

# LG PLASMA

## QUICK REFERENCE

## ALIGNMENT HAND BOOK



# LG

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## PANELS COVERED IN THE HANDBOOK

**(42G1 PANEL)** The Following Models use the 42G1 Panel (2008)

42PG20  
42PG25

**(42G2 PANEL)** The Following Models use the 42G2 Panel (2009)

42PQ20  
42PQ30

**(42T1 PANEL)** The Following Models use the 42G2 Panel (2009)

42PJ350

**(42V7 PANEL)** The Following Models use the 42V7 Panel (2006)

42PC3DVUD  
42PM2DS / 2DW  
42PM3MVATA / MVHMC / MVMC / MVTA / MVZA  
42PM3RV / RV1NC / RVA / RVANC / RVNC / RVS / RVW  
42PX3DV / DVA / DVANC / DVAW / DVB / DVBNC / DVBW  
42PX3DVNC / DVW  
42PX3RVMC / RVZA  
42PX4DVAZC / DVEA / DW  
42PX4MVHTA  
42PX4RVHTA / RVMC / RVTA / RVZA

**(42X2 PANEL)** The Following Models use the 42X2 Panel (2004)

DN42PX12X / PX13X / PX13XW / PX40X / DN42PY10X / PY11X / PY11X /  
DN42PZ66 / PZ75 / DT42PY10X / DU42PX12X / DU42PY10X /  
MN42PZ95XV /  
MU42PM12X / MU42PZ90XVMZ42PM12X / MZ42PZ92XV / RP42PY10X /  
RT42PX12X / RT42PY10X / RZ42PX12X / RZ42PY10X /  
MZ42PM12X / MZ42PZ92XV / RP42PY10X / RT42PX12X / RT42PY10X /  
RZ42PX12X / RZ42PY10X

## **PANELS COVERED IN THE HANDBOOK**

**(42X2A PANEL)** The Following Models use the 42X2A Panel (2005)

**42PM2D / 42PX2DUC / 42PX4DGS / 42PX4DGS2 / 42PX4DGW / X4DNA / 42PX4DR / PX4DRK / PX4DRKNA / PX4DRKS / PX4DRKW / PX4DRW / 42PX4DS / PX4DUB / 42PX5D / PX5DEB / PX5RTB / DN42PX12**

**(42X3A PANEL)** The Following Models use the 42X3A Panel (2006)

### **THE FOLLOWING MODELS USE THE 42X3A PANEL**

**42PB2DR / DR1 / DRNA / DR1S / DRD / DRL / DRLNA / DRNA**

**42PB2DRW**

**42PB2RR / B2RRML**

**42PC1D / D1 / D1ND / D1NF / D1S / D1W / D1DA**

**42PC1DB / DB1 / DB1ND / DB1NF / DB1S / DB1S1 / DB1W 42PC1DBND/**

**DCNF / DDA / DND / DR / DR1 / DR1NA / DR1W 42PC1DR2 / DR2NA/ DRA / DRANA / DRNA / DRW / DRW1 42PC1DRWNA / DRX / DRXNA / DW / RRTL / RRZL / RTH / RZH**

**42PC3D / DHUD / DUD / RAZJ**

**42PC7DHUA / RHMA**

**42PM2DNA**

**42PX3DUE**

**42PX4D / DAA / DG / DGNB / DNB / DRB / DRBNA / DRBS**

**42PX4DRBW / DRBW1 / DRBW2 / DRNA / DRNA**

**42PX5DA / DA1 / DA1NA / DANA / DAW / DMNA / DNA**

**(42X4A PANEL)** The Following Models use the 42X4A Panel (2007)

**42PB2RRHML**

**42PB4D / DAA / DAUA / DNB / DR / DRNA / DRPNG / DTUB**

**42PB4RTMA / RTTB**

**42PC1D2 / D2NF / DB2 / DB2NF / DGAA**

**42PC35ZC**

**42PC3DA / DANA / DANG**

**42PC51ZB**

**42PC5D / DAB / DCNB / DDB / DNA / DNG / DUC / DUL / DZB**

**42PC5RHTB / RTB / RZB**

**42PC7RAMA**

**42PT81ZB**



## **PANELS COVERED IN THE HANDBOOK**

**(50G1 PANEL)** The Following Models use the 50G1 Panel (2008)

**50PG25**

**50PG20**

**(50G2 PANEL)** The Following Models use the 50G2 Panel (2009)

**50PQ20, 50PQ30**

**(50H1 PANEL)** The Following Models use the 50H1 Panel (2007)

**50PF95ZA / 50PY3DFUA / 50PY3DFUJ / 50PY3DR / 50PY3DRNB**

**(50H2 PANEL)** The Following Models use the 50H2 Panel (2009)

**50PG60**

**50PG30**

**(50H3 PANEL)** The Following Models use the 50H3 Panel (2009)

**50PS30-UB**

**50PS60-UA / PS60C-UA**

**50PS80**

**(50R1 PANEL)** The Following Models use the 50R1 Panel (2010)

**50PK950 / 50PK750 / 50PK560 / 50PK550 /**

**50PK540 / 50PK250**

**(50R3 PANEL)** The Following Models use the 50R3 Panel (2011)

**50PZ950**

**(50T1 PANEL)** The Following Models use the 50T1 Panel (2010)

**50PJ340 / 50PJ350**

## PANELS COVERED IN THE HANDBOOK

**(50X2 PANEL)** The Following Models use the 50X2 Panel (2005)

50PM2D  
50PX4D / 4DG / 4DGNB / 4DGS / 4DGW / 4DNB  
50PX5D / 5DAB  
50PY2DR / 2DR2 / 2DR2NA / 2DRUA / 2DRW1  
DN50PX13  
DN50PY10 / DN50PY11 / DN50PY12N  
DN50PZ66  
DT50PY10  
DU50PX10 / DU50PX41S  
DU50PY10 / DW50PY10  
MT50PM20 / M10  
MZ50PM10 / RP50PX10H  
RP50PY10 / RT50PX10  
RZ50PX10 / RZ50PY10  
TN50PY20 / TU50PY22

**(50X3 PANEL)** The Following Models use the 50X3 Panel (2006)

50PB2DR/ 2DR1/ 2DR1NA / 2DRA / 2DRANA  
50PB2DRNA / 2DRNA / 2DRW / 2RRHML  
50PB2RRHTL / 2RRML / 2RRTL  
50PC1D / 1D1 / 1D1ND / 1DB / 1DB1ND / 1DB1S  
50PC1DB1W / 1DBND / 1DCNF / 1DND / 1DR  
50PC1DR1 / 1DR1NA / 1DR2 / 1DR2NA / 1DRW  
50PC1DRW1 / 1DRWNA / 1DW / 1RTH  
50PM1MATA  
50PM2DNA  
50PX1DHUC  
50PX2DUD  
50PX4D1 / 4D1NB / 4D1S / 4D1W / 4DEB  
50PX4MHTB / 4RHTB / 4RTB / RZB  
50PX5DNA  
50PY1DN / 1DNNA  
50PY2DR1 / 2DR1NA / 2DR1S / DR1W / DR1W1  
50PY2DRG / 2DRGNA / 2DRGW / 2DRNA / 2DRNA  
DN50PX12  
DN50PX40M

## **PANELS COVERED IN THE HANDBOOK**

**(50X4P PANEL)** The Following Models use the 50X4P Panel (2006)

**50PB2DR 50X4P / 50PB3DP / DP1 / DR / DRW**  
**50PB4DA / DR / DRP / DT / RT / RTH**  
**50PC1D / D1 / D2 / DB1 / DB2 / R / RR**  
**50PC5D / DP / R**  
**50PC35 / DA / DAP / 51 / 55**  
**50PT81 50X4P / 50PX4MP**

**(60H1 PANEL)** The Following Models use the 60H1 Panel (2007)

**60PY3D**  
**60PB4D**

**(60H2 PANEL)** The Following Models use the 60H2 Panel (2008)

**60PG30FC-UA / 60PG30F-UA / 60PG3HFD-UA**  
**60PG60F-UA / 60PG70F-UB / 60PG7HFD-UB**

**(60H3 PANEL)** The Following Models use the 60H3 Panel (2008)

**60PS11-UA / 60PS60-UA / 60PS60C-UA / 60PS80-UA**

**(60R1 PANEL)** The Following Models use the 60R1 Panel (2010)

**60PK950 / 60PK750 / 60PK560 / 60PK550 /**  
**60PK540 / 60PK250**

**(60X6 PANEL)** The Following Models use the 60X6 Panel (2006)

**60PC1D / DR / 60PY2R / 2D / 2DR / 60PZ9M / MA**

**(60X7 PANEL)** The Following Models use the 60X7 Panel (2006)

**60PB4DA / DR / DT**

**(71H2 PANEL)** The Following Models use the 71H2 Panel (2006)

**71PY1M**

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# 42G1 PANEL

## QUICK REFERENCE

## ALIGNMENT HAND BOOK

### MODELS USING THE 42G1 PANEL

**42PG20**

**42PG25**



**LG**

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## 42G1 VS / VA ADJUSTMENT

### PREPARATION:

- 1.) Pre-Heat unit for at least 10 Minutes before making adjustments.
- 2.) Place unit into White Wash from the Customer's Menu for all adjustments.
- 3.) **Be sure to use all adjustment values as indicated on the panel voltage label in the upper left hand corner of the panel. (Example above)**

Model : PDP 42G1####

Voltage Setting: 5V / **Va:65V** / **Vs:192V**

N.A. / -195 / 135 / N.A. / 100

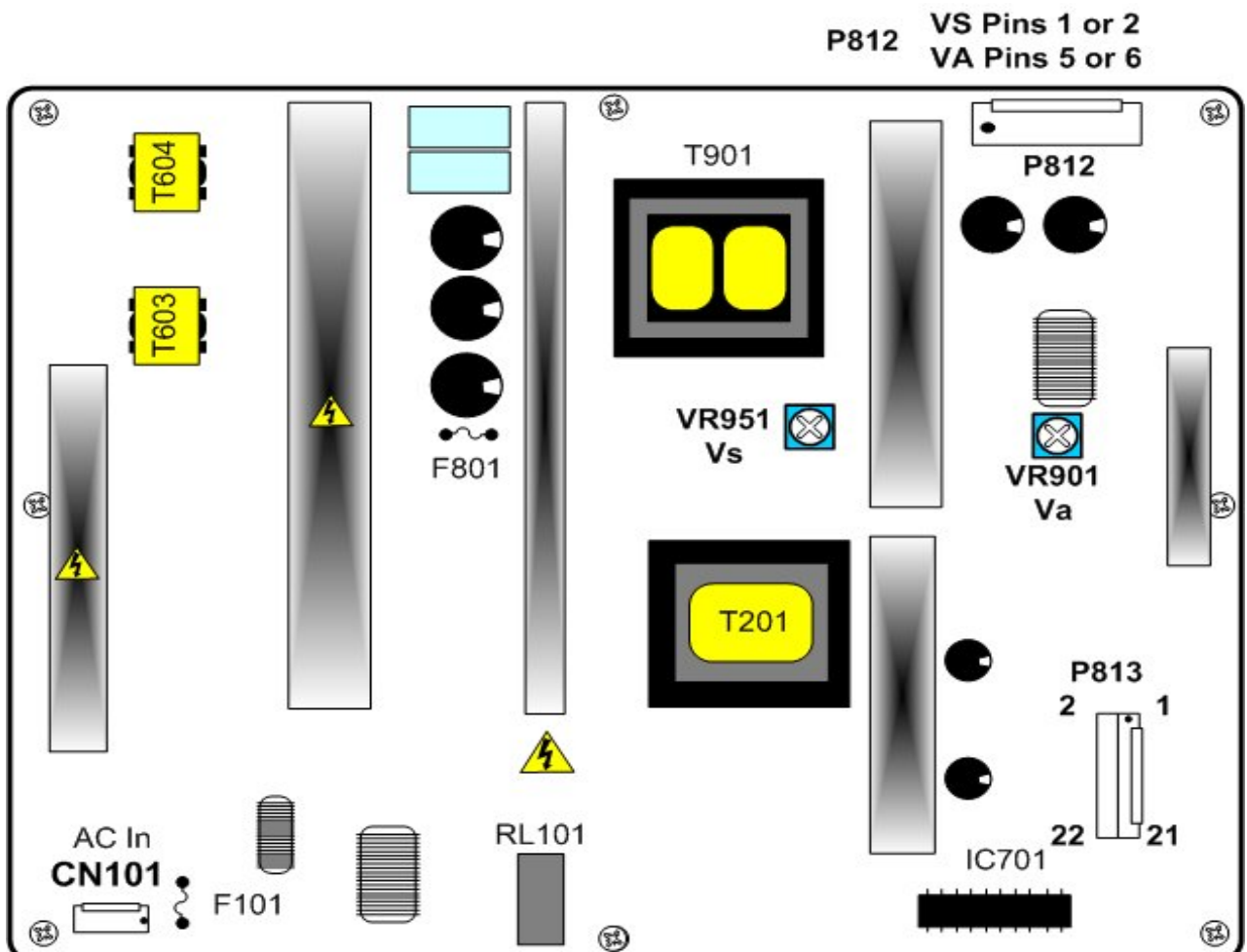
Max Watt : 330 W (Full White)

VA

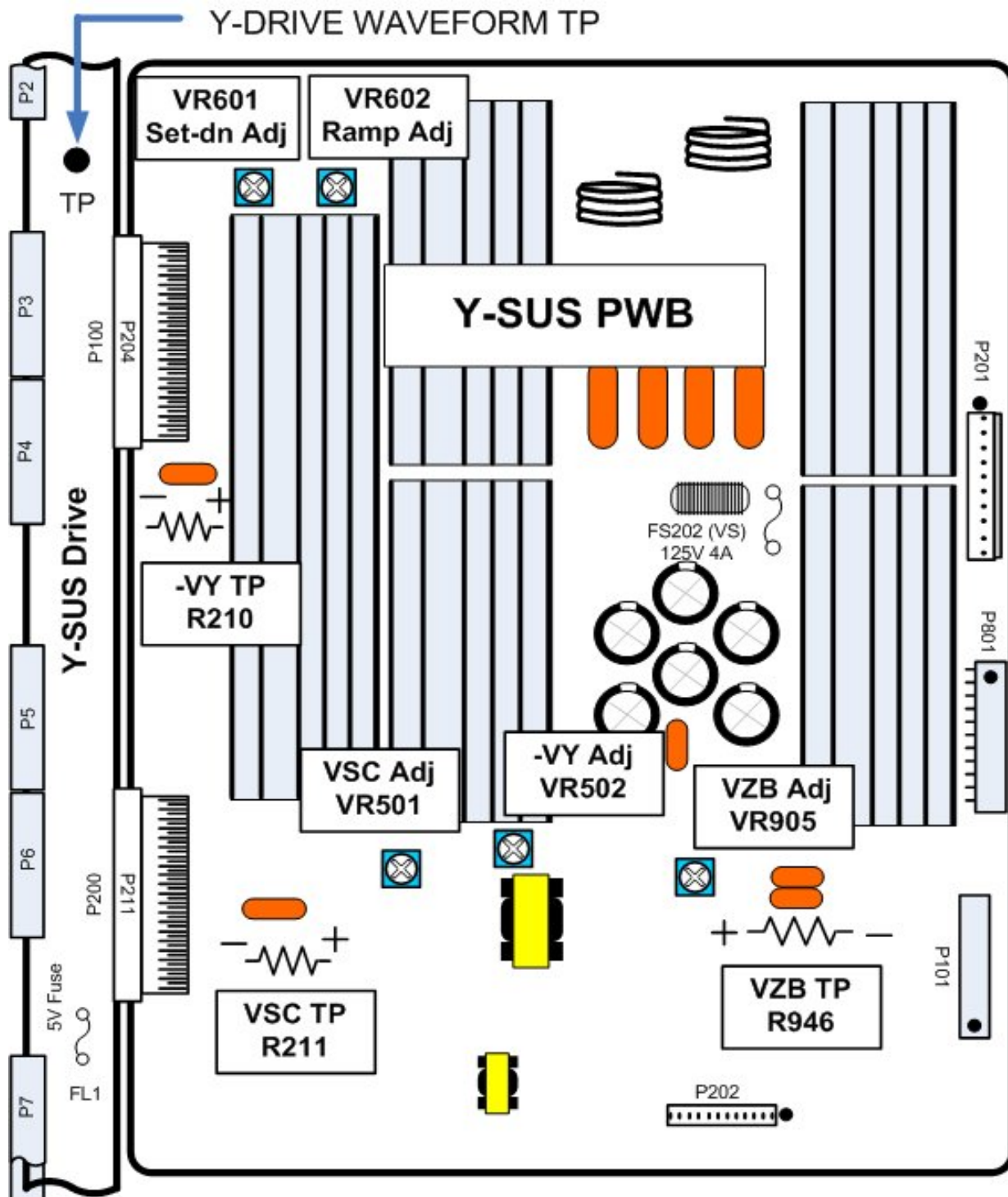
VS

### PROCEDURE: (See preceding figure for locations)

- 1.) **Adjust VS using VR951.** Measured from **Pin 1 P812** to chassis ground. Match Panel Voltage label  $\pm 1V$ .
- 2.) **Adjust VA using VR901.** Measured from **Pin 6 P812** to chassis ground. Match Panel Voltage label  $\pm 1V$ .



# 42G1 Y-SUS BOARD ADJUSTMENT POINTS



**V SET DOWN set too high  
can cause shut down.  
If this happens, remove the LVDS cable and  
pre-align adjustments.**



# 42G1 Y-SUS ADJUSTMENT PREPARATION:

## PREPARATION:

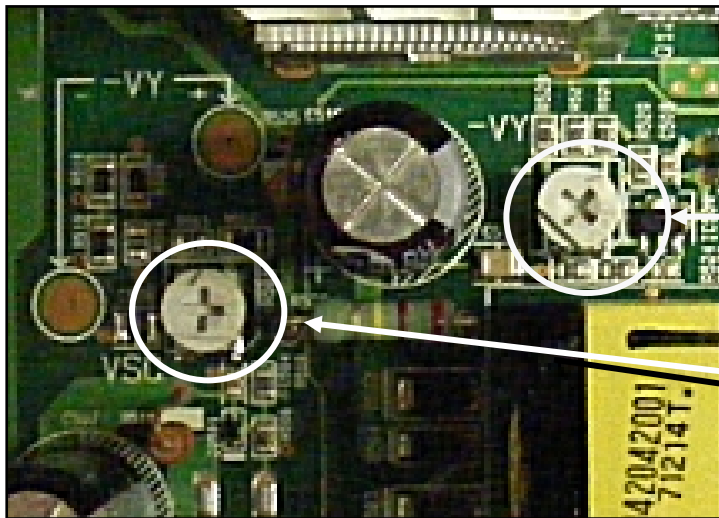
- 1.) Pre-Heat unit for at least 10 Minutes before making adjustments.
- 2.) Place unit into White Wash from the Customer's Menu for all adjustments.
- 3.) **Be sure to use all adjustment values as indicated on the panel voltage label in the upper left hand corner of the panel. (Example above)**

Model : PDP 42G1####  
Voltage Setting: 5V / Va:65V / Vs:192V  
N.A. / **-195** / **135** / N.A. / 100  
Max Watt : 330 W (Full White)

-Vy VSC

## PROCEDURE: (See figures for locations)

- 1) **Adjust -Vy using VR501.** Measured across **R210**.  
Match Panel Voltage label  $\pm 1V$ .
- 2) **Adjust VSC using VR502.** Measured across **R211**  
Match Panel Voltage label  $\pm 1V$ .



*Lower Left Side  
of Board*

VR502

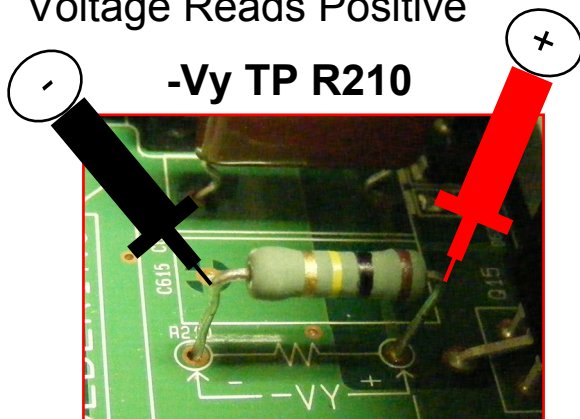
-Vy Adj

VR501

VSC Adj

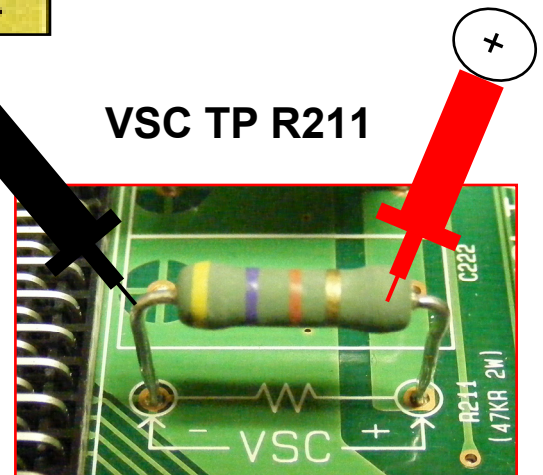
Voltage Reads Positive

-Vy TP R210



*Middle Left Side of Board*

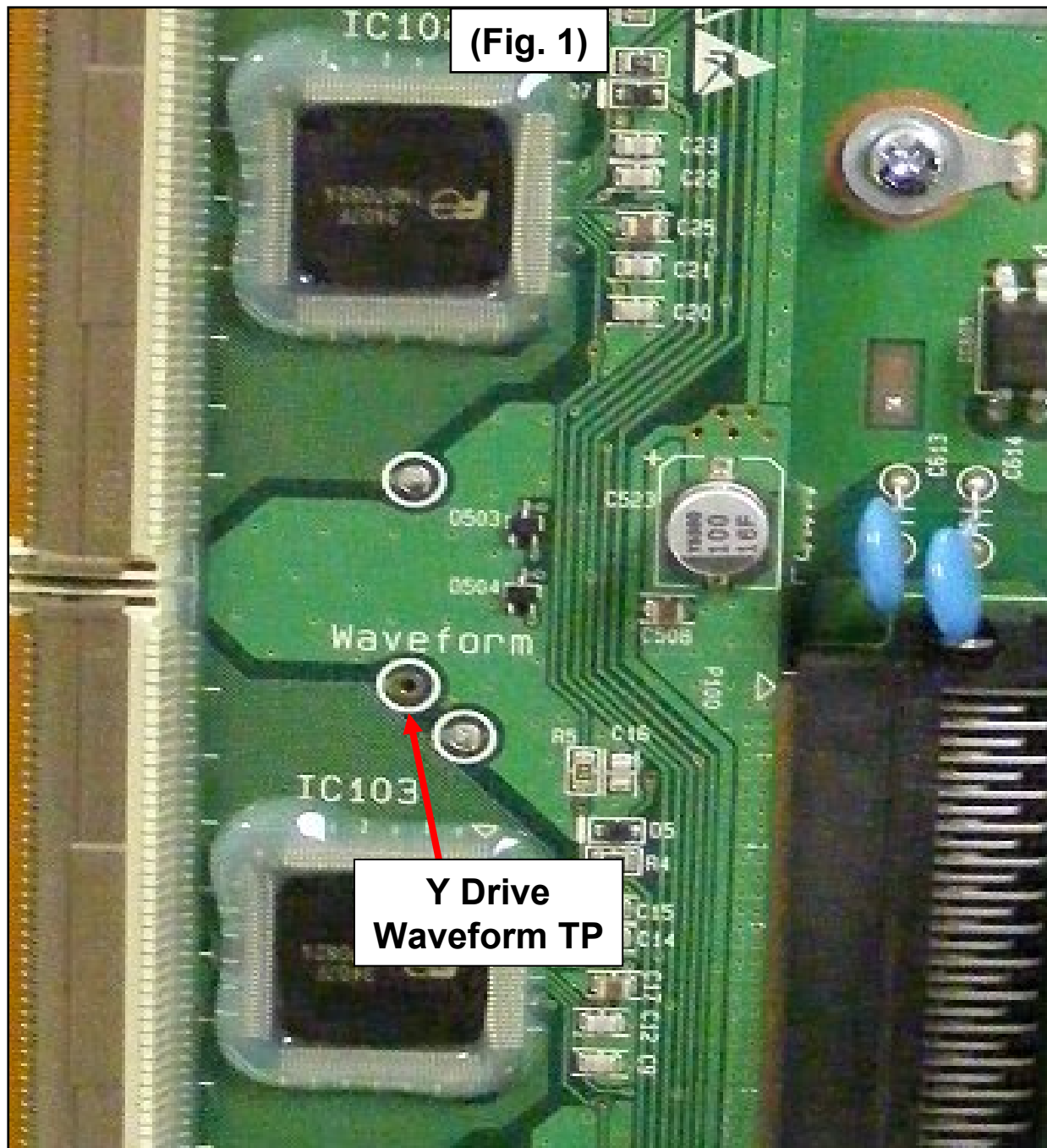
VSC TP R211



*Lower Left Side of Board*

## 42G1 Y-Drive Waveform Test Point

Figure 1 shows the Y-Drive Waveform Test Point on the Center Top Y-Drive PWB. Indicated by the Arrow. Use this TP for alignment of the Y-Drive signal using Set-Up and Set-Down adjustments shown on the next page.



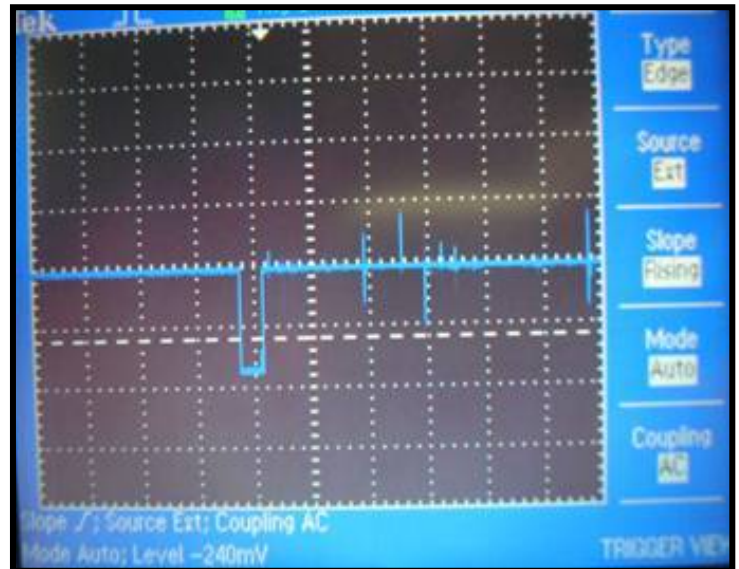
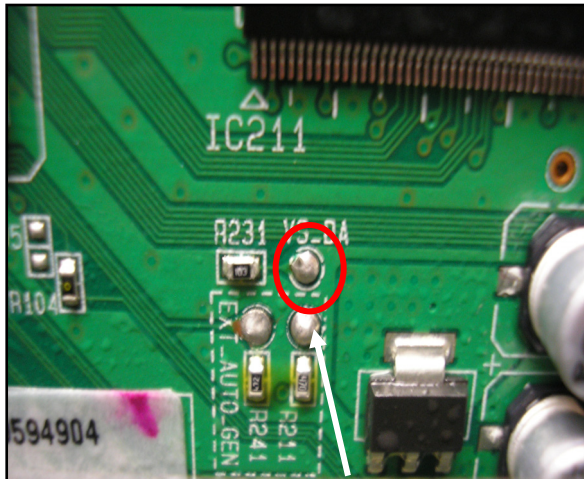
Top Y-Drive board.

## Observing the Y-SUS and Z-SUS Output Waveforms

External Triggering of the Oscilloscope allows for a Stable Display of both the Y and Z SUS Output Waveforms regardless of how distorted the waveforms may be, allowing the wave shape and phasing to be easily examined.

To set the Oscilloscope up for External Trigger first connect a Scope Probe set on direct to the External Input Jack. Next set the External Jack for AC Coupling either positive or negative slope, use the Trigger Menu on the Scope. Finally you will need to set the Trigger Level press the Trigger View and set the level as indicated in the picture below.

Trigger Level Adjust



**VS\_DA** Located on the Control Board just above the AUTO Gen Test Points may be used as an external trigger source for locking the waveform on the Oscilloscope

# 42G1 Y-DRIVE WAVEFORM ADJUSTMENT

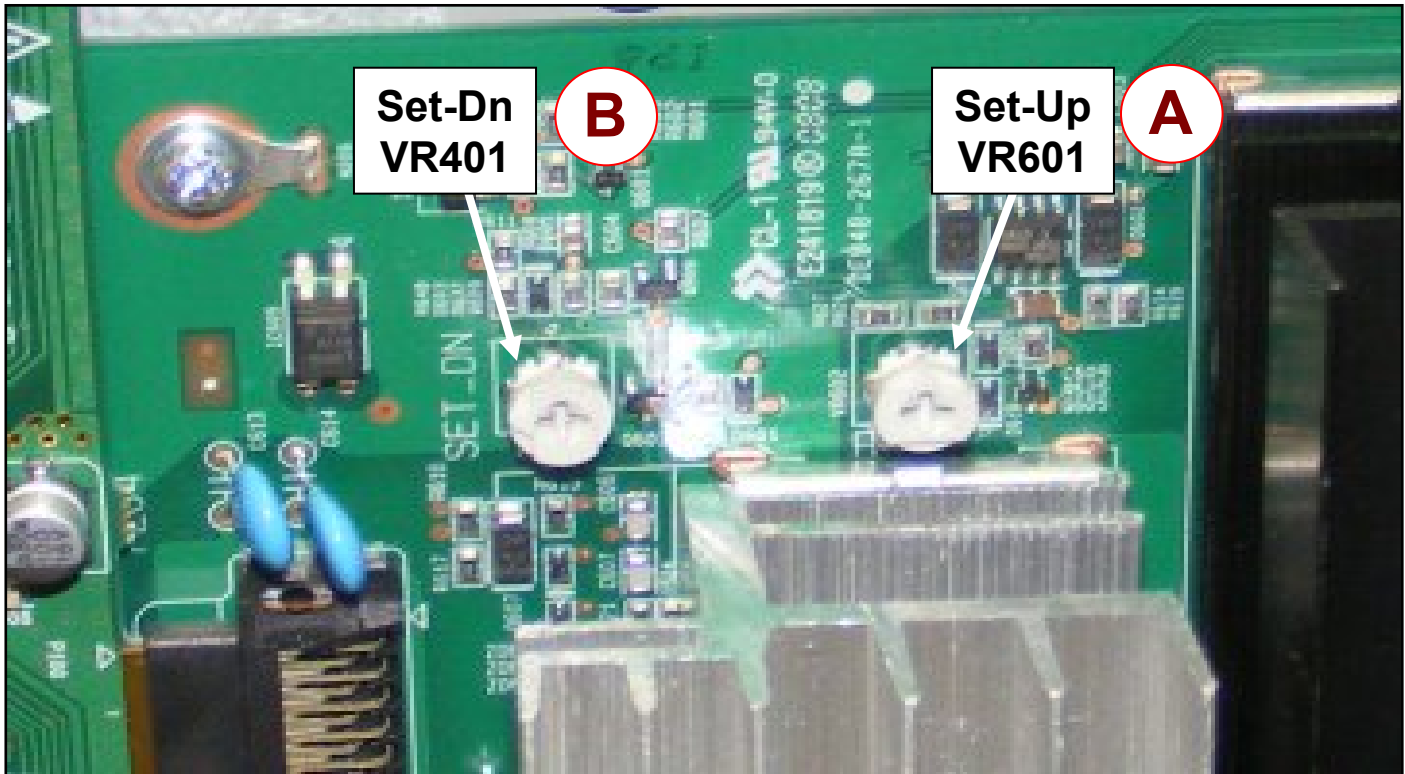
## PRELIMINARY:

Adjustment locations for adjusting the Y-Drive waveform on the Y-SUS PWB shown below.

See Y-SUS Test Points and Adjustments diagram for detailed locations. (4 pages back).

See next page for Adjustment specifications.

Top Left of PWB





## 42G1 Y-SUS ADJUSTMENT PREPARATION:

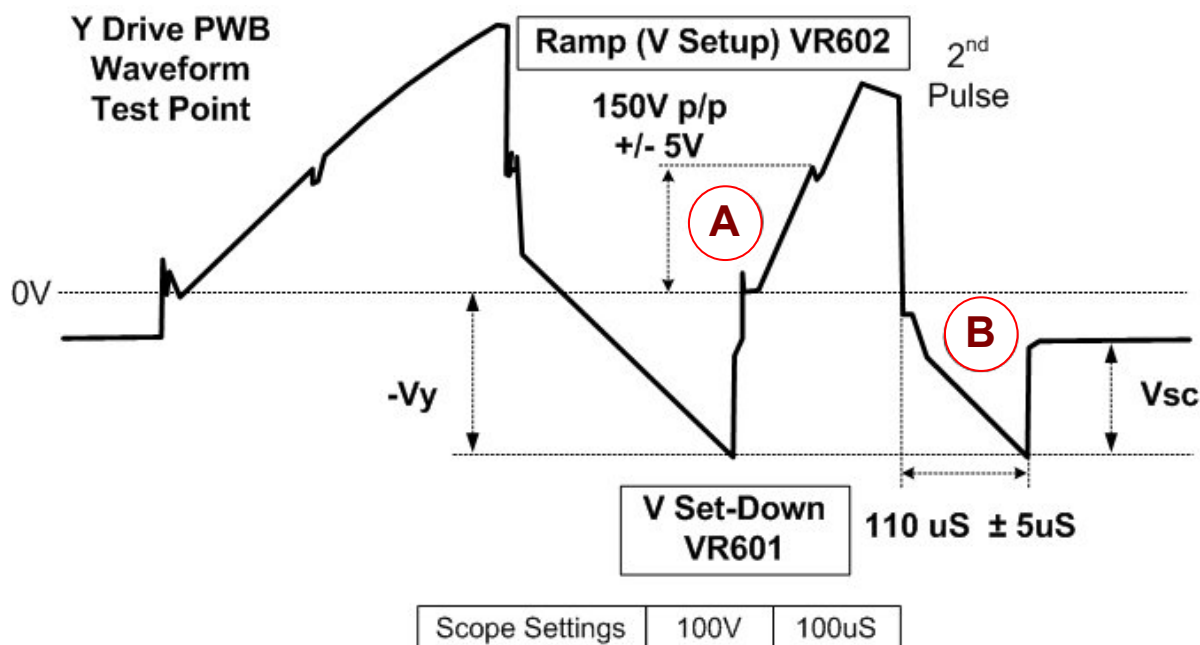
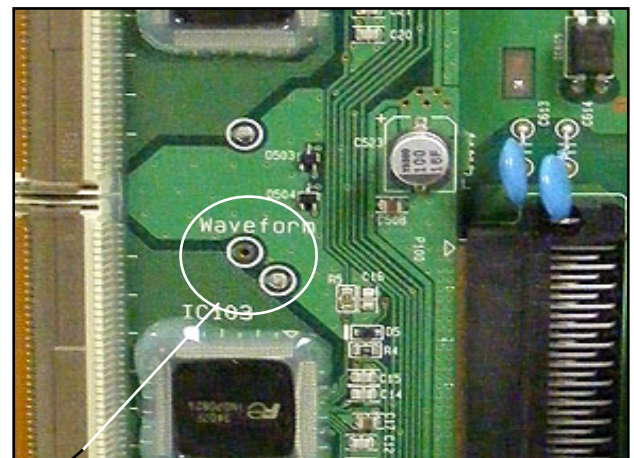
### PREPARATION:

- 1) All adjustment preliminary preparations should be the same as for  $V_a$  and  $V_s$  adjustments.
- 2)  $V_a$ ,  $V_s$ ,  $-V_y$ , and  $V_{SC}$  adjustments should be complete.
- 3) **Be sure to use all adjustment values as indicated on the panel voltage label in the upper left hand corner of the panel.**

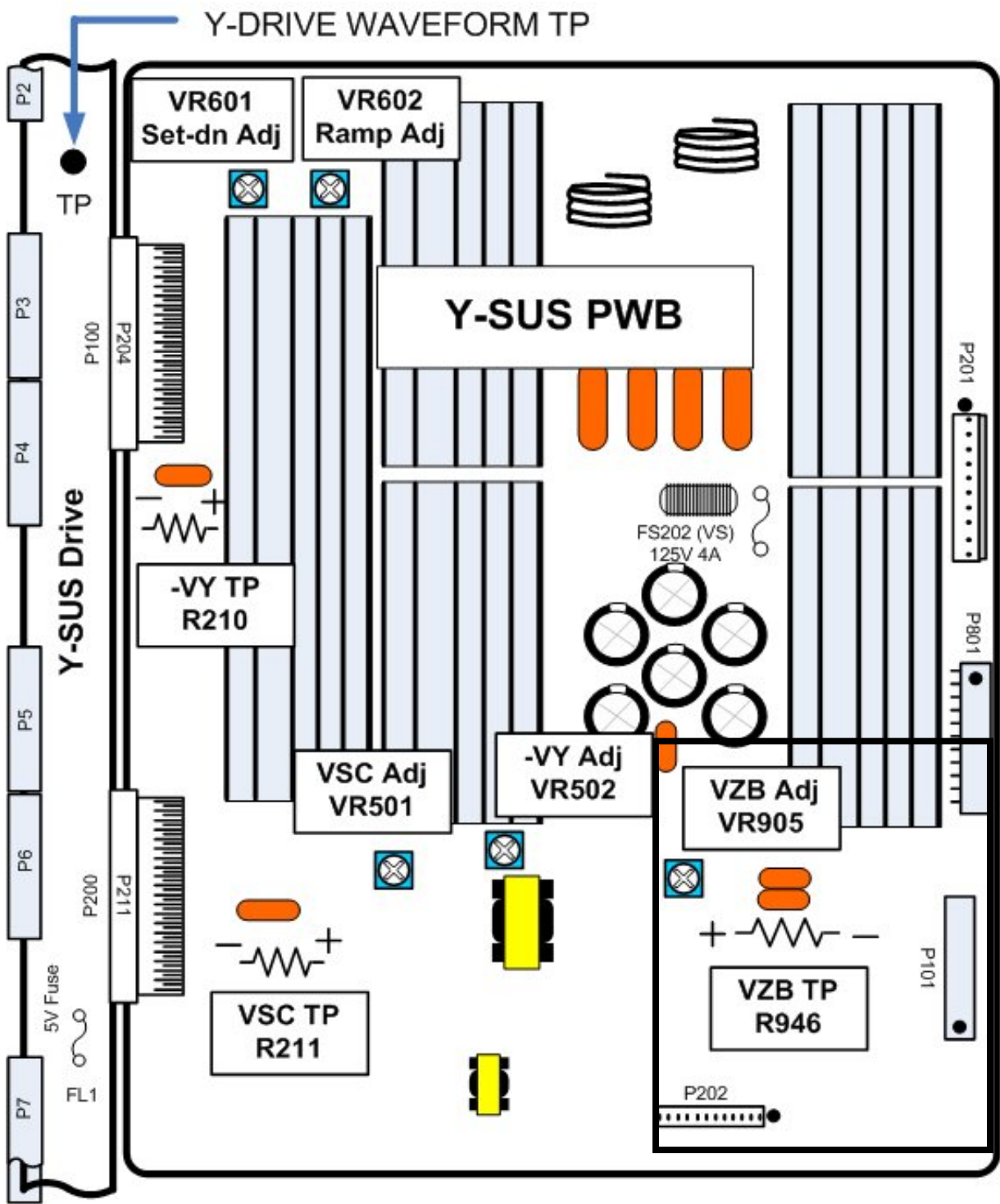
**PROCEDURE:** (See preceding page for locations)  
Connect scope to Waveform TP on Y-Drive PWB.

- 1) Adjust **RAMP** until point "A" in diagram below is **150V p / p  $\pm 5V$ .**

- 2) Adjust **V SET-DOWN** until point "B" in diagram below is **110uSec  $\pm 5uS$**



# 42G1 Y-SUS BOARD Z-SUS ADJUSTMENT POINTS



Z-Bias Adjustment Section of the Y-SUS PWB

# 42G1 Z-SUS ADJUSTMENT PREPARATION:

## PREPARATION:

- 1.) Pre-Heat unit for at least 10 Minutes before making adjustments.
- 2.) Place unit into White Wash from the Customer's Menu for all adjustments.
- 3.) All other adjustments should be complete.
- 4.) **Be sure to use all adjustment values as indicated on the panel voltage label in the upper left hand corner of the panel.**  
(Example above)

Model : PDP 42G1####

Voltage Setting: 5V / Va:65V / Vs:192V

N.A. / -195 / 135 / N.A. / **100**

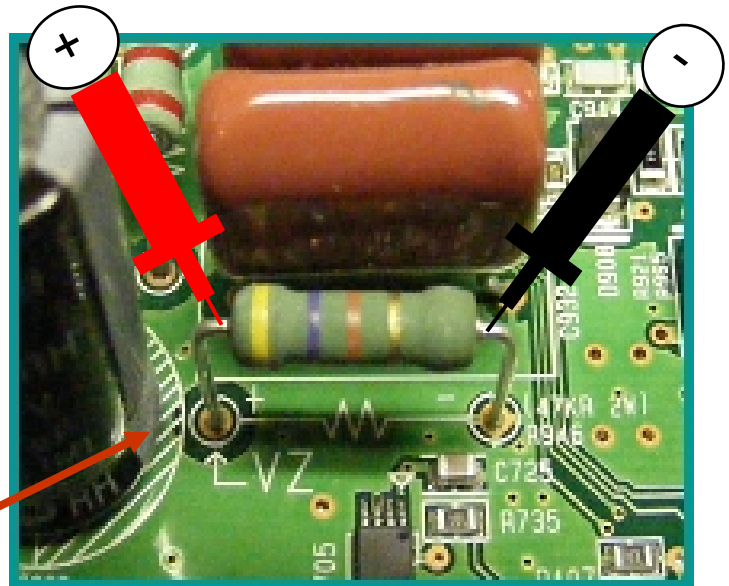
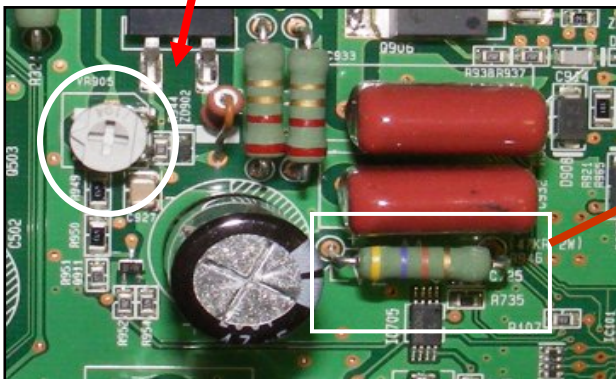
Max Watt : 330 W (Full White)

ZBias

## PROCEDURE: (See preceding page for locations)

- 1.) Place DC Volt meter on **VZB TP (Across R946 on the Y-SUS Board)**.
- 2.) Adjust **VZB (Z Bias) VR905** in accordance to your Panel's voltage label.

Z-Bias Adj  
VR905



Z-Bias TP  
R946

Bottom right side of Y-SUS PWB

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# 42G2 PLASMA PANEL

## QUICK REFERENCE

## ALIGNMENT HAND BOOK

### MODELS USING THE 42G2 PANEL

**42PQ20**

**42PQ30**



**LG**

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## 42G2 SMPS BOARD ADJUSTMENT POINTS

These two voltages are adjustable and should be adjusted to the correct values as indicated by the panel label.

Example shown in the outlined area below.

Always adjust “Highest to Lowest” voltages.

VS and VA adjustment resistors are shown in the drawing below.

They are located towards the top right hand side of the board.

VR901 is the VS adjustment pot.

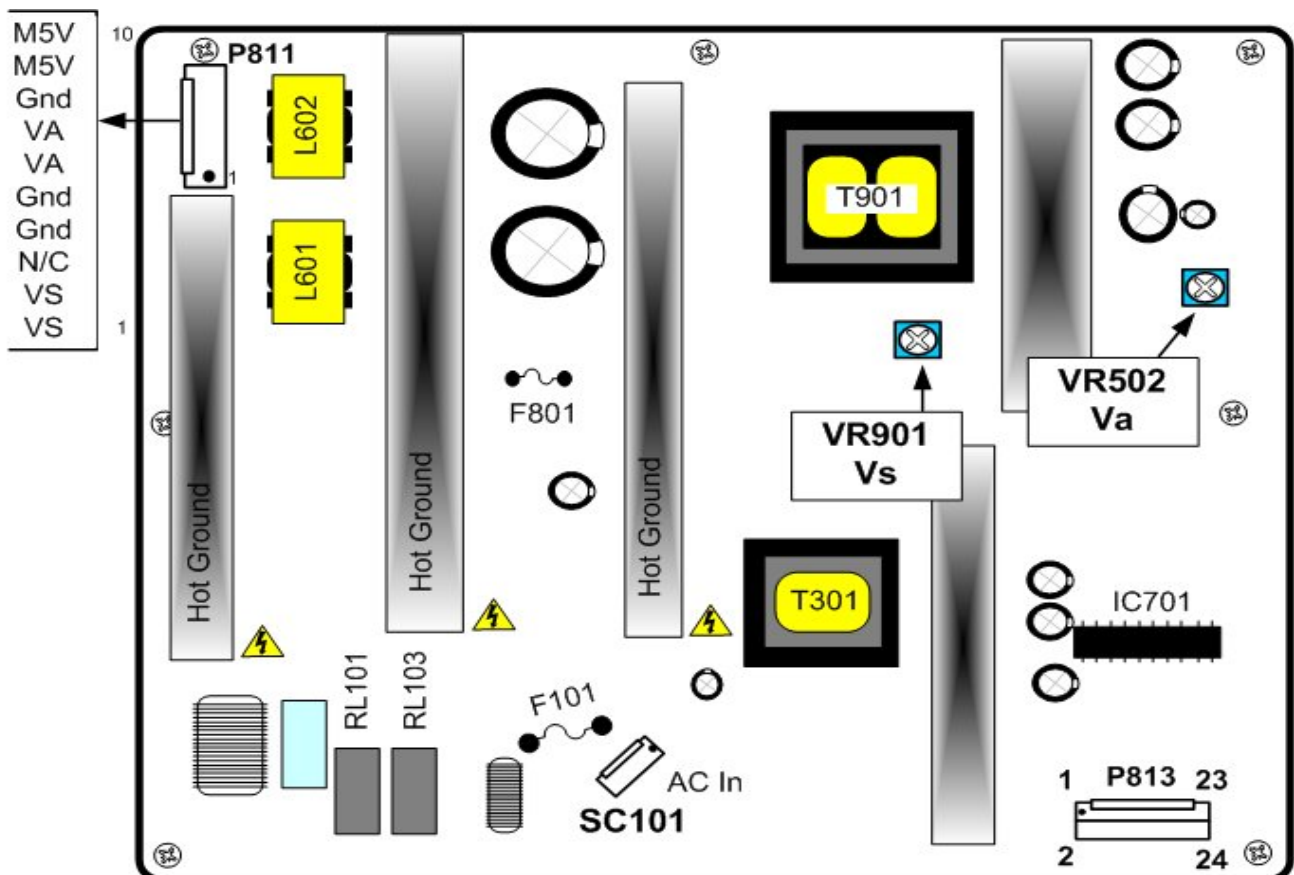
VR502 is the VA adjustment pot.

Set should be in “Full White Raster”

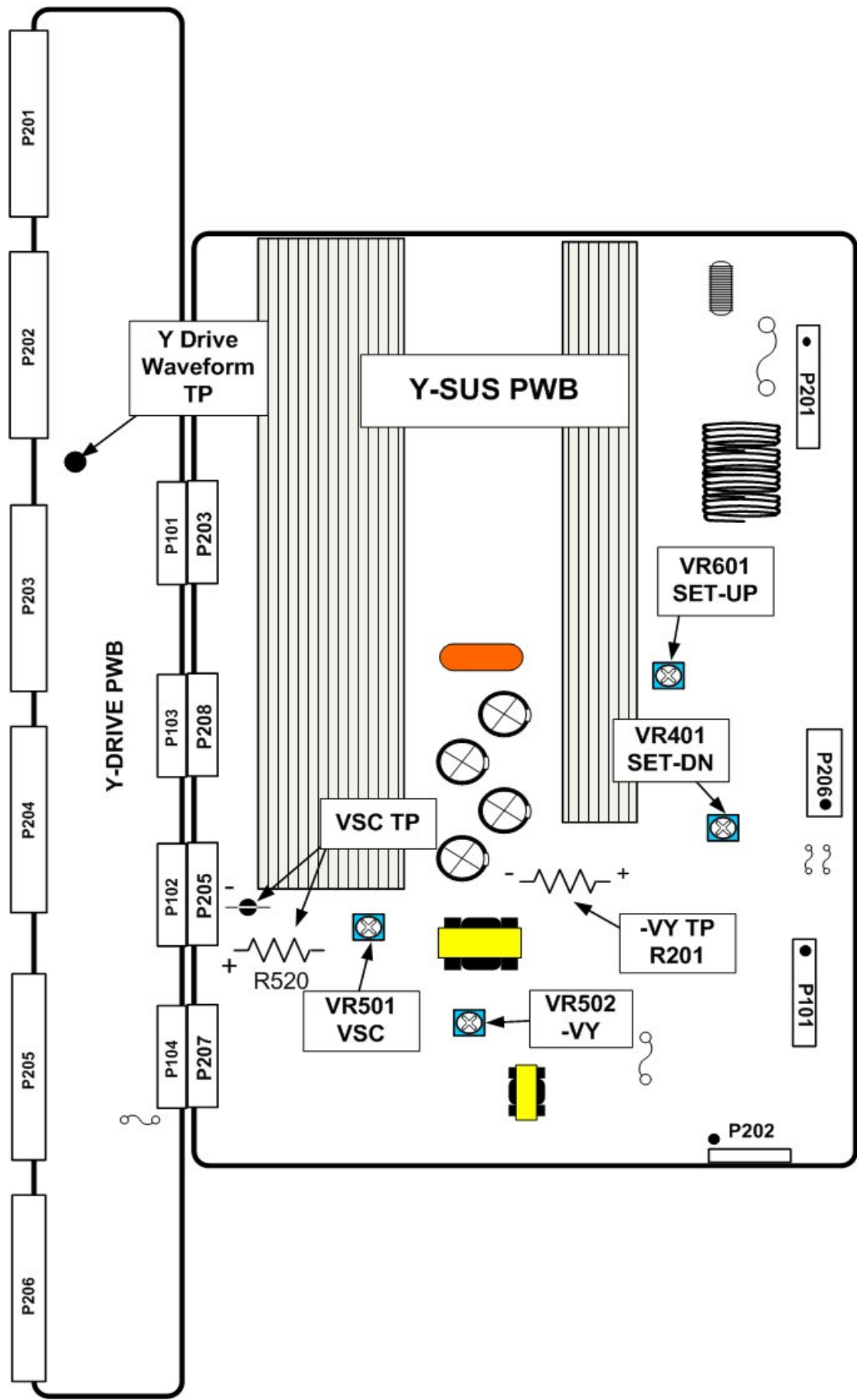
1) **VS ADJUST:** Connect DVM to pin 1 or 2 of P811. Adjust **VR901** until the voltage matches the panel's voltage label.

2) **VA ADJUST:** Connect DVM to pin 9 or 10 of P811. Adjust **VR502** until the voltage matches the panel's voltage label.

All measurements taken from Chassis Gnd.



# 42G2 Y-SUS BOARD ADJUSTMENT POINTS



## VSC and -Vy Voltage Adjustment Locations

These voltages are adjustable and Should be adjusted to the correct values as indicated by the panel's voltage label.

Example shown to the right.

Model : PDP 42G2####  
Voltage Setting: 5V / Va: 60V / Vs: 194V  
N.A. / -175 / 140 / N.A. / 80  
Max Watt : 330 W (Full White)

-Vy

VSC

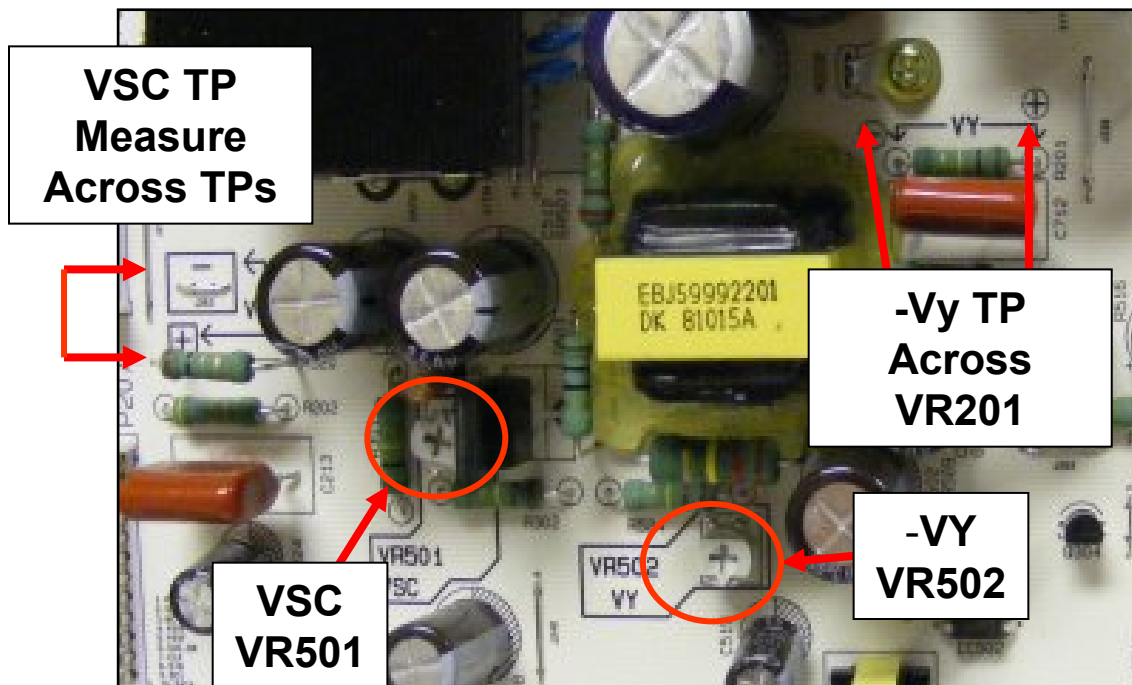
**-Vy (VR502)** variable resistor located bottom center of the board.

**Adjust the -Vy (VR502)** while reading across **R201**.

Match your specific panel's voltage label.

**VSC (VR501)** variable resistor located bottom center of the board.

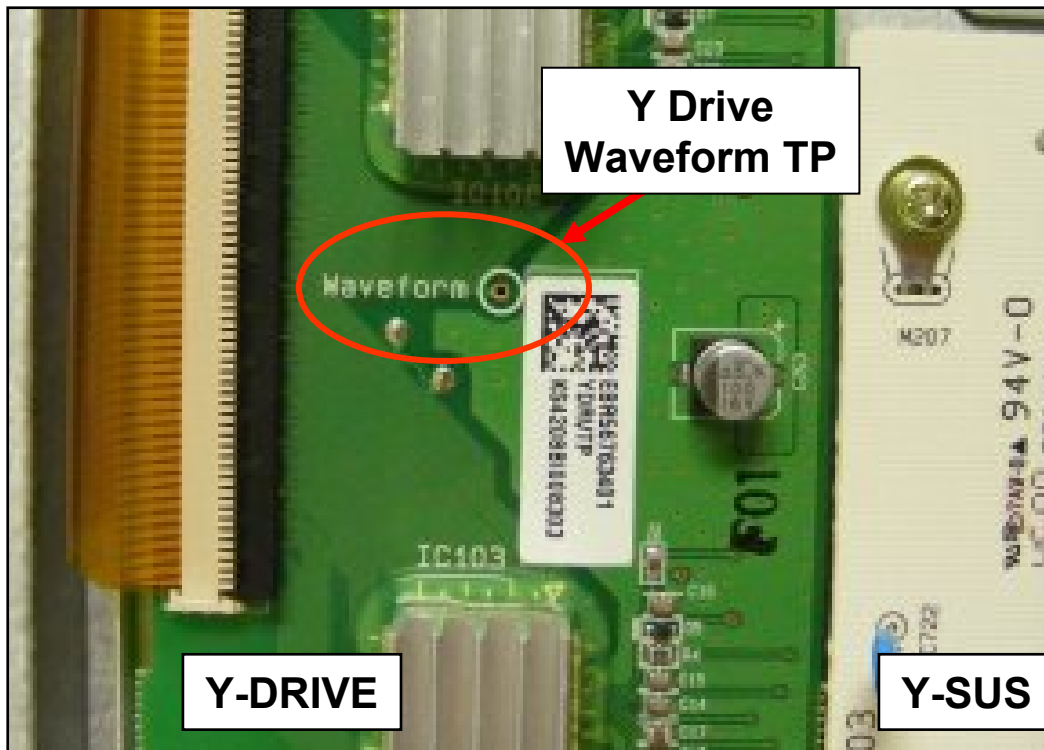
**Adjust the VSC (VR501)** while reading between left side **R520** and TP just above **R520**. Match your specific panel's voltage label.



## 42G2 Y-Drive Waveform Test Point

Figure 1 shows the Y-Drive PWB with the area of the Waveform TP outlined in the Red circle.

Use this TP for alignment of the Y-Drive signal using Set-Up and Set-Down adjustments shown on the next page.



(Fig. 1)

## 42G2 Y-DRIVE WAVEFORM ADJUSTMENT

VS, VA, VSC, -Vy should have been completed.

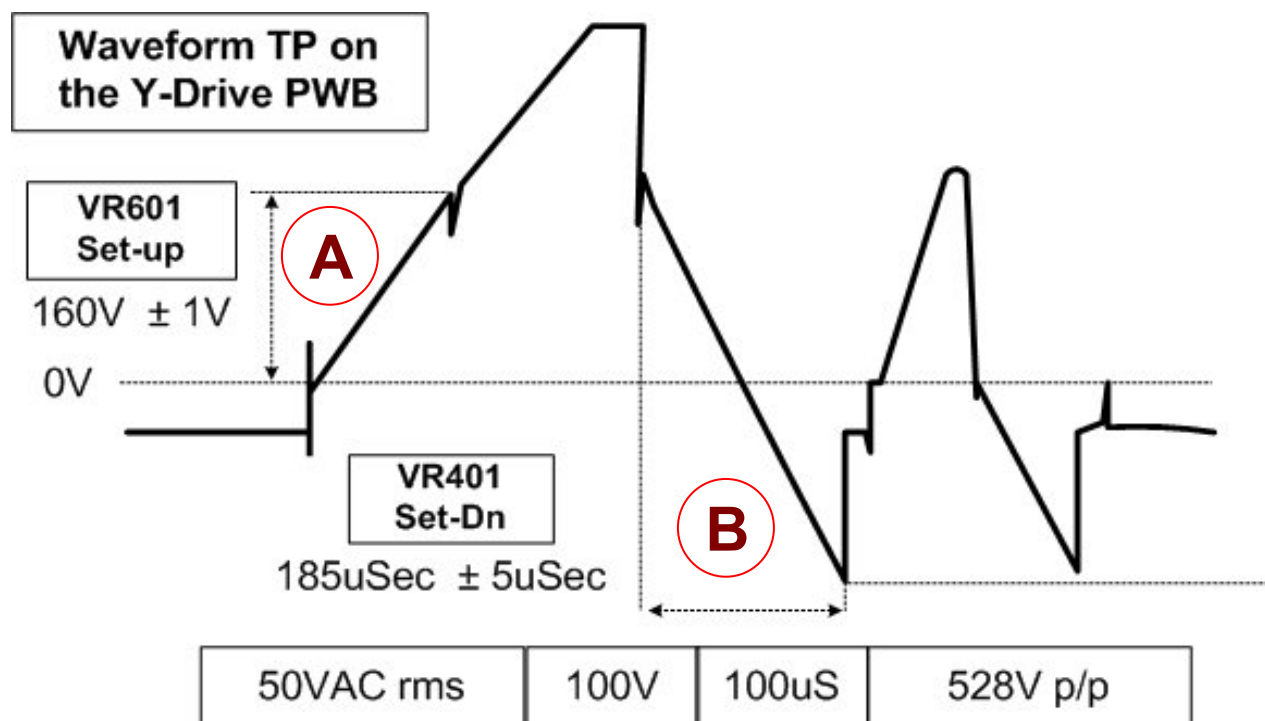
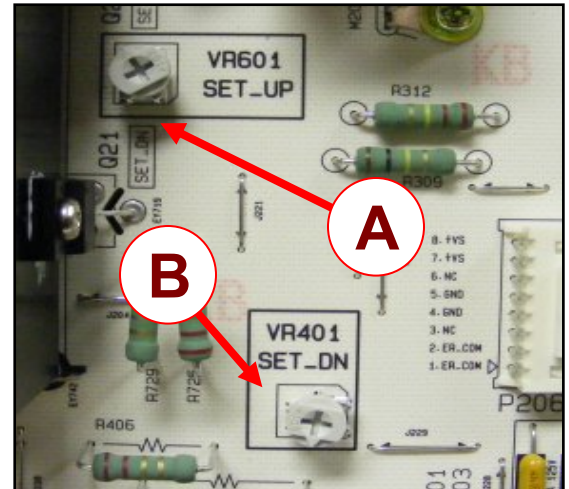
Using a Full White Raster, adjust the Set-up and Set-dn section of the Y-Drive waveform.

