

Viera Plasma Display PC Board Recycling Component Level Repair Course 2

PCB Recycling Component Level Repair Techniques



Adjustments Procedure

The following adjustment procedures are mandatory after replacing the SC, SS & P boards. It is also required if the Panel is replaced.

I. Item preparation:

1. Input a white signal. (please refer to the next slide on several ways to generate a white pattern).
2. Set picture controls as follows:
Picture menu: Dynamic
P-NR: OFF
Aspect: 16:9

CAUTION:

1. Perform Vsus adjustment first.
2. Confirmation of Vscn voltage should be done after confirmation of Vad adjustment.

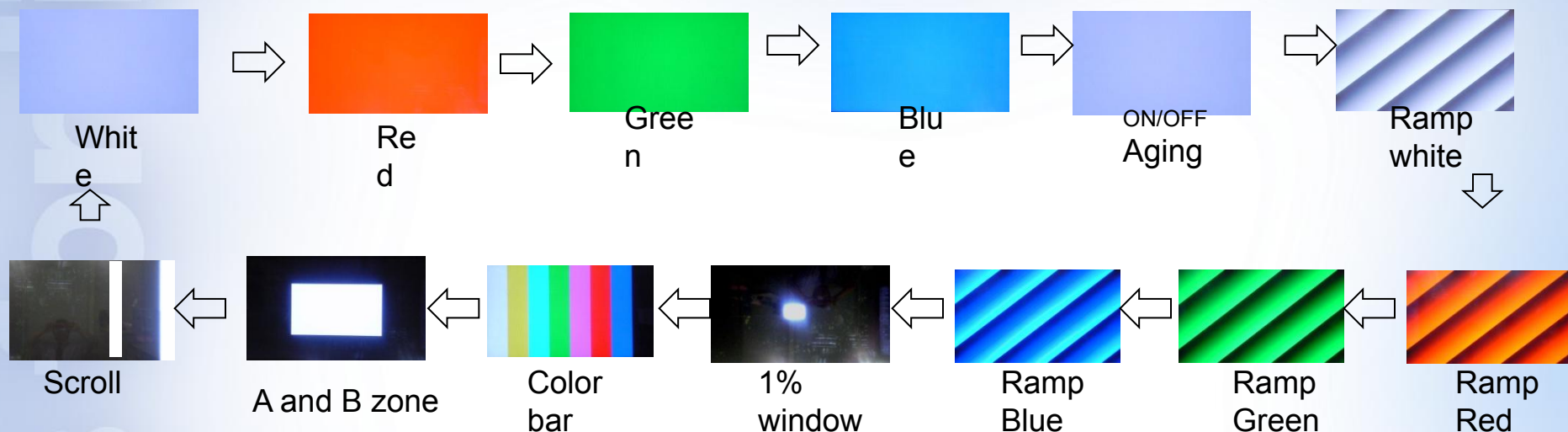
When Vad = -105V, Vscn voltage is 35V +/- 4V.

Several ways to generate White Pattern signal:

1. External pattern generator.
2. Internal white pattern in Service mode.
(Please see next slide on how to enter Test Pattern Mode).
3. Disconnect LVDS cable **DG5** on the DG board to display white pattern.

Entering Test Pattern Mode:

Test Pattern



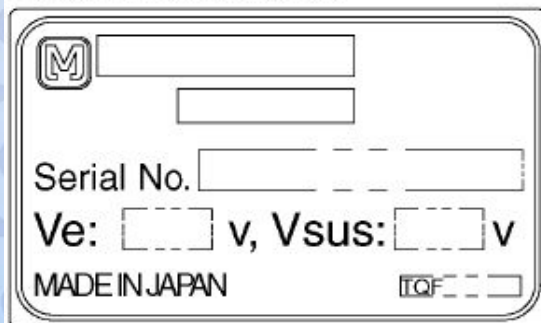
How to enter test pattern mode:

1. While pressing "VOLUME-" button of the TV set, press "RECALL" button of the remote control three times within 2 seconds.
2. Push button "1" of remote control several times, and select "OPTION" setting.
3. Press "OK" button of Remote controller for three seconds or more to place the unit in the test pattern mode.

II. Driver Adjustment TH42PX60

Name	Test Point	Voltage	Volume	Remarks
Vsus	TPVSUS (SS)	$V_{sus} \pm 2V$	VR251 (P)	*
Ve	TPVE (SS)	$V_e \pm 2V$	VR6000 (SS)	*
Vset	TPVSET (SC)	$280V \pm 7V$	Fixed	
Vad	TPVAD (SC)	$-105V \pm 1V$	VR6600 (SC)	
Vscn	TPVSCN (SC)	$V_{ad} + 140V \pm 4V$	Fixed	
Vda	TPVDA (SS)	$75V \pm 1V$	Fixed	

Panel Label information



Panel Label information form showing fields for Serial No., Ve, Vsus, MADE IN JAPAN, and TQF.

Serial No. _____

Ve: _____ v, Vsus: _____ v

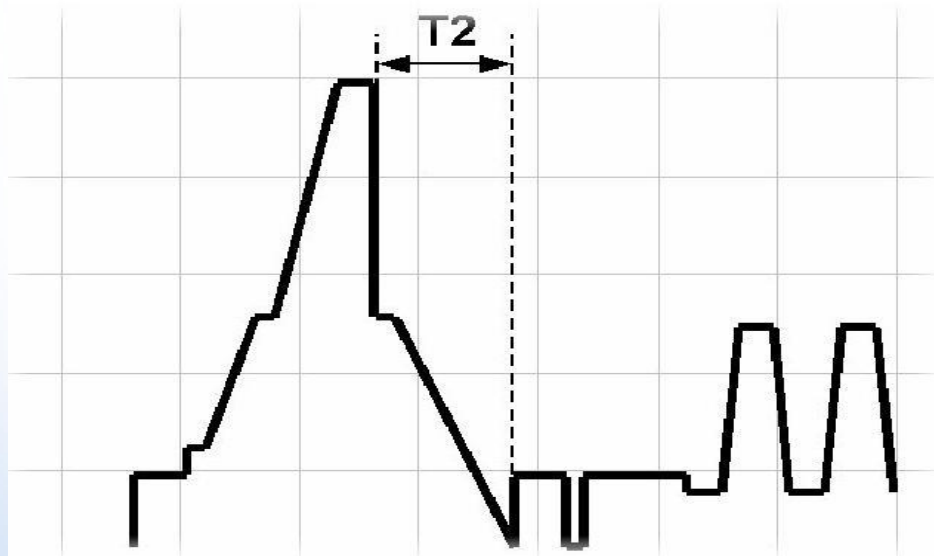
MADE IN JAPAN

TQF: _____

Adjustment
voltage

III. Initialization Pulse Adjustment

1. Input a White signal into the unit.
 2. Set picture controls as follows:
Picture Menu: Dynamic
P-NR: OFF
 3. Connect oscilloscope probe to test point TPSC1 (T2).
Adjust VR6602 to obtain $195 \pm 10 \mu\text{sec}$ for T2.
- Note: Connect oscilloscope's negative probe to common ground
(Please use panel metal chassis as common ground)



Adjustment necessary when PC board exchanged

Adjust the following voltages using a multimeter:

PCB	Adj Pt	TP	Voltage	Volume
P	Vsus	TPVSUS (SS)	*Vsus +/-2V	R628(P)
	Vdat	P12-1,5(P)	75.5+/-0.1V	R665(P)
	PFC	C445(P)	396V+/-0.5V	R443(P)
SC	Vad	TPVAD(SC)	-105+/-1V	VR6600(SC)
SS	Ve	TPVE(SS)	*Ve+/-2V	VR6000(SS)
D, DG	White balance and black pedestal level confirmation necessary.			

*Please refer to Panel label for set value.

Caution: Do not adjust Vsus below Ve to avoid damage to PCB.

Common symptoms experienced if the adjustment is not performed

- Several images maybe displayed at the same time.
- Excessive brightness.
- Low brightness.
- Wrong hue/color.
- Reduction of the life of the panel.



