



AKAI

DVD PLAYER

Model:
DV-P4990KDSM

SERVICE MANUAL

AKAI Service Manual

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1. General Section

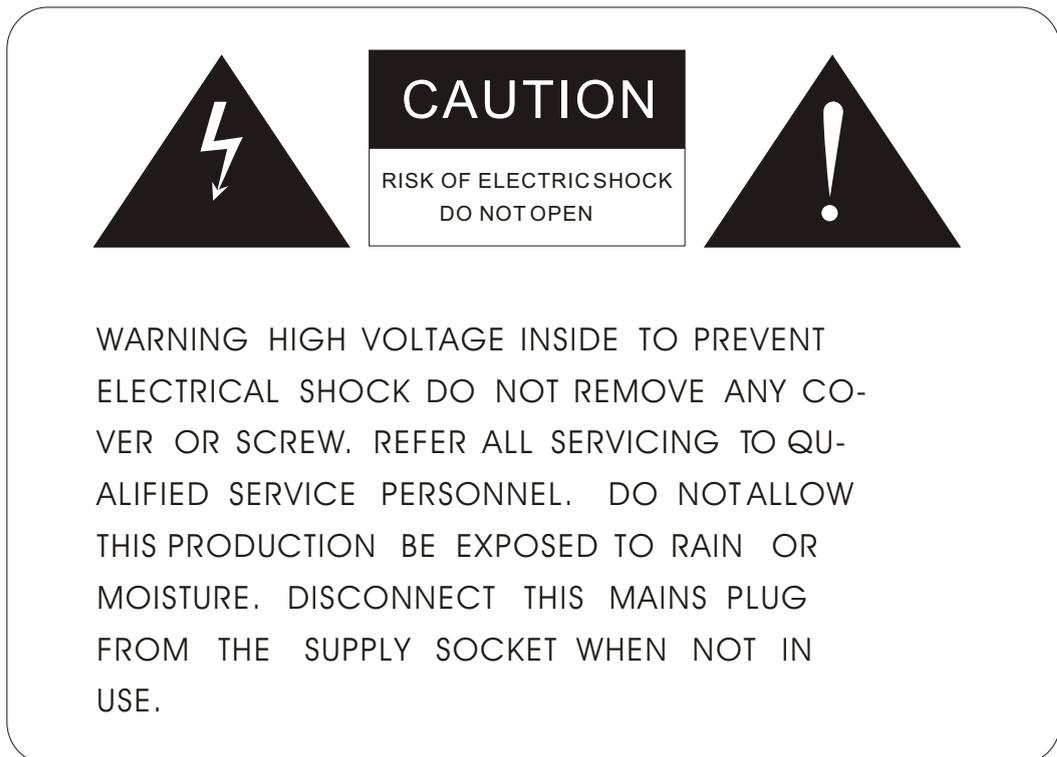
1.1 Cautions/Warnings

1.1.1 Product Safety Notice

Parts marked with the symbol  in the schematic diagram have critical characteristics.

Use **ONLY** replacement parts recommended by the manufacturer.

It is recommended that the unit be operated from a suitable DC supply or batteries during initial check out procedures.



1.1.2 Leakage Current Check/Resistance Check

Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to insulated resistance check.

If the leakage current exceeds 0.5 milliamps, or if the resistance from chassis to either side of the power cord is less than 240 K ohms, the unit is defective.

WARNING: DO NOT return the unit to the customer until the problem is located and corrected.

1.2. Safe Warnings

1.2.1. Protection of Eyes from Laser Beam

To protect eyes from invisible laser beam during servicing
DO NOT LOOK AT THE LASER BEAM

1.2.2 Laser Caution

CAUTION

Adjusting the knobs, switches, and controls, ect. Or taking actions not specified herein may result in a harmful emission of laser beams. This CD Changer must be adjusted and repaired only by qualified service personnel.