Oscilloscope TP "Waveform" TP on the Y-Drive PWB.

See Y-SUS Test Points and Adjustments diagram for locations.

**(A) Set-Up:** Adjust **VR601** while observing area (A) and set to **160V  $\pm$  1V**.

**(B) Set-Down:** Adjust **VR401** while observing area (B) and set to **185uSec  $\pm$  5uSec**.



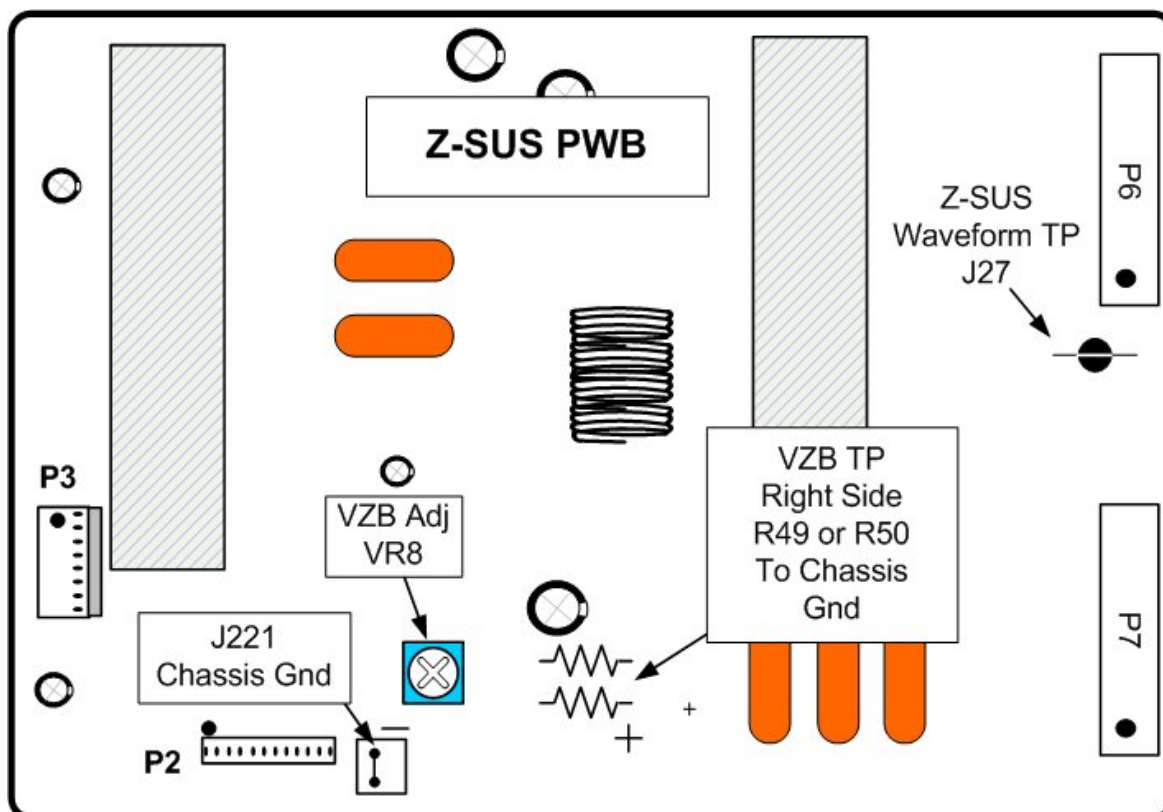
# 42G2 Z-SUS BOARD ADJUSTMENT POINTS

Model : PDP 42G2####  
Voltage Setting:5V / Va:60V / Vs:194V  
N.A. / -175 / 140 / N.A. / 80  
Max Watt : 330 W (Full White)

Z Bias

The above picture represents a 42G2 Panel Voltage Label. This is for an example only. You should adjust your set's Z-Bias adjustment to your specific Panel's Voltage Label not this book.

The picture below represents the 42G2 Z-SUS PWB. Use this for reference to locate the Adjustment control and the adjustment Test Points.





# 42G2 Z-SUS BOARD ADJUSTMENT POINTS

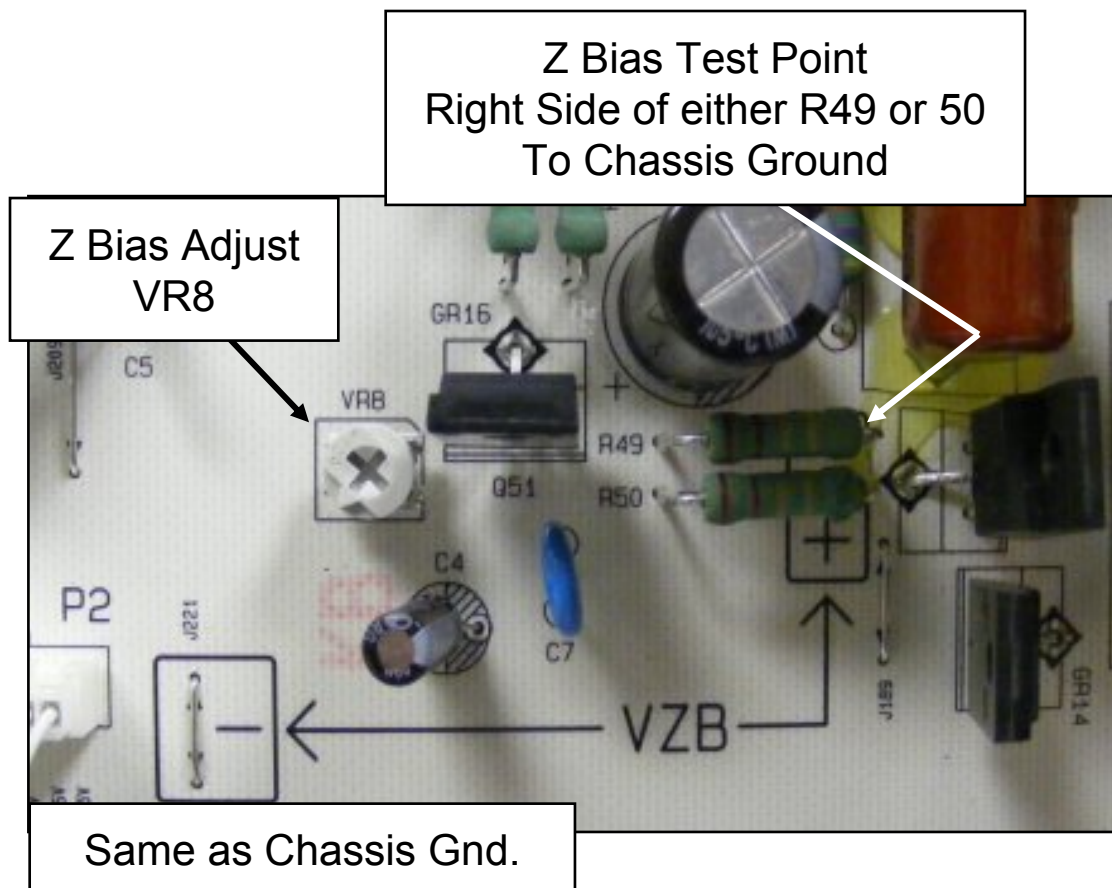
VS, VA, VSC, -Vy should have been completed.

Model : PDP 42G2####  
Voltage Setting:5V / Va:60V / Vs:194V  
N.A. / -175 / 140 / N.A. / **80**  
Max Watt : 330 W (Full White)

Z Bias

## Full White Raster

- 1) **Z-Bias TP:** Connect DVM (+) right side **R49 or R50** to Chassis Gnd.
- 2) Adjust **Z-Bias (VR8)** to match your specific panel's voltage label.



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# 42T1 PANEL

## QUICK REFERENCE

## ALIGNMENT HAND BOOK

**THE FOLLOWING MODELS USE THE 42T1 PANEL**

**42PJ350**



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## 42T1 SMPS BOARD ADJUSTMENT POINTS

Set should be in “White Wash”

These two voltages are adjustable and should be adjusted to the correct values as indicated by your Panel’s Voltage Label. Example shown on the right.

Example: Use Your Panel’s Label

Model : PDP 42T1###  
Voltage Setting: 5V/ **Va:60** / **Vs:205**  
N.A. / -195 / 145 / N.A. / 110  
Max Watt : 250 W (Full White)

VA VS  
VR502 VR901

Always adjust “Highest to Lowest” voltages.

VS and VA adjustment resistors are shown in the drawing below.

They are located at the top Right of the board.

### 1) VS ADJUST:

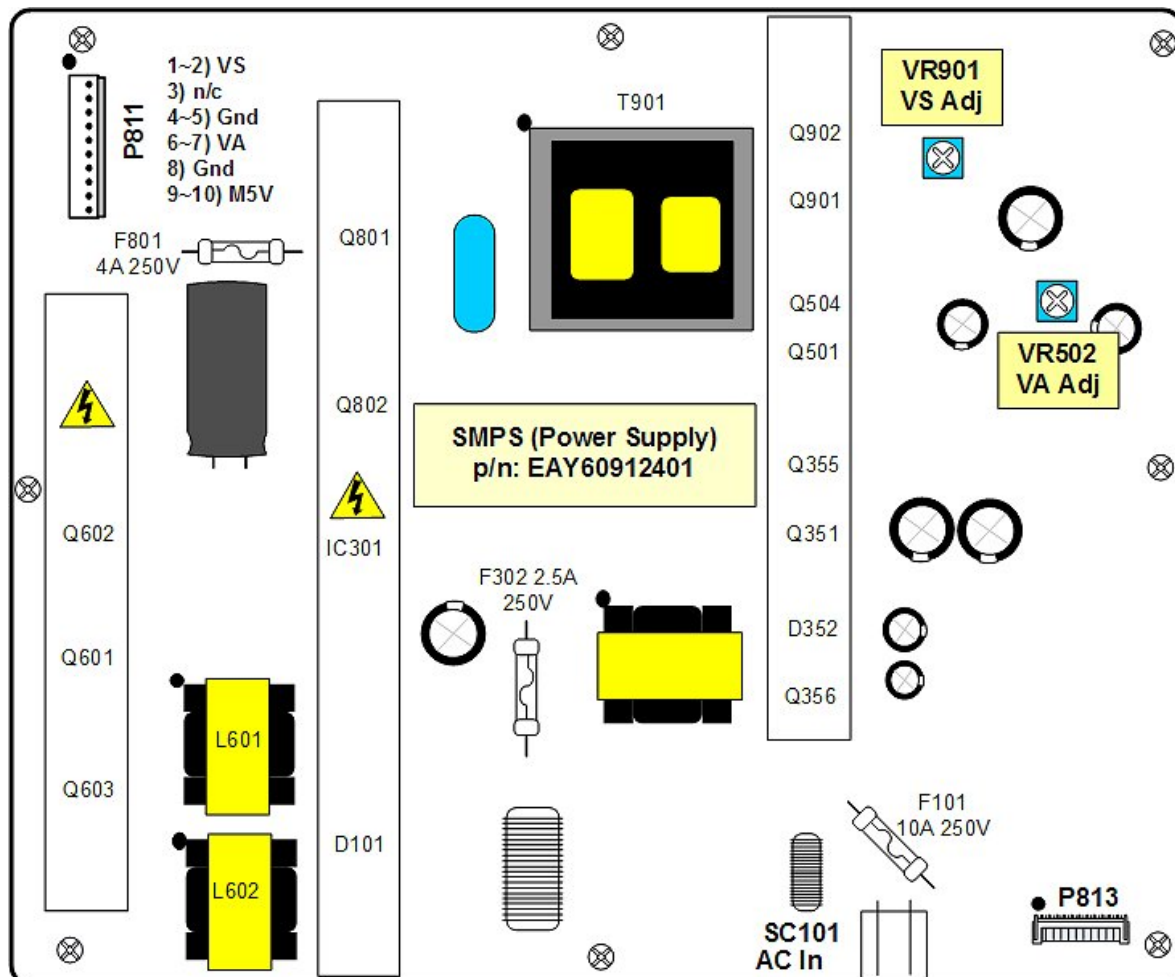
Connect DVM to VS Test Point or pins 1 or 2 of P811.

Adjust VR901 until the voltage matches your panel’s voltage label.

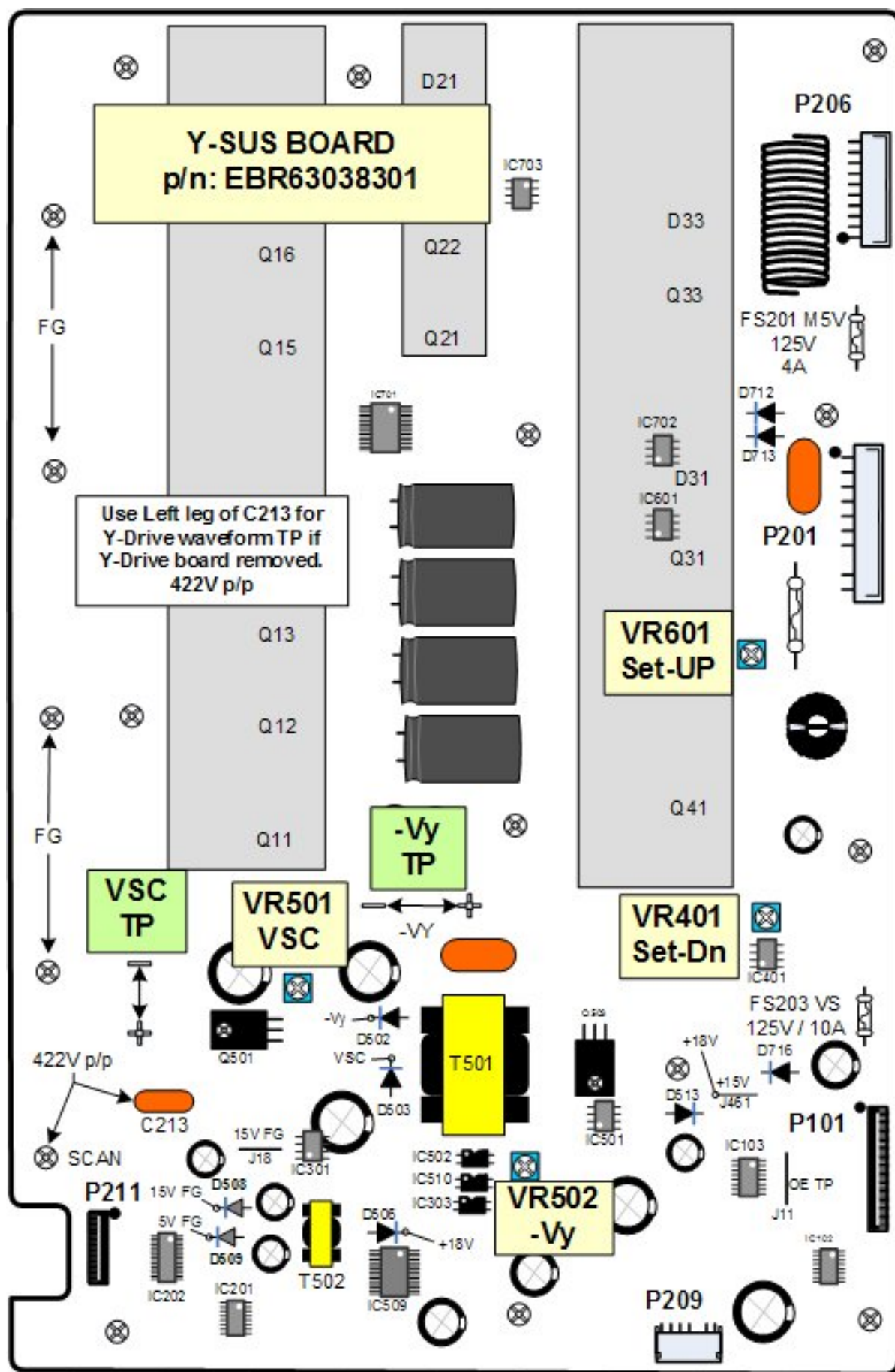
### 2) VA ADJUST:

Connect DVM to VA Test Point or pins 6 or 7 of P811.

Adjust VR502 until the voltage matches your panel’s voltage label.



## 42T1 PANEL





## 42T1 VSC, -Vy ADJUSTMENTS

### PREPARATION:

- 1) Pre-Heat unit for at least 10 Minutes before making adjustments.  
Vs and Va adjustments complete.
- 2) Place unit into White Wash from the Customer's Menu for all adjustments.
- 3) **Be sure to use all adjustment values as indicated on your panel's voltage label in the upper left of the panel.**

Example: Use Your Panel's Label

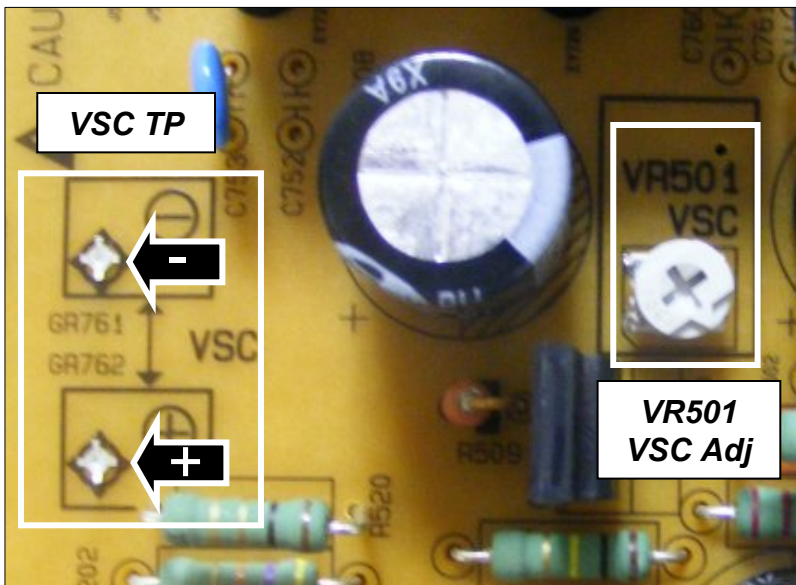
Model : PDP 42T1###  
Voltage Setting: 5V/ Va:60/ Vs:205  
N.A. / -195 / 145 / N.A. / 110  
Max Watt : 250 W (Full White)

-Vy VSC

**PROCEDURE:** (See figure below for locations).  
(See previous page for Location details)

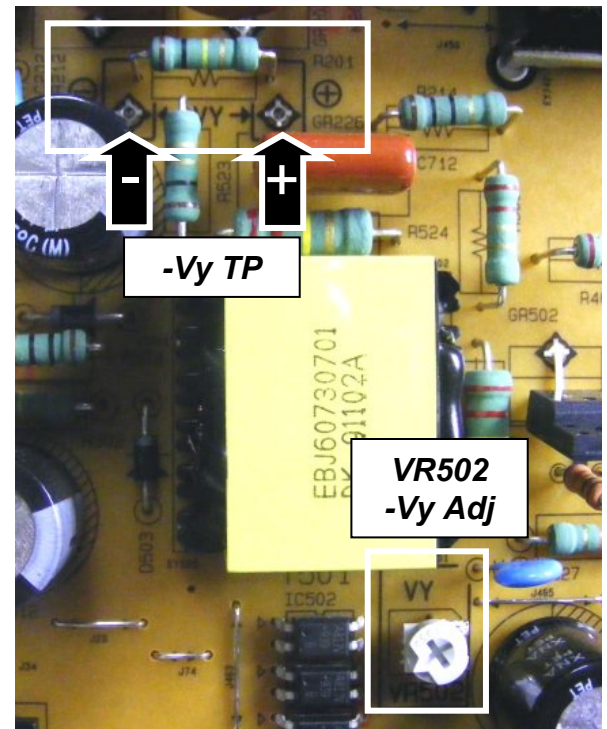
- 1) **Adjust -Vy VR502.** Measured across -Vy TPs.  
Match your specific Panel's Voltage label  $\pm 1V$ .
- 2) **Adjust VSC VR501.** Measured across VSC TPs.  
Match your specific Panel's Voltage label  $\pm 1V$ .

*Location: Bottom Left of board  
Just below Heat Sink*



Voltages Reads Positive

Voltages Reads Positive



*Location: Bottom Center of board  
Just below T501 Transformer*

## 42T1 Y Drive Waveform Test Point

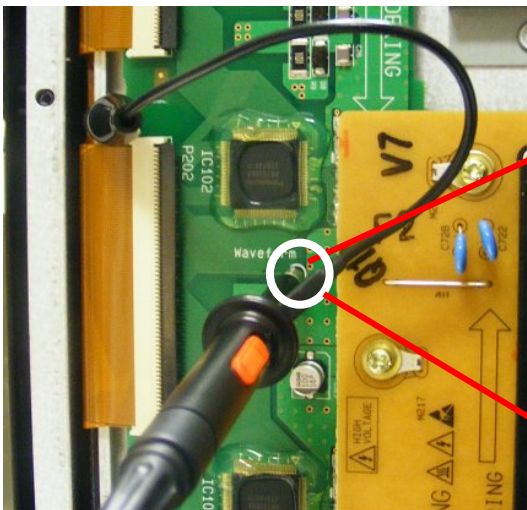
The figure below shows a close-up image of the Y-Drive waveform test point on the Y-Drive Upper board. (Waveform TP).

There is another on the Lower Y-Drive board.

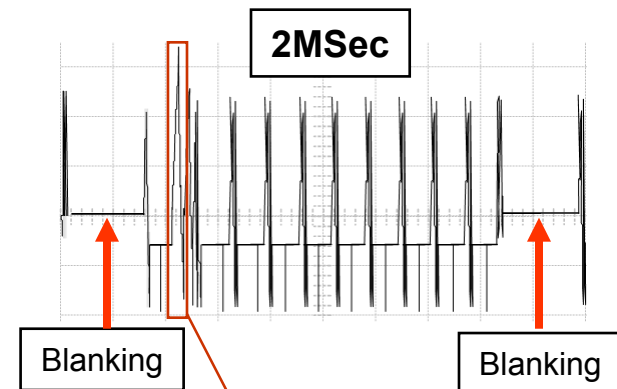
Set-Up and Set-Down portions of the waveform are adjusted using either of these Test Points.

**TP LOCATION UNDER 2<sup>nd</sup> BUFFER OF Y-DRIVE**  
(See next page for adjustment Details)

**Waveform TP**

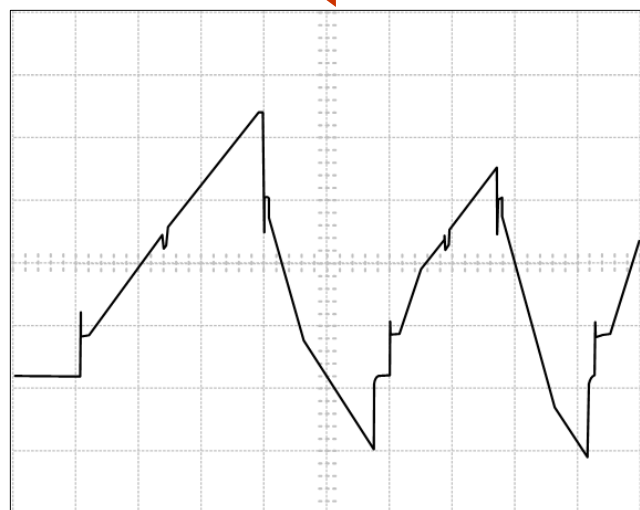


**Upper Y-Drive Board**



**69~72 VRms**

**540V p/p**



**100uSec**

## 42T1 Y-DRIVE WAVEFORM ADJUSTMENTS

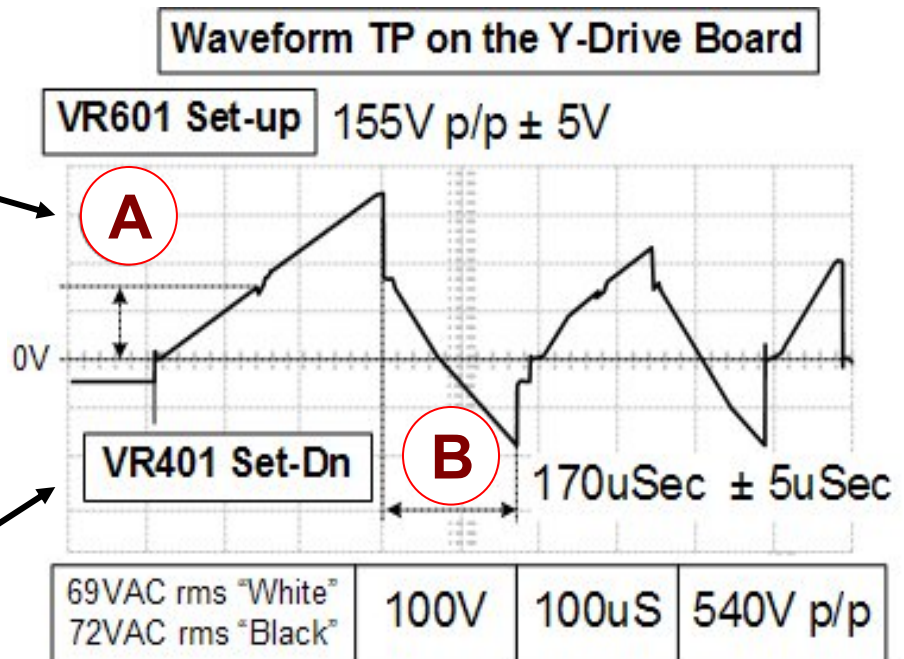
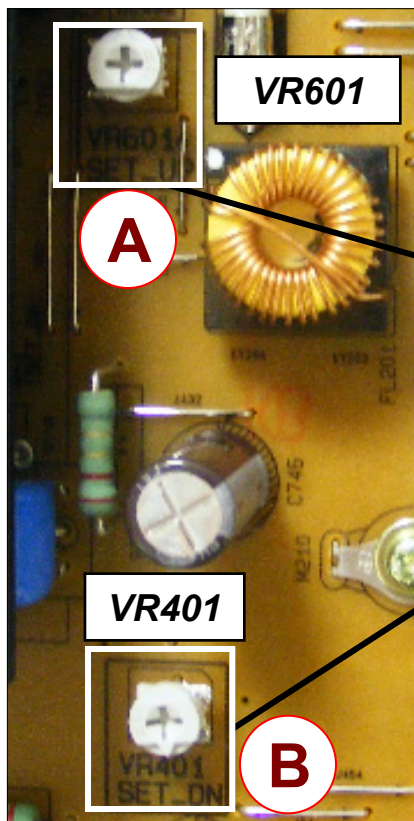
### PREPARATION:

- 1) Pre-Heat unit for at least 10 Minutes before making adjustments.  
Vs, Va, -Vy and VSC adjustments should be completed.
- 2) Place unit into **White Wash** from the Customer's Menu for all adjustments.

See figure below for adjustment locations.

### ADJUSTMENT LOCATIONS

(See 3 pages back for Waveform TP locations)



ADJUSTMENT LOCATION:  
Center Right of the board.

### SET-UP ADJUST:

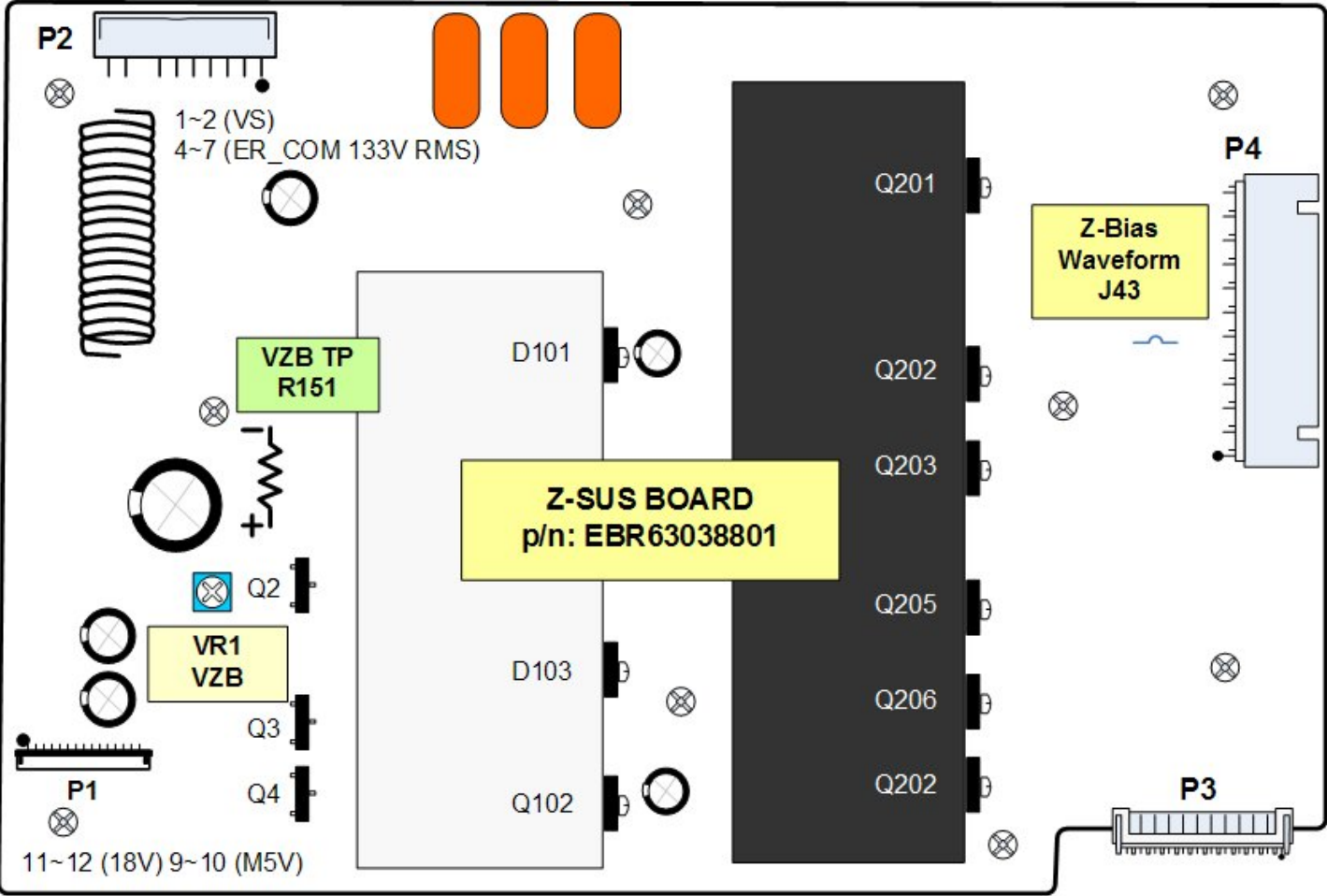
- 1) Adjust VR601 and set the (A) portion of the signal to match the waveform above. (155V p/p  $\pm 5V$ )

### SET-DN ADJUST:

- 2) Adjust VR401 and set the (B) time of the signal to match the waveform above. (170uSec  $\pm 5uSec$ )



42T1 Z-SUS ADJUSTMENT POINTS



# 42T1 Z-SUS (Z-Bias) ADJUSTMENT:

## PREPARATION:

- 1) Pre-Heat unit for at least 10 Minutes before making adjustments.
- 2) Place unit into White Wash from the Customer's Menu for all adjustments.

Example: Use Your Panel's Label

Model : PDP 42T1###  
 Voltage Setting: 5V/ Va:60/ Vs:205  
 N.A. / -195 / 145 / N.A. / **110**  
 Max Watt : 250 W (Full White)

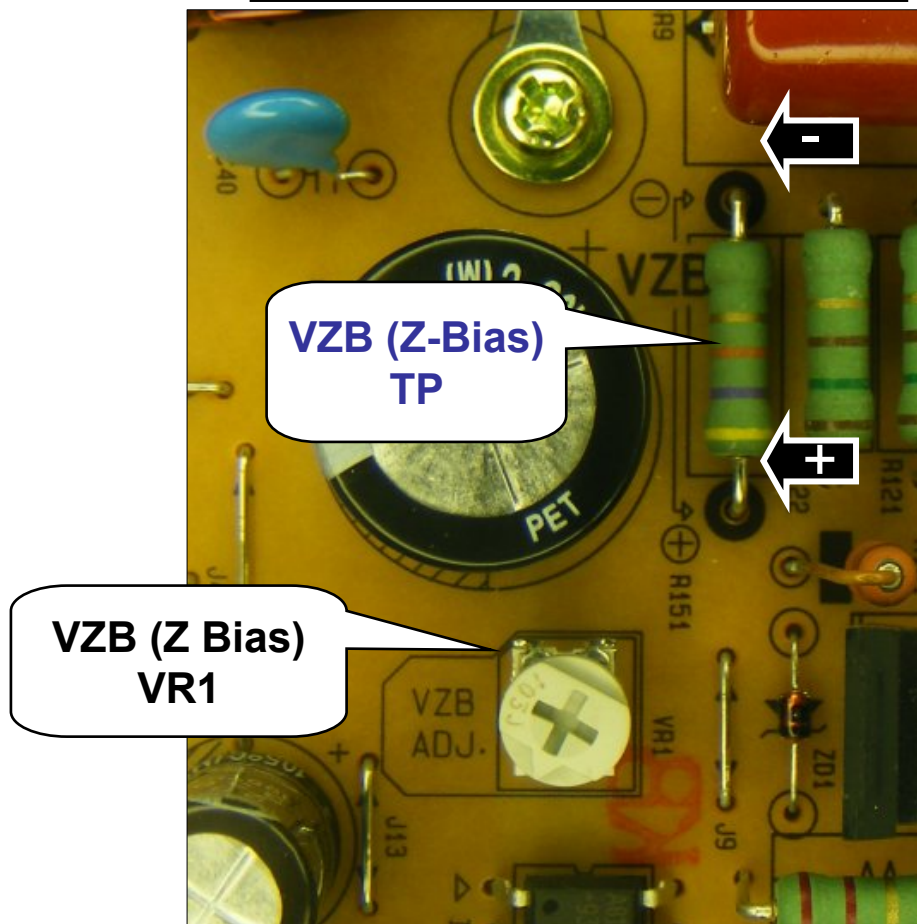
Vzb

- 3) Be sure to use all adjustment values as indicated on the panel voltage label in the upper left hand corner of the panel.

**PROCEDURE:** (See preceding page for locations)

1. Place DC Volt meter between VZB TP.
2. Adjust VZB (Z Bias) VR1 in accordance with your Panel's voltage label.

**Location**  
**Bottom Left of Z-SUS Board**



# 42V7 PLASMA PANEL

## QUICK REFERENCE

## ALIGNMENT HAND BOOK

### MODELS USING THE 42V7 PANEL

**42PC3DVUD**

**42PM2DS / 2DW**

**42PM3MVATA / MVHMC / MVMC / MVTA / MVZA**

**42PM3RV / RV1NC / RVA / RVANC / RVNC / RVS / RVW**

**42PX3DV / DVA / DVANC / DVAW /**

**42PX3DVB / DVBNC / DVBW**

**42PX3DVNC / DVW**

**42PX3RVMC / RVZA**

**42PX4DVAZC / DVEA / DW**

**42PX4MVHTA**

**42PX4RVHTA / RVMC / RVTA / RVZA**



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# 42V7 SMPS BOARD ADJUSTMENT POINTS

## Part Number: 6709V00003A

These two voltages are adjustable and should be adjusted to the correct values as indicated by the panel label.

Example shown below just above the PWB drawing.

Always adjust “Highest to Lowest” voltages.

VS and VA adjustment resistors are shown in the drawing below.

They are located at the top left of the board.

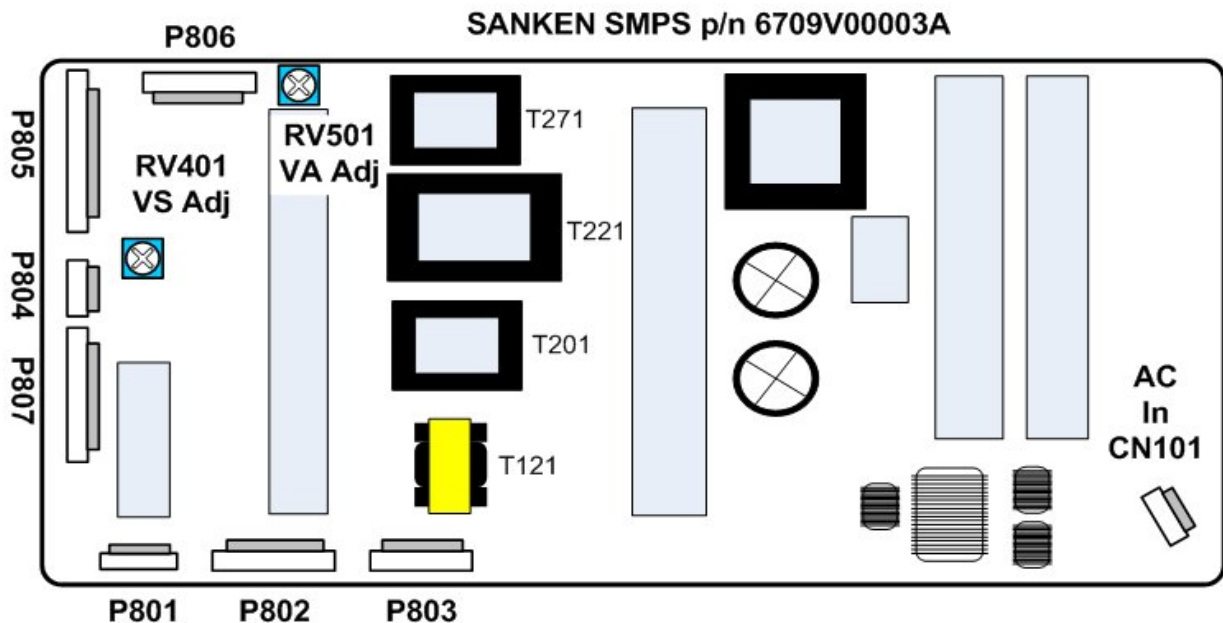
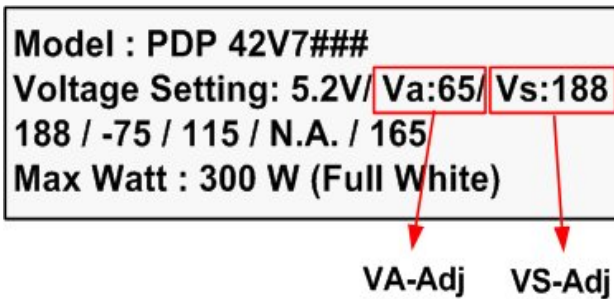
RV401 is the VS adjustment pot.

RV501 is the VA adjustment pot.

Set should be in “Full White Raster”

1) **VS ADJUST:** Connect DVM to pin 1, 2 or 3 of P805. Adjust RV401 until the voltage matches the panel’s voltage label.

2) **VA ADJUST:** Connect DVM to pin 9 or 10 of P805. Adjust RV501 until the voltage matches the panel’s voltage label.



# 42V7 SMPS BOARD ADJUSTMENT POINTS

Part Number: EAY32808901

These two voltages are adjustable and should be adjusted to the correct values as indicated by the panel label.

Example shown below just above the PWB drawing.

Always adjust “Highest to Lowest” voltages.

VS and VA adjustment resistors are shown in the drawing below.

They are located at the top left of the board.

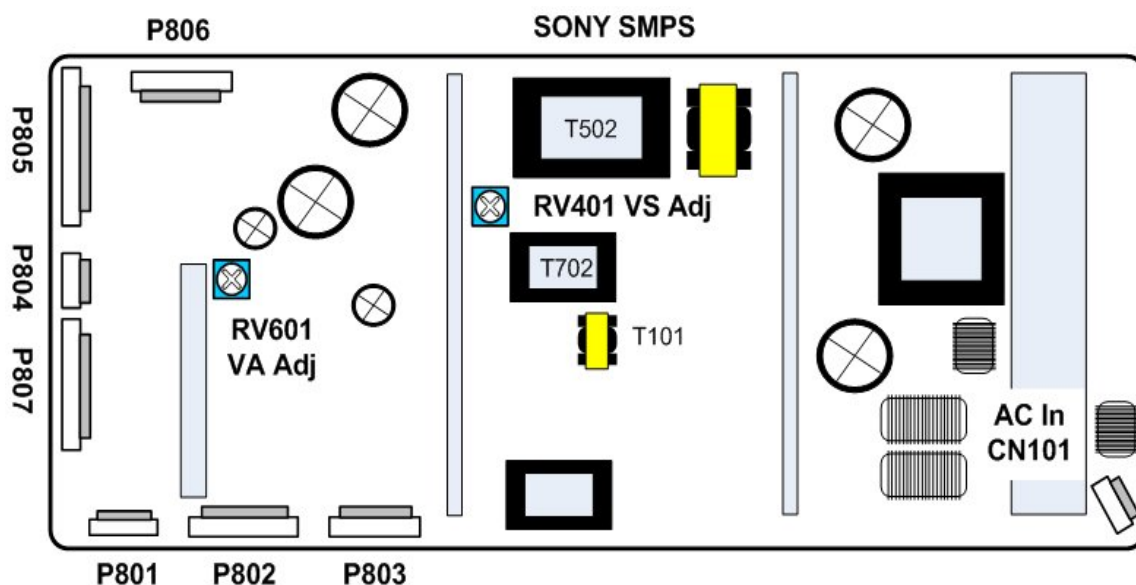
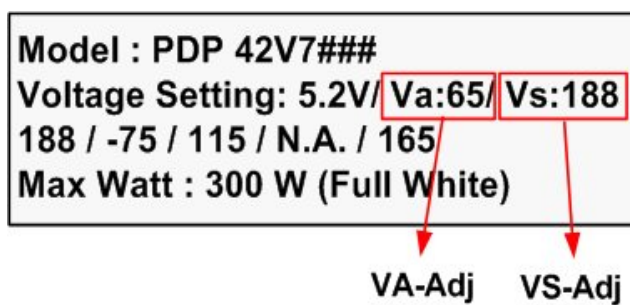
RV401 is the VS adjustment pot.

RV601 is the VA adjustment pot.

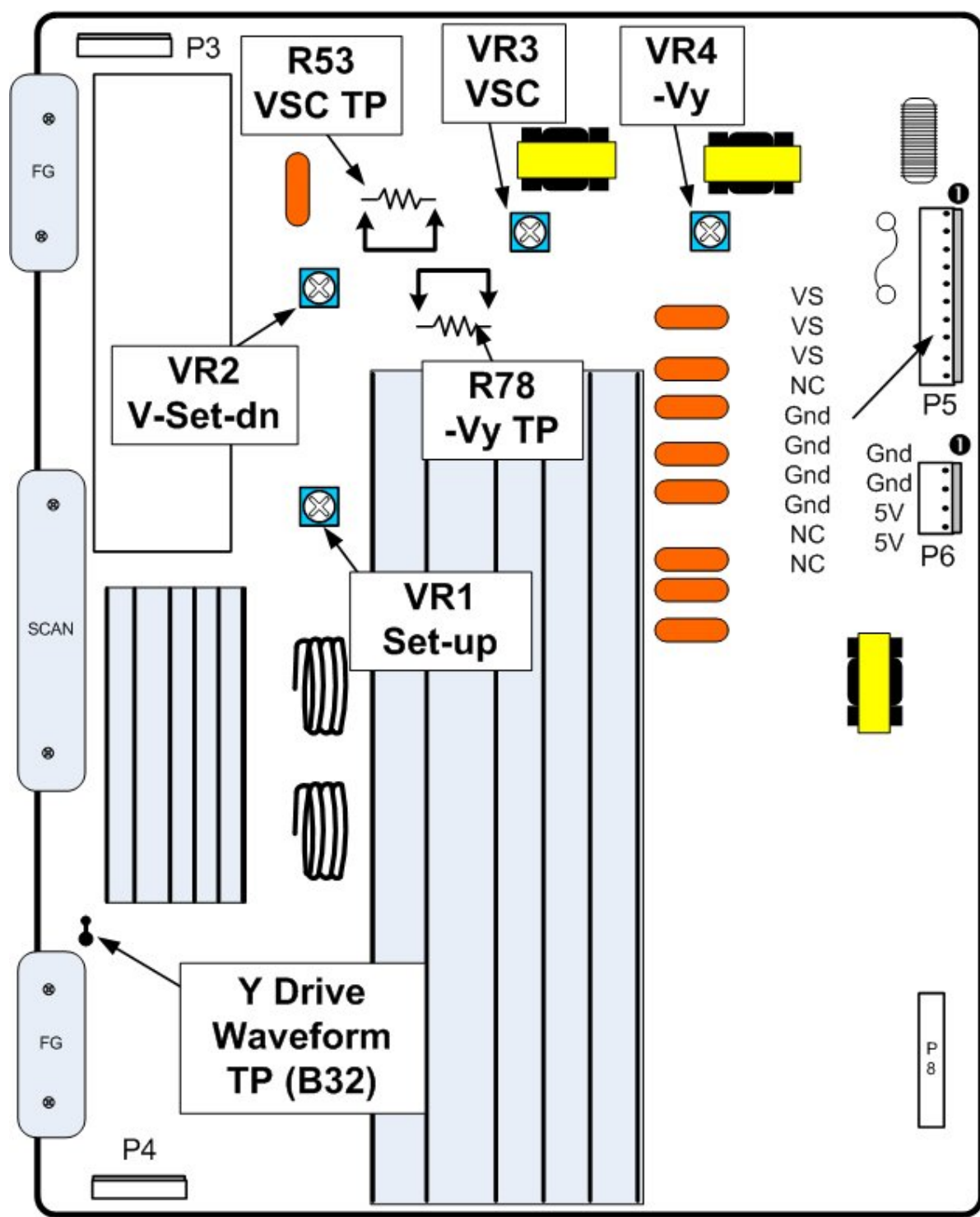
Set should be in “Full White Raster”

1) **VS ADJUST:** Connect DVM to pin 1, 2 or 3 of P805. Adjust **RV401** until the voltage matches the panel's voltage label.

2) **VA ADJUST:** Connect DVM to pin 9 or 10 of P805. Adjust **RV601** until the voltage matches the panel's voltage label.



# 42V7 Y-SUS BOARD ADJUSTMENT POINTS



42V7 PANEL



## VSC and -Vy Voltage Adjustment Locations

These voltages are Adjustable and should be adjusted to the correct values as indicated by the panel's voltage label.

Example shown in the top right.

Model : PDP 42V7###  
Voltage Setting: 5.2V/ Va:65/ Vs:188  
188 / -75 / 115 / N.A. / 165  
Max Watt : 300 W (Full White)

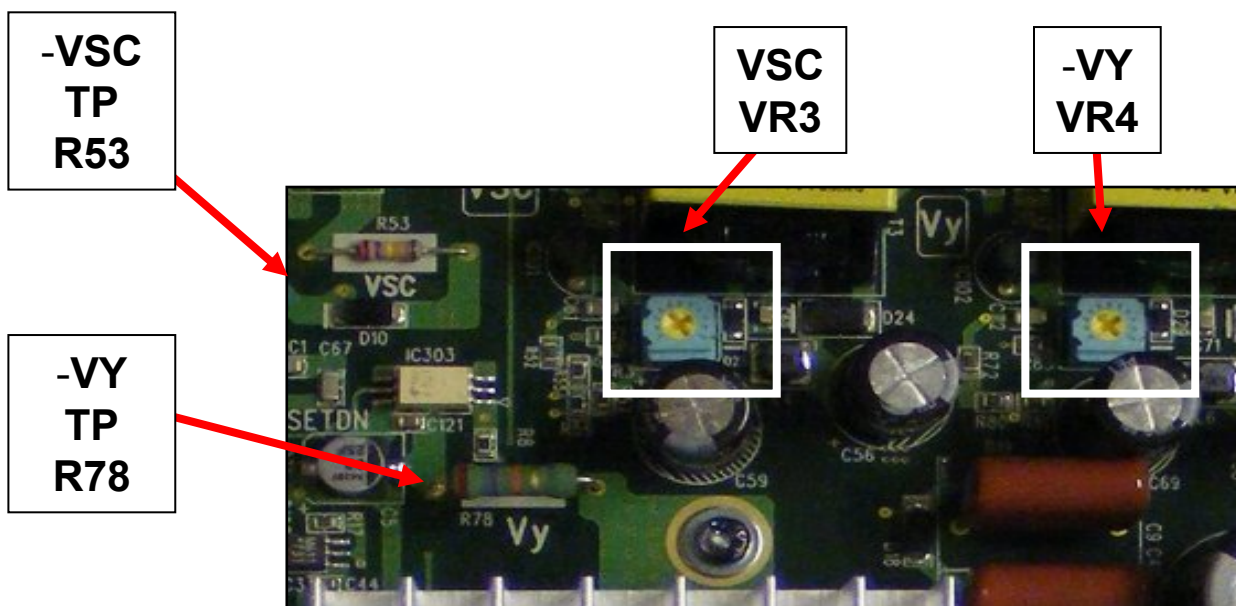
-Vy      VSC

**VSC (VR3)** adjustment resistor located top center of the board is shown in the picture below.

Adjust the **VSC (VR3)** while reading across R53 until voltage matches the panel's voltage label.

**-Vy (VR4)** adjustment resistor located top center of the board is shown in the picture below.

**Adjust the -Vy (VR4)** while reading across R78 until voltage matches the panel's voltage label.



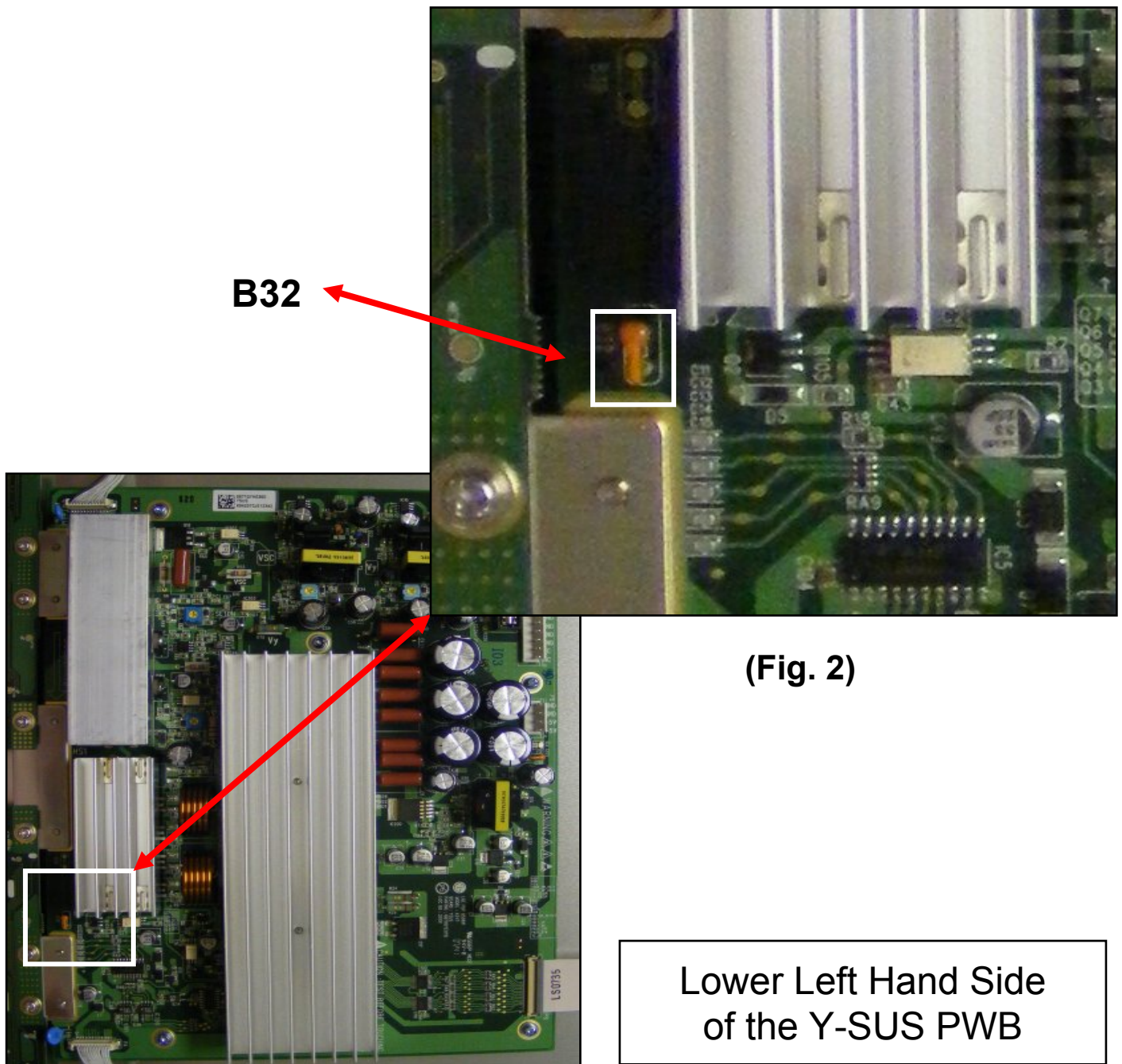


## 42V7 Y-Drive Waveform Test Point

Figure 1 shows the Y-SUS PWB with the area of the Waveform TP outlined in the white box.

Figure 2

Shows a close-up image of the Y-Drive waveform test point **B32**.



(Fig. 1)

(Fig. 2)

Lower Left Hand Side  
of the Y-SUS PWB

## 42V7 Y-DRIVE WAVEFORM ADJUSTMENT

VS, VA, VSC, -Vy should have been completed.

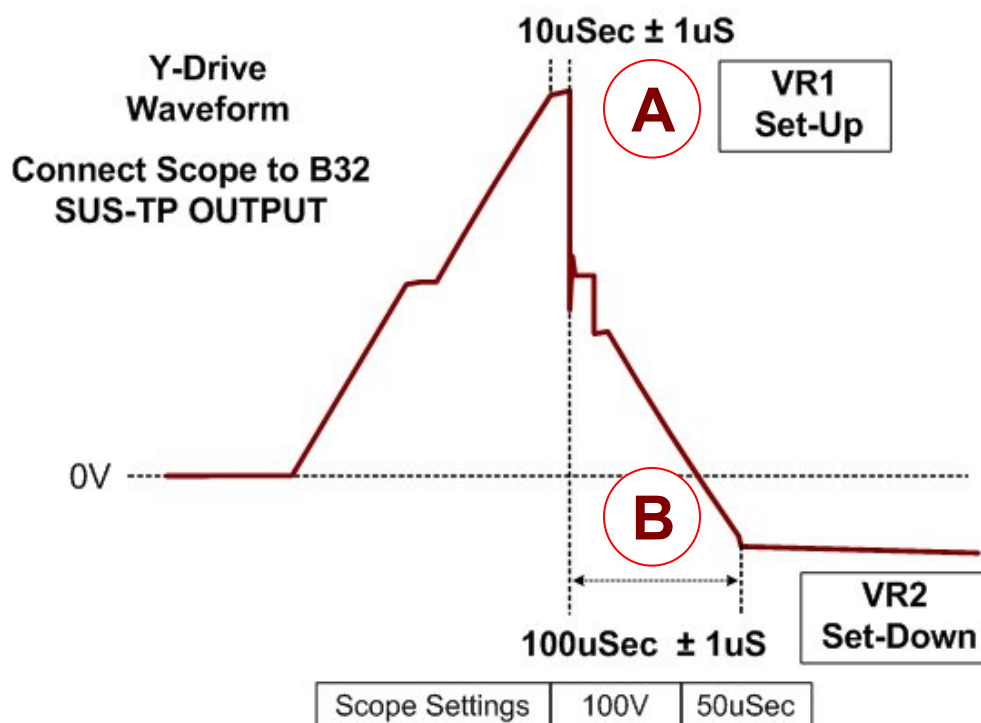
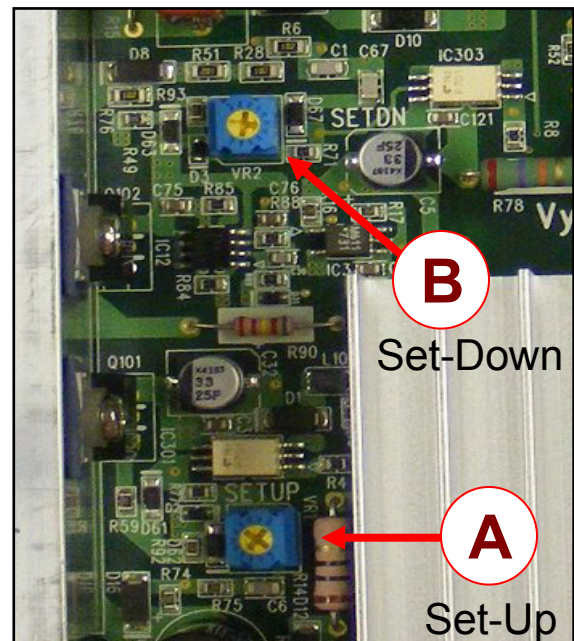
Using a Full White Raster, adjust the Set-up and Set-dn section of the Y-Drive waveform.

Oscilloscope TP B32 on the "Waveform" TP on the Y-SUS PWB.

**(A) Set-Up:** Adjust **VR1** while observing area **(A)** and set to **10uSec  $\pm$  1uSec**.

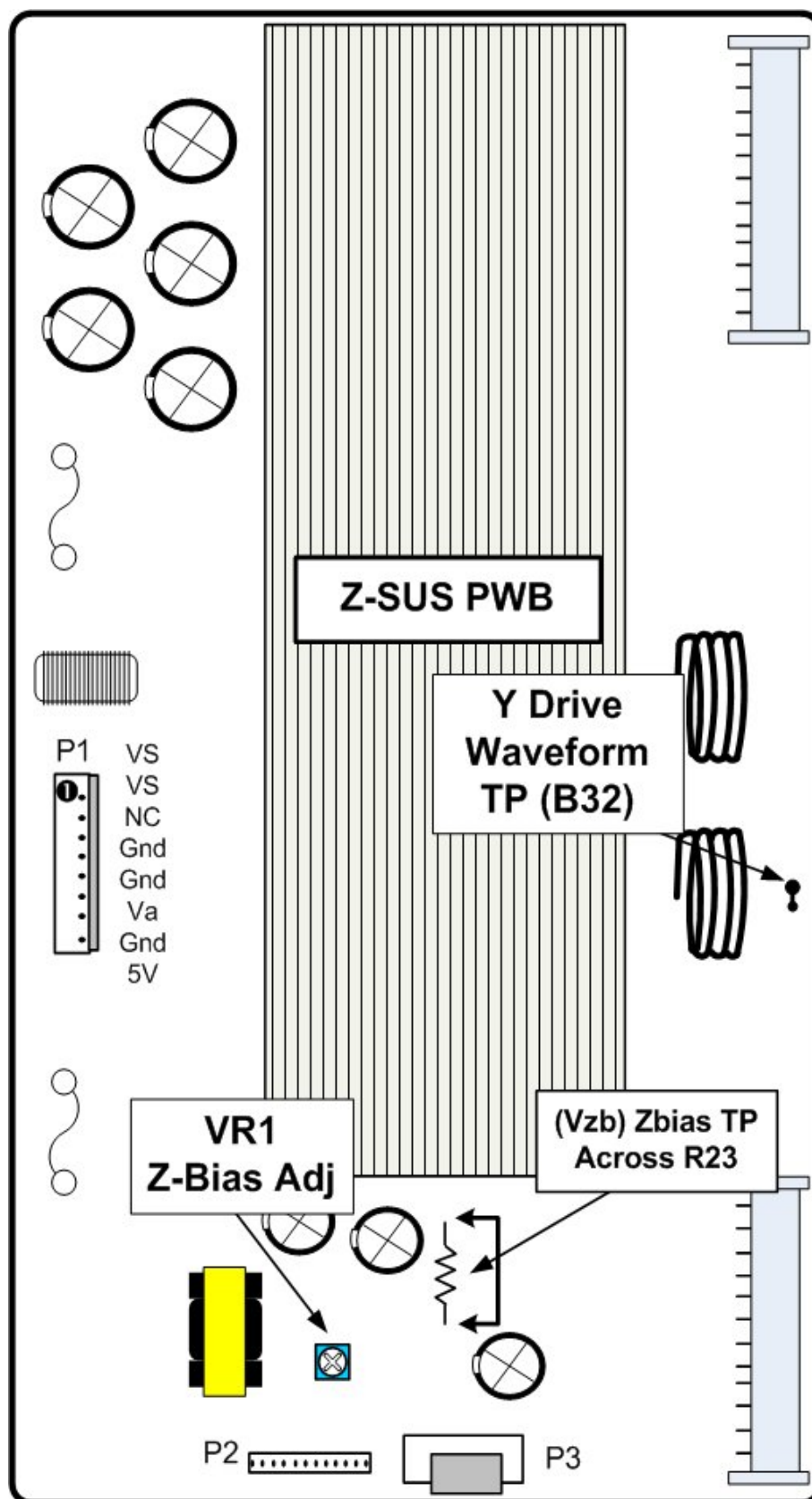
**(B) Set-Down:** Adjust **VR2** while observing area **(B)** and set to **100uSec  $\pm$  1uSec**.