POWER SUPPLY

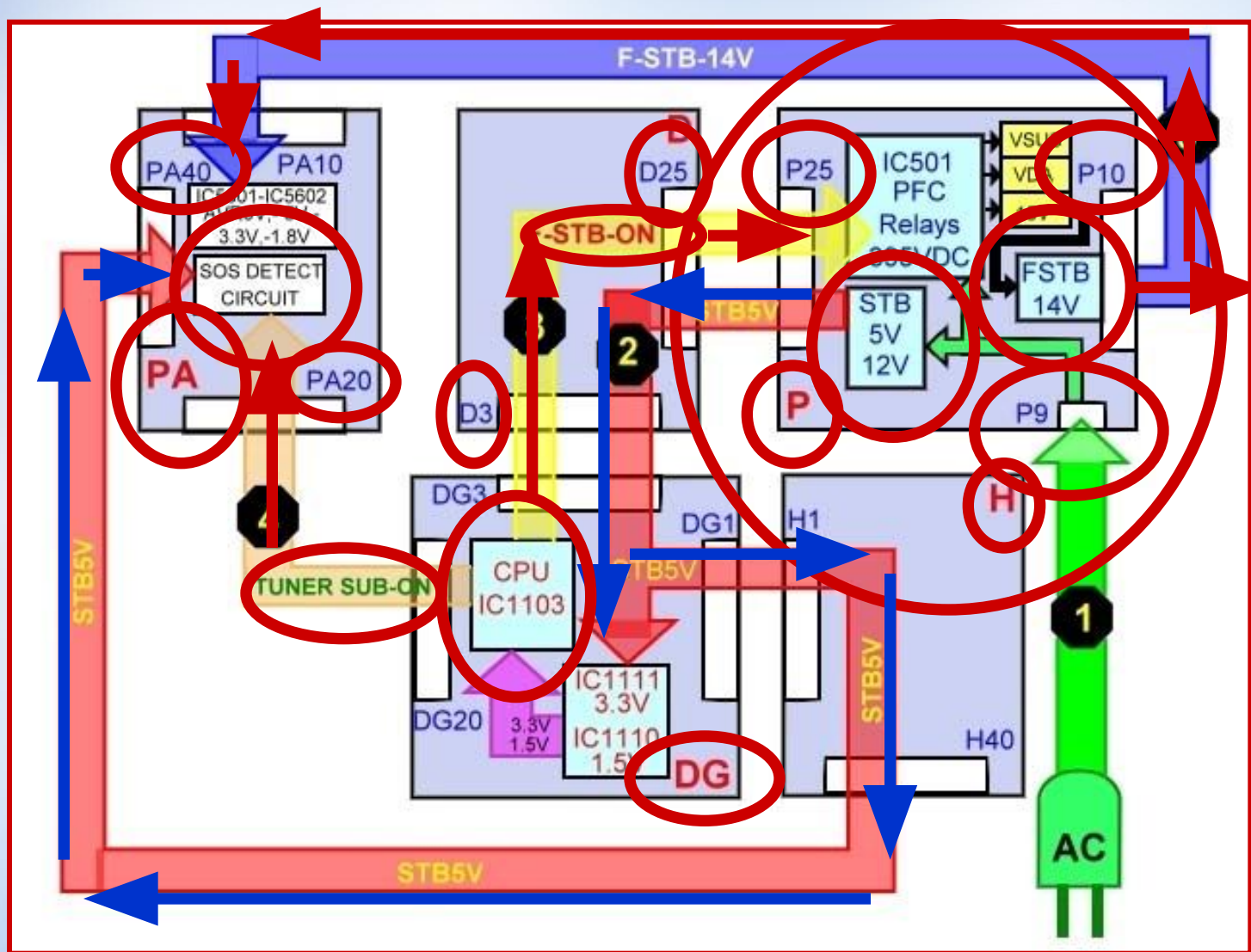


Sequence of events when Plasma TV is plugged in

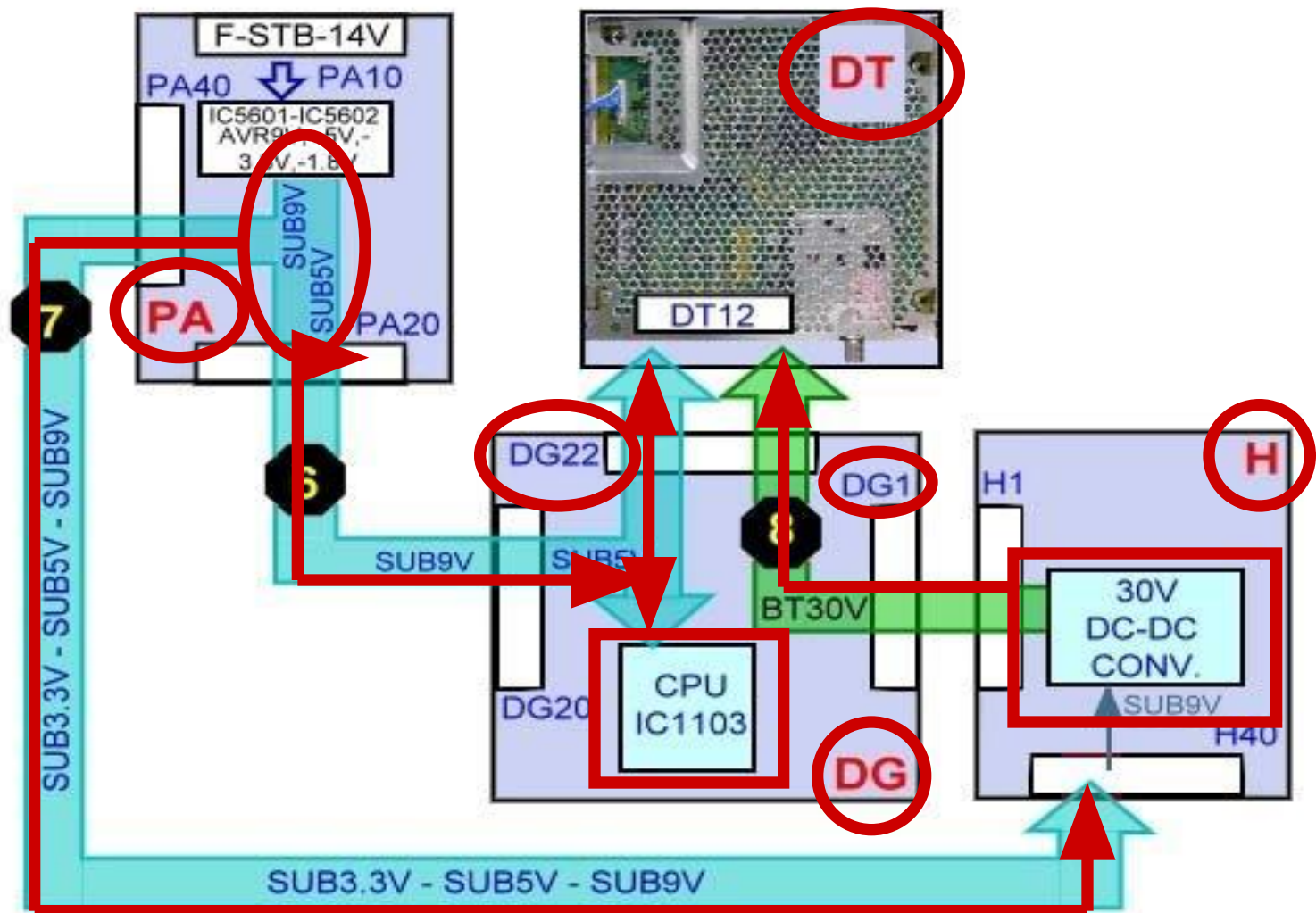
When a Plasma TV is plugged in, there are a few indications of normal operation. Knowing these will help us understand what's going on with the unit when an abnormality occurs.

1. There is a click from relay RL402 and RL403 when they are activated.
2. The LED in the optical jack (inside the DT board) turns ON for approximately 4 seconds.
3. Immediately after, the relay click the Tuner LEDs turn ON for approximately 20 seconds.
4. The LED in the optical jack turns ON again for approximately 1 second and both LEDs (tuner and optical jack) turn OFF.
5. Then another click is audible from relays RL402 & RL403, indicating that they are no longer engaged. Note at this time, LEDs (for Tuner & optical jack) are turned OFF.

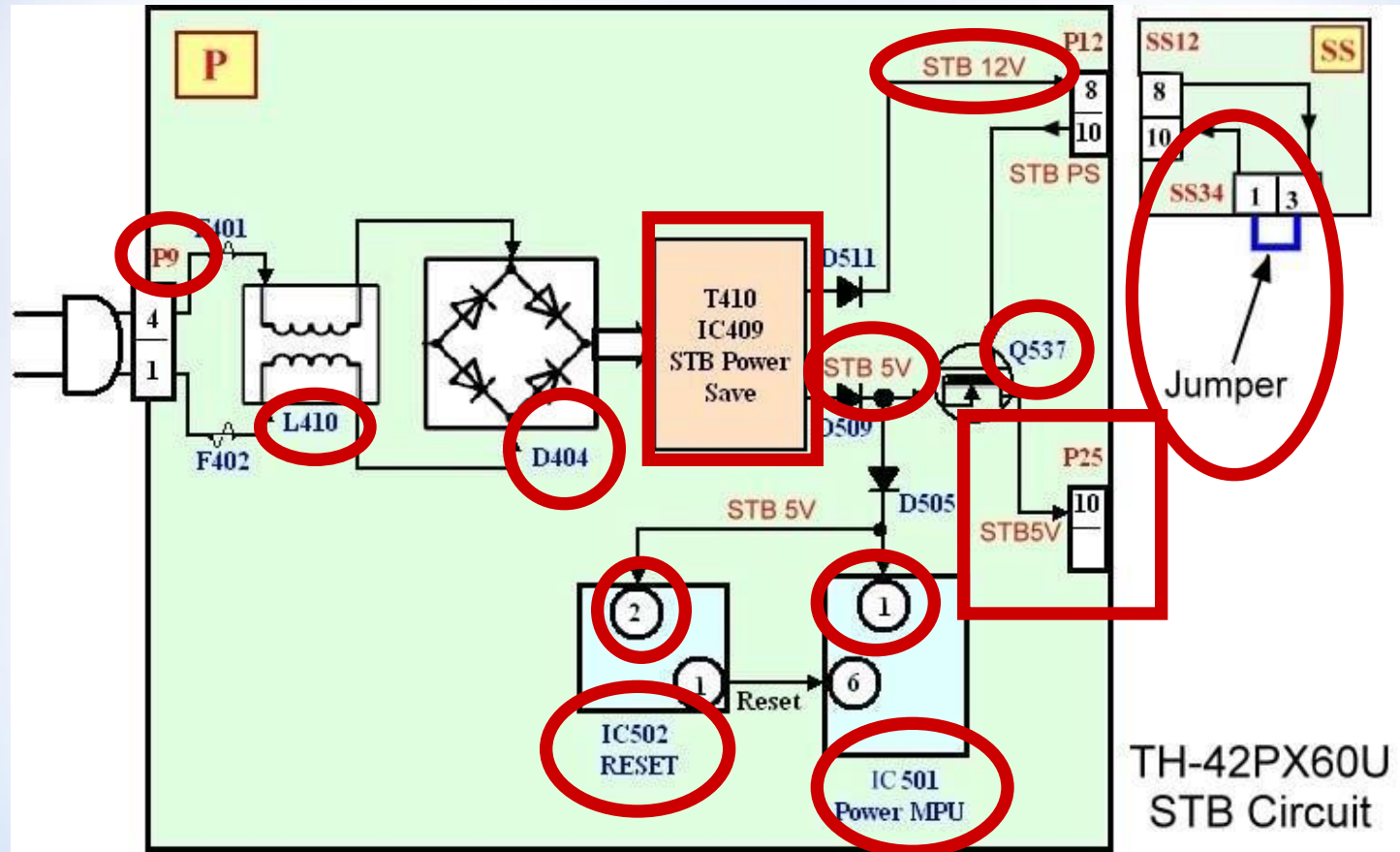
Standby Block (Part1)



