110-B00FR107-0A00	1	D7	Fast recovery rectifiers diode	FR107, In-line Package	
110-B0IN4148-0A00	3	D14 D16 D18	Switching Diode	1N4148, In-line Package	
110-B021DQ10-0A00	1	D12	Diode	21DQ10, In-line Package	
110-B031DQ06-0A00	1	D15	Diode	31DQ06, In-line Package	
110-B0001U08-0A00	1	D5	Diode	1U08, In-line Package	
110-D000C160-0A00	1	ZD1	Zener Diode	16V 1/2W, In-line Package	
110-D000C180-0A00	1	ZD2	Zener Diode	18V 1/2W, In-line Package	
110-0MCR1006-0A00	1	SC1	Silicon controlled rectifiers	MCR100-6, In-line Package	
120-002N5551-A000	1	Q1	Transistor	2N5551, 3P, TO-92	
120-000C8550-A400	1	Q3	Transistor	C8550, 3P, TO-92	
120-00009014-A000	1	Q2	Transistor	9014, 3P, TO-92	
105-KA5I0365-1000	1	IC1	IC,Fairchild, Power Switch	KA5L0365RN, 8P, DIP	Old Version NLA
105-KA5M0265-1000				KA5M02659RN, 8P, DIP	New Version
105-000KA431-8000	1	IC2	IC,Fairchild, Precision Adjustable Voltage Regulator	KA431, 3P, In-line Package	
105-00BA033T-8000	1	IC6	IC, Rohm, Voltage Regulator	BA033T, 3P, In-line Package	
105-000LM317-8000	1	IC5	IC, NS, Voltage Regulator	LM317, 3P, In-line Package	
105-00LM7805-8000	1	IC3	IC, NS, Voltage Regulator	LM7805,3P, In-line Package	

DVD280



Part Number	Qty	Reference Designator	Description		
Power Supply Board (1254C)					
105-000PC817-1000	1	PH1	IC, Sharp, Photoelectric Coupler	PC817, 4P, DIP	
<i>Miscellaneous</i>					
154-0L630010-0000	1	L7	Filter inductor	L630-10uH	
154-B0810020-0000	1	L6	Filter inductor	0810-20UH	
154-B0608020-0000	4	L3 L4 L5 L8	Filter inductor	0608-20uH	
154-BLCLE650-0000	1	LF1	Common Mode Choke	LCL ET20-50mH	
180-000VH03A-3100	1	JP1	Connector	Vertical VH three holes two pins(white)	Antiflaming
180-000VH03A-3110	1	JP2	Connector	Vertical VH three holes two pins(orange)	Antiflaming
180-0TJC303A-5100	1	CN1	Connector	TJC3-3A, 3P, In-line Package	
180-0TJC303A-5100	1	CN2	Connector	TJC3-13A, 13P, In-line Package	
208-10C10000-0000	1	for FU1	Fuse Holder		Antiflaming
210-01000250-2000	1	FU1	Fuse	T1AL/250V (1A)	
150-BBCKEC28-0020	1	TR1	Transformer	BCK-EC2802	
130-0RNTC5D9-0000	1	NTC	NTC thermistor	NTC-5D-9	
130-M10D471K-0000	1	RV1	Zinc oxide varistor	MYG10K471	
DVD 280 Mechanical Part List					
Part Number	Qty	Description			
380-EVD28001-9400	1	Front panel DVD280-01 DVD280-01	Aluminium alloy		
385-DVD28015-3900	2	Net cover on front panel DVD280-15			
380-BVD28017-8200	1	Chassis DVD280-17	galvanized iron		
380-AVD28018-8100	1	top cover DVD280-18	galvanized iron		
380-CVD28019-8100	1	back panel DVD280-19	galvanized iron		
380-DVD28021-3A00	2	Len support DVD280-21	galvanized iron		
380-F0280380-0100	1	Baffle for PCB	Black		
385-00282810-5200	1	Heat sink	for IC U401, 28mm×28mm×10mm		
330-0VD28005-9000	1	Left baffle	DVD280-05		
330-0VD28006-9000	1	Right baffle	DVD280-06		
330-2VD28004-9000	1	Disc tray door □□	DVD280-04		
331-2VD28014-9000	1	Open/Close button	DVD280-14		
331-400DVD25-9000	4	Pedestal	bronzing, size same as DVD 25, specify color		
331-1VD28009-9000	1	Power switch button	DVD280-09		
331-1VD28008-9000	1	Standby button	DVD280-08		
332-3VD28011-9000	1	Power switch button fixup	DVD280-11		
331-1VD28007-9000	1	Functional key button	DVD280-07		
331-8VD28002-0000	1	Len for VFD	DVD280-02		
331-800DVD28-0000	1	Len for tray door	with glue		
350-000SD003-0200	4	Pedestal underlay SD003	Same as DVD25		
332-3VD28022-9000	4	Loader support	DVD280-22		
331-5VD28016-7000	1	Standby button lampshade	DVD280-16		
332-200SZ010-0800	1	IR receiver head frame SZ010	7.5mm		

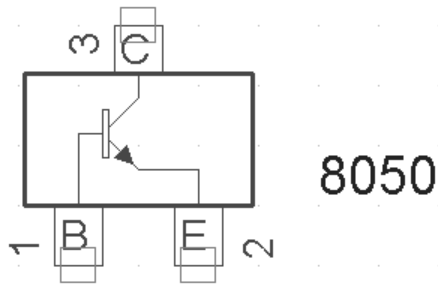
DVD280



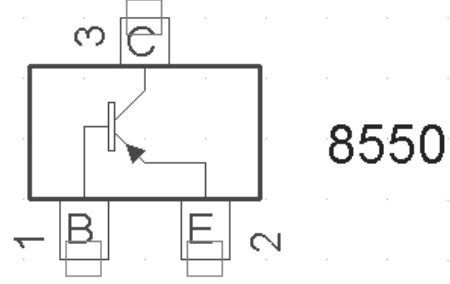
Part Number	Qty	Reference Designator	Description		
332-3C007128-8010	6	PCB plastic frame	7 X 12.8mm		
600-000JBL04-9910	1	"JBL" brand"	DVD280		
350-000SD001-0200	3	VFD soft pad SD001	20mm×10mm×2.5mm		
500-10080801-0000	2	soft pad VFD	8mm×8mm×100mm		
160-EG130110-0A00	1	13 pin, long 110mm, ono end with 2.0mm connector, one end with 2.54mm space, same direction	connect power supplier board and mainboard		
160-EE060240-0A10	1	6 pin, long 240mm, two ends with connector, 2.0mm space, different direction	connect loader and mainboard		
160-EE050360-0A10	1	5 pin, long 360mm, two ends with connector, 2.0mm space, different direction	connect loader and mainboard		
161-24260050-0000	1	24 pin, long 260mm, 0.5mm space, flat cable, same direction	connect loader and mainboard		
160-EH020300-0000	1	2 pin, long 300mm, one end with orange VH3Y connector	connect power supplier board and power switch		
160-ED030380-0A00	1	3 pin, long 380mm, one end with connector, 2.54mm space	connect power supplier board and front panel board		
160-EC130150-0A00	1	13 pin, long 150mm, ono end with connector, 2.0mm space	connect front panel board and mainboard		
162-A60MM000-0000	1	AC cord, long 100mm, ono end with white VH3Y connector	connect power supplier board and fixed on rear panel		
170-A4ESA024-0000	1	Power switch, PS4E-A-024			
510-DA02S165-0000	1	Power jack, SA-2S-165			
300-C01297C1-0002	1	1297C-1	Mainboard		
300-D001286C-0001	1	1286C	Front panel board		
300-A001254C-0001	1	1254C	Power supply board		
206-0000DV34-2202	1	Loader	SANYO DV34		