See Y-SUS Test Points and Adjustments diagram for locations.



After adjustment, please recheck VS, VA, VSC, -Vy and Z-bias.

# 42V7 Z-SUS BOARD ADJUSTMENT POINTS





# 42V7 Z-SUS PWB ADJUSTMENT POINTS

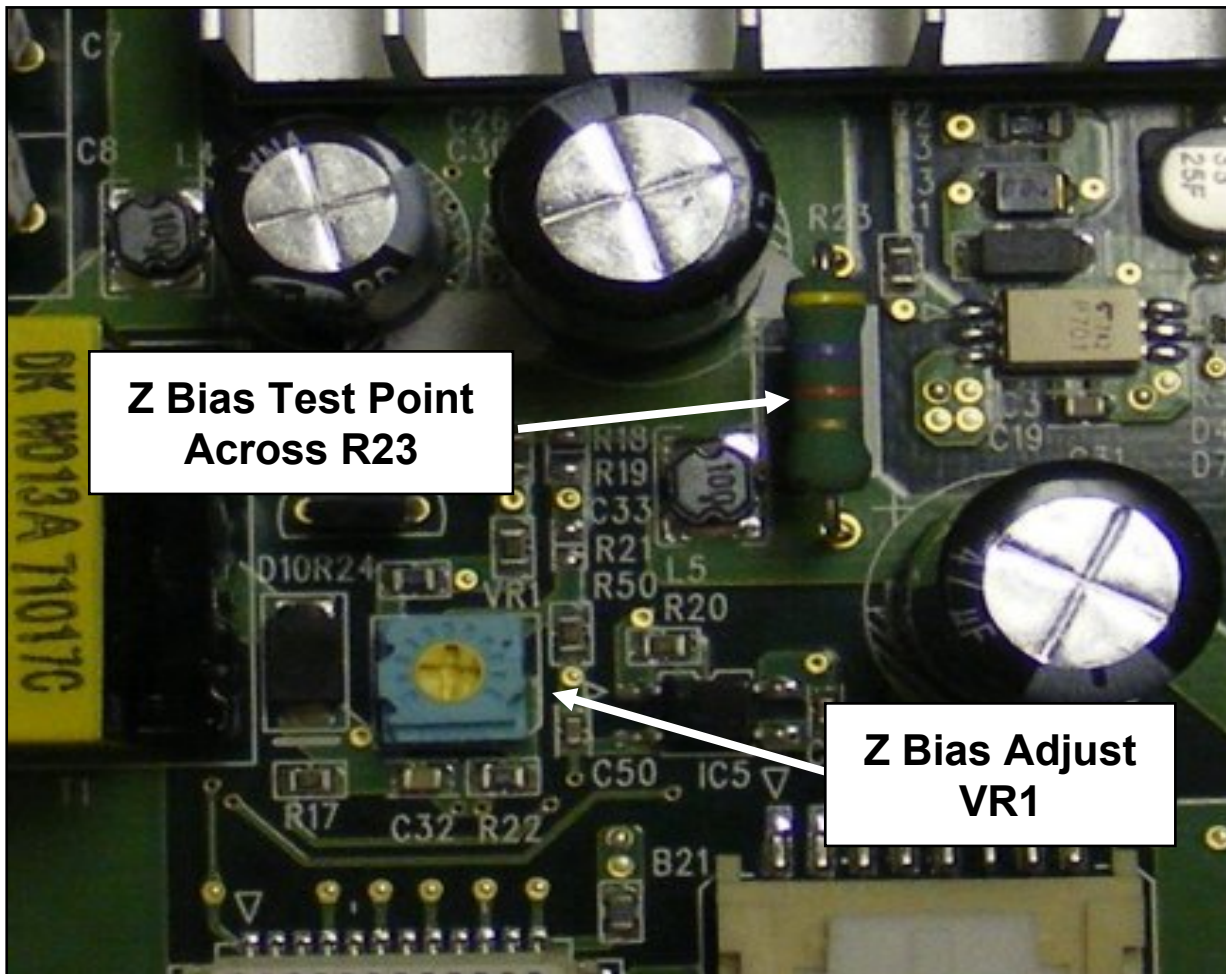
VS, VA, VSC, -Vy should have been completed.

Model : PDP 42V7###  
Voltage Setting: 5.2V/ Va:65/ Vs:188  
188 / -75 / 115 / N.A. / **165**  
Max Watt : 300 W (Full White)

Zbias

## Full White Raster

- 1) **Z-Bias TP:** Connect DVM across **R23**.
- 2) **Adjust Z-Bias (VR1)** to match the panel's voltage label.



Bottom of the Y-SUS Board

# 42X2 and 42X2A PANEL

## QUICK REFERENCE

### ALIGNMENT SECTION

#### THE FOLLOWING MODELS USE THE 42X2 PANEL

DN42PX12X	MZ42PM12X
DN42PX13X	MZ42PZ92XV
DN42PX13XW	RP42PY10X
DN42PX40X	RT42PX12X
DN42PY10X	RT42PY10X
DN42PY11X	RZ42PX12X
DN42PY11X	RZ42PY10X
DN42PZ66	
DN42PZ75	
DT42PY10X	
DU42PX12X	
DU42PY10X	
MN42PZ95XV	
MU42PM12X	
MU42PZ90XV	

#### THE FOLLOWING MODELS USE THE 42X2A PANEL

42PM2D	42PX5D
42PX2DUC	42PX5DEB
42PX4DGS	42PX5RTB
42PX4DGS2	DN42PX12
42PX4DGW	
42PX4DNA	
42PX4DR	
42PX4DR	
42PX4DRK	
42PX4DRKNA	
42PX4DRKS	
42PX4DRKW	
42PX4DRW	
42PX4DS	
42PX4DUB	



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## 42X2 SMPS BOARD ADJUSTMENT POINTS

Set should be in “White Wash”

These voltages are adjustable and should be adjusted to the correct values as indicated by your Panel’s Voltage Label. Examples shown on the right.

Always adjust “Highest to Lowest” voltages.

Adjustment resistors are shown in the drawing below.

They are located at the top Right of the board.

Note: Your Board may vary in appearance.

### 1) 3.4V ADJUST:

Connect DVM to Pin 1 or 2 of P802

Adjust VR251 (3.4V Adj) until the DVM reads 3.4V

### 2) 6V ADJUST:

Connect DVM to Pin 5 or 6 of P802

Adjust VR280 (6V Adj) until the DVM reads 6V

### 3) 5V ADJUST:

Connect DVM to Pin 3 of P801

Adjust VR159 (5V Adj) until the DVM reads 5V

### 4) 19V ADJUST: (Audio)

Connect DVM to Pin 1 or 2 of P803

Adjust (19V Adj) pot until the DVM reads 19V

### 5) VS ADJUST:

Connect DVM to Pin 9 or 10 of P805

Adjust VR551 and match your label.

### 6) VA ADJUST:

Connect DVM to Pin 1 or 2 of P803

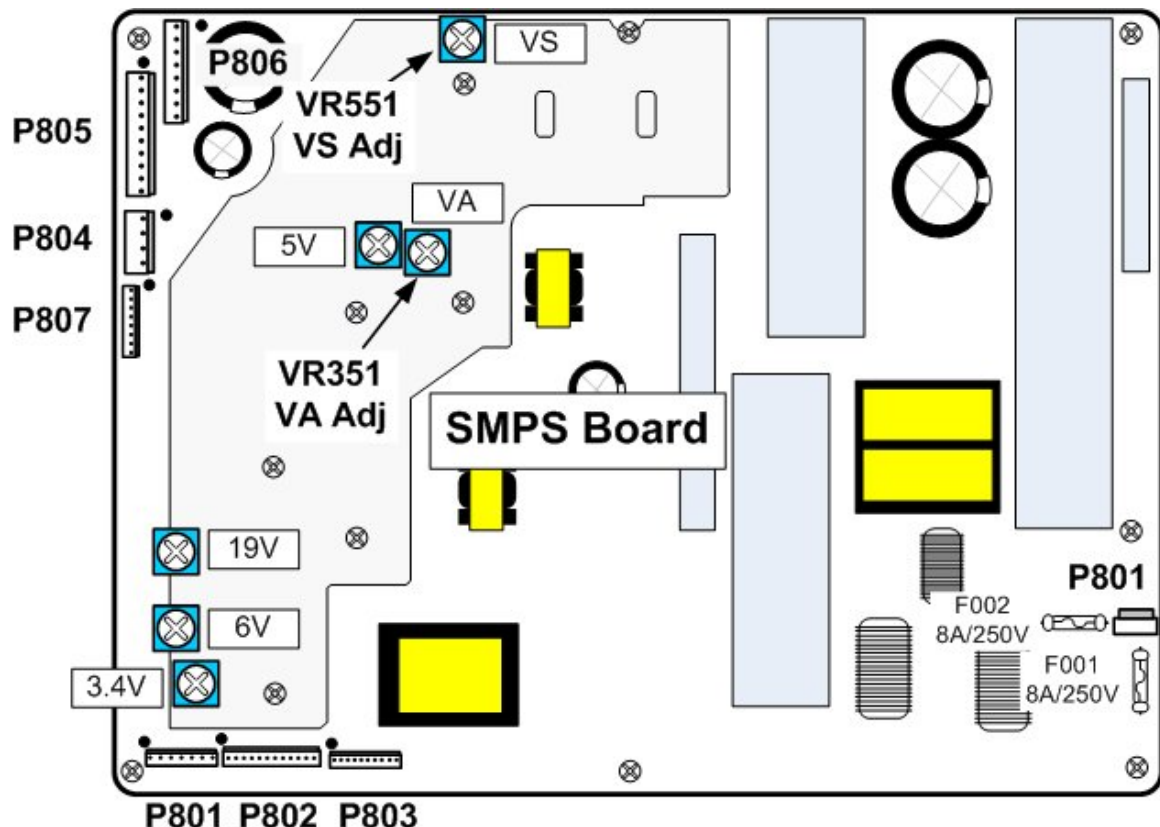
Adjust VR351 (VS Adj) and match your label

Model : PDP 42X2###  
All Voltage: DC (=) 5.2V  
Va : 60V Vs : 200V  
90 / -200 / 120 / N.A. / 90  
Max Watt : 330 W (Full White)

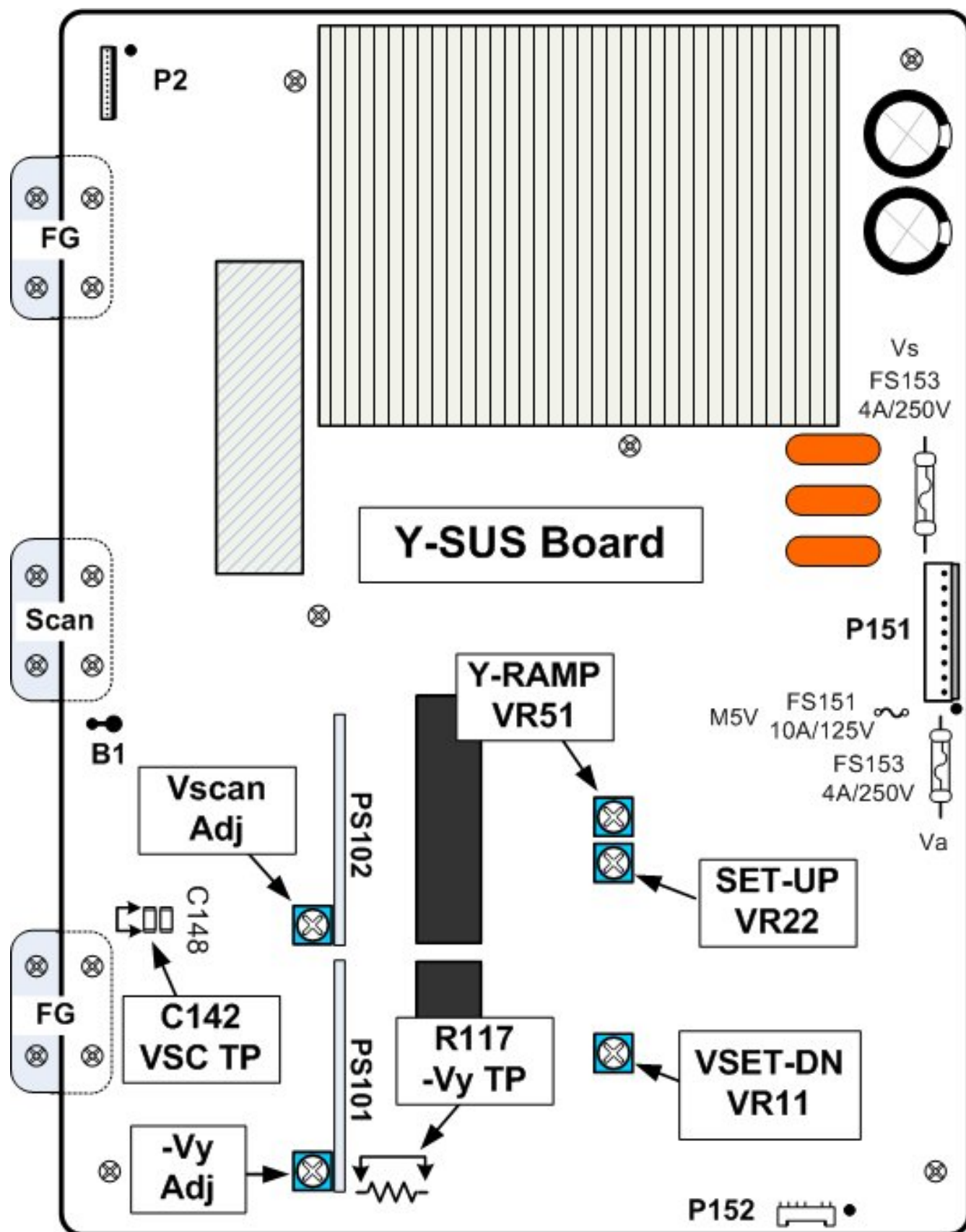
VA VR551 VS VR901 5V VR159

Model : PDP 42X2##2#  
All Voltage: DC (=) 5.2V  
Va : 60V Vs : 195V  
80 / -200 / 120 / N.A. / 90  
Max Watt : 330 W (Full White)

The Label difference between  
a 42X2 and 42X2##2#



## 42X2 Y-SUS BOARD ADJUSTMENT POINTS





## 42X2 VSCAN and -Vy ADJUSTMENTS

### PREPARATION:

- 1) Pre-Heat unit for at least 10 Minutes before making adjustments.  
Vs and Va adjustments complete.
- 2) Place unit into White Wash from the Customer's Menu for all adjustments.
- 3) **Be sure to use all adjustment values as indicated on your panel's voltage label in the upper left of the panel.**

Model : PDP 42X2###  
All Voltage: DC (=) 5.2V  
Va : 60V Vs : 200V  
90 / -200 / 120 / N.A. / 90  
Max Watt : 330 W (Full White)

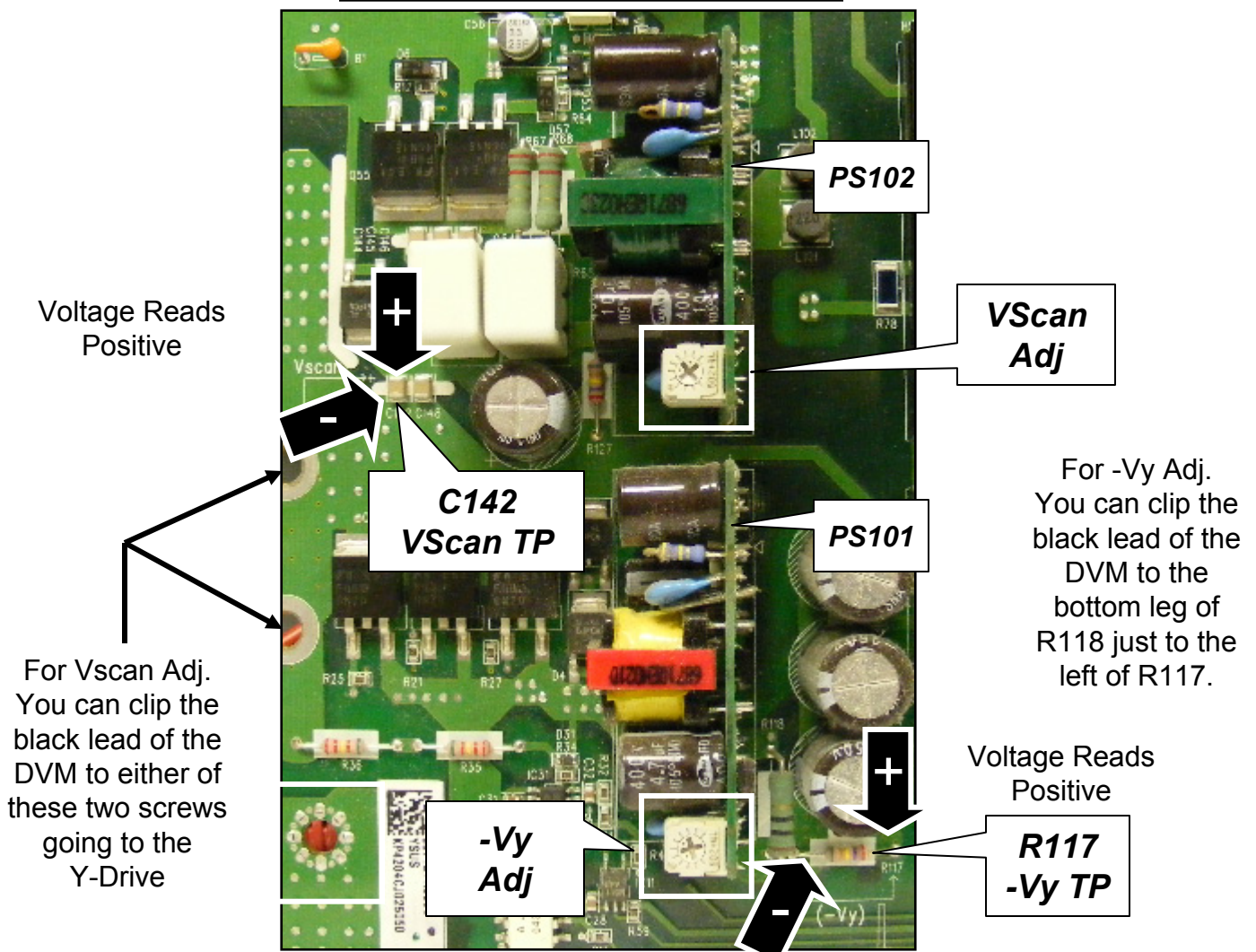
-Vy

VSC

### PROCEDURE: (See figure below for locations)

- 1) Adjust -Vy (VR On PS101). Measured across -Vy TP R117.  
Match your specific Panel's Voltage label  $\pm 1V$ .
- 2) Adjust Vscan (VR On PS102). Measured across Vscan TP C142.  
Match your specific Panel's Voltage label  $\pm 1V$ .

*Location: Bottom Left of board*



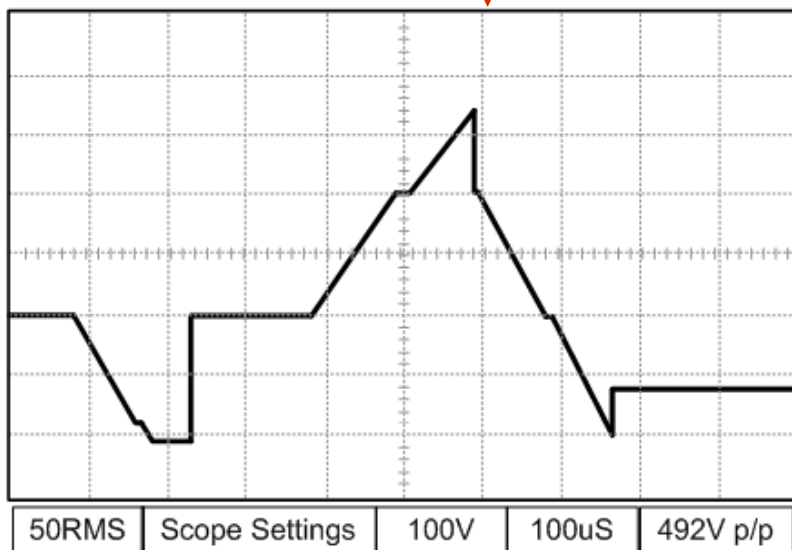
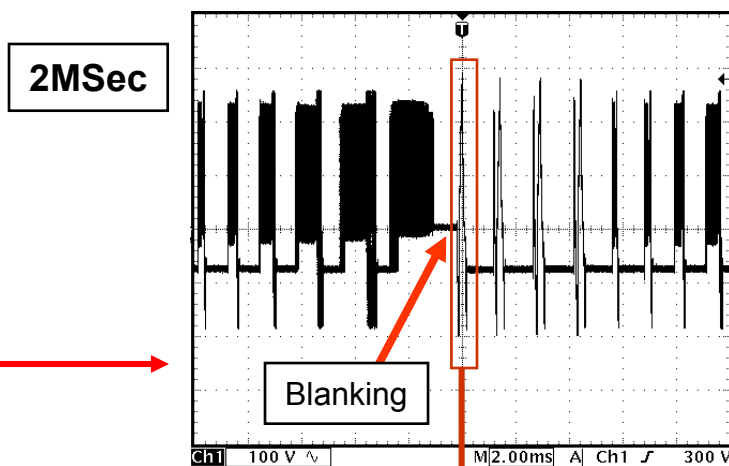
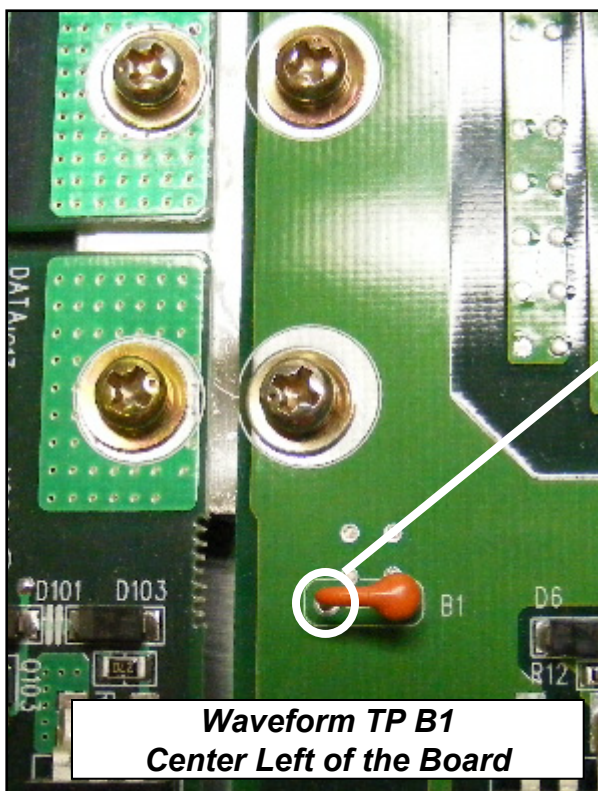
## 42X2 Y-SUS Drive Waveform Test Point

The figure below shows a close-up image of the Y-Drive waveform test point on the Y-SUS board. (B1).

It is located on the Center Left hand side of the Y-SUS board.

VRamp, VSet-Up and VSet-Down portions of the waveform are adjusted using this Test Point.

**TP LOCATION UNDER CENTER SET OF TWO SCREWS TO THE Y-DRIVE BOARD (See next page for adjustment details)**



# 42X2 Y-DRIVE WAVEFORM ADJUSTMENTS

## PREPARATION:

- 1) Pre-Heat unit for at least 10 Minutes before making adjustments.  
All DC adjustments to the panel should have been completed.
- 2) Place unit into **White Wash** from the Customer's Menu for all adjustments.

## ADJUSTMENT LOCATIONS

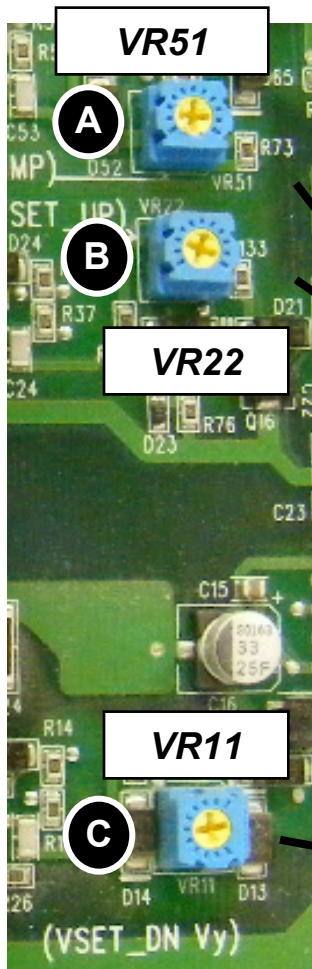
(See 3 pages back for Adjustment VR and Waveform TP locations)

### VRAMP ADJUST:

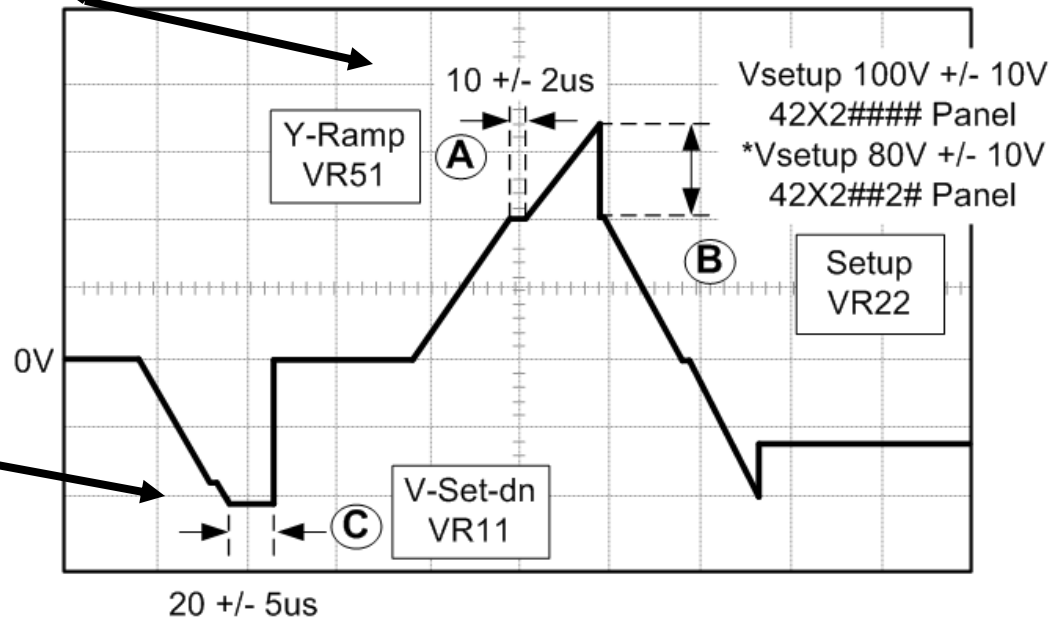
- 1) Adjust **VR51** and set the **(A)** time of the signal to match the waveform shown below. (10uSec  $\pm$  2uSec)

### VSET-UP ADJUST:

- 2) Adjust **VR22** and set the **(B)** portion of the signal to match the waveform shown below.  
42X2#### panel (100V  $\pm$  10V) or  
42X2##2# panel (80V  $\pm$  10V)



**Waveform Test Point**  
**Y-SUS Center Left (Waveform TP B1)**

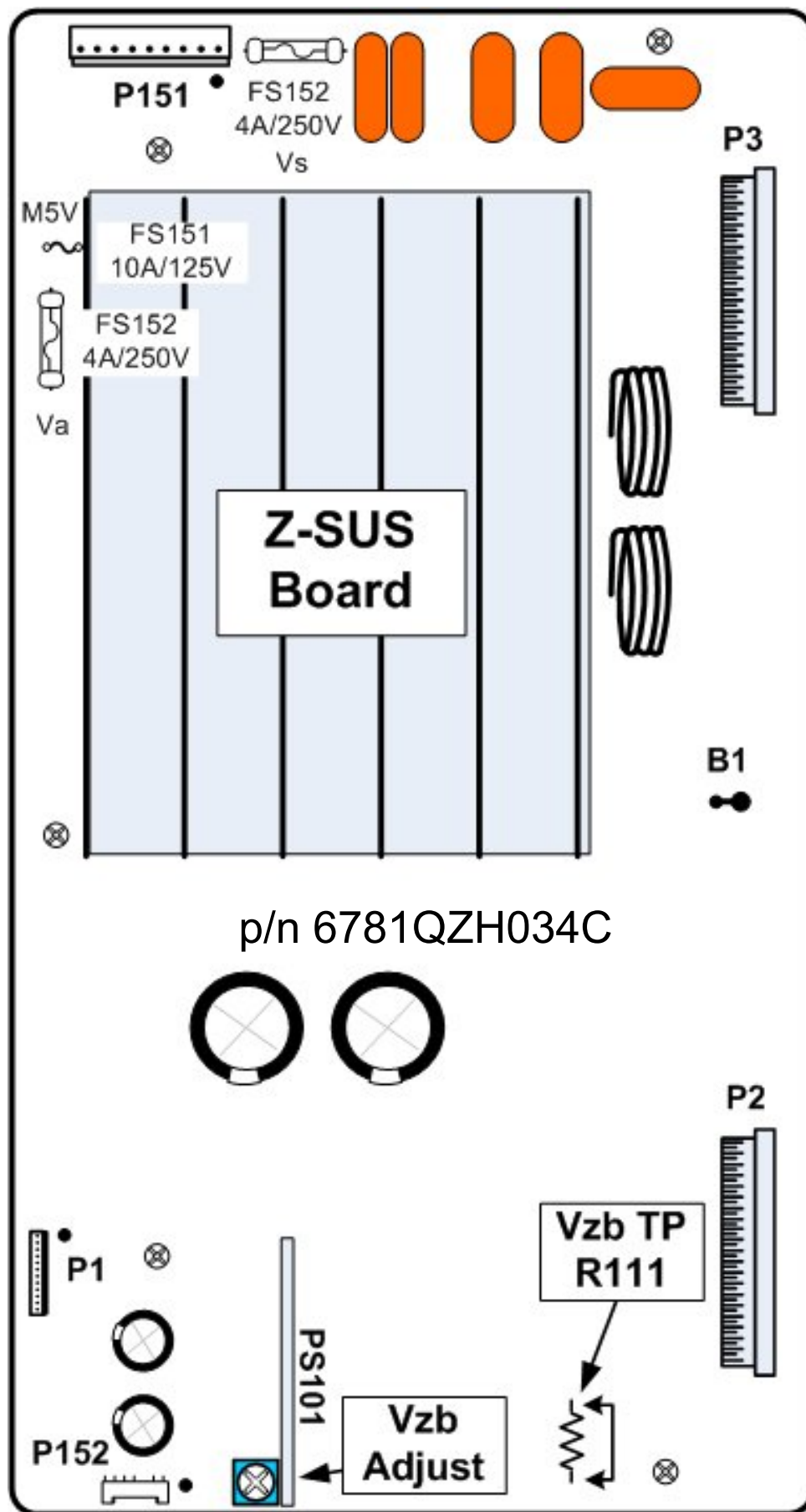


**ADJUSTMENT LOCATIONS:**  
Bottom Center of the board.

### VSET-DN ADJUST:

- 2) Adjust **VR11** and set the **(C)** time of the signal to match the waveform shown above. (20uSec  $\pm$  5uSec)

## 42X2 Z-SUS ADJUSTMENT POINTS





## 42X2 Z-SUS (Z-Bias) ADJUSTMENT:

### PREPARATION:

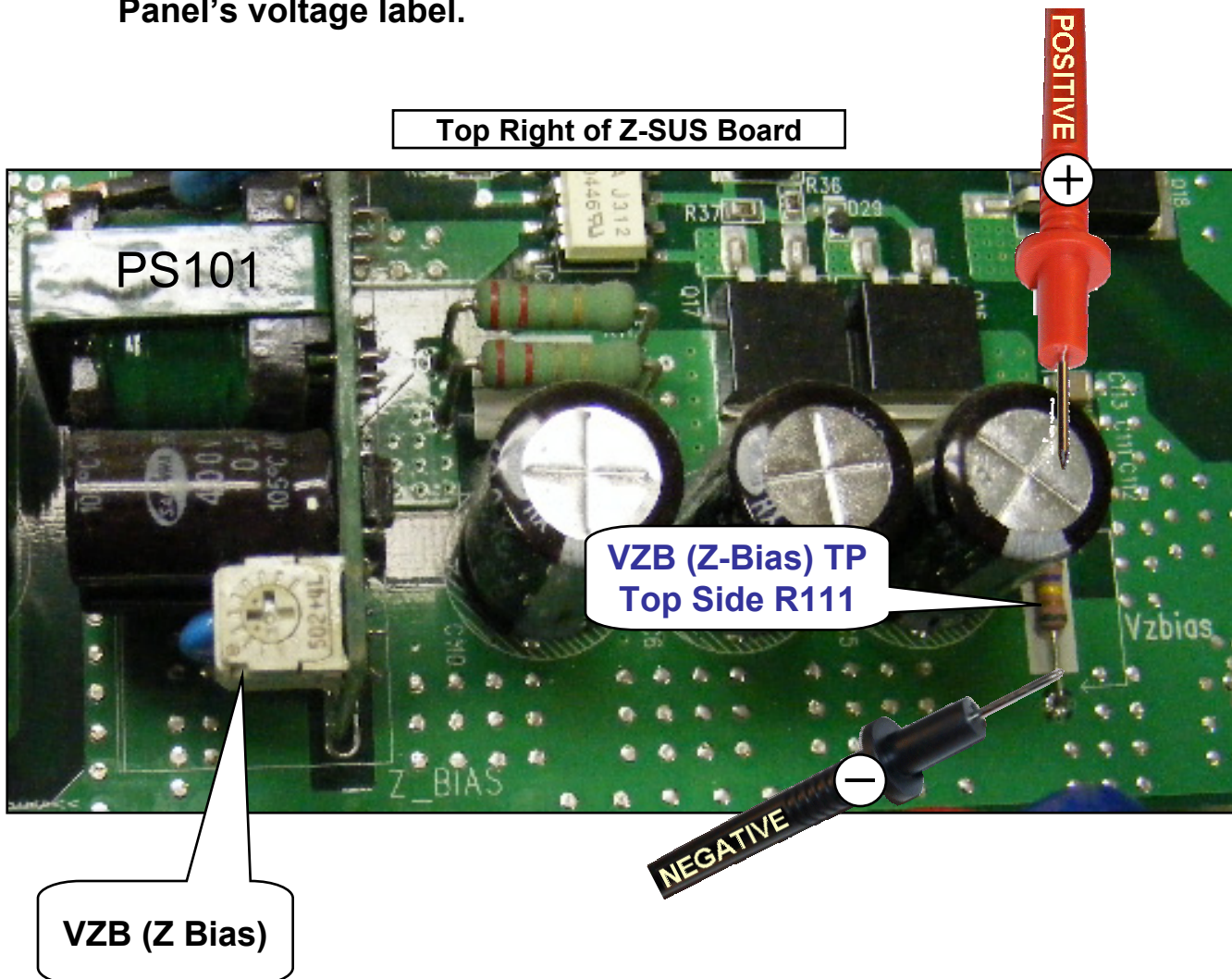
- 1) Pre-Heat unit for at least 10 Minutes before making adjustments.
- 2) Place unit into White Wash from the Customer's Menu for all adjustments.
- 3) Be sure to use all adjustment values as indicated on the panel voltage label in the upper right hand corner of the panel.

Model : PDP 42X2###  
All Voltage: DC (=) 5.2V  
Va : 60V Vs : 200V  
90 / -200 / 120 / N.A. / 90  
Max Watt : 330 W (Full White)

VZB (Z Bias)

### PROCEDURE: (See preceding page for locations)

1. Place DC Volt meter on VZB TP (Across R111). Top side to Chassis Ground.
2. Adjust VZB (Z Bias) pot located on PS101 in accordance with your Panel's voltage label.



# 42X3 PLASMA PANEL

## QUICK REFERENCE

## ALIGNMENT HAND BOOK

### MODELS USING THE 42X3 PANEL

**42PB2DR / DR1 / DRNA / DR1S / DRD**

**42PB2DRL/ DRLNA / DRNA/ DRW**

**42PB2RR / B2RRML**

**42PC1D / D1 / D1ND / D1NF / D1S / D1W / D1DA**

**42PC1DB / DB1 / DB1ND / DB1NF / DB1S / DB1S1 / DB1W**

**42PC1DBND/ DCNF / DDA / DND / DR / DR1 / DR1NA / DR1W**

**42PC1DR2 / DR2NA/ DRA / DRANA / DRNA / DRW / DRW1**

**42PC1DRWNA / DRX / DRXNA / DW / RRTL / RRZL / RTH / RZH**

**42PC3D / DHUD / DUD / RAZJ**

**42PC7DHUA / RHMA**

**42PM2DNA**

**42PX3DUE**

**42PX4D / DAA / DG / DGNB / DNB / DRB / DRBNA / DRBS**

**42PX4DRBW / DRBW1 / DRBW2 / DRNA / DRNA**

**42PX5DA / DA1 / DA1NA / DANA / DAW / DMNA / DNA**



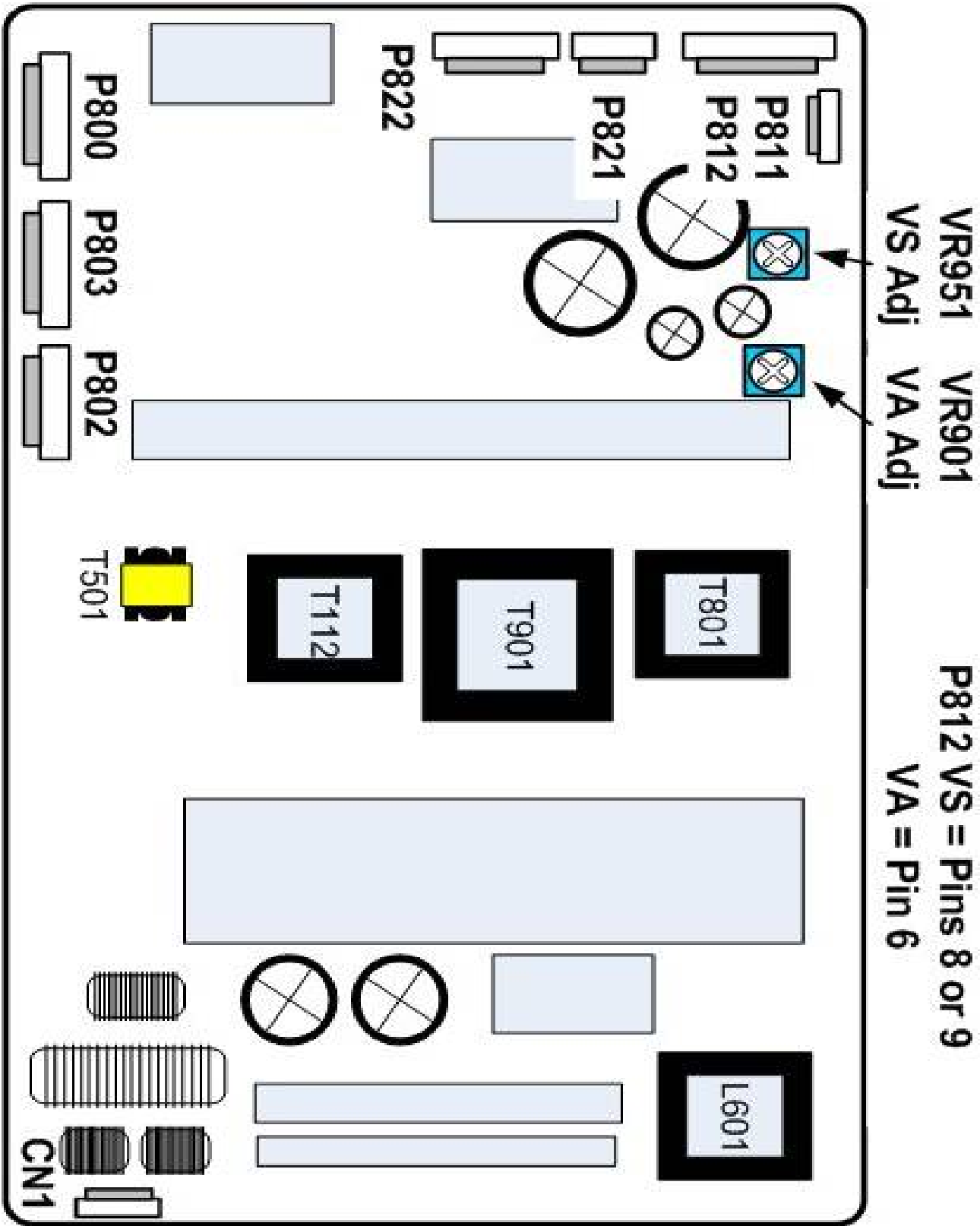
**LG**

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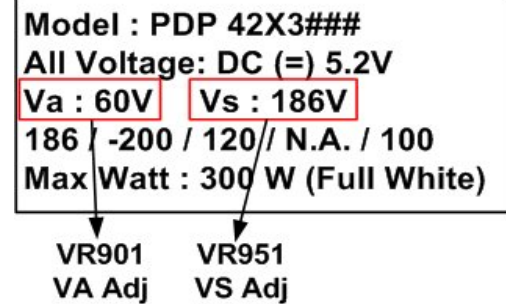
# 42X3 SMPS Test Points and Adjustments



## 42X3 VA and VS Voltage Adjustment Locations

These two voltages are adjustable and should be adjusted to the correct values as indicated by the panel label.

Example shown in the top right.  
Always adjust “Highest to Lowest” voltages.



VS and VA adjustment resistors are shown in the picture below.  
They are located at the top left of the board.  
VR901 is the VS adjustment pot.  
VR951 is the VA adjustment pot.

Set should be in “Full White Raster”

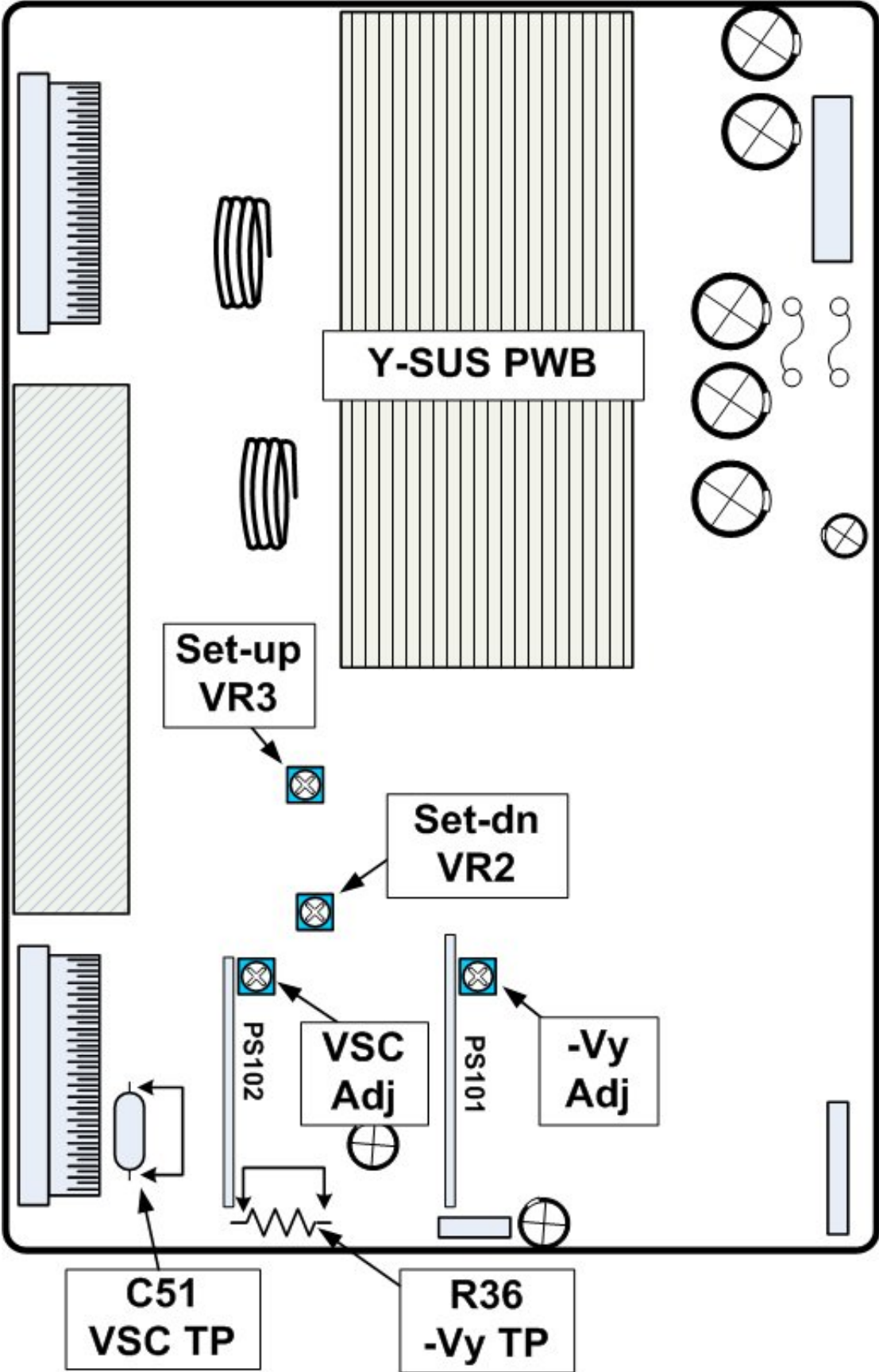
1) **VS ADJUST:** Connect DVM to pin 8 or 9 of P812. Adjust **VR951** until the voltage matches the panel’s voltage label.

2) **VA ADJUST:** Connect DVM to pin 6 of P812. Adjust **VR901** until the voltage matches the panel’s voltage label.



Top Left of the SMPS PWB

# 42X3 Y-SUS Test Points and Adjustment Locations



42X3 PANEL

## 42X3 VSC and -Vy Voltage Adjustment Locations

These two voltages are adjustable and should be adjusted to the correct values as indicated by the panel label.

(Upper left hand side of the Panel).

Example shown in the top right.

Always adjust "Highest to Lowest" voltages.

-Vy and VSC adjustment resistors are shown in the picture below.

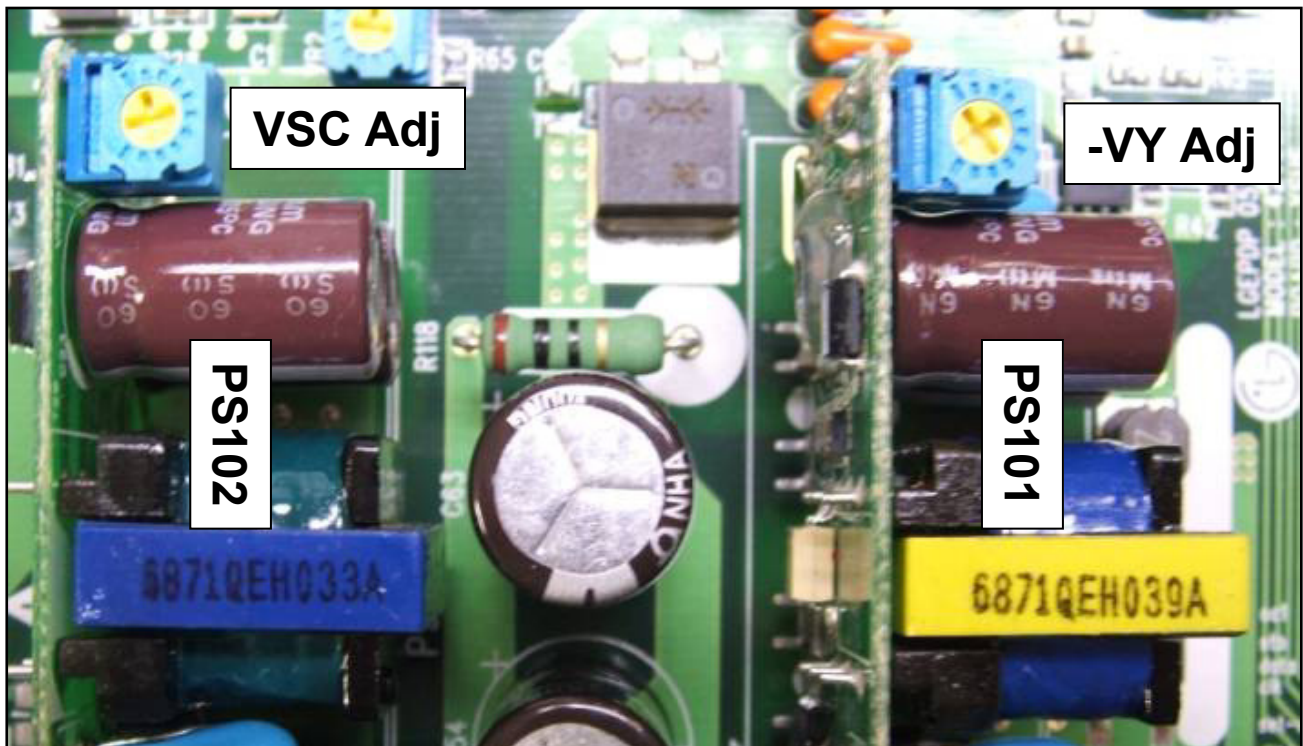
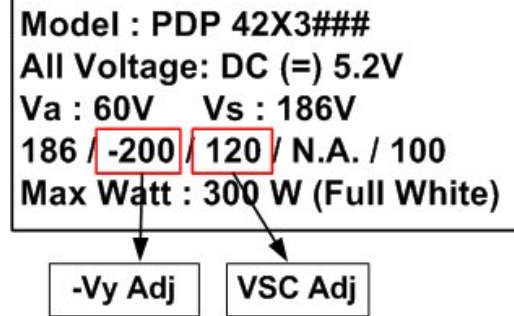
They are located on the Boards labeled PS101 and S102.

PS101 is the -VY supply

PS102 is the VSC supply

**Adjust the -Vy** adjustment pot on the PS101 module while reading across **R36** until voltage matches the panel's voltage label. (See previous page for location).

**Adjust the VSC** adjustment pot on the PS102 module while reading across **C51** until voltage matches label. (See previous page for location).





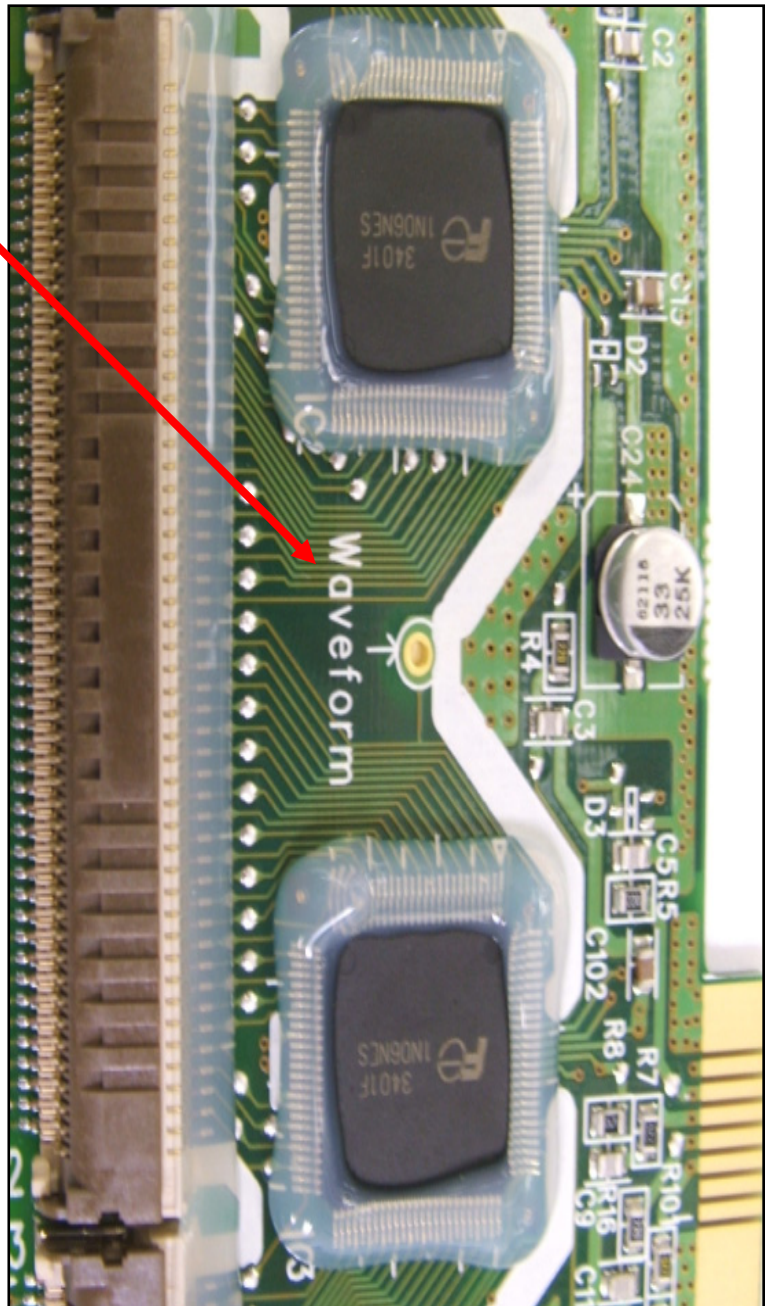
## 42X3 Y Drive Waveform Test Point



Figure 1 shows the Y-Drive Board

Figure 2

Shows a close-up image of the Y-Drive waveform test point.



(Fig. 1)

(Fig. 2)

## 42X3 Y-Drive Waveform Adjustment

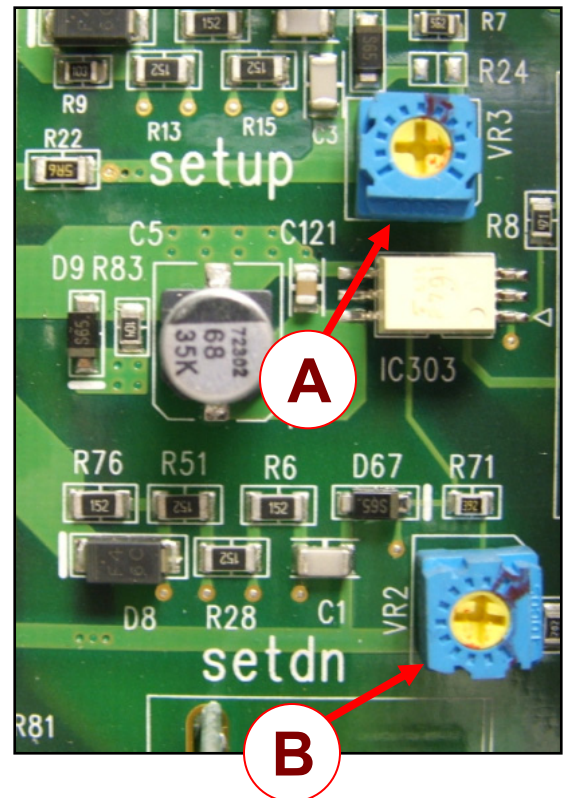
Using a Full White Raster, adjust the Set-up and Set-dn section of the Y-Drive waveform. VS, VA, -Vy and VSC should have been completed.

See Y-SUS Test Points and Adjustments diagram for locations.

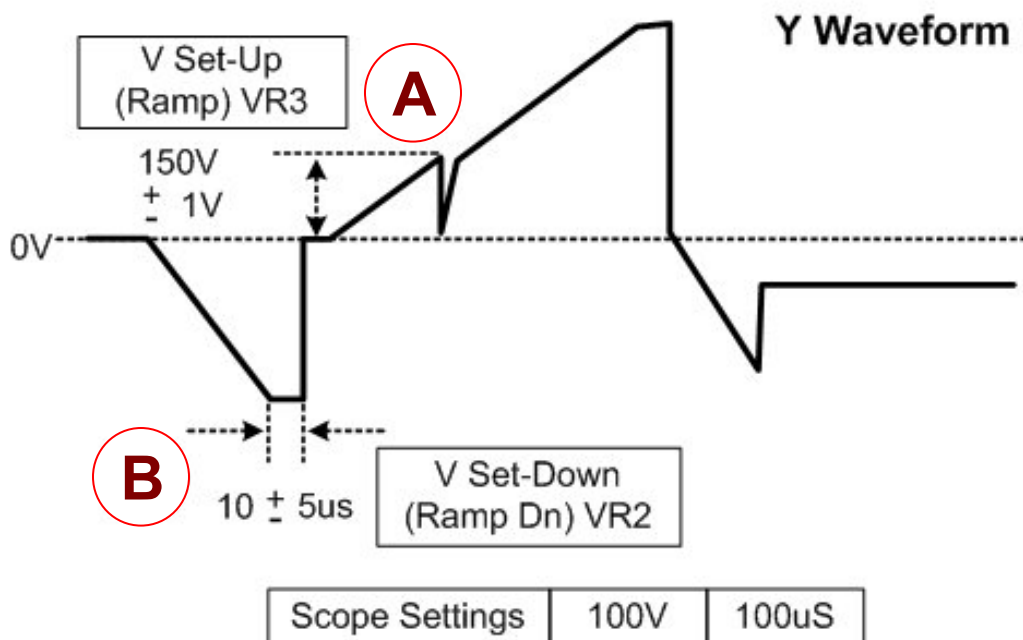
Oscilloscope TP on the "Waveform" TP on the Y-Drive PWB.

**V Set-Up Adjustment:** Adjust **VR3** while observing area (A) and set to **150V  $\pm$  1V**.

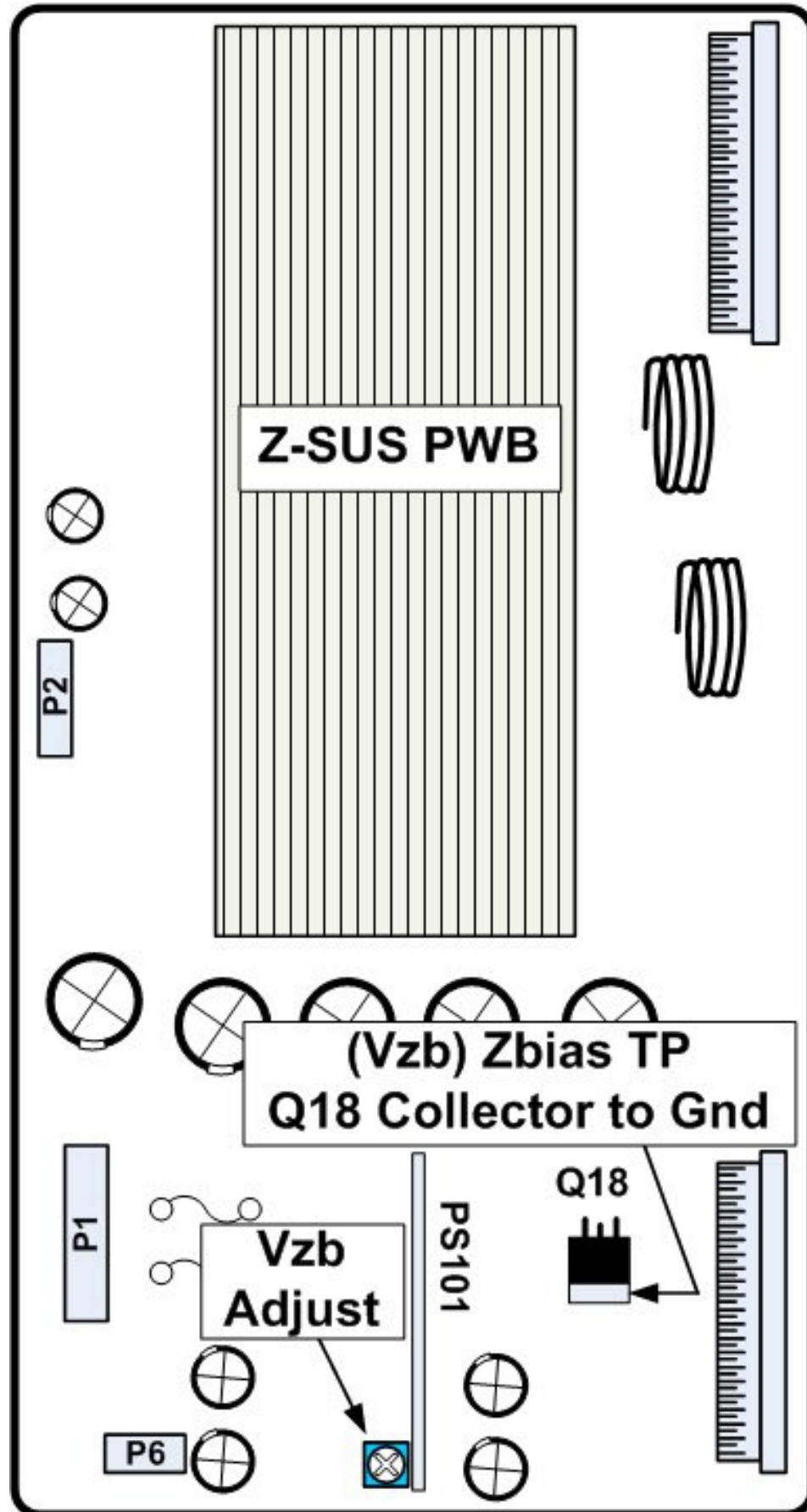
**V Set-Down Adjustment:** Adjust **VR2** while observing area (B) and set to **10uSec  $\pm$  5uSec**.