CAUTION- INVISIBLE LASERRADIATION WHEN OPEN AND INTERLOCKS DEFEATED AVOID EXPOSURE TO BEAM.
VORSICHTI- UNSICHTBARE LASERSTRAHLUNG TRITTAUS. WENN DECKEL GEOFFNET UND WENN SICHERHEITSVERRIEGELUNG uBERBRuCKT IST. NICHT DEM STRAHL AUSSETZEN!
VARNING- OSYNLIG LASERSTRALNING NAR DENNADEL AR OPPNAD OCH SPARR AR URKOPPLAD STRALEN AR FARLIG.
ADVARSEL-USYNLIG LASERSTRALING VED ABNING NAR SIKKERHEADSAFBRYDERE ER UDE AF FUNKTION. UNDDGA UDSAETTEELSE FOR STRALING.

CLASS 1 LASER PRODUCT
LUOKAN 1 LASERLAITE
KLASS 1 LASERAPPARAT

THIS IS COMPACT DISC PLAYER IS CLASSIFIED AS A CLASS LASER PRODUCT.
THE LASS 1 LASER PRODUCT LABEL IS LOCATED ON THE REAR EXTERIOR.

1.3. Precautions

1.3.1. ESD Precautions in Repairing

1.3.1.1 Do not apply excessive pressure on the mechanical parts (moving pares), including the Pickup Block, as extremely high mechanical precision or required in these parts.

1.3.1.2 When soldering the microprocessor and signal processing IC' s, use a ceramic soldering iron or a soldering iron whose metal part is grounded since they are not resistant to static electricity.

1.3.1.3 When removing the solder or soldering the laser shorting lands for the Pickup Block, use a ceramic soldering iron or a soldering iron whose metal part is grounded since the laser diode or not resistant to static electricity.

1.3.2. DVD Loading Unit Precautions When handing the Mechanism Block

1.3.2.1 Do not loosen any screws in the Pickup Block.

1.3.2.2 Do not adjust any screws in the Mechanism Block except for “Tilt Adjust Screws” , as they are adjusted precisely at the factory.

1.3.2.3 Replacement of the Pickup Block is impossible. Always replace the Traverse Ass’ s when the Pickup Block needed to be replace . Do not touch the lens or lens holder of the Pickup Block.

1.3.2.4 The Guide Rails of the Pickup Block are greased. Take care when handing.

1.3.2.5 When you try to slide the Pickup Block, do not press or pull it directly, Always turn the dive gears with your fingers.

1.3.2.6 Be sure that the anti-slipping rubber on the turnable or clean. If there is dust or it is greasy, clean the part with the liquid that contains 50% each of alcohol and water.

1.3.2.7 When removing the Mechanism P.C.B. Ass’ s, you need to short-circuit the laser diode shorting lands beforehand.

1.4. Software Upgrade

You can upgrade DVD player using the software we provide as following step:

The CD-R update is below lists:

First, burn CDR for upgrade. Dummy files are needed minimum 20Mbytes.

The burning software is Nero burning soft:

1. Volume name: MTK

2. Files name and type: MEDIATEK .BIN (This file must locate Root directory)

3. CD-R burn type(formate): ISO9660

Model 1

ISO1 (level 1)

don’ t choice Jolient

don’ t choice loosen ISO strict

Notice: MTK and MEDIATEK .BIN are upper case.

The CD upgrade process:

After the servo read the CD-R data ,Show Message on TV :

UPGRADE FILE DETECTED

UPGRADE ?

PRS CHOOSE (1-8Bit 2-16Bit)

Press 1 key , Show Message on TV

UPGRADE FILE DETECTED
UPGRADE ?
File Copy

The tray is automatic to open, take disc away.

UPGRADE FILE DETECTED
UPGRADE ?
Upgrading

At this time, please wait a few minutes, DVD is downloading code to flash, After Logo will be show on TV again, the update process finish.

Notice: During upgrading , don' s turn off power.