DVD280 SEMICONDUCTOR PINOUTS

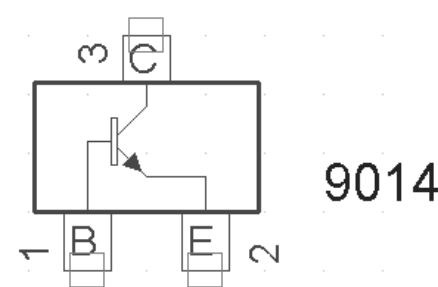
8050, NPN Transistor, SMD



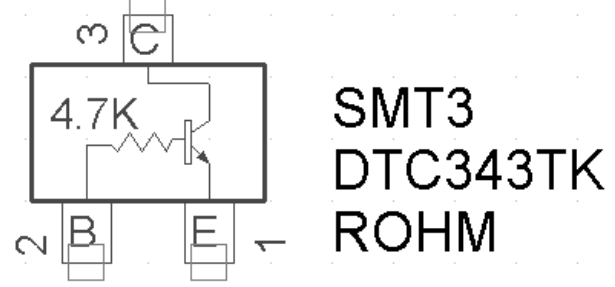
8550, NPN Transistor, SMD



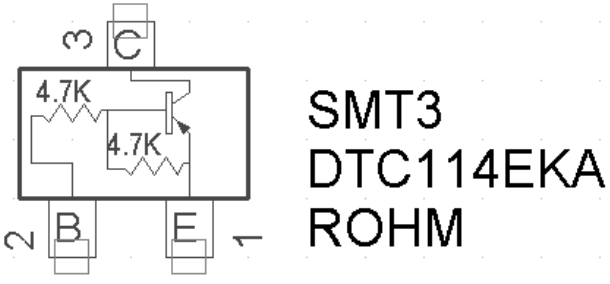
9014, NPN Transistor, SMD



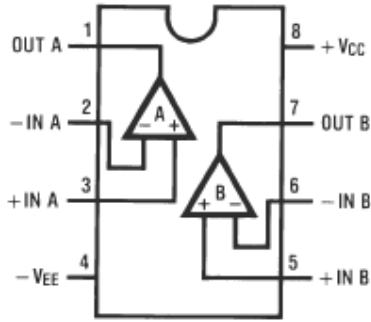
DTC343TK, NPN Transistor, SMD



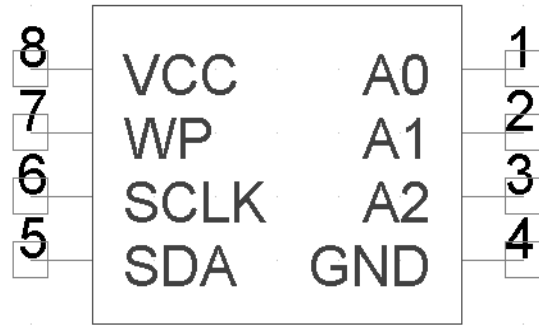
DTC114EKA, PNP Transistor, SMD



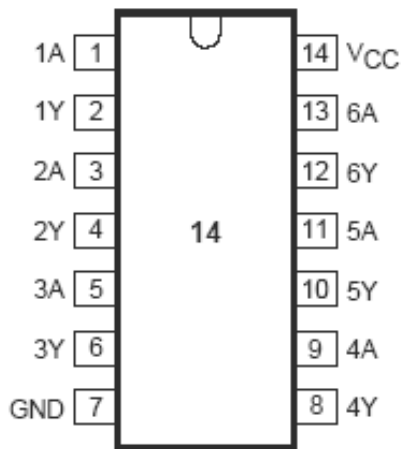
LM833M, pre-amp, SMD



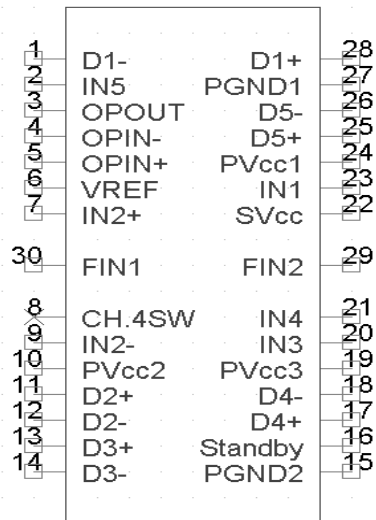
AT24C01, EEPROM, SMD



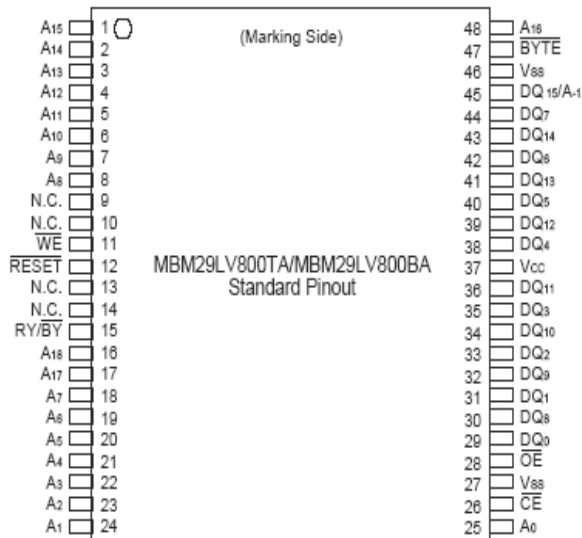
74HCT14, Hex inverting Schmitt trigger, SMD