Connect Scope to Waveform TP on Y-Drive PWB



## Z-SUS Test Points and Adjustment Locations





## Z-SUS (Z-Bias Adjustment)

All other adjustments should have been completed.

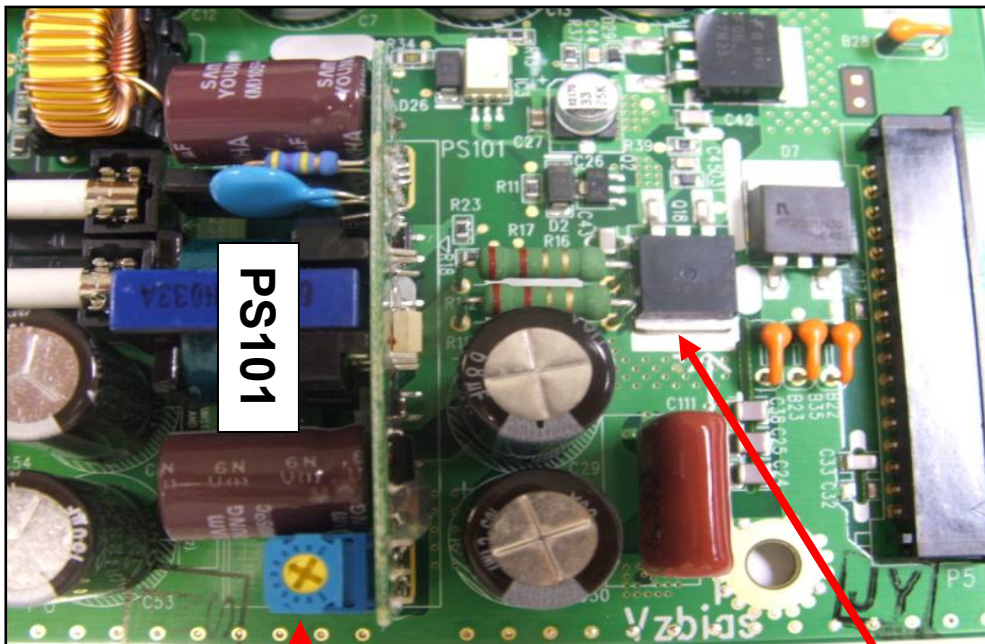
Model : PDP 42X3###  
All Voltage: DC (=) 5.2V  
Va : 60V Vs : 186V  
186 / -200 / 120 / N.A. / **100**  
Max Watt : 300 W (Full White)

ZBias Adj

### Full White Raster

#### Z-Bias Adjustment:

Adjust Z-Bias while reading the voltage between **Q18** Collector to chassis ground. Match your specific panel's Voltage Label.



Z-Bias  
Adjustment

Measure VZBias from collector of  
Q18 to ground.

Bottom Center of the SMPS Board

42X3 PANEL

# 42X4A PANEL

## QUICK REFERENCE

### ALIGNMENT SECTION

#### MODELS USING THE 42X4A PANEL

**42PB2RRHML**

**42PB4D / DAA / DAUA / DNB / DR /**

**42PB4D DRNA / DRPNG / DTUB**

**42PB4RTMA / RTTB**

**42PC1D2 / D2NF / DB2 / DB2NF / DGAA**

**42PC35ZC**

**42PC3DA / DANA / DANG**

**42PC51ZB**

**42PC5D / DAB / DCNB / DDB / DNA / DNG / DUC / DUL /  
DZB**

**42PC5RHTB / RTB / RZB**

**42PC7RAMA**

**42PT81ZB**



**LG**

Life's Good

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## 42X4A SMPS PWB ADJUSTMENT POINTS

These two voltages are adjustable and should be adjusted to the correct values as indicated by the panel label.

Example shown in the outlined area below.

Always adjust “Highest to Lowest” voltages.

VS and VA adjustment resistors are shown in the drawing below.

They are located at the top left of the board.

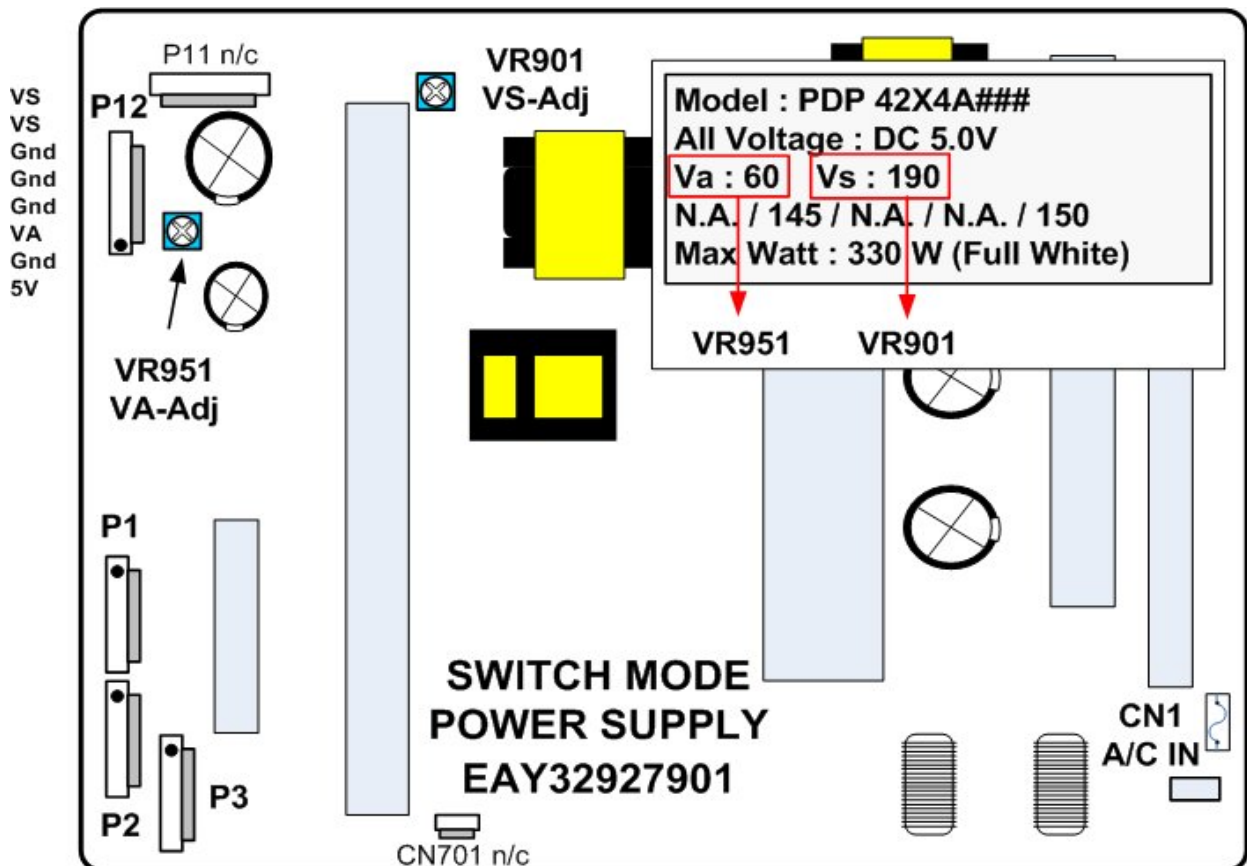
VR901 is the VS adjustment pot.

VR951 is the VA adjustment pot.

Set should be in “Full White Raster”

1) **VS ADJUST:** Connect DVM to pin 7 or 8 of P12. Adjust VR901 until the voltage matches the panel's voltage label.

2) **VA ADJUST:** Connect DVM to pin 3 of P12. Adjust VR951 until the voltage matches the panel's voltage label.



## 42X4A SMPS PWB ADJUSTMENT POINTS

These two voltages are adjustable and should be adjusted to the correct values as indicated by the panel label.

Example shown in the outlined area below.

Always adjust “Highest to Lowest” voltages.

VS and VA adjustment resistors are shown in the drawing below.

They are located at the top left of the board.

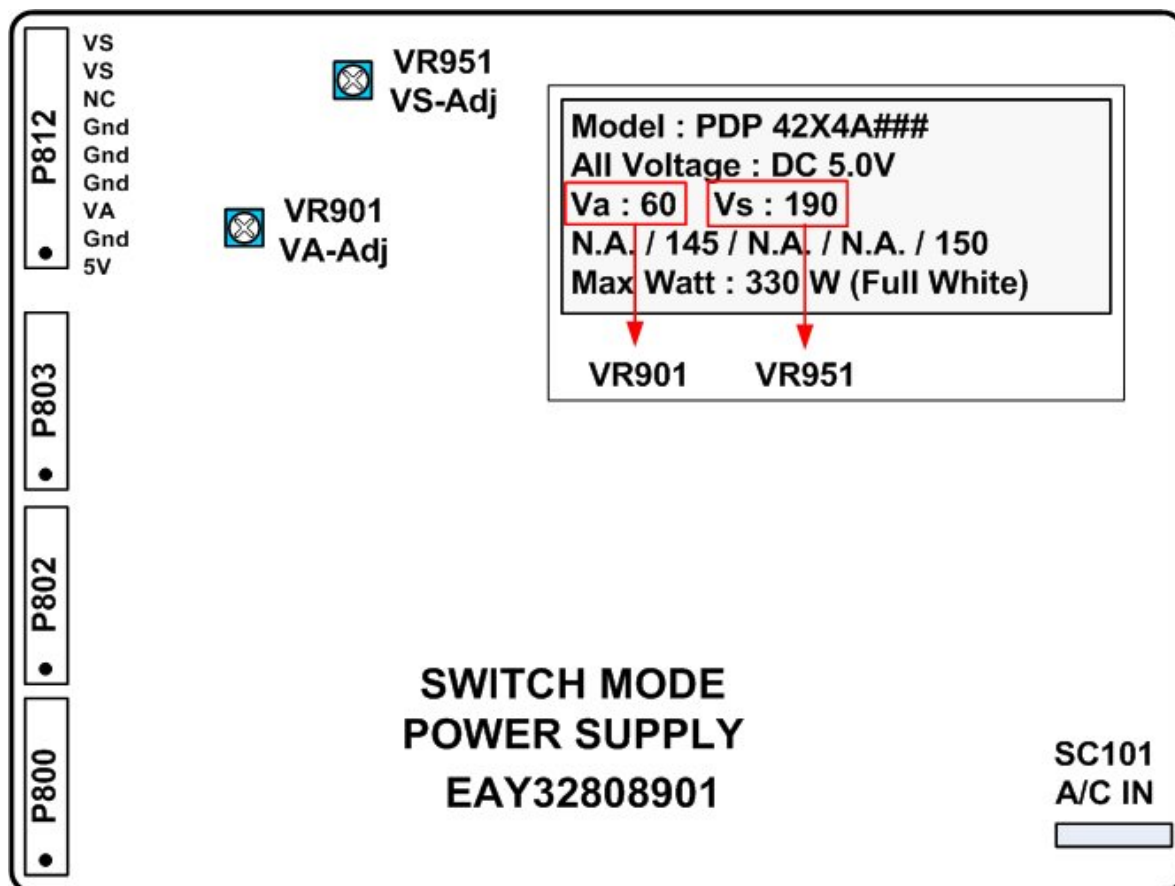
VR951 is the VS adjustment pot.

VR901 is the VA adjustment pot.

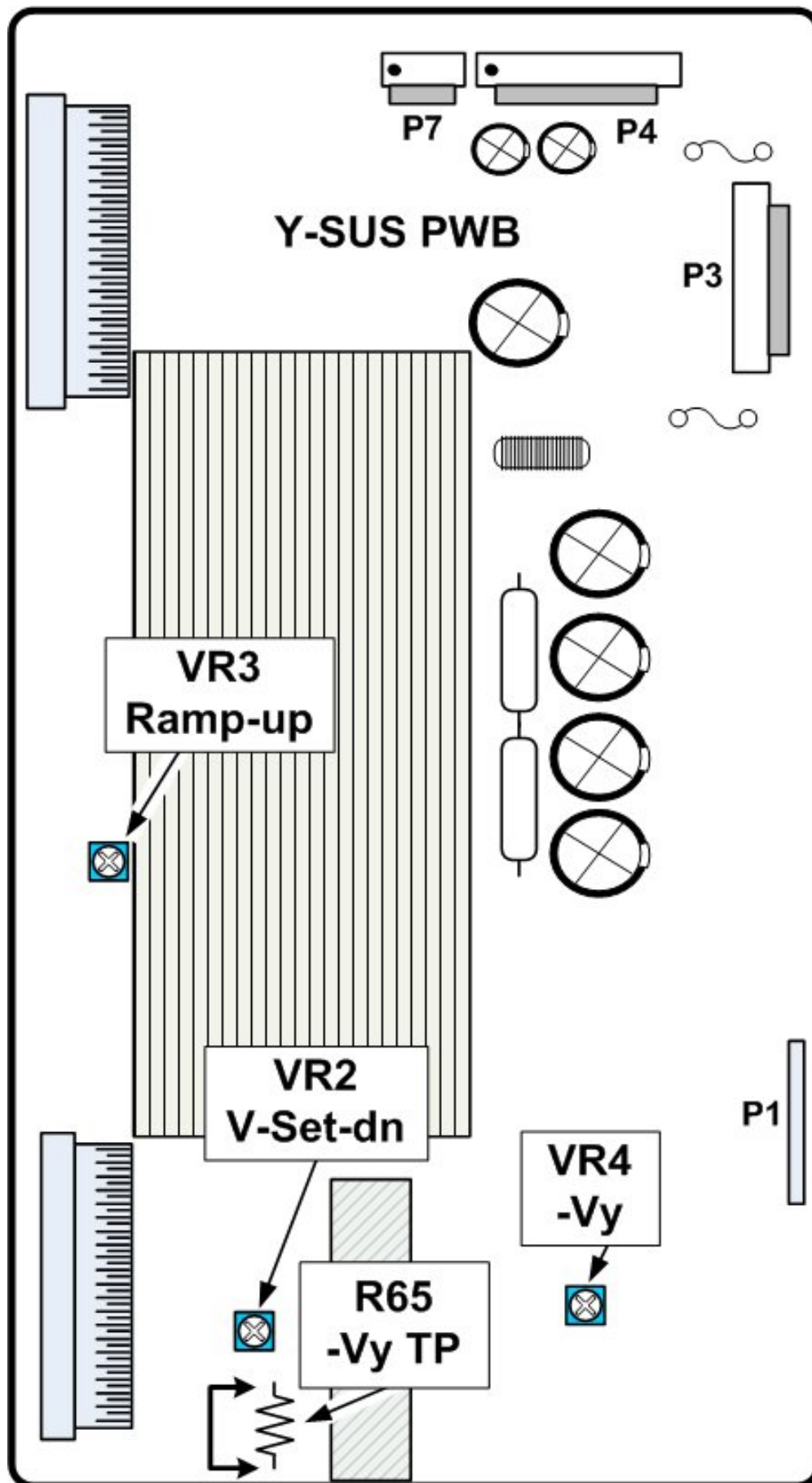
Set should be in “Full White Raster”

1) **VS ADJUST:** Connect DVM to pin 8 or 9 of P812. Adjust **VR951** until the voltage matches the panel’s voltage label.

2) **VA ADJUST:** Connect DVM to pin 3 of P812. Adjust **VR901** until the voltage matches the panel’s voltage label.



# 42X4A Y-SUS PWB ADJUSTMENT POINTS



## 42X4 –Vy Voltage Adjustment Locations

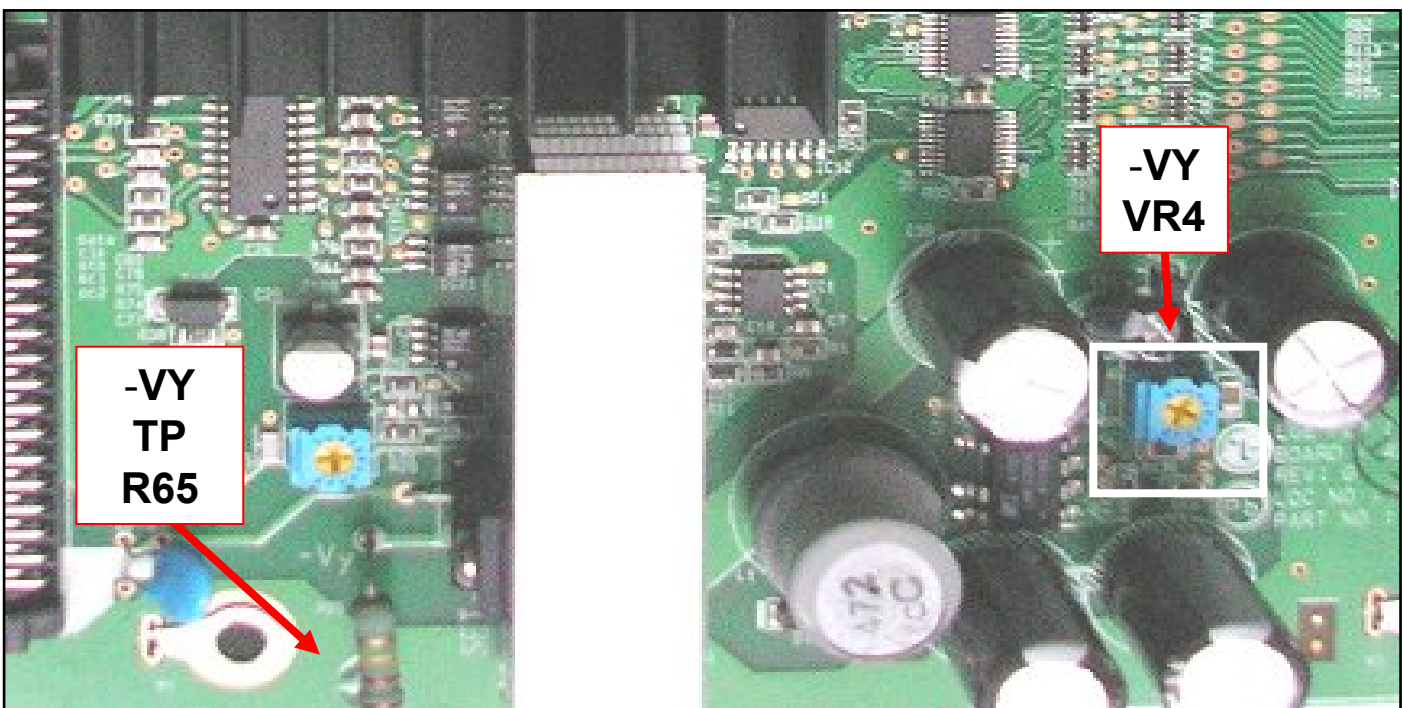
Model : PDP 42X4A###  
All Voltage : DC 5.0V  
Va : 60 Vs : 190  
N.A. / 145 / N.A. / N.A. / 150  
Max Watt : 330 W (Full White)

- VY

The -Vy voltages is adjustable and should be adjusted to the correct values as indicated by the panel label. Example shown in the top right.

**-Vy adjustment resistor R65** is shown in the picture below. They are located bottom left of the board.

**Adjust the -Vy (VR4) while reading across R65** until voltage matches label. (See previous page for location).





## 42X4 Y Drive Waveform Test Point

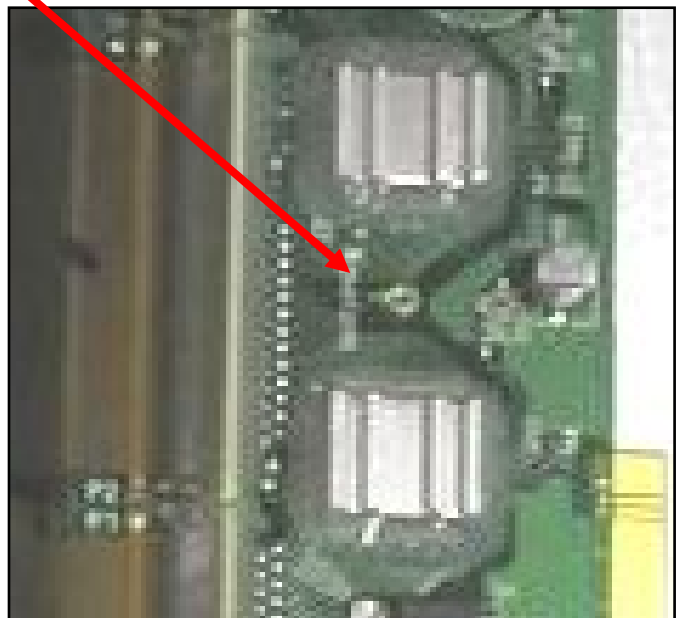


(Fig. 1)

Figure 1 shows the Y-Drive Board

Figure 2

Shows a close-up image of the Y-Drive waveform test point.



(Fig. 2)

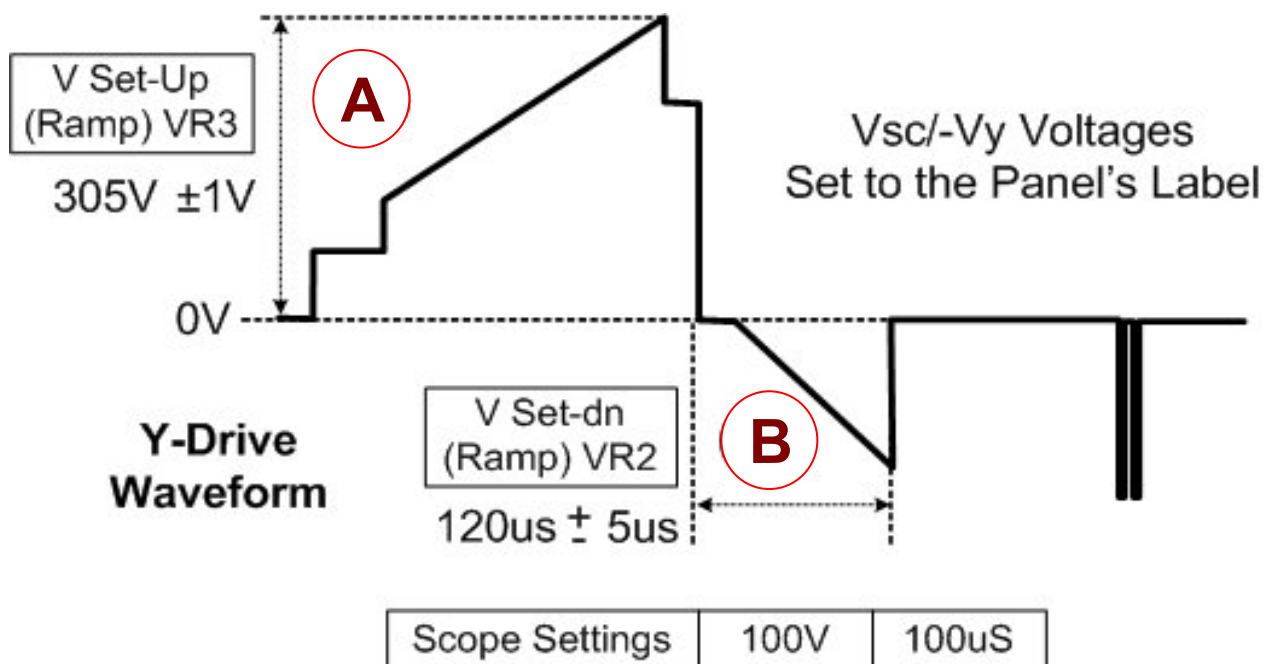
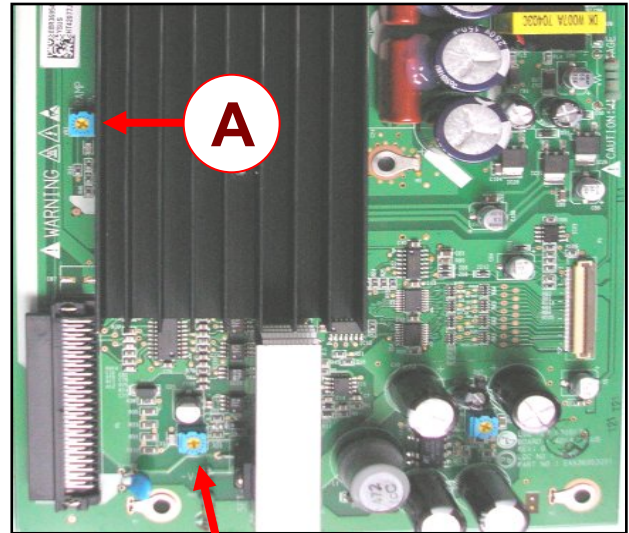
## 42X4 Y-Drive Waveform Adjustment

Using a Full White Raster, adjust the Set-up and Set-dn section of the Y-Drive waveform. VS, VA, -Vy and VSC should have been completed.

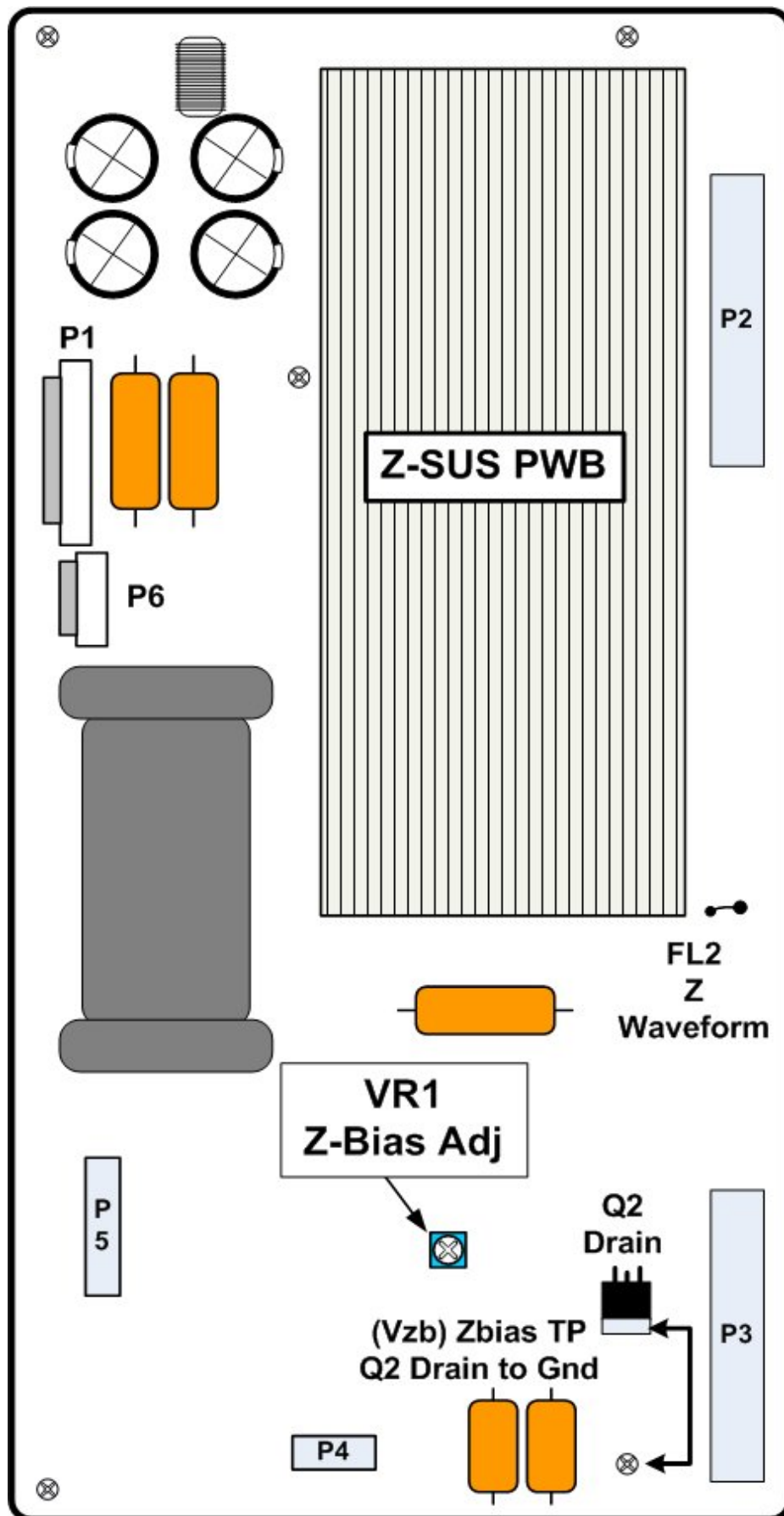
See Y-SUS Test Points and Adjustments diagram for locations.

Oscilloscope TP on the “Waveform” TP on the Y-Drive Board.

- 1) Set-Up:** Adjust **VR3** while observing area (A) and set to  $305V \pm 1V$ .
- 2) Set-Down:** Adjust **VR2** while observing area (B) and set to  $120\mu\text{Sec} \pm 5\mu\text{Sec}$ .



# 42X4A Z-SUS BOARD ADJUSTMENT POINTS



42X4A PANEL

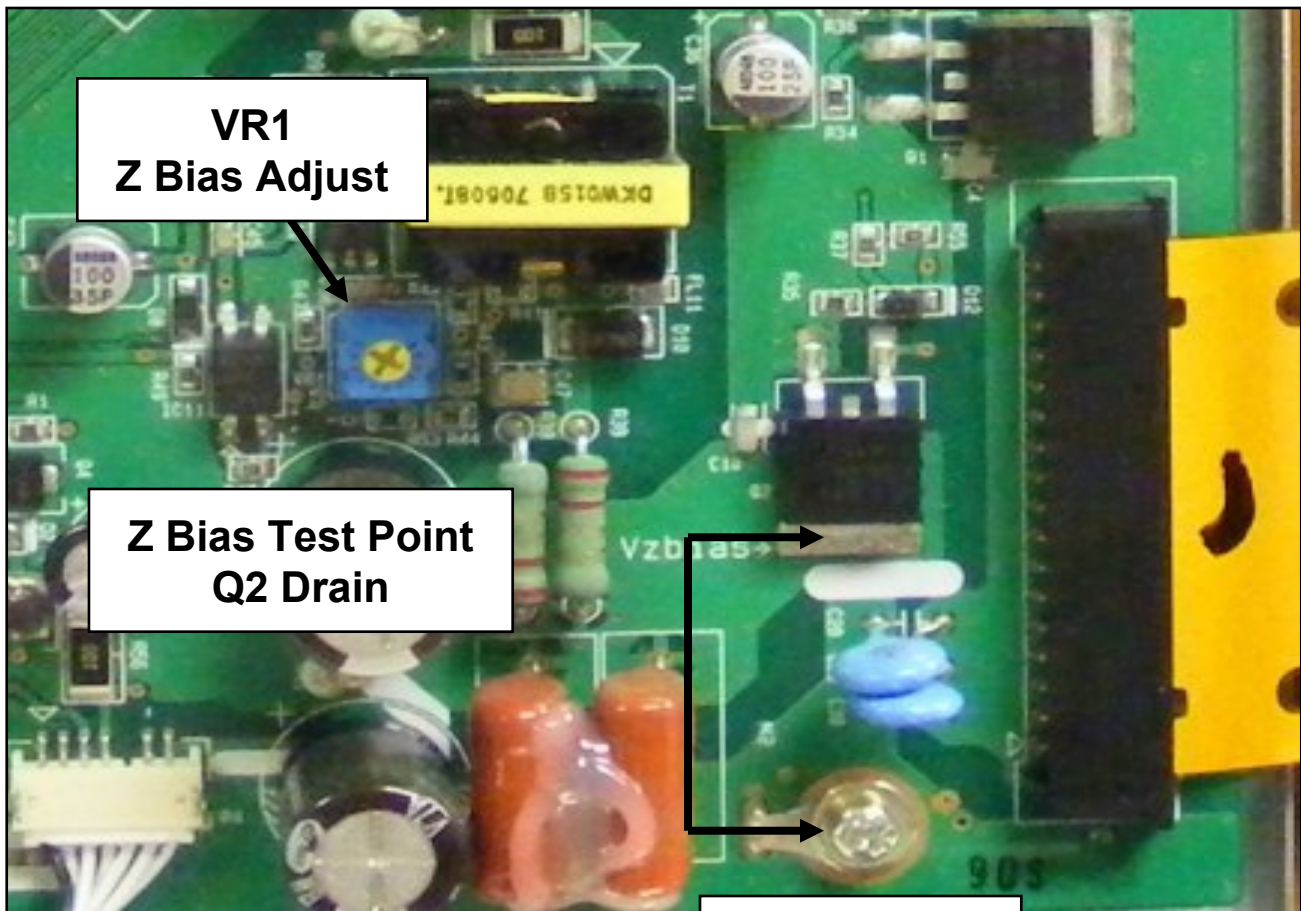
# 42X4A Z-SUS BOARD ADJUSTMENT POINTS

All other adjustments should have been completed.

## Full White Raster

- 1) Connect DVM between Q2 Drain and chassis ground
- 2) **Adjust Z-Bias** (VR1) to match the panel's voltage label.

Lower Right Hand Side of PWB



42X4 PANEL

Model : PDP 42X4A###  
All Voltage : DC 5.0V  
Va : 60 Vs : 190  
N.A. / 145 / N.A. / N.A. / **150**  
Max Watt : 330 W (Full White)

Z-Bias

Chassis Gnd

Measure Vzbias from Drain of Q2 to Chassis Ground.

# 50G1 PLASMA PANEL

## QUICK REFERENCE

## ALIGNMENT HAND BOOK

MODEL USING THE 50G1 PANEL

**50PG20**



**LG**

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# 50G1 Vs / Va ADJUSTMENT

## PREPARATION:

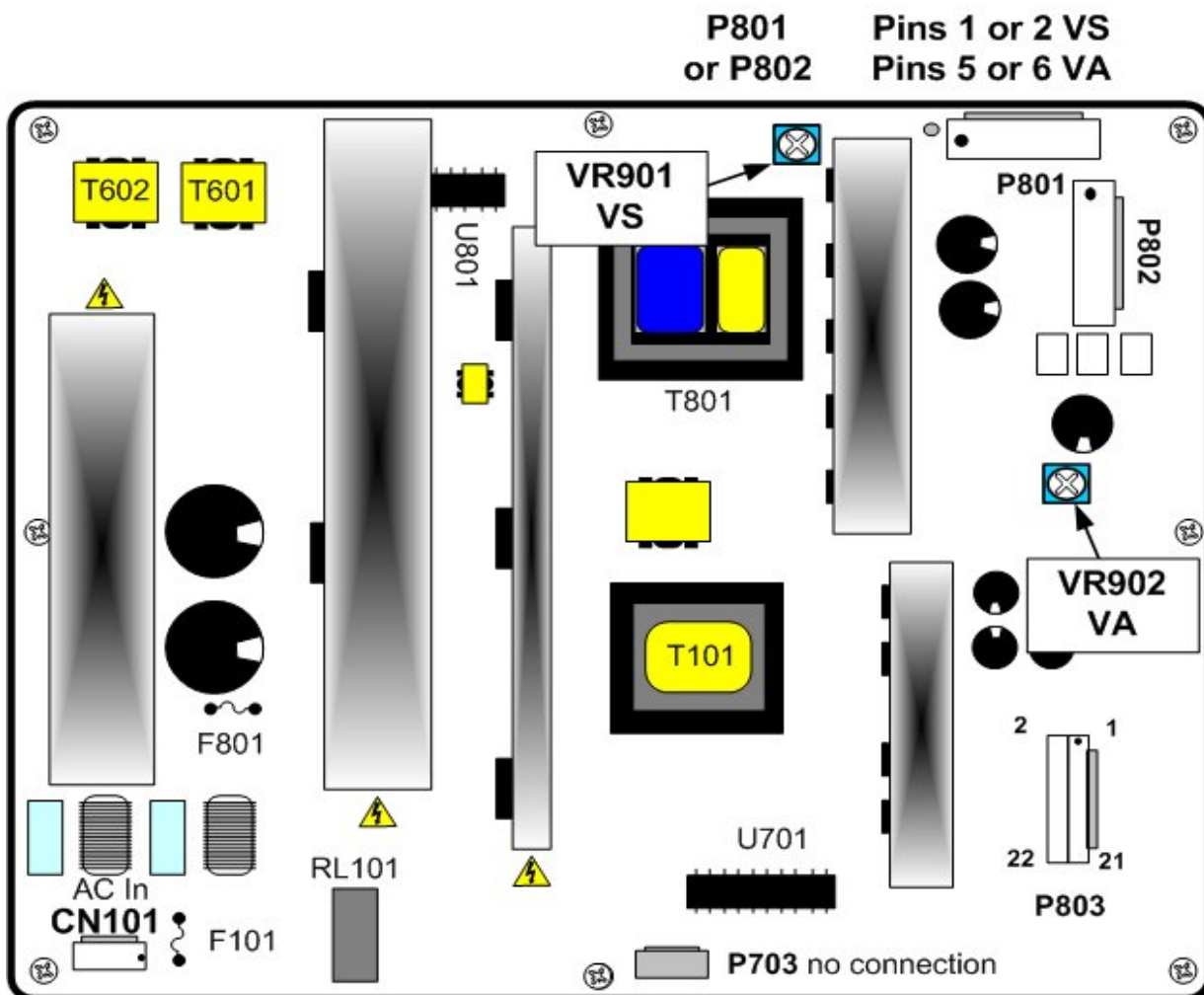
- 1) Pre-Heat unit for at least 10 Minutes before making adjustments.
- 2) Place unit into White Wash from the Customer's Menu for all adjustments.
- 3) **Be sure to use all adjustment values as indicated on the panel voltage label in the upper left hand corner of the panel. See example above.**

Model : PDP 50G1####  
Voltage Setting: 5.2V / **Va:65** / **Vs:193**  
N.A. / -195 / 135 / N.A. / 100  
Max Watt : 500 W (Full/White)

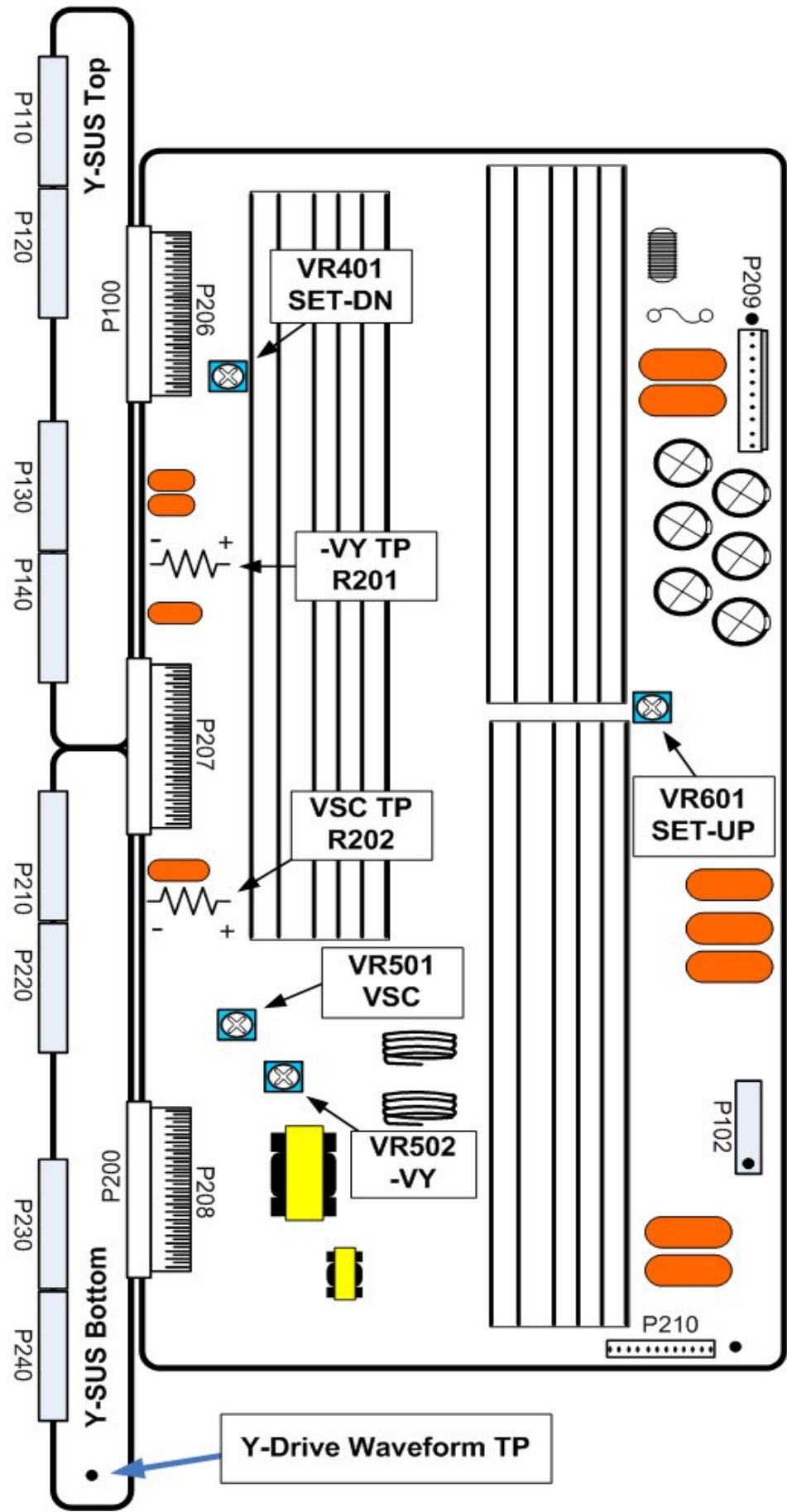
VA Adjust VR902  
VS Adjust VR901

## PROCEDURE: (See figure for locations)

- 1) **Adjust Vs** using **VR901**. Measured from Pin 1 or 2 **P801** to chassis ground. Match Panel Voltage label  $\pm 1V$ .
- 2) **Adjust Va** using **VR902**. Measured from Pin 5 or 6 **P801** to chassis ground. Match Panel Voltage label  $\pm 1V$ .



# 50G1 Y-SUS BOARD ADJUSTMENT POINTS



# 50G1 -Vy / VSC ADJUSTMENT

## PREPARATION:

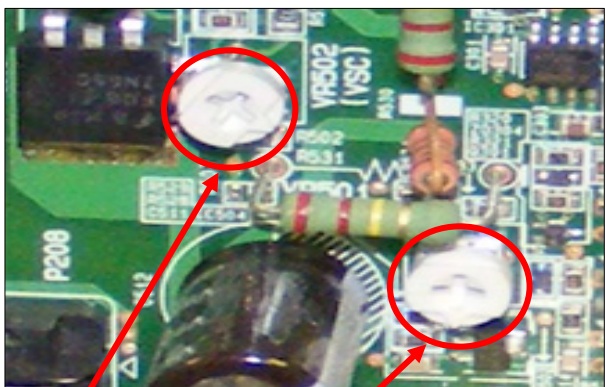
- 1) Pre-Heat unit for at least 10 Minutes before making adjustments.
- 2) Place unit into White Wash from the Customer's Menu for all adjustments.
- 3) **Be sure to use all adjustment values as indicated on the panel voltage label in the upper left hand corner of the panel. See example to the upper right.**

Model : PDP 50G1####  
Voltage Setting:5.2V / Va:65 / Vs:193  
N.A. / -195 / 135 / N.A. / 100  
Max Watt : 500 W (Full White)

-Vy VSC

## PROCEDURE: (See previous page for locations)

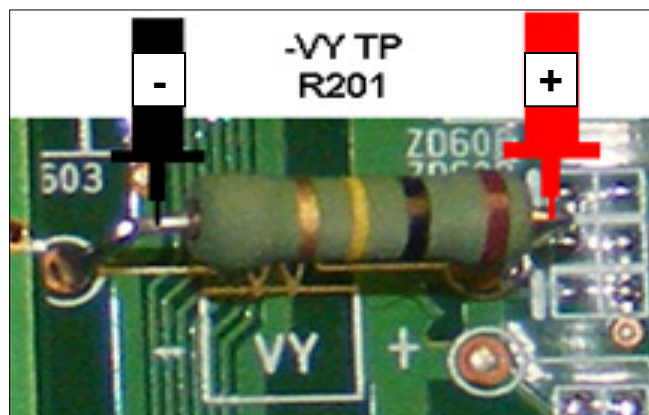
- 1) **Adjust -Vy using VR501.** Measured across **R201**.  
Match Panel Voltage label  $\pm 1V$ .
- 2) **Adjust VSC using VR502.** Measured across **R202**.  
Match Panel Voltage label  $\pm 1V$ .



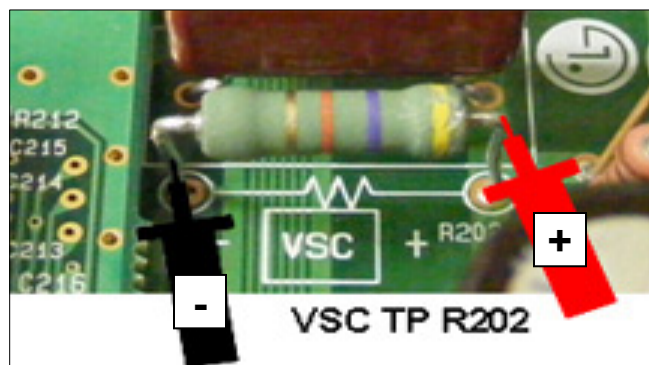
VSC  
ADJ  
VR502

-VY ADJ  
VR501

*Lower Left Side of Board*



*Upper Left Side Of PWB*



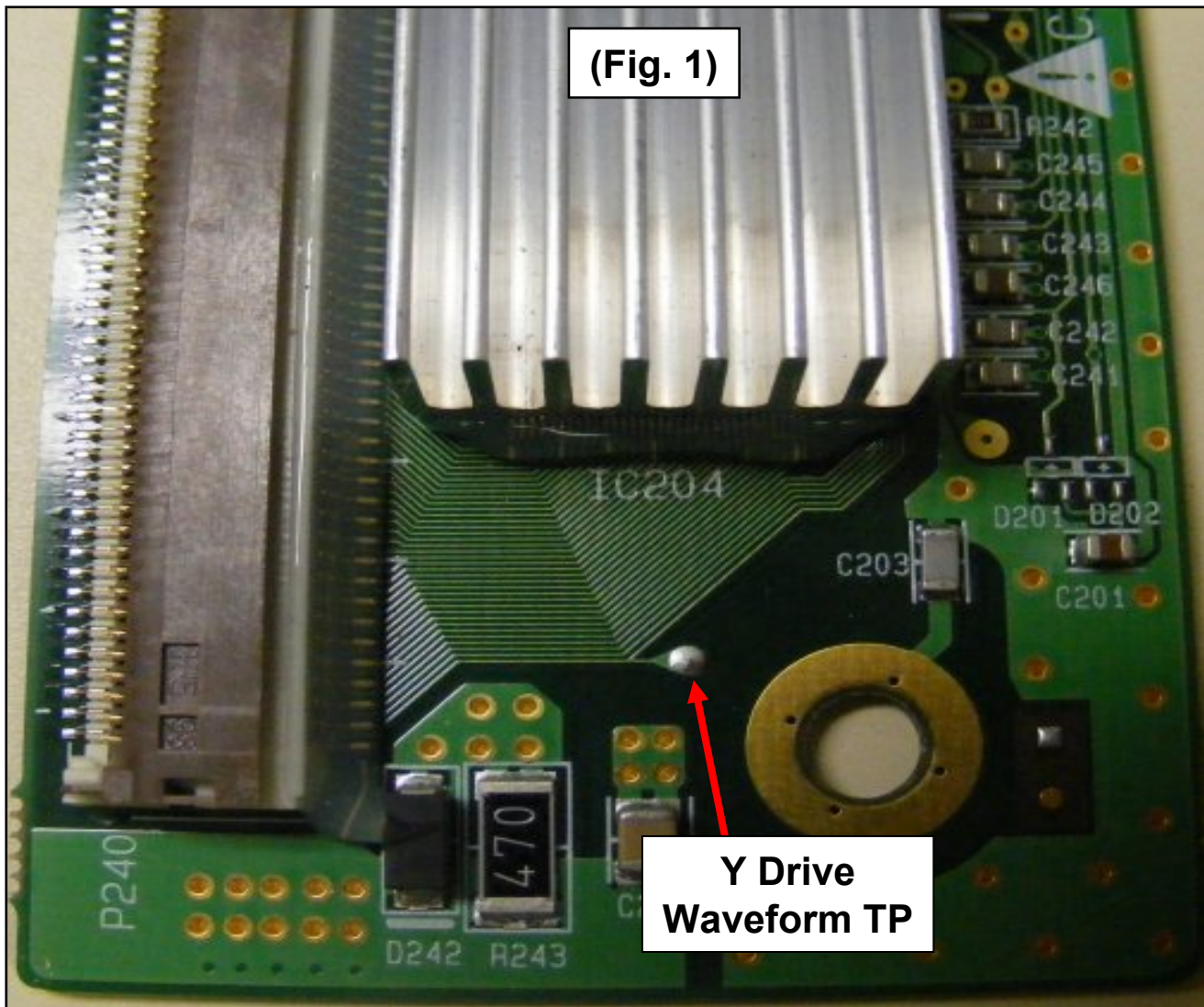
*Lower Left Side Of Board*



## 50G1 Y Drive Waveform Test Point

Figure 1 shows the Y-Drive Waveform Test Point on the Y-Drive PWB. Indicated by the Arrow. There are several test points that can be used, but they are not marked. Look just above and below each output buffer. Three of the heat sinks will have test points just like the one below.

Use this TP for alignment of the Y-Drive signal using Set-Up and Set-Down adjustments shown on the next page.



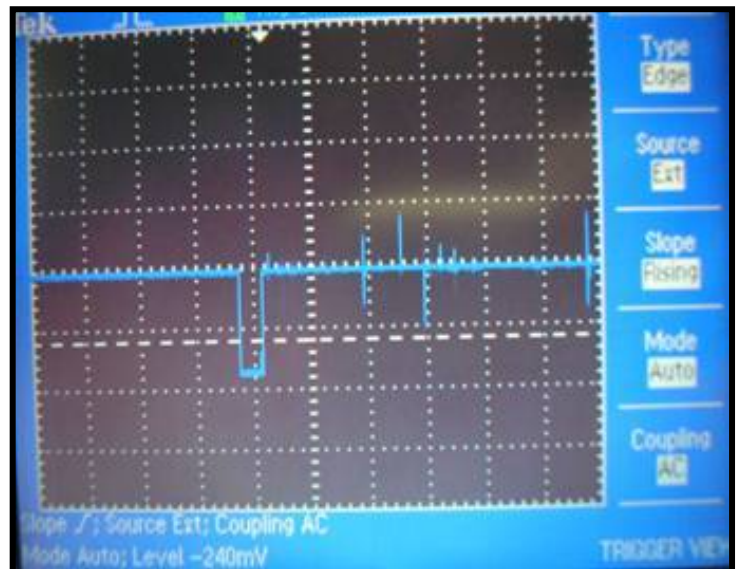
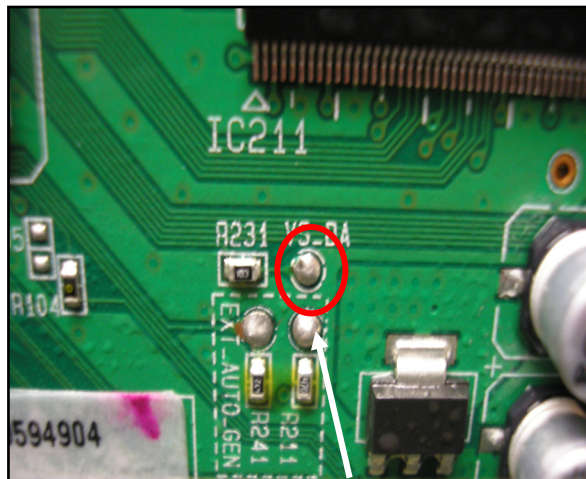
Bottom of the Y-Drive board.

## Observing the Y-SUS and Z-SUS Output Waveforms

External Triggering of the Oscilloscope allows for a Stable Display of both the Y and Z SUS Output Waveforms regardless of how distorted the waveforms may be, allowing the wave shape and phasing to be easily examined.

To set the Oscilloscope up for External Trigger first connect a Scope Probe set on direct to the External Input Jack. Next set the External Jack for AC Coupling either positive or negative slope, use the Trigger Menu on the Scope. Finally you will need to set the Trigger Level press the Trigger View and set the level as indicated in the picture below.

Trigger Level Adjust



**VS\_DA Located on the Control Board just above the AUTO Gen Test Points may be used as an external trigger source for locking the waveform on the Oscilloscope**

# 50G1 Y-DRIVE WAVEFORM ADJUSTMENT

## PRELIMINARY:

Adjustment locations for adjusting the Y-Drive waveform on the Y-SUS PWB shown below.

See Y-SUS Test Points and Adjustments diagram for detailed locations. (4 pages back).

See next page for Adjustment specifications.

**Right Center Top of PWB**



**Upper Left of PWB**





## 50G1 Y-SUS ADJUSTMENT PREPARATION:

### PREPARATION:

\*Be sure to use all adjustment values as indicated on the panel voltage label in the upper left hand corner of the panel.

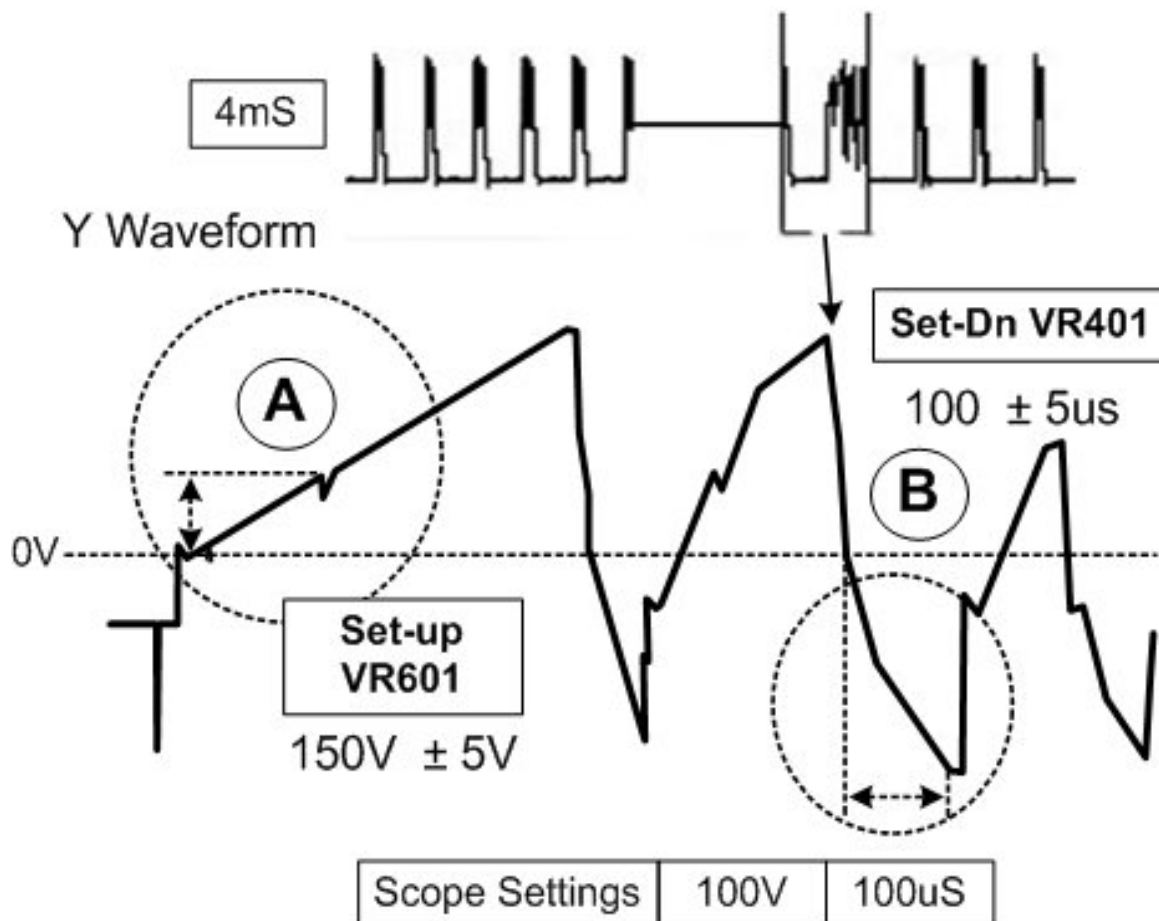
NOTE: All DC adjustments must be corrected prior to Adjustment of the Y-Drive waveform.

**Connect scope to Waveform TP. (Shown 3 pages back)**

### PROCEDURE:

**(See preceding page for adjustment locations)**

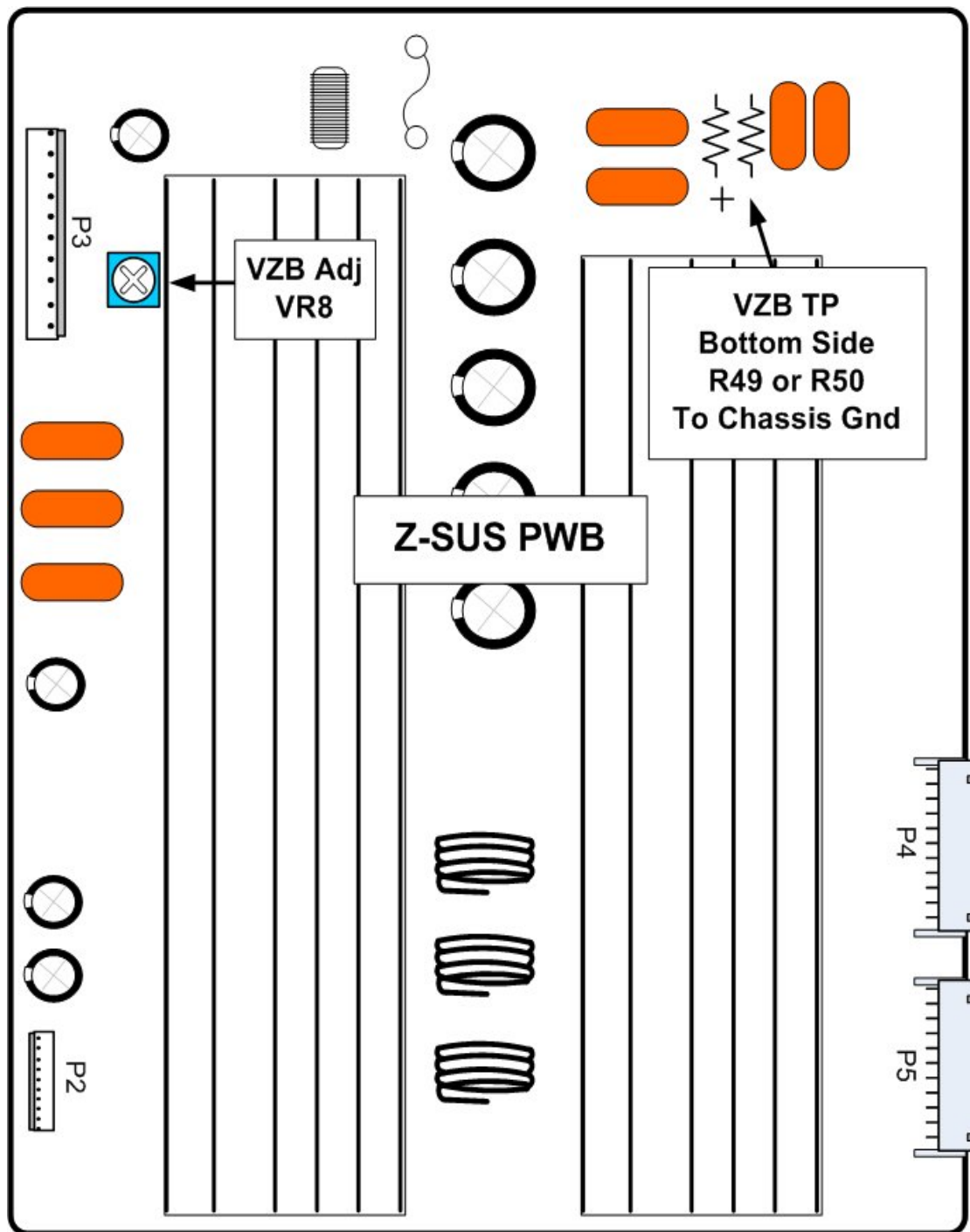
- 1) **SET-UP:** Adjust SET-UP VR601 until point "A" in diagram below is 150V pp  $\pm$  5V
- 2) **Set-DOWN:** Adjust SET-DOWN until point "B" in diagram below is 100uSec  $\pm$  5uS.



If V-Set-Dn exceeds 120us the unit will shut down.

If this occurs remove LVDS cable and readjust V-Set-Dn.

## 50G1 Z-SUS BOARD ADJUSTMENT POINTS



For Z-Waveform, attach scope to Z-SUS TP.  
Any bottom leg of any capacitor on the Z-SUB board.  
Be care, these legs are close together.