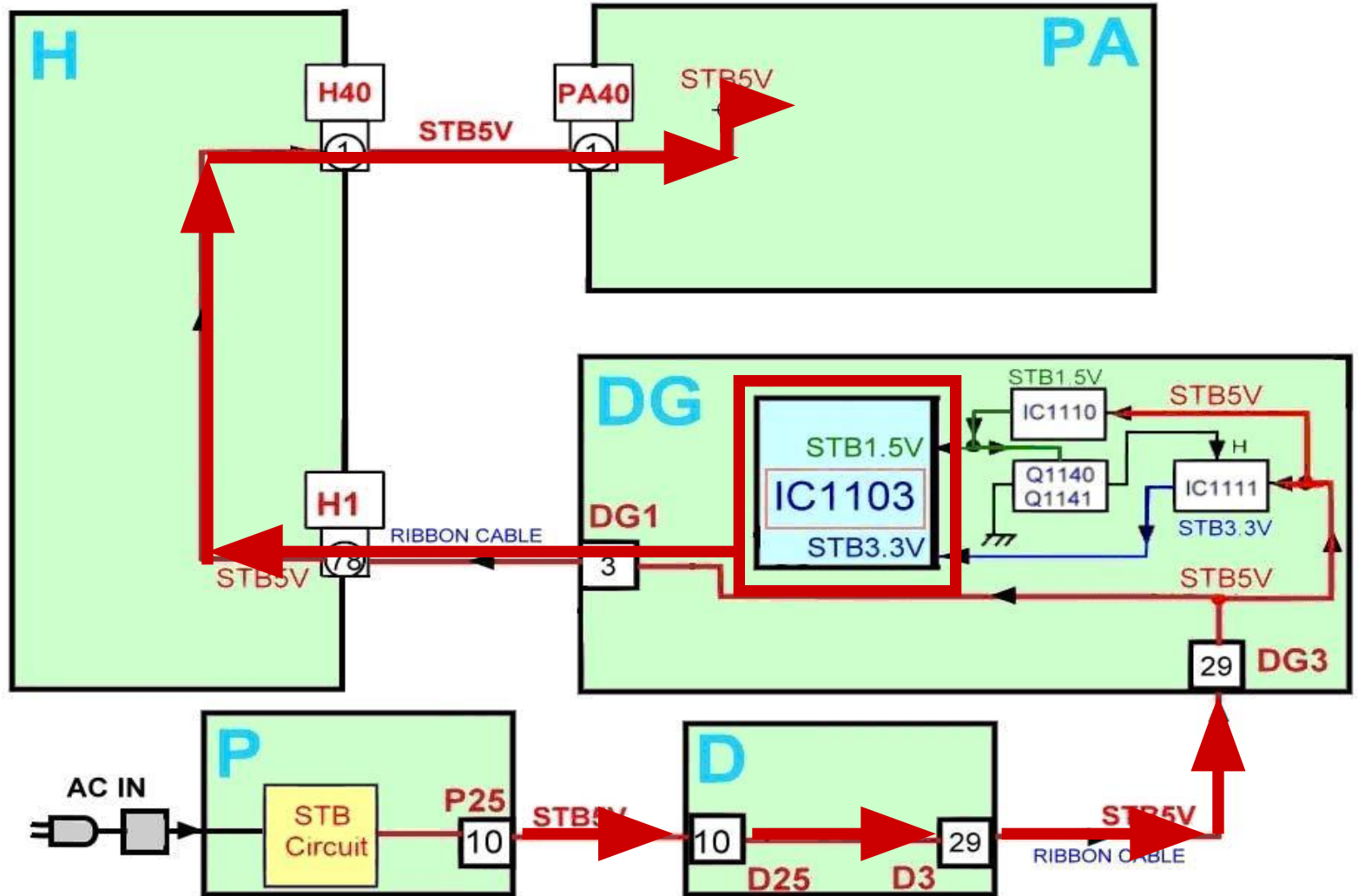
Standby Block (Part2)



Power Supply (Standby Circuit)

