

U04A
LOW-B

U01A
SIGNAL

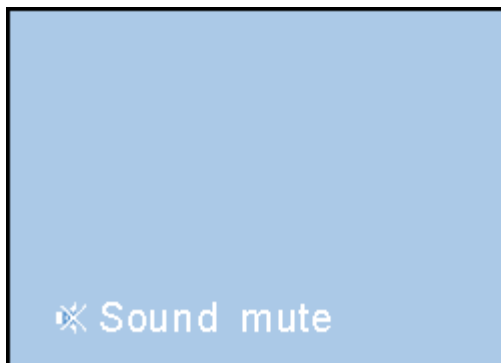
U03A
POWER


U02A
KEY/LED/RMT

ADJUSTMENT

Service Mode

Entering to Service Mode



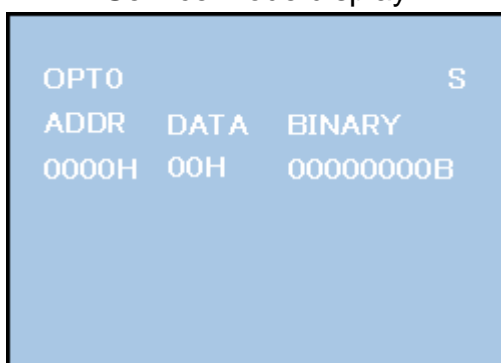
1. Set VOLUME to minimum and press  button once on remote control.




2. Press  button again and hold button down.



Service Mode display

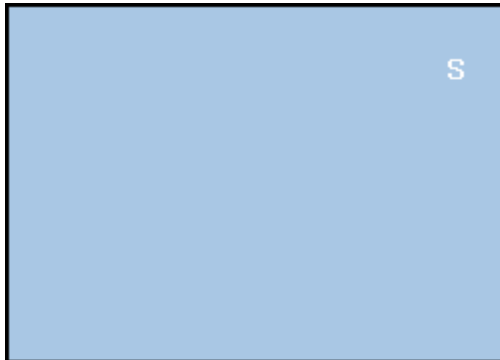


3. While holding the  button, press MENU button on TV set.

Displaying the Adjustment Menu

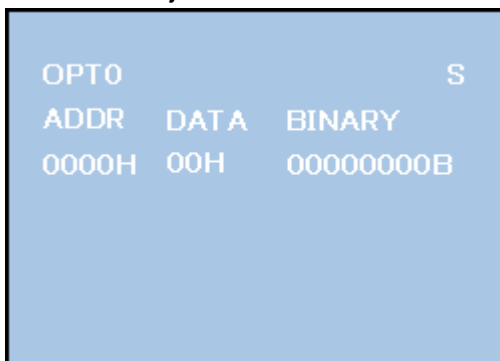
Press MENU button on TV.

Service Mode



Press ↑ ↓ Press


Adjustment Mode



Key Function in the Service Mode

The following key entry during display of adjustment menu provides special functions.

CAUTION: Never try to perform initialization unless you have changed the memory IC.

 button (on remote control)

Test signal selection	
Selection of the adjustment items	CH ▲/▼ (on TV or remote control)
Change of the data value	Volume ▲ +/- (on TV or remote control)
Adjustment menu mode ON/OFF	MENU button (on TV)
"RCUT" selection	1 button
"GCUT" selection	2 button
"BCUT" selection	3 button
"CNTX" selection	4 button
"COLC" selection	5 button
"TNTC" selection	6 button
Automatic A/D Adjustment (PC, Component, Composite (PAL, NTSC))	7 button
Self diagnostic display ON/OFF	9 button

Selecting the Adjusting Item

Every pressing of CH ▲ button in the service mode changes the adjustment items in the order of table below. (▼ button for reverse order)

SETTING & ADJUSTING DATA

[SERVICE MODE]

ADJUSTING ITEMS AND DATA IN THE SERVICE MODE:

Note:

The image system data of RCUT-BDRV is different by each image format.

The PAL value is indicated in the table.


Never adjust H.POS and V.POS except PAL/WIDE mode.

Item	Name of adjustment
RCUT	R CUT OFF

GCUT	G CUT OFF
BCUT	B CUT OFF
RDRV	R DRIVE
GDRV	G DRIVE
BDRV	B DRIVE
BRTC	BRIGHTNESS CENTER
COLC	COLOR CENTER
TNTC	BASE BAND TINT
CNTX	CONTRAST MAX
VOLUX	MAX VOLUME LIMITED
OPT1	TV SET OPTION 1
OPT2	TV SET OPTION 2
OPT3	TV SET OPTION 3
OPT4	TV SET OPTION 4 (PANEL OPT DATA FOR VENDOR)
OPT5	TV SET OPTION 5 (PANEL OPT DATA FOR SIZE)
OPT6	TV SET OPTION 6 (HOTEL MODE)
OPT7	TV SET OPTION 7 (HOTEL MODE)
OPT8	TV SET OPTION 8 (HOTEL MODE)
ID	PANEL

Factory preset data will be loaded after setting PANEL data.
(Refer to setting data of Main board.)

Adjusting the Data

Pressing of VOLUME  +/- button will change the value of data in the range from 00H to FFH. The variable range depends on the adjusting item.

Setting Panel Option Data

Panel option data is subject to OPT4 and OPT5.

Enter to service mode and select menu of OPT4 or OPT5 by pressing P▲ or P▼ during

display of adjustment menu. After selecting OPT4 or OPT5, press  + or  - to set OPT4 or OPT5 value as table below.

Panel option data

Series		Model name	Panel vendor	OPT4 value	OPT5 value
AV500PR	EU	32AV500PR	SHARP	0x02	0x05
			LGD	0x01	0x05

OPT4

Ex. OPT4 value 0x02 indicates that panel vendor is SHARP.

		OPT4							
		D7 (bit7)	D6 (bit6)	D5 (bit5)	D4 (bit4)	D3 (bit3)	D2 (bit2)	D1 (bit1)	D0 (bit0)
Panel vendor	LGD	-	-	-	-	0	0	0	1
	SHARP	-	-	-	-	0	0	1	0
	CMO	-	-	-	-	0	0	1	1
	AUO PMVA	-	-	-	-	0	1	0	0
	AUO AMVA	-	-	-	-	0	1	0	1
	SAMSUNG	-	-	-	-	0	1	1	0
	IPS	-	-	-	-	0	1	1	1

OPT5

Ex. OPT5 value 0x05 indicates that panel size is 32.

		OPT5							
		D7 (bit7)	D6 (bit6)	D5 (bit5)	D4 (bit4)	D3 (bit3)	D2 (bit2)	D1 (bit1)	D0 (bit0)
Size	32	-	-	-	-	0	1	0	1
	37	-	-	-	-	0	1	1	0
	42	-	-	-	-	0	1	1	1

Convert from Bit (Binary) to Hex

The table for converting from bit (D7-D0) to hex (0x**).

		BIT (Binary)			
High nibble		D7	D6	D5	D4
Low nibble		D3	D2	D1	D0
HEX	0	0	0	0	0
	1	0	0	0	1
	2	0	0	1	0
	3	0	0	1	1
	4	0	1	0	0
	5	0	1	0	1
	6	0	1	1	0
	7	0	1	1	1
	8	1	0	0	0
	9	1	0	0	1
	A	1	0	1	0
	B	1	0	1	1
	C	1	1	0	0
	D	1	1	0	1
	E	1	1	1	0
	F	1	1	1	1

E.g. If Bit D7-0 = 0101 1010, Hex data is 0x5A.

Exit from Service Mode

Pressing POWER button to turn off the TV once.

Setting Data of Signal Unit

After replacing Main board, the following initialization is required.

CAUTION: Whenever using new Main board to the set, setting the PANEL data according to Panel option data.

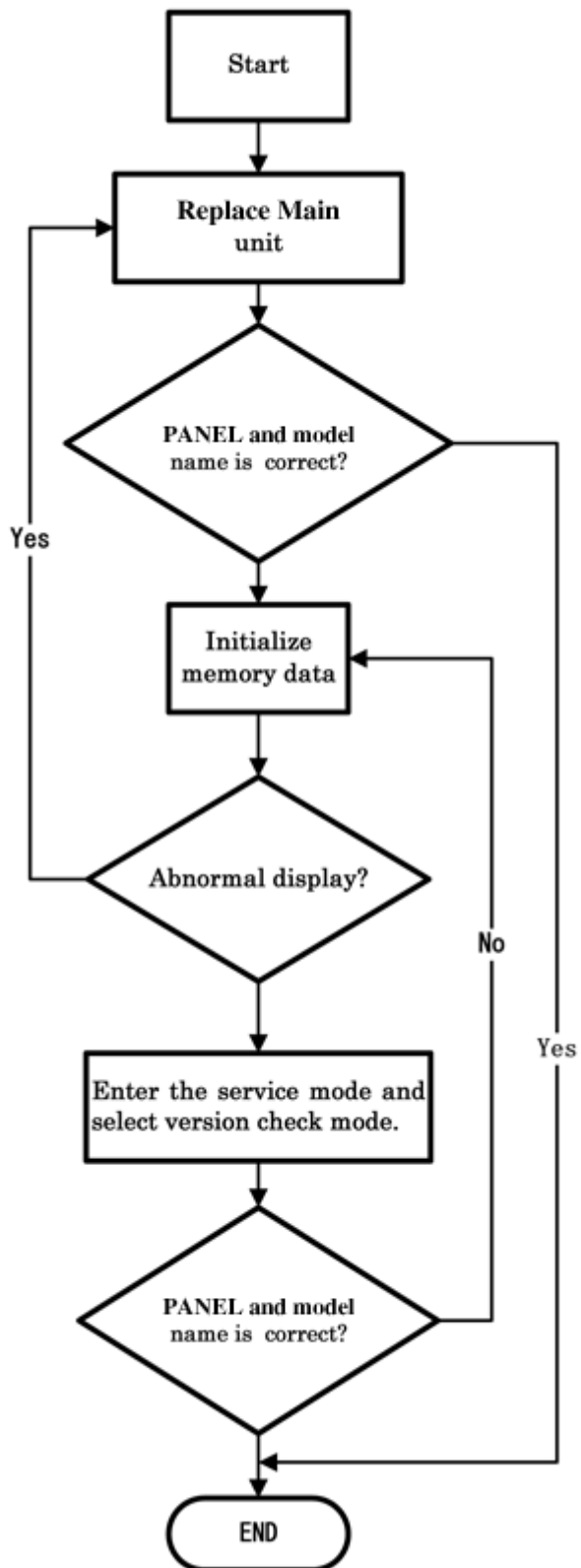
Note:

In case initialization by setting wrong PANEL is done, there is a possibility of abnormal display.