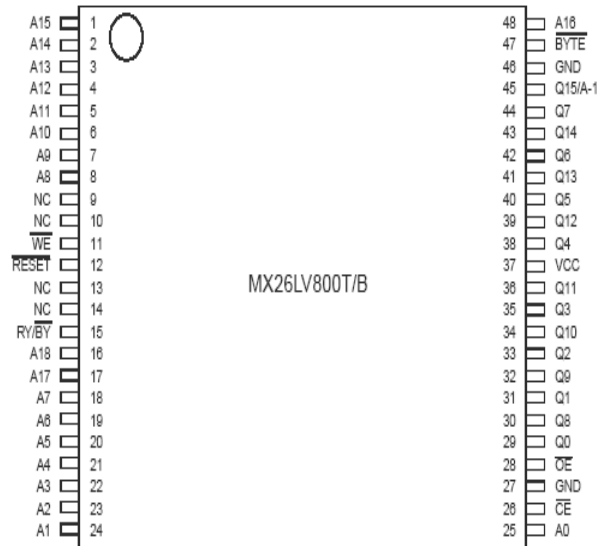
AN8785SB, motor driver, SMD



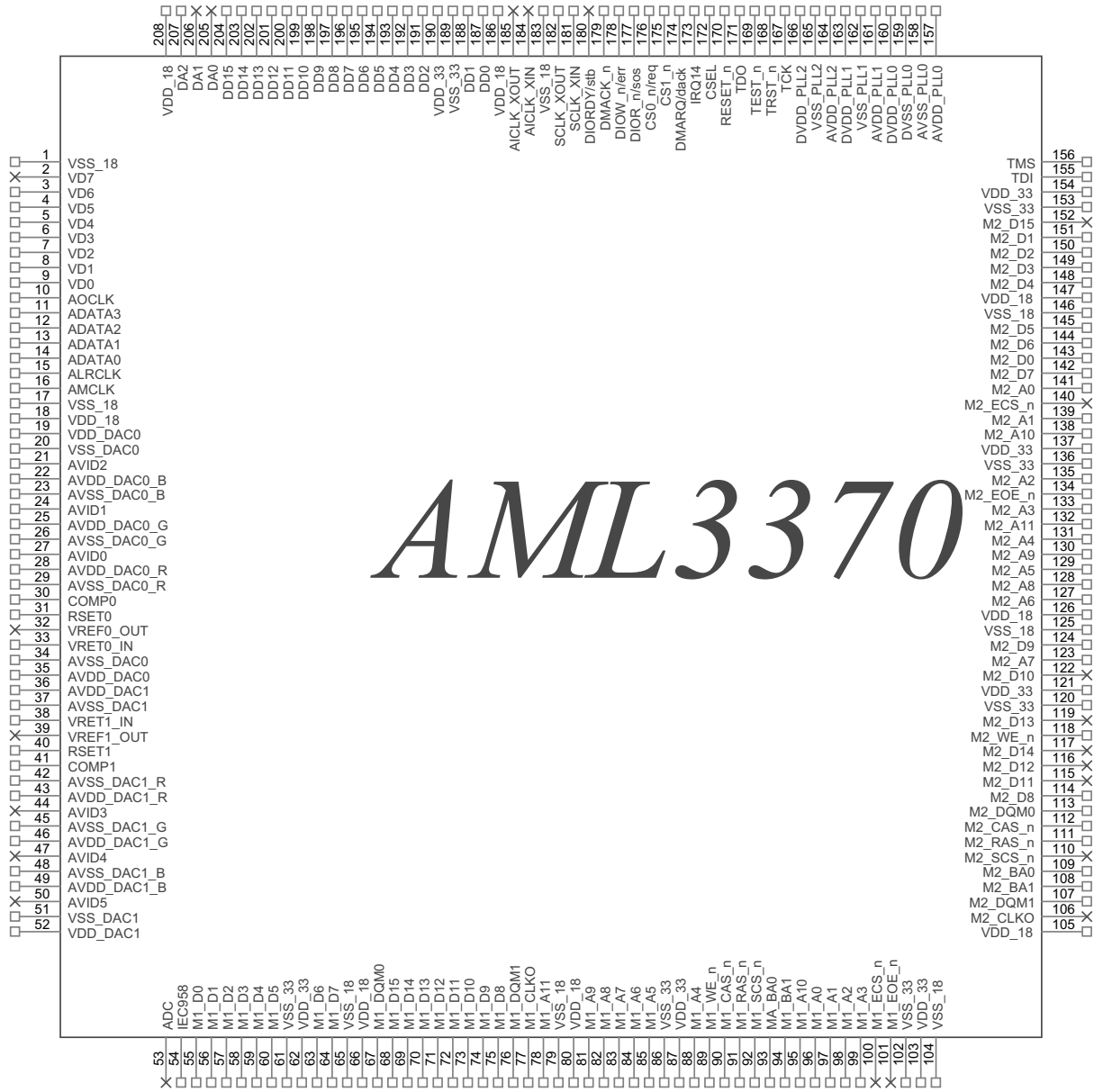
MBM29LV800BA-70, flash, SMD



MX26LV800BTC-55, flash, SMD



AML3370, decoder, SMD



78L05, Voltage Regulator, TO-92



1. Output 2. GND 3. Input

78L12, Voltage Regulator, TO-92



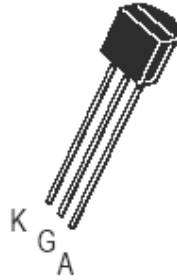
1. Output 2. GND 3. Input

79L12, Voltage Regulator, TO-92



1.GND 2.Input 3.Output

MCR100-6, Silicon controlled rectifiers, TO-92



2N5551, NPN, TO-92



8550, PNP, TO-92



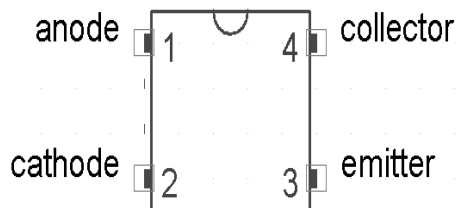
8050, NPN, TO-92



9014, NPN, TO-92



PC817, Photoelectric Coupler, DIP

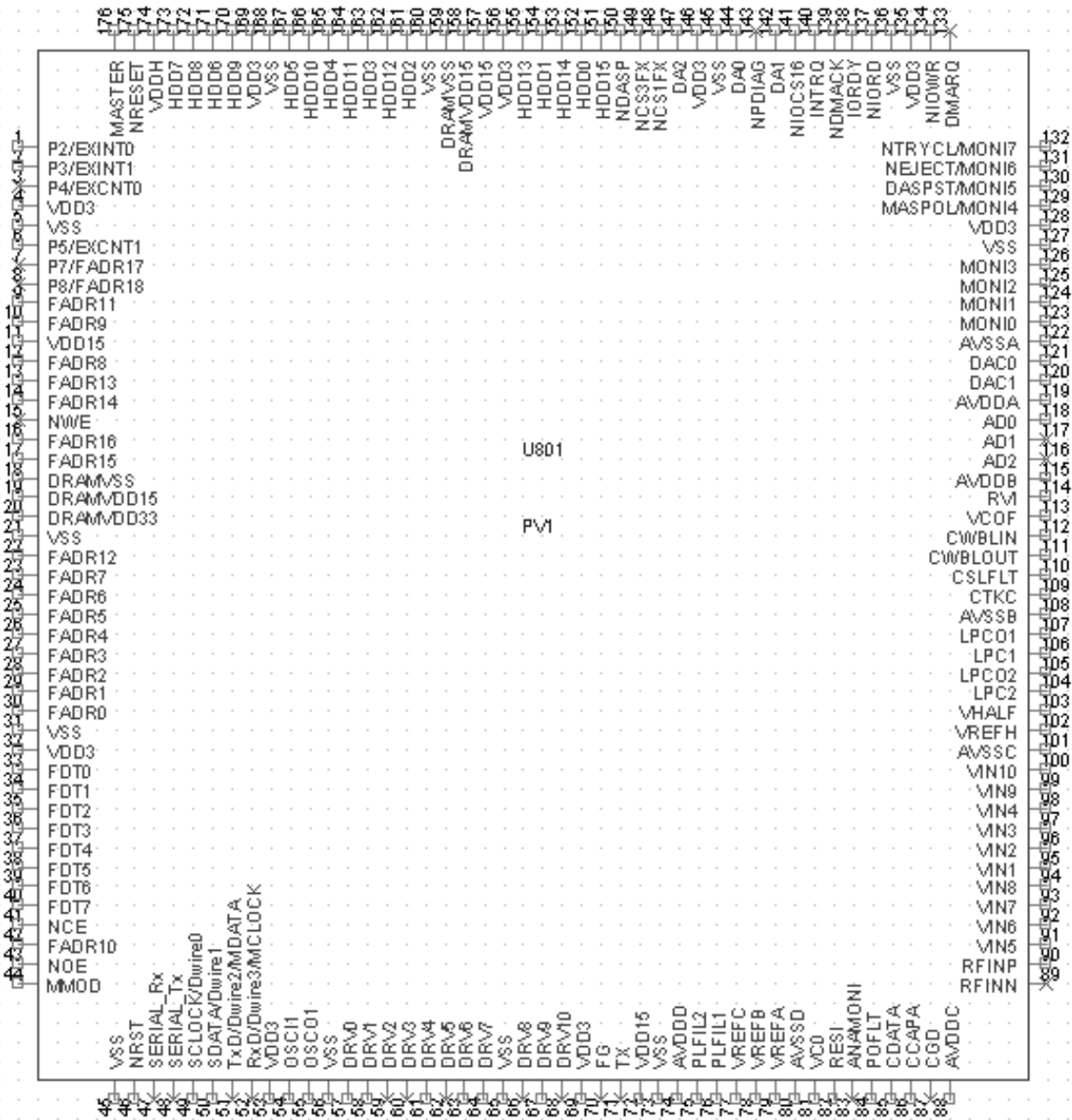


KA431, Precision Adjustable Voltage Regulator, TO-92

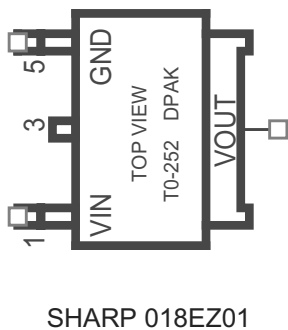


1. Ref 2. Anode 3. Cathode

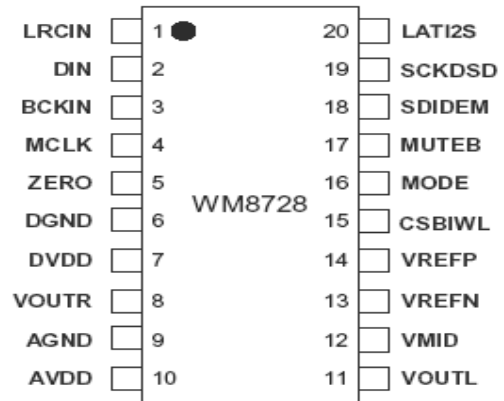
MN103S47JRB, servo, SMD



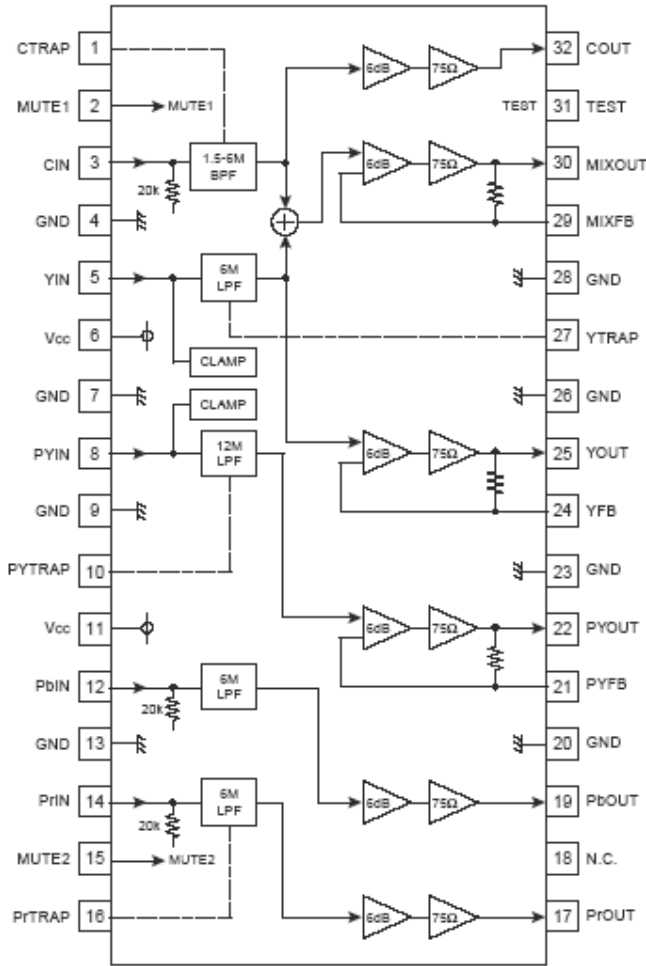
O18EZ01, Voltage Regulator, SMD



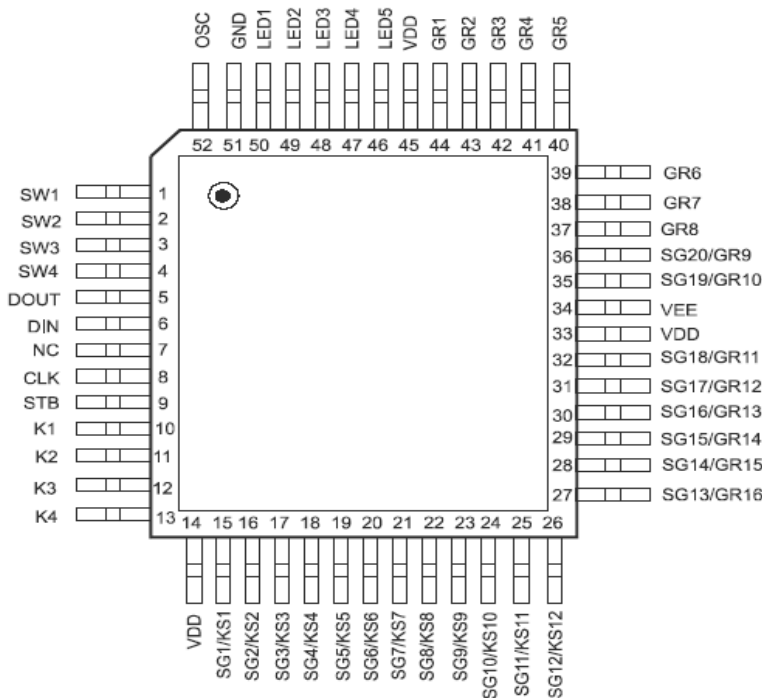
WM8728, Audio DAC, SMD



BH7862FS, Video Buffer, SMD



PT6311, VFD driver, SMD



KA5L0365RN, Power Switch, DIP



1.6.7.8 Drain 2.GND 3.Vcc 4.FB 5.NC

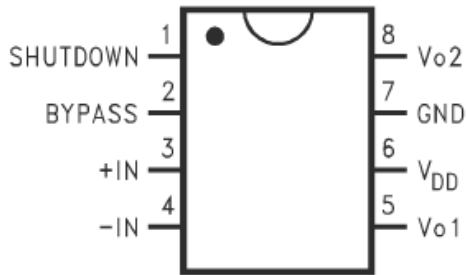
KA5M02659RN, Power Switch, DIP



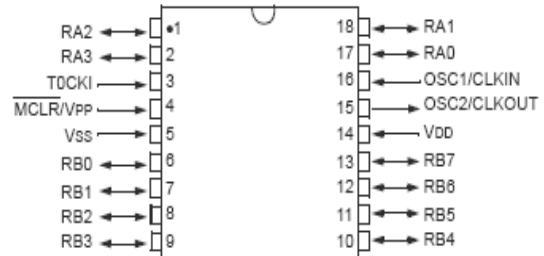
1.6.7.8 Drain 2.GND 3.Vcc 4.FB 5.NC

LM9022, SMD

Vacuum Fluorescent Display Filament Driver



CF745-04/P, MCU, DIP



LM317, Voltage Regulator, TO-220



1. Adj 2. Output 3. Input

LM7805, Voltage Regulator, TO-220



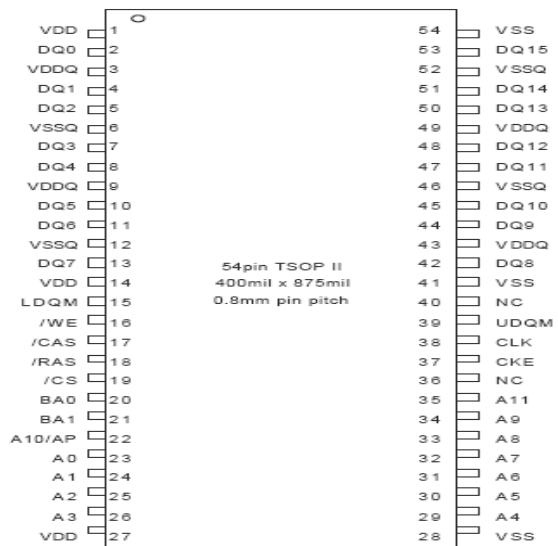
1. Input 2. GND 3. Output

BA033T, Voltage Regulator, TO-220



1. Input 2. GND 3. Output

HY57V641620HG, SDRAM, SMD



JBL-DVD 280

MANUFACTURING KIT / REFERENCE DESIGN

SPECIAL NOTES

These schematics reflect the current state of product development. This design had NOT yet been fully tested at the time these schematics were generated.

Since this product is in development, the user of this document is strongly advised to check for the latest revision.

ALL parts labeled "N/A" are NOT ASSEMBLED.

Print Instructions:

- To create a readable printout, we recommend to use A3 or 11x17" paper size.
- When printing from this PDF file, make sure to check the "Shrink to fit" box.

SYSTEM CONFIGURATION

Module	Configuration	Description
AUDIO	2 channel	DAC : WM8728 OPAMP : LM833
	Electrical SPDIF Optical SPDIF	Connector on board Connector on board
VIDEO	CVBS and S-Video / Selection by software RGB and YCrCb	Video Buffer : Bh7862
SDRAM	64Mbit (x 16 Bits Wide)	HY57V641620HG-7 OR Equivalent for Mpeg
FLASH	8 Mbit (x 8 Bits Wide)	29LV800(or Equivalent)
LOADER	Sanyo DV34	Panasonic Chipset(PV 1)