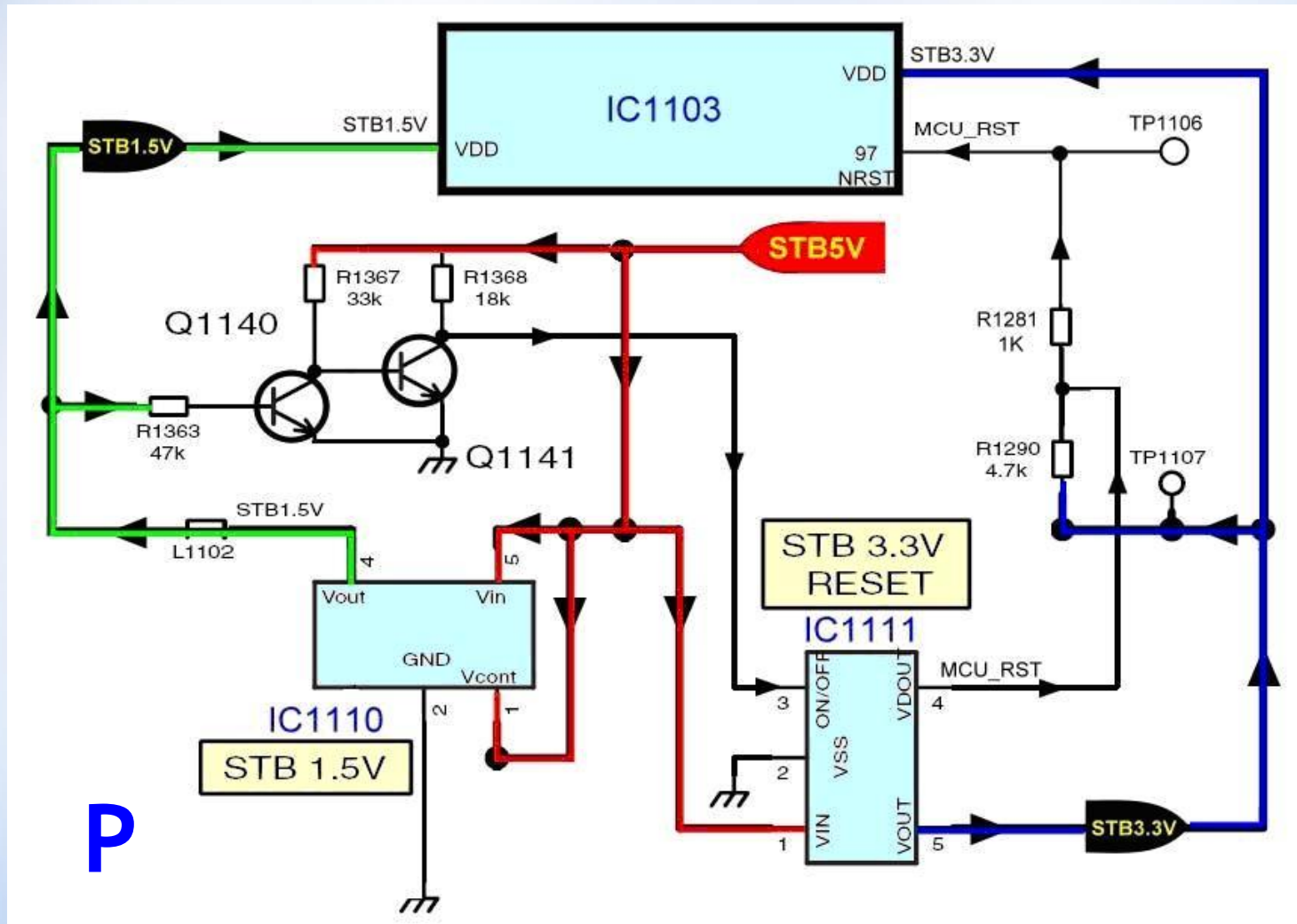


STB 5V Distribution

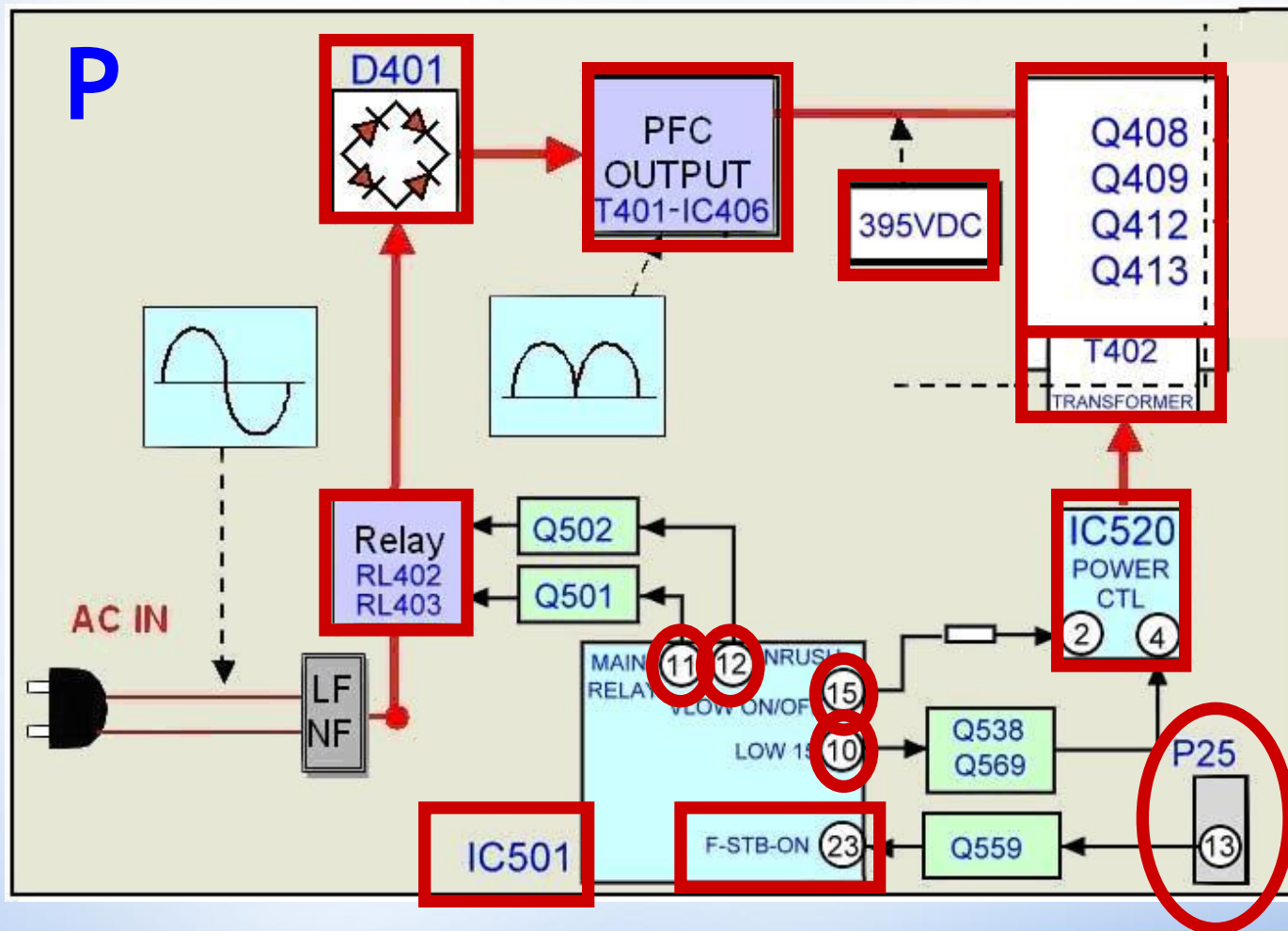




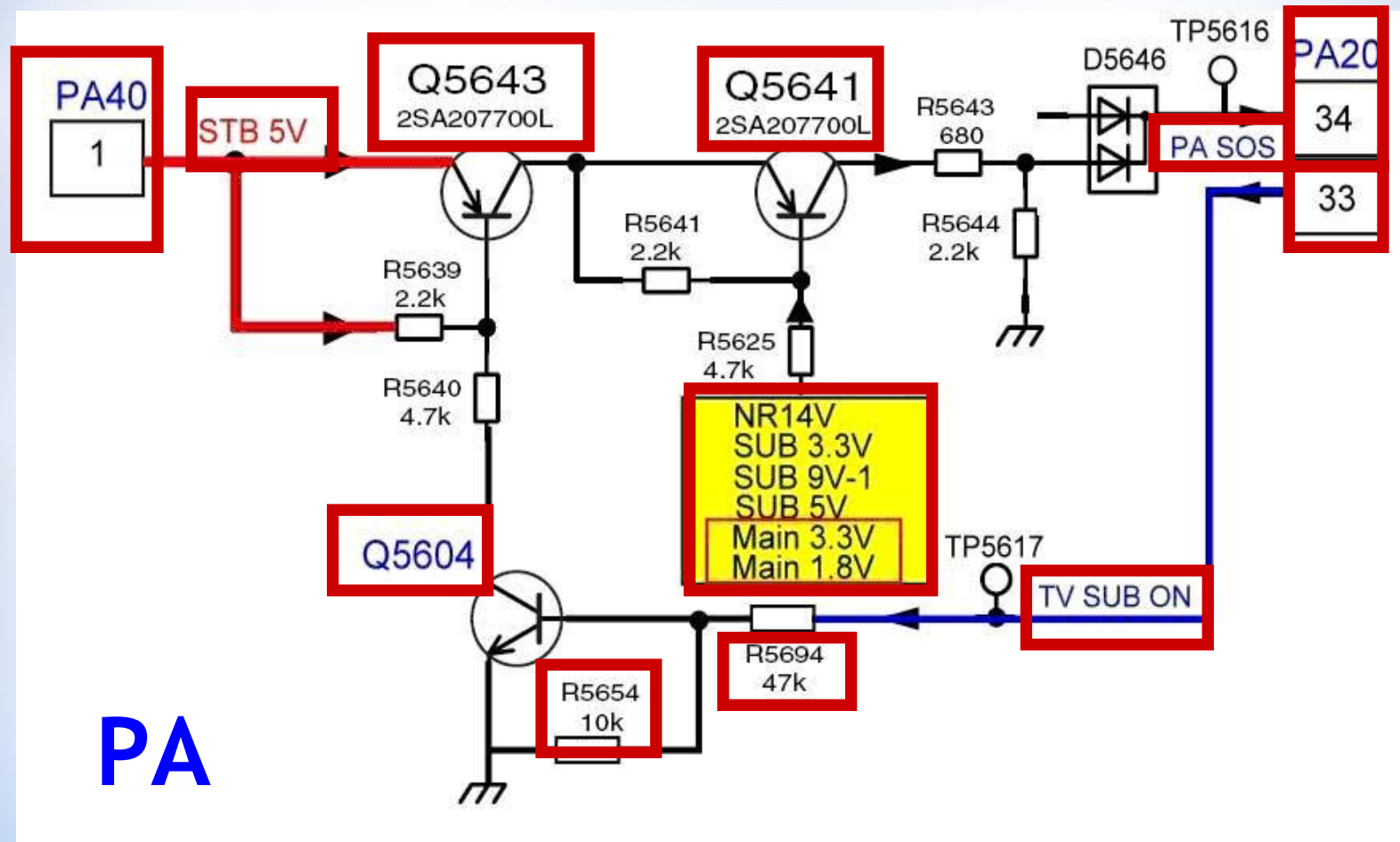
STB5V, STB3.3V & STB1.5V



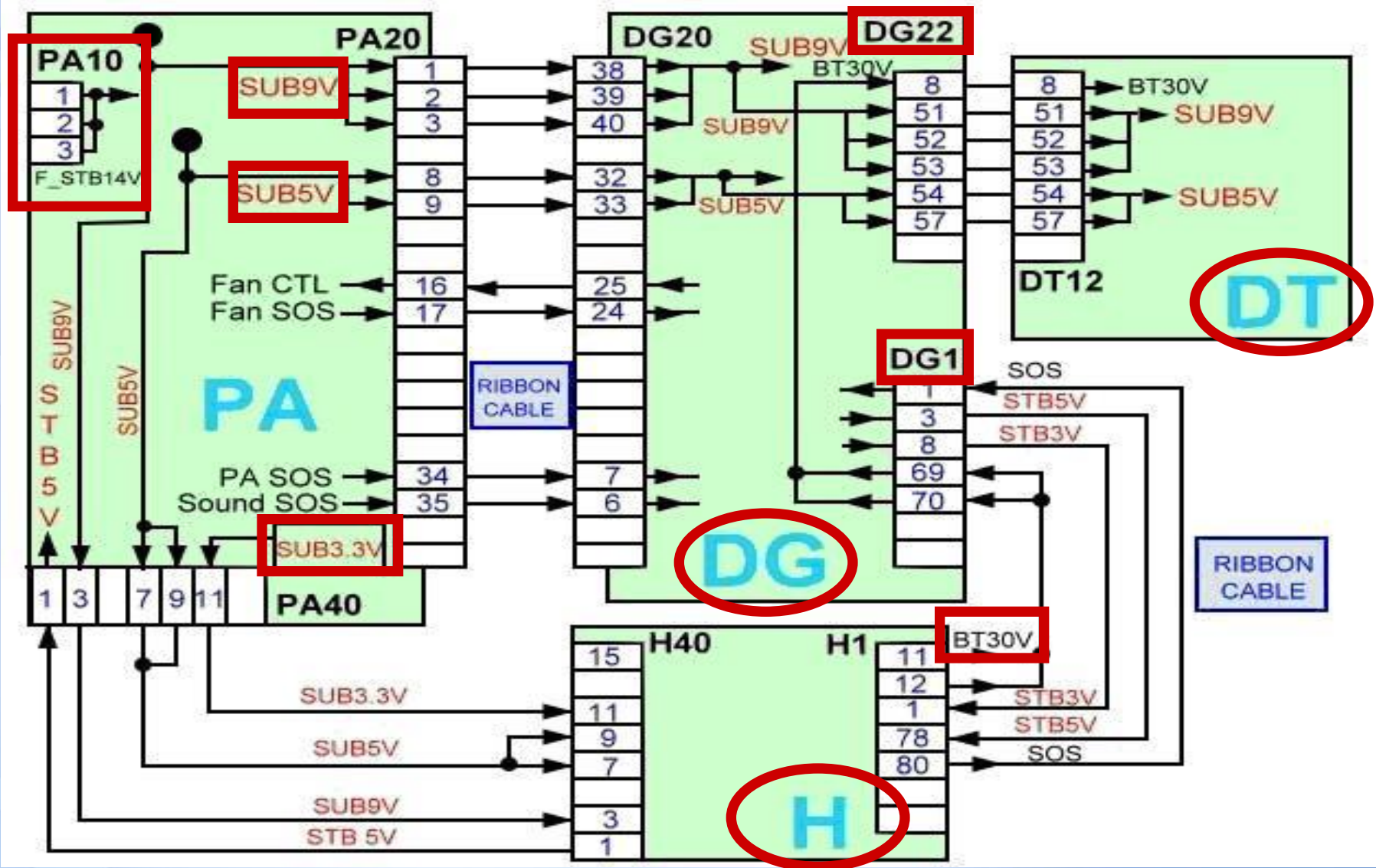
F-STB-ON (Primary)