# 50G1 Zbias ADJUSTMENT

## PREPARATION:

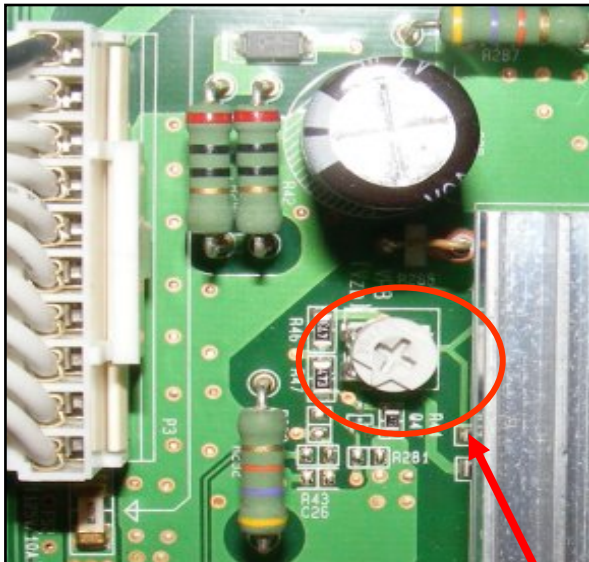
- 1) Pre-Heat unit for at least 10 Minutes before making adjustments.
- 2) Place unit into White Wash from the Customer's Menu for all adjustments.
- 3) **Be sure to use all adjustment values as indicated on the panel voltage label in the upper left hand corner of the panel. See example above.**

## PROCEDURE: (See figures for locations)

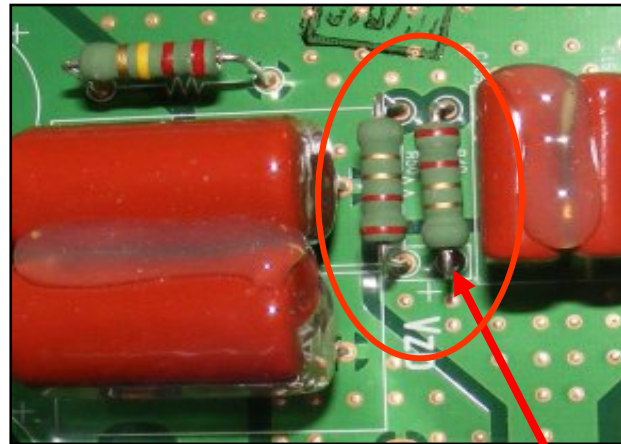
- 1) Adjust Zbias using VR8. Measured from the bottom side of R49 or R50 to chassis ground. Match Panel Voltage label  $\pm 1V$ .

Model : PDP 50G1####  
Voltage Setting: 5V / Va: 60V / Vs: 194V  
N.A. / -175 / 140 / N.A. / **80**  
Max Watt : 330 W (Full White)

Z Bias



Z Bias Adj  
VR8



Z Bias TP  
Bottom of  
R49 or R50  
To Chassis Gnd.

*Top Side Of Board*

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# 50G2 PLASMA PANEL

## QUICK REFERENCE

## ALIGNMENT HAND BOOK

### MODEL USING THE 50G2 PANEL

**50PQ20**

**50PQ30**



**LG**

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## 50G2 Vs / Va ADJUSTMENT

### PREPARATION:

- 1) Pre-Heat unit for at least 10 Minutes before making adjustments.
- 2) Place unit into White Wash from the Customer's Menu for all adjustments.
- 3) **Be sure to use all adjustment values as indicated on the panel voltage label in the upper left hand corner of the panel. See example above.**

Model : PDP 50G2####

Voltage Setting: 5V / **Va:60V** / **Vs:193V**

N.A. / -185 / 133 / N.A. / 80

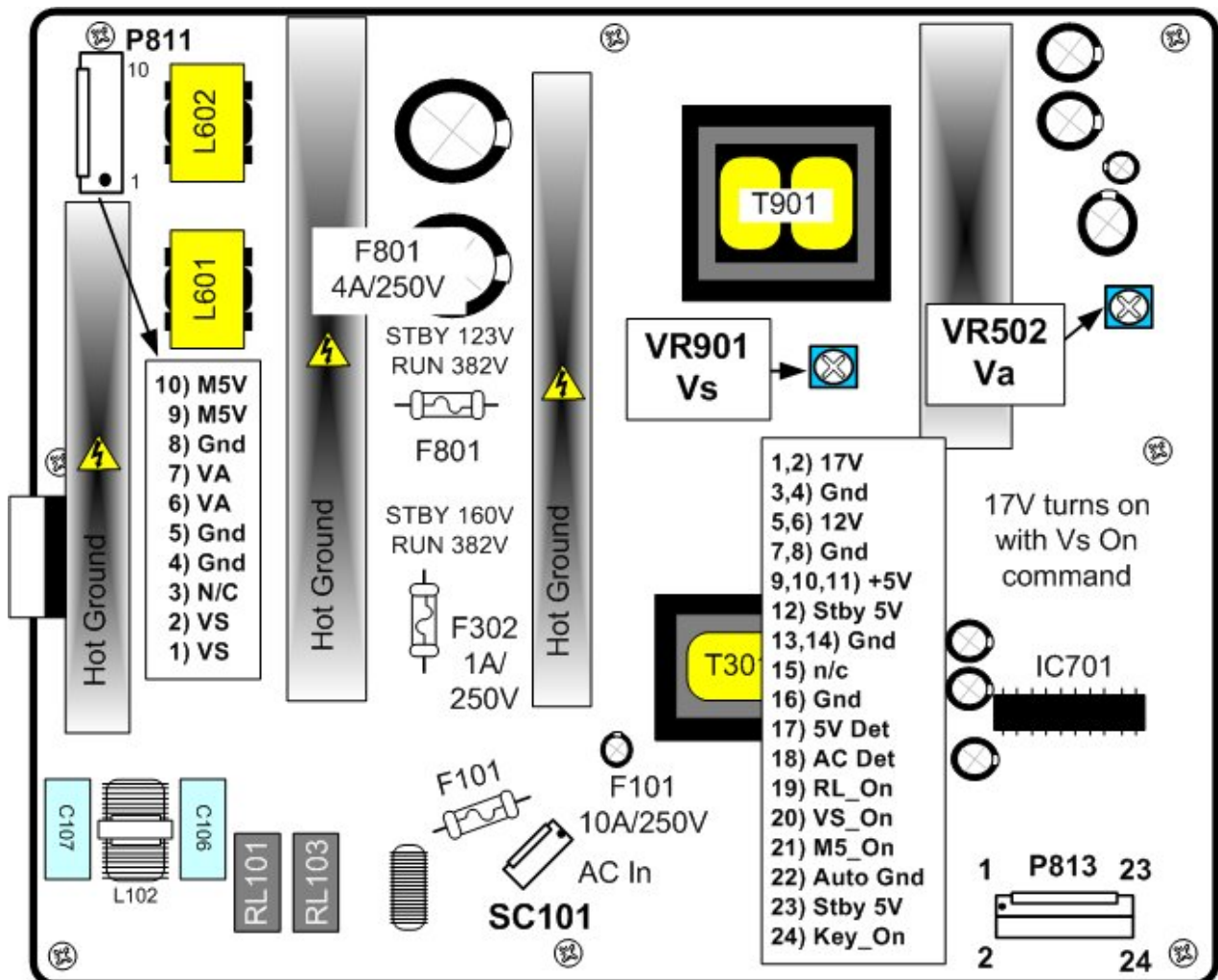
Max Watt : 350 W (Full White)

VA Adjust  
VR502

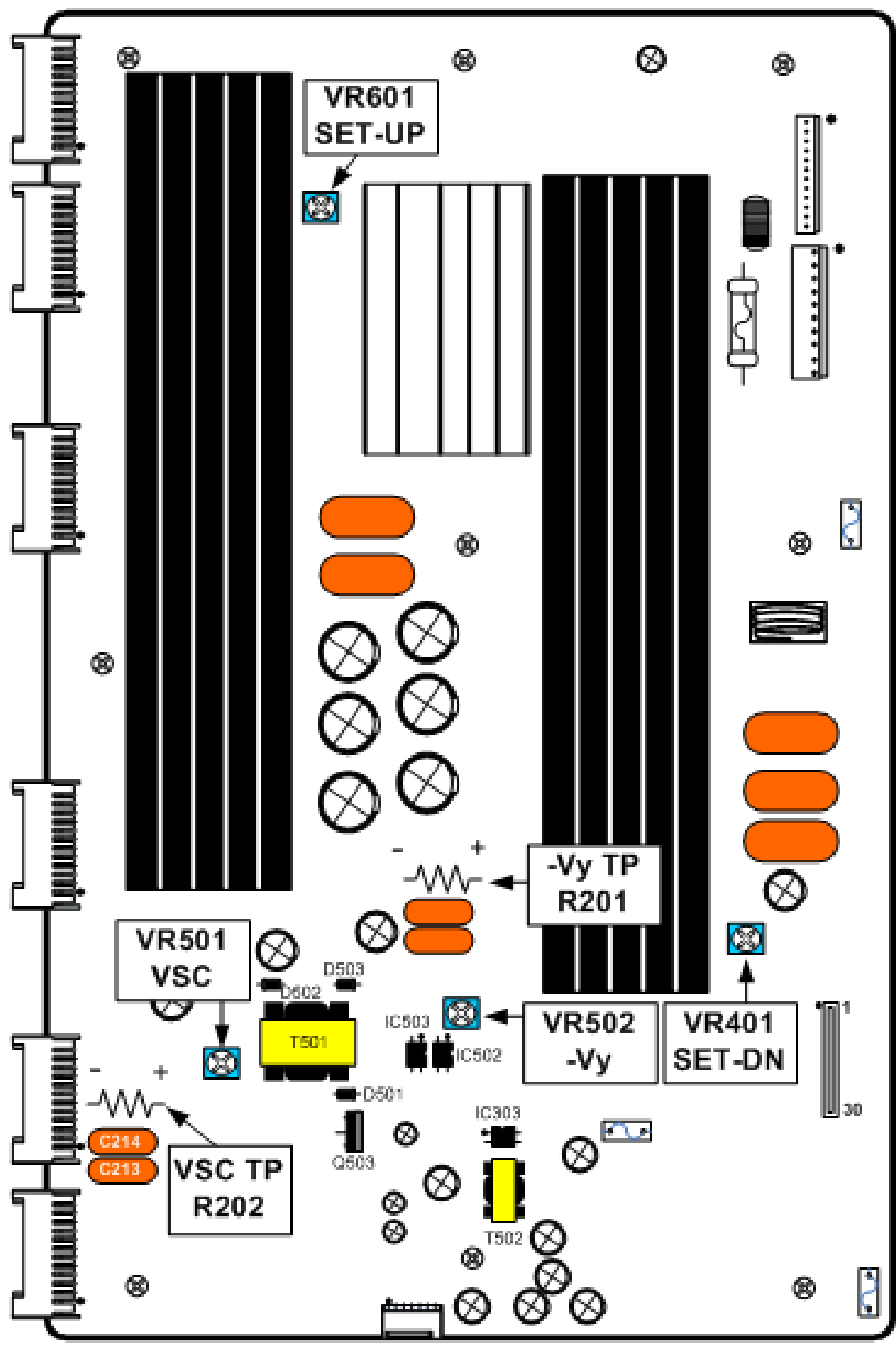
VS Adjust  
VR901

### PROCEDURE: (See figure for locations)

- 1) Adjust Vs using VR901. Measured from Pin 1 or 2 P811 to chassis ground. Match Panel Voltage label  $\pm 1V$ .
- 2) Adjust Va using VR502. Measured from Pin 6 or 7 P811 to chassis ground. Match Panel Voltage label  $\pm 1V$ .



50G2 Y-SUS BOARD ADJUSTMENT POINTS





## 50G2 Y Drive Waveform Test Point

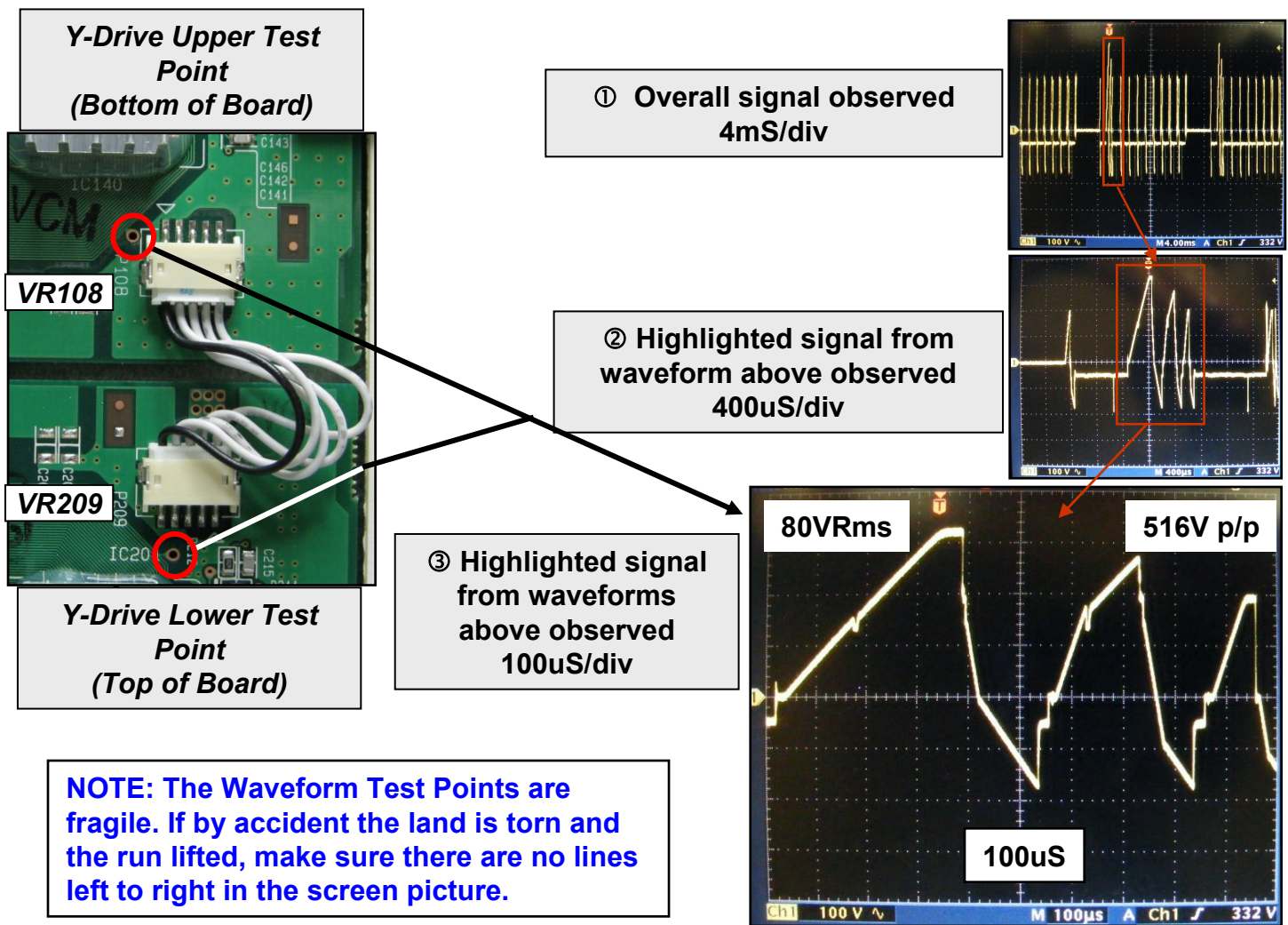
The Figure below shows the Y-Drive Waveform Test Points on the Y-Drive boards. Indicated by the circles. There are several test points that can be used, but they are not marked. Look just above and below each output buffer.

Use this TP for alignment of the Y-Drive signal using Set-Up and Set-Down adjustments shown on the next page.

(Fig. 1)

There are several other test points on either the Upper or Lower Y-Drive boards that can be used.

Basically any output pin on any of the FPC to the panel are OK to use.





## Observing the Y-SUS and/or Z-SUS Output Waveforms

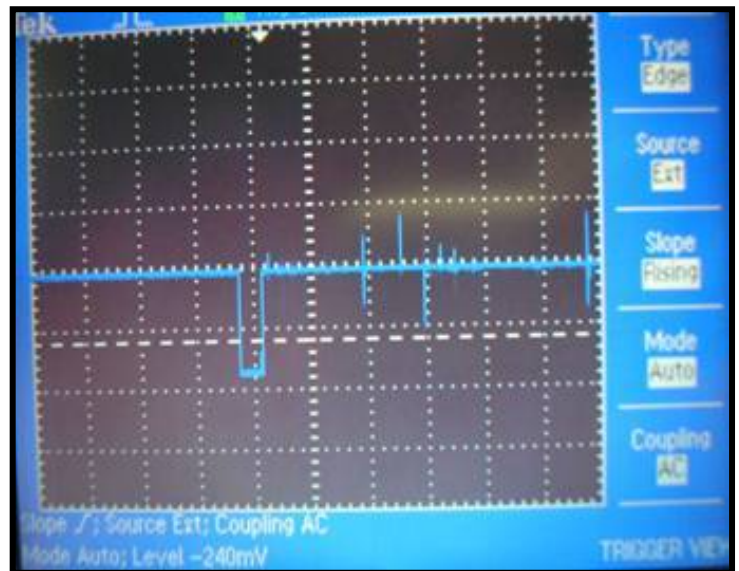
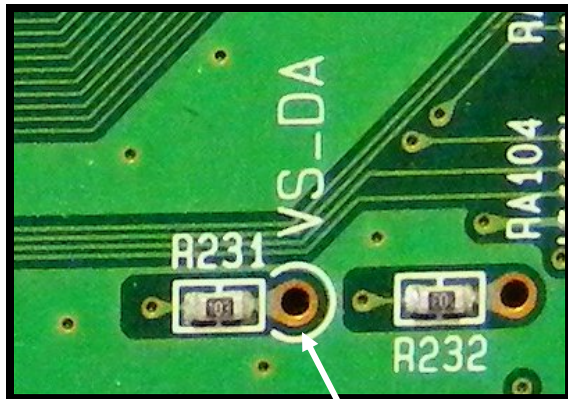
External Triggering of the Oscilloscope allows for a Stable Display of both the Y-SUS and Z SUS Output Waveforms. Regardless of how distorted the waveforms may be, using this TP will assist in locking the scope, allowing the wave shape and phasing to be easily examined.

To set the Oscilloscope up for External Trigger first connect a Scope Probe set on direct to the External Input Jack.

Next set the External Jack for AC Coupling either positive or negative slope, use the Trigger Menu on the Scope.

Finally you will need to set the Trigger Level press the Trigger View and set the level as indicated in the picture below.

Trigger Level Adjust



VS\_DA Located on the Control Board just above the AUTO

Gen Test Points. This TP may be used as an external trigger source for locking the waveform on the Oscilloscope

## 50G2 Y-DRIVE WAVEFORM ADJUSTMENT

**PRELIMINARY: Set must be in "WHITE WASH"**

**All other DC Voltage adjustments should have already been made.**

Adjustment locations for adjusting the Y-Drive waveform are on the Y-SUS board. See Y-SUS Test Points and Adjustments diagram for detailed locations.

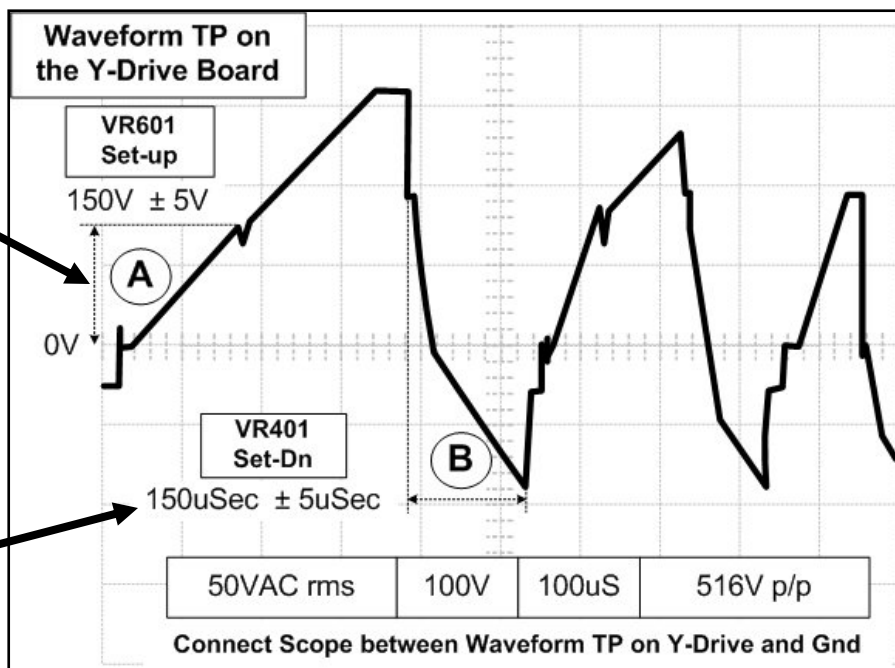
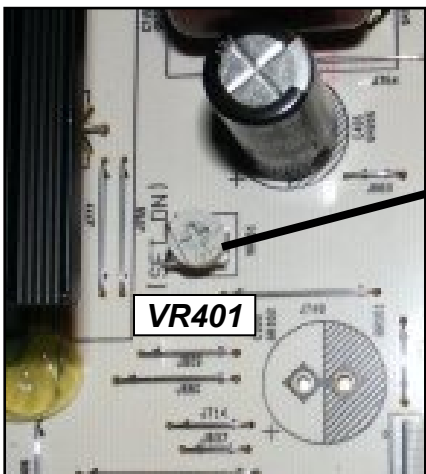
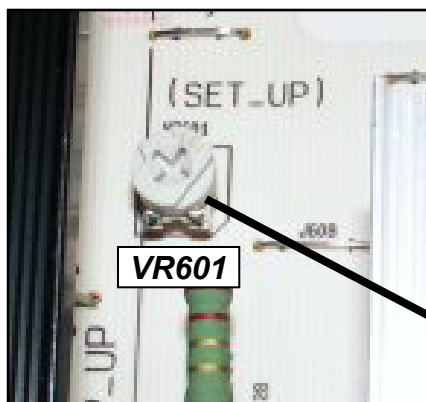
(4 pages back).

### SET-UP ADJUST:

- 1) Adjust **VR601** and set the **(A)** portion of the signal to match the waveform below. ( $150V \pm 5V$ )

### SET-DN ADJUST:

- 2) Adjust **VR401** and set the **(B)** time of the signal to match the waveform below. ( $150\mu\text{Sec} \pm 5\mu\text{Sec}$ )



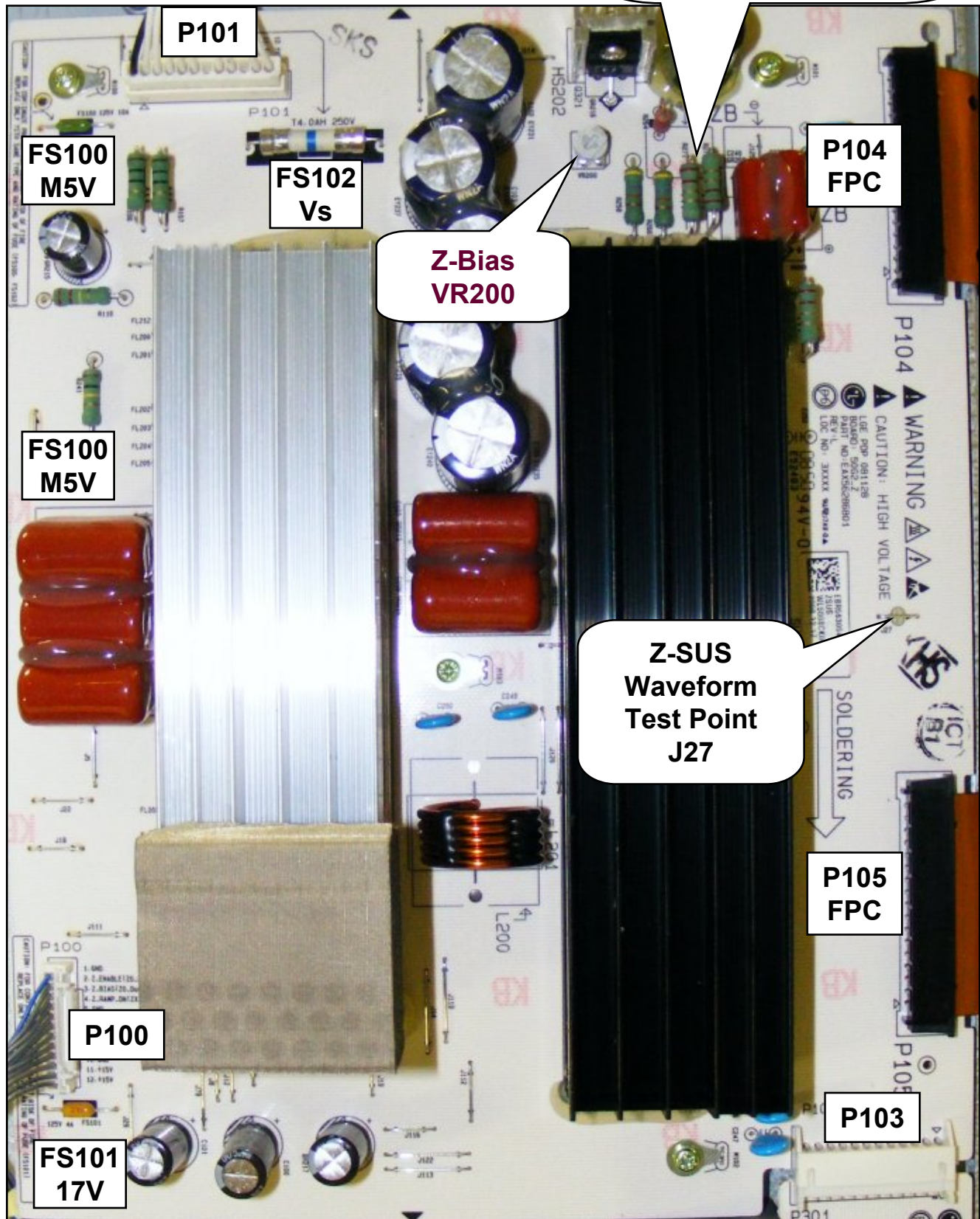
### ADJUSTMENT LOCATIONS:

Top Left VR601.  
Center Right VR401



## 50G2 Z-SUS BOARD ADJUSTMENT POINTS

**Z-Bias TP**  
Top of R271 or R272  
To Chassis Ground



## 50G2 Z-SUS Z BIAS (VZB) ADJUSTMENT

**PRELIMINARY:** Set must be in “WHITE WASH”

All other DC Voltage adjustments should have already been made.

**Note:** You can also measure across C239 for the VZB (Zbias) adjustment.

Model : PDP 50G2####

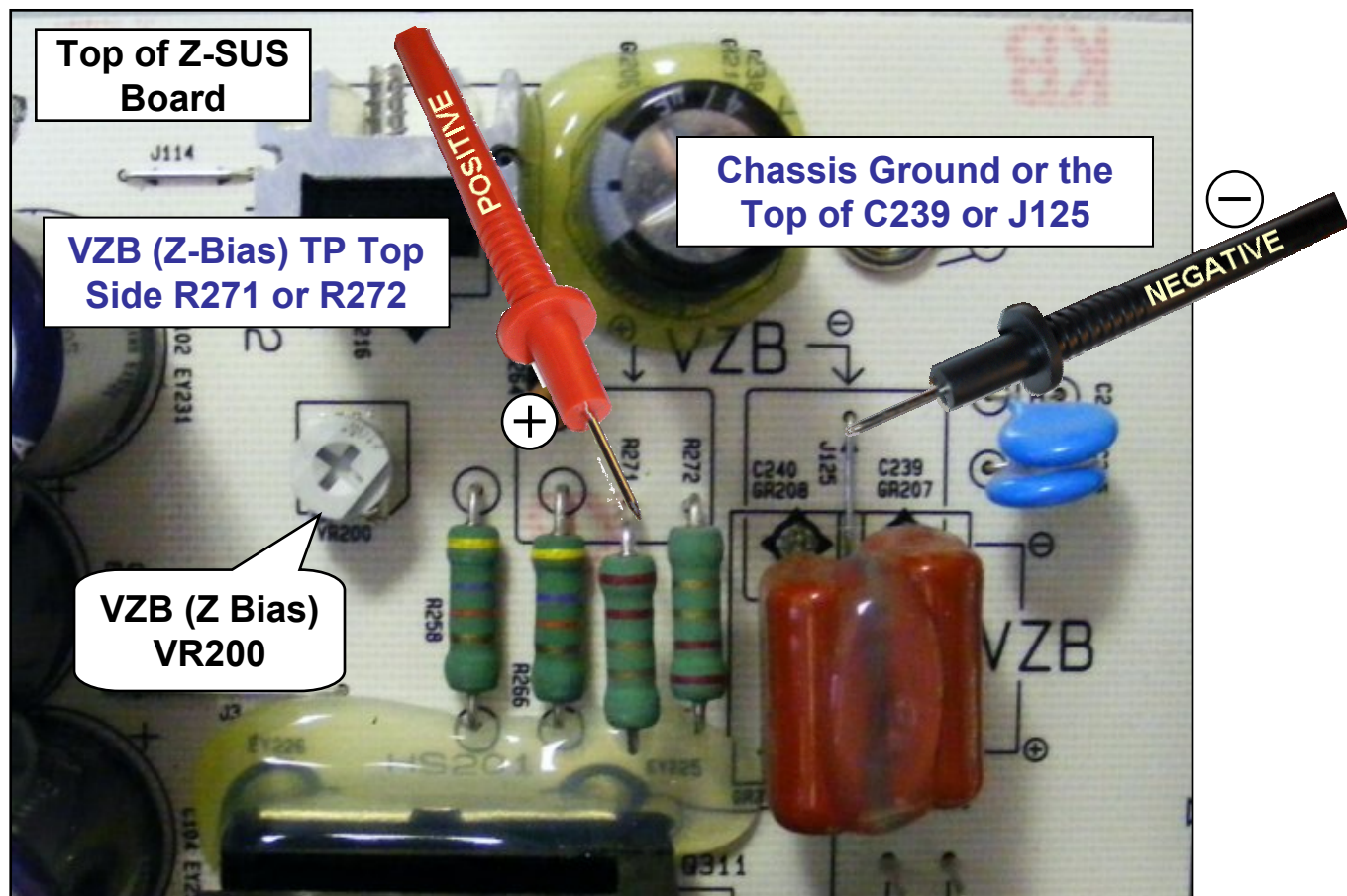
|||||

Voltage Setting: 5V / Va: 60V / Vs: 193V

N.A. / -185 / 133 / N.A. / 80

Z Bias

Read the Label on the back of the upper left hand side of the panel when adjusting VR200.



**Adjustment:**

VZ (Z-Bias) to match your specific Panel's Voltage Label ( $\pm 1V$ )

Measured from Chassis Ground

# 50H1 PLASMA PANEL

## QUICK REFERENCE

## ALIGNMENT HAND BOOK

### MODELS USING THE 50H1 PANEL

**50PF95ZA**

**50PY3DFUA**

**50PY3DFUJ**

**50PY3DR**

**50PY3DRNB**



**LG**

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# 50H1 SMPS BOARD ADJUSTMENT POINTS

The Vs/Va voltages are adjustable and should be adjusted to the correct values as indicated by the panel label. Example on right.

Always adjust “Highest to Lowest” voltages.

VS and VA adjustment resistors are shown in the drawing below.

They are located towards the top right hand side of the board.

RV951 is the VS adjustment pot.

RV901 is the VA adjustment pot.

**Set should be in “Full White Raster”**

1) **VS ADJUST:** Connect DVM to pin 8, 9 or 10 of P812. Adjust **RV951** until the voltage matches the panel’s voltage label.

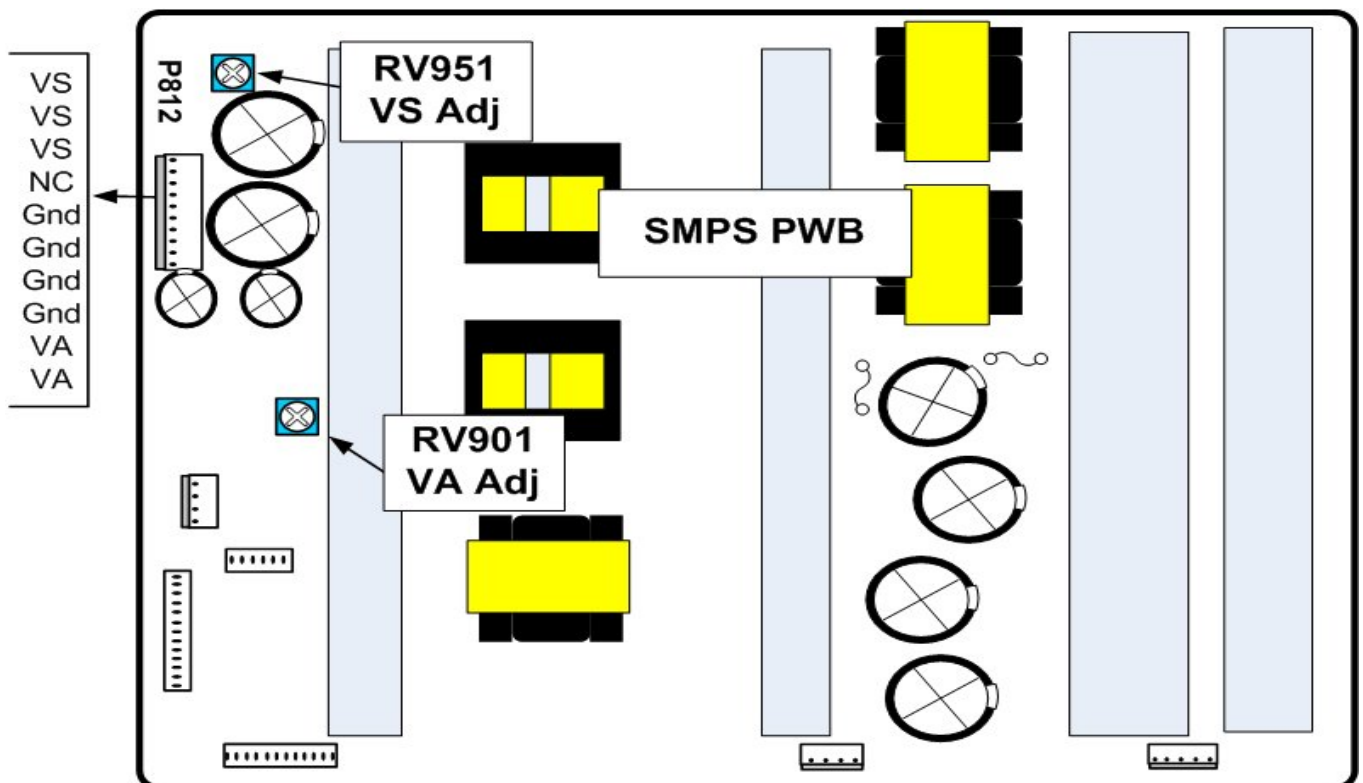
2) **VA ADJUST:** Connect DVM to pin 1 or 2 of P812. Adjust **RV901** until the voltage matches the panel’s voltage label.

All measurements taken from Chassis Gnd.

Model : PDP 50H1###  
Voltage Setting: DC 5.3V/ **Va:60** / **Vs:190**  
N.A. / -180 / 125 / N.A. / 115  
Max Watt : 570 W (Full White)

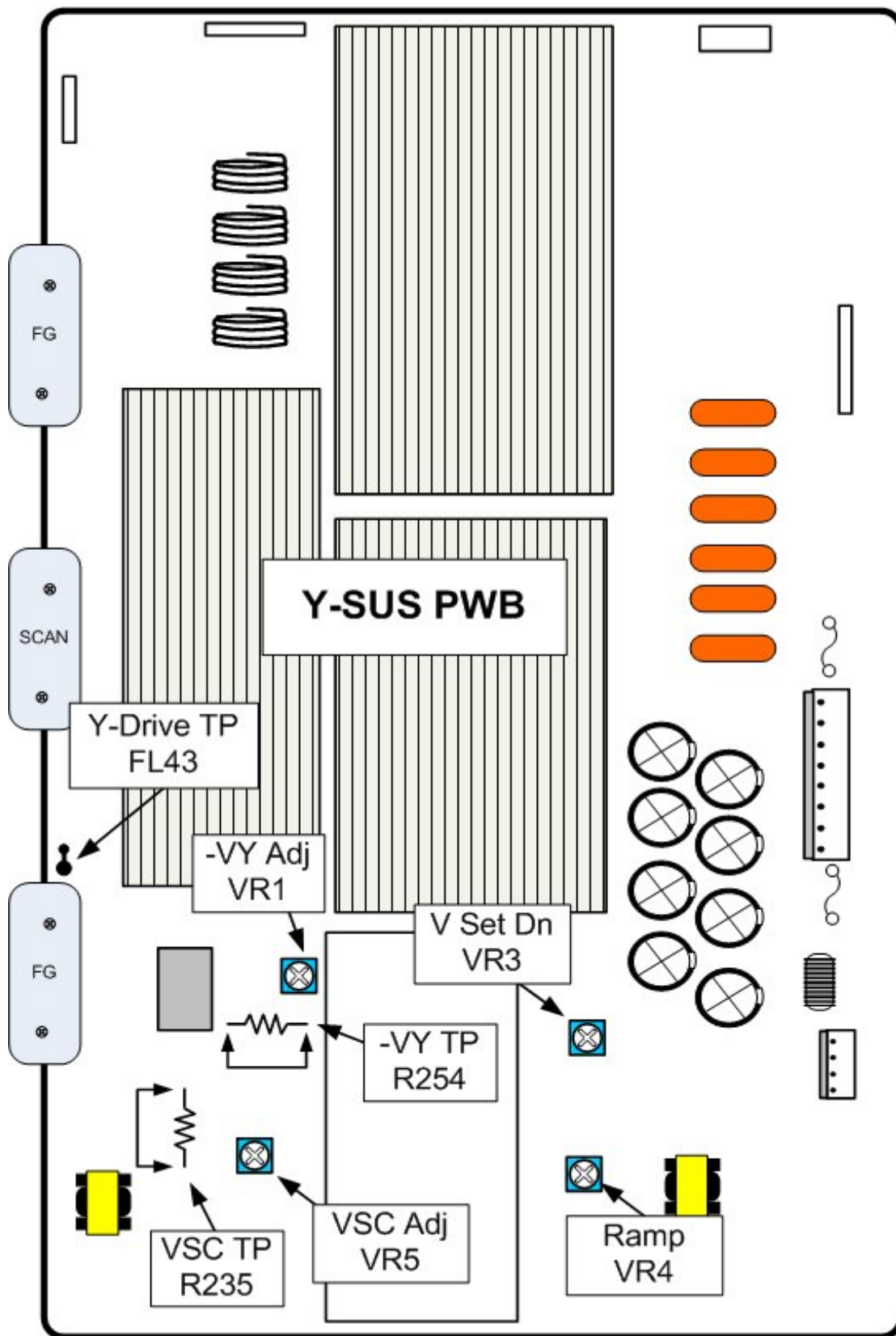
VA-Adj VS-Adj

50H1 PANEL





# 50H1 Y-SUS BOARD ADJUSTMENT POINTS





# VSC and -Vy Voltage Adjustment Locations

These voltages are adjustable and should be adjusted to the correct values as indicated by the panel's voltage label. Example shown above.

Model : PDP 50H1###  
Voltage Setting: DC 5.3V/ Va:60/ Vs:190  
N.A. / -180 / 125 / N.A. / 115  
Max Watt : 570 W (Full White)

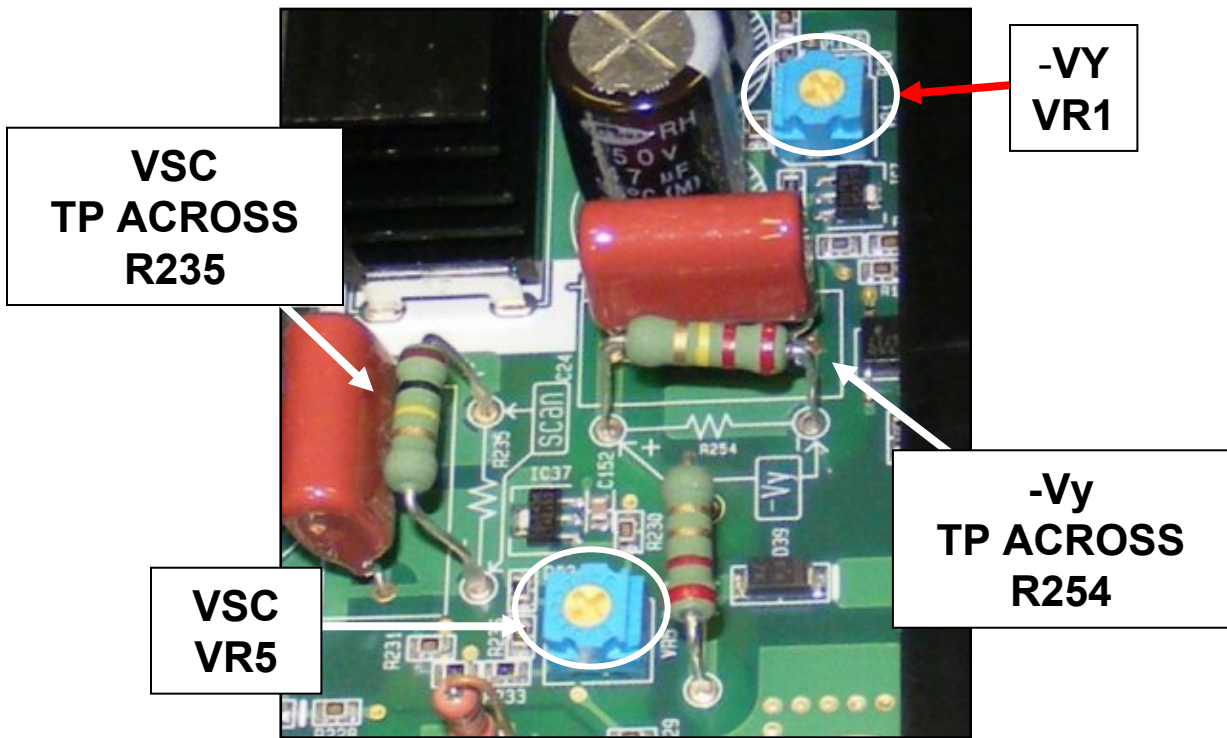
-Vy    VSC

**-Vy (VR1)** variable resistor.

Adjust the -Vy (**VR1**) while reading across **R254**.  
Match your specific panel's voltage label.

**VSC (VR5)** variable resistor.

Adjust the VSC (**VR5**) while reading across **R235**.  
Match your specific panel's voltage label.

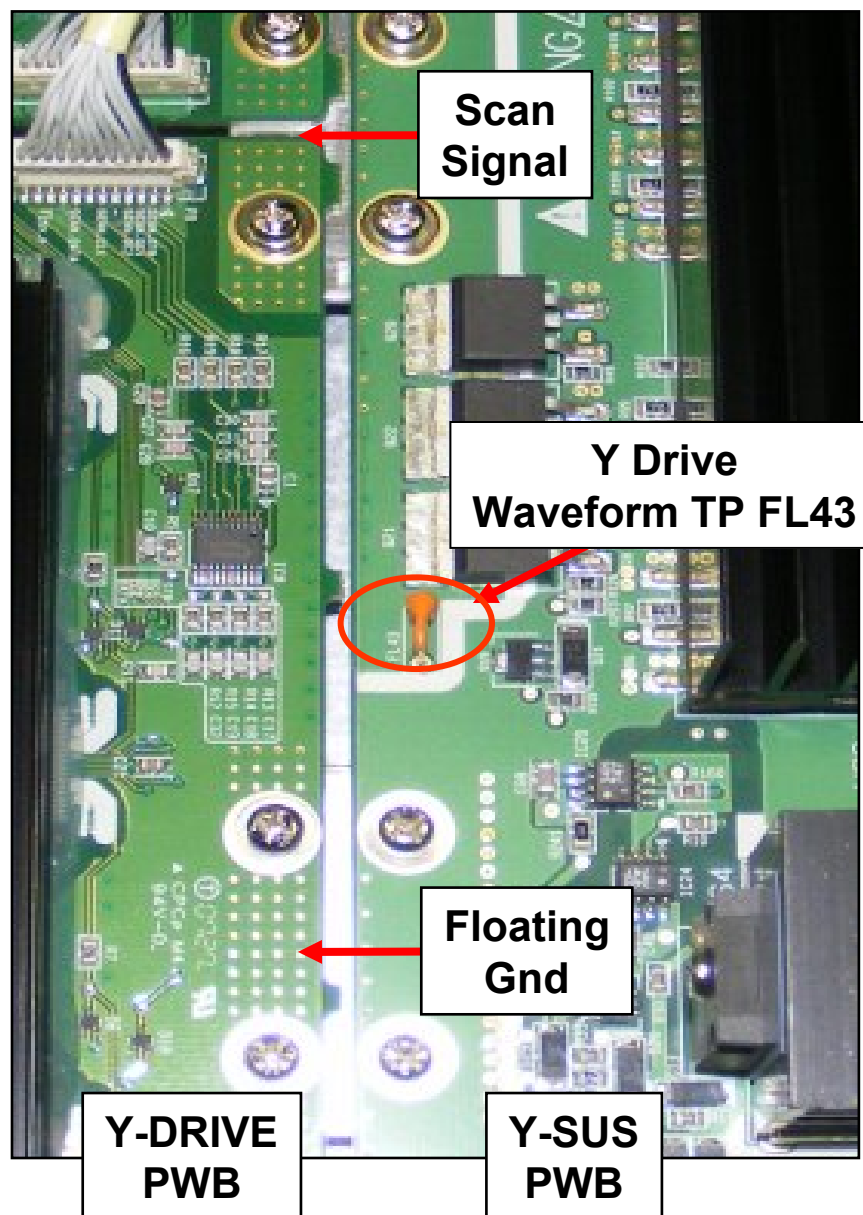


Bottom Center Left of the board.

## 50H1 Y Drive Waveform Test Point

Figure 1 shows the Y-Drive Test Point FL43 on the Y-SUS PWB with the area outlined in the Red circle.

Use this TP for alignment of the Y-Drive signal using Set-Up and Set-Down adjustments shown on the next page.



(Fig. 1)

Center Left of the Y-SUS board.

# 50H1 Y-DRIVE WAVEFORM ADJUSTMENT

VS, VA, VSC, -Vy should have been completed.

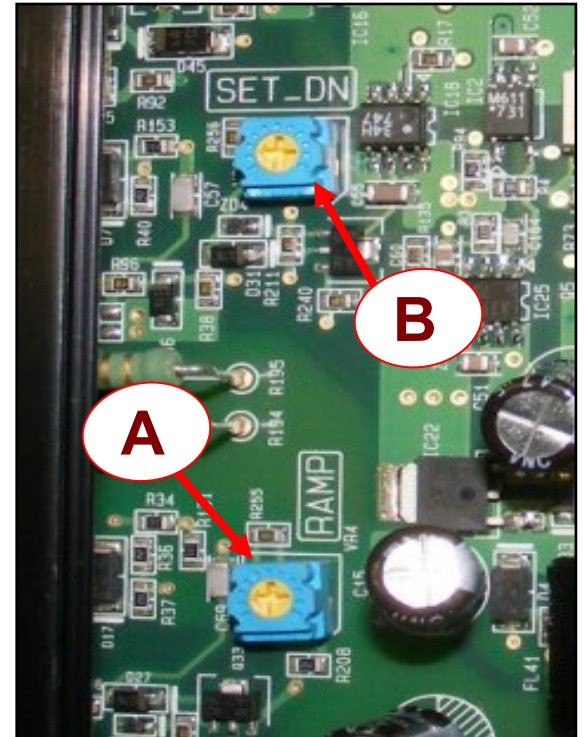
Using a Full White Raster, adjust the Set-up and Set-dn section of the Y-Drive waveform.

Oscilloscope TP "Waveform" TP FL43 on the Y-SUS PWB.

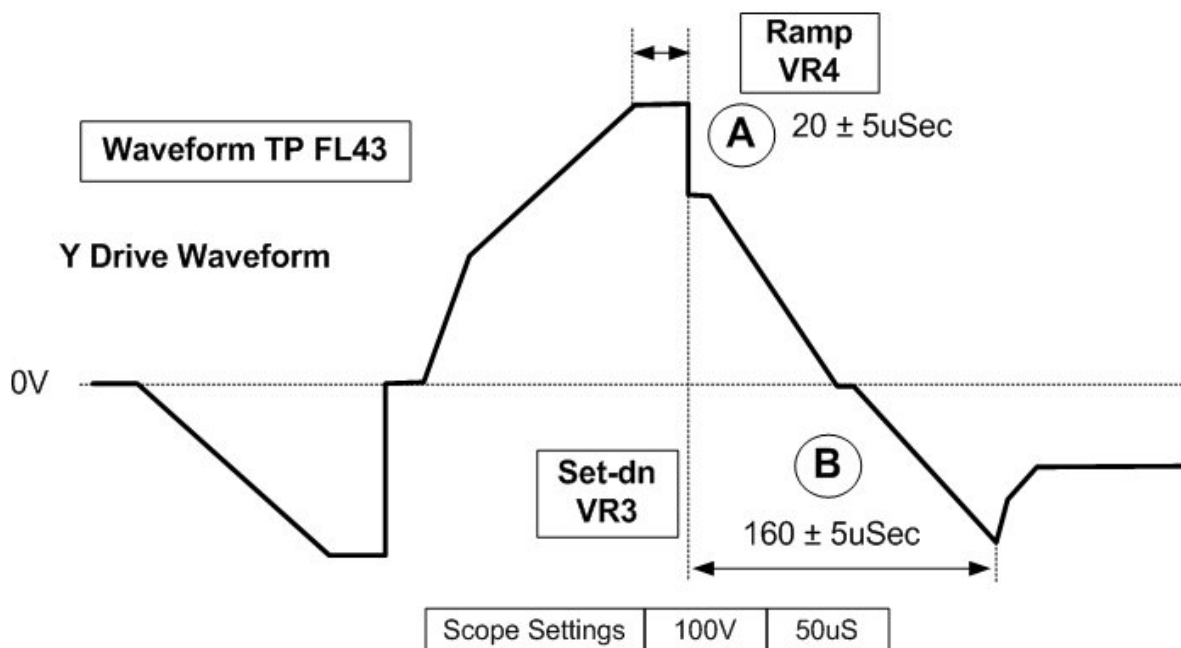
**(A) Ramp:** Adjust **VR4** while observing area **(A)** and set to **20uSec  $\pm$  5uSec**.

**(B) Set-Down:** Adjust **VR3** while observing area **(B)** and set to **160uSec  $\pm$  5uSec**.

See Y-SUS Test Points and Adjustments diagram for locations.



*Bottom Center Right of the board.*



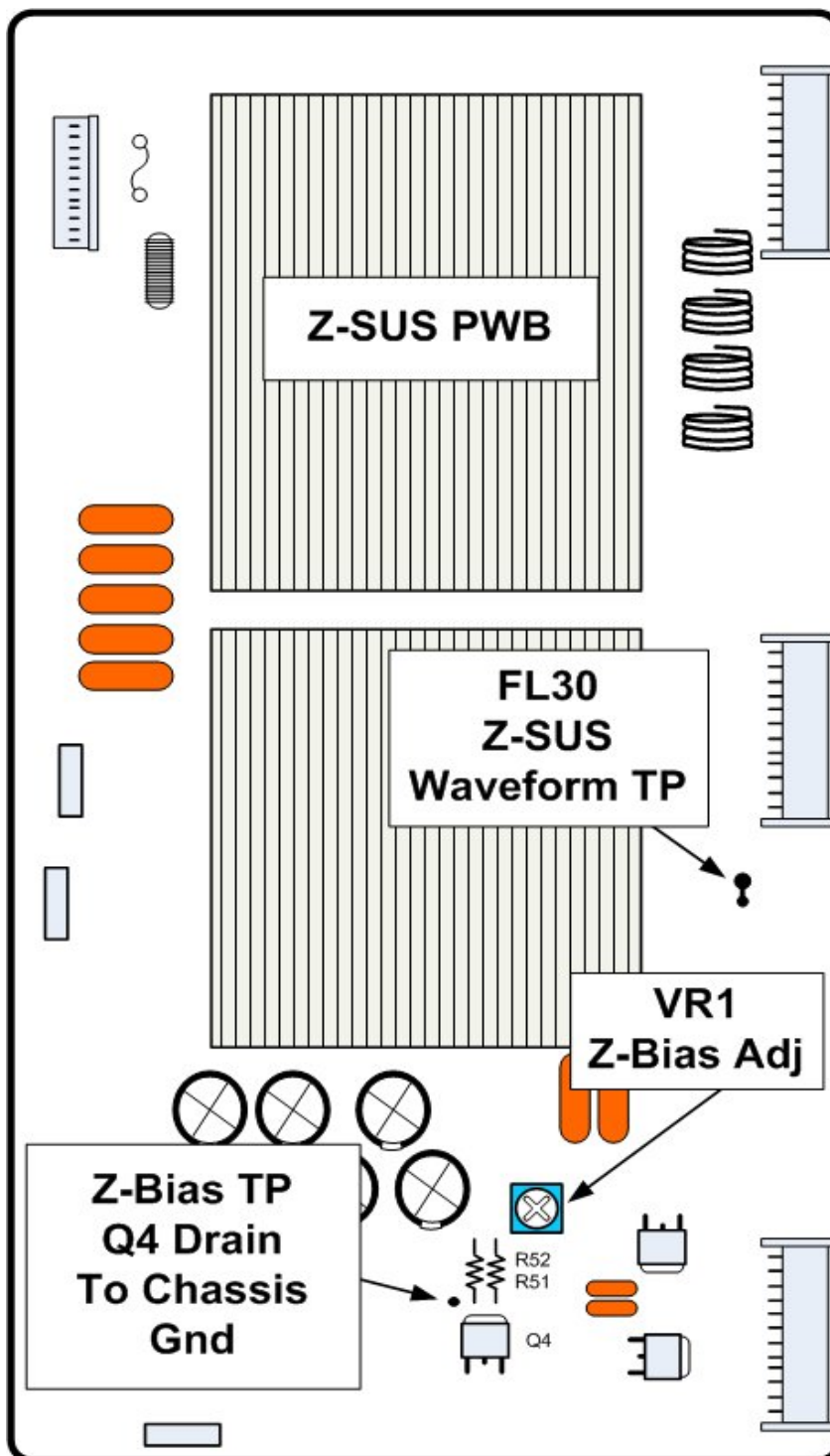
## 50H1 Z-SUS BOARD ADJUSTMENT POINTS

The picture to the right represents a 50H1 Panel Voltage Label. This is for an example only. Adjust your set's Z-Bias adjustment to your specific Panel's Voltage Label not this book.

Model : PDP 50H1###  
Voltage Setting: DC 5.3V/ Va:60/ Vs:190  
N.A. / -180 / 125 / N.A. / **115**  
Max Watt : 570 W (Full White)

Zbias

This picture represents the 50H1 Z-SUS PWB. Use this for reference to locate the Adjustment control and the adjustment Test Points.



50H1 PANEL



# 50H1 Z-SUS BOARD ADJUSTMENT POINTS

VS, VA, VSC, -Vy should have been completed.

Model : PDP 50H1###  
Voltage Setting: DC 5.3V/ Va:60/ Vs:190  
N.A. / -180 / 125 / N.A. / **115**  
Max Watt : 570 W (Full White)

Zbias

## Full White Raster

- 1) Connect DVM (+) right side **Gate of Q4**. Measured from Chassis Gnd.
- 2) Adjust Z-Bias (**VR1**) to match your specific panel's voltage label.

Z Bias Adjust  
VR1

Z Bias Test Point  
Gate of Q4  
To Chassis Ground



*Bottom of the board.*

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# 50H2 PANEL

## QUICK REFERENCE

## ALIGNMENT SECTION

### MODELS USING THE 50H2 PANEL

**50PG60**

**50PG30**



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# 50H2 SMPS PWBs ADJUSTMENT POINTS

Set should be in “Full White Raster”

These two voltages are adjustable and should be adjusted to the correct values as indicated by the panel label.

Example shown on the right.

Always adjust “Highest to Lowest” voltages.

VS and VA adjustment resistors are shown in the drawing below.

They are located at the top left of the board.

VR951 is the VS adjustment pot.

VR901 is the VA adjustment pot.

VR951  
VA-Adj

VR901  
VS-Adj

Model : PDP 50H2####

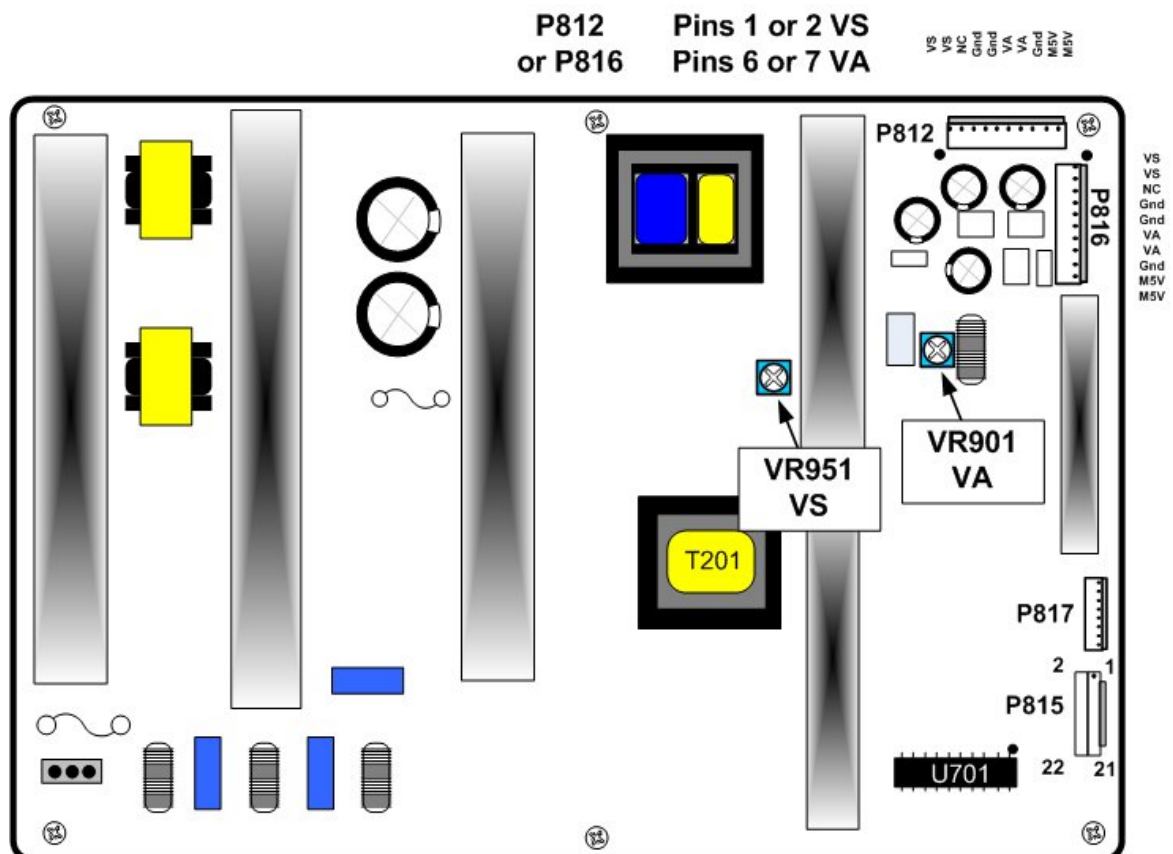
Voltage Setting: 5.0V / Va:65 / Vs:195

N.A. / -175 / 140 / N.A. / 120

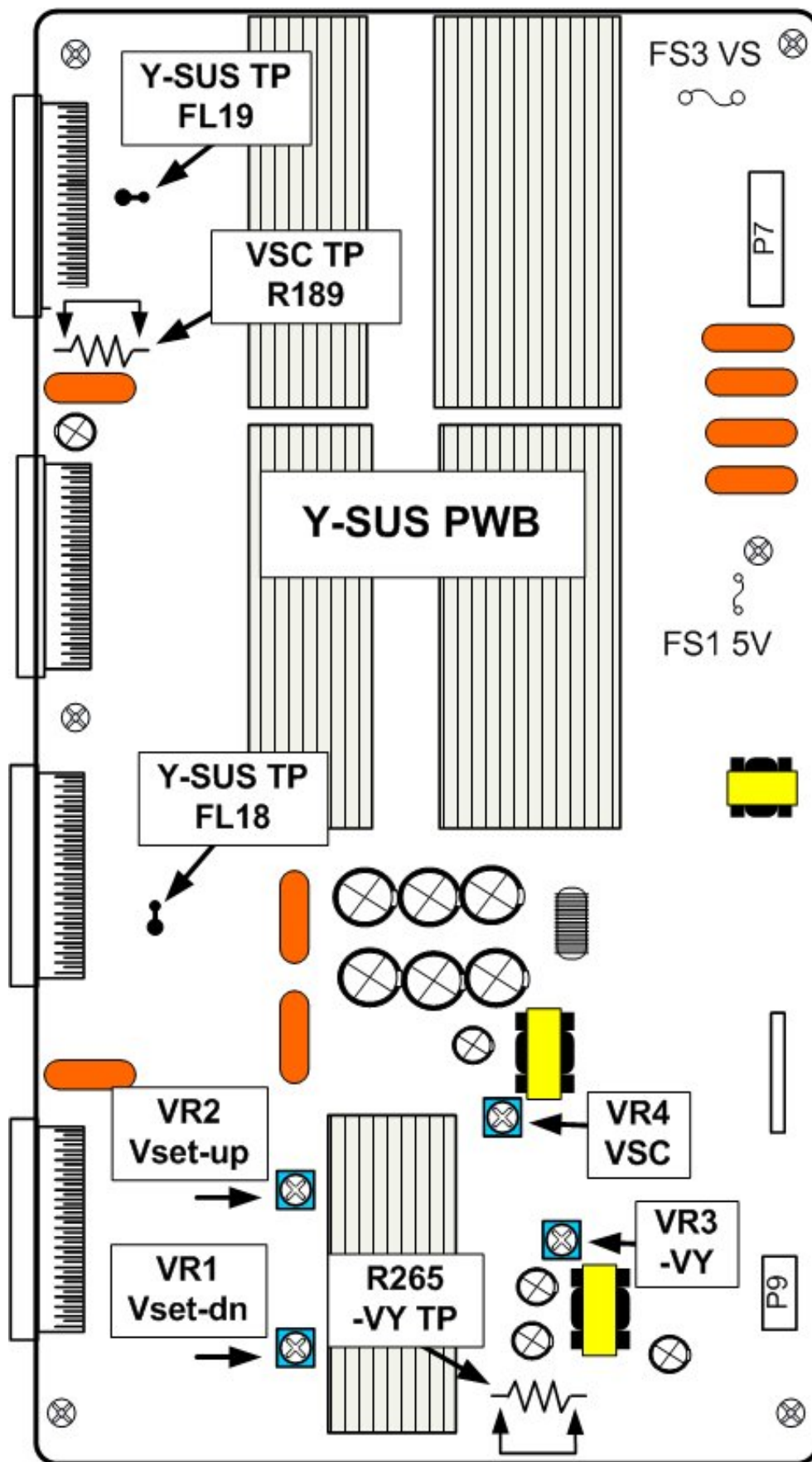
Max Watt : 550 W (Full White)

1) **VS ADJUST:** Connect DVM to pin 1 or 2 of P812. Adjust VR951 until the voltage matches the panel’s voltage label.