CONFIDENTIAL

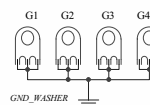
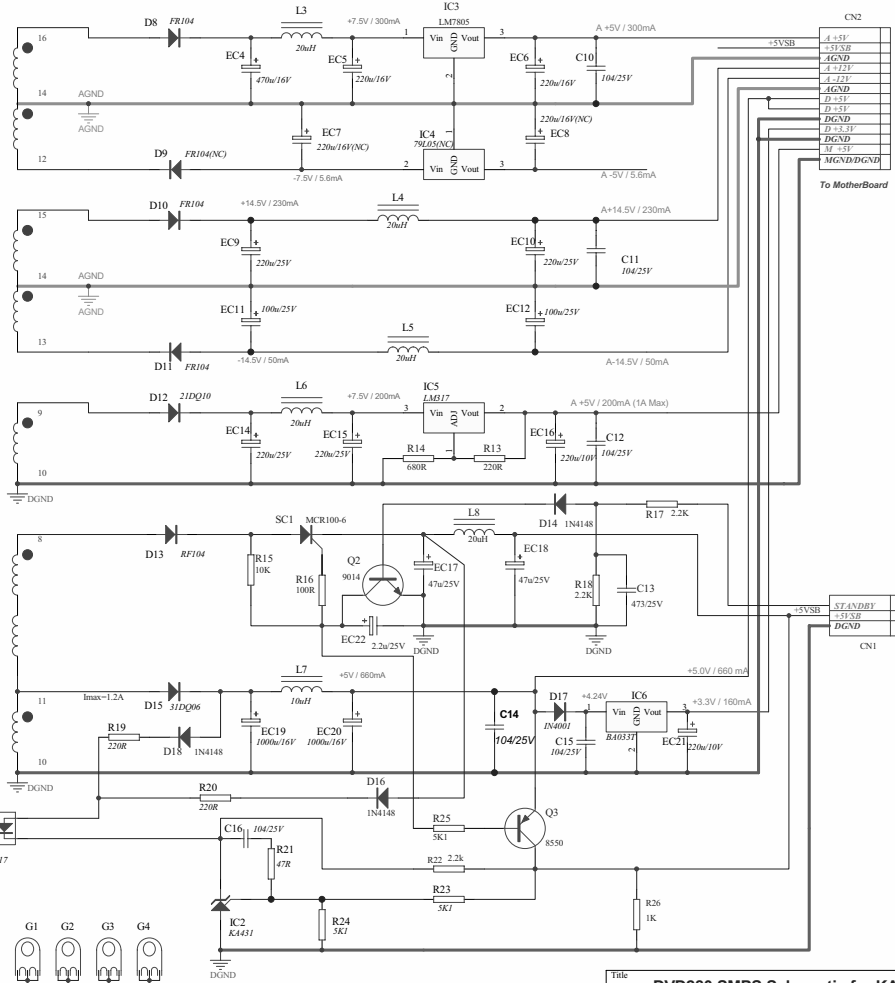
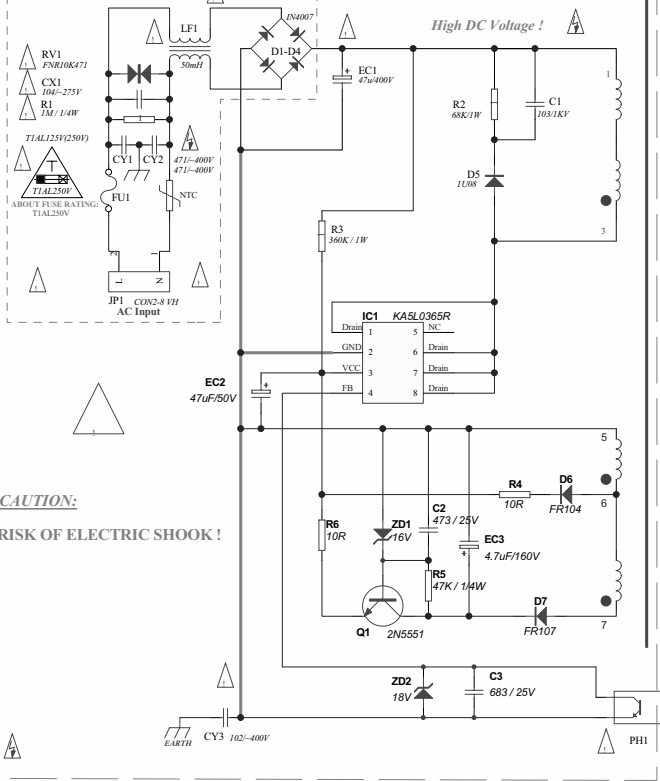
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High AC Voltage !

High DC Voltage !

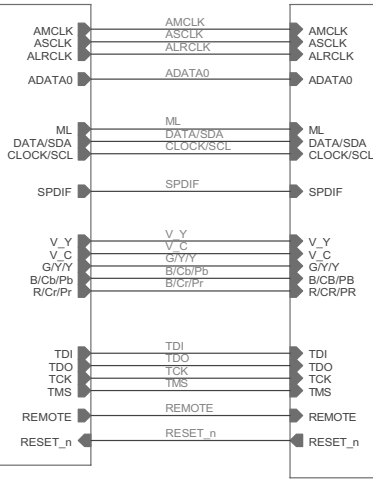
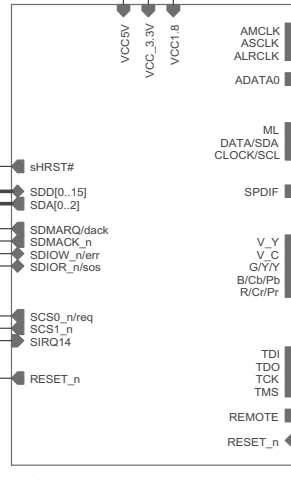
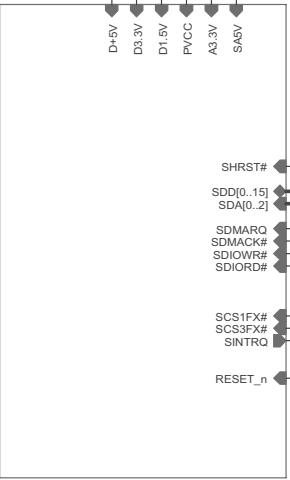
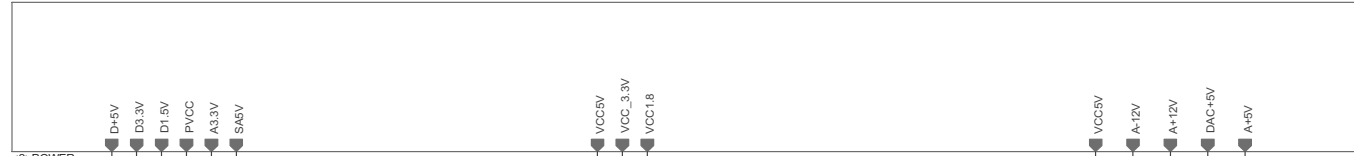
CAUTION:
RISK OF ELECTRIC SHOCK !

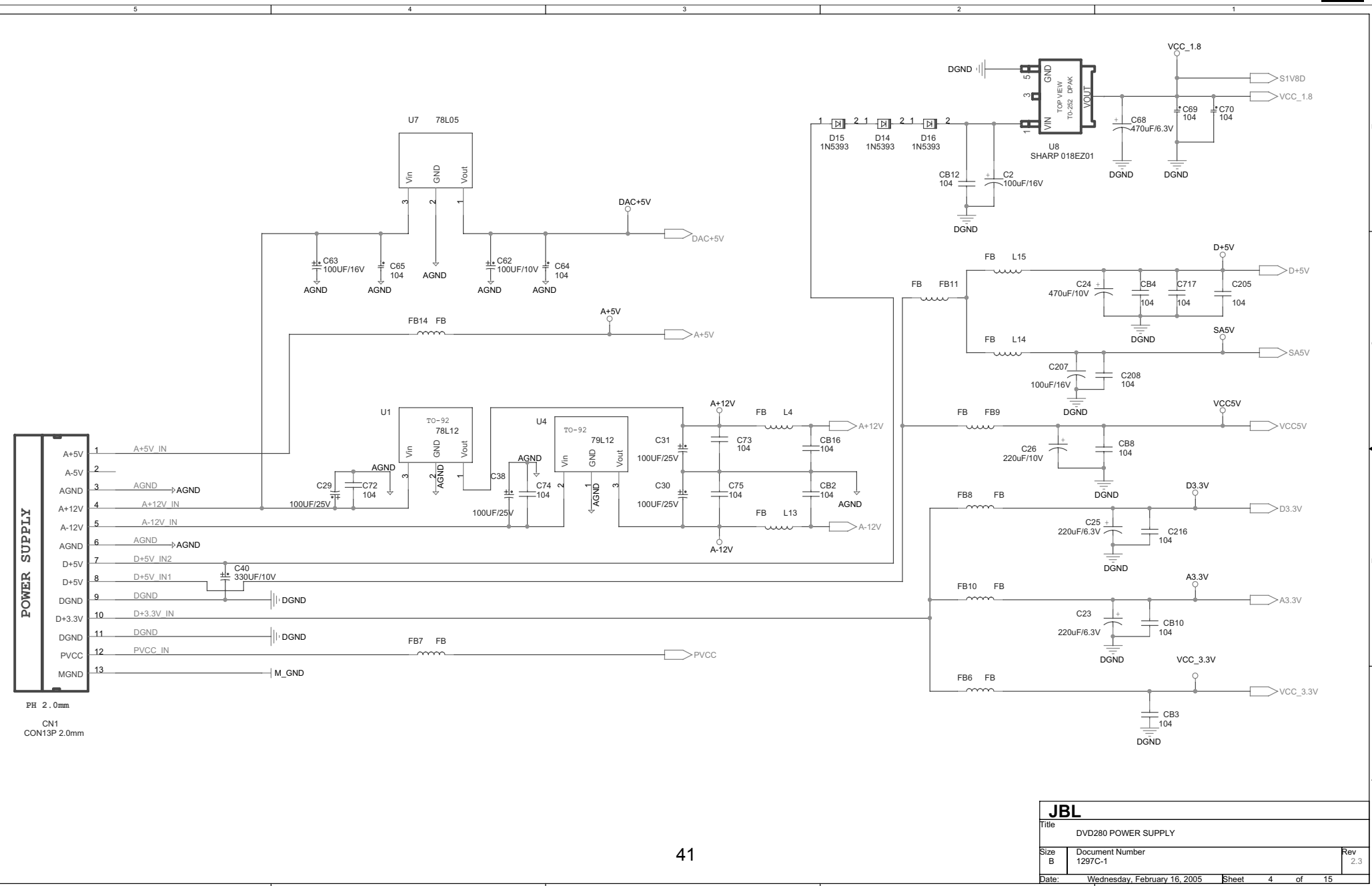
← Note: The Test Data Was Got By Playing a Commonly DVD Disk, And It Was Only Provided For Reference.



Title			DVD280 SMPS Schematic for KA5L03xx	
Size	Number	1254C	Revision	REV 2.7
Tabloid	Sheet 1 of 1			Drawn By: Yicong Huang
Date:	16-Feb-2005	File:	F:\DVD22\电源IC\1254C.DDB	