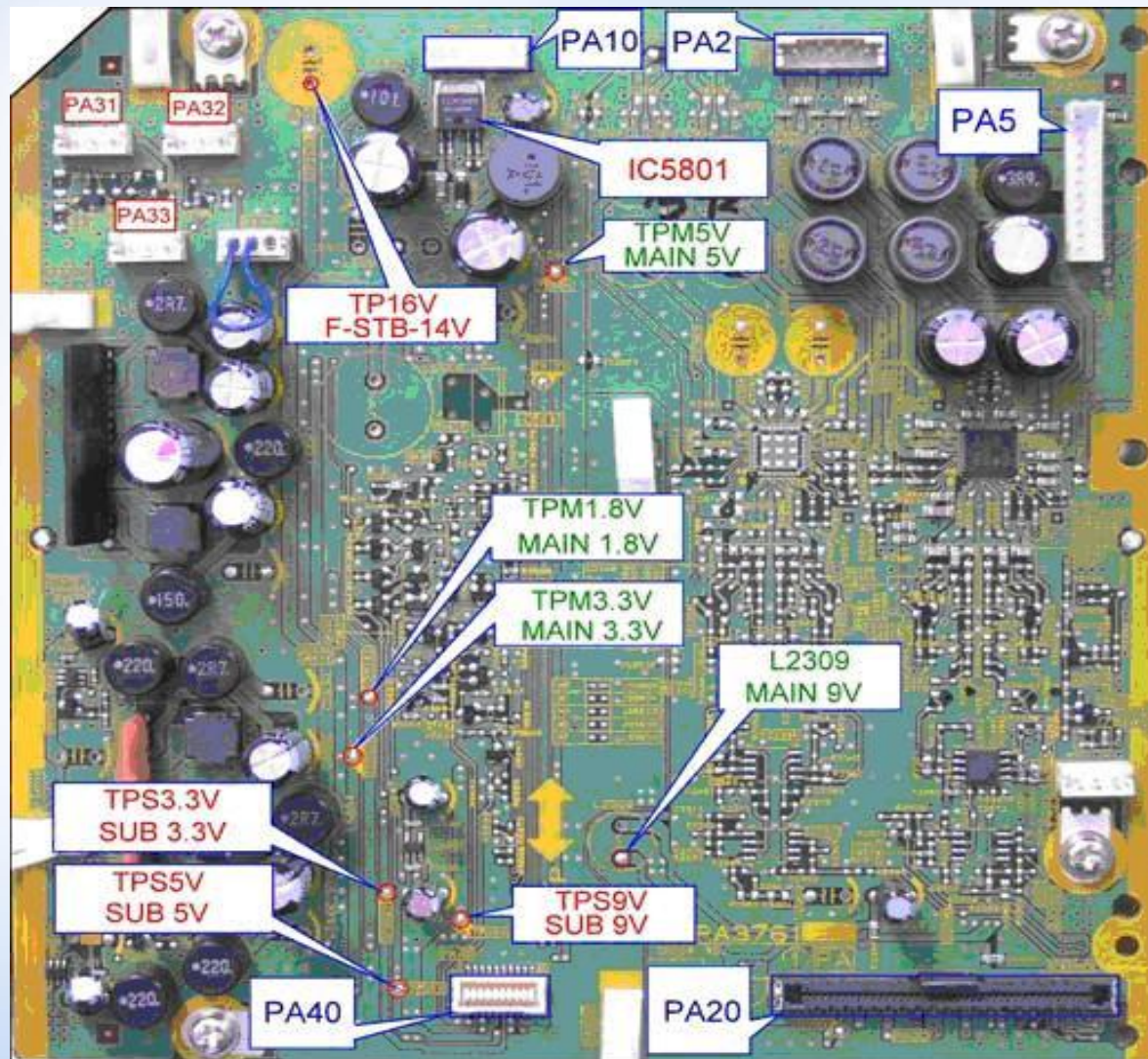
STB5V and TV-SUB-ON function on PA board