2) **VA ADJUST:** Connect DVM to pin 6 or 7 of P812. Adjust VR901 until the voltage matches the panel’s voltage label.



# 50H2 Y-SUS BOARD ADJUSTMENT POINTS



# 50H2 VSC, -Vy ADJUSTMENTS

## PREPARATION:

- 1) Pre-Heat unit for 10 Minutes before making adjustments.  
Vs and Va adjustments complete.
- 2) Place unit into White Wash from the Customer's Menu for all adjustments.
- 3) **Be sure to use all adjustment values as indicated on your specific panel's voltage label in the upper right of the panel.**

Model : PDP 50H2####

Voltage Setting: 5.0V/ Va:65/ Vs:195

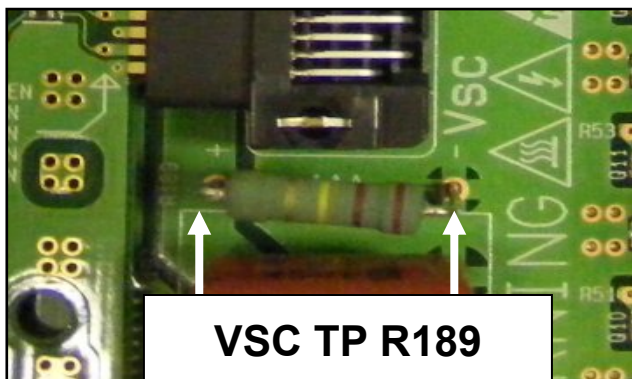
N.A. / -175 / 140 / N.A. / 120

Max Watt : 550 W (Full White)

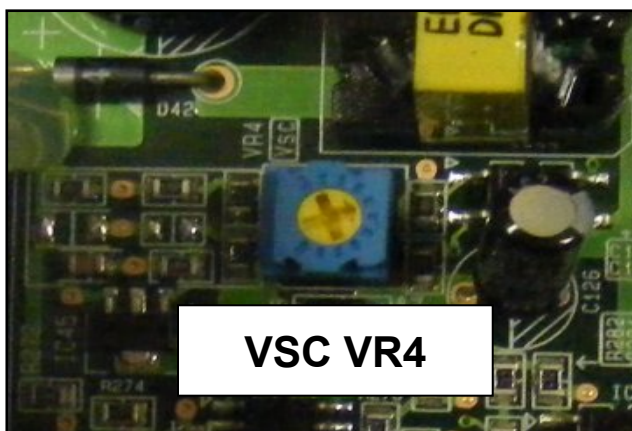
-Vy VSC

## PROCEDURE: (See figure below for locations)

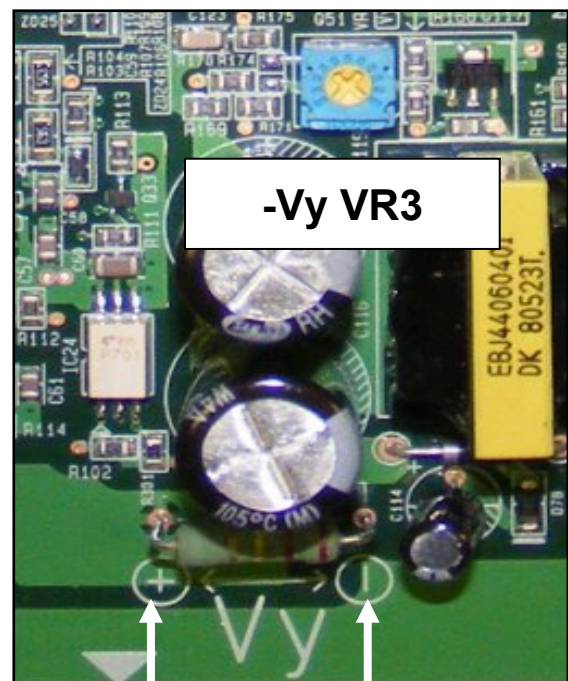
- 1) **Adjust -Vy VR3.** Measured across -Vy TPs **R265**.  
Match your specific Panel's Voltage label  $\pm 1V$ .
- 2) **Adjust VSC VR4.** Measured across VSC TPs **R189**.  
Match your specific Panel's Voltage label  $\pm 1V$ .



Location Upper left



Location Lower Center



Location Bottom Center

## 50H2 Y Drive Waveform Test Point

Two pages back show the Y-SUS PWB

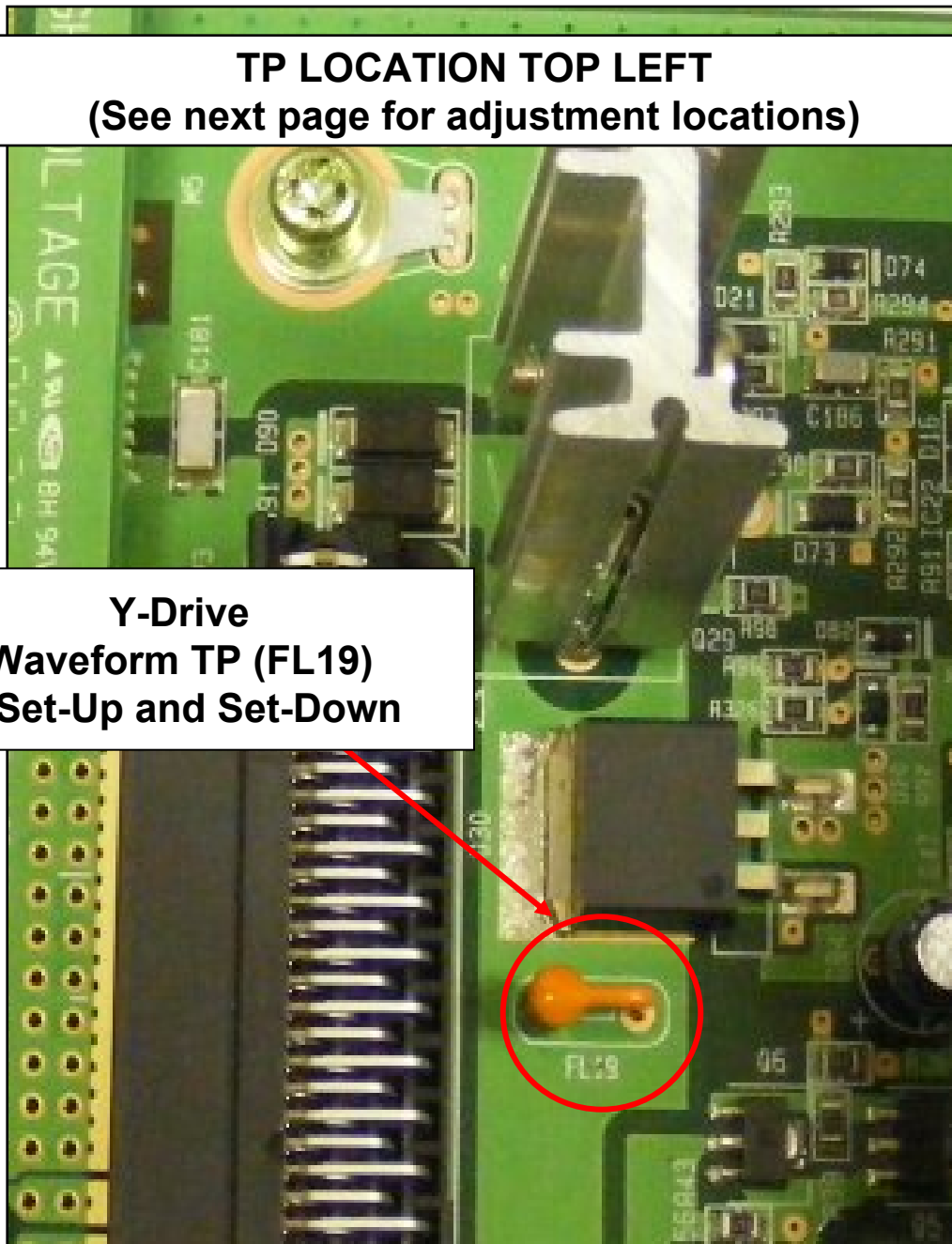
Figure Below:

Shows a close-up image of the Y-Drive waveform test point on the Y-SUS Board, **TP FL19**.

Set-Up and Set-Down portions of the waveform are adjusted using this TP.

**TP LOCATION TOP LEFT**  
(See next page for adjustment locations)

**Y-Drive  
Waveform TP (FL19)  
V Set-Up and Set-Down**





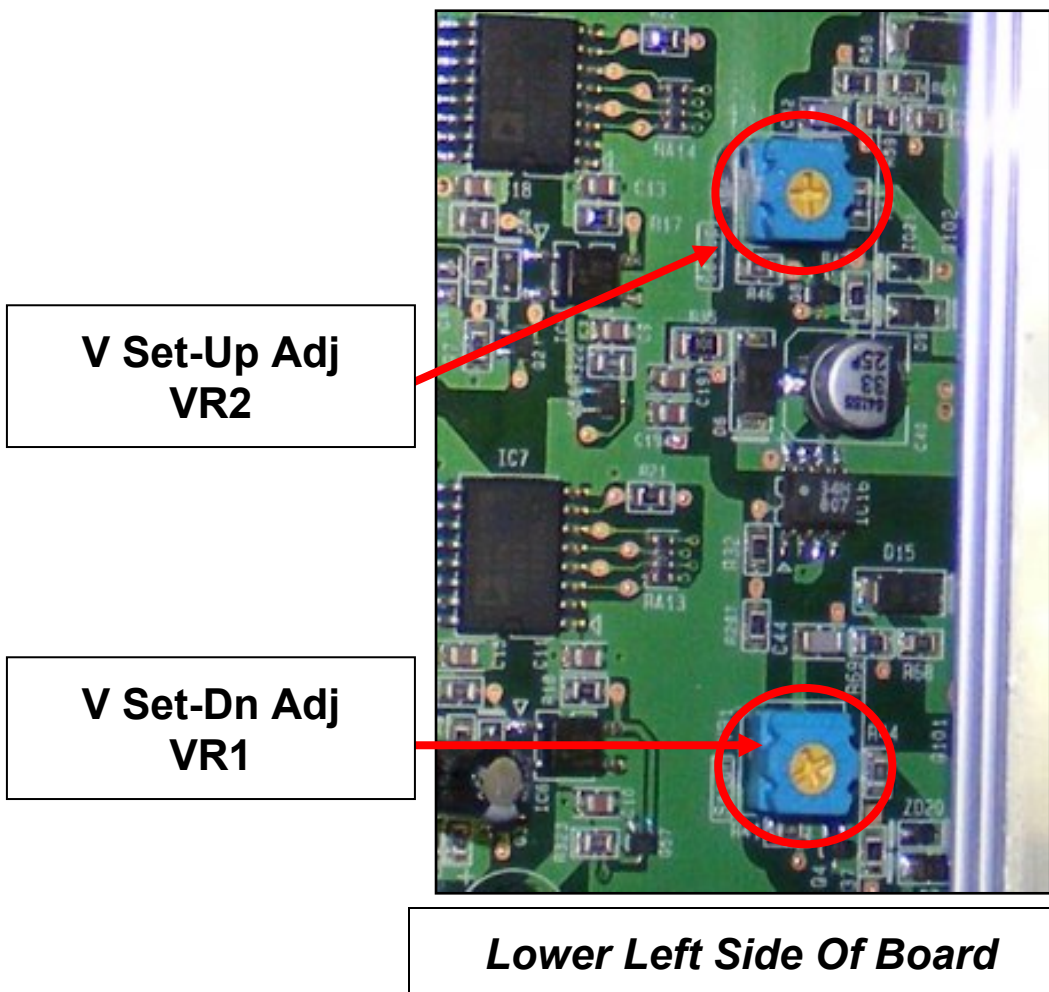
# 50H2 Y-DRIVE WAVEFORM ADJUSTMENTS

## PREPARATION:

- 1) Pre-Heat unit for at least 10 Minutes before making adjustments.  
Vs, Va, -Vy and VSC adjustments should be completed.
- 2) Place unit into White Wash from the Customer's Menu for all adjustments.
- 3) **Be sure to use all adjustment values as indicated on the panel voltage label on the panel.**  
(See figure below for adjustment locations)

(See Next page for adjustment specifications.)

## ADJUSTMENT LOCATIONS (See preceding page for TP location)



## 50H2 Y-Drive Waveform Adjustment

Using a Full White Raster, adjust the Y-Set-up and Set-dn section of the Y-Drive waveform.

**VS, VA, -Vy and VSC should have been adjusted.**

Oscilloscope TP on the “Waveform” TP (FL6) on the Y-SUS PWB.

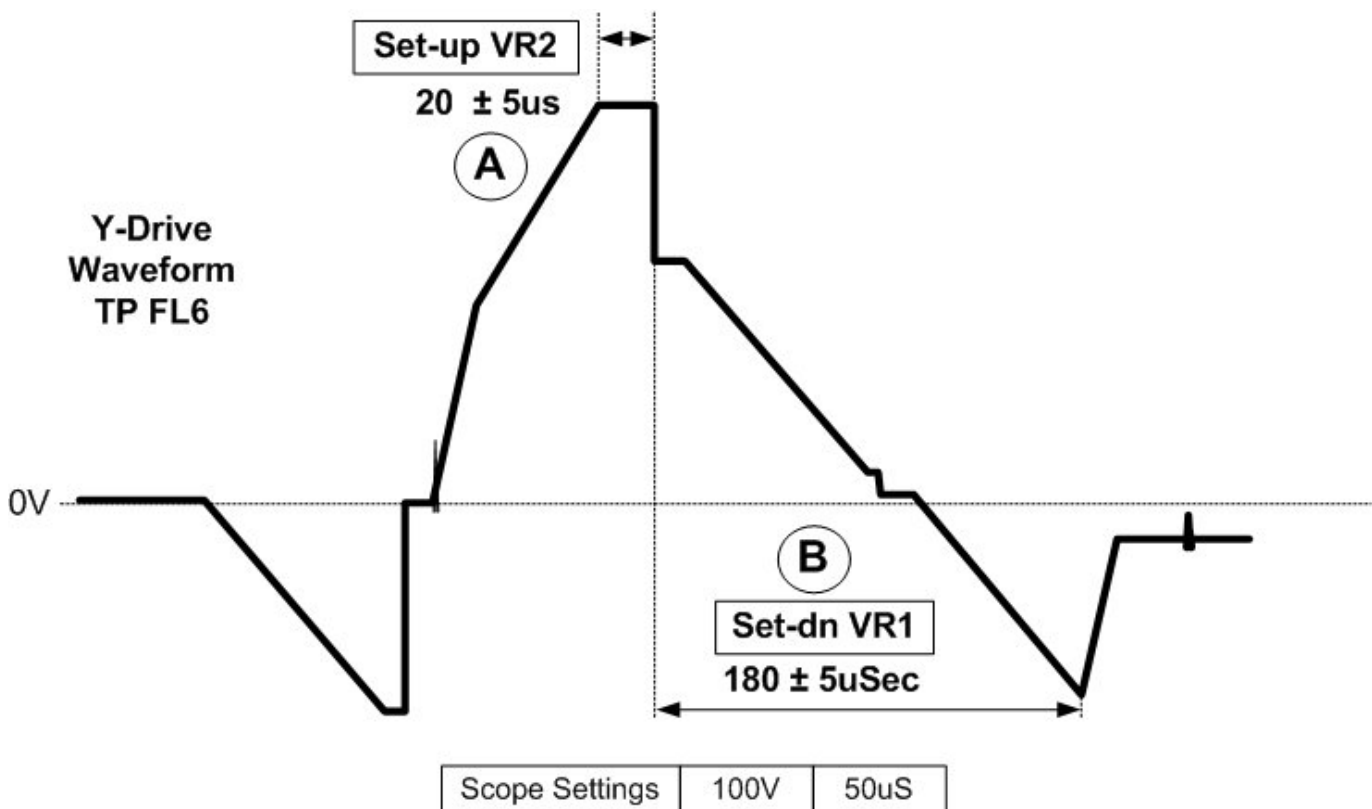
### RAMP ADJUSTMENT:

#### SET-UP ADJUSTMENT:

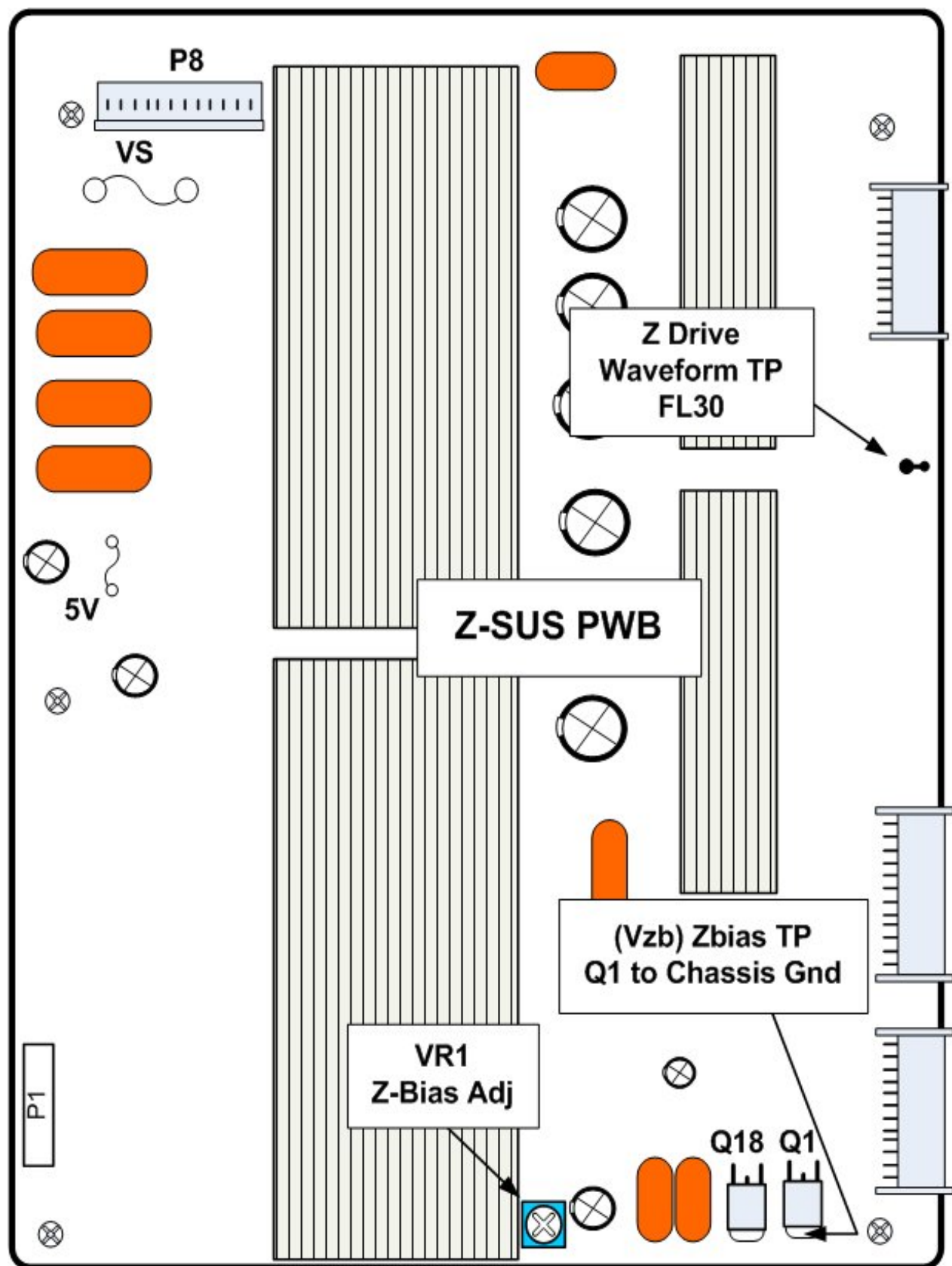
Adjust **VR2** while observing area (A) and set the flat portion to **20uSec  $\pm$  5uSec**.

#### SET-DOWN ADJUSTMENT:

Adjust **VR1** while observing area (B) and set the time to **180uSec  $\pm$  5uSec**.



# 50H2 Z-SUS PWB ADJUSTMENT POINTS



50H2 PANEL

## 50H2 Z-SUS (Z-Bias) ADJUSTMENT:

### PREPARATION:

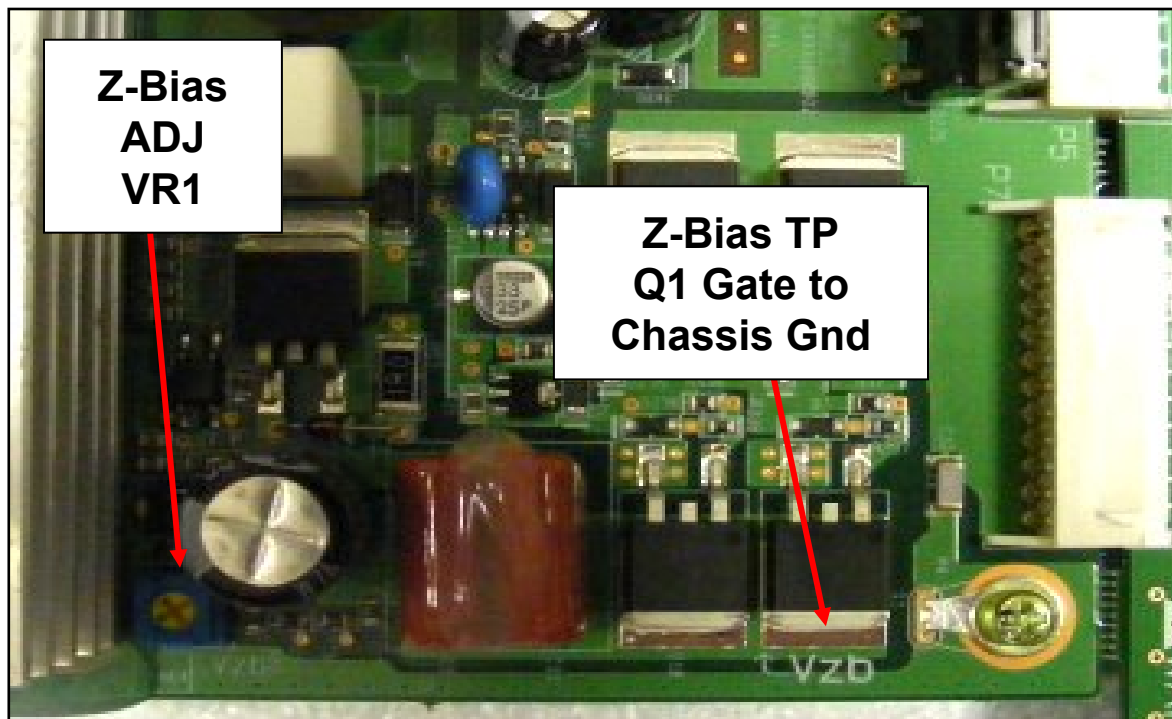
- 1) Pre-Heat unit for at least 10 Minutes before making adjustments.
- 2) Place unit into White Wash from the Customer's Menu for all adjustments.
- 3) **Be sure to use all adjustment values as indicated on the panel voltage label in the upper right hand corner of the panel.**

Model : PDP 50H2####  
Voltage Setting: 5.0V/ Va:65/ Vs:195  
N.A. / -175 / 140 / N.A. / **120**  
Max Watt : 550 W (Full White)

Zbias

### PROCEDURE: Z-BIAS ADJUSTMENT (See preceding page for locations)

1. Place DC Volt meter on **VZB TP (Q1 Gate to Chassis Gnd)**.
2. Adjust VZB (Z Bias) **VR1** in accordance with the Panel's voltage label.



*Lower Right Side Of Board*

# 50H3 PANEL

## QUICK REFERENCE

## ALIGNMENT SECTION

### MODELS RELATED

**50PS30-UB**

**50PS60-UA**

**50PS60C-UA**

**50PS80**



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# 50H3P SMPS BOARD ADJUSTMENT POINTS

Set should be in “Full White Raster”

These two voltages are adjustable and should be adjusted to the correct values as indicated by the panel label.

Example shown on the right.

Always adjust “Highest to Lowest” voltages.

VS and VA adjustment resistors are shown in the drawing below.

They are located at the top left of the board.

VR901 is the VS adjustment pot.

VR501 is the VA adjustment pot.

Model : PDP 50H3###1

Voltage Setting: 5.0V/ **Va:65/ Vs:195**

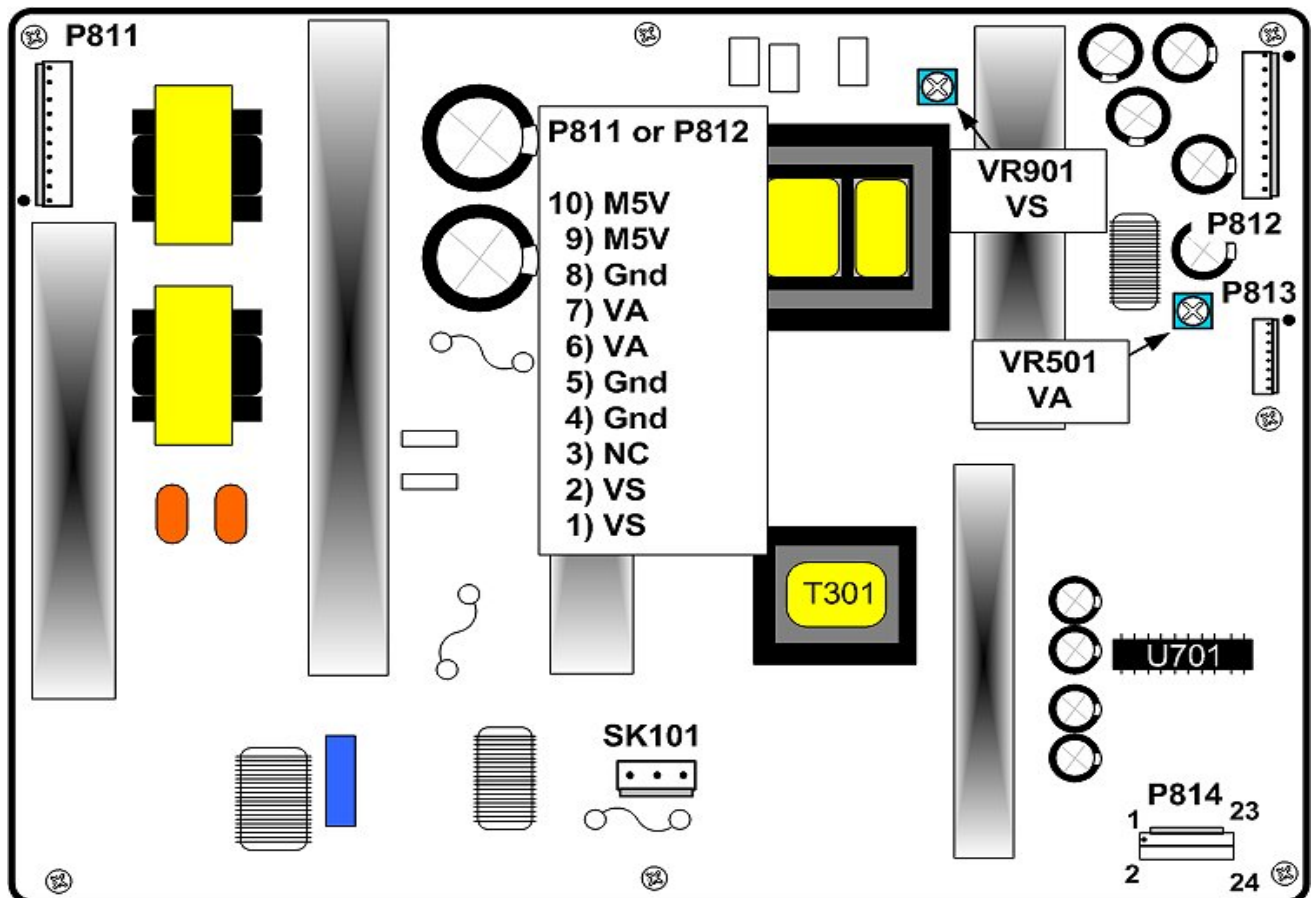
N.A. / -180 / 140 / N.A. / 100

VR501  
VA-Adj

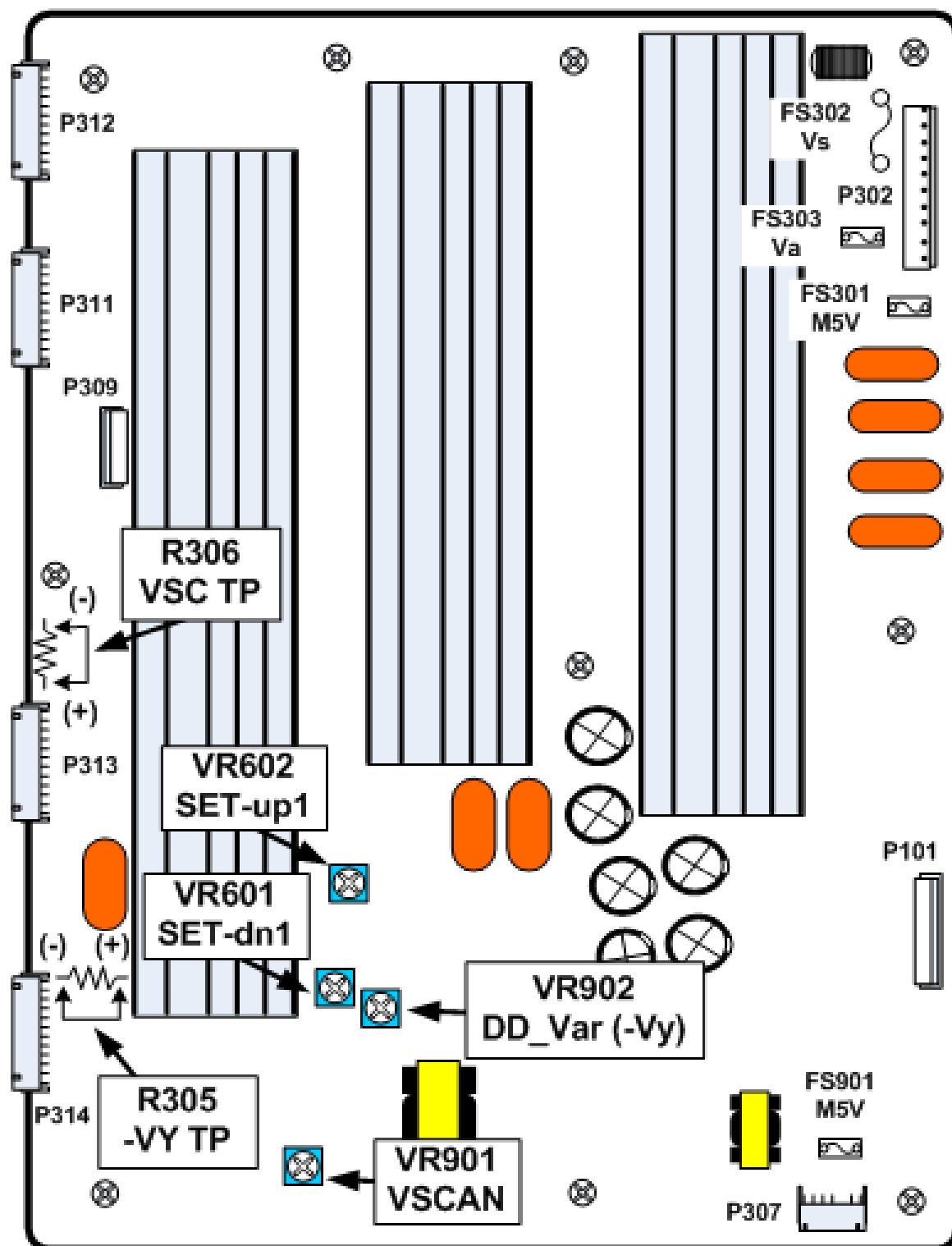
VR901  
VS-Adj

1) **VS ADJUST:** Connect DVM to pin 1 or 2 of P812. Adjust VR901 until the voltage matches your panel's voltage label.

2) **VA ADJUST:** Connect DVM to pin 6 or 7 of P812. Adjust VR501 until the voltage matches your panel's voltage label.



# 50H3P Y-SUS PWB ADJUSTMENT POINTS



# 50H3 VSC, -Vy ADJUSTMENTS

## PREPARATION:

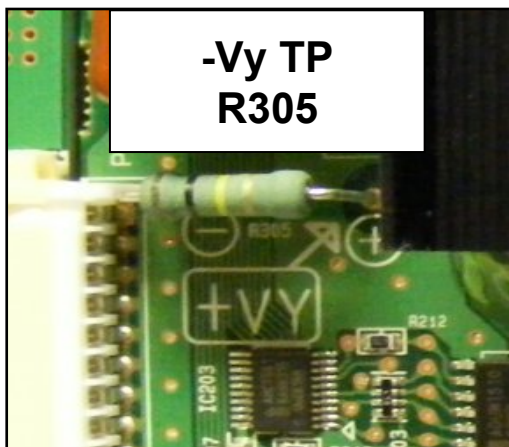
- 1) Pre-Heat unit for at least 10 Minutes before making adjustments.  
Vs and Va adjustments complete.
- 2) Place unit into White Wash from the Customer's Menu for all adjustments.
- 3) **Be sure to use all adjustment values as indicated on your panel's voltage label in the upper right of the panel.**

Model : PDP 50H3###1  
Voltage Setting: 5.0V/ Va:65/ Vs:195  
N.A. / **-180** / **140** / N.A. / 100

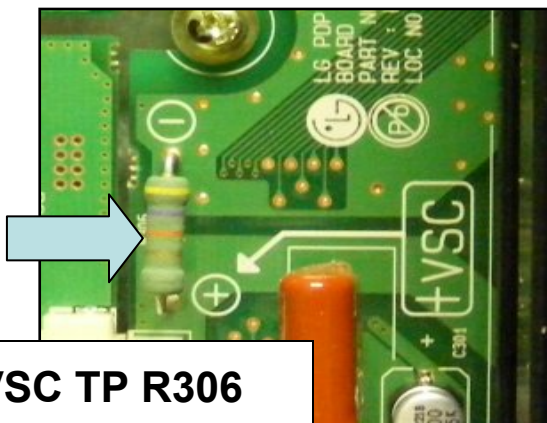
-Vy    VSC

## PROCEDURE: (See figure below for locations)

- 1) **Adjust -Vy VR902.** Measured across -Vy TPs R305.  
Match your specific Panel's Voltage label  $\pm 1V$ .
- 2) **Adjust VSC VR901.** Measured across VSC TPs R306.  
Match your specific Panel's Voltage label  $\pm 1V$ .

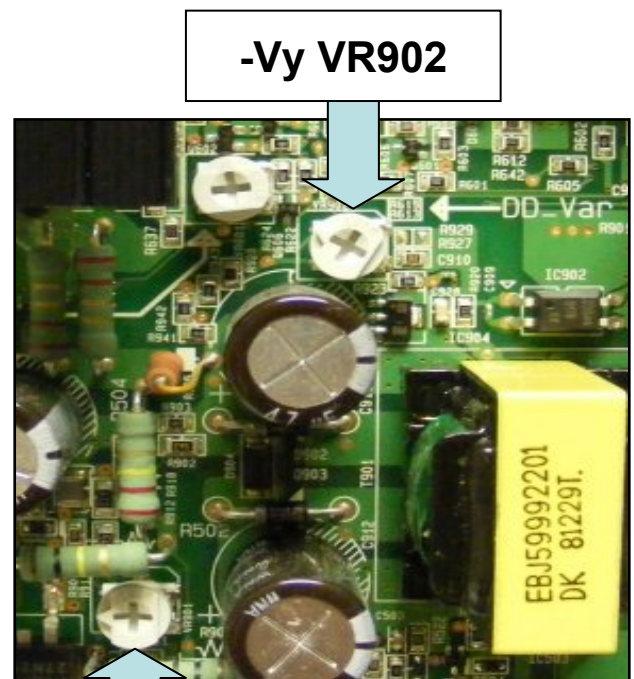


Location Lower left



VSC TP R306

Location Lower Center



VSC VR901

Location Bottom Center



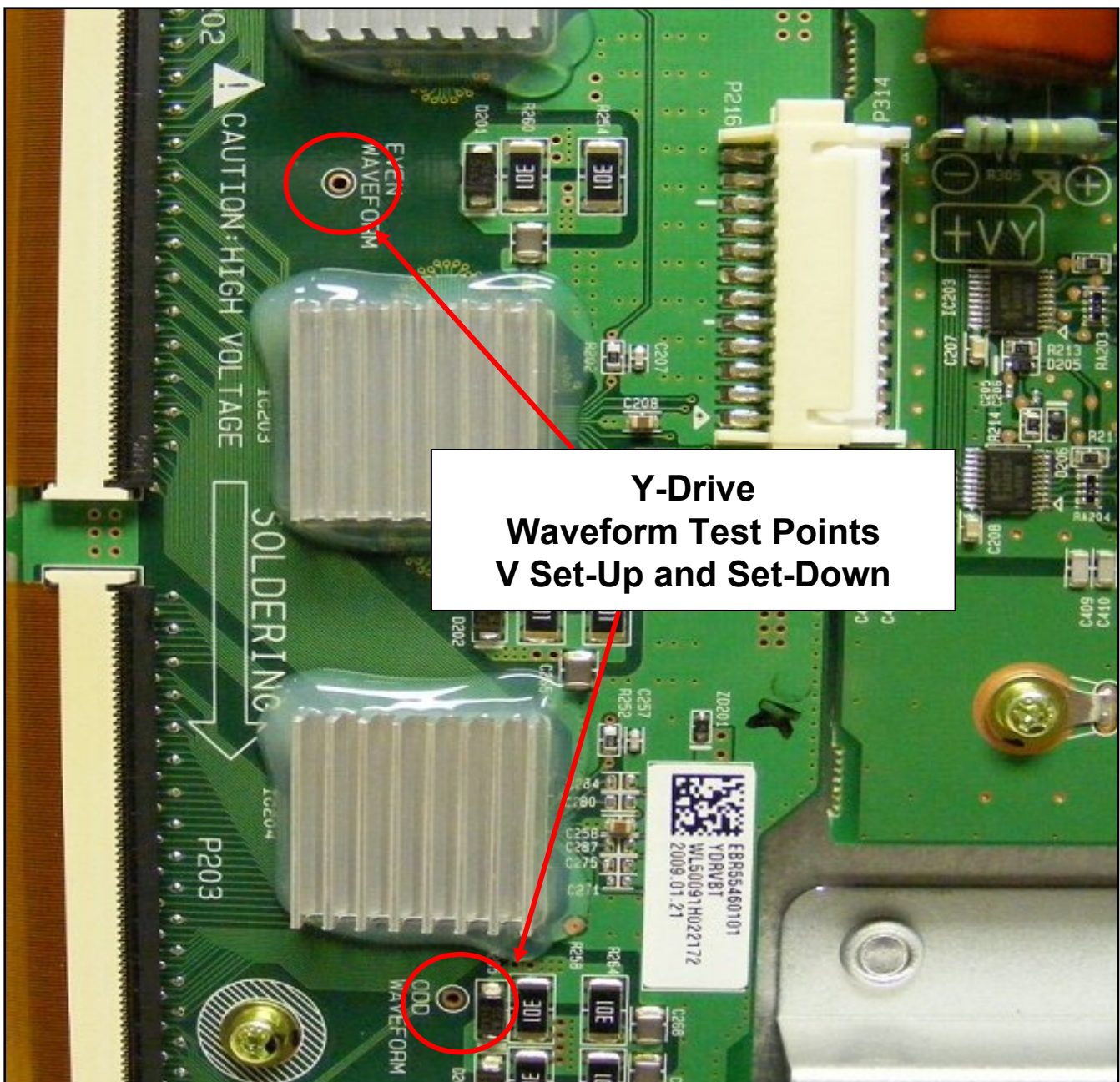
# 50H3 PANEL

Set-Up and Set-Down portions of the waveform are adjusted using either of these TPs.

## Y-Drive

### Waveform Test Points

### V Set-Up and Set-Down





## 50H3 Y-Drive Waveform Adjustment

Using a Full White Raster, adjust the Y-Set-up and Set-dn section of the Y-Drive waveform.

VS, VA, -Vy and VSC should have been adjusted.

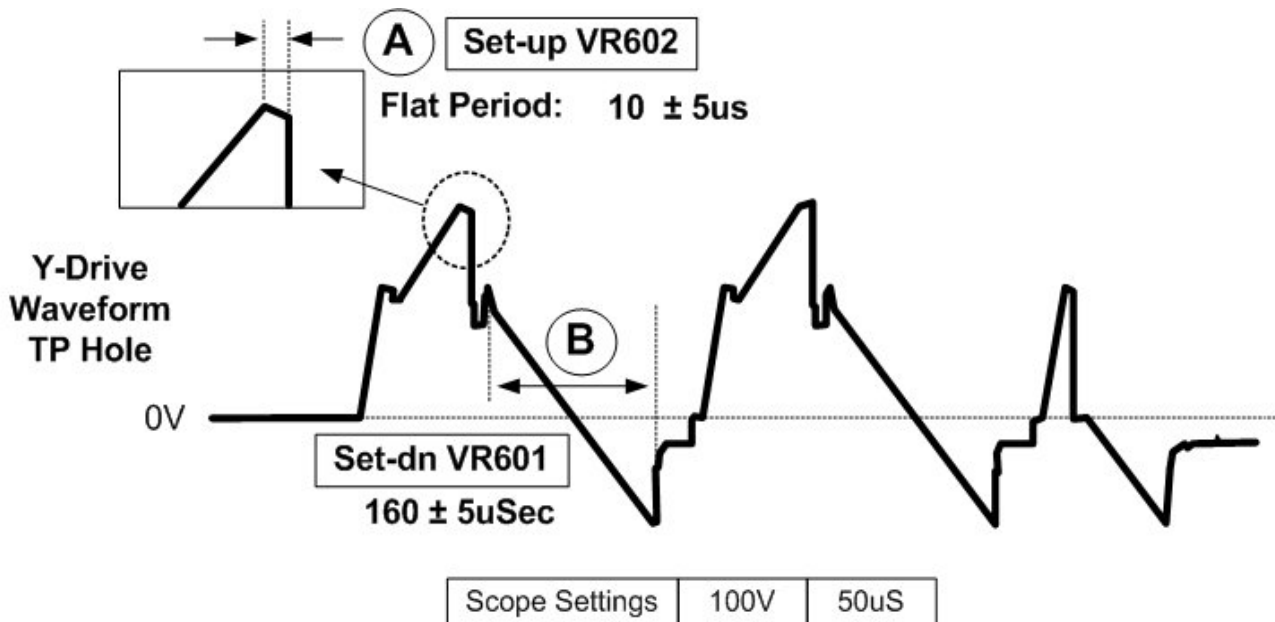
Oscilloscope TP on the “Waveform” TPs on the Y-Drive PWB.

### SET-UP ADJUSTMENT:

Adjust VR602 while observing area (A) and set the flat portion to  $10\mu\text{Sec} \pm 5\mu\text{Sec}$ . While observing only the peak of the waveform, turn the pot CW with cause the peak to dome to the left of the flat portion. CCW will cause the peak to decrease in amplitude. Turn CW until the dome appears, then back off CCW.

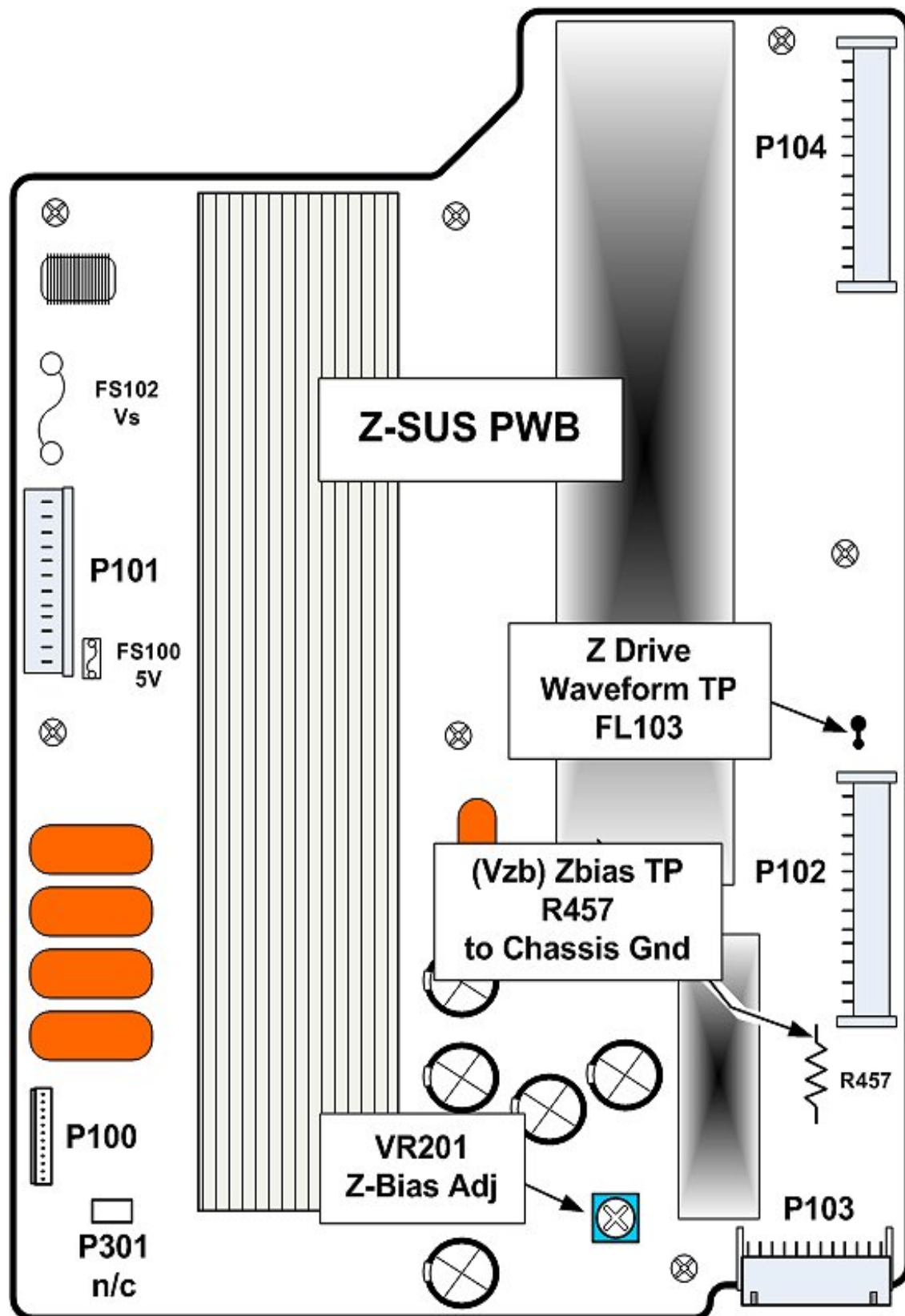
### SET-DOWN ADJUSTMENT:

Adjust VR601 while observing area (B) and set to  $160\mu\text{Sec} \pm 5\mu\text{Sec}$ .





# 50H3P Z-SUS BOARD ADJUSTMENT POINTS



## 50H3P Z-SUS (Z-Bias) ADJUSTMENT:

### PREPARATION:

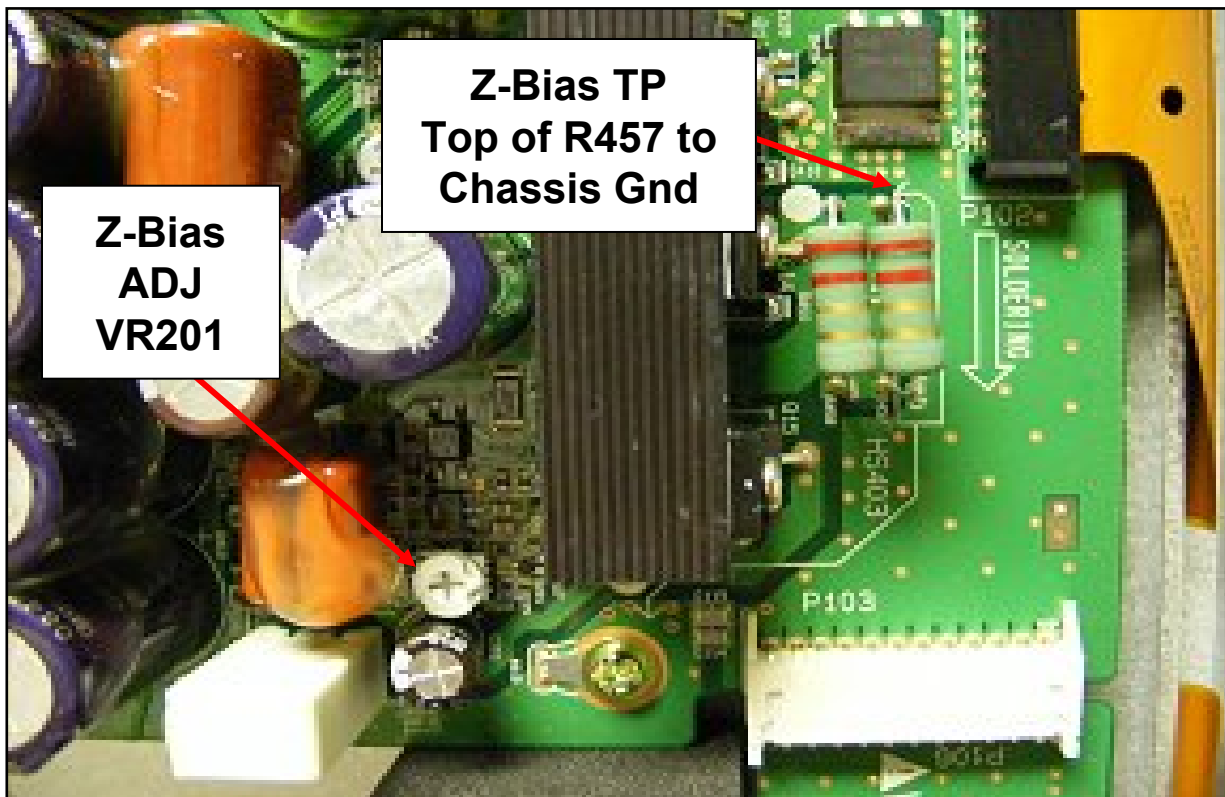
- 1) Pre-Heat unit for at least 10 Minutes before making adjustments.
- 2) Place unit into White Wash from the Customer's Menu for all adjustments.
- 3) **Be sure to use all adjustment values as indicated on the panel voltage label in the upper right hand corner of the panel.**

Model : PDP 50H3###1  
Voltage Setting: 5.0V/ Va:65/ Vs:195  
N.A. / -180 / 140 / N.A. / **100**

Zbias

### PROCEDURE: (See preceding page for locations)

- 1) Place DC Volt meter on VZB TP (Top of R457 to Chassis Gnd).
- 2) Adjust VZB (Z Bias) VR201 in accordance with your Panel's voltage label.



*Lower Right Side Of PWB*

# 50R1 PANEL

## QUICK REFERENCE

## ALIGNMENT HAND BOOK

### MODELS USING THE 50R1 PANEL

**50PK950**

**50PK750**

**50PK560**

**50PK550**

**50PK540**

**50PK250**



**LG**

Life's Good

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## 50R1 SMPS BOARD ADJUSTMENT POINTS

Set should be in “White Wash”

These two voltages are adjustable and should be adjusted to the correct values as indicated by your Panel's Voltage Label. Example shown on the right.

Example: Use Your Panel's Label

Model : PDP 50R1###  
Voltage Setting: 5V/ Va:60/ Vs:203  
N.A. / -190 / 150 / N.A. / 115  
Max Watt : 450 W (Full White)

VA  
VR501

VS  
VR901

Always adjust “Highest to Lowest” voltages.

VS and VA adjustment resistors are shown in the drawing below.

They are located at the top Right of the board.

### 1) VS ADJUST:

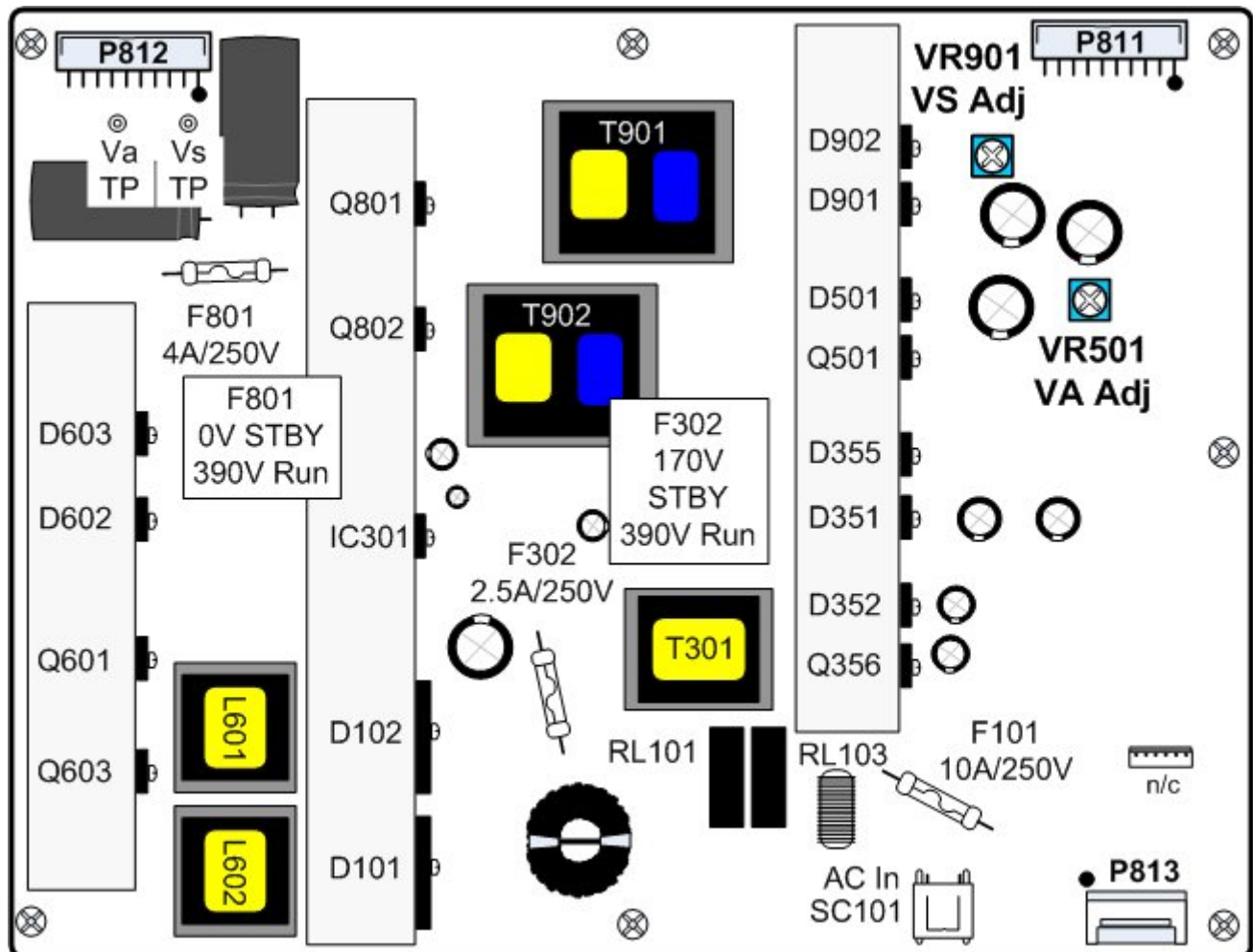
Connect DVM to VS Test Point or pins 1 or 2 of P811 or P812.

Adjust VR901 until the voltage matches your panel's voltage label.

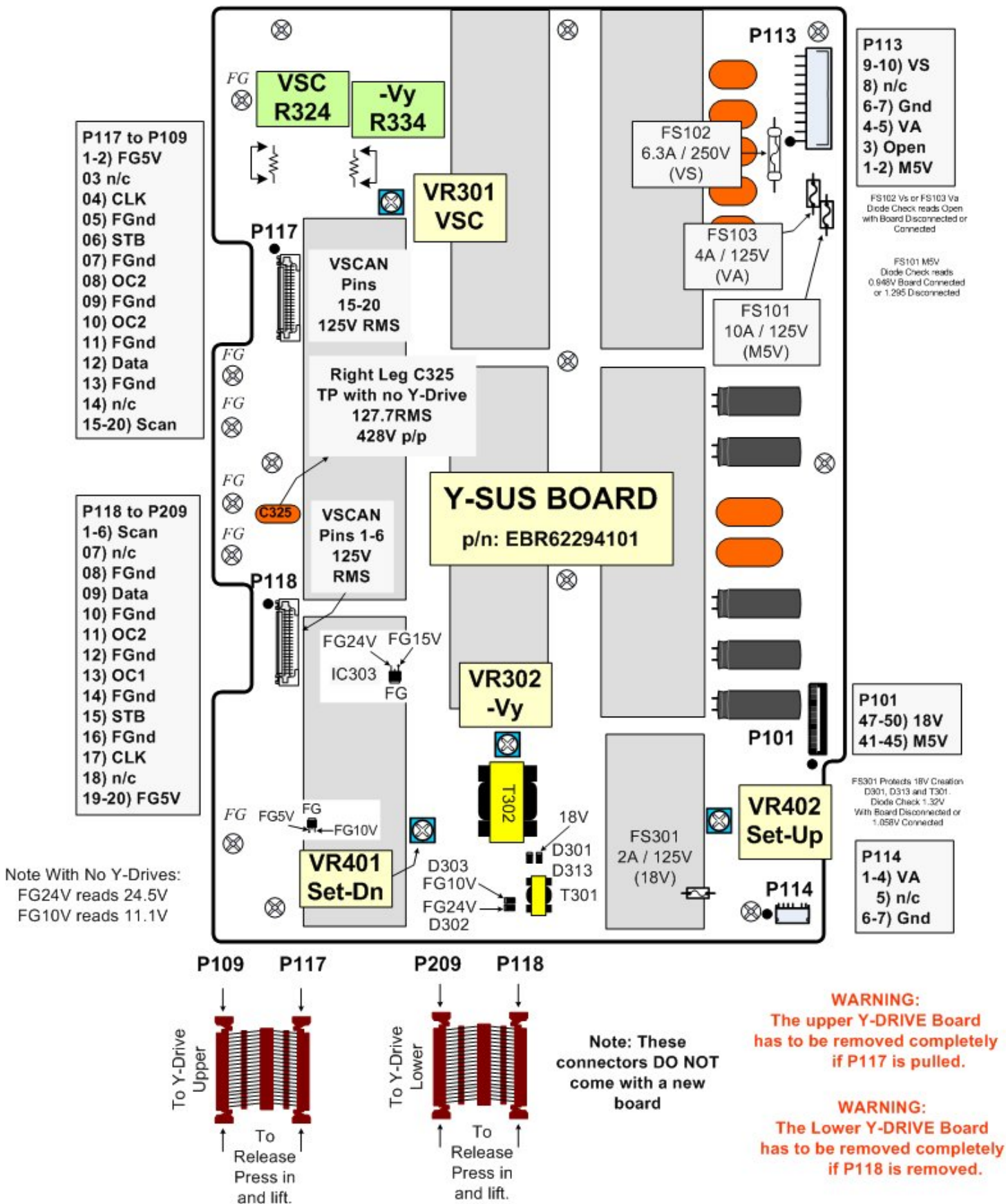
### 2) VA ADJUST:

Connect DVM to VA Test Point or pins 6 or 7 of P811 or P812.

