

Six Channel Digital Audio Output Board

Dear Customer

Thank you for buying our product.

This board will give you full resolution digital audio output for CD, SACD, DVD-Audio and all DVD-Video audio formats.

If you enable the two channel downmix in your DVD player, you can use the board for stereo as well. Equally, if you make delay adjustments for your surround sound setup, they will take effect on the digital outputs as well.

Please connect the digital outputs to AV Equipment capable of handling your needs. Stereo mode with limited sampling rate (up to 96kHz) can be achieved with every AV Receiver. There are a few 192kHz DVD Audio discs out; that soundtrack might not play on your AV receiver and you will have to fall back to a soundtrack with a smaller resolution. Please check the technical data of your AV Receiver. Our board does not allow converting the sample rate.

We found the Denon AVC-A1SR and AVC-A1SE the cheapest AV Receiver supporting our board in multichannel mode. Unfortunately it does not support more than 96kHz as well.

Receivers supporting the full resolution and all channels are the TACT...

Output sample rate for SACD can be set to 88.2 or 176.4kHz by an internal jumper - J1, see Fig 1 (factory programming advisable as the player has to be opened).

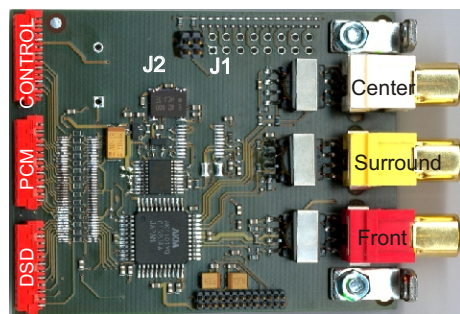
CAUTION: DO NOT CHANGE SAMPLE RATE WHILE THE PLAYER IS ON! IT WON'T WORK!

Default output channel status is CONSUMER Mode. It can be switched to PROFESSIONAL Mode by a second internal jumper - J2 (factory programming advisable as the player has to be opened).

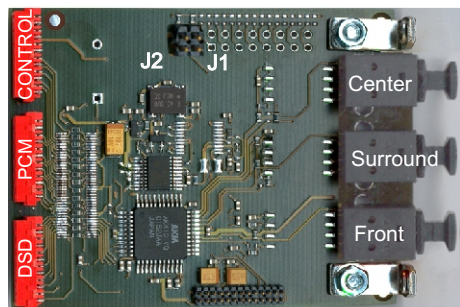
This product is available with three different connectors:

Jumpers: J1 open: Fs 88.2kHz, closed 176.4kHz for SACD (see also Fig 3)

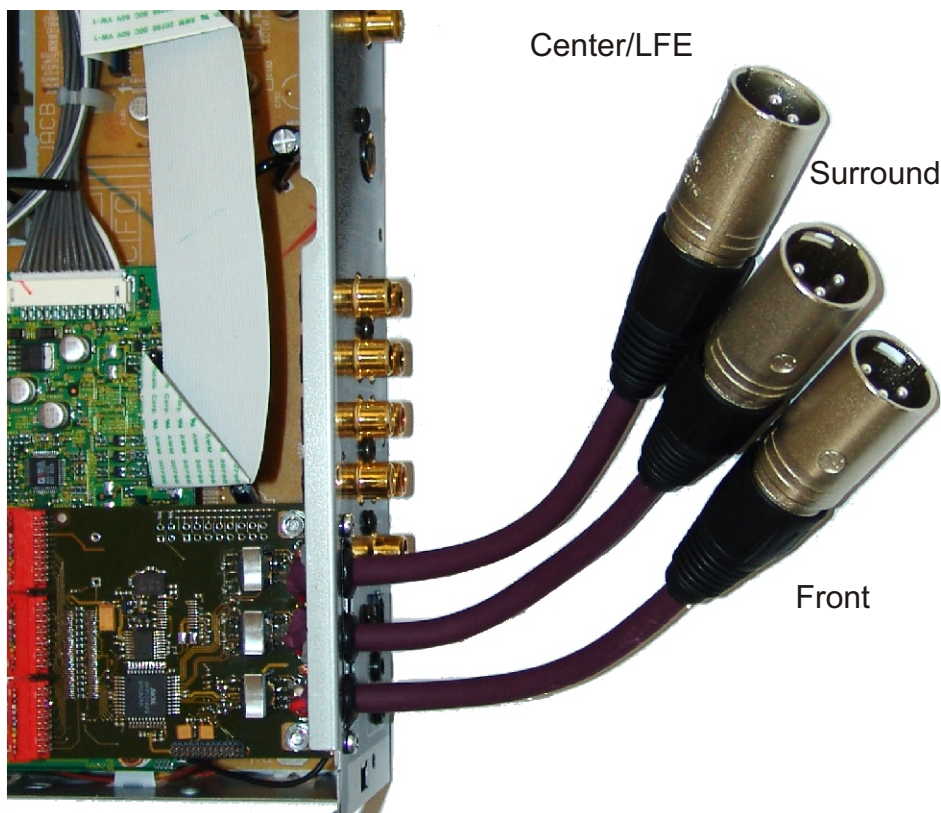
J2 open: Consumer channel status, closed Professional channel status (see also Fig 3)



S-P/DIF coaxial



S-P/DIF Optical



AES/ EBU

FIG 1

Connections (back view):

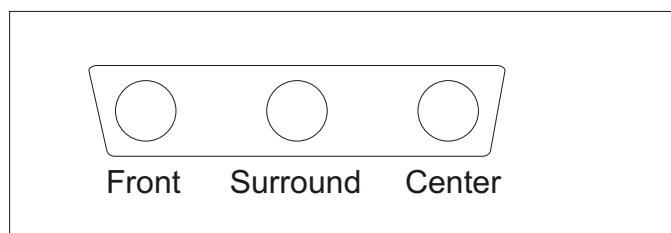


FIG 2

Installing the board requires average soldering experience and the tools to drill the holes into the back of the player. Please have your board installed by a professional if you feel you might not have the knowledge that is required.

Should there be any problems during playback(noise or Idigital unlock) usually opening ad reclosing the drawer will solve it, sometimes even “stop” or “pause” will do.

Technical reference:

- High frequency Transformer outputs (Exception: TOSLINK) for high Jitter rejection and high immunity to external noise.
- 3x2 Channel S/P-DIF coaxial RCA outputs (standard)
- 3x2 AES/EBU balanced XLR outputs (optional)
- 3x2 optical TOSLINK outputs (optional)
- Output sample rates:
 - DVD-A/DVD-V same as input sample rate:
32 / 44.1 / 48 / 88.2 / 96 / 176.4 / 192kHz
 - SACD 88.2 / 176.4kHz, Jumper 1
- Modes: Consumer / professional, Jumper 2

Mounting Instructions

Step 1 Unplug the player, remove the cover, the back panel and the necessary printed circuit boards (Fig 4)

Step 2 Drill appropriate holes for the connectors.

RCA and Toslink connectors will fit nicely into a D-SUB25 cut-out and the spacing of the 2 screw holes will match the S/P-DIF board. (Fig 2)

For XLR cables three 8mm diameter holes spaced 14mm will do fine.

Step 3 Tailor the 3 flat ribbon cables according to Fig's 6 (A,B,C) and solder them to the places indicated in Fig 5 (A,B,C) - depending on the player model.

NOTE: Only one Ground (Brown Cable on Pin 11 of the DSD Connector) is connected to the Player. Let the other Ground Cables run along the Signal Cables as far as possible so they will work as shields!

Step 4 Make sure none of the cables - especially the not connected shields - can not cause any short circuits. If necessary isolate critical places!

Step 5 Carefully reassemble all the previously removed parts and screw the S/P-DIF Board to the back panel.

Beware: As the XLR version requires soldering for installing and removing, it's the easiest to pass the cables through the back panel - use the rubber protections - solder the cables to the board (Fig 3) and only then fix the back panel to the player.

If you have a voltage meter check the 5V (Pin 11+12 on "CONTROL" plug) and the 3.3V (Pin 7+8 on "CONTROL" plug). When all is ok, connect the 3 flat ribbon cables to the board.

Step 6 With the cover back on, the player is now ready operation

Ju2  Ju1 Consumer Channel Status / SACD 88,2kHz
Ju2  Ju1 Consumer Channel Status / SACD 176,4kHz
Ju2  Ju1 Prof Channel Status / SACD 88,2kHz