Displaying the software Version Number

After opening the tray, press the following keys on the remote control ,

DISPLAY → ▲ (Up) → ▼ (Down) → ◀ (Left) → ▶ (Right)

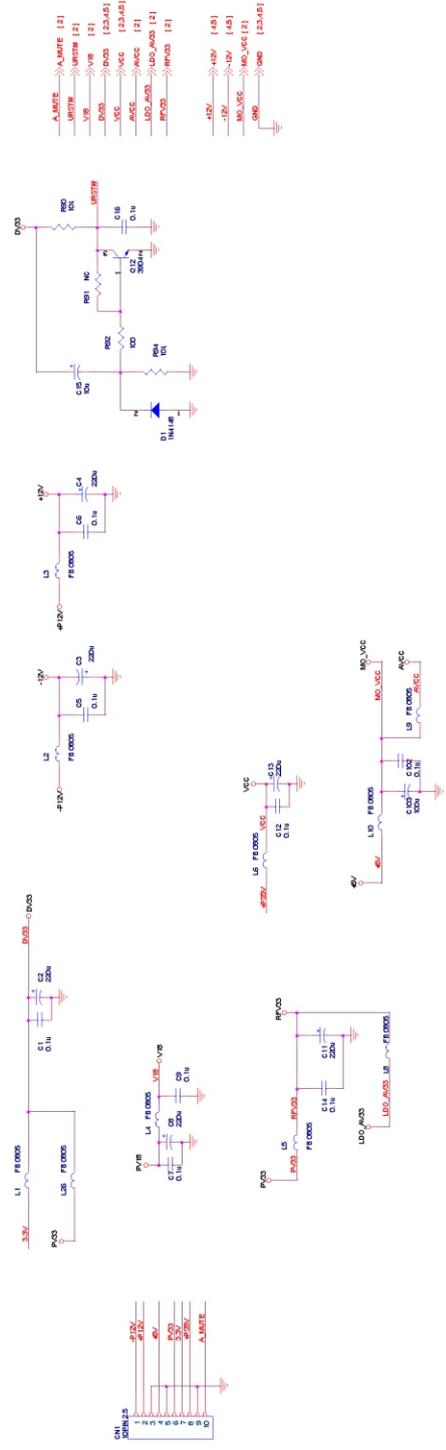
then the software version number appears.

MPEG Circuit Diagram and Component Layout

QS89EM6-11.1 MT1389E DVD Demo Board for SANYO HD62 PUH

- 1 INDEX & POWER, RESET
- 2 SERVO / MPEG - MT1389E
- 3 MEMORY - SDRAM, FLASH/EEPROM
- 4 AUDIO / VIDEO FILTER

NSV#E	TYPE	DEVICE
VCC	Digital 5V	SUPPLY
DV33	Digital 3.3V	MT1389E
RFV33	Servo 3.3V	MT1389E
ID0_AV33	Laser Diode 3.3V	
AVCC	RF 5V	PICKUP HEADER
V18	Digital 1.8V	MT1389E
SD33	Digital 3.3V	SDRAM
+12V	Audio +12V	OE AMP.
-12V	Audio -12V	OE AMP.
AVDD	Audio 5V	Audio DAC
DVDD	Audio 5V	Audio DAC