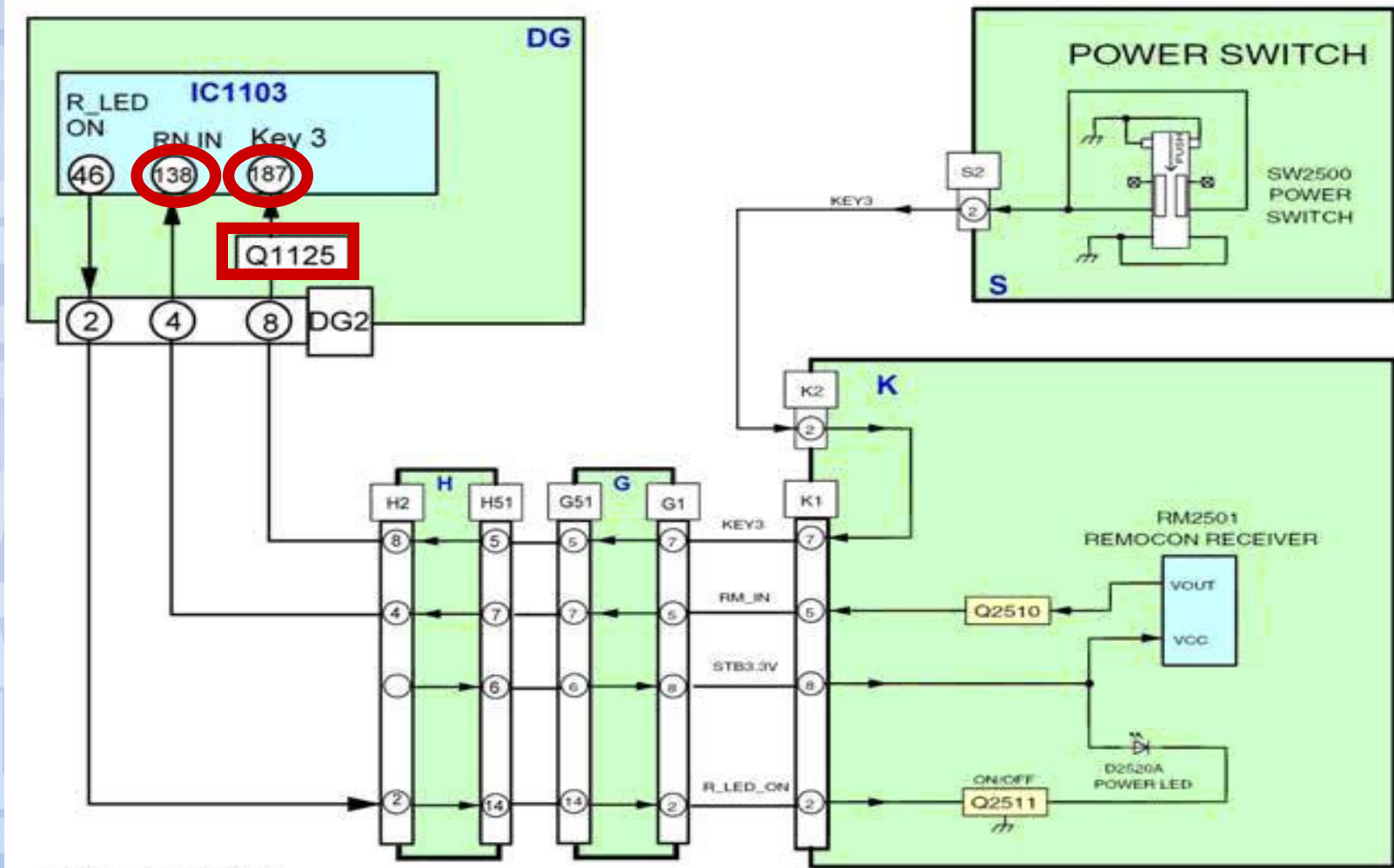
SUB-Voltages Output from the PA board



PA Board Test Points

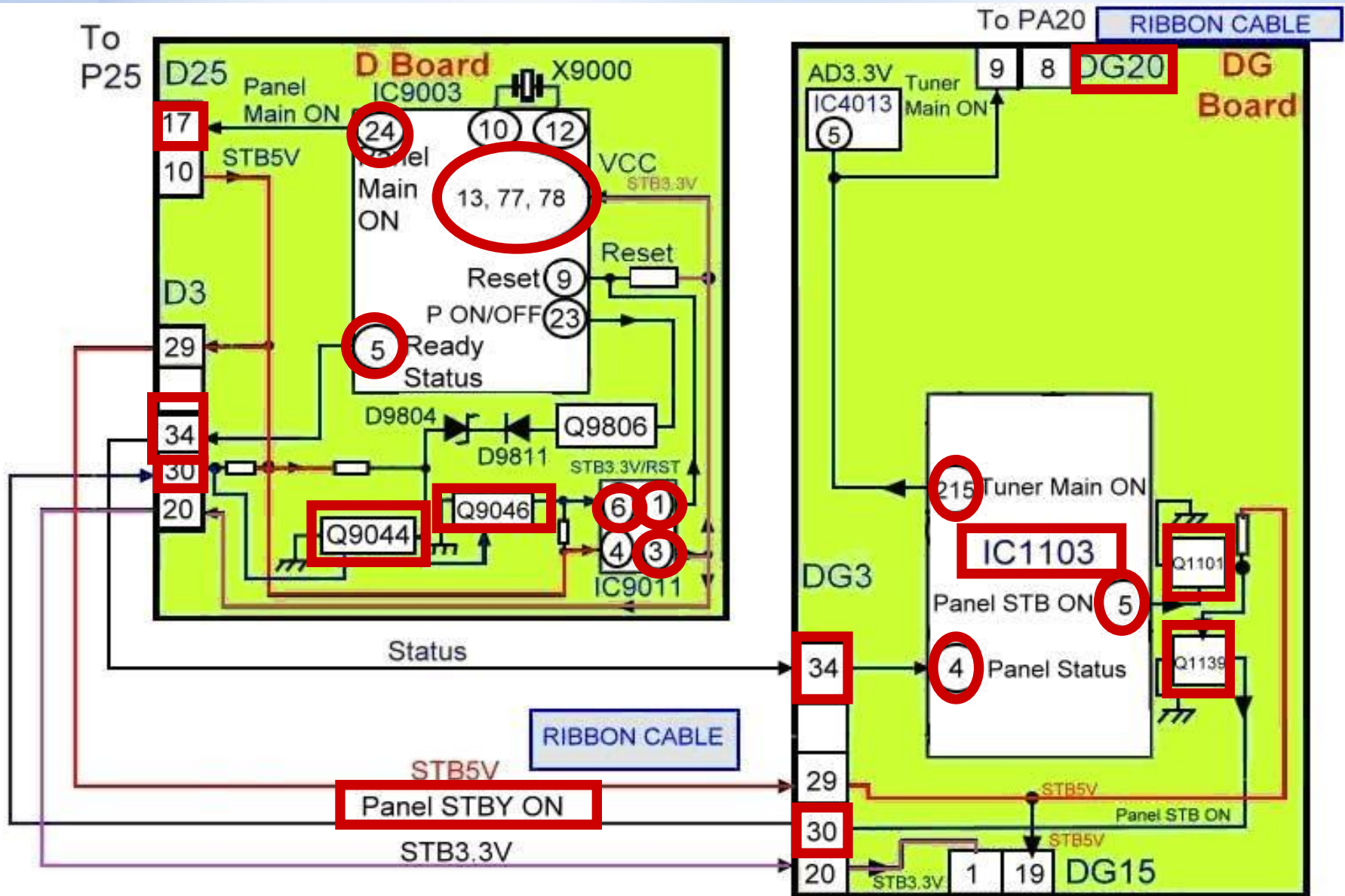


POWER ON

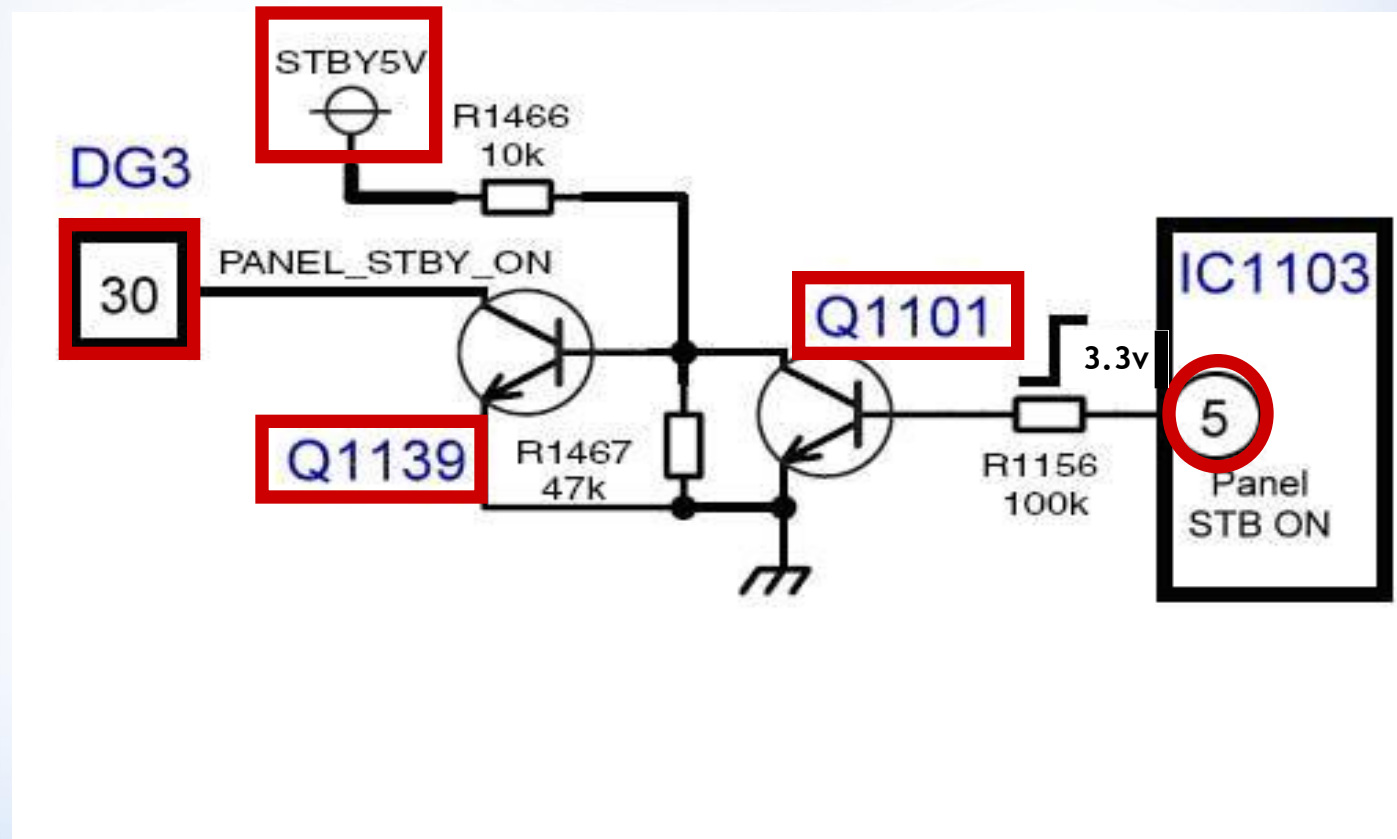


TH-42PX60U

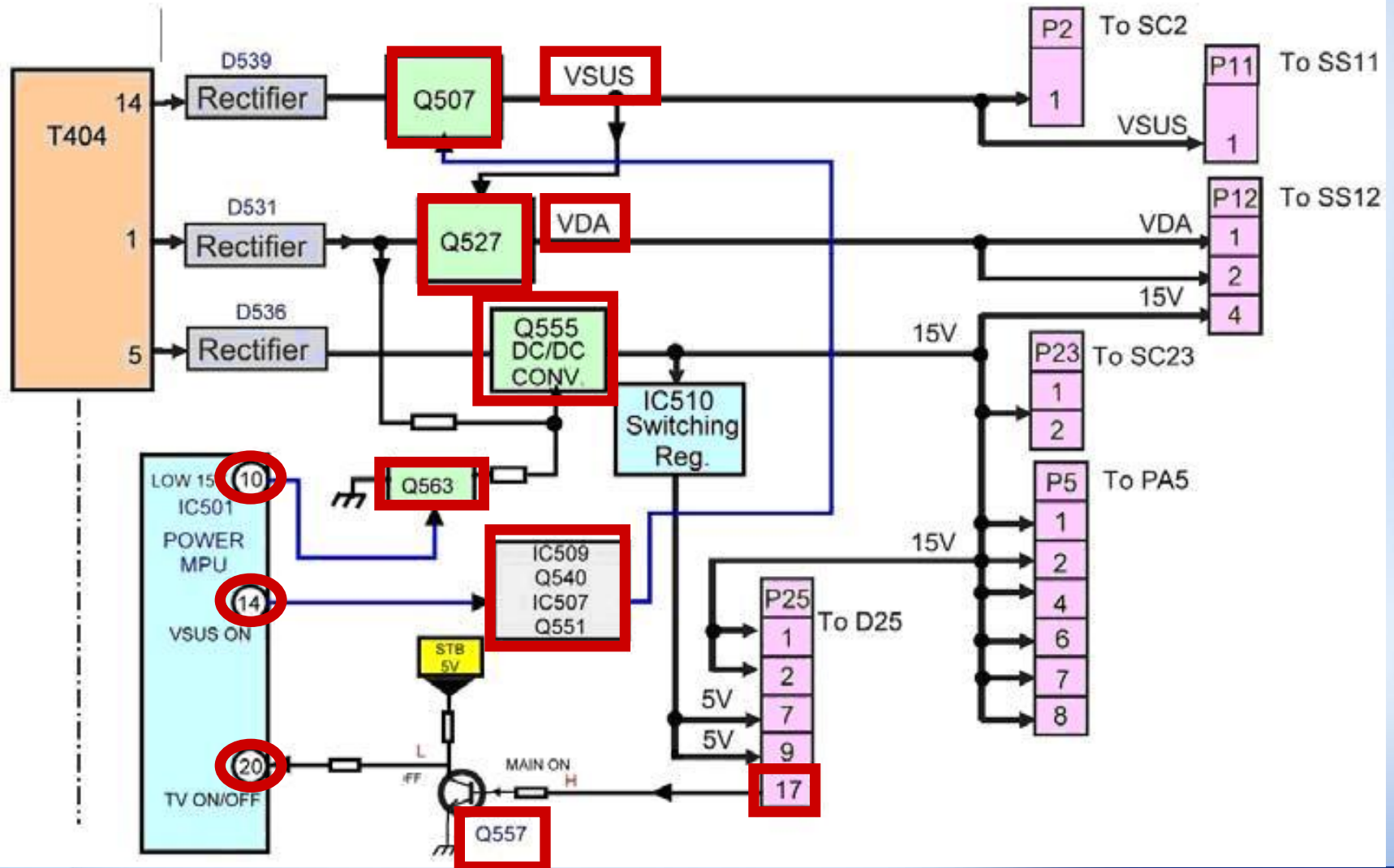
POWER ON



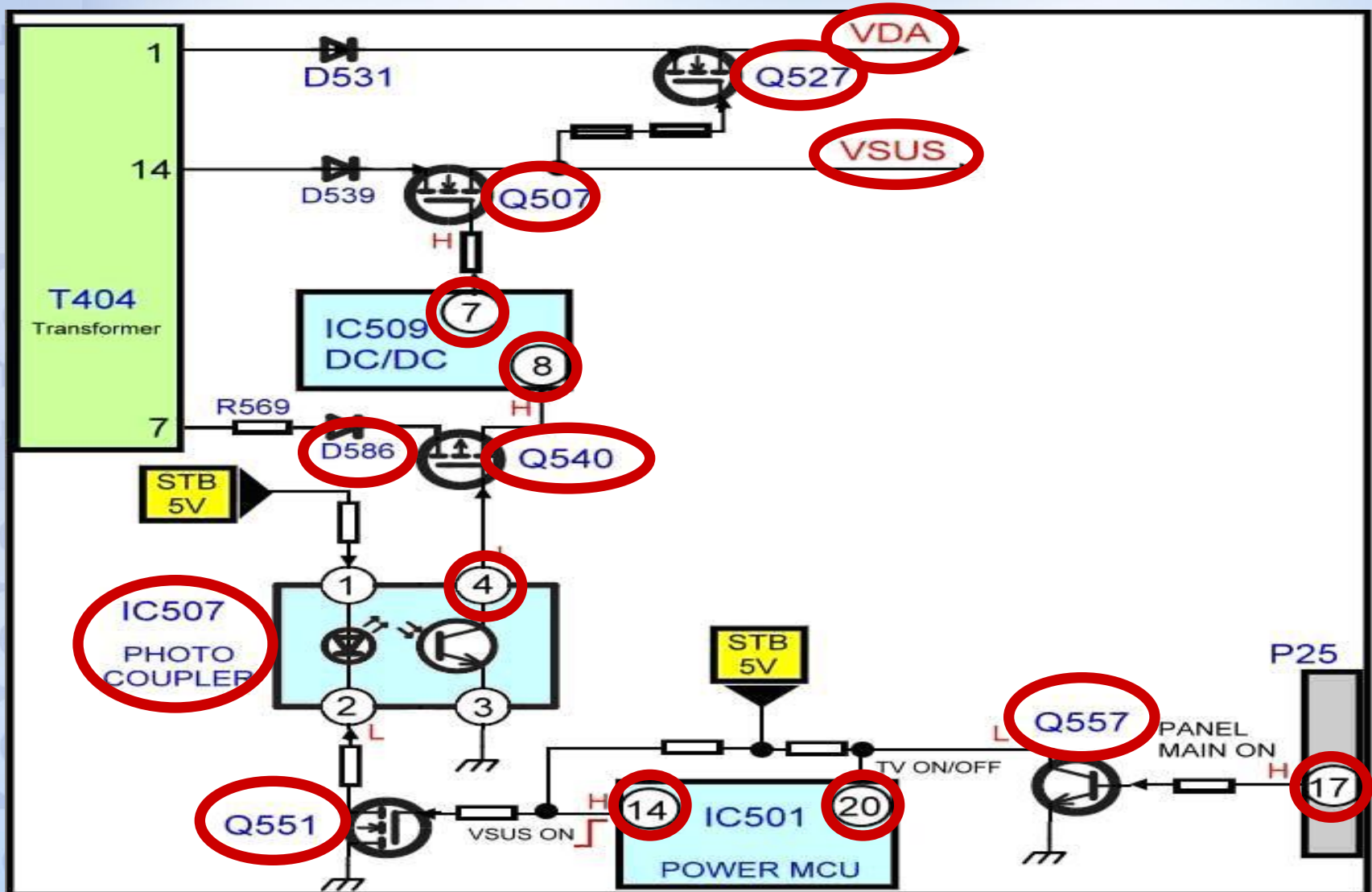