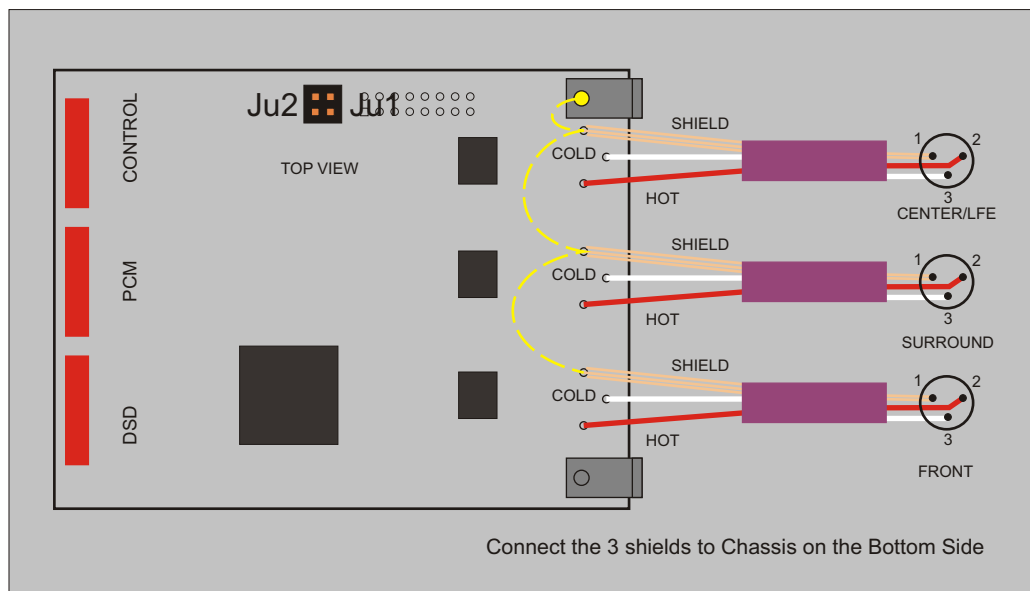


FIG 3

AES/EBU WITH XLR
MALE CONNECTORS

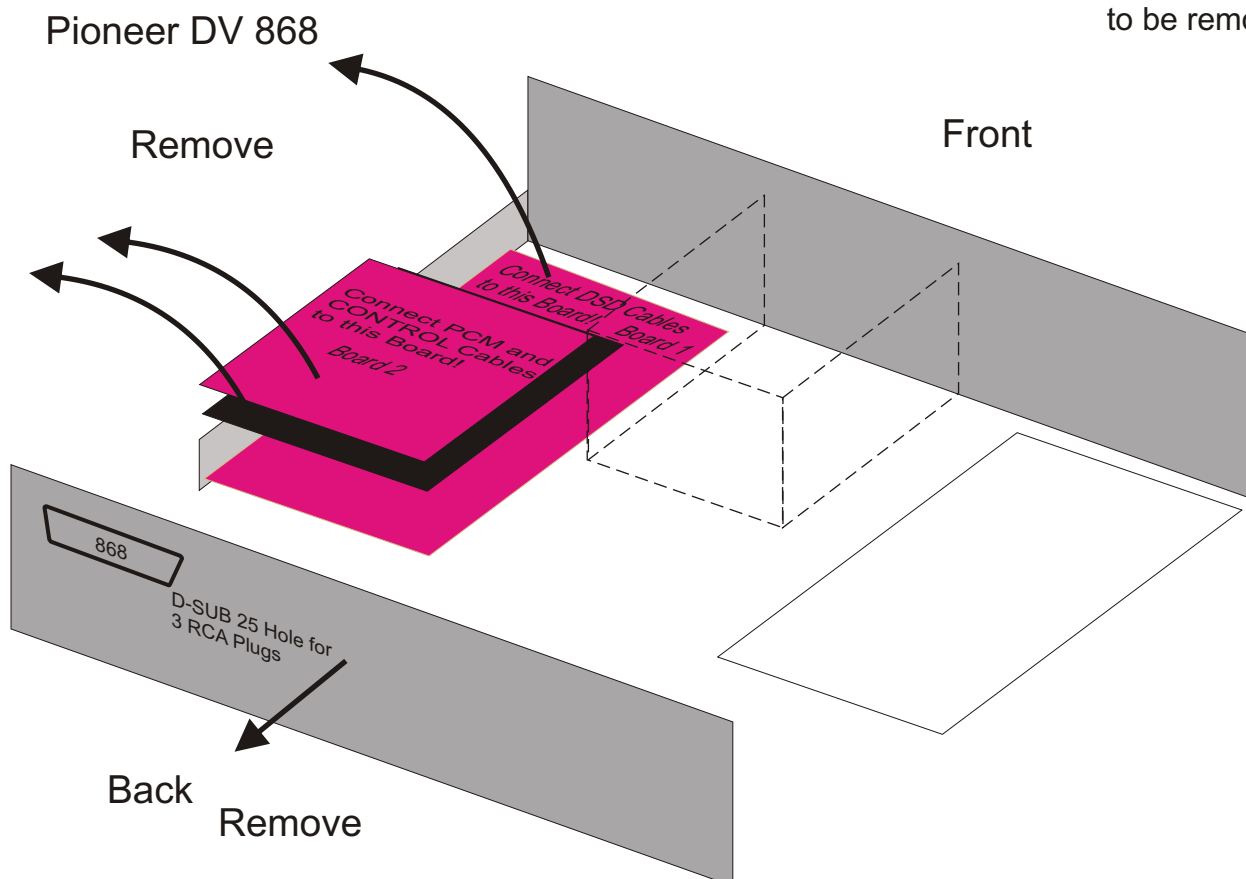
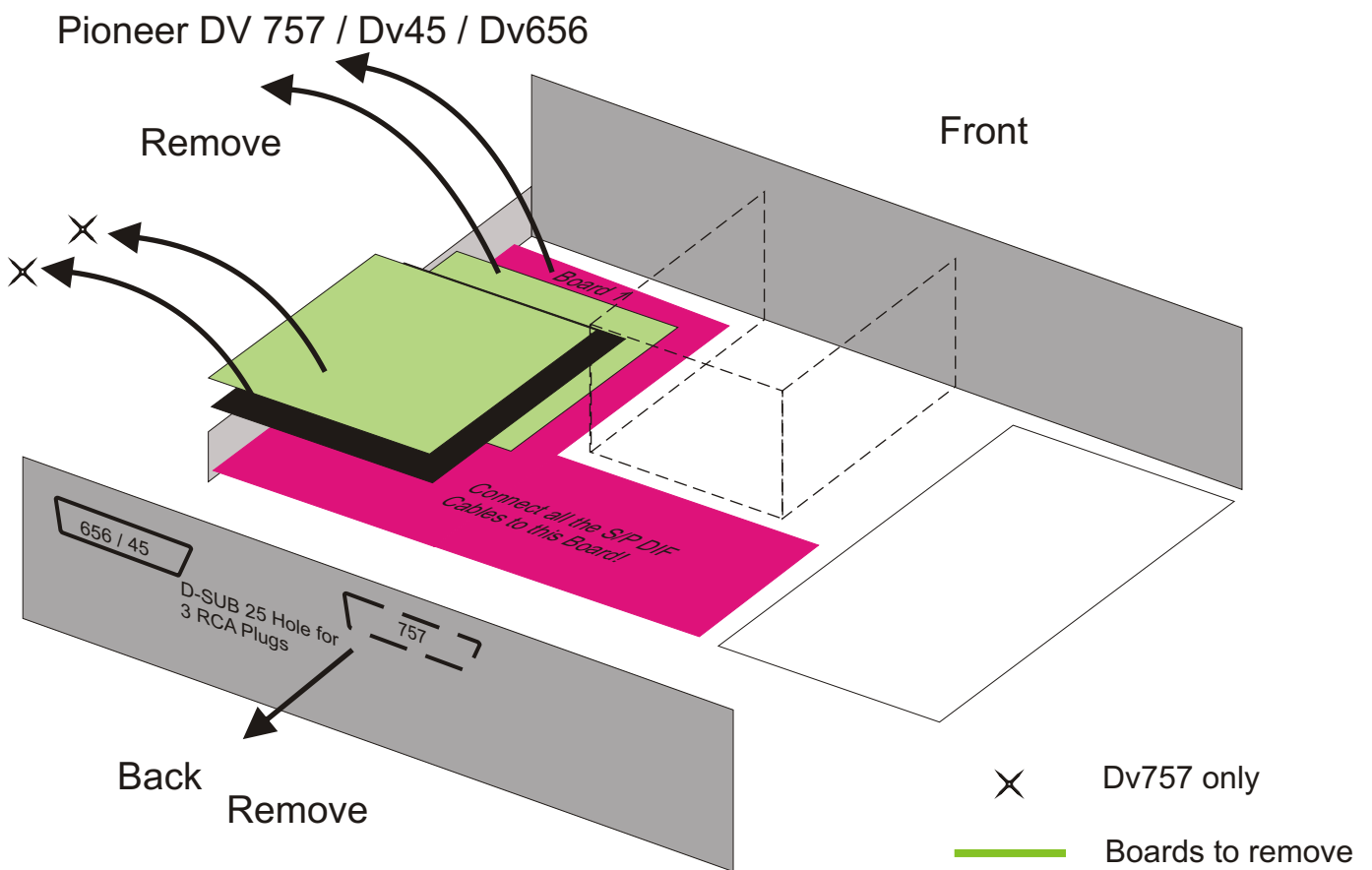


FIG 4 A

Pioneer DV 747



Switch the player on, open the drawer and carefully unclip the front, so the front panel can be removed

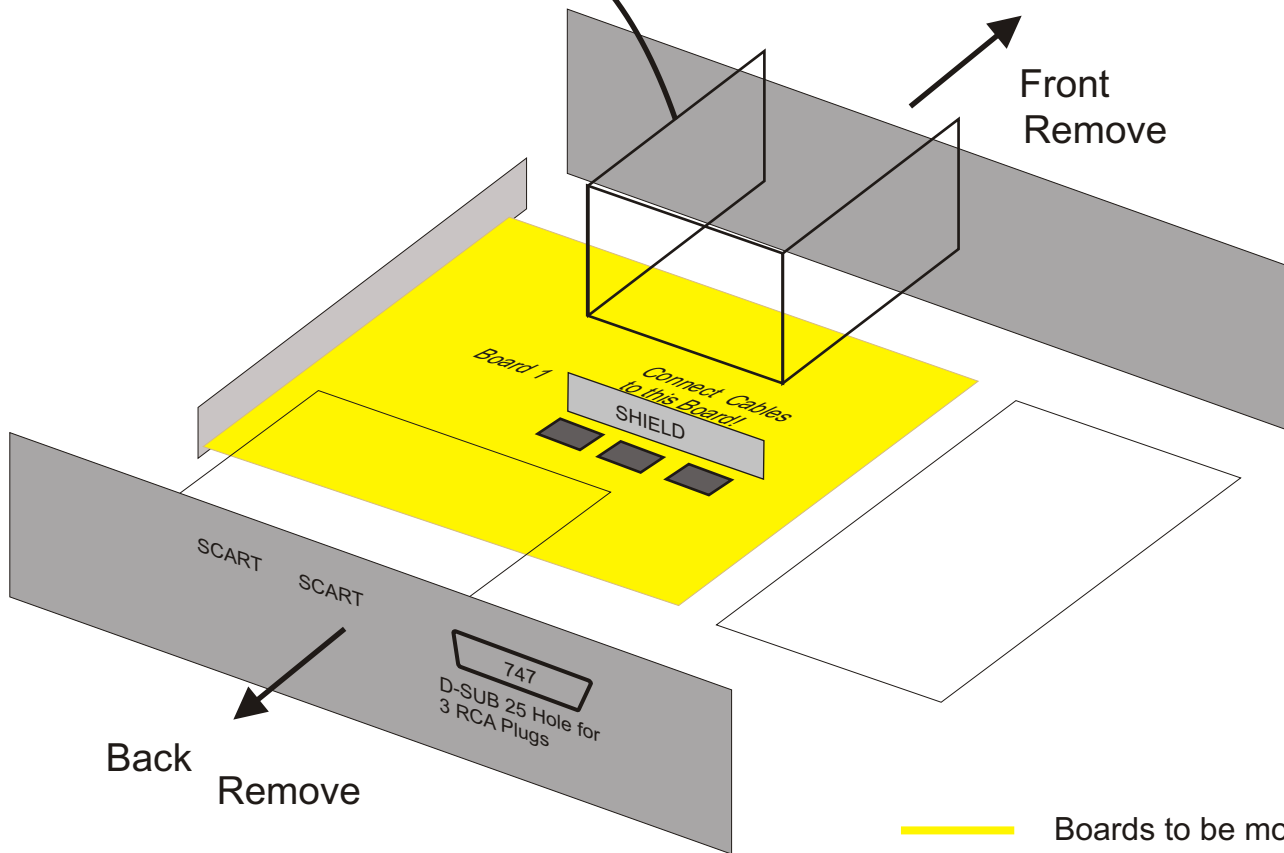
Unscrew the black ground cables to drive and front panel. Unplug the 2-wire cable from front panel to board 1.

Remove the front panel (Only 1 screw on the bottom side, otherwise it is only clipped to the sides and bottom).

Unscrew the drive and remove it.

Drive
Remove

Front
Remove



Boards to be modified
without removing

MARANTZ 8400

If you are skilled in soldering the Marantz 8400 can be modified without removing any PCB's. Just remove the flat ribbon cables as shown in the drawing below. However you can always remove the boards should you prefer to do so.

MARANTZ: It is not necessary to unscrew the video (Scart) section when removing the back panel!