POWER SUPPLY

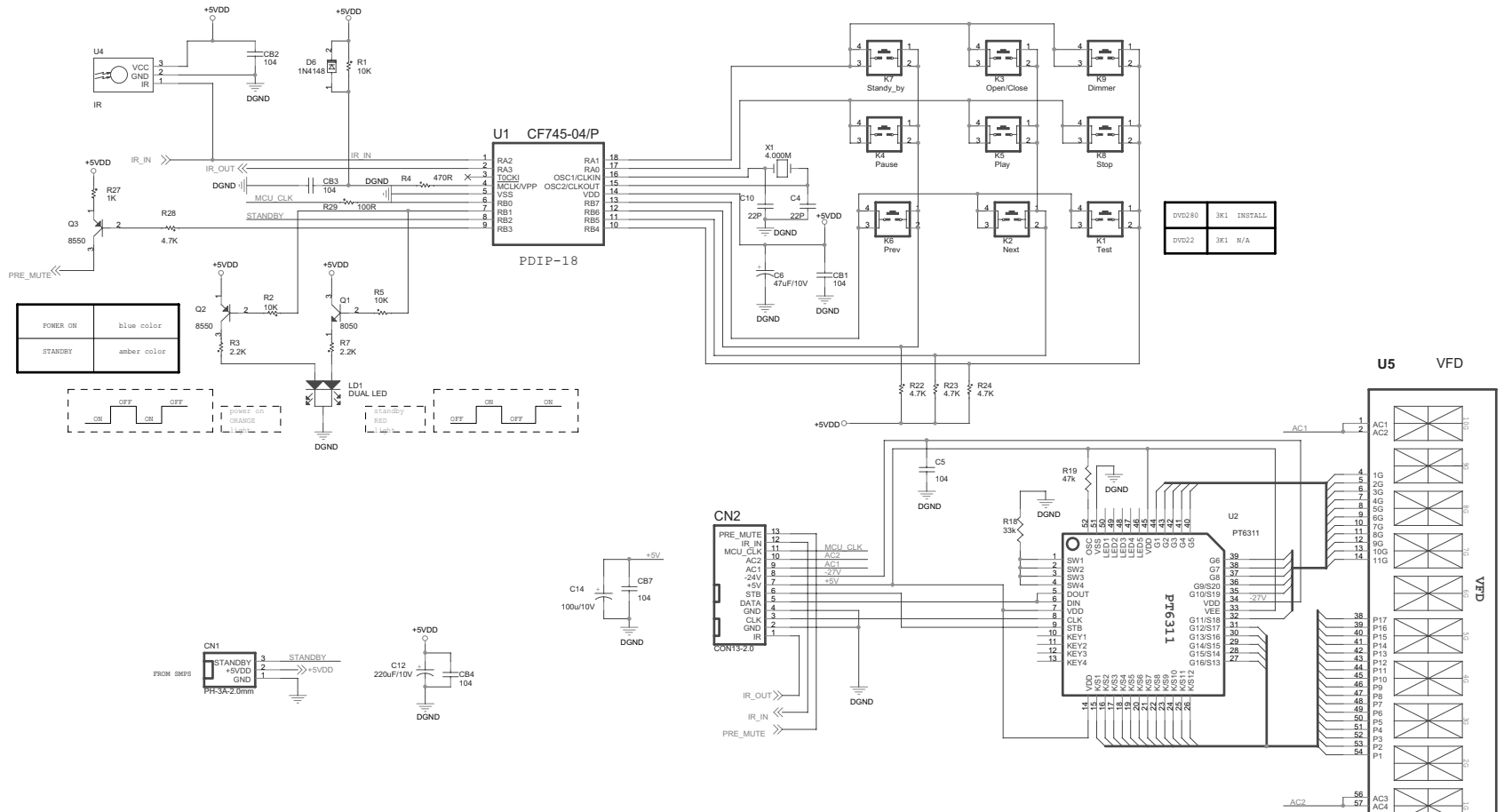




POWER SUPPLY

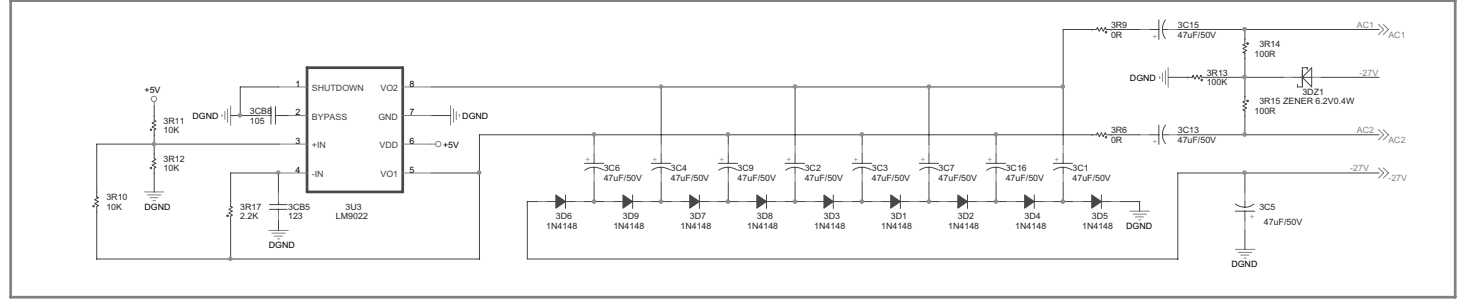
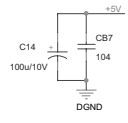
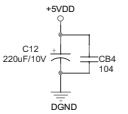
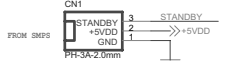
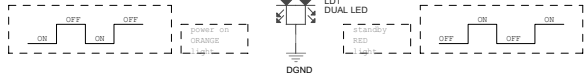
PH 2.0mm
CN1
CON13P 2.0mm

JBL		
Title DVD280 POWER SUPPLY		
Size B	Document Number 1297C-1	Rev 2.3
Date: Wednesday, February 16, 2005	Sheet 4	of 15

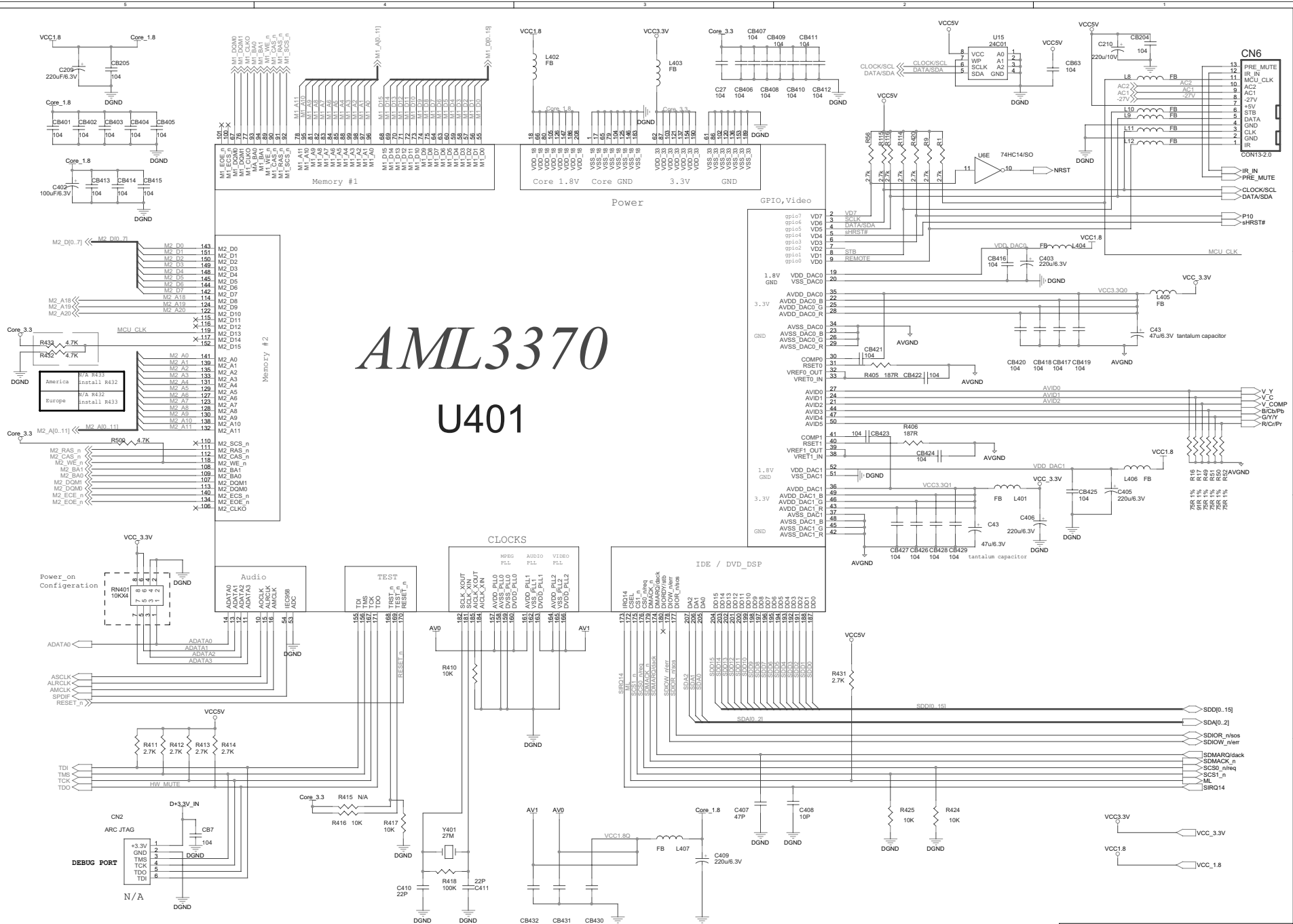


POWER ON	blue color
STANDBY	amber color

DVD280	3K1	INSTALL
DVD22	3K1	N/A

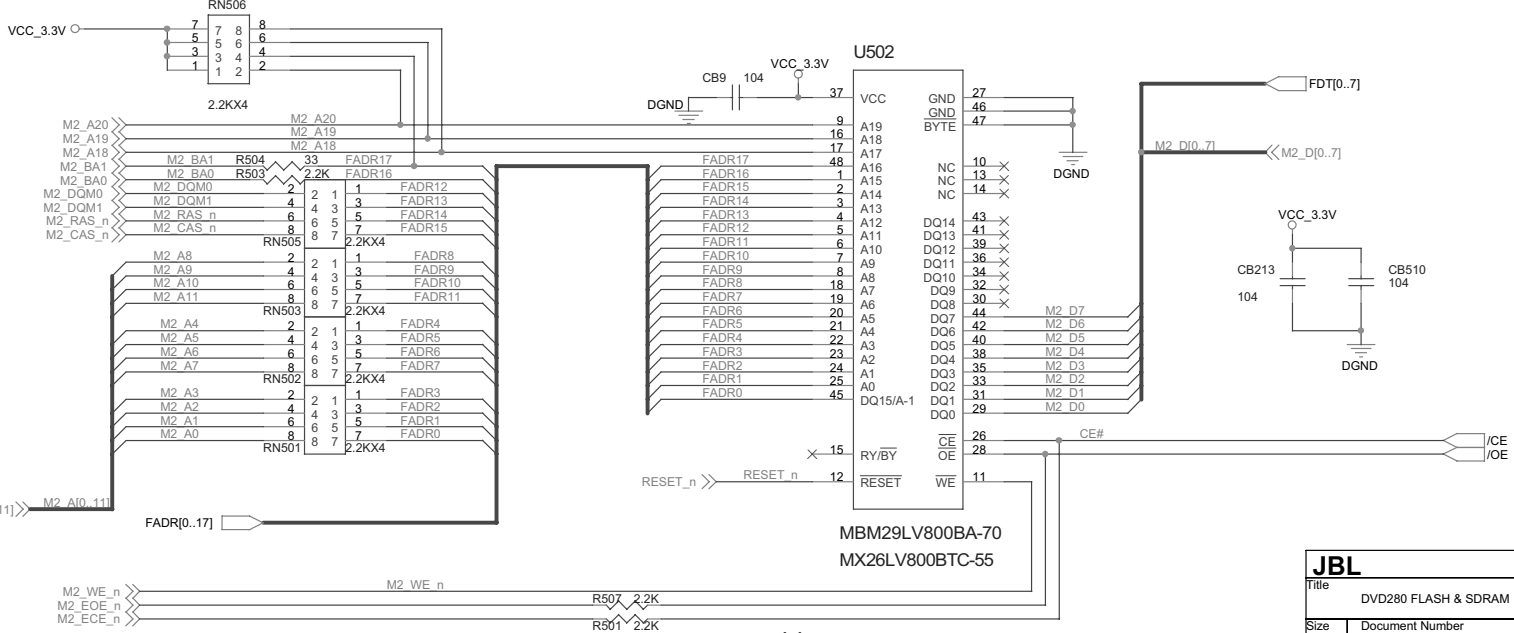
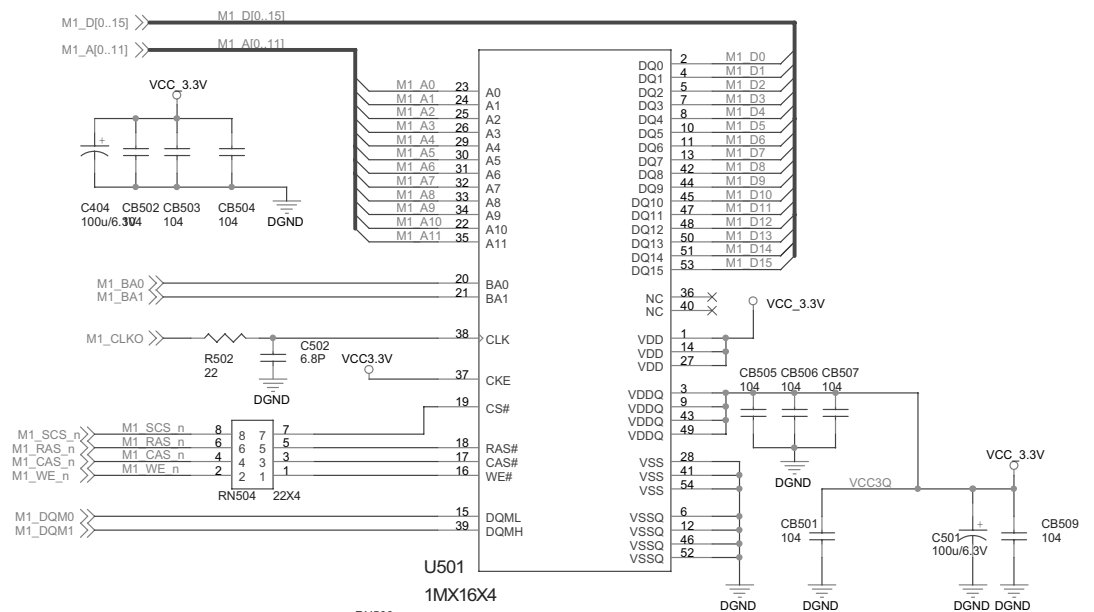