Panel Standby ON Circuit



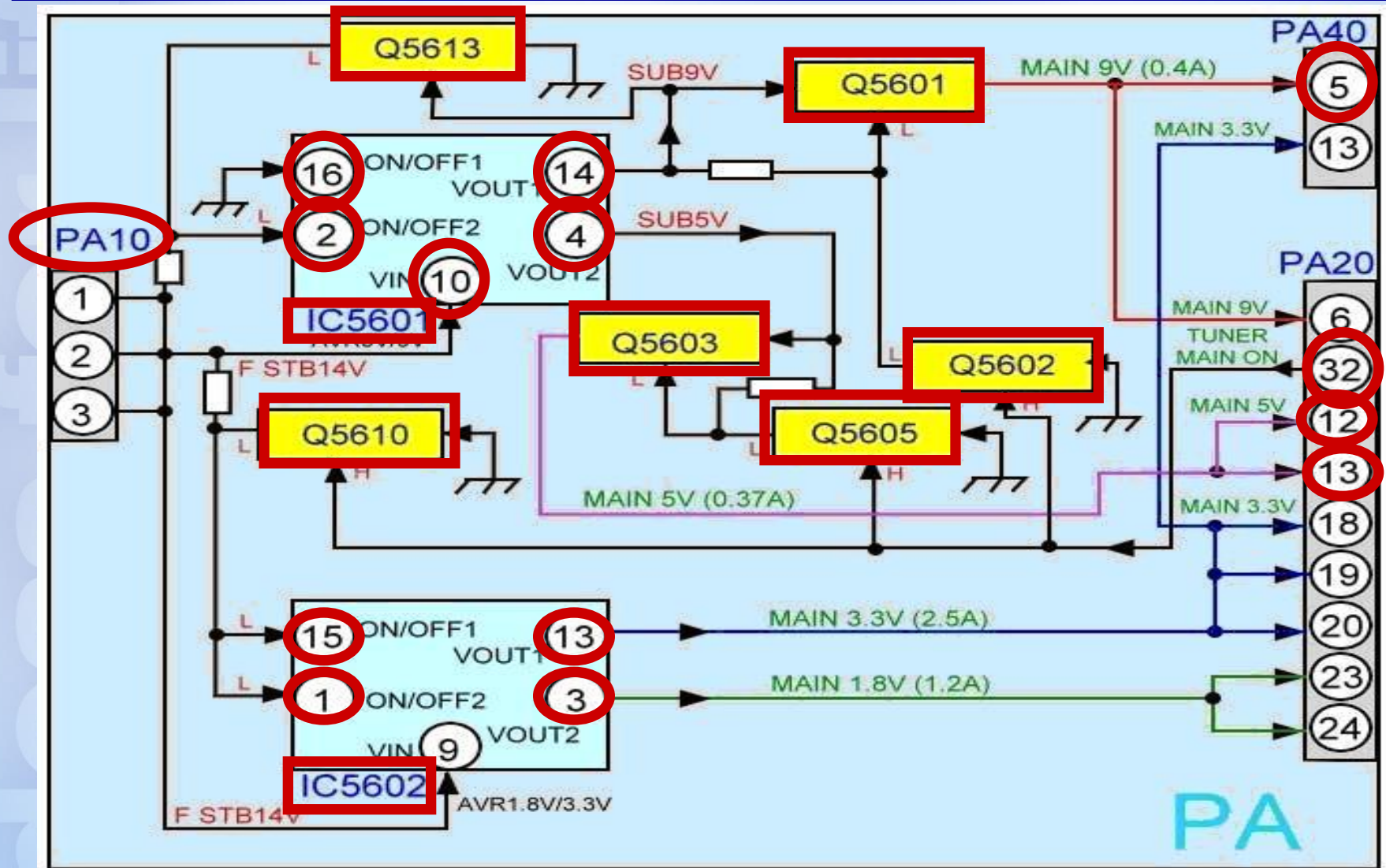
Power Supply Secondary Circuit



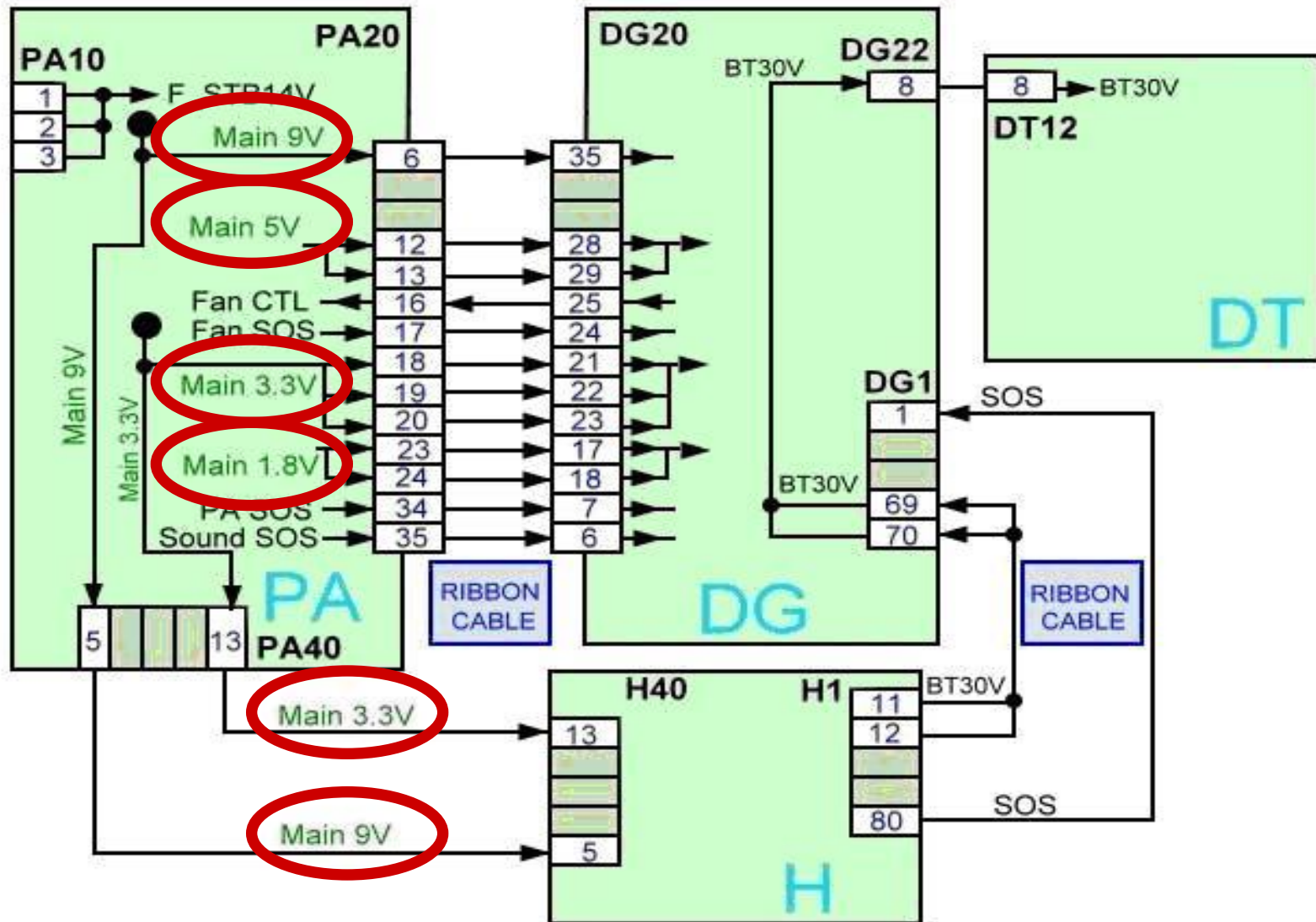
VSUS and VDA Circuit



PA Board Circuit Explanation



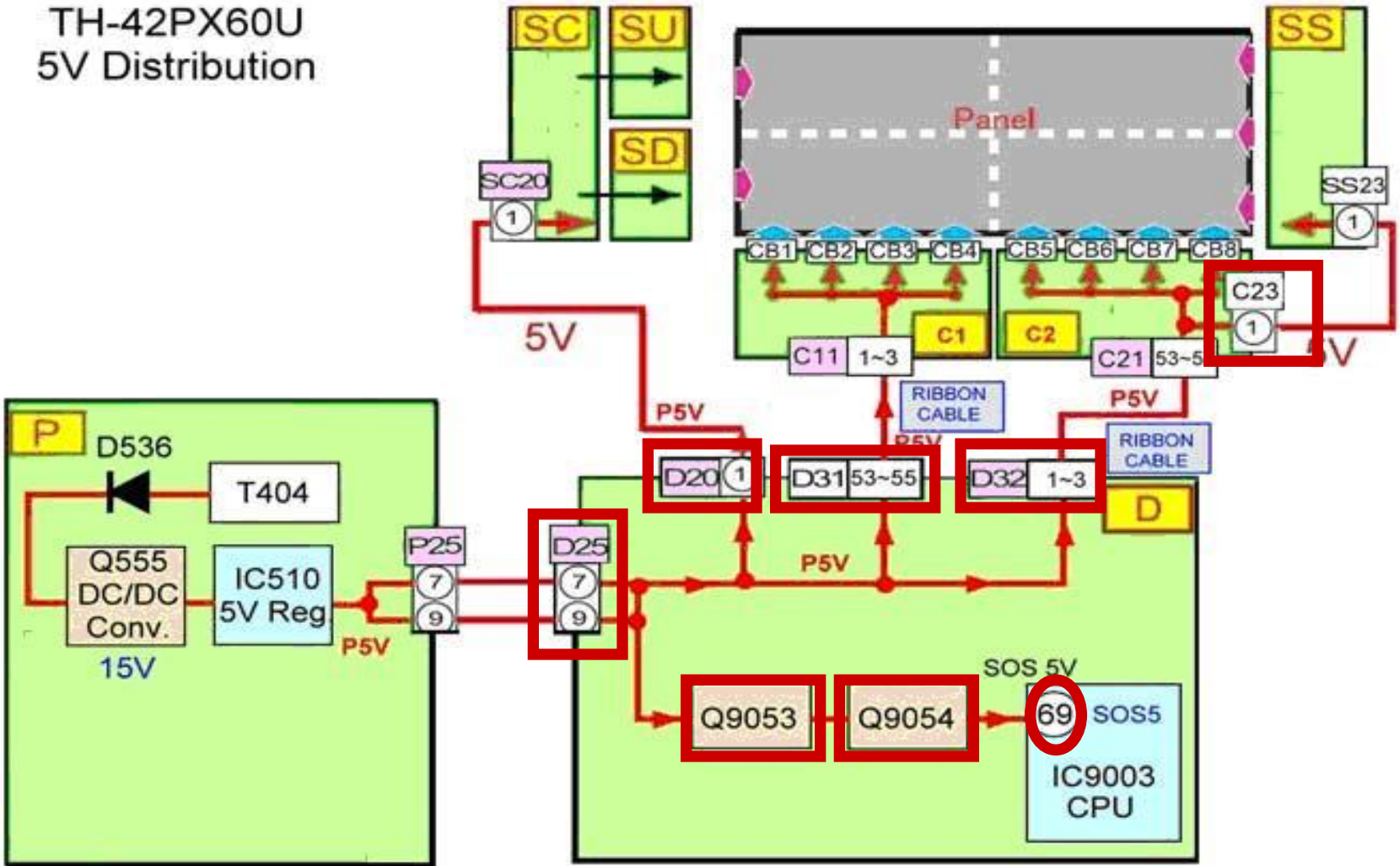
Main voltages output from the PA Circuit