MARANTZ

Front

Remove
flat ribbon cable

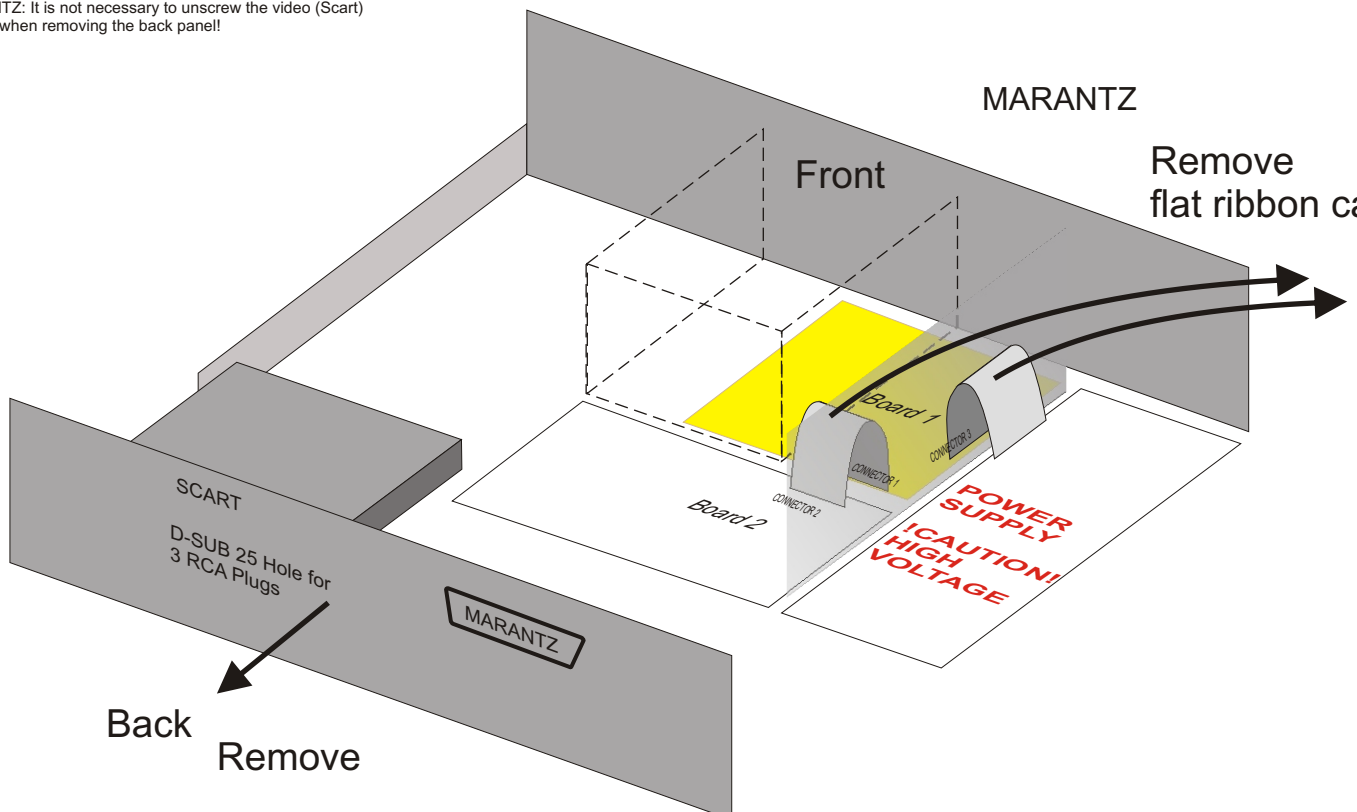


FIG 4 B

Pioneer DV 989

Boards to be modified without removing

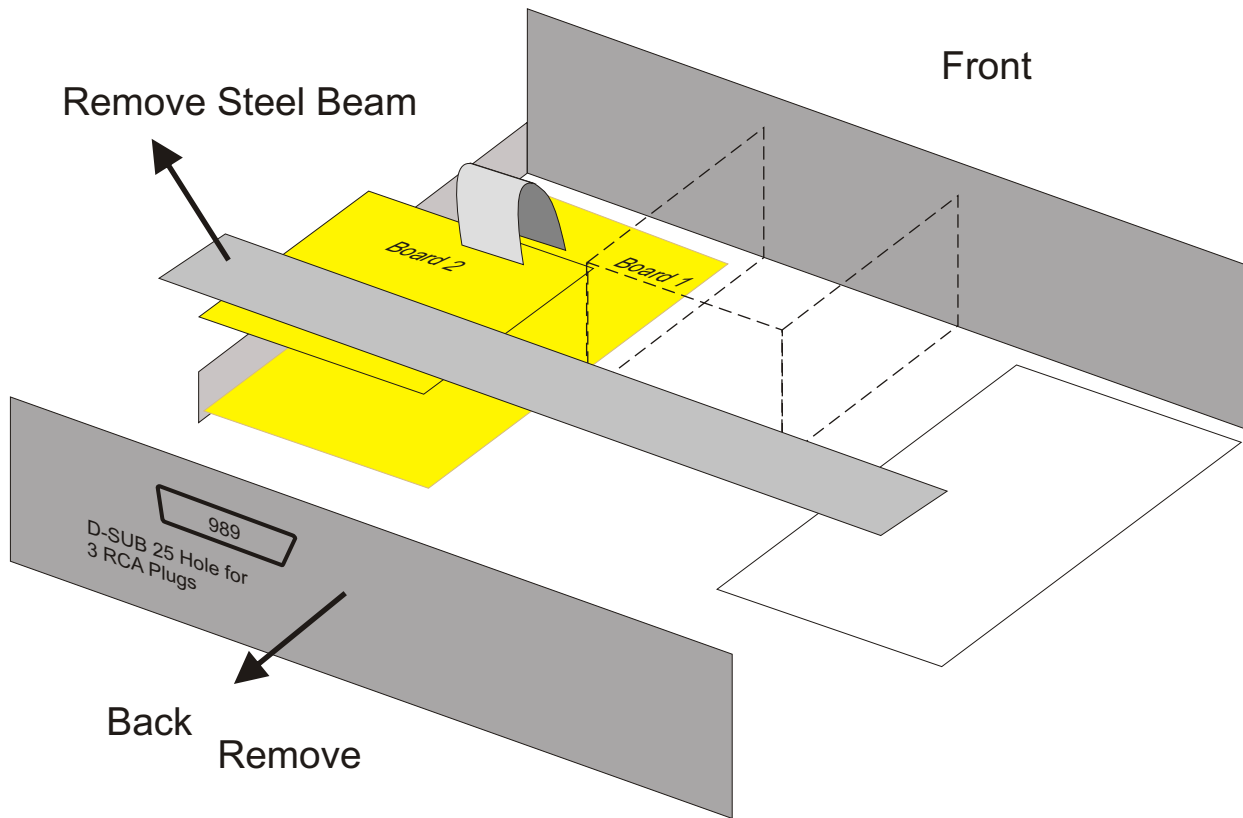


FIG 4 C

DENON 2900

If you are skilled in soldering the the Denon DVD2900 can be modified without removing any PCB's. Just remove the flat ribbon cable as shown in the drawing below. However you can always remove the boards should you prefer to do so.

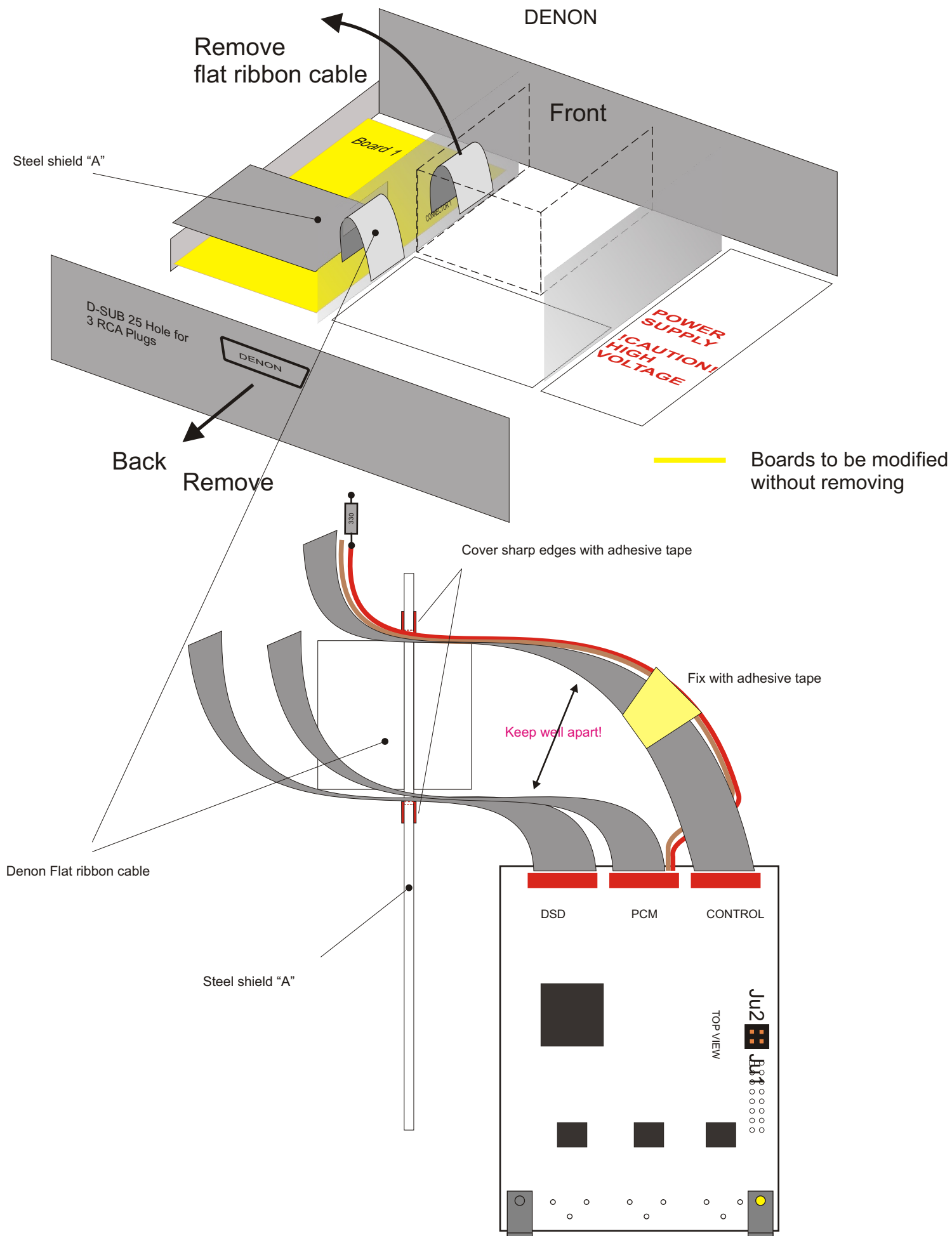
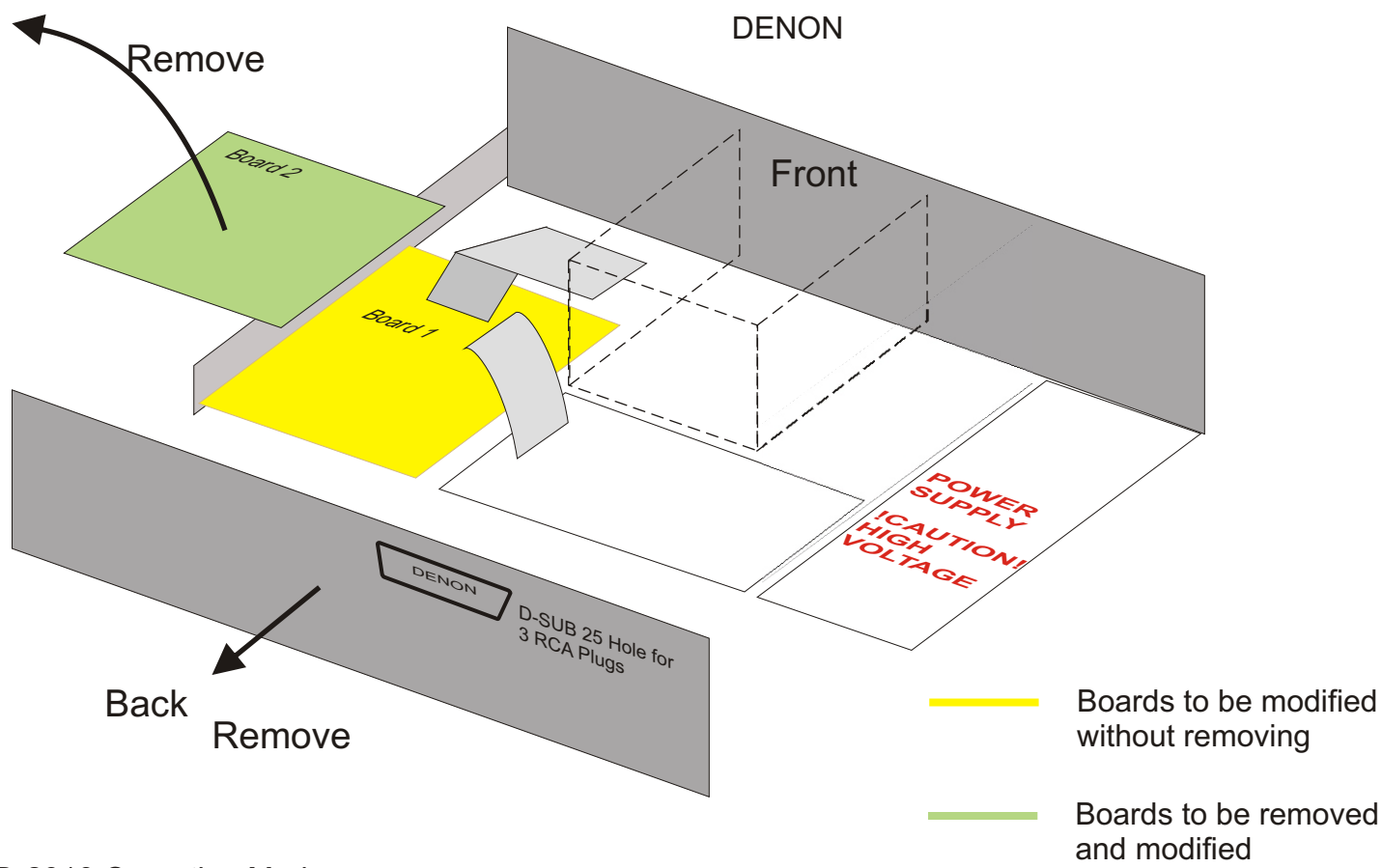