- 1) Check the picture carefully. If necessary, adjust any adjustment item above.
Perform "Auto tune" on the owner's manual.

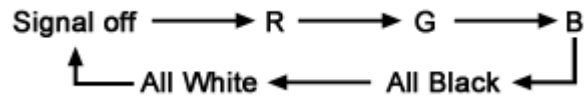
PANEL (HEX)	Model name	Panel vendor
0x07	32AV500PR	SHARP
0x09		LGD



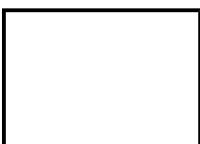


Initializing Data setting flowchart after replacing the Signal Unit



Test Signal Selection

Every pressing of  button on the remote control changes the built-in test patterns on screen as described below in Service Mode.



Picture	Signal
	Red raster
	Green raster
	Blue raster
	All Black
	All White

Self Diagnostic Function

1. Press "9" button on remote control during display of adjustment menu in the service mode. The diagnosis will begin to check if interface among IC's is executed properly.
2. During diagnosis, the following displays are shown.

* Self check display and Item are subject to the models.

Version Check Mode

1. Press "9" button twice on remote control during display of adjustment menu in the service mode.
The version of main MPU will be checked.
2. During Version Check, the following displays are shown.

* Version check display and Item are subject to the models.

Version check	
(1)	MAIN MPU : V 3.1
(2)	EEPROM : 02 (PNL : 07)
(3)	SUB MPU : 17 (NO RTC)
(4)	OPTION : 35 00 00 02 05 00
(5)	A/D Adjust : COMP RGB OK OK
(6)	RF AGC : OK 14
(7)	DRMA0517-REV02
	32AV500PS SHARP-32
	(8) (9)

- (1) MAIN MPU :
Version information of microprocessor
- (2) EEPROM :
Version information of EEPROM : Display 1 byte data and Panel ID information.
- (3) SUB MPU :
Version information of SUB MPU : Display 1 byte data.
- (4) OPTION :
Option information : Display six numbers of 1 byte data.
- (5) A/D Adjust
A/D adjustment item.
--COMP : Component input
--RGB : PC input
--OK : A/D adjustment set correctly.

--NG : A/D adjustment set incorrect.

-- : A/D adjustment is not needed. Because its picture format isn't used.

(6) RF AGC adjustment value

RF Adjustment Value is shown.

(7) Information of Memory Data List and Revision information.

(8) Model Name

Model name information (ascii code). : Display 7 byte data.

(9) LCD Panel Vendor information display

The following Panel Vendor (DDD) and screen size (00) are displayed.

Example : SHARP-32 indicates that Vendor is SHARP and Screen Size is 32.

Status Check Mode

1. Press "9" button thrice on remote control during display of adjustment menu in the service mode.

The status of this model will be checked.

2. During Status Check, the following displays are shown.

* Status check display and Item are subject to the models.

Status check	
(1)	MAIN : TV14
(2)	MAIN FORMAT : 576I
(3)	MAIN PLL : C0 2B B0 C8 08
(4)	SCREEN SIZE : Wide
(5)	OTHERS STATUS 1111 1111 1111

(1) MAIN :

Main source information :

Display RF position number (0 - 99) on the main screen, or Input Source (EXT1/2/3/HDMI etc.)

(2) MAIN FORMAT :

Display Video and PC format information

(3) MAIN PLL :

Main PLL information : Display 1 byte data at five.

(4) SCREEN SIZE :

Display the screen size as follows.

Exact Scan
Wide
Super Live 2
Cinema 2
4:3
Super Live 1
Cinema 1
Subtitle
14:9

Note:



Exact Scan is shown only for 1080p panel model with video input mode except pc.

(5) OTHER STATUS :

Other status information : Display three numbers of 2 byte data.

Setting Hotel Mode

Enter to service mode and select Hotel Mode menu by pressing P▲ or P▼.
After selecting Hotel Mode, press  + to enter details setting in Hotel Mode.

To select menu, press P▲ or P▼ and press OK to enter the adjustment menu of table bellow.
To move the cursor in the adjustment, press  + or  -.

- By pressing P▲ or P▼, OPT2 setting will change the value either 1 or 0 on selected items as follows;

OPT2

OPT2	FUNCTION DESCRIPTION	1	0 (Normal)
D7 (bit7)	- (no use)	-	-

D6 (bit6)	- (no use)	-	-
D5 (bit5)	FRONT Key	Disable	Enable
D4 (bit4)	All keys except input selector key (Video/TV)	Disable	Enable
D3 (bit3)	User remote control operation	Disable (Service mode and Supere User mode may possible to setting only)	Enable
D2 (bit2)	Disable SET UP MENU except language. (tuning SETUP MENU)	Disable (Display the language only)	Enable
D1 (bit1)	Disable SETUP MENU	Disable	Enable
D0 (bit0)	HOTEL Mode	On (Enable the setting of D1 from to D7)	Off (Normal)

VOLUX

Set VOLUX as following.

- 1) Set speaker volume to 100. (Any value is OK, but 100 is better to check sound level.)
- 2) Down value of VOLUX until finding suitable sound volume level.

VOLUX	FUNCTION DESCRIPTION	1	0 (Normal)
D7 (bit7) ~ D0 (bit0)	Max Limiter of Volume Control	0x00 ~ 0x7F (Normal: 0x7C)	

OPT6

OPT6	FUNCTION DESCRIPTION	1	0 (Normal)
D7 (bit7)	Enable mode that POS or VIDEO program number will be appeared in forced when turn ON the main power	Enable	Disable
D6 (bit6) ~ D0 (bit0)	POS or VIDEO program number	0 ~ 127 [decimal] (Normal: 0) POS number: 0 ~ 99 VIDEO number: 100 ~ 127 (DTV = 100, VIDEO = 101, VIDEO = 102..)	

		100 is used as ATV when DTV option is disable.
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OPT7

OPT7	FUNCTION DESCRIPTION	1	0 (Normal)
D7 (bit7)	Enable mode that speaker volume will be set in forced when turn ON the main power	Enable	Disable
D6 (bit6) ~ D0 (bit0)	Forced speaker volume	0 ~ 100 [decimal] (Normal: 0) Value above 100 is no effect.	

OPT8

OPT8	FUNCTION DESCRIPTION	1	0 (Normal)
D7 (bit7) ~ D3 (bit3)	- (no use)	-	-
D2 (bit2)	Enable mode that picture mode will be set in forced when turn ON the main power	Enable (Display the language only)	Disable
D1 (bit1) ~ D0 (bit0)	Forced picture mode	0 [dec]: Dynamic (mode-1) (Normal) 1 [dec]: Standard (mode-2) 2 [dec]: Mild (mode-3) 3 [dec]: Memory (mode-M)	