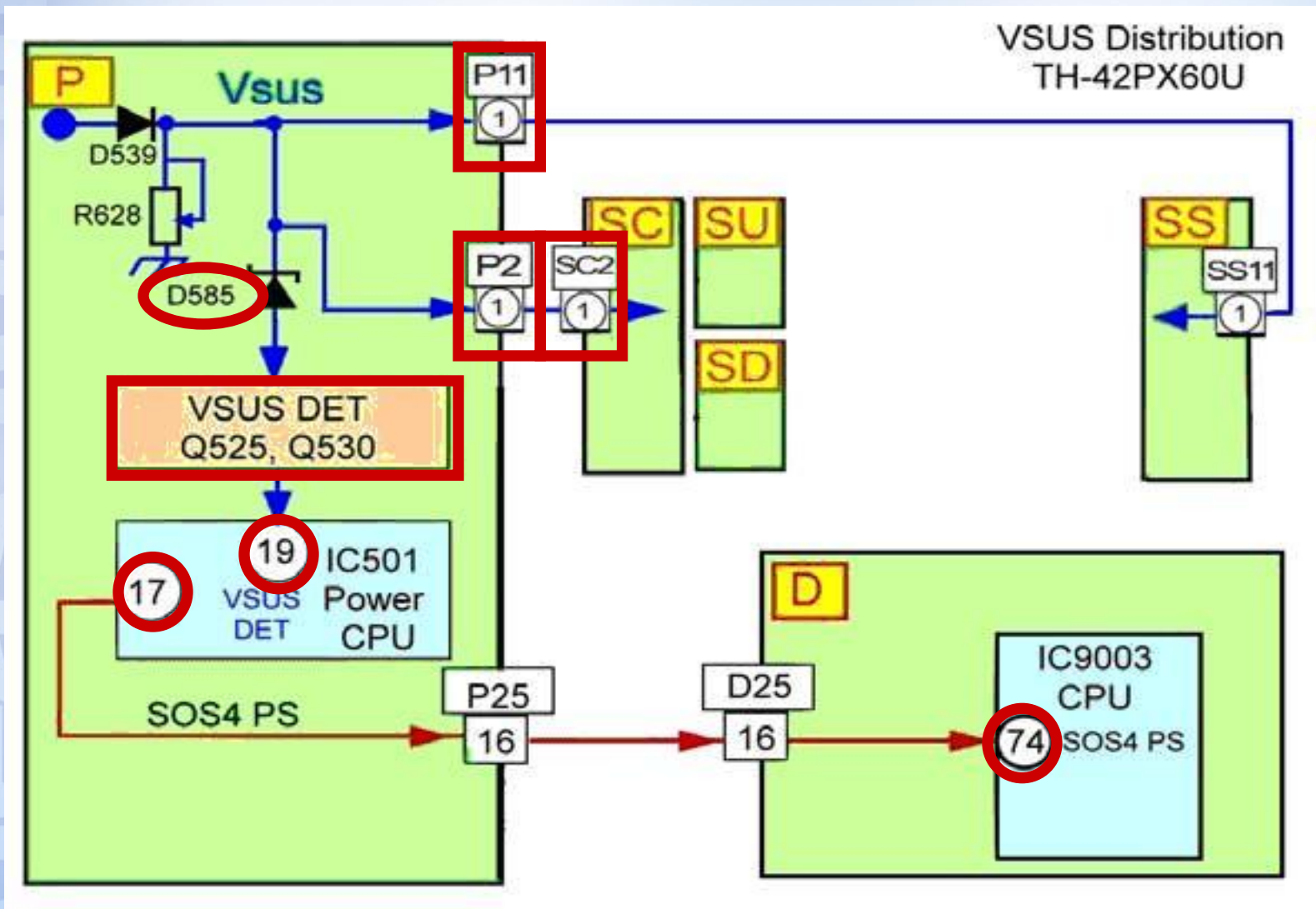
5V Distribution

TH-42PX60U

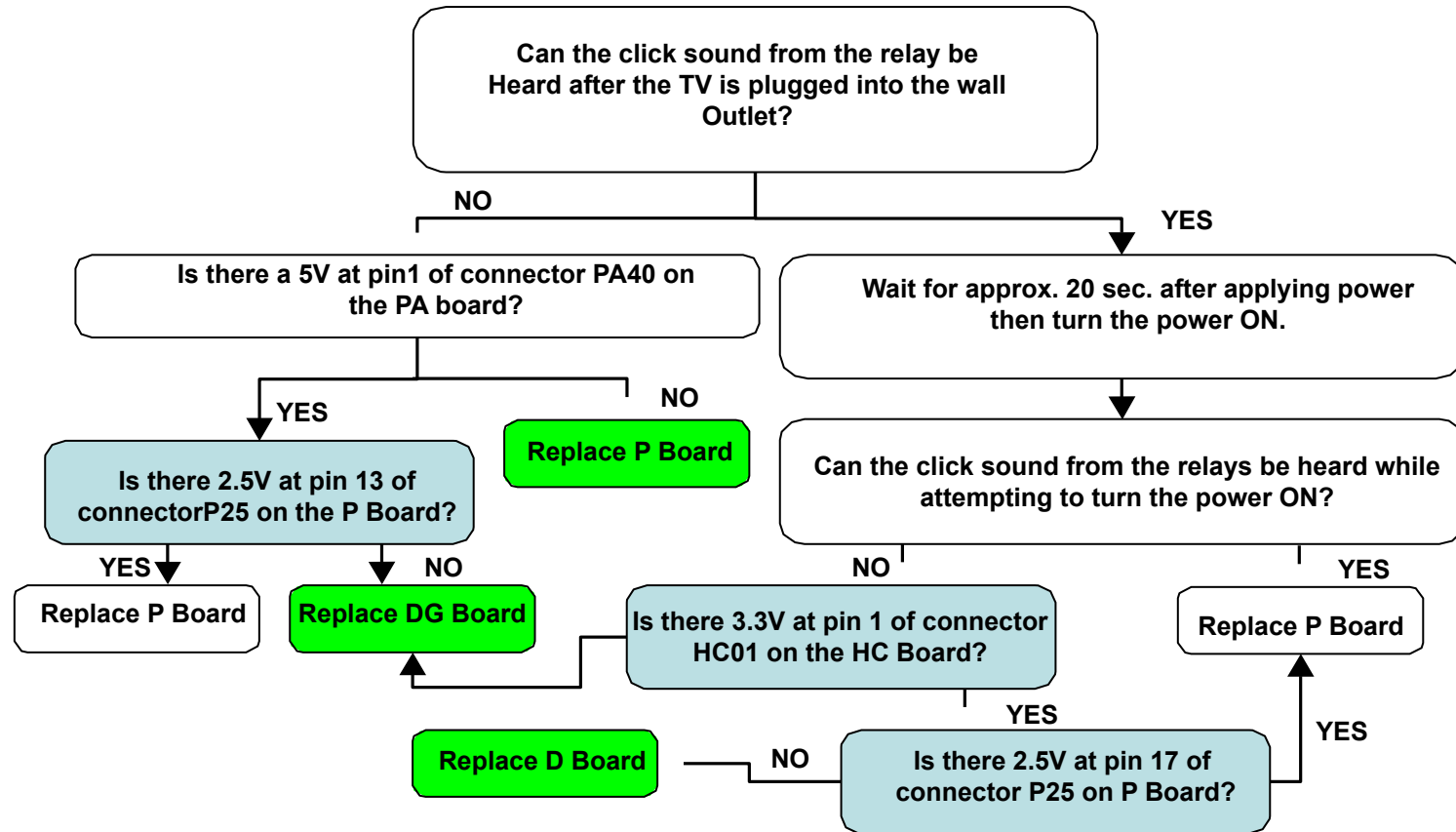
5V Distribution



VSUS Distribution



Troubleshooting Guide



Thank You
For Completing Course Two
Course Three
Understanding How System
Shut Down Operates