FIG 4 D

DENON 2910

Remove the Video Out board (Board 2).



DVD-2910 Operating Modes

			192k	SACD	Multichannel		Access
SETUP	DIGITAL INTERFACE SETUP						
a)	HDMI/DVI		x				
					PCM	SACD	
	HDMI AUDIO	2CH	96k	88.2/176.4k ²⁾	yes	yes	yes
		Multi(Normal)	192k	88.2/176.4k ²⁾	yes	yes	yes
		Multi(LPCM)	96k	88.2/176.4k ²⁾	yes	yes	yes

2) Conversion by S/P-DIF board. Jumper selectable sample rate 88..2 or 176.4kHz; 6 channel
3) Only when player really stopped

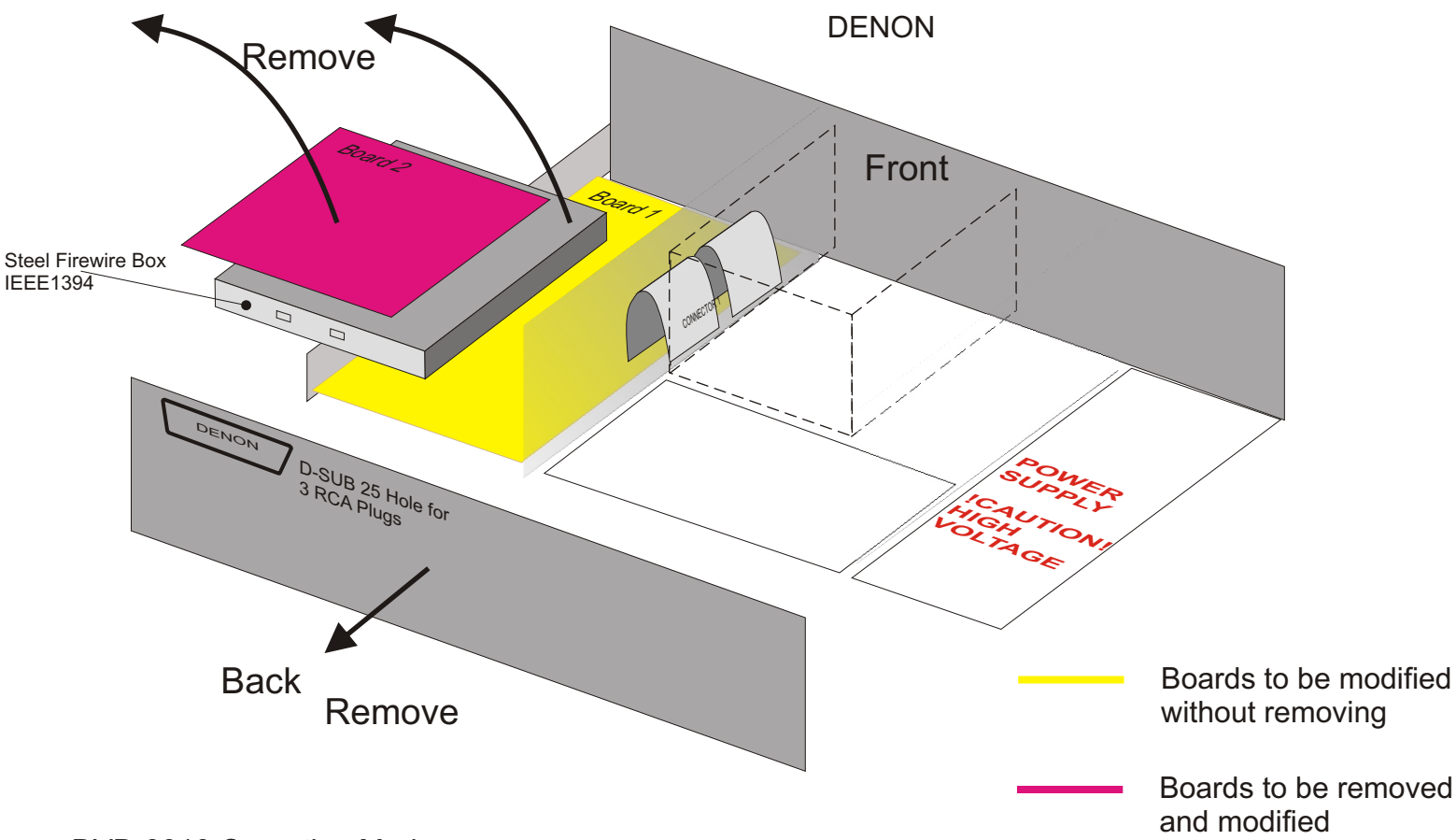
x Don't Care

- HDMI-> 2CH: Downmix selectable in SETUP ->AUDIO CHANNEL
- HDMI-> MULTI(Normal): SETUP ->AUDIO CHANNEL not accessible! Set to MULTI
- HDMI-> MULTI(LPCM): SETUP ->AUDIO CHANNEL only LARGE OR SMALL selectable

FIG 4 E

DENON 3910

Remove the Analog Out board (Board 2). Remove the Firewire Box (Don't open it. It is held by 3 screws and a plastic holder near the drive: 2 screws at the back, 1 on the side)



DVD-3910 Operating Modes

			192k	SACD	Multichannel	Access
SETUP						
DIGITAL INTERFACE SETUP						
a)	HDMI/DVI	x				
	HDMI AUDIO	2CH	96k	176.4k ¹⁾	PCM yes	yes
		Multi(Normal)	192k	88.2/176.4k ²⁾	no	yes
		Multi(LPCM)	192k	176.4k ¹⁾	no	yes
	DENON LINK	OFF				yes
	IEEE1394	OFF				yes
b)	HDMI/DVI	x				
	HDMI AUDIO	2CH				no
		Multi(Normal)				no
		Multi(LPCM)				no
	DENON LINK	2nd	192k	88.2/176.4k ²⁾	no	yes ³⁾
	IEEE1394	OFF				
C)	IEEE1394(Firewire)	ON	All Analog and S/P-DIF Outputs OFF			

1) Denon converts SACD to 176.4kHz
2) Conversion by S/P-DIF board. Jumper selectable sample rate 88..2 or 176.4kHz; 6 channel
3) Only when player really stopped
x Don't Care

HDMI-> 2CH: Downmix selectable in SETUP ->AUDIO CHANNEL
HDMI-> MULTI(Normal): SETUP ->AUDIO CHANNEL not accessible! Set to MULTI
HDMI-> MULTI(LPCM): SETUP ->AUDIO CHANNEL only LARGE OR SMALL selectable