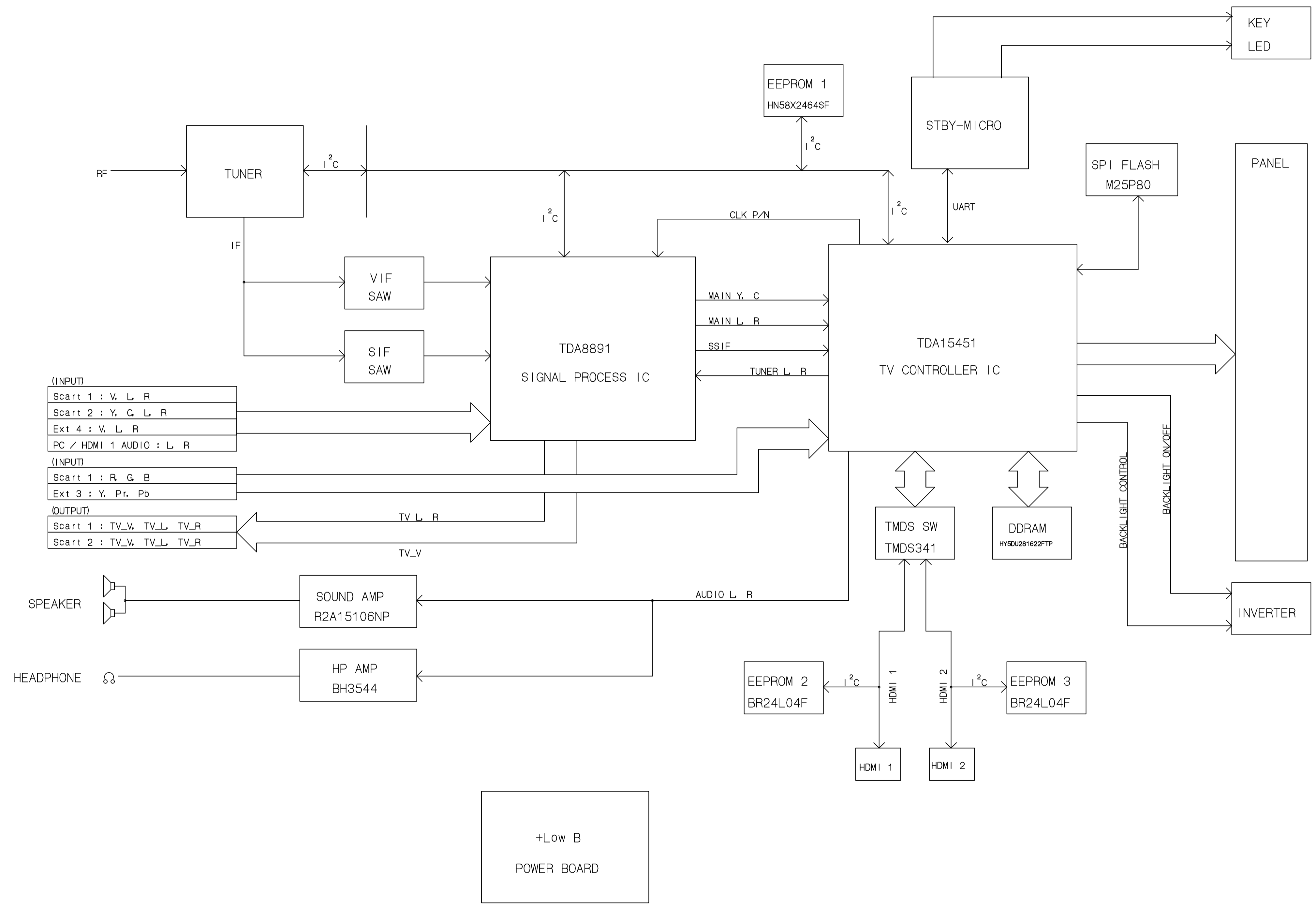
LED Indication

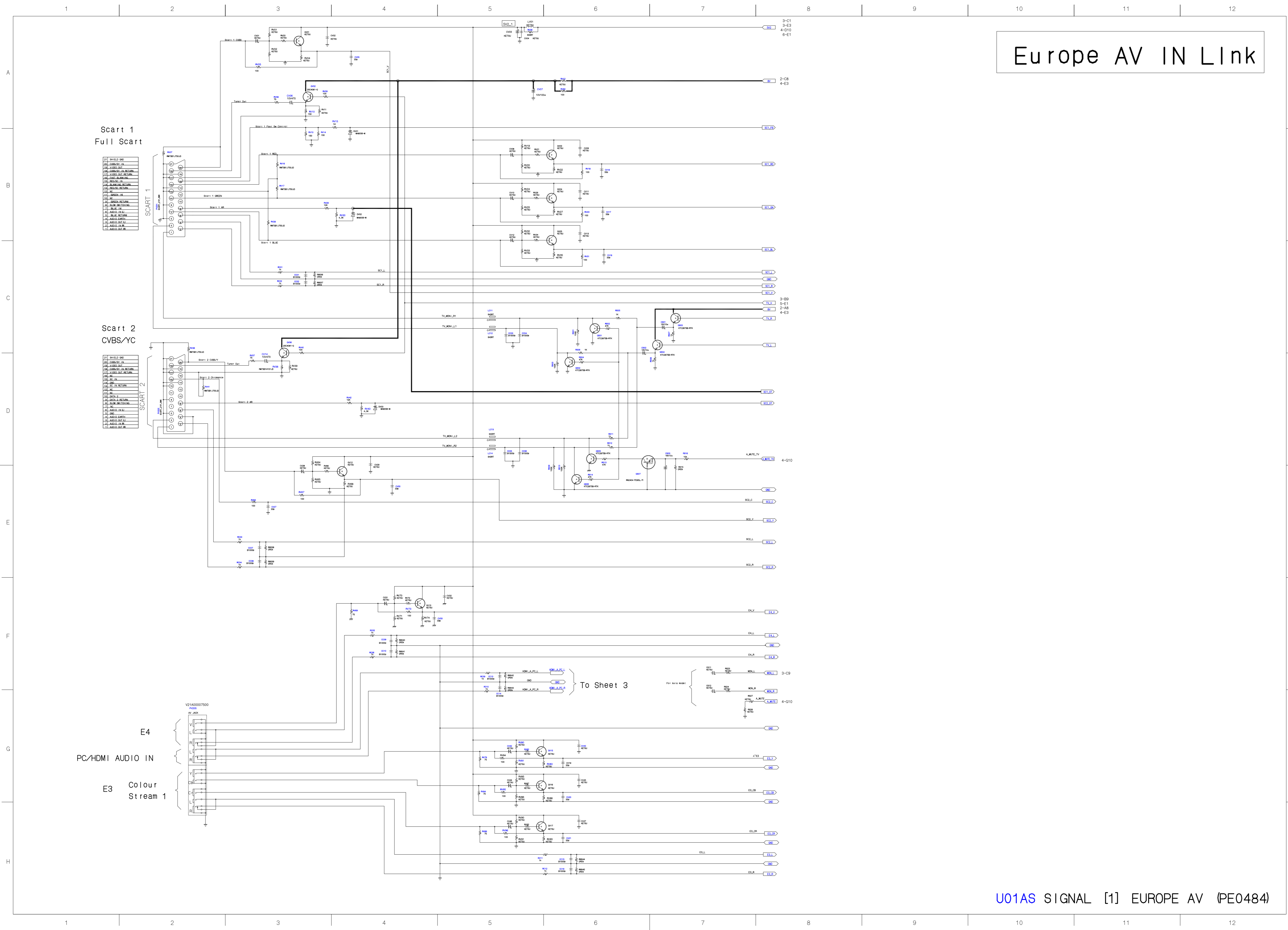
The Green and Red LEDs on the TV (at the bottom center of the TV) indicate the TV's status, as described below.

- Red ON (solid) and Green OFF = The TV power cord is plugged in.
- Green ON (solid) and Red ON = The On timer is operating.

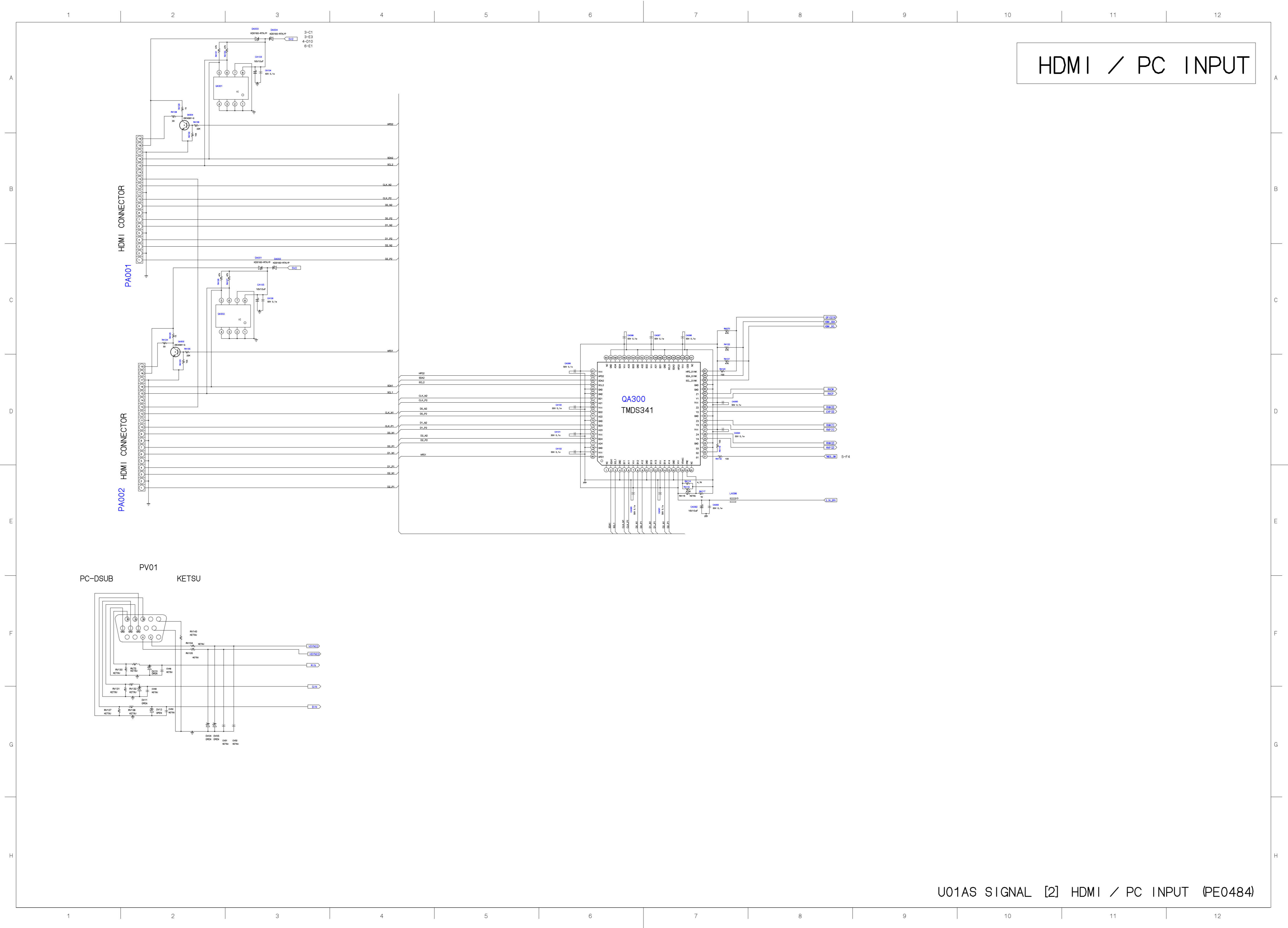
LED Indication	Condition	Solution

1	Green is OFF; Red blinks continuously at 0.5-second intervals.	Abnormal operation	Turn OFF the TV and unplug the power cord. Plug the power cord in again and turn ON the TV.
2	Green is OFF; Red blinks continuously at 1-second intervals.	Abnormal operation of BUS line.	Turn OFF the TV and unplug the power cord. Plug the power cord in again and turn ON the TV.