MediaTek Incorporation

Model: COMMON89E_HD62

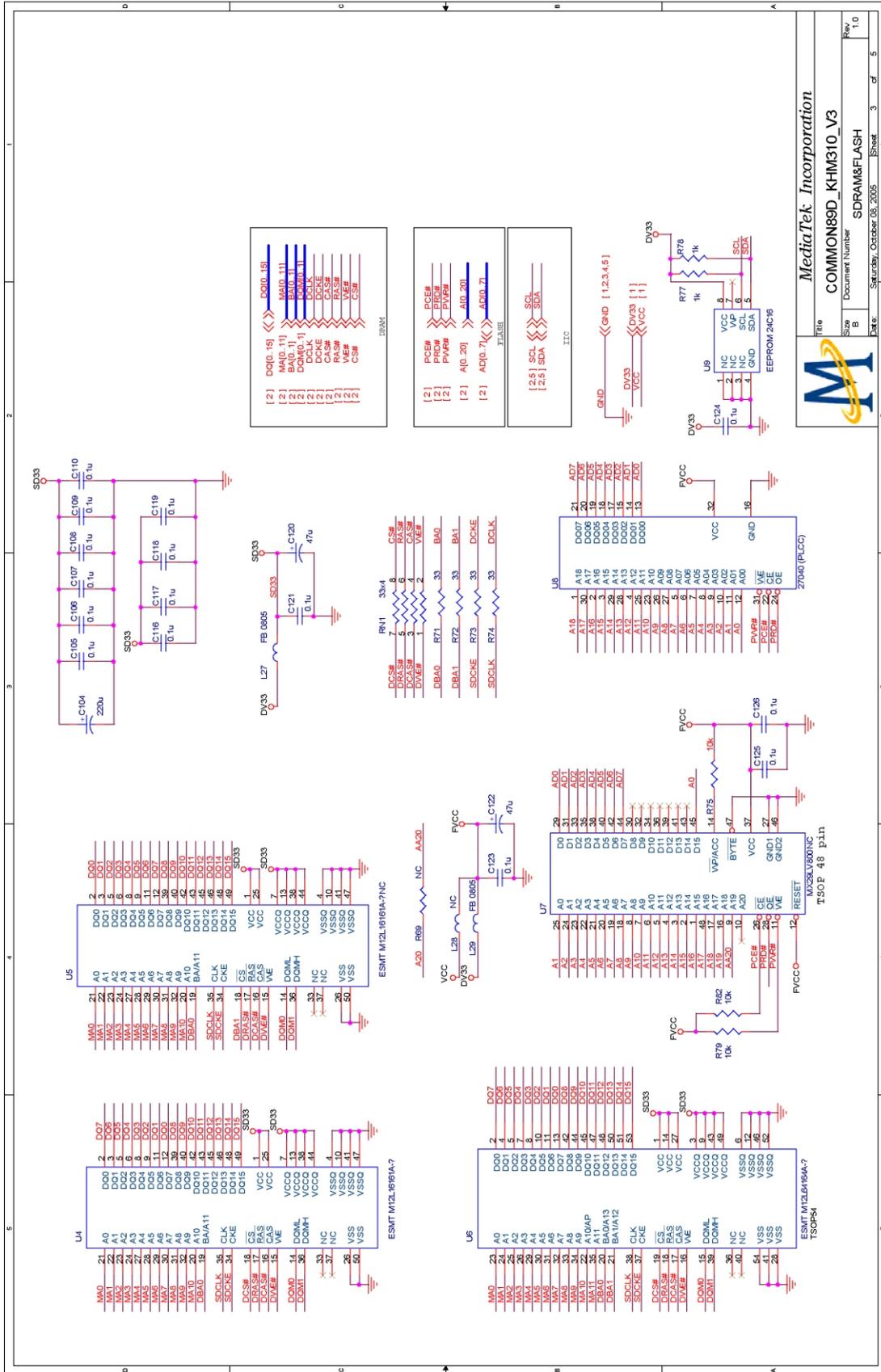
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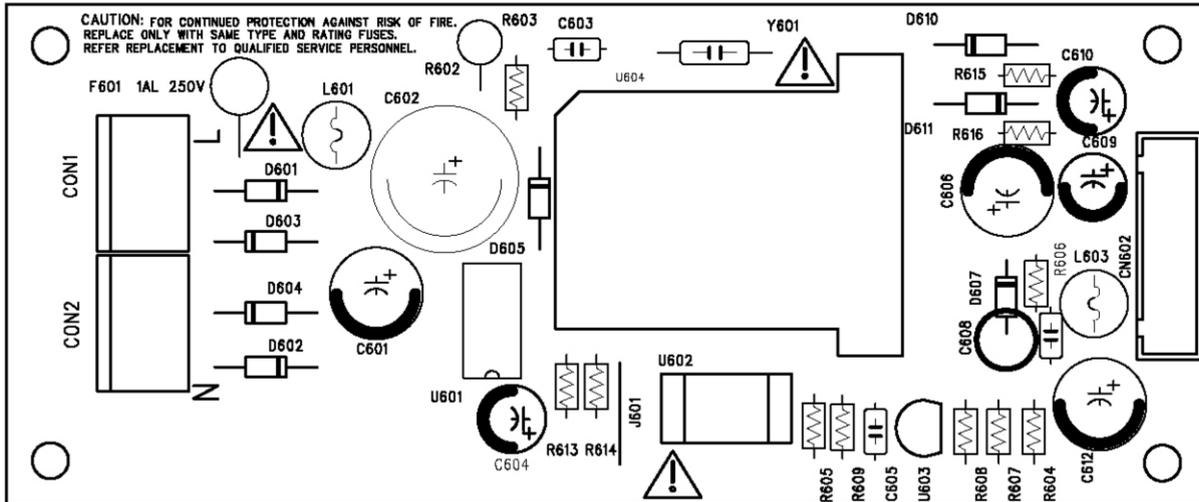
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MPEG Circuit Diagram and Component Layout