FIG 4 F

WIRING FOR SPIDSD-BOARD

PIONEER DV 747

SPEAK RS AG
22.11.04

BOARD 1
TOP VIEW

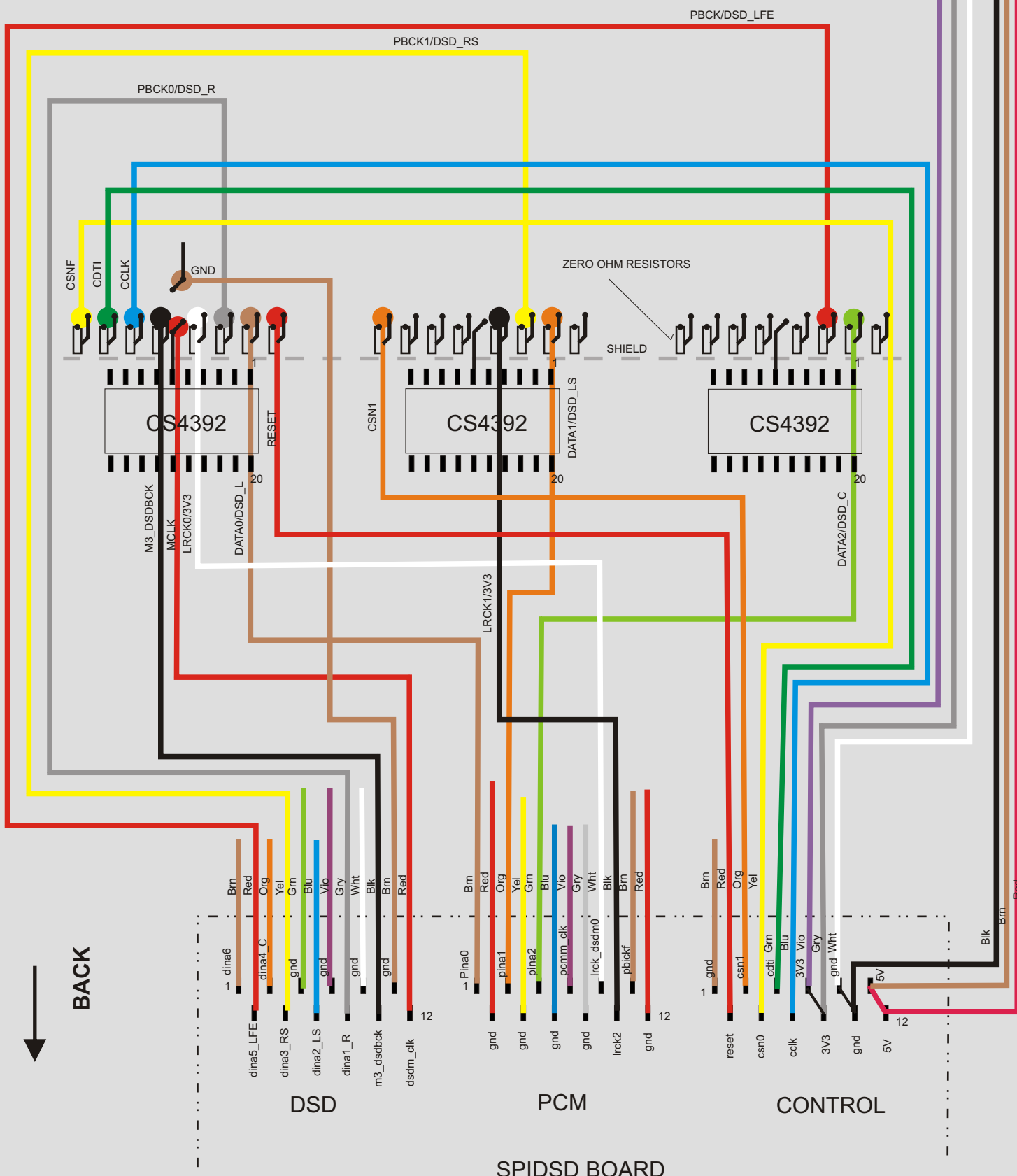
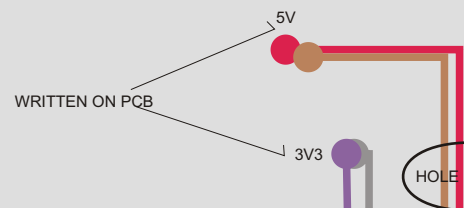


FIG 5 A

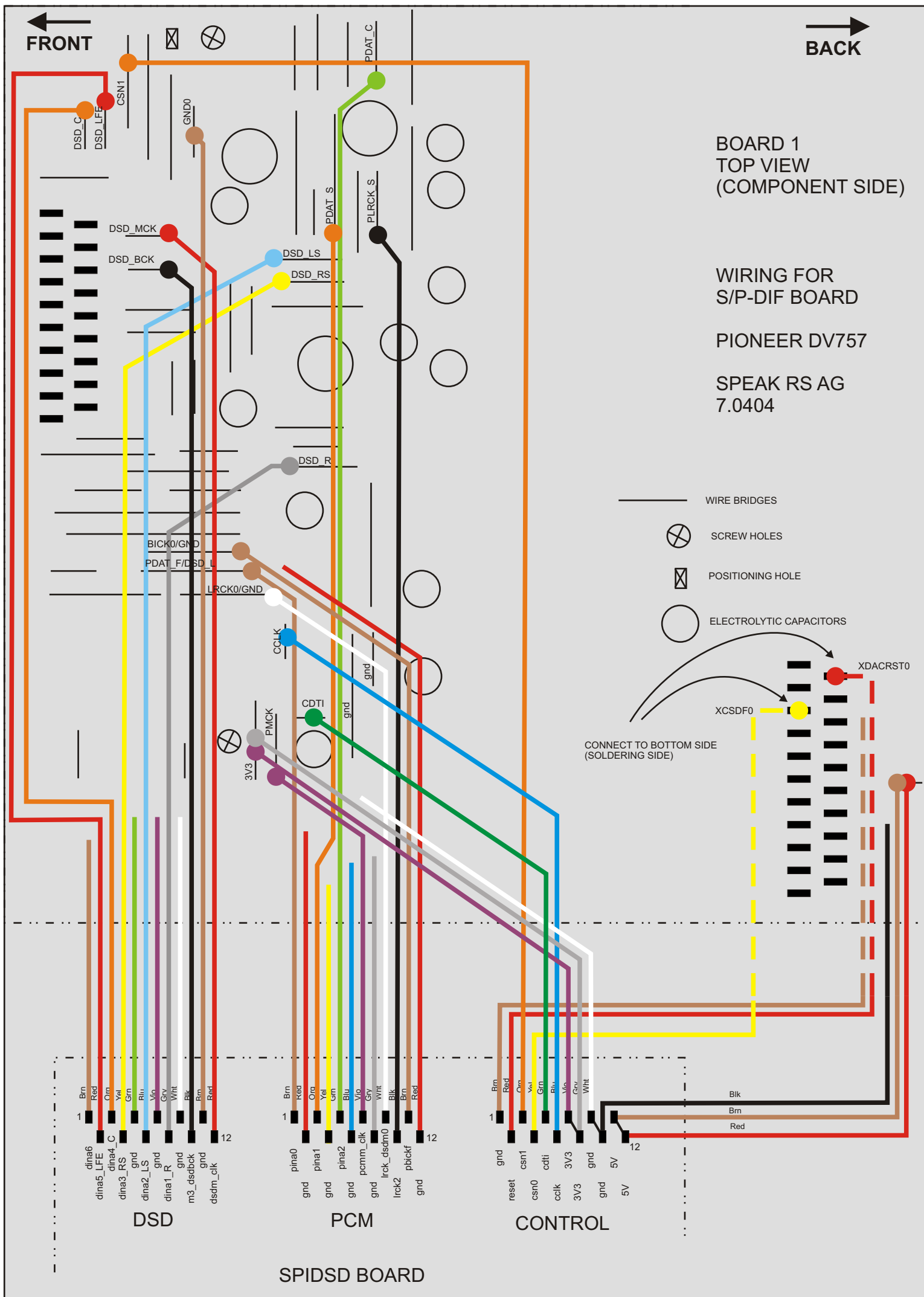
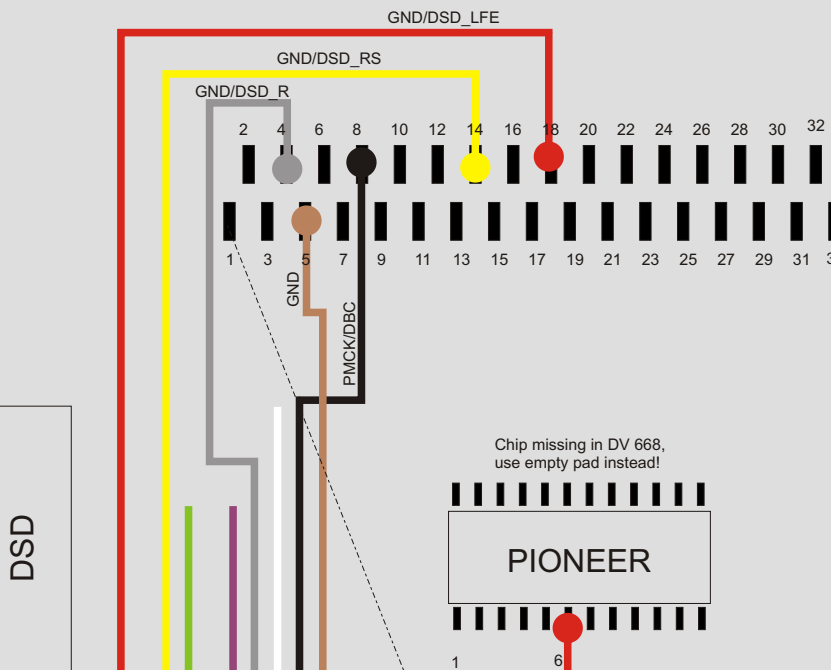


FIG 5 B

FRONT
↑

BOARD 1
TOP VIEW



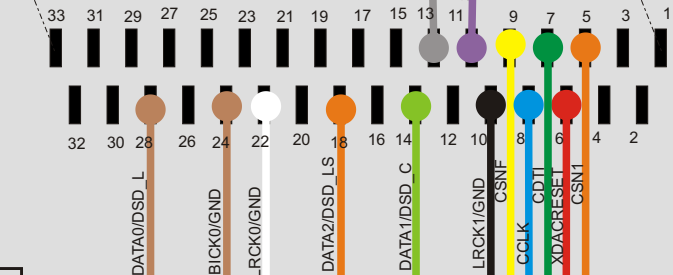
Chip missing in DV 668,
use empty pad instead!