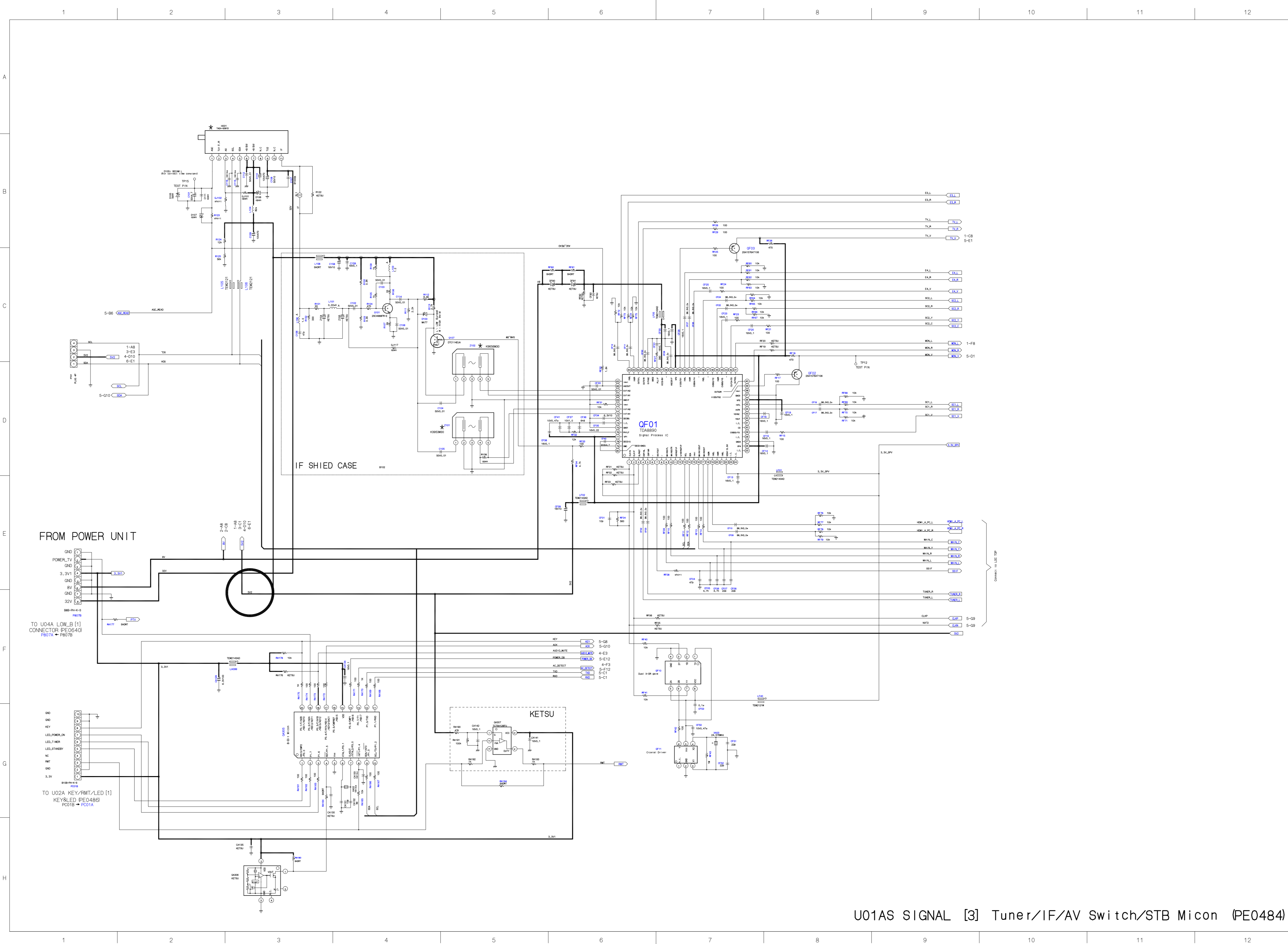


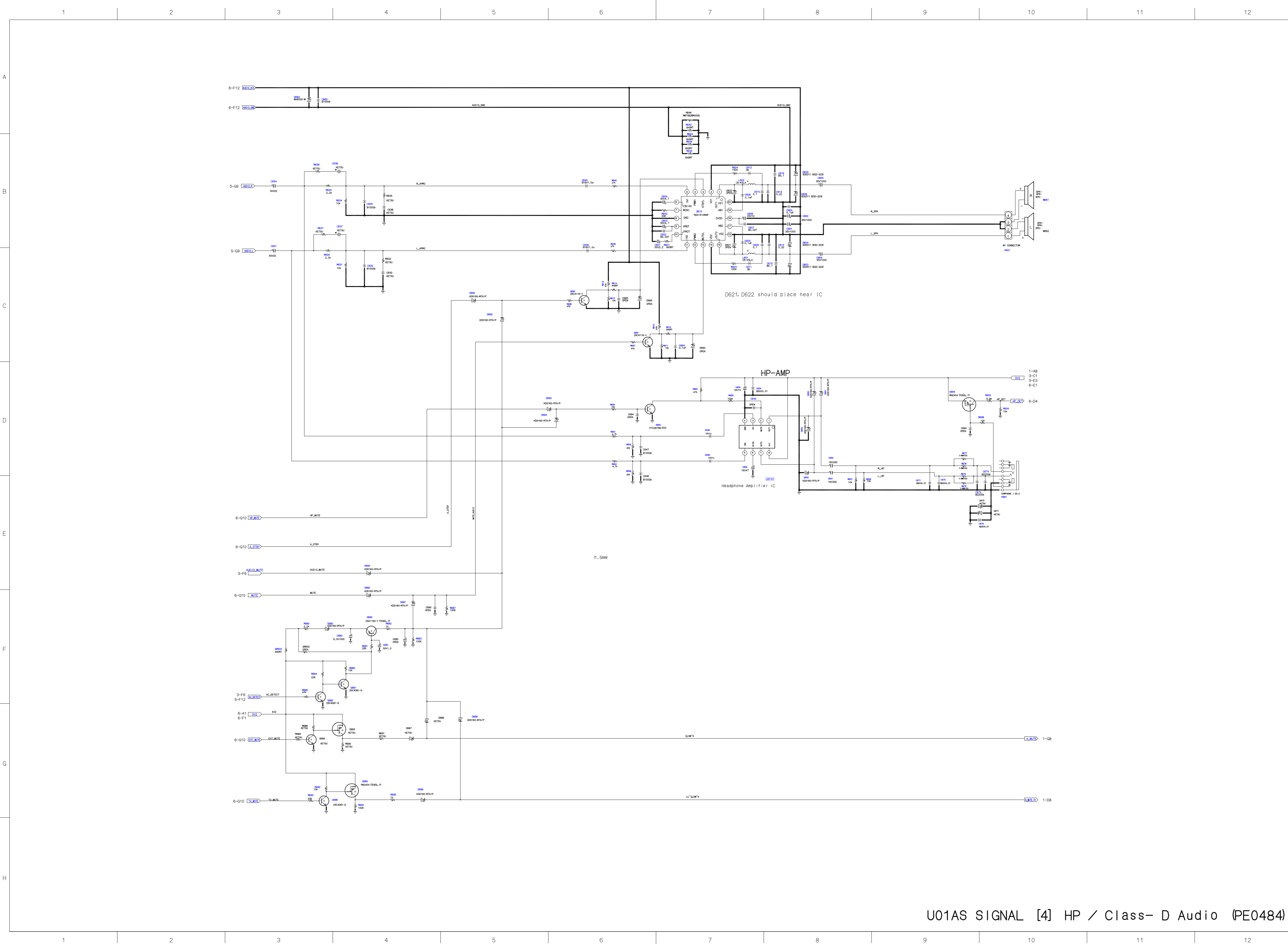
Europe AV IN Link

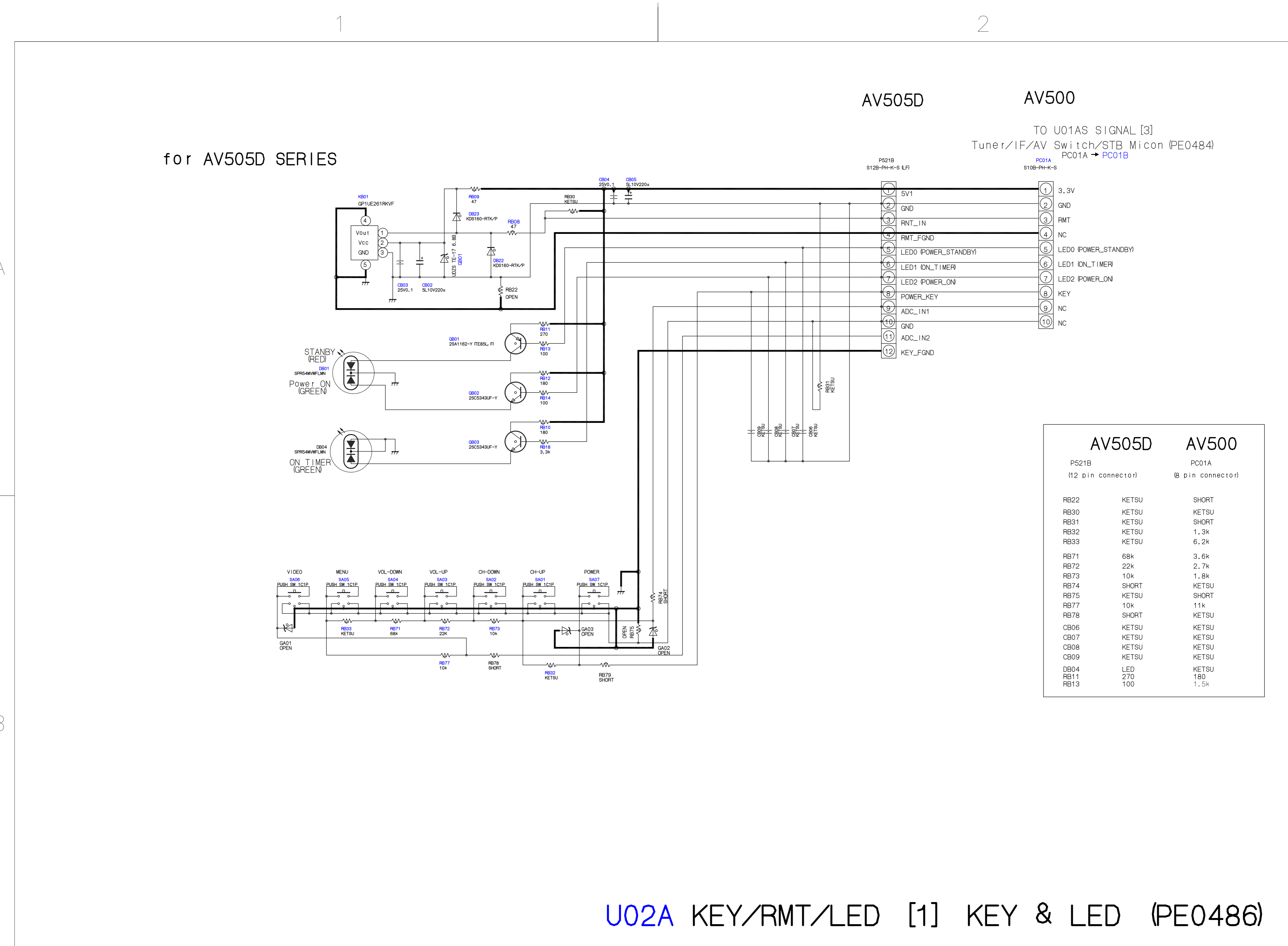