on the mainboard

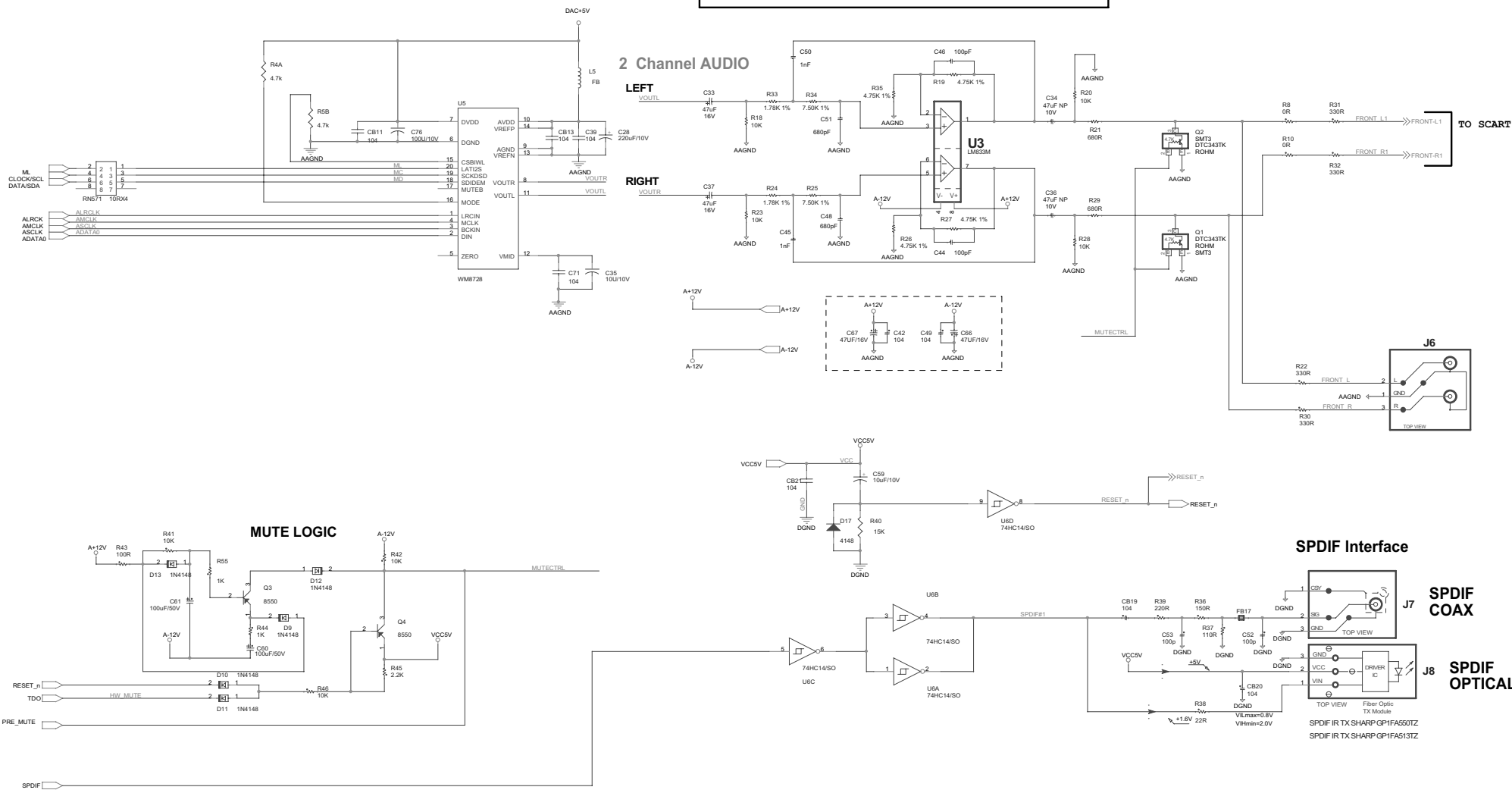


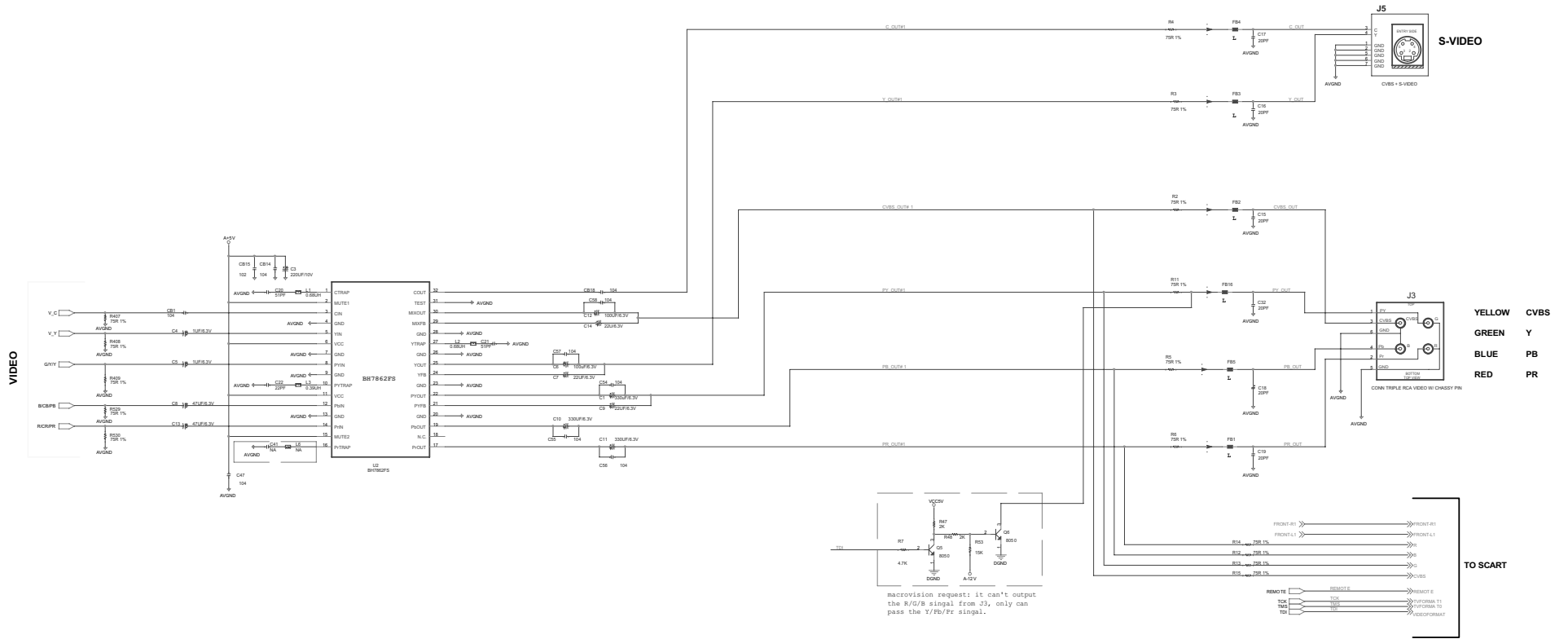
AML3370

U401



0805 NPO capacitance: C44 C45 C46 C48 C50 C51



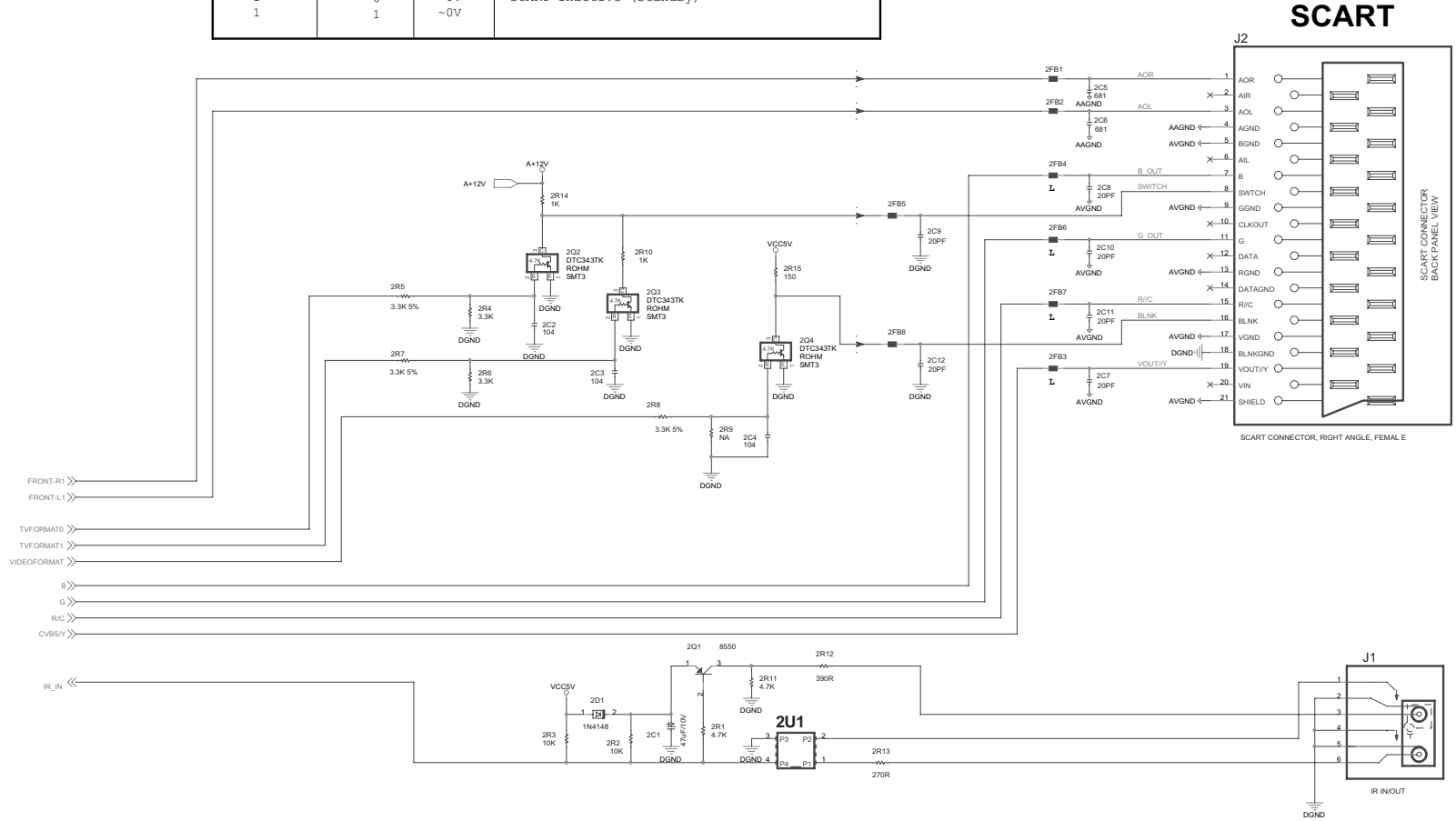


macrovision request: it can't output the R/G/B signal from J3, only can pass the Y/Pb/Pr signal.