Adjust VR501 until the voltage matches your panel's voltage label.



# 50R1 Y-SUS BOARD ADJUSTMENT POINTS





# 50R1 VSC, -Vy ADJUSTMENTS

## PREPARATION:

- 1) Pre-Heat unit for at least 10 Minutes before making adjustments.  
Vs and Va adjustments complete.
- 2) Place unit into White Wash from the Customer's Menu for all adjustments.
- 3) **Be sure to use all adjustment values as indicated on your panel's voltage label in the upper left of the panel.**

## PROCEDURE: (See figure below for locations)

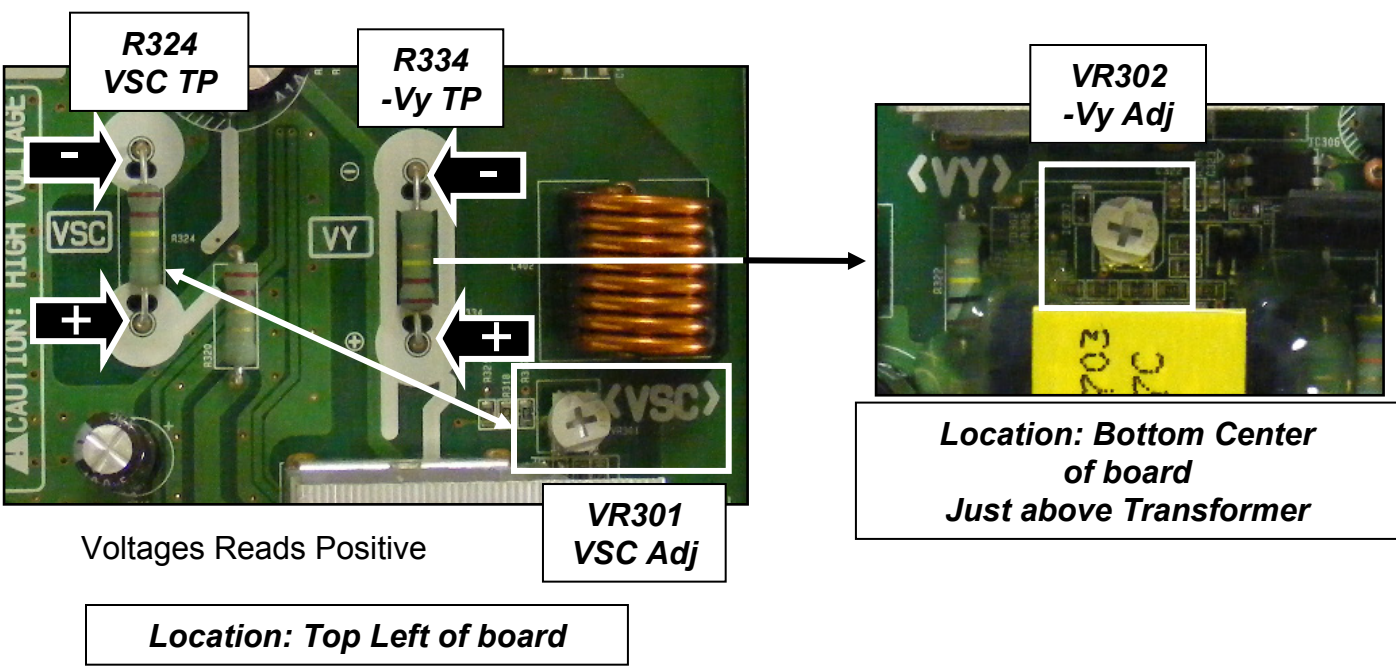
- 1) Adjust -Vy VR302. Measured across -Vy TP R334.  
Match your specific Panel's Voltage label  $\pm 1V$ .
- 2) Adjust VSC VR301. Measured across VSC TPs R324.  
Match your specific Panel's Voltage label  $\pm 1V$ .

Voltage Reads Positive

Example: Use Your Panel's Label

Model : PDP 50R1###  
Voltage Setting: 5V/ Va:60/ Vs:203  
N.A. / -190 / 150 / N.A. / 115  
Max Watt : 450 W (Full White)

-Vy      VSC



## 50R1 Y Drive Waveform Test Point

The figure below shows a close-up image of the Y-Drive waveform test point on the Y-Drive Upper board. (Waveform TP).

There is another on the Lower Y-Drive board.

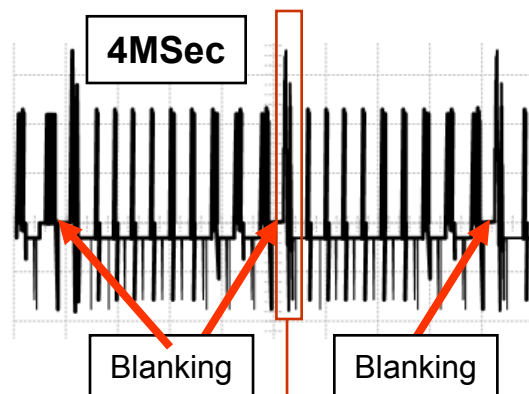
Set-Up and Set-Down portions of the waveform are adjusted using either of these Test Points.

**TP LOCATION UNDER 4<sup>th</sup> HEAT SINK OF UPPER Y-DRIVE**  
(See next page for adjustment Details)

*Waveform TP*

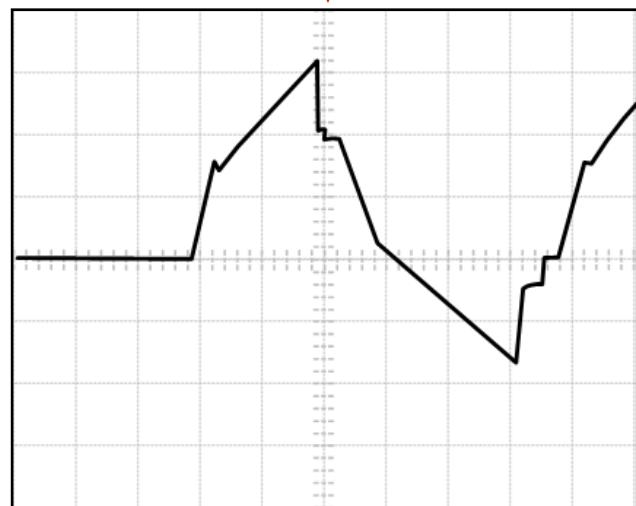


*Upper or Lower Y-Drive Board*



67~81 VRms

502V p/p



## 50R1 Y-DRIVE WAVEFORM ADJUSTMENTS

### PREPARATION:

- 1) Pre-Heat unit for at least 10 Minutes before making adjustments.  
Vs, Va, -Vy and VSC adjustments should be completed.
- 2) Place unit into **White Wash** from the Customer's Menu for all adjustments.

See figure below for adjustment locations.

### ADJUSTMENT LOCATIONS

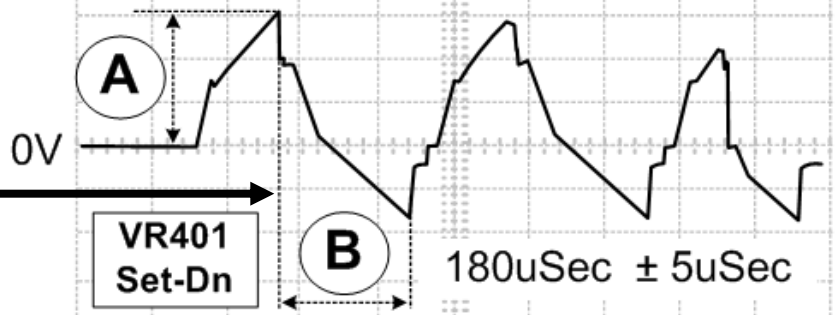
(See 3 pages back for Waveform TP locations)



**Waveform Test Point**  
Y-Drive Upper or Lower (Waveform TP)

**VR402**  
Set-up

320V p/p  $\pm 5V$



**VR401**  
Set-Dn

180uSec  $\pm 5uSec$

67VAC rms "White"  
81VAC rms "Black"

100V

100uS

502V p/p

**ADJUSTMENT LOCATIONS:**  
Bottom of the board.

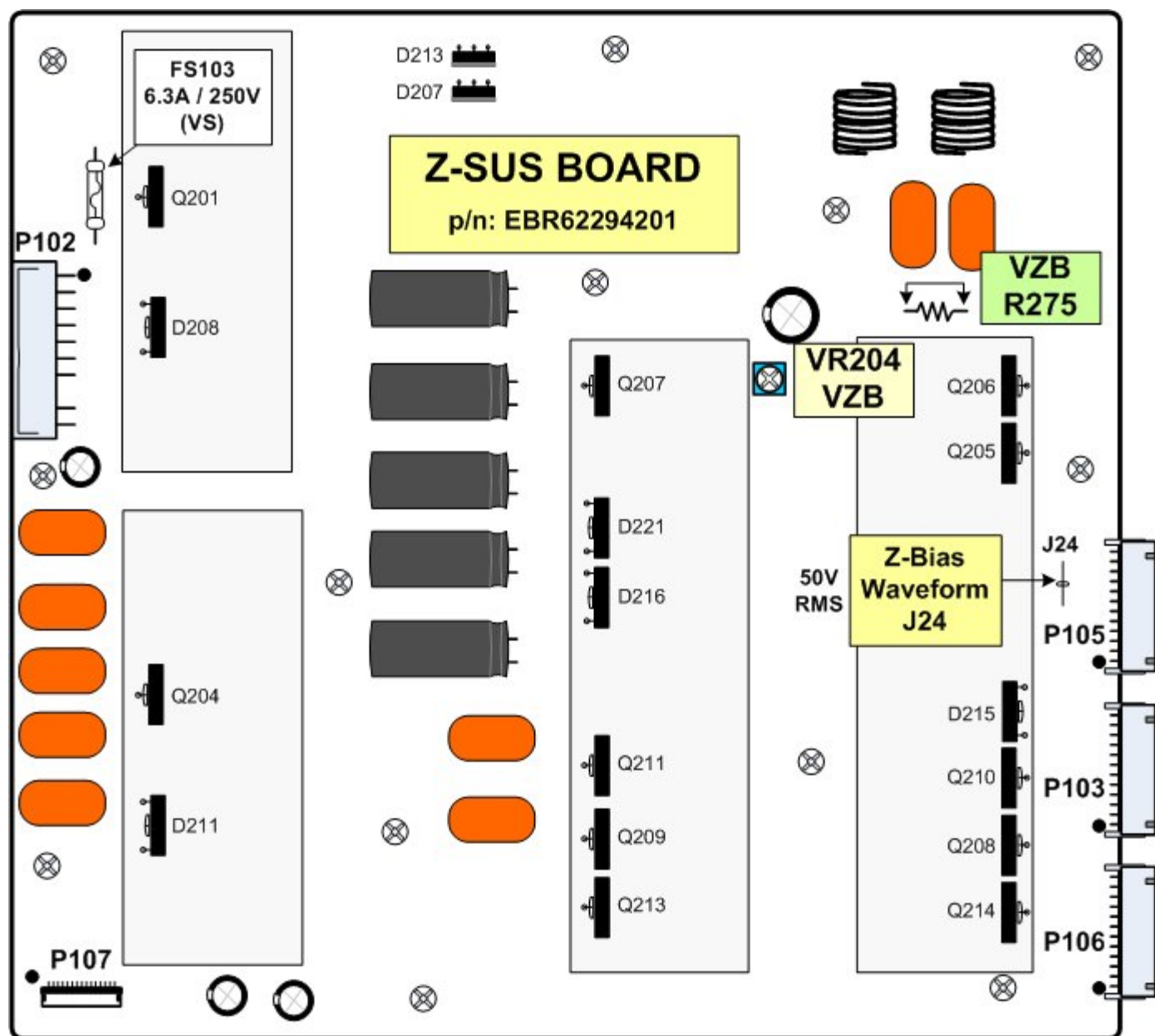
### SET-UP ADJUST:

- 1) Adjust VR402 and set the (A) portion of the signal to match the waveform above. (320V p/p  $\pm 5V$ )

### SET-DN ADJUST:

- 2) Adjust VR401 and set the (B) time of the signal to match the waveform above. (180uSec  $\pm 5uSec$ )

## 50R1 Z-SUS ADJUSTMENT POINTS



### P102

1-2) VS	(202V)
03) n/c	(n/c)
4-5) Gnd	(Gnd)
6-7) n/c	(n/c)
08) Gnd	(Gnd)
09-10) n/c	(n/c)

### P107

1-2) 18V	(18V)
03) n/c	(n/c)
4-5) M5V	(M5V)
6-7) Gnd	(Gnd)
08) SUS_DN	(0.48V)
09) CTRL_EN	(0.48V)
10) SUS_UP	(0.22V)
11) VZB2	(0V)
12) ER_DN	(0.135V)
13) VZB1	(2.34V)
14) ER_UP	(0.239V)
15) ZBIAS	(2.14V)



# 50R1 Z-SUS (Z-Bias) ADJUSTMENT:

Example: Use Your Panel's Label

## PREPARATION:

- 1) Pre-Heat unit for at least 10 Minutes before making adjustments.
- 2) Place unit into White Wash from the Customer's Menu for all adjustments.
- 3) Be sure to use all adjustment values as indicated on the panel voltage label in the upper right hand corner of the panel.

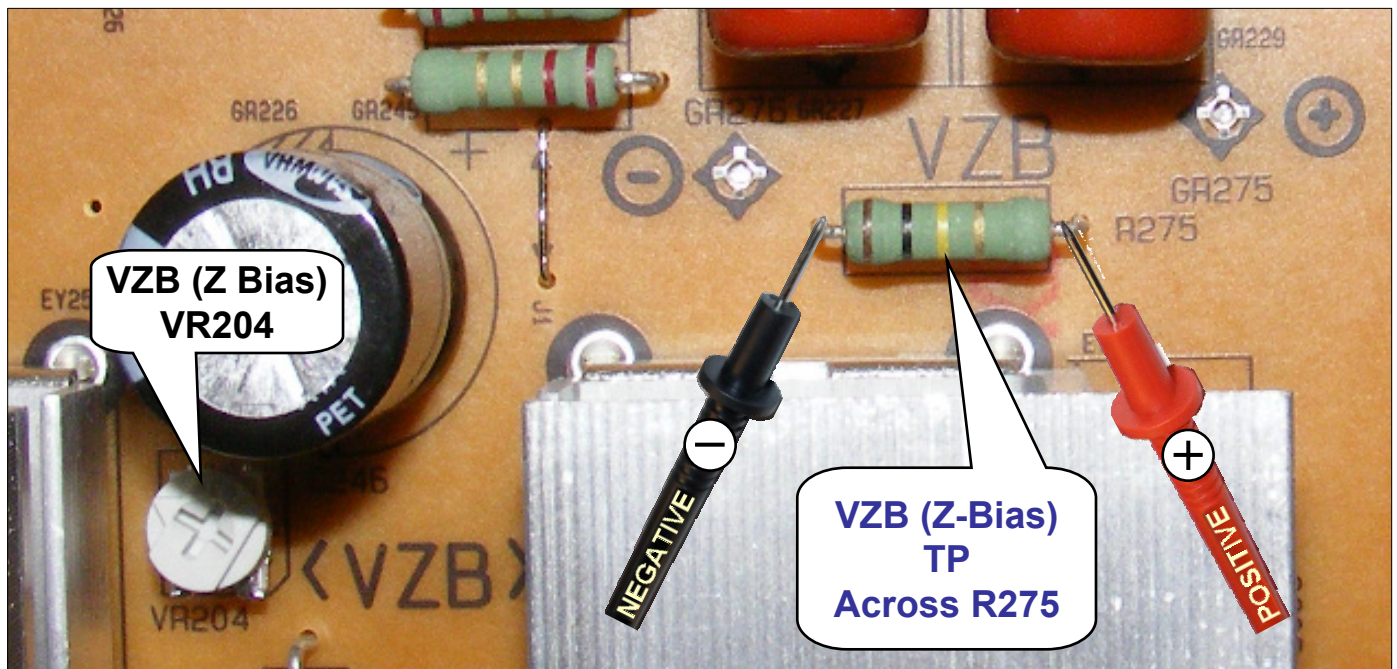
Model : PDP 50R1###  
Voltage Setting: 5V/ Va:60/ Vs:203  
N.A. / -190 / 150 / N.A. / 115  
Max Watt : 450 W (Full White)

VZB (Z Bias)

## PROCEDURE: (See preceding page for locations)

1. Place DC Volt meter on VZB TP (Across R275).
2. Adjust VZB (Z Bias) VR204 in accordance with your Panel's voltage label.

Top Right of Z-SUS Board



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# 50R3 PANEL

## QUICK REFERENCE

## ALIGNMENT HAND BOOK

### MODELS USING THE 50R3 PANEL

**50PZ950**



**LG**

Life's Good

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## 50R3 SMPS Board Adjustment Points

Set should be in “White Wash”

VS and VA are adjustable and should be adjusted to the correct values as indicated by your Panel's Voltage Label (Top Center of the Panel). Example shown on the right.

Example: Use Your Panel's Label

Model : PDP 50R3###  
Voltage Setting: 5V/ Va:55/ Vs:201  
N.A. / -190 / 150 / N.A. / 130  
Max Watt : 360 W (Full White)

VA  
VR502

VS  
VR901

Always adjust “Highest to Lowest” voltages.

VS and VA adjustment resistors are shown in the drawing below.

They are located at the top Right of the board.

### 1) VS ADJUST:

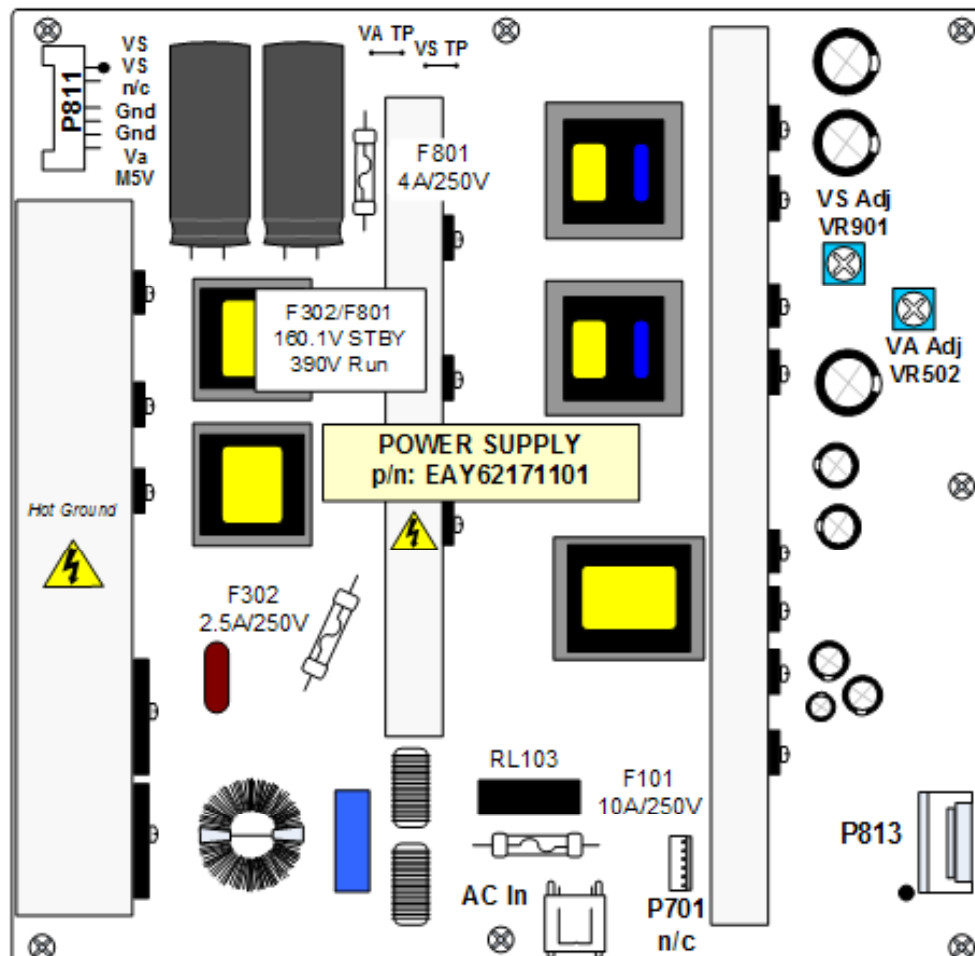
Connect DVM to VS Test Point or pins 1 or 2 of P811.

Adjust VR901 until the voltage matches your panel's voltage label.

### 2) VA ADJUST:

Connect DVM to VA Test Point or pins 6 of P811.

Adjust VR502 until the voltage matches your panel's voltage label.



# 50R3 Y-SUS Board Adjustment Points

**WARNING: The upper and lower Y-DRIVE Board has to be Removed Completely if P213 is pulled.**

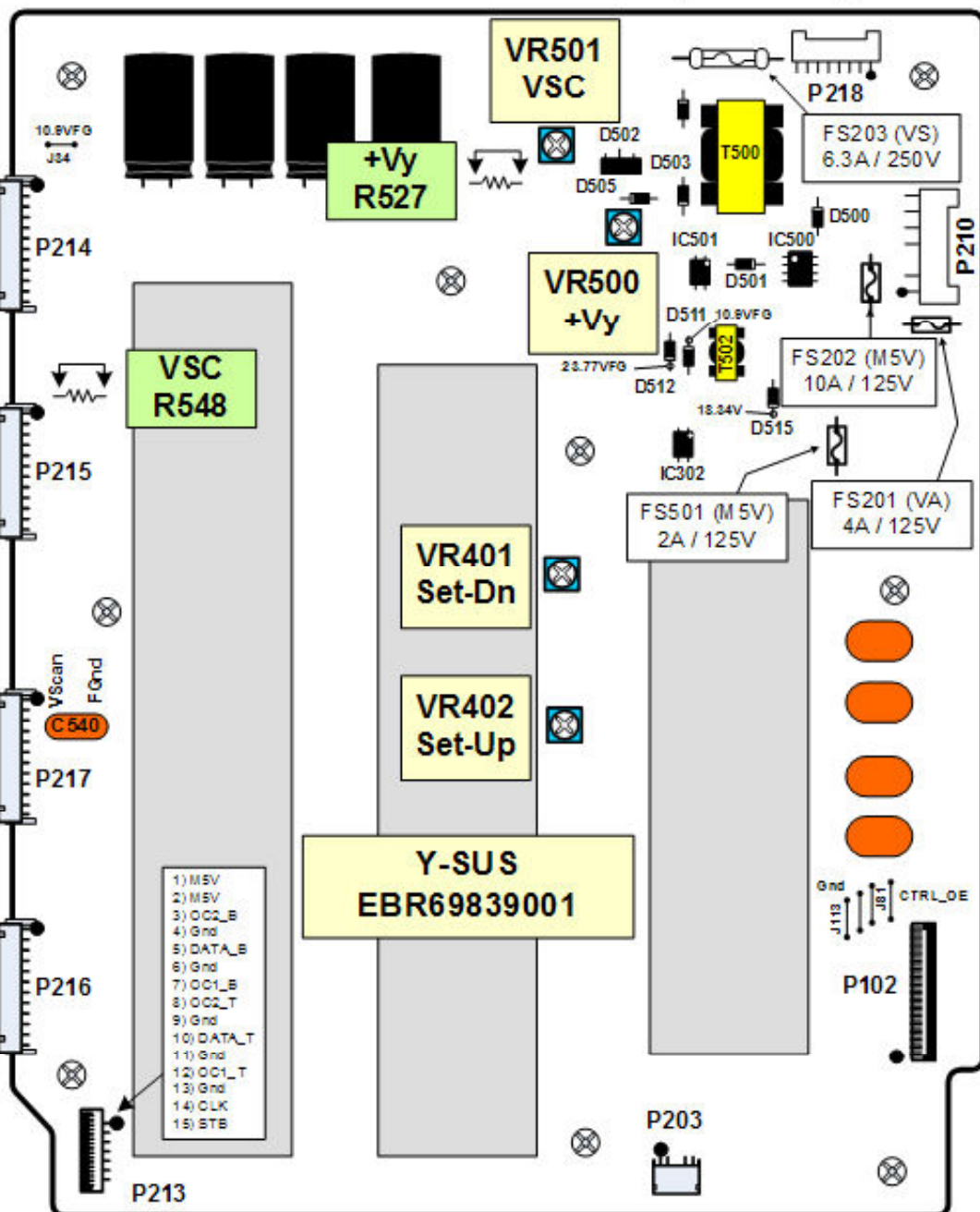
**P214**  
Pins 3-12 FGnd  
Pins 1-2 FG10.9V

**P215**  
Pins 9-12 VSCAN  
Pin 8 n/c  
Pins 1-7 FGnd

**P217**  
Pins 6-12 FGnd  
Pin 5 n/c  
Pins 1-4 VSCAN

**P216**  
Pins 11-12 VSCAN  
Pins 1-10 FGnd

Note With No Y-Drives:  
FG 23.85V reads 23.85V  
FG 10.8V reads 11.196V



- 1) M5V
- 2) M5V
- 3) OC2\_B
- 4) Gnd
- 5) DATA\_B
- 6) Gnd
- 7) OC1\_B
- 8) OC2\_T
- 9) Gnd
- 10) DATA\_T
- 11) Gnd
- 12) OC1\_T
- 13) Gnd
- 14) CLK
- 15) STB

To run the 18V and Floating Ground  
24V and 10V, Ground CTRL\_OE and  
supply 5V to Y-SUS

**P203**  
1-2) Gnd  
3) n/c  
4-5) VA

**P102**  
6-8) 18V  
3-5) M5V

50R3 PANEL

## 50R3 VSC, -Vy Adjustments

Example: Use Your Panel's Label

Model : PDP 50R3###  
 Voltage Setting: 5V/ Va:55/ Vs:201  
 N.A. / -190 / 150 / N.A. / 130  
 Max Watt : 360 W (Full White)

-Vy

VSC

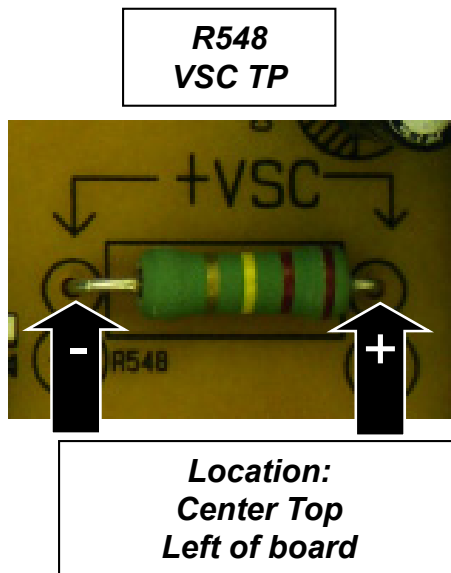
### PREPARATION:

- 1) Pre-Heat unit for at least 10 Minutes before making adjustments.  
Vs and Va adjustments complete.
- 2) Place unit into White Wash from the Customer's Menu for all adjustments.
- 3) **Be sure to use all adjustment values as indicated on your panel's voltage label in the top center of the panel.**

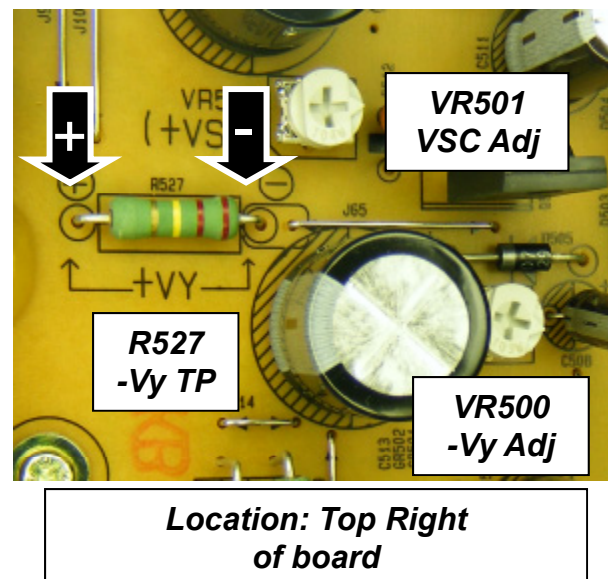
### PROCEDURE: (See figure below for locations)

- 1) Adjust -Vy VR500. Measured across -Vy TP R527.  
Match your specific Panel's Voltage label  $\pm 1V$ .
- 2) Adjust VSC VR501. Measured across VSC TPs R548.  
Match your specific Panel's Voltage label  $\pm 1V$ .

Voltage Reads Positive



-Vy Voltages Reads Positive



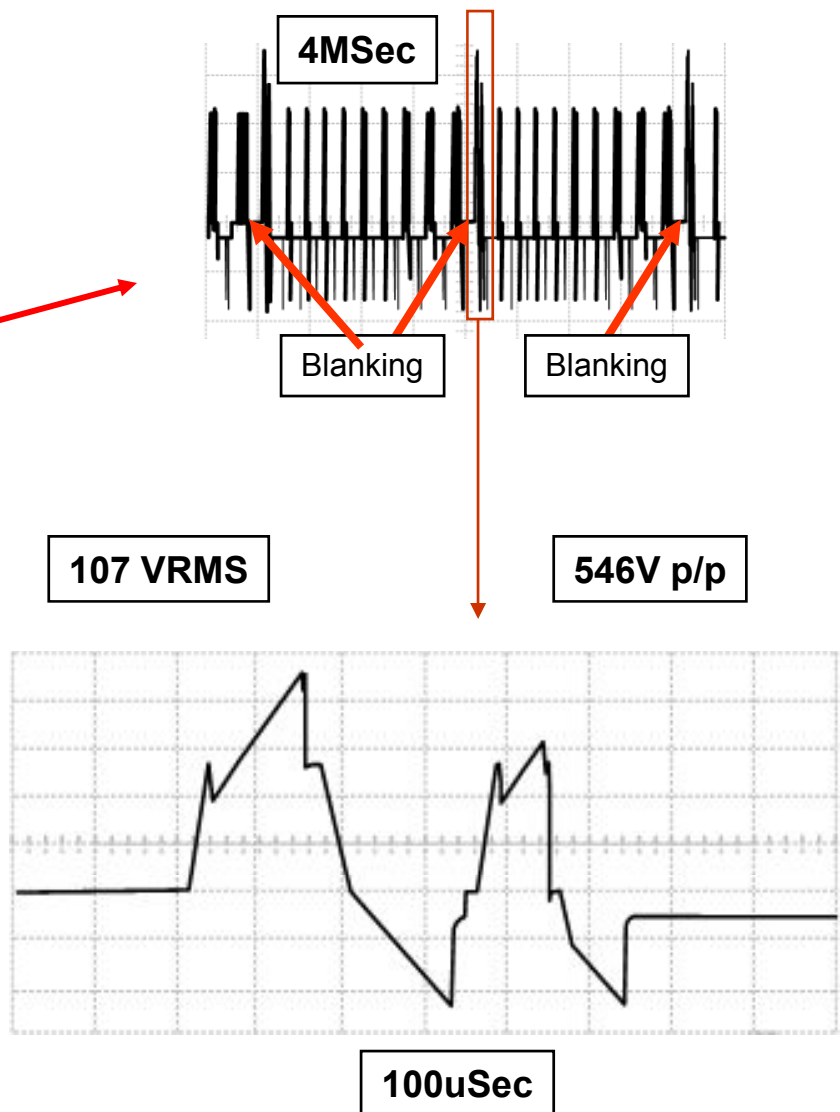
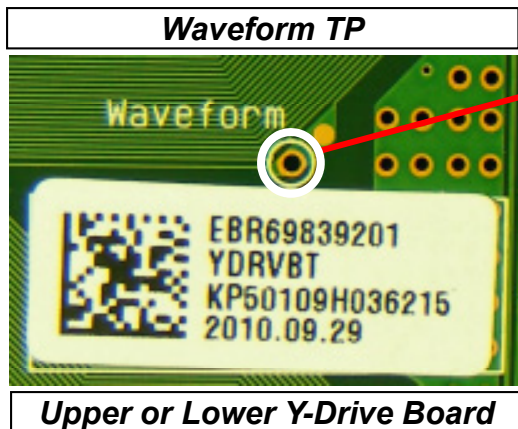
## 50R3 Y Drive Waveform Test Point

The figure below shows a close-up image of the Y-Drive waveform test point on the Y-Drive Upper board. (Waveform TP).

There is another on the Lower Y-Drive board.

Set-Up and Set-Down portions of the waveform are adjusted using either of these Test Points.

**TP Location under the 2<sup>nd</sup> Buffer from the top of the Lower Y-DRIVE or under the 4<sup>th</sup> Buffer from the top of the Upper Y-Drive Board. (See next page for adjustment Details)**

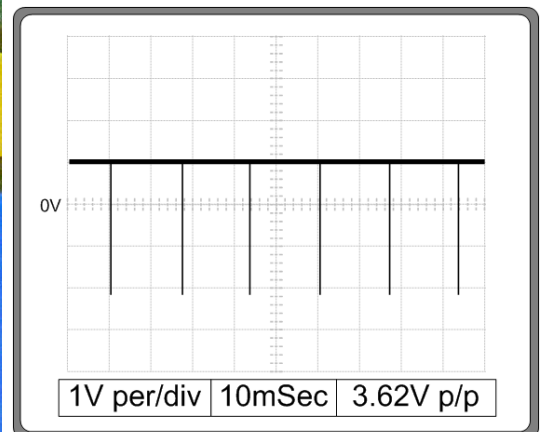
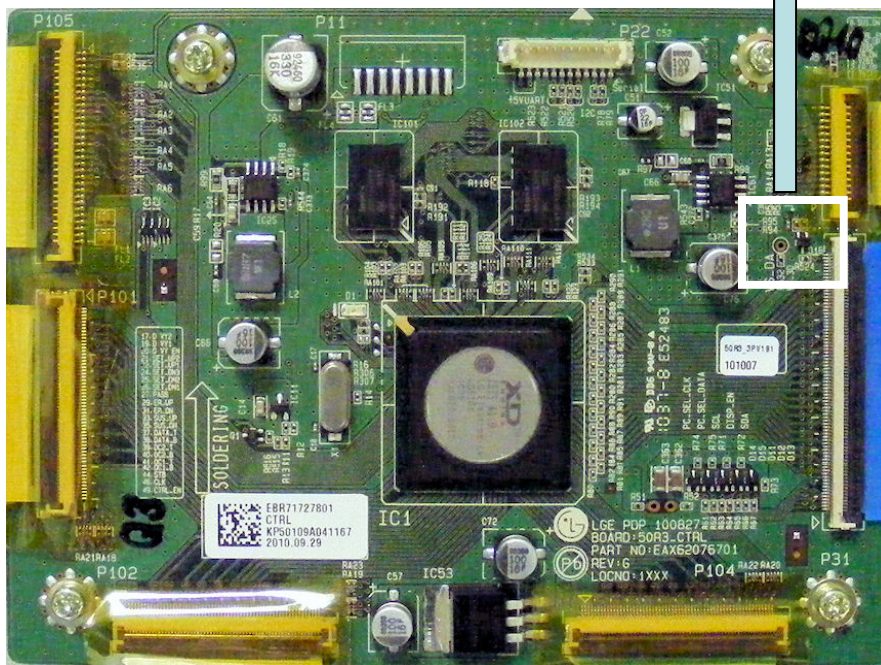
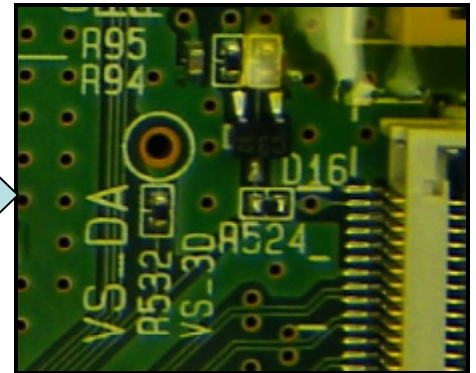




## 50R3 Using VS\_DA as external trigger to lock scope

Note, this TP (VS\_DA) can be used as an External Trigger for scope when locking onto the Y-Scan (Scan) or the Z-Drive signal.

This signal can also be used to help lock the scope when observing the LVDS video signals.



## 50R3 Y-DRIVE Signal Waveform Adjustments

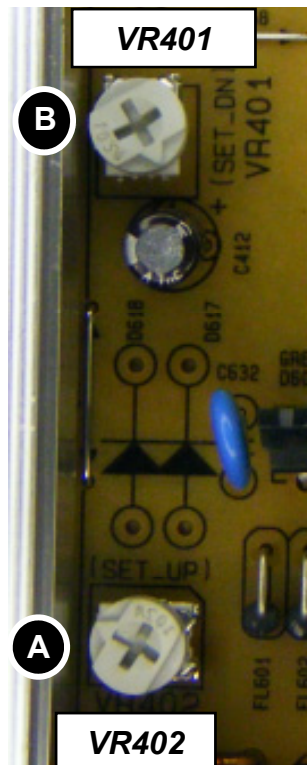
### PREPARATION:

- 1) Pre-Heat unit for at least 10 Minutes before making adjustments.  
Vs, Va, -Vy and VSC adjustments should be completed.
- 2) Place unit into **White Wash** from the Customer's Menu for all adjustments.

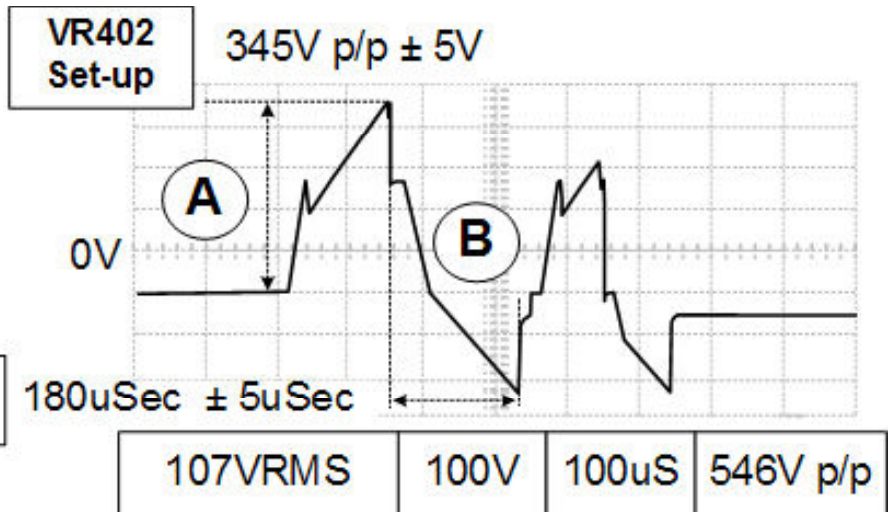
See figure below for adjustment locations.

### ADJUSTMENT LOCATIONS

(See 4 pages back for Waveform TP locations)



**Waveform Test Point**  
Y-Drive Upper or Lower (Waveform TP)



**ADJUSTMENT LOCATIONS:**  
Center of the board.

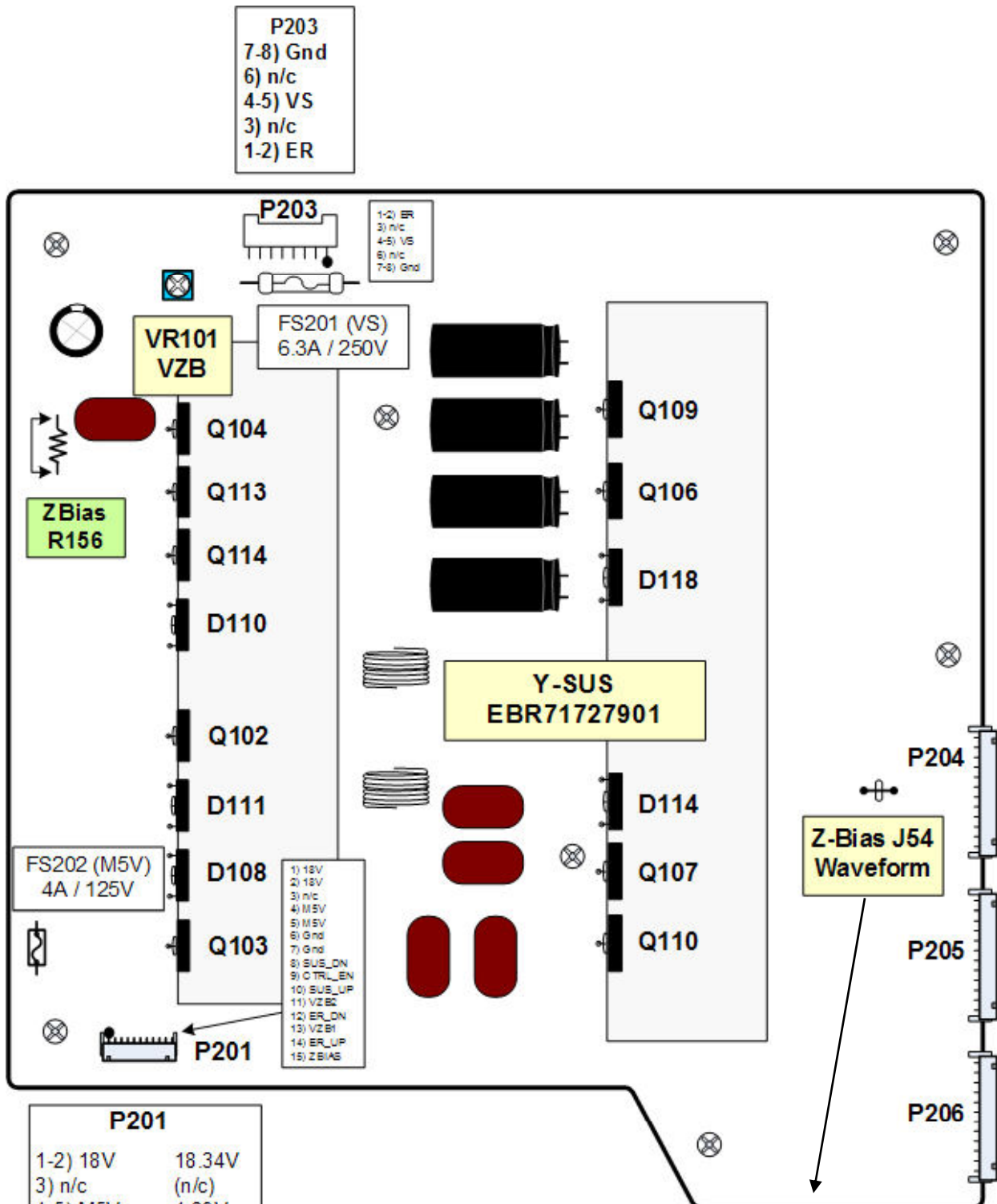
### SET-UP ADJUST:

- 1) Adjust VR402 and set the (A) portion of the signal to match the waveform above. (345V p/p  $\pm$  5V)

### SET-DN ADJUST:

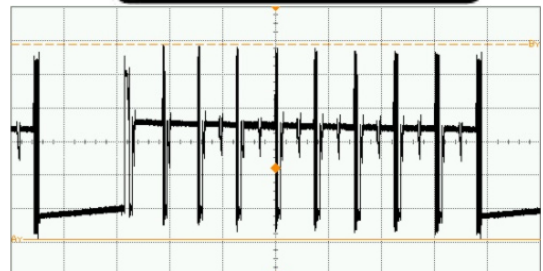
- 2) Adjust VR401 and set the (B) time of the signal to match the waveform above. (180uSec  $\pm$  5uSec)

## 50R3 Z-SUS Board Adjustment Points



P201	
1-2) 18V	18.34V
3) n/c	(n/c)
4-5) M5V	4.89V
6-7) Gnd	Gnd
8) SUS_DN	0.73V
9) CTRL_EN	0.06V
10) SUS_UP	0.15V
11) VZB2	2.49V
12) ER_DN	0.1V
13) VZB1	2.53V
14) ER_UP	0.11V
15) ZBIAS	1.89V

47-52VRMS  
50V per/div  
2MSec per/div  
288V p/p





## 50R3 Z-SUS (Z-Bias) Adjustment

### PREPARATION:

- 1) Pre-Heat unit for at least 10 Minutes before making adjustments.
- 2) Place unit into White Wash from the Customer's Menu for all adjustments.
- 3) Be sure to use all adjustment values as indicated on the panel voltage label in the top center of the panel.

Example: Use Your Panel's Label

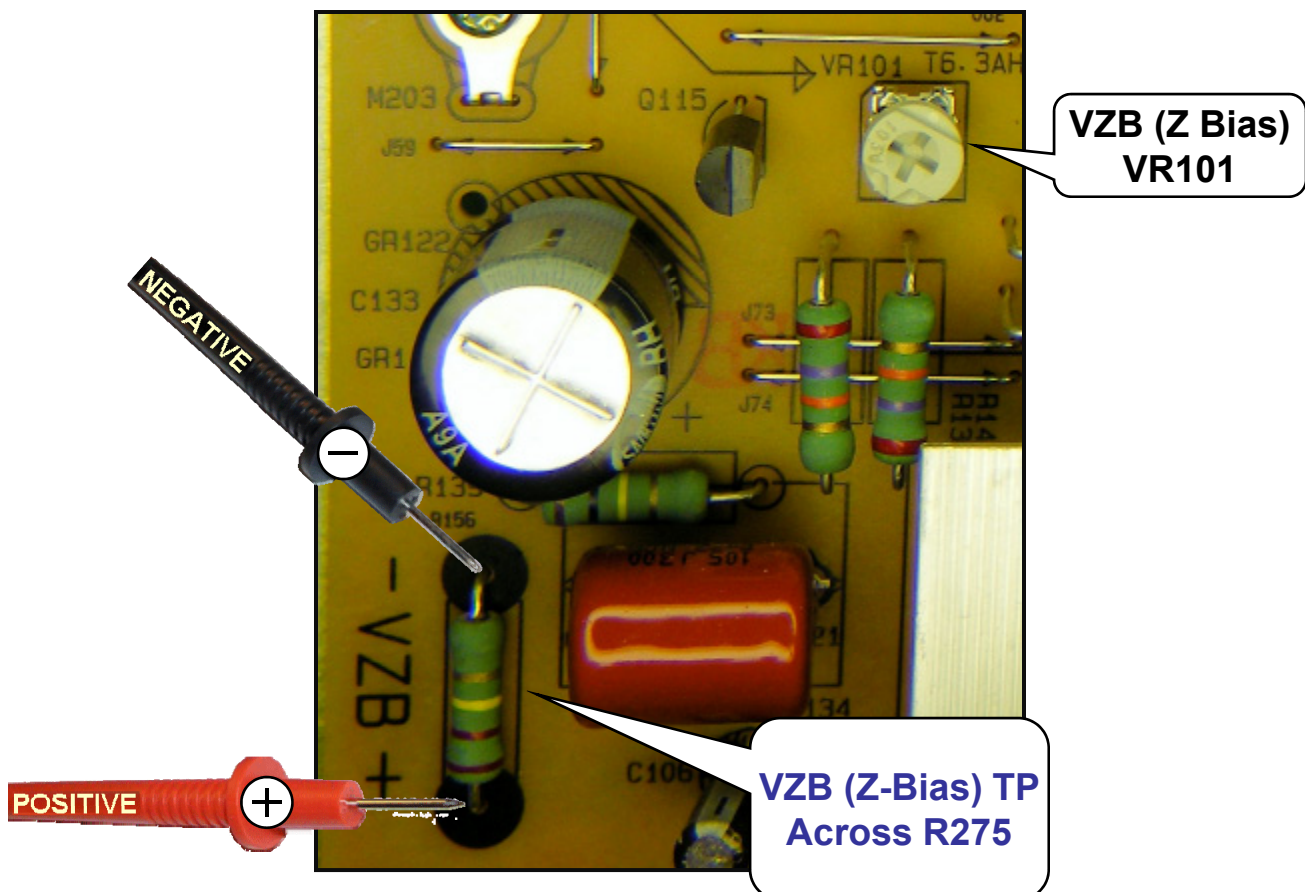
Model : PDP 50R3###  
Voltage Setting: 5V/ Va:55/ Vs:201  
N.A. / -190 / 150 / N.A. / 130  
Max Watt : 360 W (Full White)

VZB (Z Bias)

### PROCEDURE: (See preceding page for locations)

1. Place DC Volt meter on VZB TP (Across R156).
2. Adjust VZB (Z Bias) VR101 in accordance with your Panel's voltage label.

Location: Top Left of Z-SUS Board



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# 50T1 PANEL

## QUICK REFERENCE

## ALIGNMENT HAND BOOK

### MODELS USING THE 50T1 PANEL

**50PJ340 / 50PJ350**





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## 50T1 SMPS BOARD ADJUSTMENT POINTS

Set should be in “White Wash”

These two voltages are adjustable and should be adjusted to the correct values as indicated by your Panel's Voltage Label. Example shown on the right.

Example: Use Your Panel's Label

Model : PDP 50T1###  
Voltage Setting: 5V/ Va:60/ Vs:206  
N.A. / -198 / 135 / N.A. / 95  
Max Watt : 330 W (Full White)

VA VR502 VS VR901

Always adjust “Highest to Lowest” voltages.

VS and VA adjustment resistors are shown in the drawing below.

They are located at the top Right of the board.

### 1) VS ADJUST:

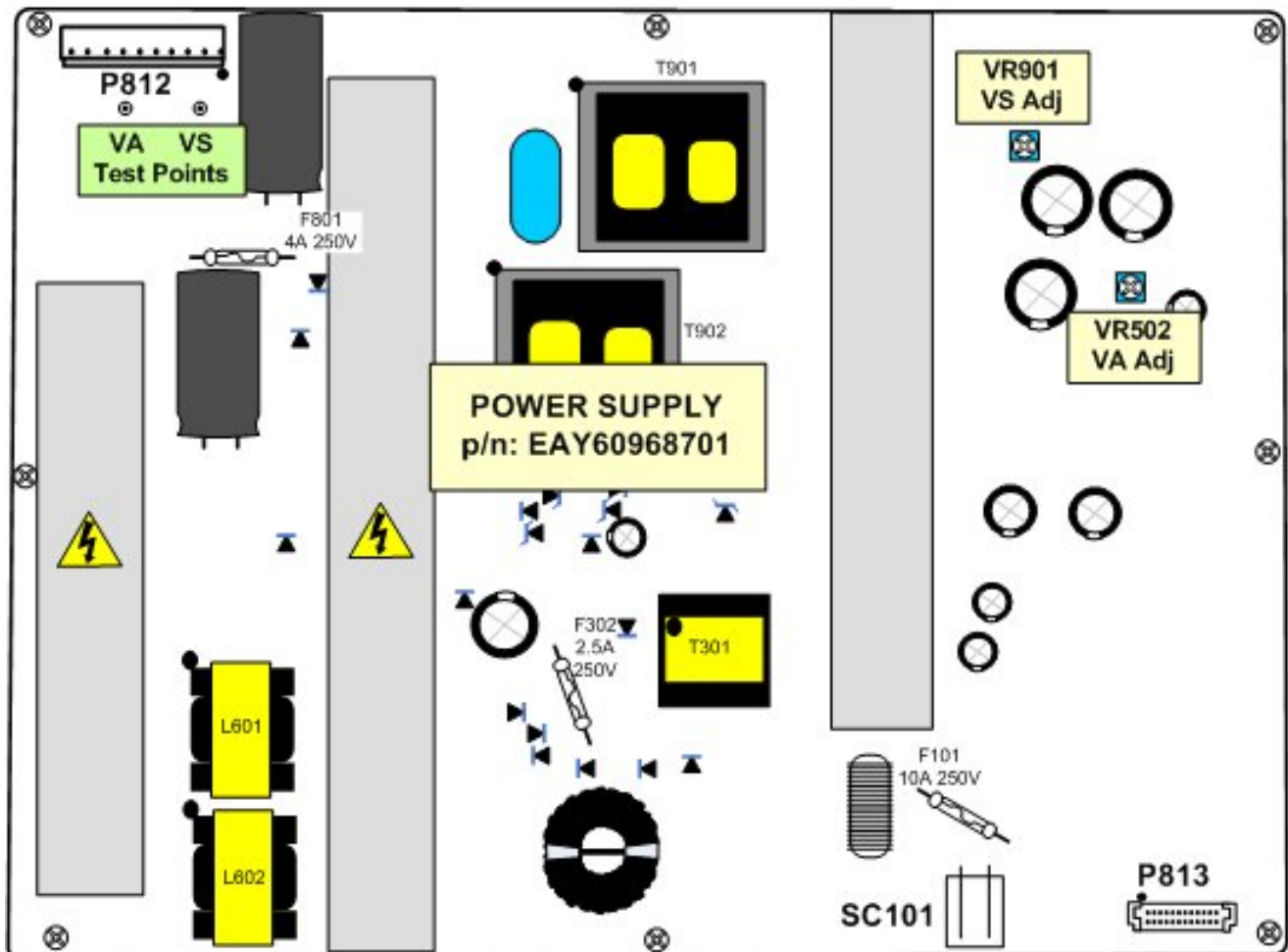
Connect DVM to VS Test Point or pins 1 or 2 of P812.

Adjust VR901 until the voltage matches your panel's voltage label.

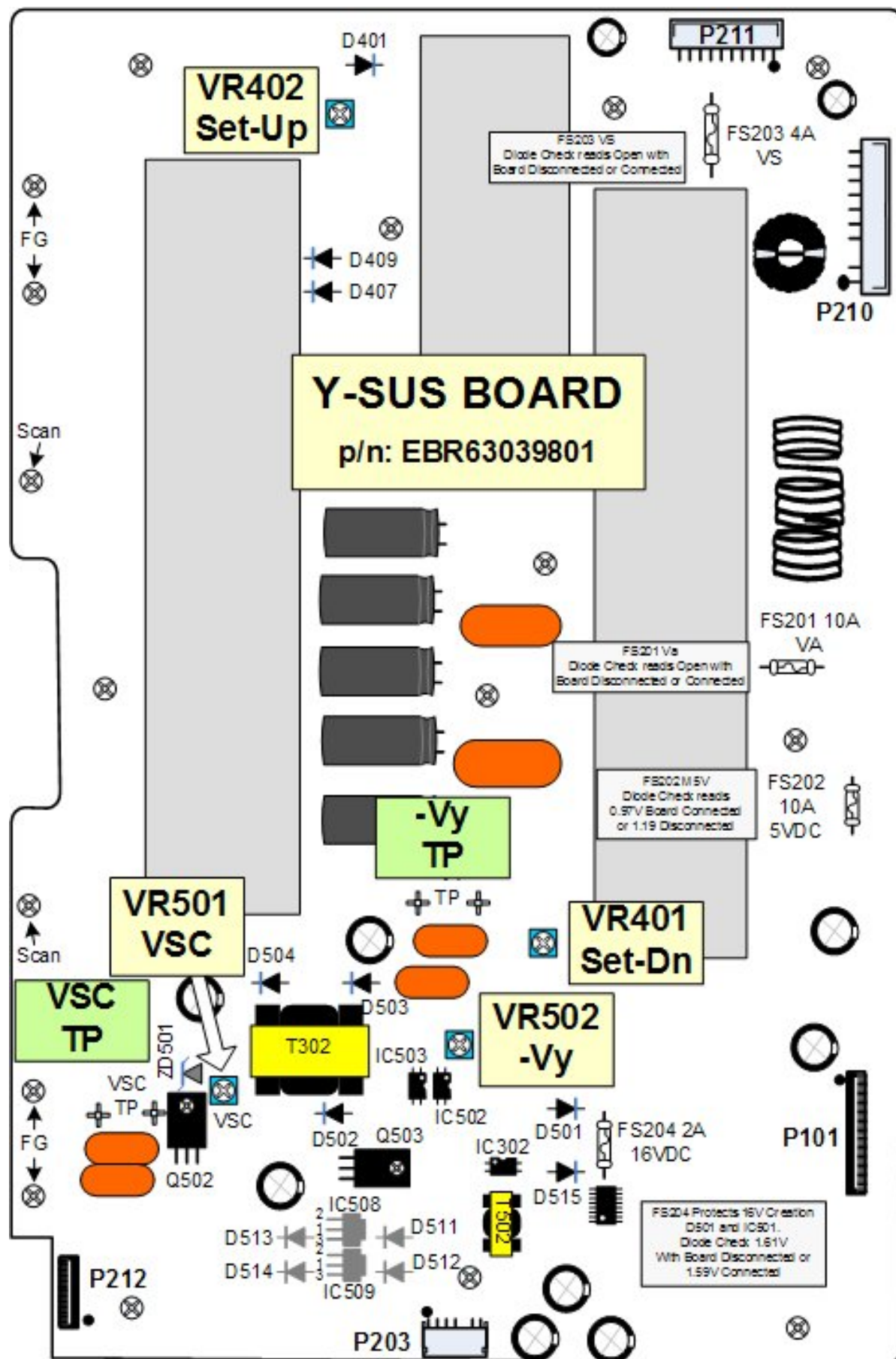
### 2) VA ADJUST:

Connect DVM to VA Test Point or pins 6 or 7 of P812.

Adjust VR502 until the voltage matches your panel's voltage label.



# 50T1 Y-SUS BOARD ADJUSTMENT POINTS



# 50T1 VSC, -Vy ADJUSTMENTS

## PREPARATION:

- 1) Pre-Heat unit for at least 10 Minutes before making adjustments.  
Vs and Va adjustments complete.
- 2) Place unit into White Wash from the Customer's Menu for all adjustments.
- 3) **Be sure to use all adjustment values as indicated on your panel's voltage label in the upper left of the panel.**

**PROCEDURE:** (See figure below for locations).  
(See previous page for Location details)

- 1) Adjust -Vy VR502. Measured across -Vy TPs.  
Match your specific Panel's Voltage label  $\pm 1V$ .
- 2) Adjust VSC VR501. Measured across VSC TPs.  
Match your specific Panel's Voltage label  $\pm 1V$ .

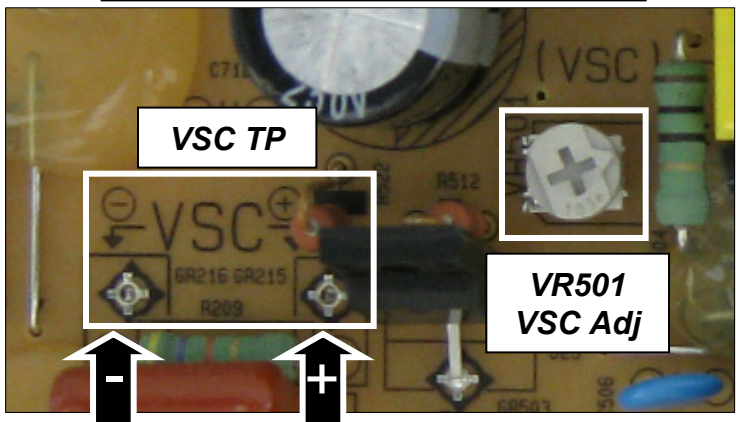
Example: Use Your Panel's Label

Model : PDP 50T1###  
Voltage Setting: 5V/ Va:60/ Vs:206  
N.A. / -198 / 135 / N.A. / 95  
Max Watt : 330 W (Full White)

-Vy

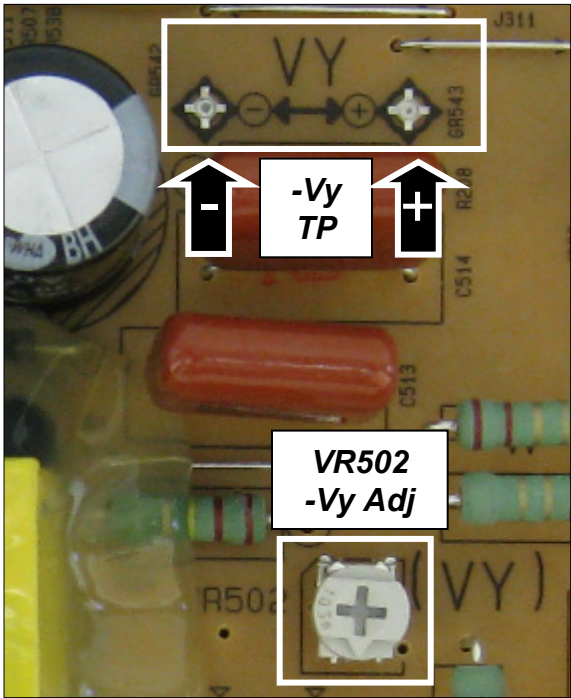
VSC

*Location: Bottom Left of board  
Just to the left of Transformer*



Voltages Reads Positive

Voltages Reads Positive



*Location: Bottom Center of board  
Just to the right of Transformer*

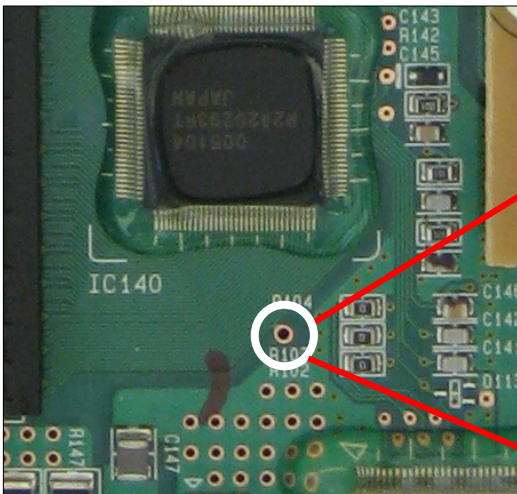
## 50T1 Y Drive Waveform Test Point

The figure below shows a close-up image of the Y-Drive waveform test point on the Y-Drive Upper board. (Waveform TP).  
There is another on the Lower Y-Drive board.