PIONEER

1

6

BOARD 2 TOP VIEW



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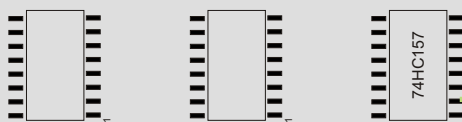
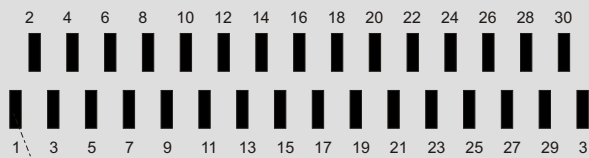
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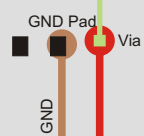
1

FRONT
↑

BOARD 1
TOP VIEW

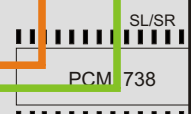
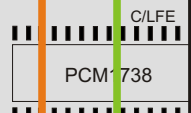
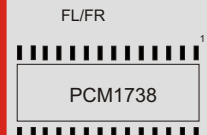
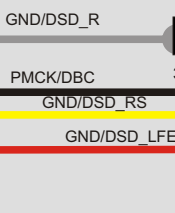


FLAT RIBBON CABLE



Fix red cable with adhesive tape

BOARD 2 TOP VIEW



Tracks

Plug

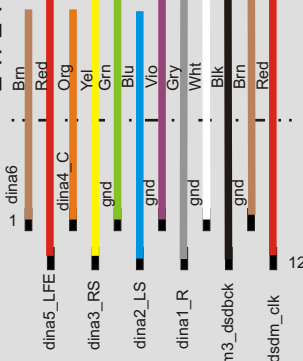
Plug

WIRING FOR SPIDSD-BOARD

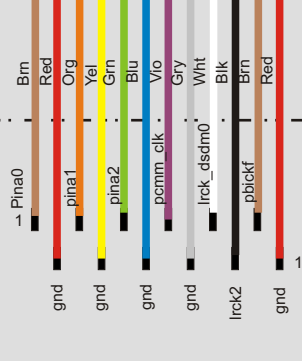
PIONEER
Dv989

SPEAK RS AG
7.0404
upd: 5.2.06

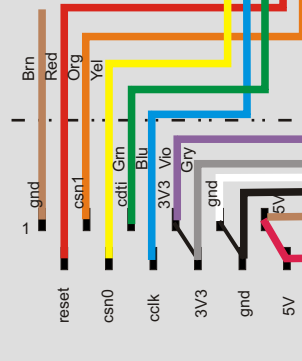
BACK
↓



DSD



PCM



CONTROL

SPIDSD BOARD

FIG 5 D

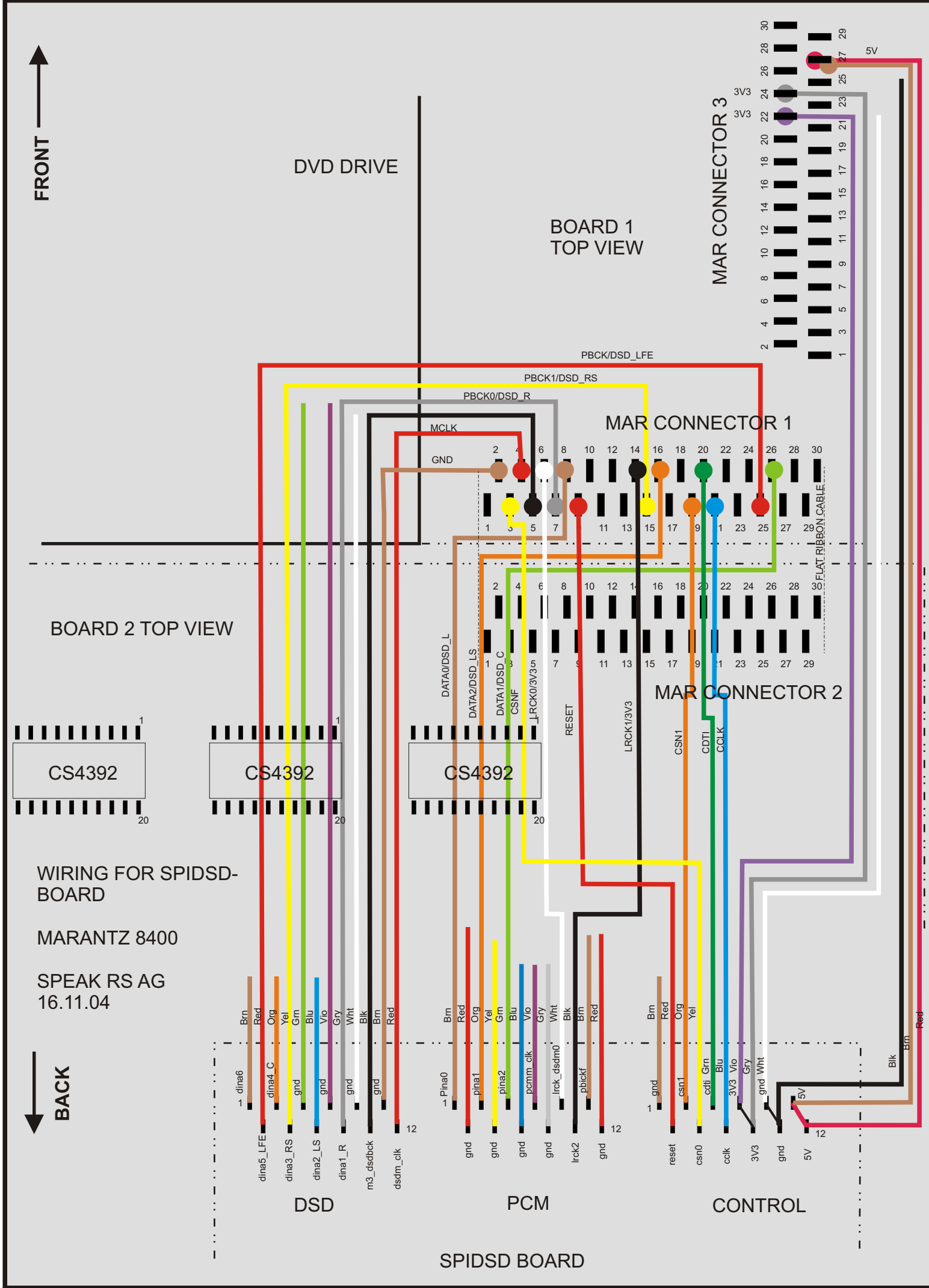


FIG 5 E

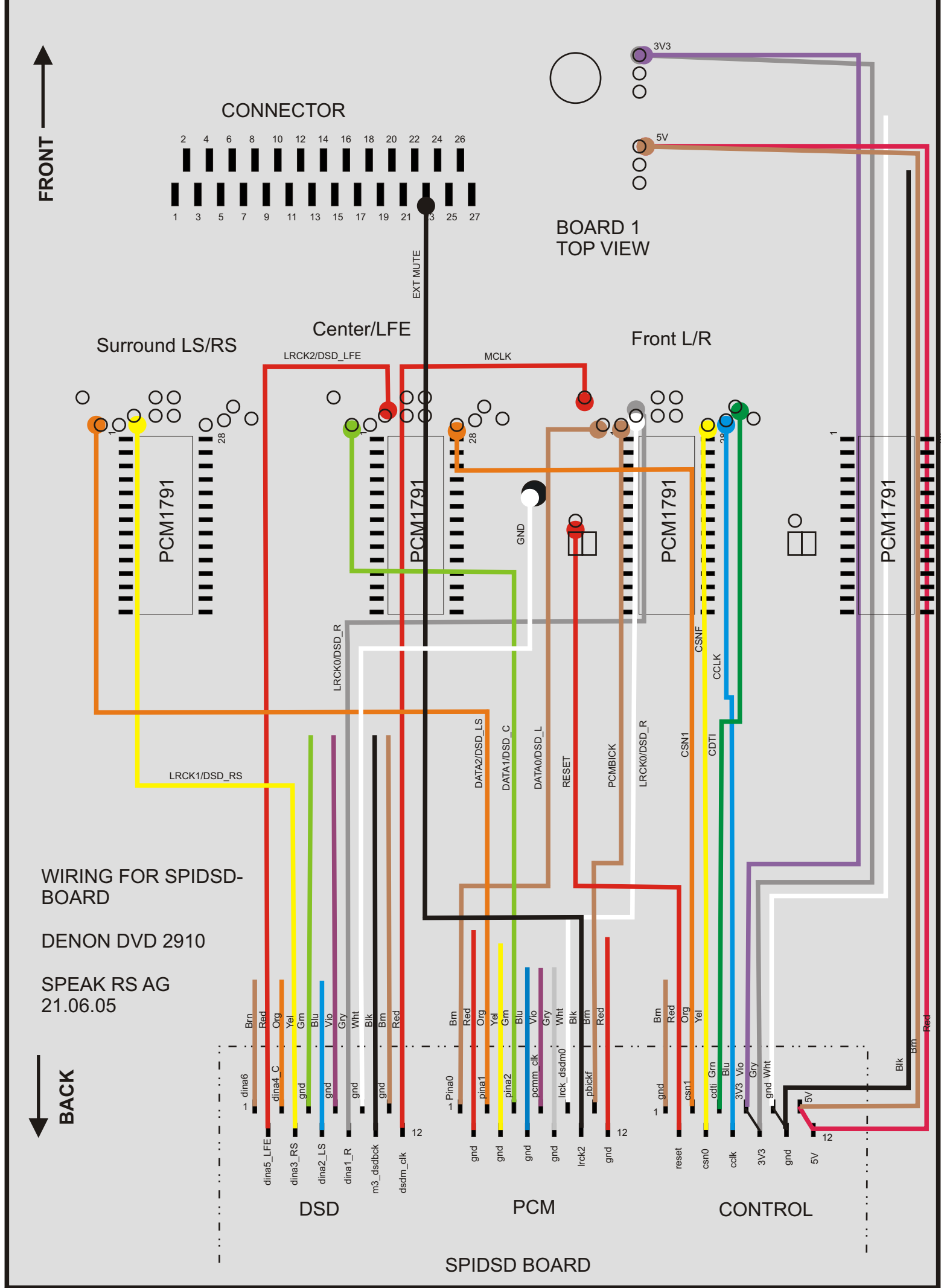


FIG 5 G

WIRING FOR SPIDSD-BOARD

See Next Page

DENON DVD 3910 Page 1(See also Page 2: FIG 5F 2))