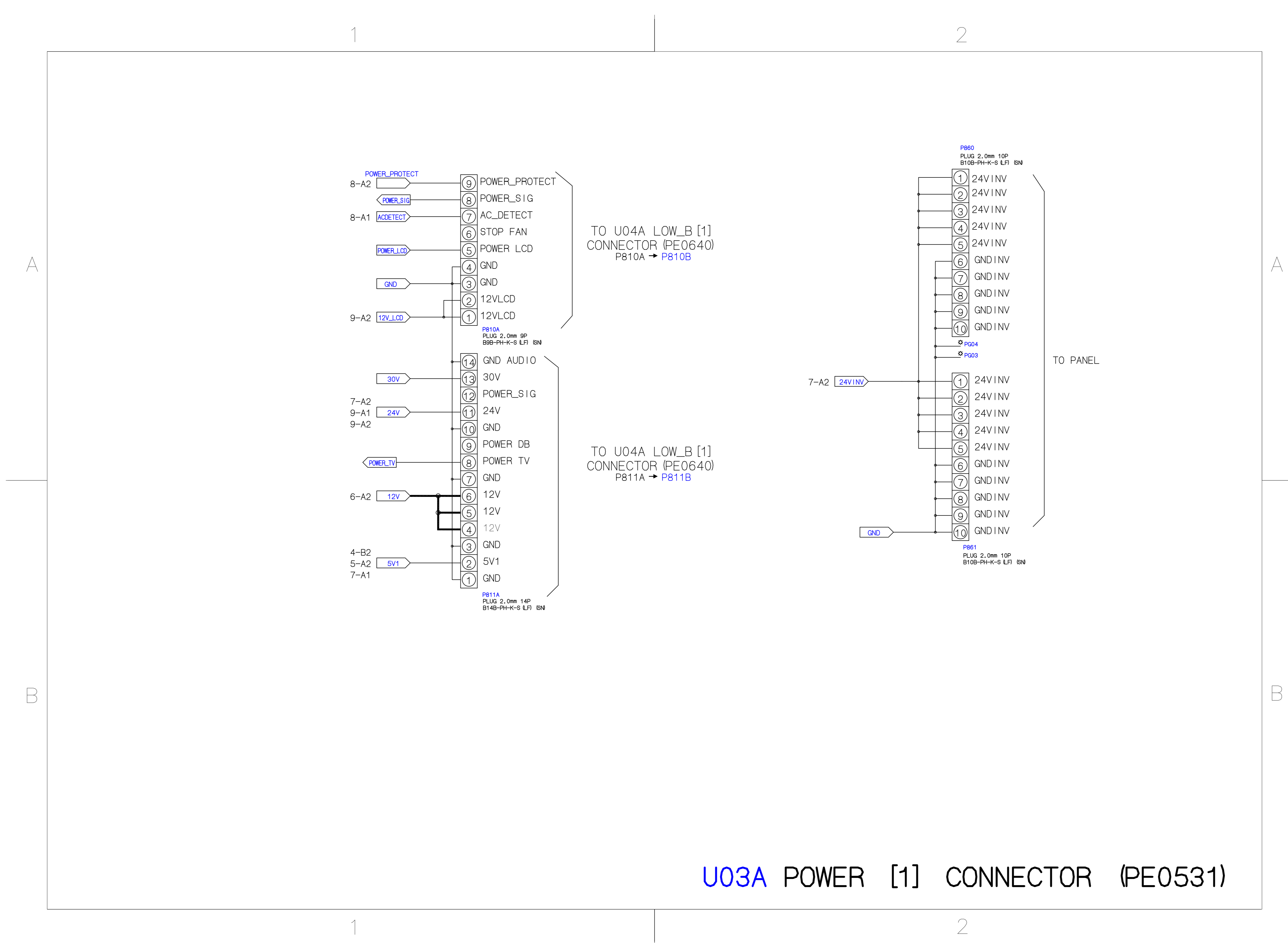
HDMI / PC INPUT

U01AS SIGNAL [2] HDMI / PC INPUT (PE0484)