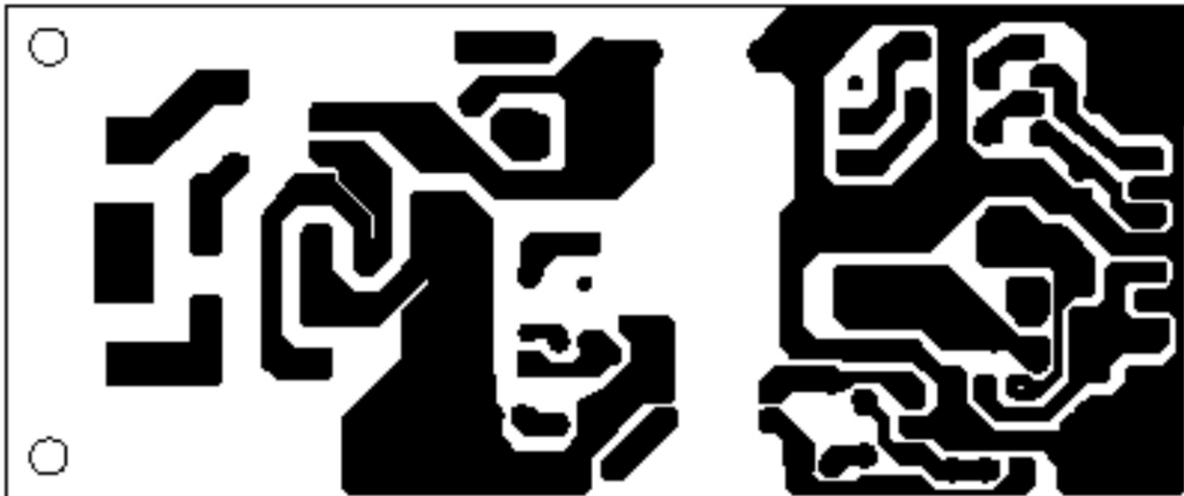


POWER Circuit Diagram

POWER Circuit Top silk



POWER Circuit Bottom silk



3.2. Read Disc Trouble Service Flow Chart

Read disc problem in a DVD player is a very complicated issue that may involve complex issues. This problem is not only relation to the electronic circuit, but also very much relation to the operation environment.

DVD loading unit is a very complicate part that contains big number of ESD components , which require specific equipment, tools and technique to repair; In general, service technician is not suggested to disassemble the DVD loading unit. It is suggest proving the trouble and replacing the complete DVD loading unit, instead of repairing the DVD loading unit in local workshop.

It is suggested to prove the faulty of a DVD loading unit by replacement by a good DVD loading unit.

Before checking the “NO DISC” Trouble, ensure excluding the following possibilities:

The test disc is damage.

AC power supply voltage dropped below the minimum required level.

DVD disc region code and color system is not matching to the DVD player or system setting.

Moisture condensed inside the unit. (Power on the unit, without disc loaded, for 1 / 2 to 2 hours).

Service Flow Chart