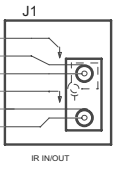
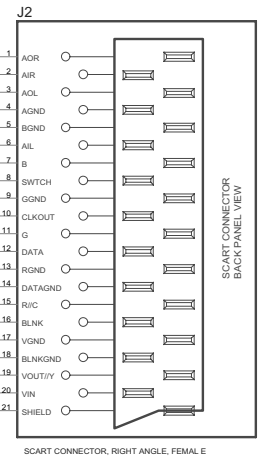
- YELLOW CVBS
- GREEN Y
- BLUE PB
- RED PR

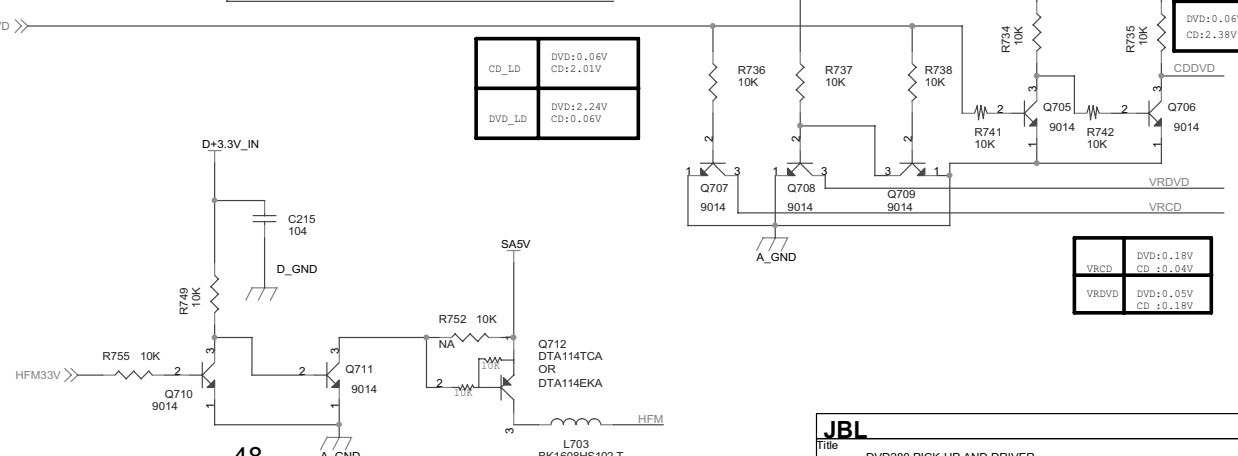
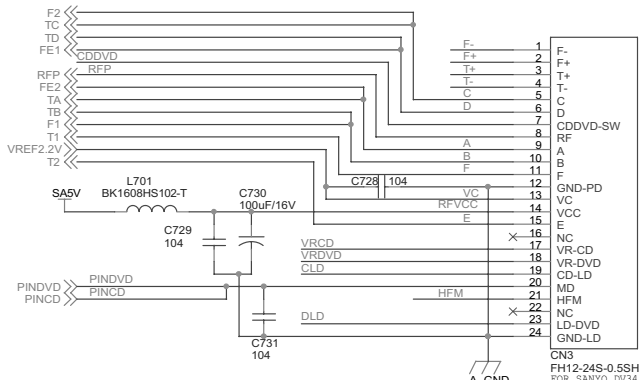
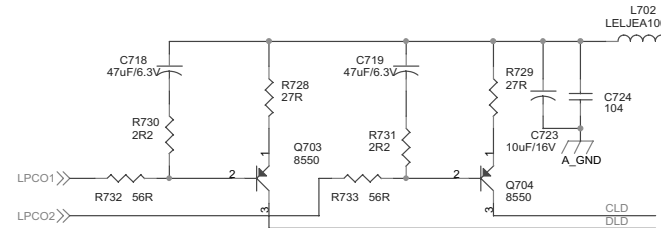
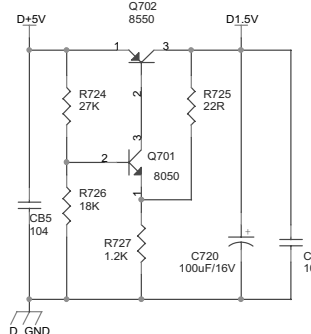
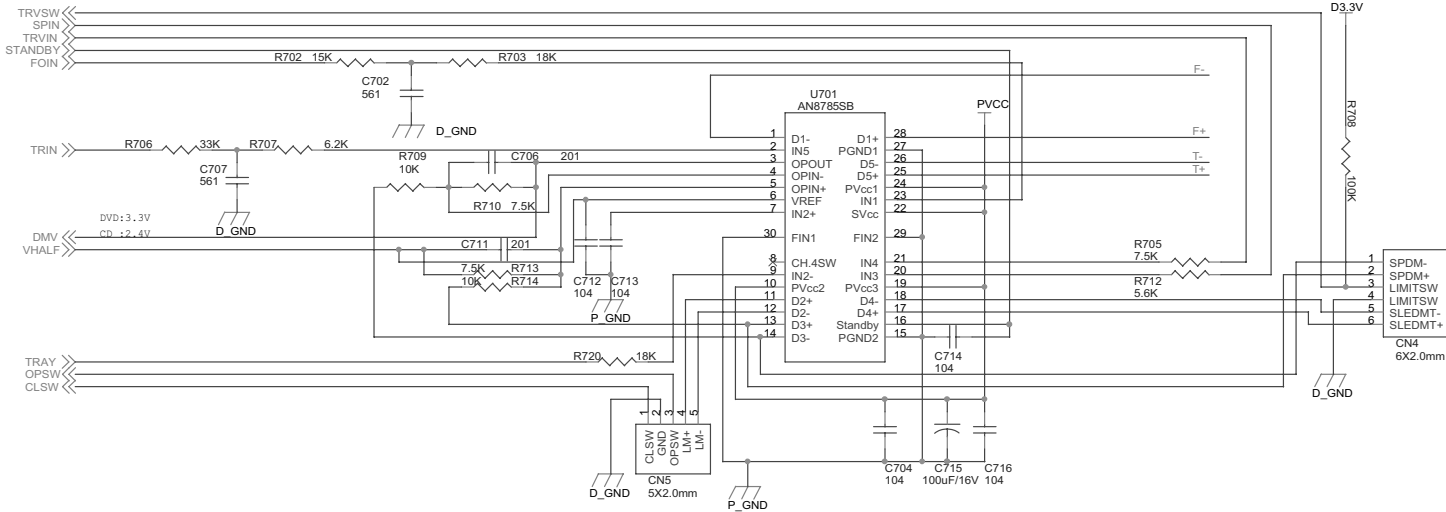
TO SCART

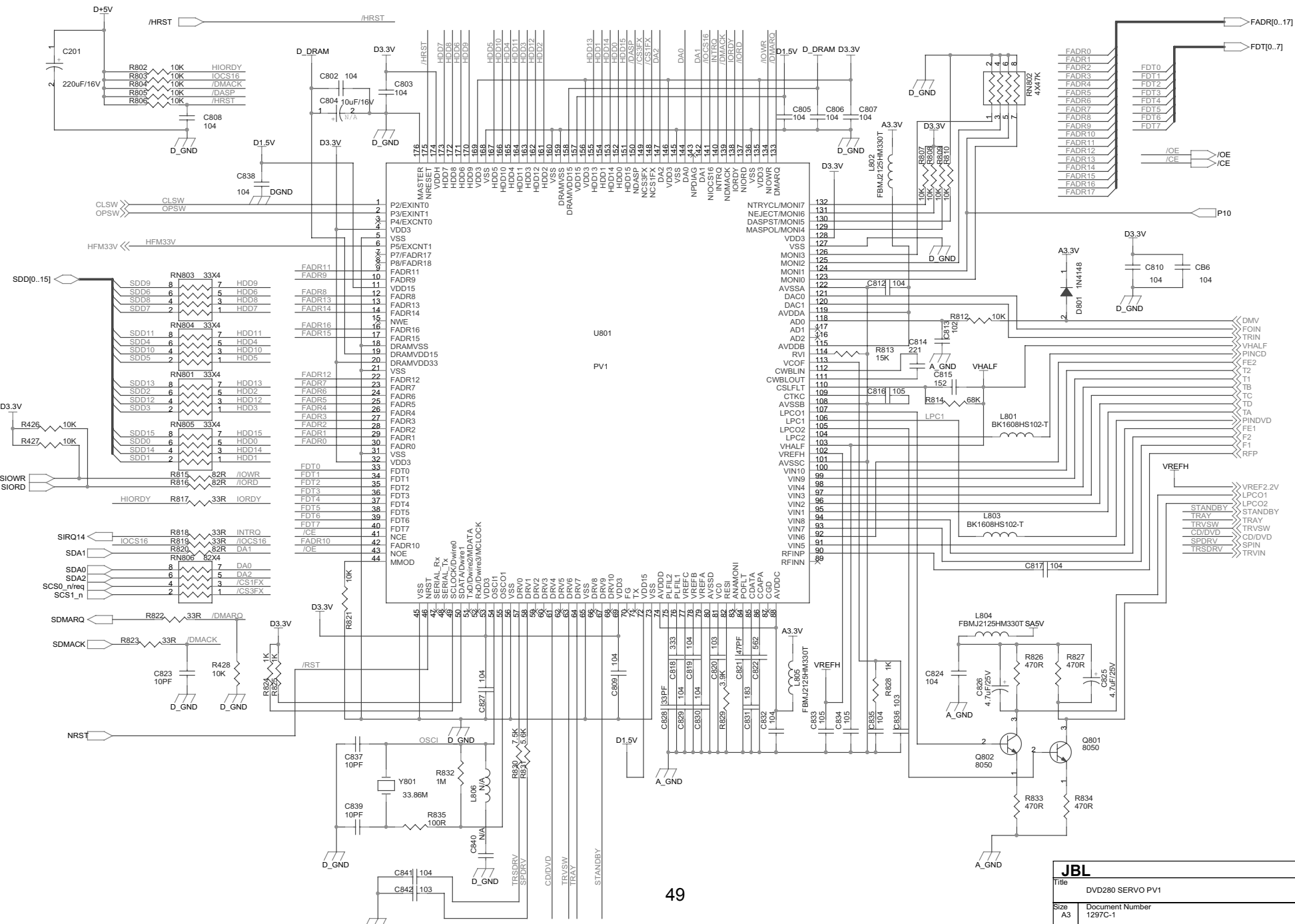
TVFORMAT0	TVFORMAT1	CONTROL VOLTAGE	TV FUNCTION
0	1	~6V	SCART Active Auto Switch to 16:9 Aspect Ratio
0	0	~12V	SCART Active Auto Switch to 4:3 Aspect Ratio
1	0	~0V	SCART Inactive (Standby)
1	1	~0V	SCART Inactive (Standby)