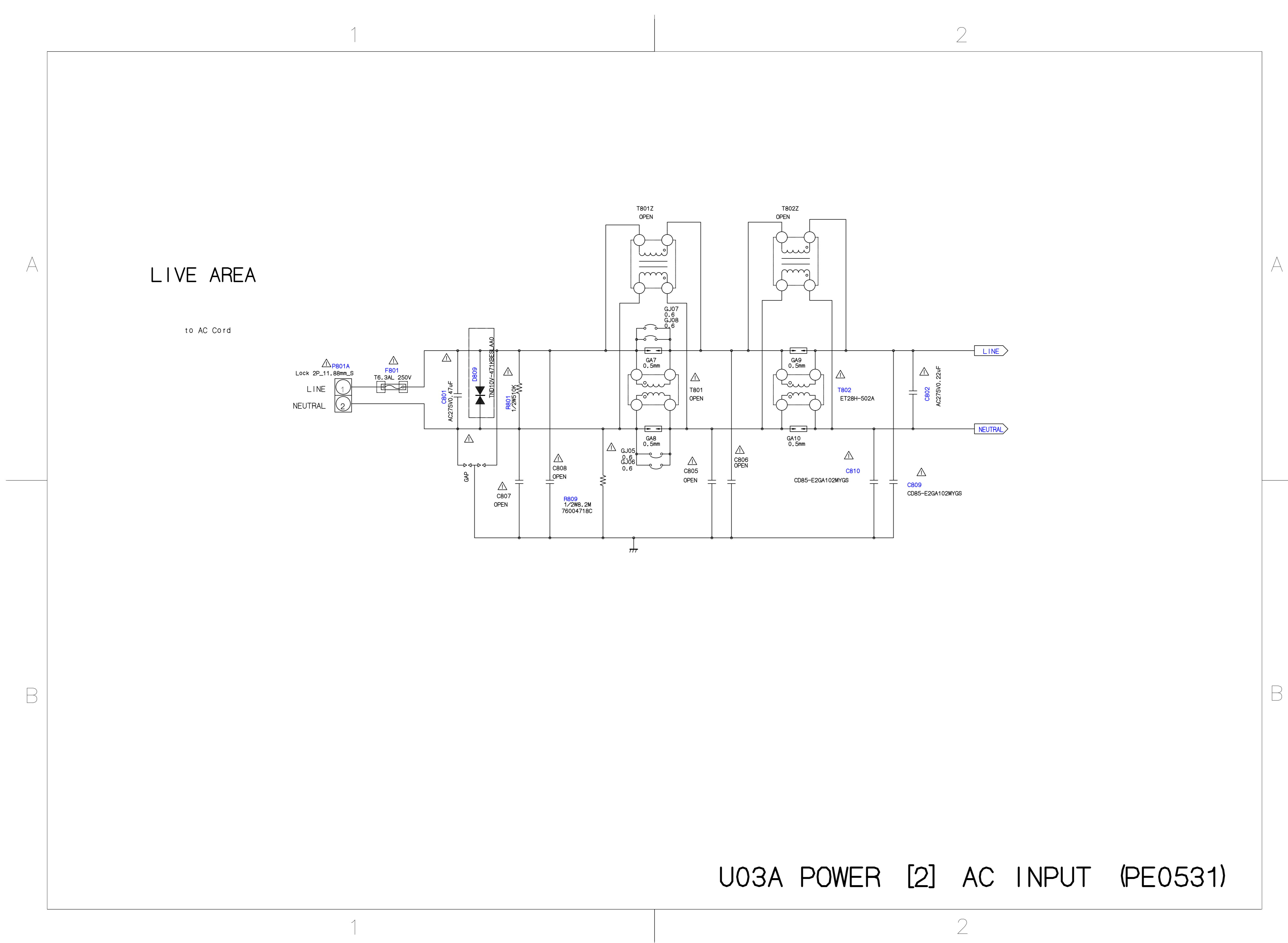




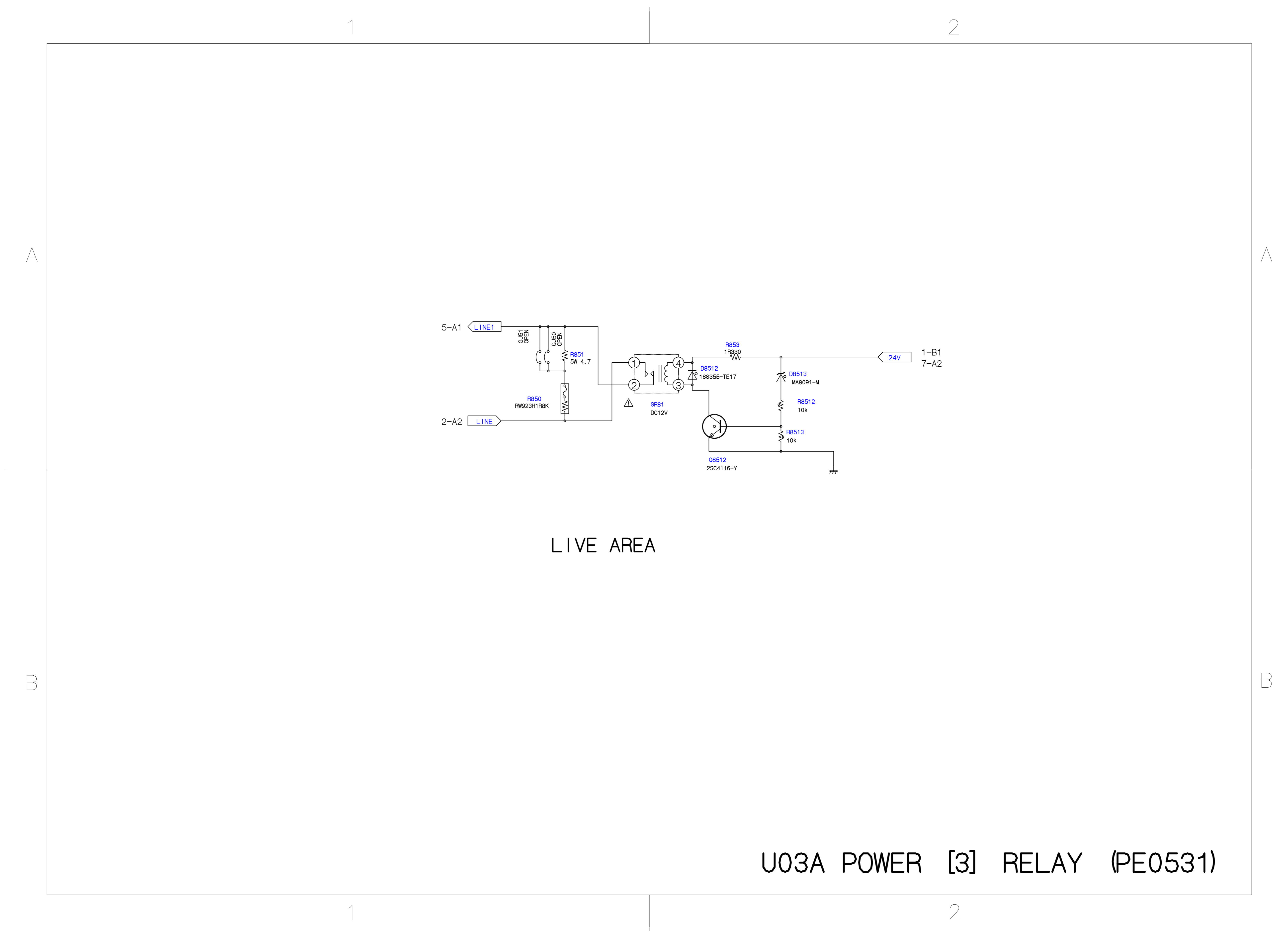


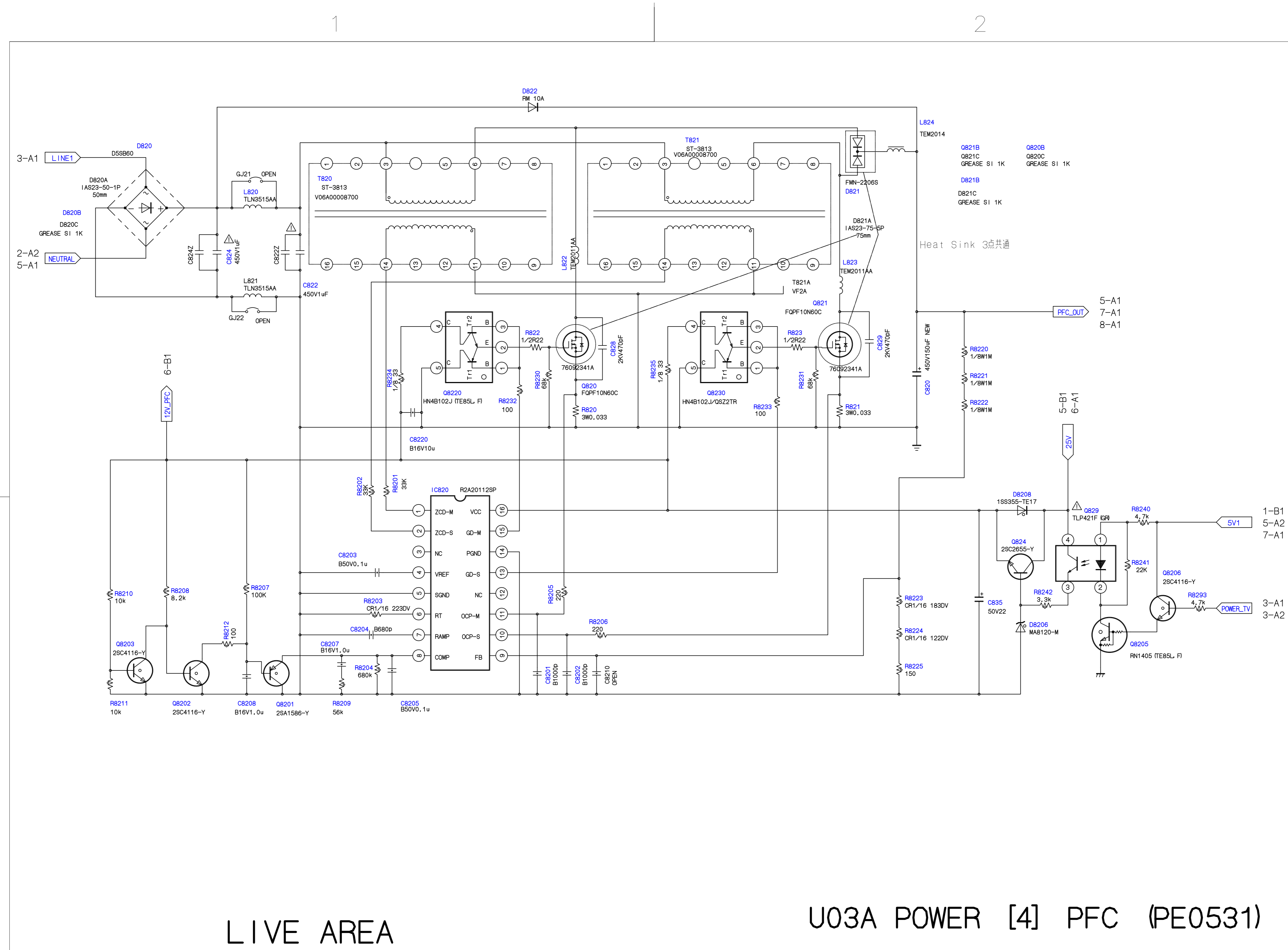


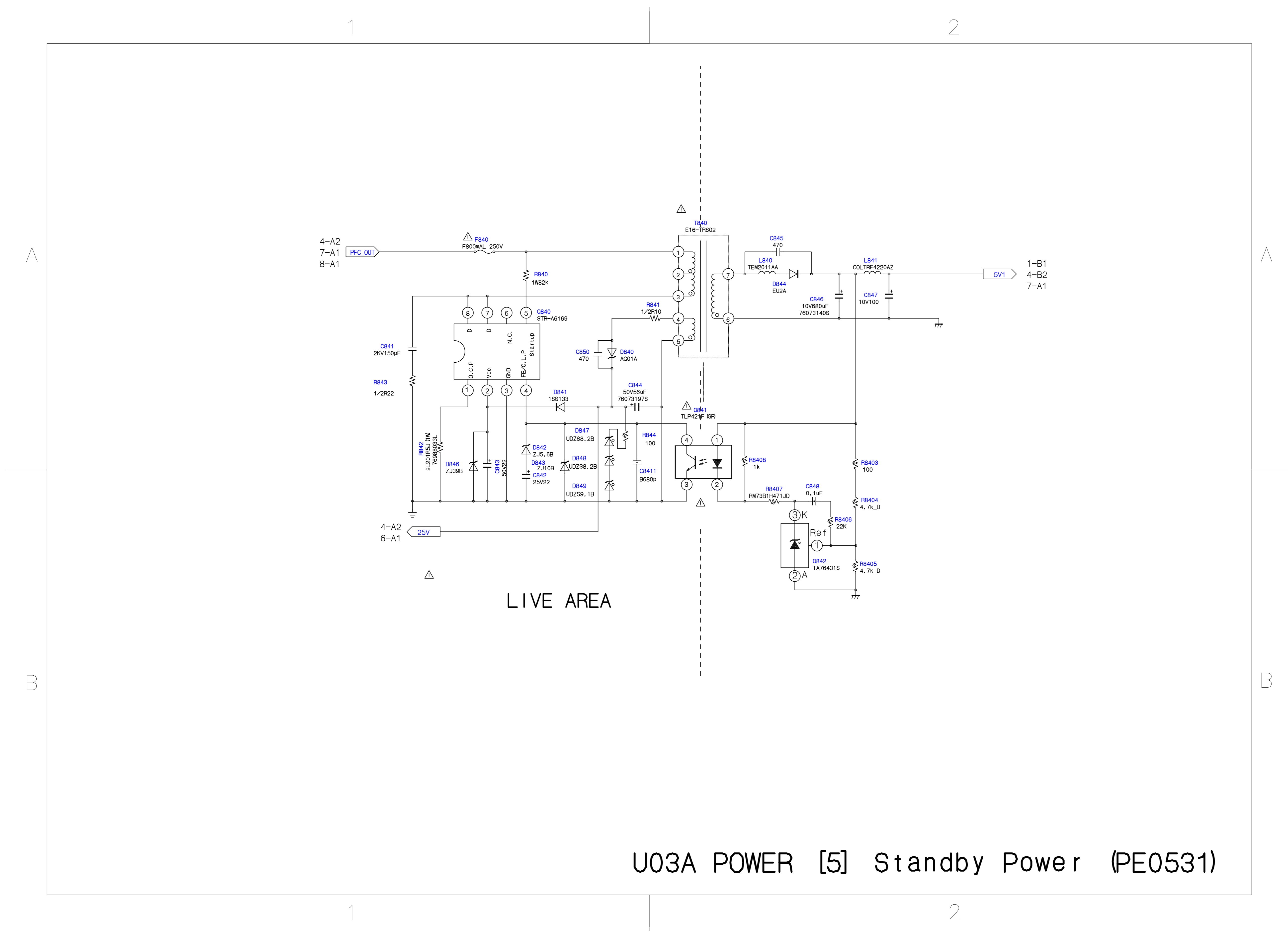
U03A POWER [1] CONNECTOR (PE0531)