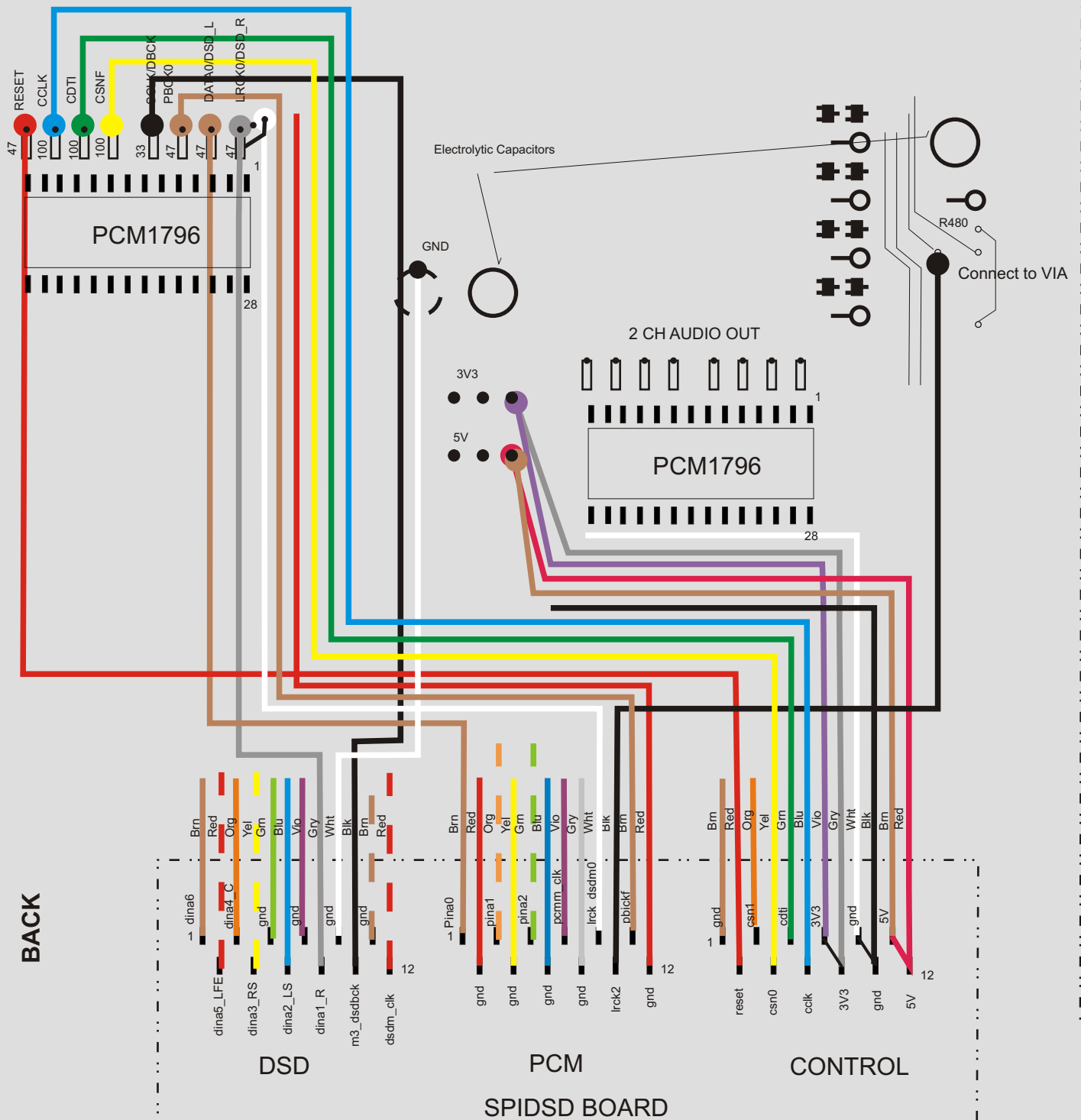
SPEAK RS AG
30.03.05

FRONT

BOARD 2
TOP VIEW

CONNECTOR 1 (To Board 1)

SURROUND FL/FR



BACK

SPIDSD BOARD

FIG 5 H 1)

Speak RS AG 30.3. 2005 /Replacement for

BOARD 1 TOP VIEW

CONNECTOR

CONNECTOR

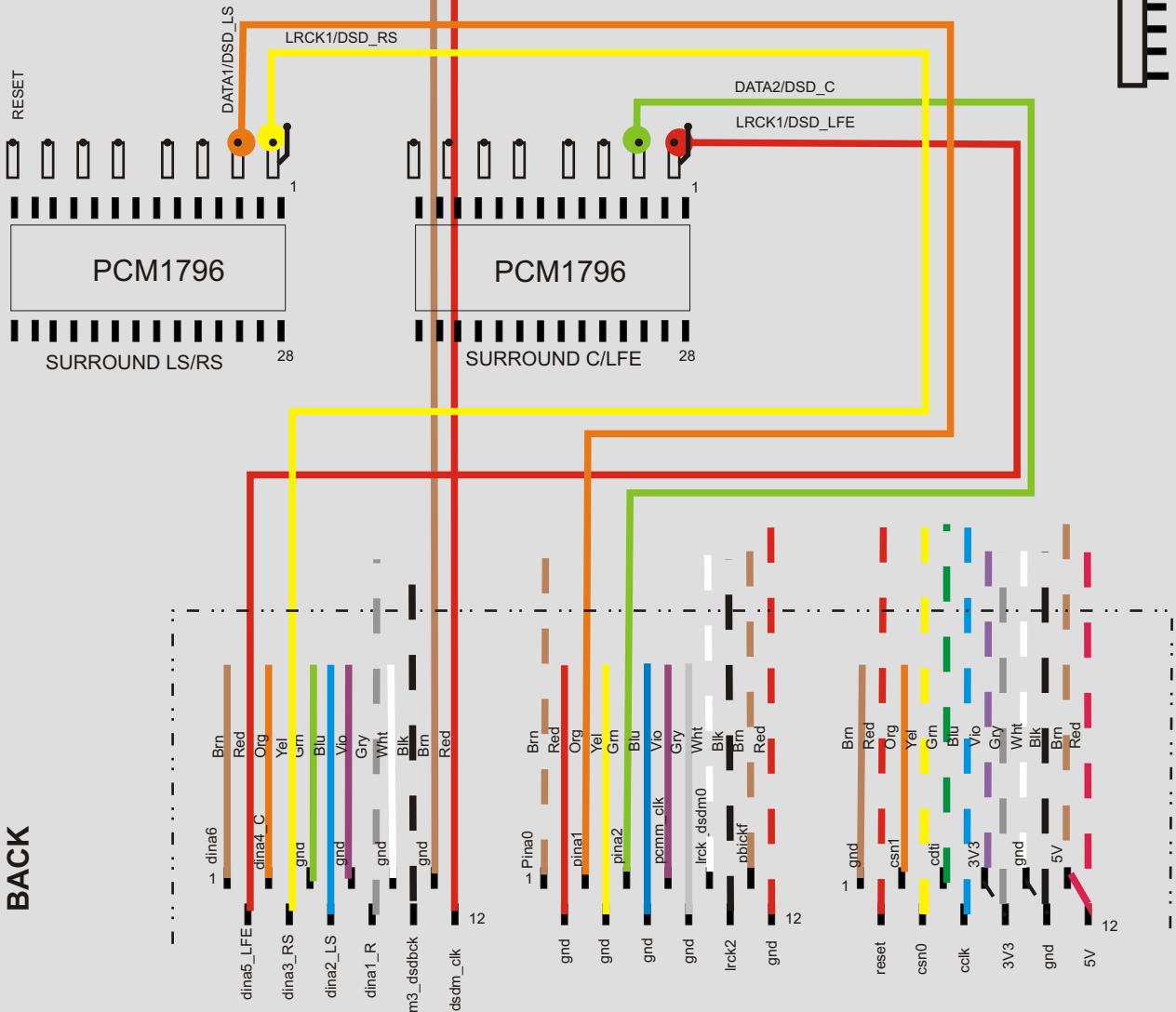
CONNECTORS

WIRING FOR SPIDSD-
BOARD

DENON DVD 3910 Page 2
(See also Page 1: FIG 5F 1))

SPEAK RS AG
30.03.05

See Previous Page



DSD

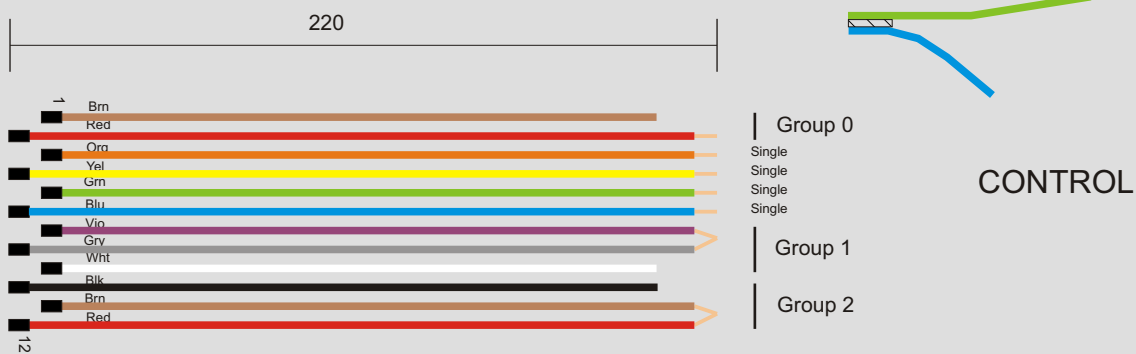
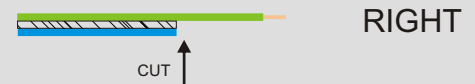
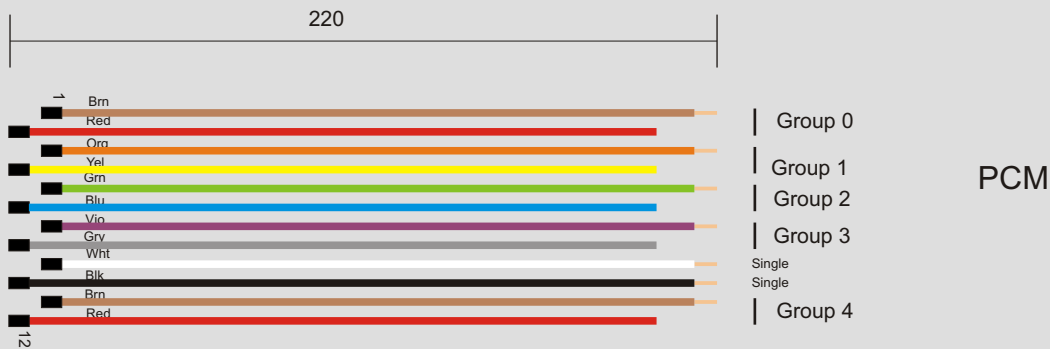
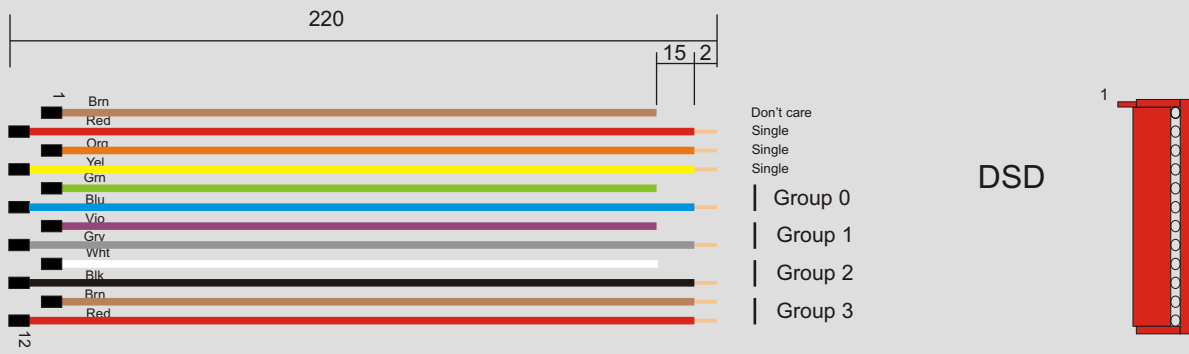
PCM

CONTROL

SPIDSD BOARD

FIG 5 H 2)