SCART







JBL		
Title	DVD280 SERVO PV1	
Size	Document Number	Rev
A3	1297C-1	2.3
Date:	Wednesday, February 16, 2005	Sheet 12 of 16



Code	Rev Date	REV	Revision History
1	June 18, 2003	1.00	Initial Release
2	July 10, 2003	1.10	separate ground again, modify some errors, move the 3370 so that short the video&audio path ,
3	July 20, 2003	1.20	connect the AGND&DGND of the dac with R7, change the footprint of C44 C45 C46 C48 C50 C51, add R407 R408 R409 R529 R530 for VIDEO, swap the pin1&2 of U2, add R505 R506 R508 R431,change the value of R504 upgrade page 1, add front panel page, remove +12V&-12V from SMPS to MAIN BOARD, delete NET-LED to front panel, add R433(America) or R432(Europe) to set software dynatron BC858 was changed by 8550 in mutellogic add BLOCK DIAGRAM page
4	Aug 9, 2003	1.30	modify the schematic according to outstanding issues list Amlogic_03_08_06
5	Sep 1, 2003	1.40	debug the front panel and modify SCHEMATIC&PCB remove the LM9022 from front panel to main board change R431 from 10K to 2.7K,R46 from 33K to 82K,2R15 from 1K to 150 changed DAC PCM1742KE by WM8728 add +12V/-12V regulator (TO-92 type) on mainboard change R728 R729 from 0603 type to 0805 change R829 from 22K to 3.9K,C831 from 22p to 183.it help to improve read CD ability.

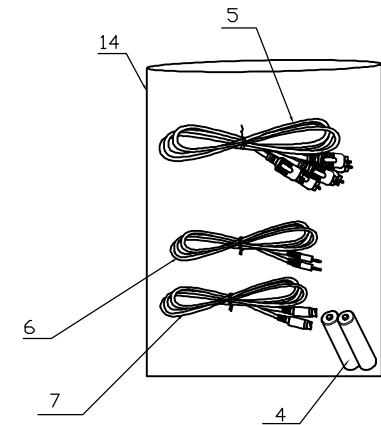
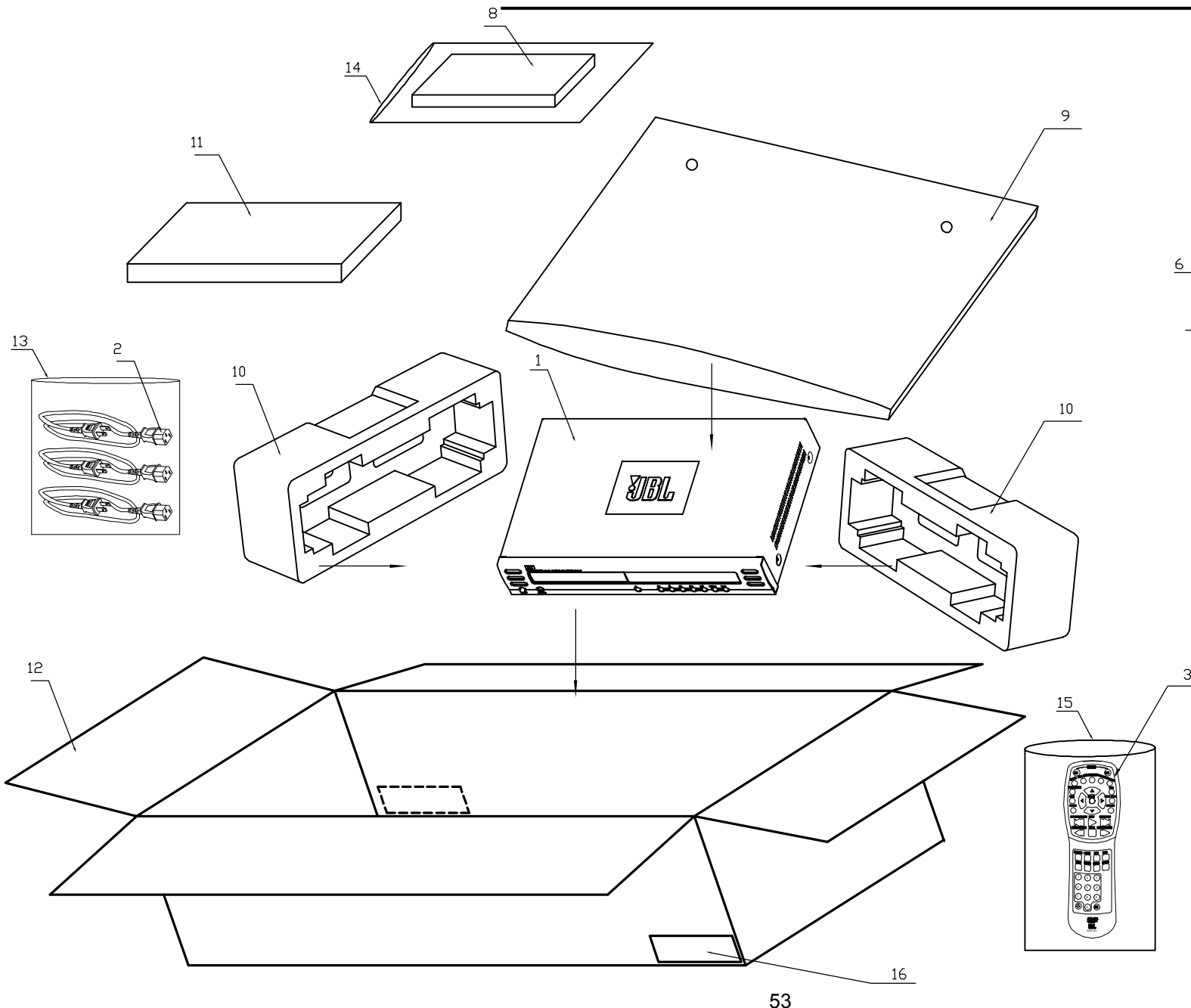
JBL		
Title DVD280 REVISION HISTORY		
Size A4	Document Number 1297C-1	Rev 2.3
Date: Wednesday, February 16, 2005 Sheet 13 of 15		

Code	Rev Date	REV	Revision History
6	Sep 20, 2003	1.5	<ol style="list-style-type: none"> 1. frontpanel:3CB5 104-->103,3R10 3R11 3R12 100K-->10K,3CB8 104-->105 2. change some VCC net on server circuit. 3. change the IR IN/OUT circuit. 4. VFD driver PT6311 NO.51 PIN no connect to GND,it will cause VFD flicker anomaly,correct it. 5. change L3 from 0.68uH-->0.39uH, C22 51p-->22p 6. change MCU 16C56A to CF745-04/P on frontpanel.
7	Oct 15, 2003	1.6	<ol style="list-style-type: none"> 1. delete R505,R508 2. modify the -24V circuit,it can supply -24V/-27V by optional. 3. add D14 for 1.8V supply circiut. 4. modify the SPDIF output level to 500mV,improve the jitter. 5. add R508 0603-0R in 27MHz OSC OUT.
8	Oct 27, 2003	1.7	<ol style="list-style-type: none"> 1. DAC be change to software mode. 2. increase the area for U701&U8 to emit heat. 3. add L16-L24 Ferrite Beat for EMI issue. 4. change the polarity of C4,C5,C8,C13
9	Nov 2, 2003	1.8	<ol style="list-style-type: none"> 1. add a control singal from MCU:CF745-04/P to mute circuit for power on plop issue. 2. remove the STANDBY LED control singal from MCU NO.9 pin to NO.7 pin on frontpanel.
10	Nov 21, 2003	1.9	<ol style="list-style-type: none"> 1. delete Zener diodes D1 D2 D3 D4 D5 D6 D20 D21 D22 D23 D24 D25 2. delete the EMI FB L16--L24 3. change C1 from 100uF to 330uF 4. Delete R7、R47、R48、R49、3R27、R508 5. Add C40: 330UF-10V C47: 104 6. Add L6: 0.68uH C41: 51P 7. Change 3R3 from 100R to 150R
11	Dec 28, 2003	2.0	<ol style="list-style-type: none"> 1. add the circuit on page NO.9 for macrovision 2. page4 has some error,updata it: delete FB12,FB13,FB15(-5V), change U9 to U1, FB15 to L15, FB14 to L14 3. add R49 on V-COMP output

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Code	Rev Date	REV	Revision History
6	Mar 30, 2004	2.1	1. modify RC IN/OUT circuit, delete 2R16, change VCC5V to +5VDD 2. change R7 from 1K to 4.7K, R47 from 3.3K to 2K, R48 from 1K to 2K, add R53 15K, delete 2R9 3. connect -5V with +5VDD on SMPS for IR in/out will work in standby status. 4. change C60 C61 from 220UF/25V to 100UF/50V in mute circuit.
7	Aug 19, 2004	2.2	1. add R500 pull-up resistor to Pin118 of U401, avoid the unstable status when power on the unit.
8	Oct 11, 2004 Jan 6, 2005	2.3	1. change Q712 from 8050 to DTA114ECA to reduce the heat of Q711, remove R752. 2. change 3CB5 from 103 to 123, 3R6 3R9 from 1R to 0R, to increase AC power for VFD from 3V to 4V.
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Packing Accessory Parts List

Item	SPECIFICATION	Qty	Part No.
1	DVD 280	1	DVD280/230
2	Power cord, LAP-11+LAS-16(China).	1	162-A0011016-0010
	Power cord, 345+288(KOREA)	1	162-A0345288-0020
	Power cord, CW401+CW4771(EU)	1	162-A0401477-0030
3	Remote control	1	555-00DVD280-0000AA
4	AA battery	2	
5	Audio/Video cable	1	162-B0001012-0000
6	Remote control transmission cable	1	162-H0001012-0000
7	S-video cable	1	162-C0001012-0000
8	Owner's Manual (Region 3)	1	312-AB280000-0030
	Owner's Manual (Region 6)	1	312-AB280000-0060
9	Non-woven bag for unit	1	
10	Polyfoam PM027	2	309-00DVD280-0000
11	Polyfoam PM011003	1	309-PM011003-0000
12	Beatus box, region 3	1	310-00DVD280-0310
	Beatus box, region 6	1	310-00DVD280-0610
13	Plastic bag for AV cables	1	
14	Plastic bag for user's manual	2	
15	Plastic bag for remote control	1	
16	Bar code	2	