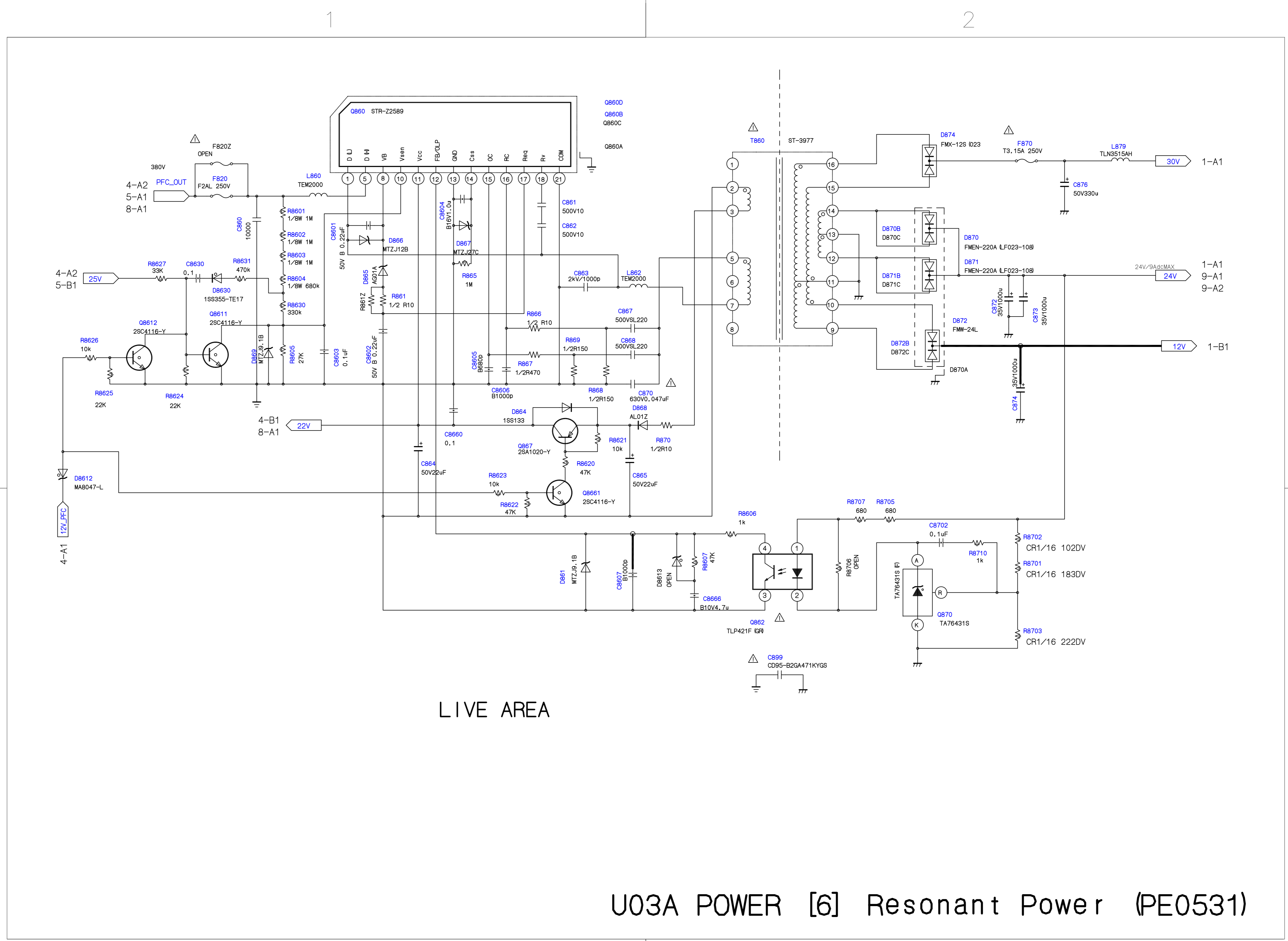
U03A POWER [2] AC INPUT (PE0531)



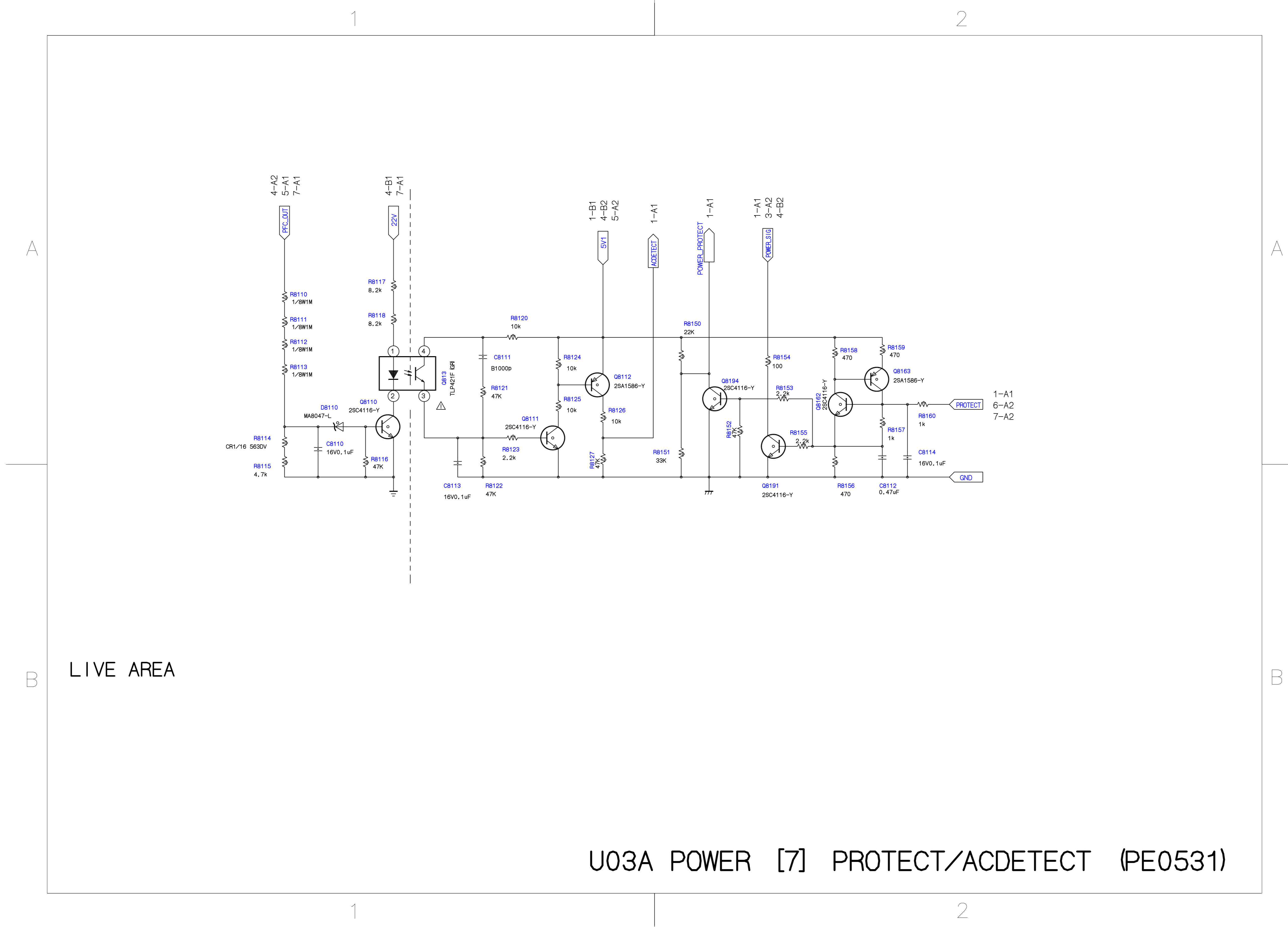




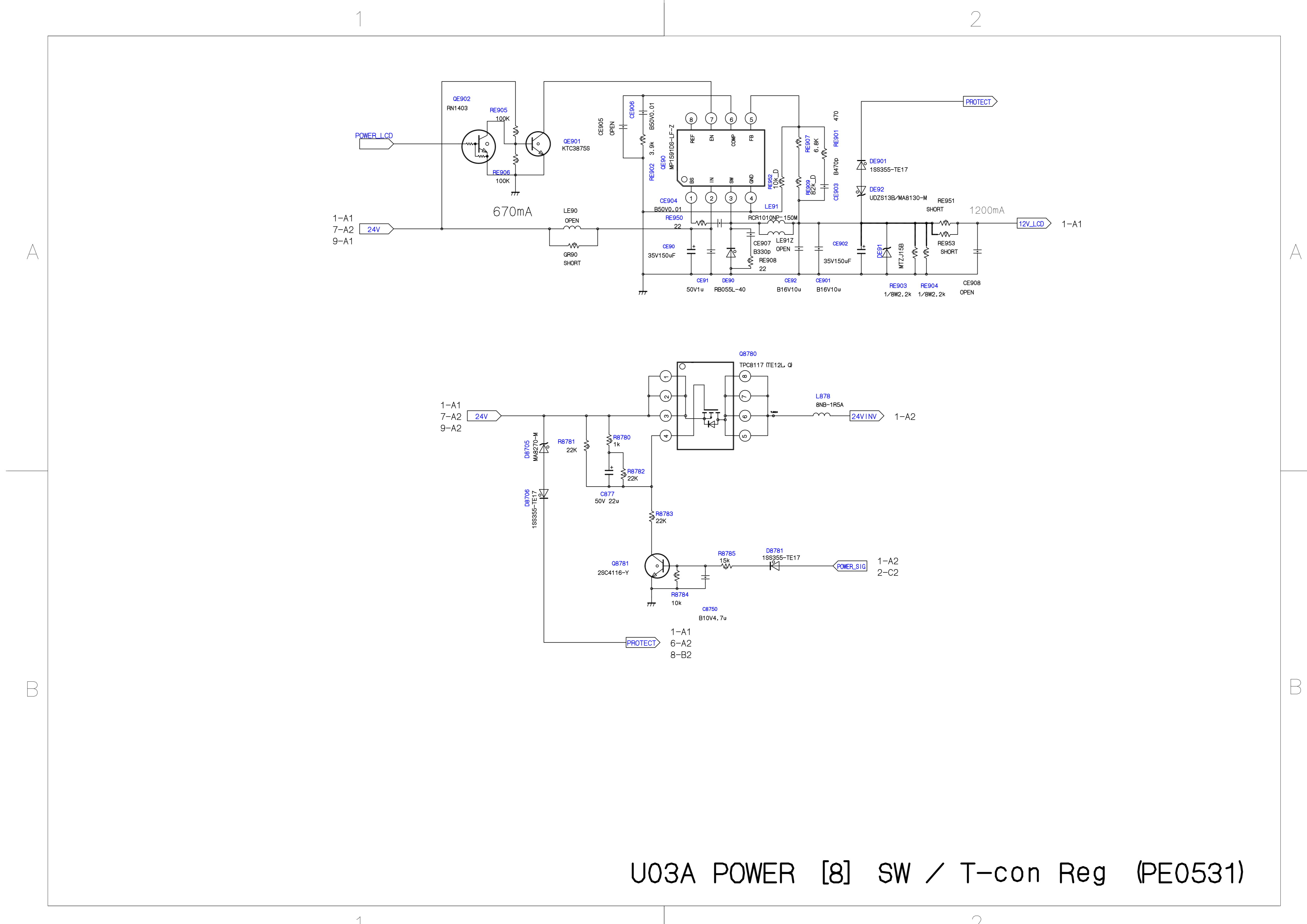
U03A POWER [5] Standby Power (PE0531)