Speak RS AG 30.3. 2005 /Replacement for

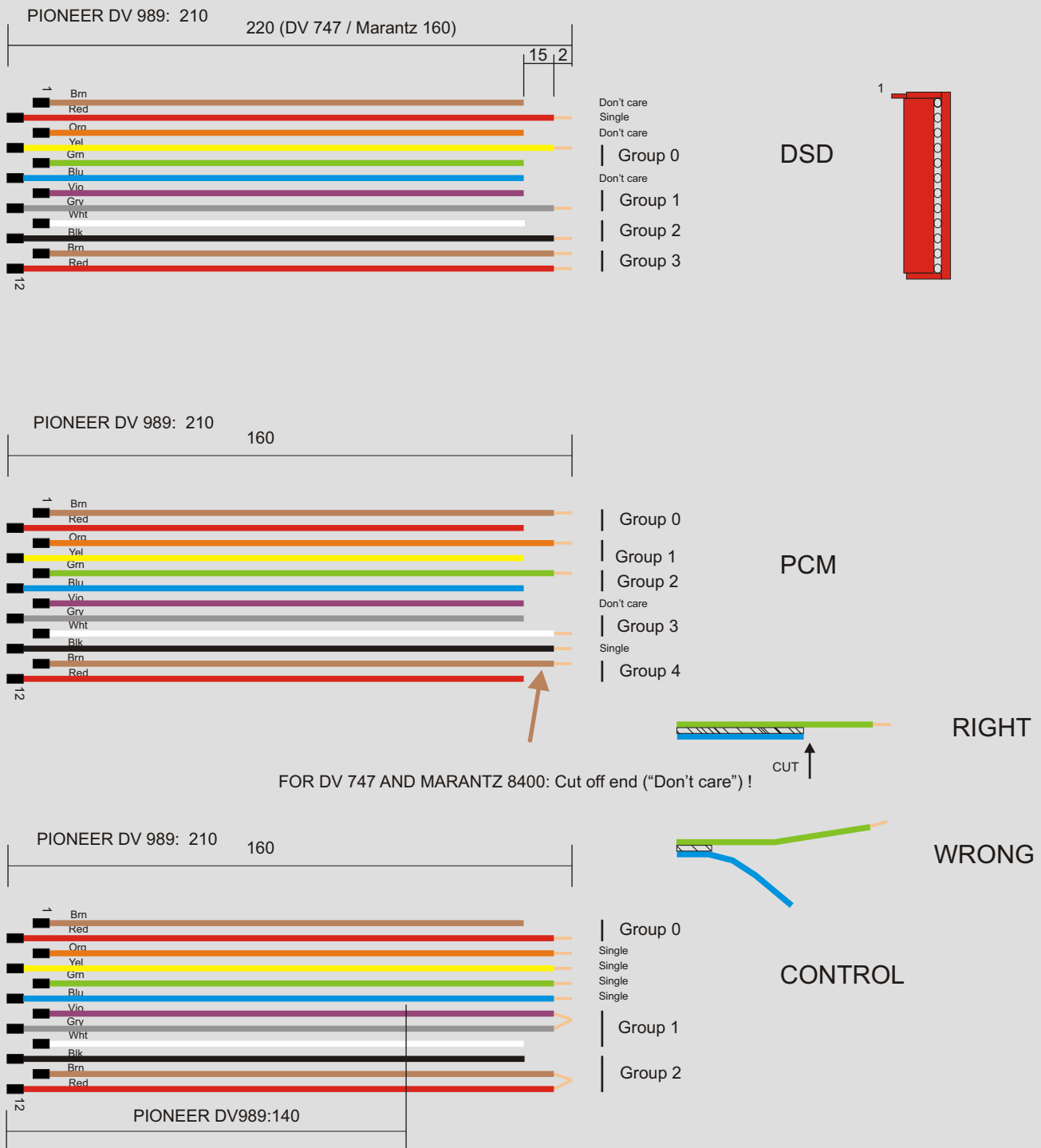


Flat Ribbon Cables For DV45 / DV656 / DV757

Separate cables into groups or single wires as indicated above and cut off the ends of shields and unused wires.

Unconnected wires - except "don't care" ones - act as shields.

For your convenience, "don't care" wires can be treated mechanically as shields



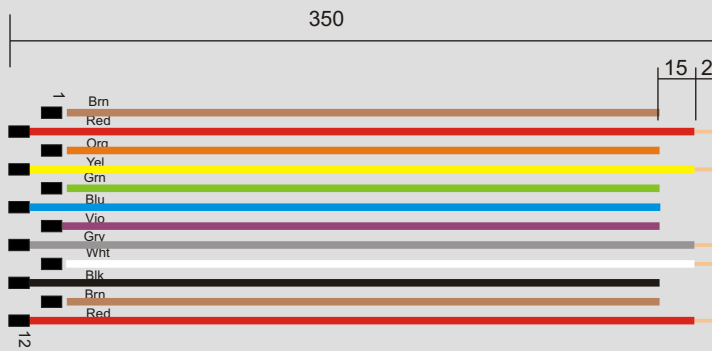
Flat Ribbon Cables For DV668 / DV 868 / DV 747 / Dv989 / MARANTZ 8400

Separate cables into groups or single wires as indicated above and cut off the ends of shields and unused wires.

Unconnected wires - except "don't care" ones - act as shields.

For your convenience, "don't care" wires can be treated mechanically as shields.

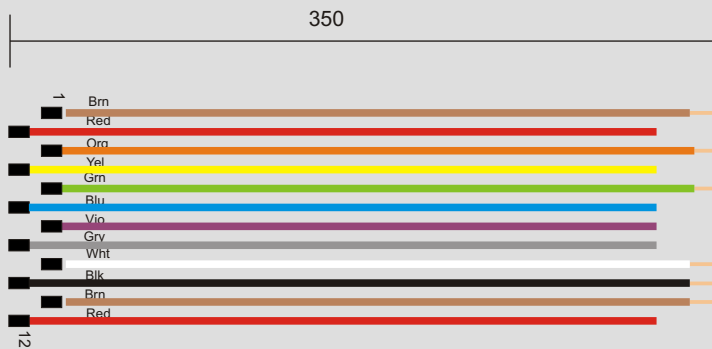
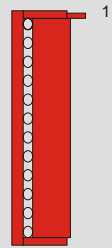
ATTENTION: PLUG TURNED!!
Flat Ribbon Cable from top side, in order to avoid
PowerSupply Heatsink!



Don't care
Single
Don't care
Single

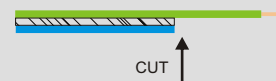
Group 0
Group 1
Group 2

DSD



Group 0
Group 1
Group 2
Group 3
Single
Group 4

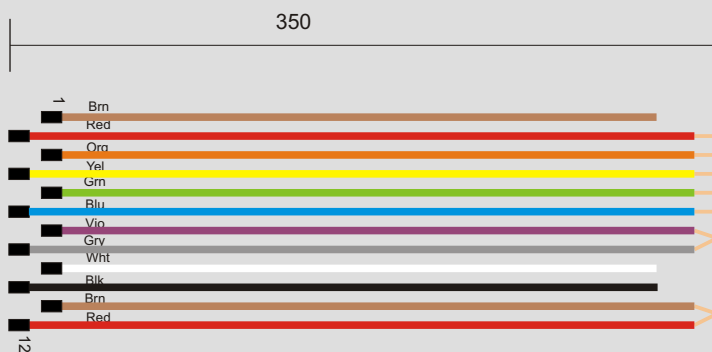
PCM



RIGHT



WRONG



Group 0
Single
Single
Single
Single
Group 1
Group 2

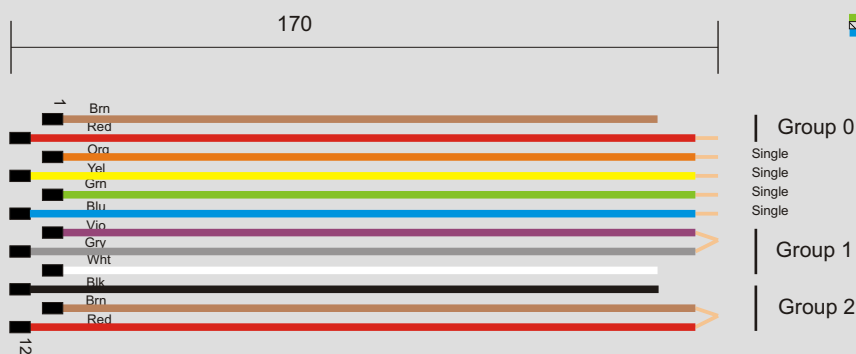
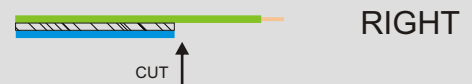
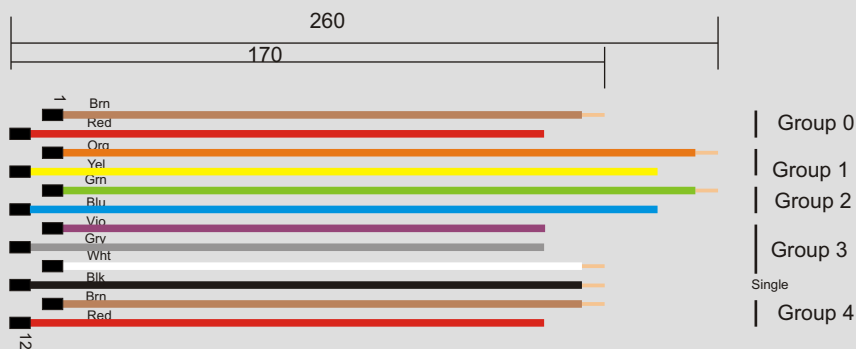
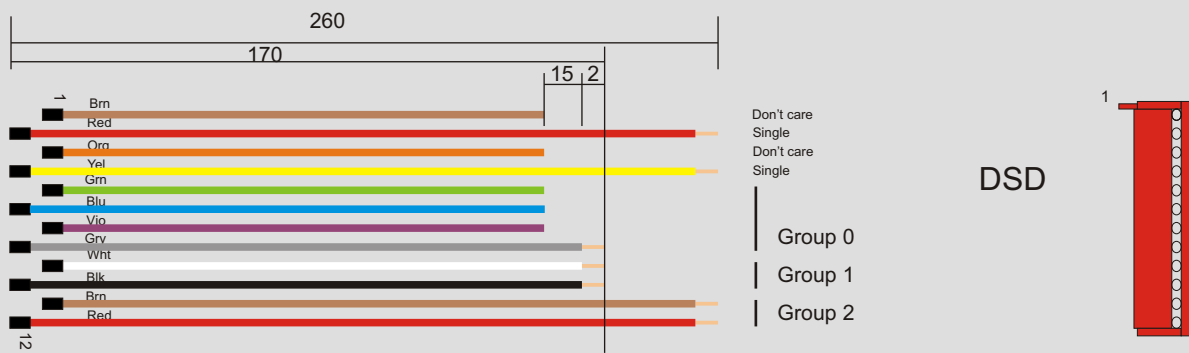
CONTROL

Flat Ribbon Cables For Denon DVD 2910

Separate cables into groups or single wires as indicated above and cut off the ends of shields and unused wires.

Unconnected wires - except "don't care" ones - act as shields.

For your convenience, "don't care" wires can be treated mechanically as shields



Flat Ribbon Cables For Denon DVD 3910

Separate cables into groups or single wires as indicated above and cut off the ends of shields and unused wires.

Unconnected wires - except "don't care" ones - act as shields.

For your convenience, "don't care" wires can be treated mechanically as shields