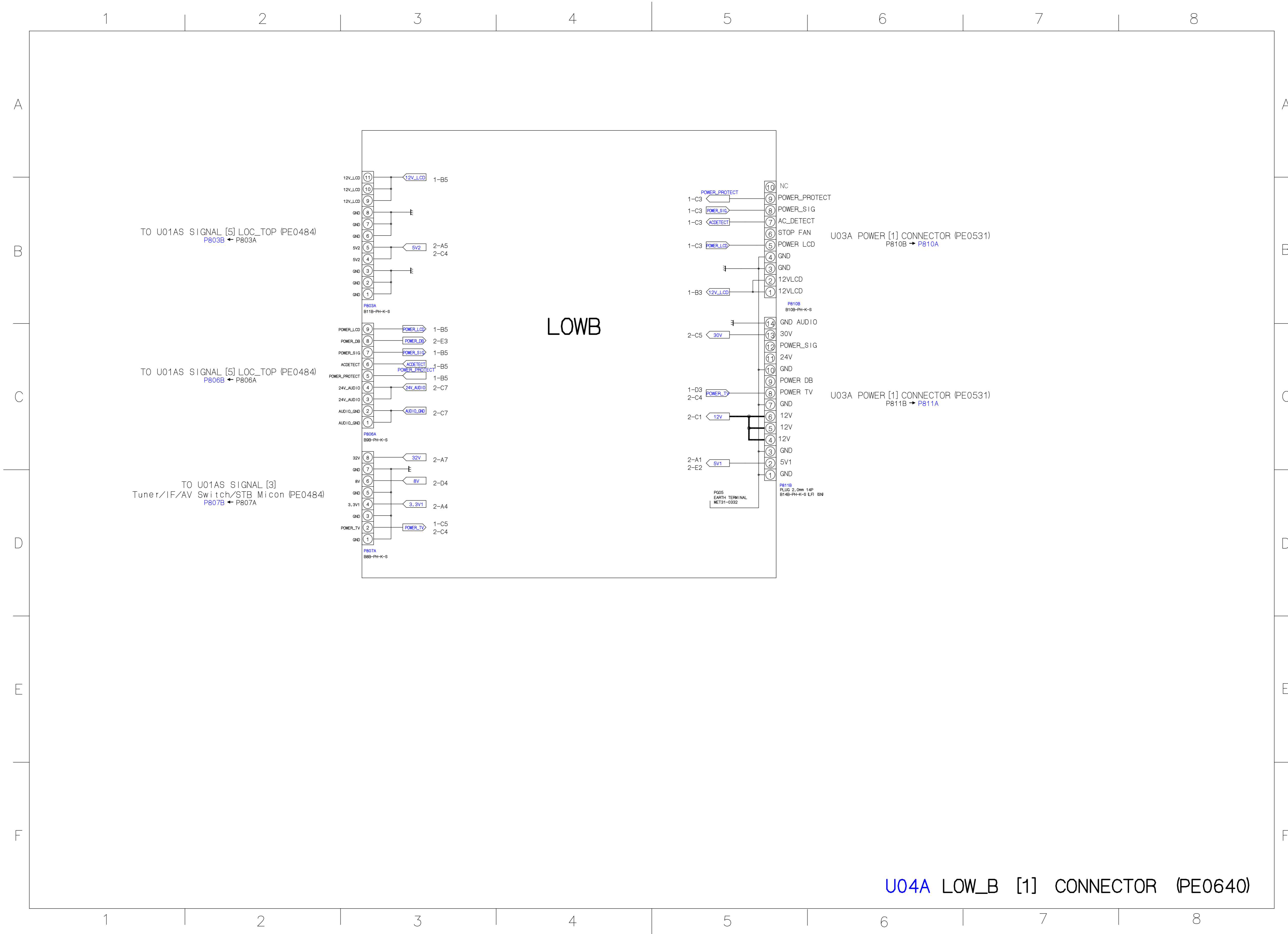
U03A POWER [6] Resonant Power (PE0531)

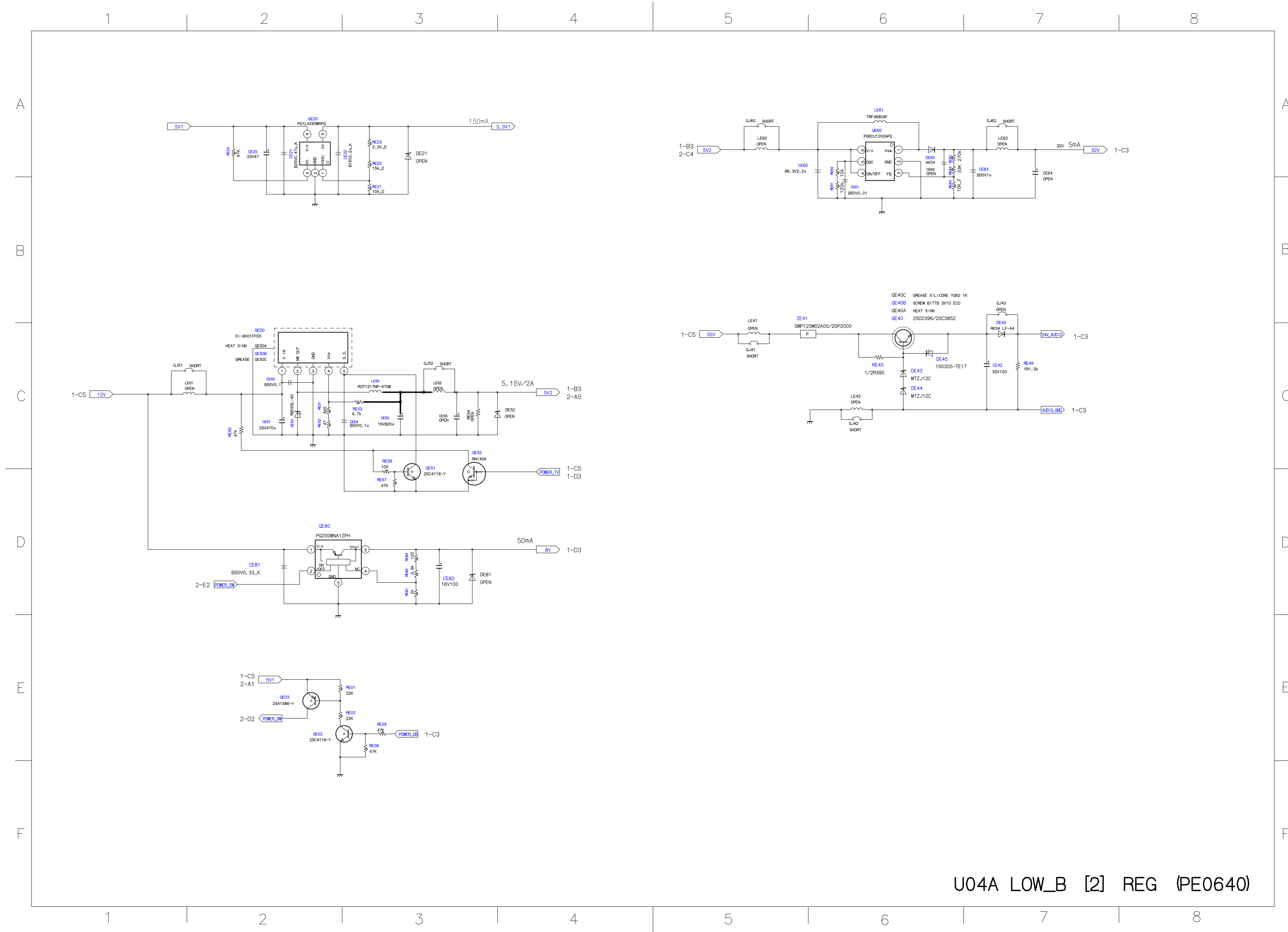


U03A POWER [7] PROTECT/ACDETECT (PE0531)



U03A POWER [8] SW / T-con Reg (PE0531)





U04A LOW_B [2] REG (PE0640)

PANEL IDENTIFICATION

Panel Identification

If the several panels are alternatively used in the same model without amending the model name, the identification marking will be shown at the last digit of the set serial number on the specification label on the back cover.

In servicing, do not alter the panel because several setting and parts are different.

Marking	Panel Vendor	Marking	Panel Vendor	Marking	Panel Vendor
A	AUO	J		S	SHARP
B		K	SAMSUNG	T	
C	CMO	L	LGD	U	
D		M		V	
E		N		W	
F		P		X	
G		Q		Y	
H	IPS	R		Z	

With this alternative use, some of key parts may differ and their combinations are indicated with the suffix marking on the location number in the part list (Miscellaneous).

e.g.

Location No.	Part No.	Description
B001A	75007869	LCD Panel, 32" LGD
B001B	75007870	LCD Panel, 32" AUO
MZ01A	75006036	LDVS Cable
MZ01B	75007893	LDVS Cable