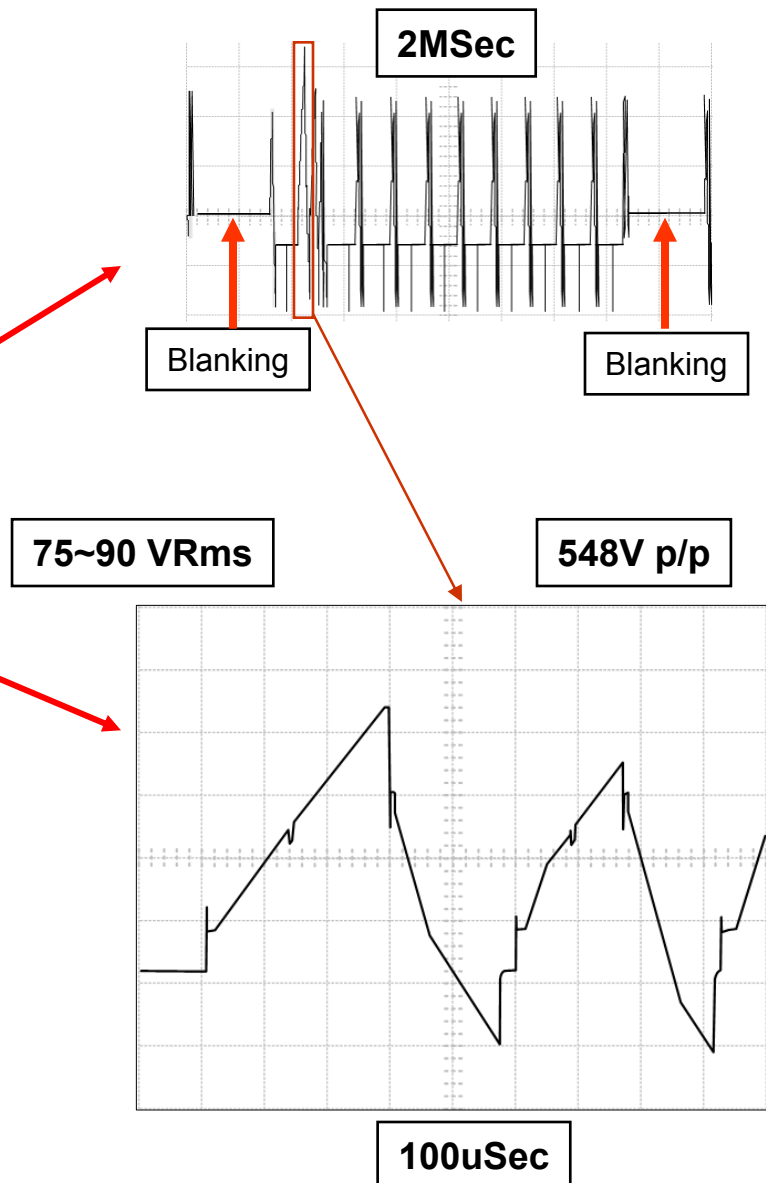
Set-Up and Set-Down portions of the waveform are adjusted using either of these Test Points.

**TP LOCATION UNDER 4<sup>th</sup> BUFFER OF UPPER Y-DRIVE**  
(See next page for adjustment Details)

**Waveform TP**



**Upper Y-Drive Board at the Bottom of the Board**





## 50T1 Y-DRIVE WAVEFORM ADJUSTMENTS

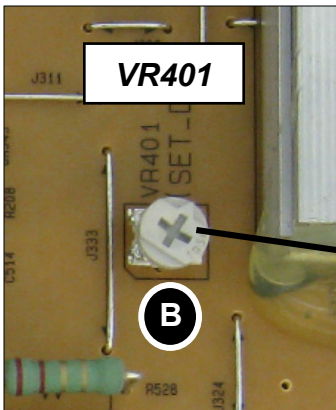
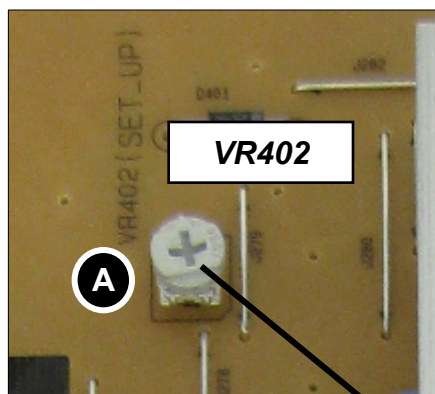
### PREPARATION:

- 1) Pre-Heat unit for at least 10 Minutes before making adjustments.  
Vs, Va, -Vy and VSC adjustments should be completed.
- 2) Place unit into **White Wash** from the Customer's Menu for all adjustments.

See figure below for adjustment locations.

### ADJUSTMENT LOCATIONS

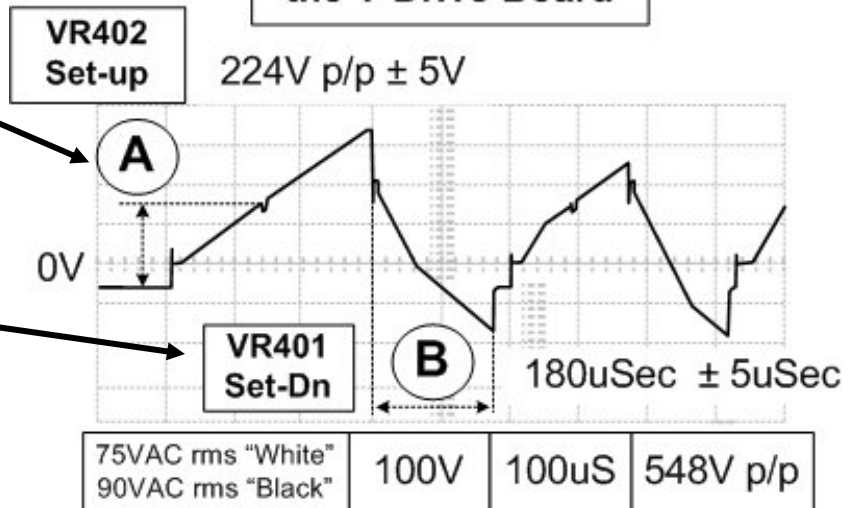
(See 3 pages back for Waveform TP locations)



**ADJUSTMENT LOCATION:**  
Bottom center of the board.

*Waveform Test Point*  
*Y-Drive Upper or Lower (Waveform TP)*

**Waveform TP on  
the Y-Drive Board**



### SET-UP ADJUST:

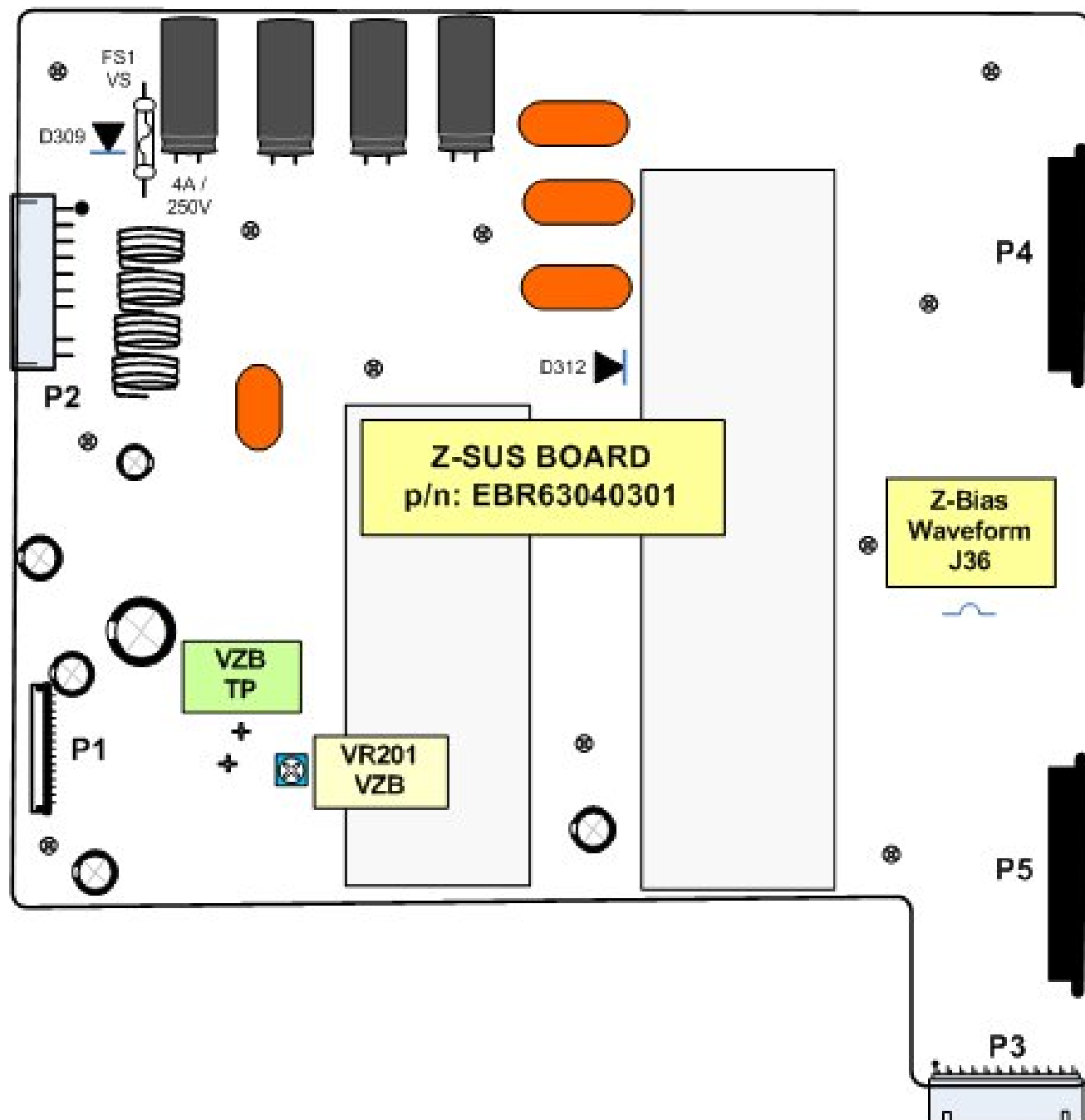
- 1) Adjust VR402 and set the (A) portion of the signal to match the waveform above. (224V p/p  $\pm 5V$ )

### SET-DN ADJUST:

- 2) Adjust VR401 and set the (B) time of the signal to match the waveform above. (180uSec  $\pm 5uSec$ )



## 50T1 Z-SUS ADJUSTMENT POINTS



# 50T1 Z-SUS (Z-Bias) ADJUSTMENT:

Example: Use Your Panel's Label

## PREPARATION:

- 1) Pre-Heat unit for at least 10 Minutes before making adjustments.
- 2) Place unit into White Wash from the Customer's Menu for all adjustments.
- 3) Be sure to use all adjustment values as indicated on the panel voltage label at the top center of the panel.

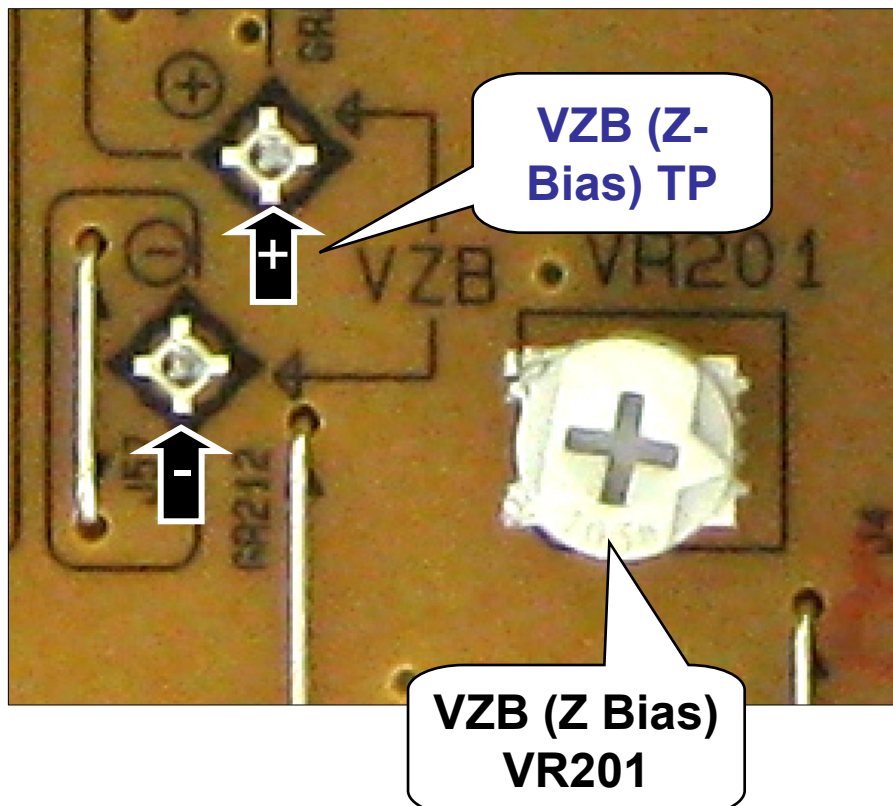
Model : PDP 50T1###  
Voltage Setting: 5V/ Va:60/ Vs:206  
N.A. / -198 / 135 / N.A. / 95  
Max Watt : 330 W (Full White)

VZB (Z Bias)

## PROCEDURE: (See preceding page for locations)

1. Place DC Volt meter between **VZB TP**s.
2. **Adjust VZB (Z Bias) VR201** in accordance with your Panel's voltage label.

### Bottom Left of Z-SUS Board



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# 50X2 PANEL

## QUICK REFERENCE

## ALIGNMENT SECTION

### MODELS USING THE 50X2 PANEL

**50PM2D**

**50PX4D / 4DG / 4DGNB / 4DGS / 4DGW / 4DNB**

**50PX5D / 5DAB**

**50PY2DR / 2DR2 / 2DR2NA / 2DRUA / 2DRW1**

**DN50PX13**

**DN50PY10 / DN50PY11 / DN50PY12N**

**DN50PZ66**

**DT50PY10**

**DU50PX10 / DU50PX41S**

**DU50PY10 / DW50PY10**

**MT50PM20 / M10**

**MZ50PM10 / RP50PX10H**

**RP50PY10 / RT50PX10**

**RZ50PX10 / RZ50PY10**

**TN50PY20 / TU50PY22**

**Note:** This series of models may have a **Duel-Scan** or **Single-Scan Panel**. Both versions are included. Be sure to locate the correct **Y-SUS** and **Z-SUS** for your panel.



**LG**

Life's Good

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# 50X2 SMPS BOARD ADJUSTMENT POINTS

VCC, VS and VA voltages are adjustable and should be adjusted to the correct values as indicated by the panel label. Example shown to the right.

Model : PDP 50X2###  
All Voltage: DC (=) 5.2V  
Va : 65V Vs : 186V  
240 / -105 / 115 / N.A. / N.A.  
Max Watt : 380 W (Full White)

Always adjust “Highest to Lowest” voltages.

VCC, VS and VA adjustment resistors are shown in the drawing below. They are located towards the top left hand side of the board and VCC towards the bottom left hand side.

RV401 is for VS, RV501 is for VA and RV601 is for VCC.

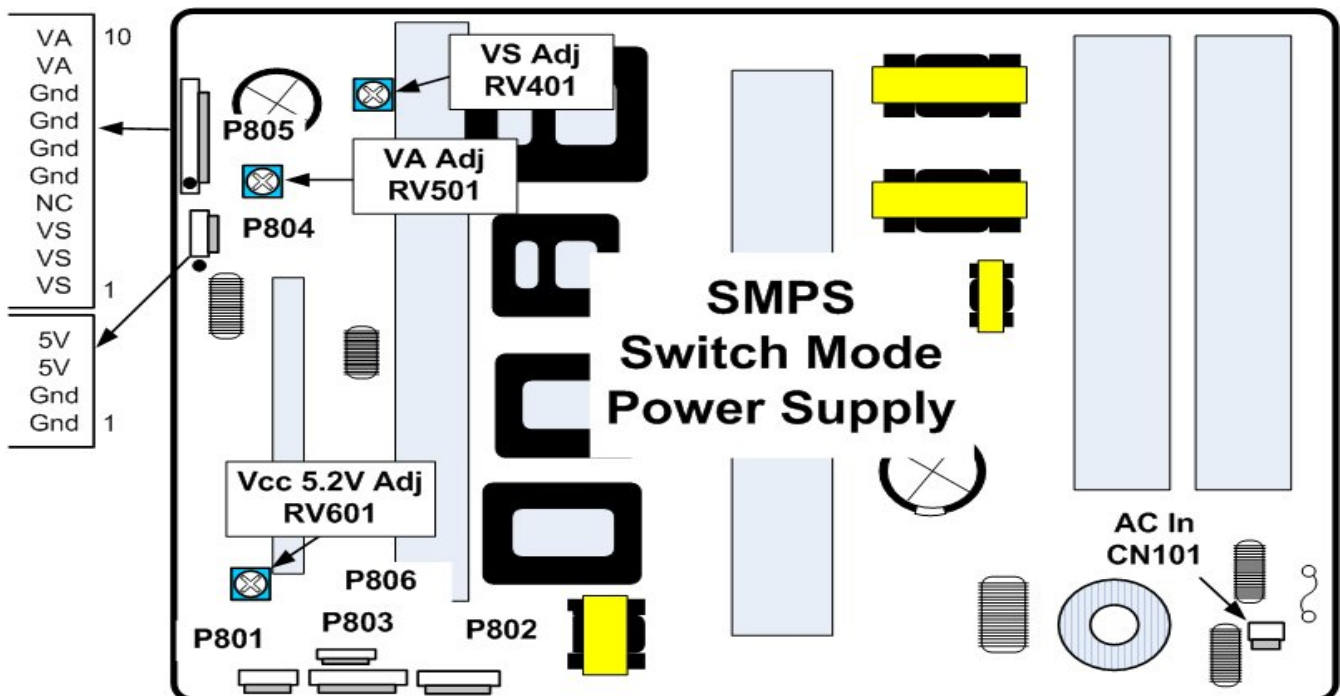
**Set should be in “Full White Raster”**

1) **VCC 5.2V ADJUST:** Connect DVM to pin 3 or 4 of P804. Adjust RV601 until the voltage matches the panel’s voltage label (5.2V).

2) **VS ADJUST:** Connect DVM to pin 1, 2 or 3 of P805. Adjust RV401 until the voltage matches the panel’s voltage label.

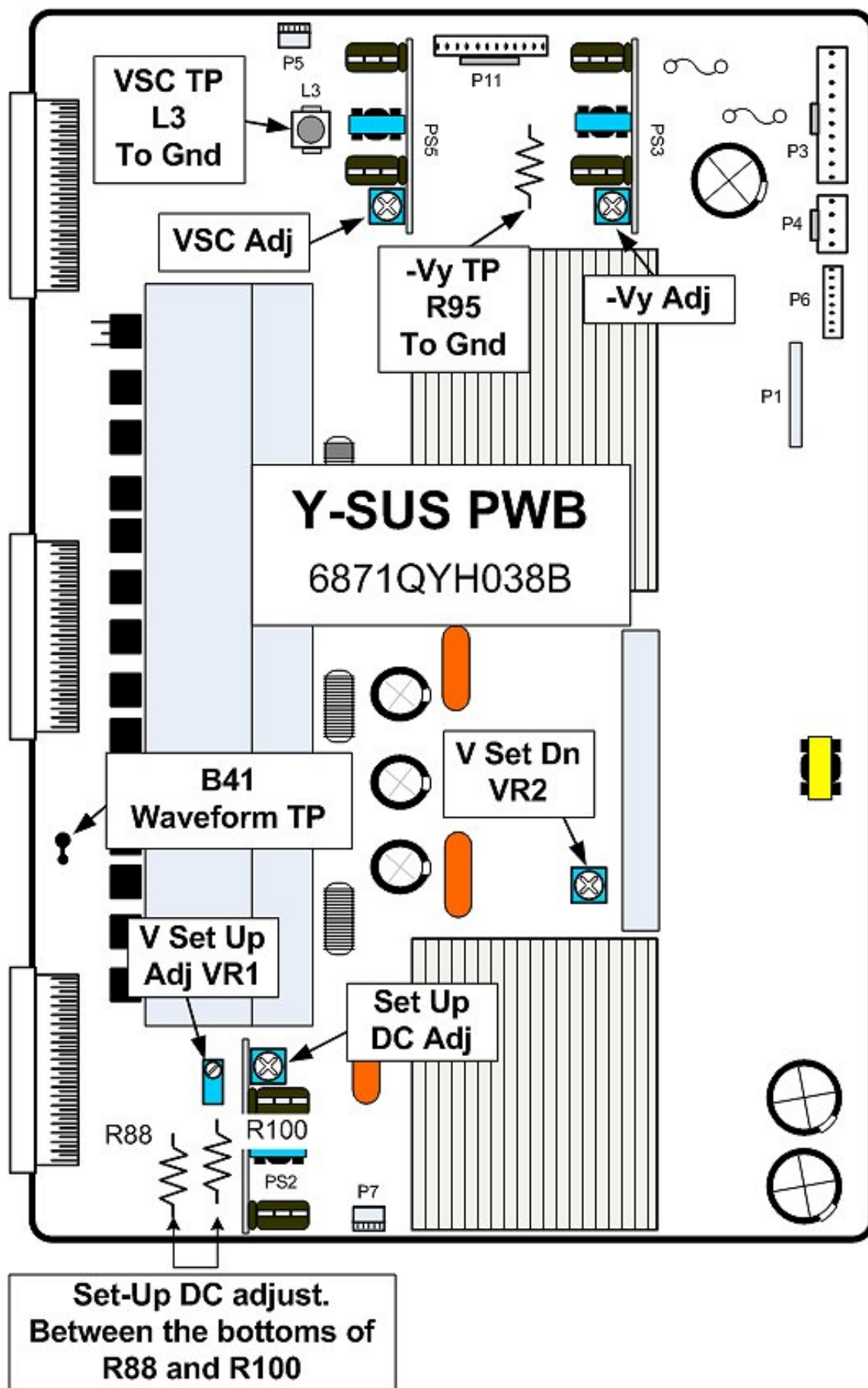
3) **VA ADJUST:** Connect DVM to pin 9 or 10 of P805. Adjust RV501 until the voltage matches the panel’s voltage label.

All measurements taken from Chassis Gnd.





# 50X2 Y-SUS BOARD ADJUSTMENT POINTS



## 50X2 VSC and -Vy Voltage Adjustment Locations

These voltages are adjustable and should be adjusted to the correct values as indicated by the panel's voltage label. Example shown above. Panel must be in "White Wash"

Model : PDP 50X2###			
All Voltage: DC (=) 5.2V			
Va : 65V		Vs : 186V	
240	-105	115	N.A. / N.A.
Max Watt : 380 W (Full White)			

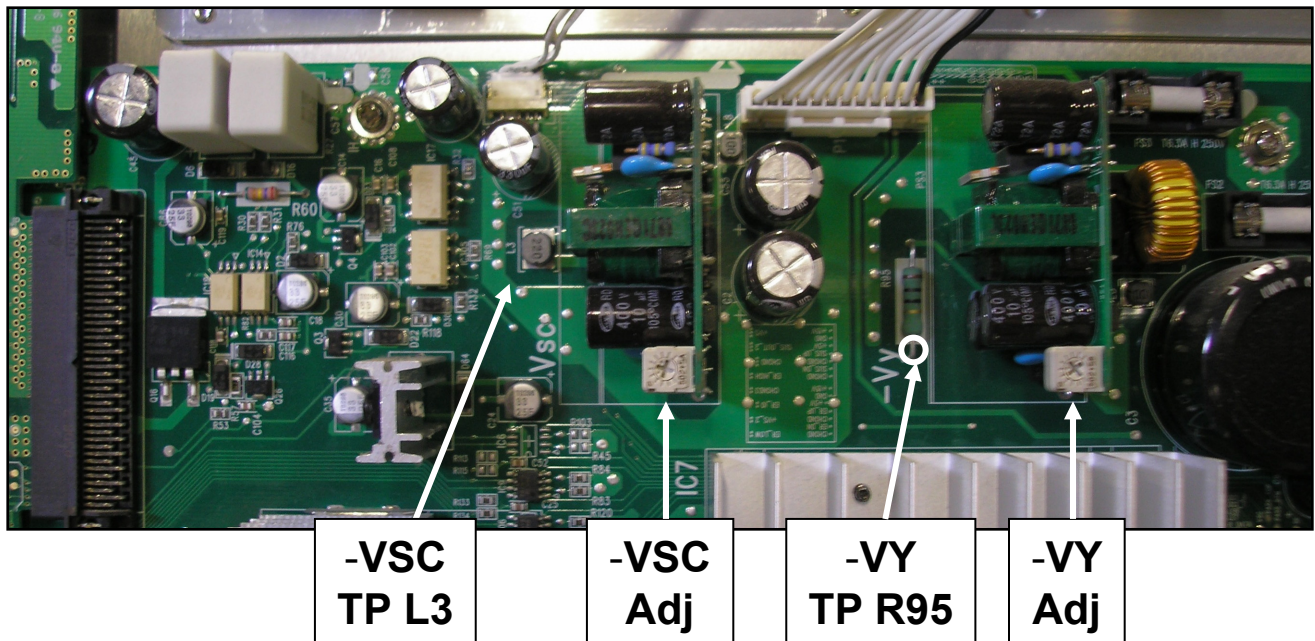
Set-Up   -Vy   VSC

**-Vy Adj** variable resistor located on **PS3** to of board.

Adjust the **-Vy** while reading from **R95** to Gnd.  
Match your specific panel's voltage label.

**VSC Adj** variable resistor located on **PS5** to of board.

Adjust the **VSC** while reading from either side of **L3** to chassis Gnd. Match your specific panel's voltage label.



## 50X2 V Set-Up DC Voltage ADJUSTMENT

VS, VA, VSC, -Vy should have been completed.

Using a Full White Raster.  
Adjust the V Set-up in accordance to the Voltage listed on the Panel's Voltage Label. (Far left hand value).

Model : PDP 50X2###			
All Voltage: DC (=) 5.2V			
Va : 65V		Vs : 186V	
240	-105	115	N.A. / N.A.
Max Watt : 380 W (Full White)			
Set-Up	-Vy	VSC	

### PROCEDURE:

#### Test Point:

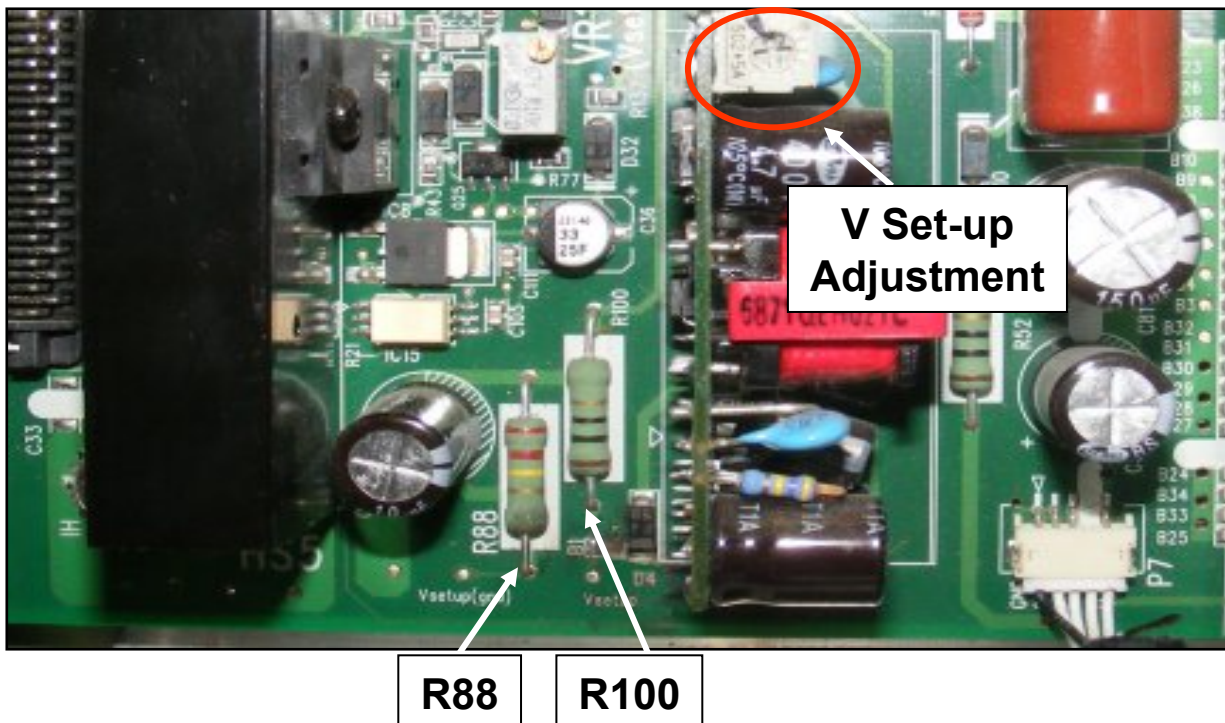
Read from the bottom of **R88** to the bottom of **R100**.

#### Adjustment:

Using the variable resistor on the DC-to-DC converter board **PS2** (Bottom left of the Y-SUS board).

Adjust until the voltage matches your specific Panel's voltage label.

Location, bottom left of Y-SUS PWB

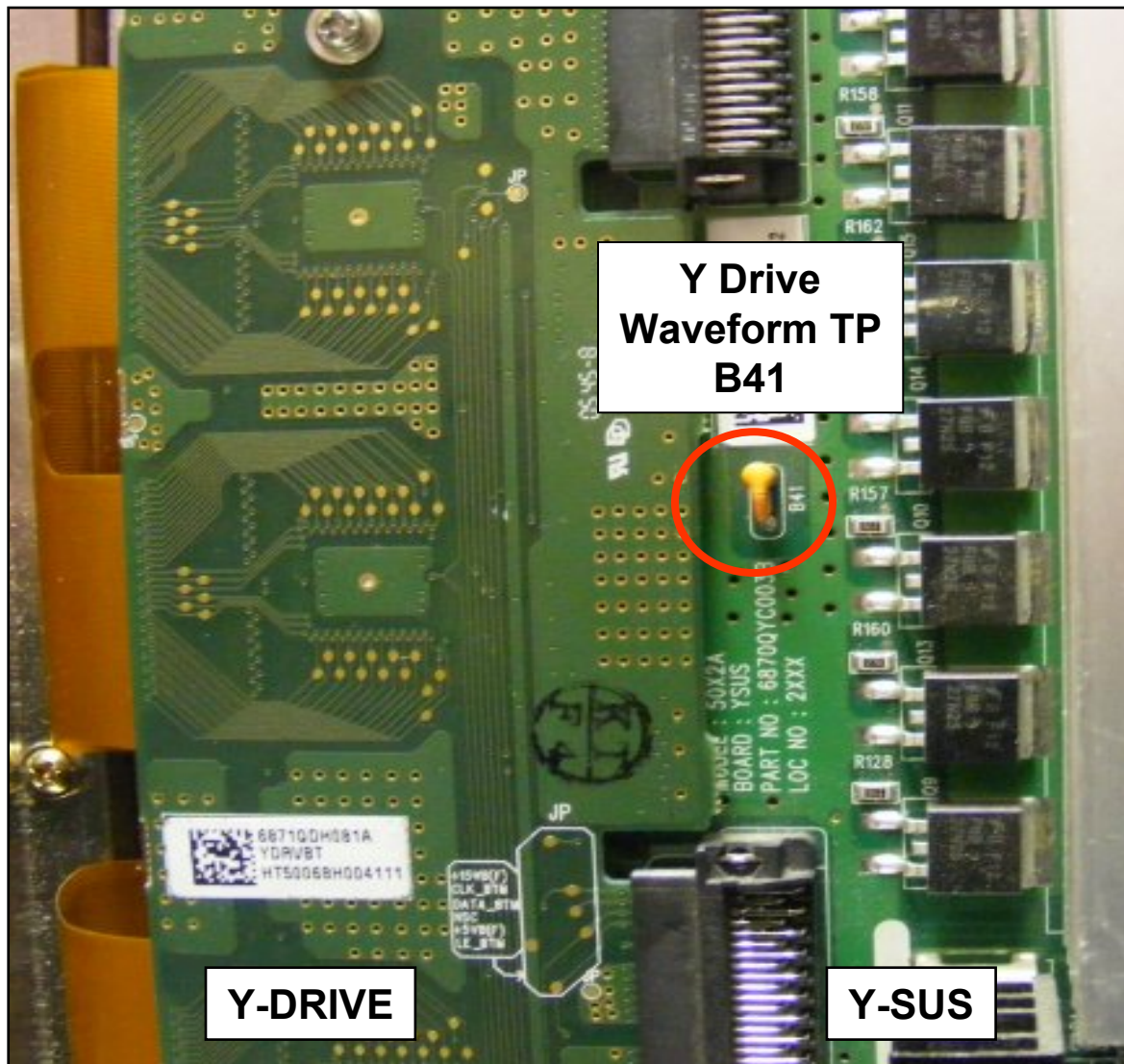




## 50X2 Y-Drive Waveform Test Point

Figure 1 shows the Y-Drive Board with the area of the Waveform TP outlined in the Red circle.

Use this TP for alignment of the Y-Drive signal using Set-Up and Set-Down adjustments shown on the next page.



(Fig. 1)

## 50X2 Y-DRIVE WAVEFORM ADJUSTMENT

All other adjustments should have been completed.

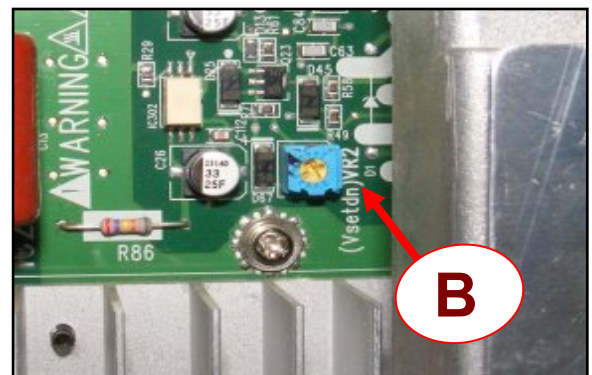
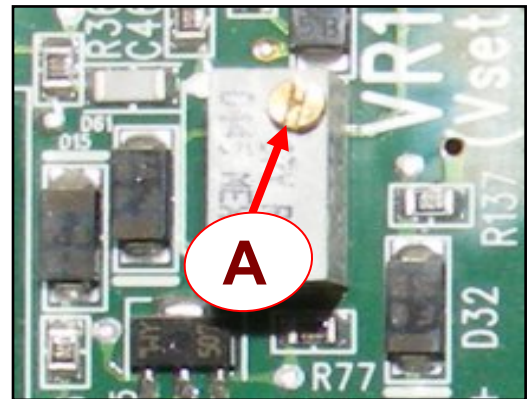
Using a Full White Raster, adjust the Set-Up (Ramp) and Set-Dn section of the Y-Drive waveform.

Oscilloscope TP "Waveform" TP B41 on the Y-SUS PWB.

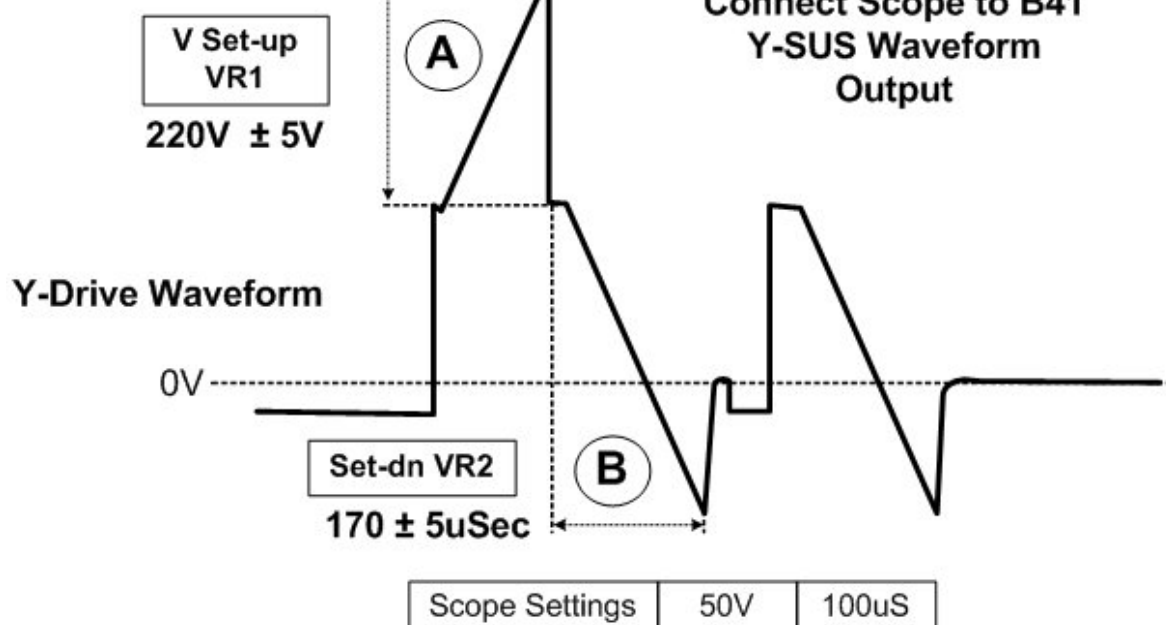
(A) Set-Up: Adjust **VR1** while observing area (A) and set to **220V  $\pm$  1V**.

(B) Set-Dn: Adjust **VR2** while observing area (B) and set to **170uSec  $\pm$  5uSec**.

See Y-SUS Test Points and Adjustments diagram for locations.



Using Y-SUS #038B



## 50X2 Z-SUS PWB ADJUSTMENT POINTS

The picture to the right represents a 50X2 Panel Voltage Label. This is for an example only.

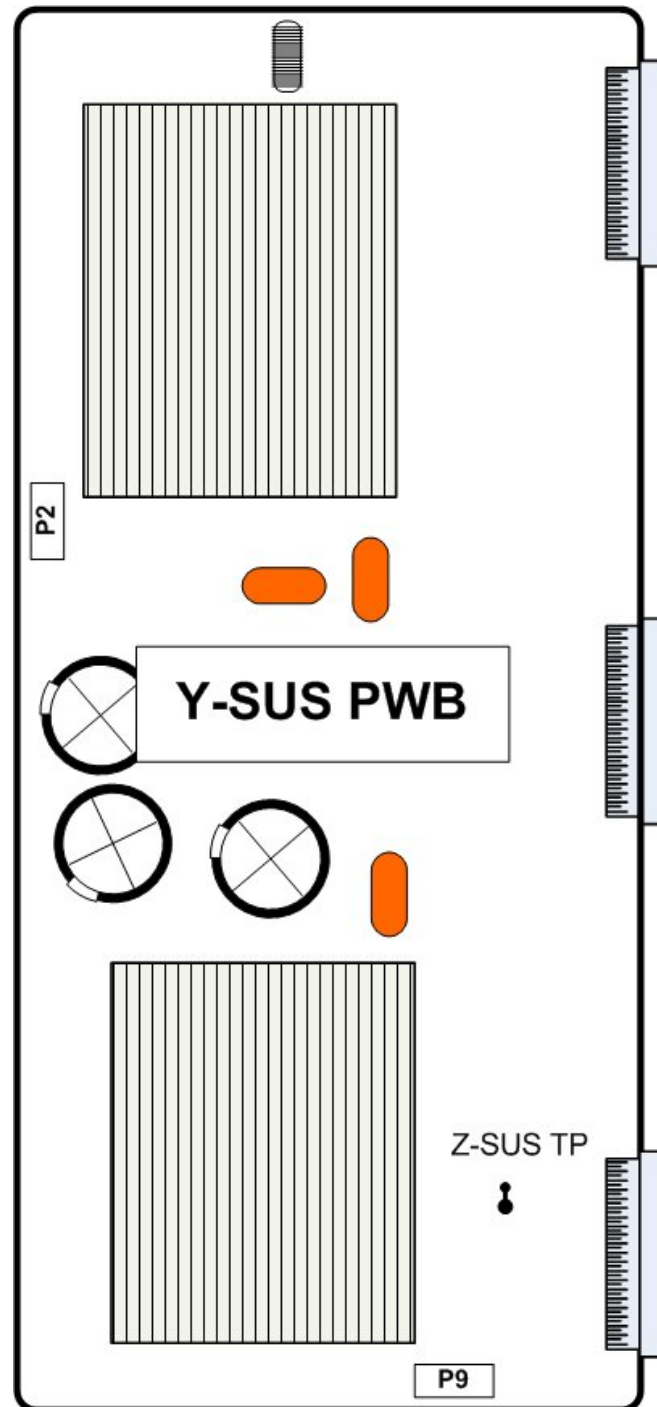
Model : PDP 50X2###  
All Voltage: DC (=) 5.2V  
Va : 65V Vs : 186V  
240 / -105 / 115 / N.A. / **N.A.**  
Max Watt : 380 W (Full White)

Z Bias (Not Adjustable)

The picture to the right represents the 50X2 Z-SUS PWB.

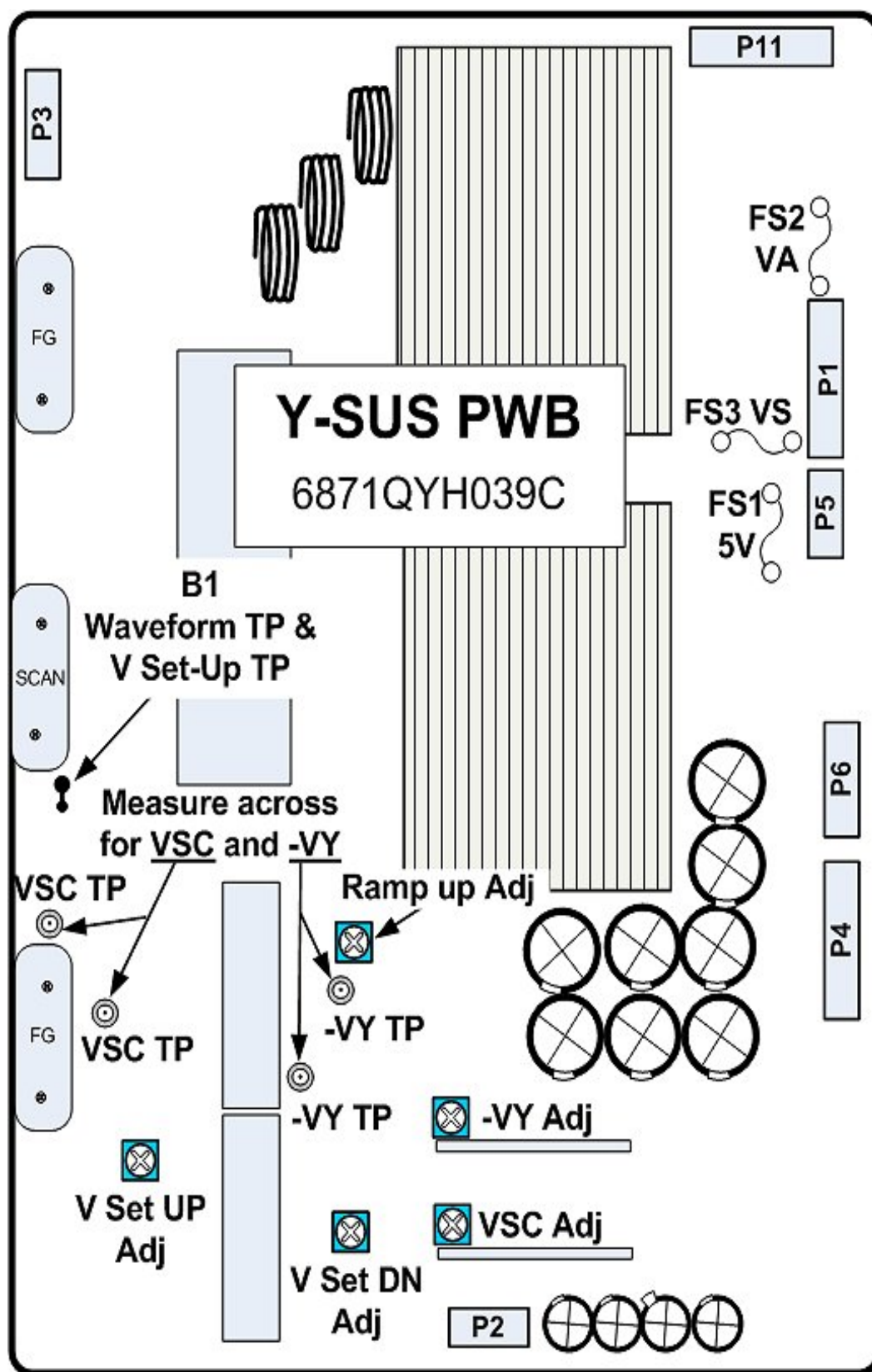
Notice there are No Adjustment pots or adjustment Test Points.

The Z-SUS TP shown in the bottom right is for the Waveform.





# 50X2C Y-SUS BOARD ADJUSTMENT POINTS



# 50X2C VSC, -Vy ADJUSTMENTS

## PREPARATION:

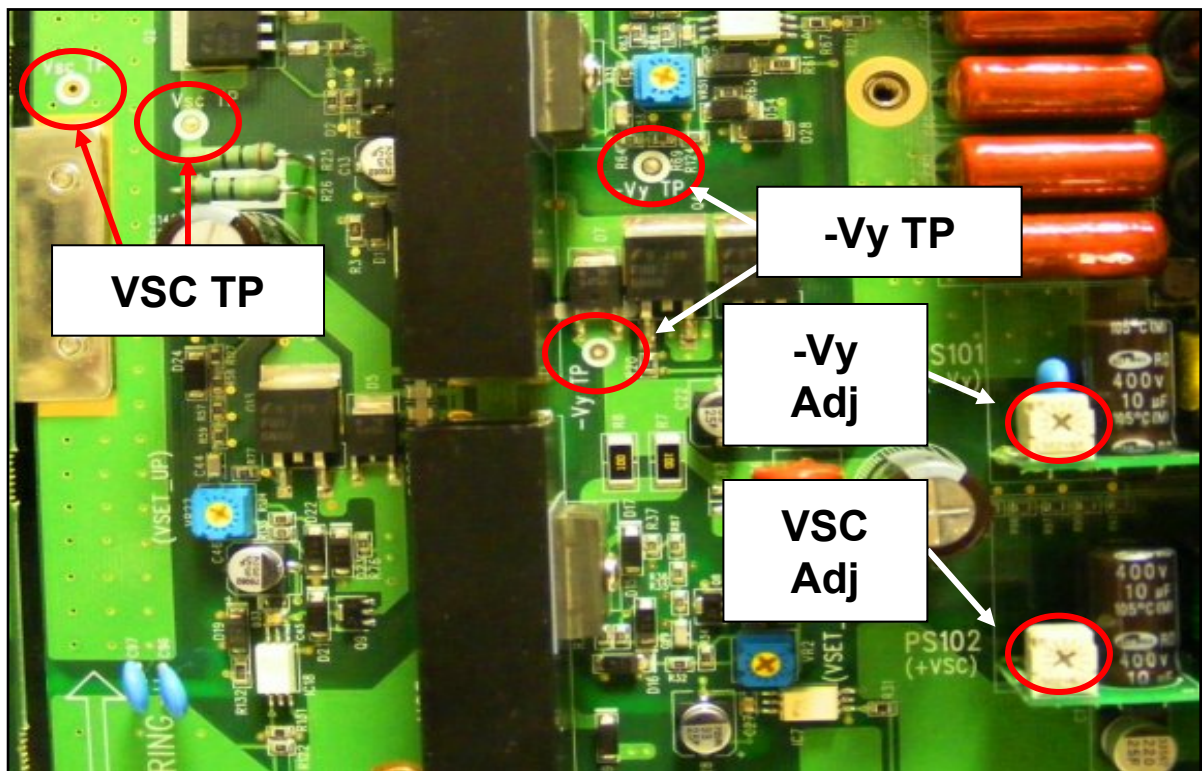
- 1) Pre-Heat unit for at least 10 Minutes before making adjustments.  
Vs and Va adjustments complete.
- 2) Place unit into White Wash from the Customer's Menu for all adjustments.
- 3) **Be sure to use all adjustment values as indicated on your specific panel's voltage label in the upper right of the panel.**

Model : PDP 50X2###  
All Voltage: DC (=) 5.2V  
Va : 65V Vs : 186V  
**240 / -105 / 115 / N.A. / N.A.**  
Max Watt : 380 W (Full White)

↓      ↓      ↓  
Set-Up -Vy VSC

## PROCEDURE: (See figure below for locations)

- 1) Adjust -Vy. Measured across -Vy TPs.  
Match your specific Panel's Voltage label  $\pm 1V$ .
- 2) Adjust VSC. Measured across VSC TPs.  
Match your specific Panel's Voltage label  $\pm 1V$ .



*Lower Left Side Of Board*

## 50X2C Y-Drive Waveform Test Point

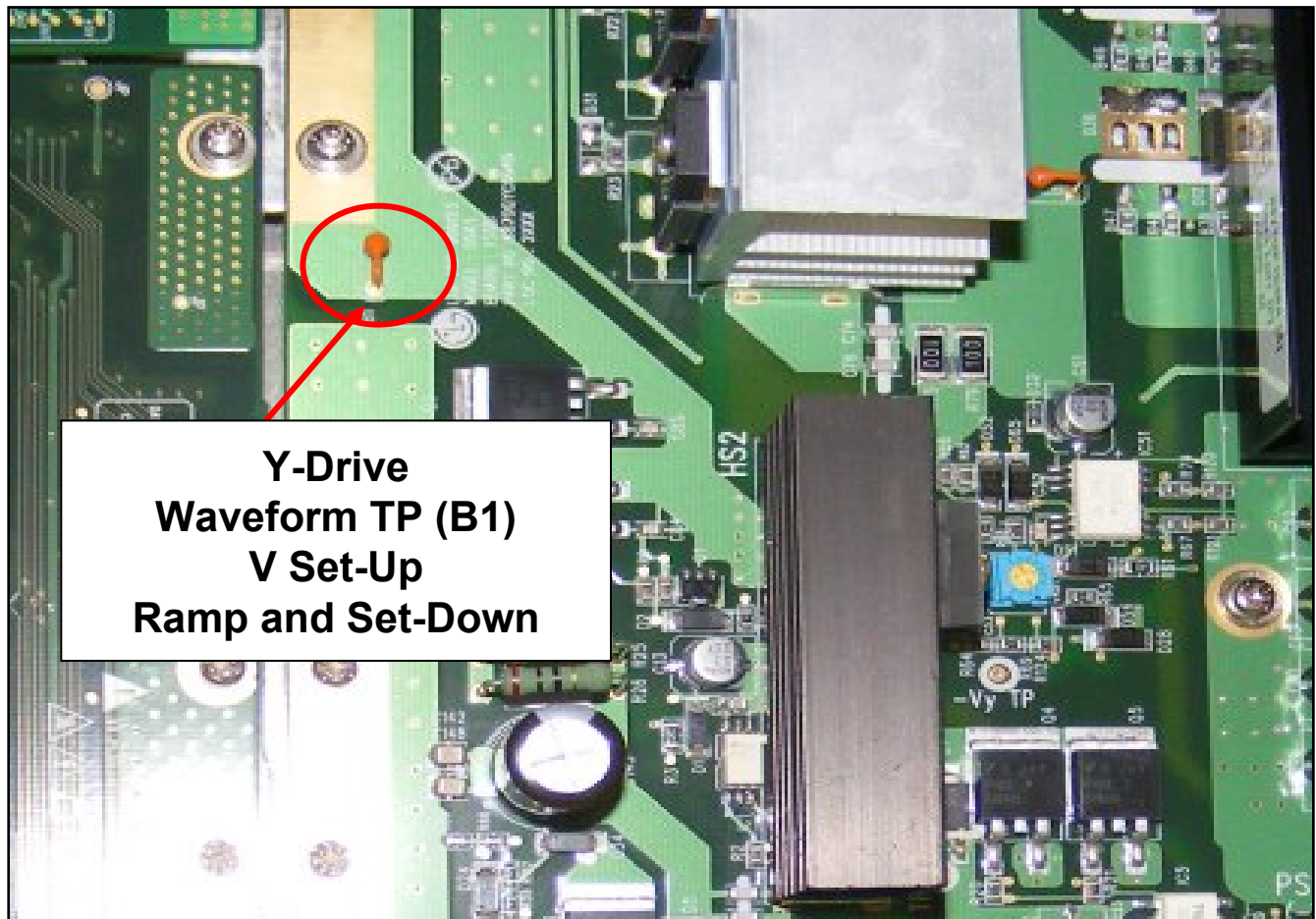
Two pages back show the Y-SUS PWB

Figure Below:

Shows a close-up image of the Y-Drive waveform test point on the Y-SUS PWB. TP B1

Ramp (Ramp-Up), Set-Down and V Set-Up portions of the waveform are adjusted using this TP.

**TP LOCATION**  
(See next page for adjustment locations)



# 50X2C Y-DRIVE WAVEFORM ADJUSTMENTS

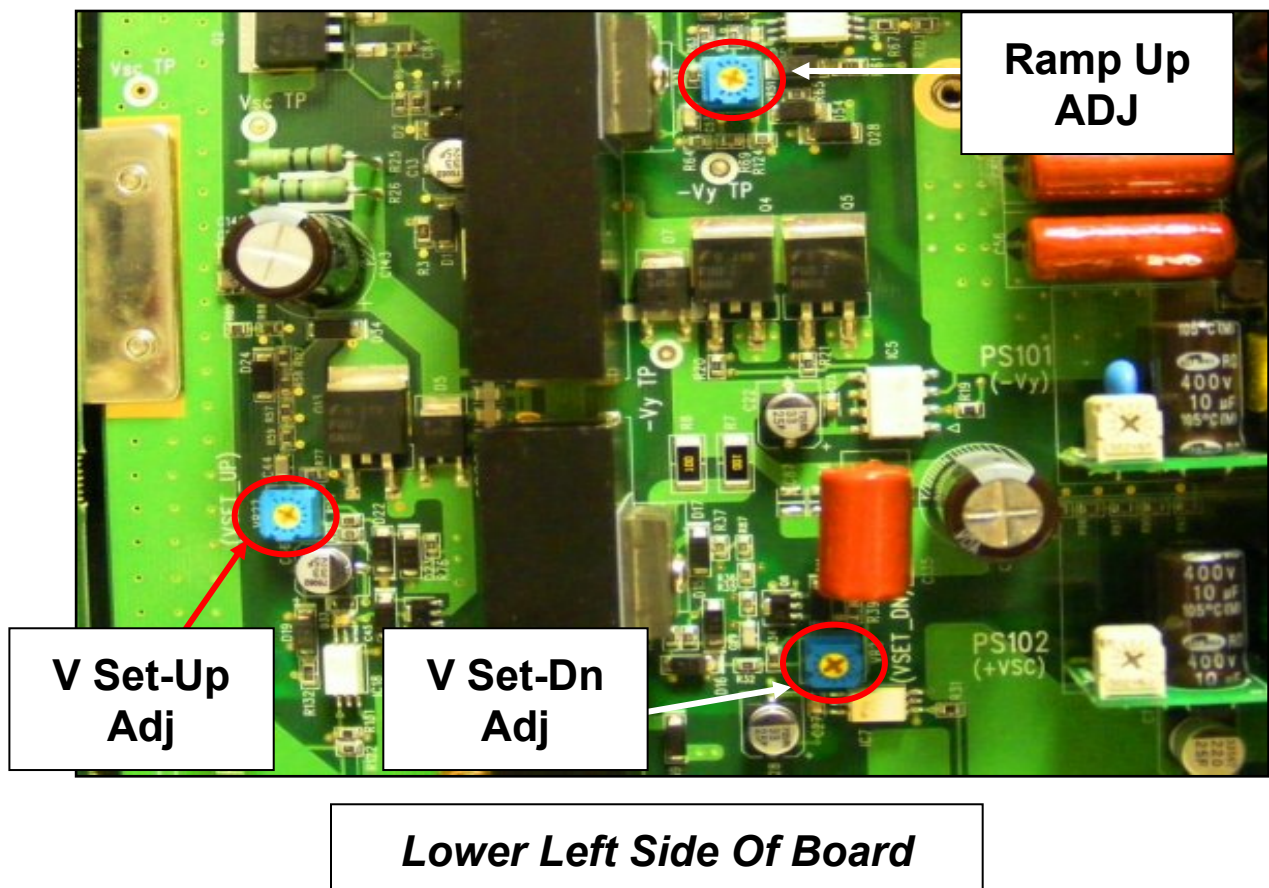
## PREPARATION:

- 1) Pre-Heat unit for at least 10 Minutes before making adjustments.  
Vs, Va, -Vy and VSC adjustments should be completed.
- 2) Place unit into White Wash from the Customer's Menu for all adjustments.
- 3) **Be sure to use all adjustment values as indicated on the panel voltage label on the panel.**

**PROCEDURE:** (See figure below for locations)

See Next page for adjustment specifications.

## ADJUSTMENT LOCATIONS (See preceding page for TP location)





## 50X2C Y-Drive Waveform Adjustment

Using a Full White Raster, adjust the Y-Set-Up, Ramp and Set-Dn section of the Y-Drive waveform.

VS, VA, -Vy and VSC should have been adjusted.

Oscilloscope TP on the “Waveform” TP (B1) on the Y-SUS PWB.

### RAMP ADJUSTMENT:

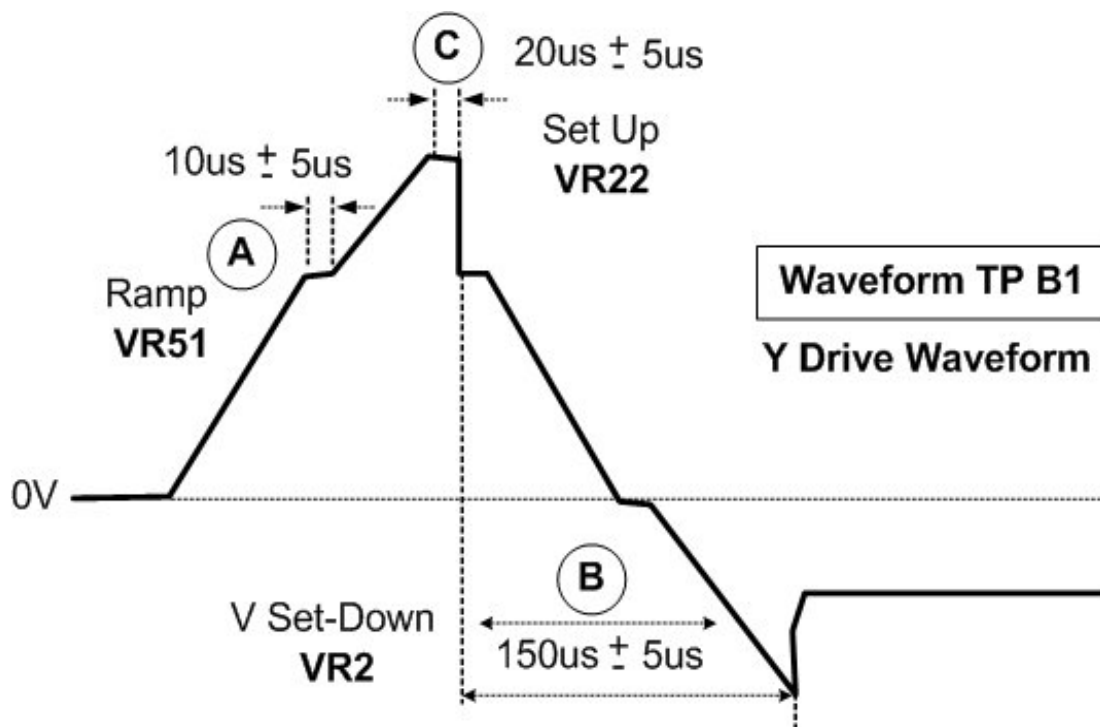
Adjust **VR51** while observing area (A) and set the flat portion to **10uSec  $\pm$  1uSec**.

### SET-UP ADJUSTMENT:

Adjust **VR22** while observing area (C) and set to **20uSec  $\pm$  1uSec**.

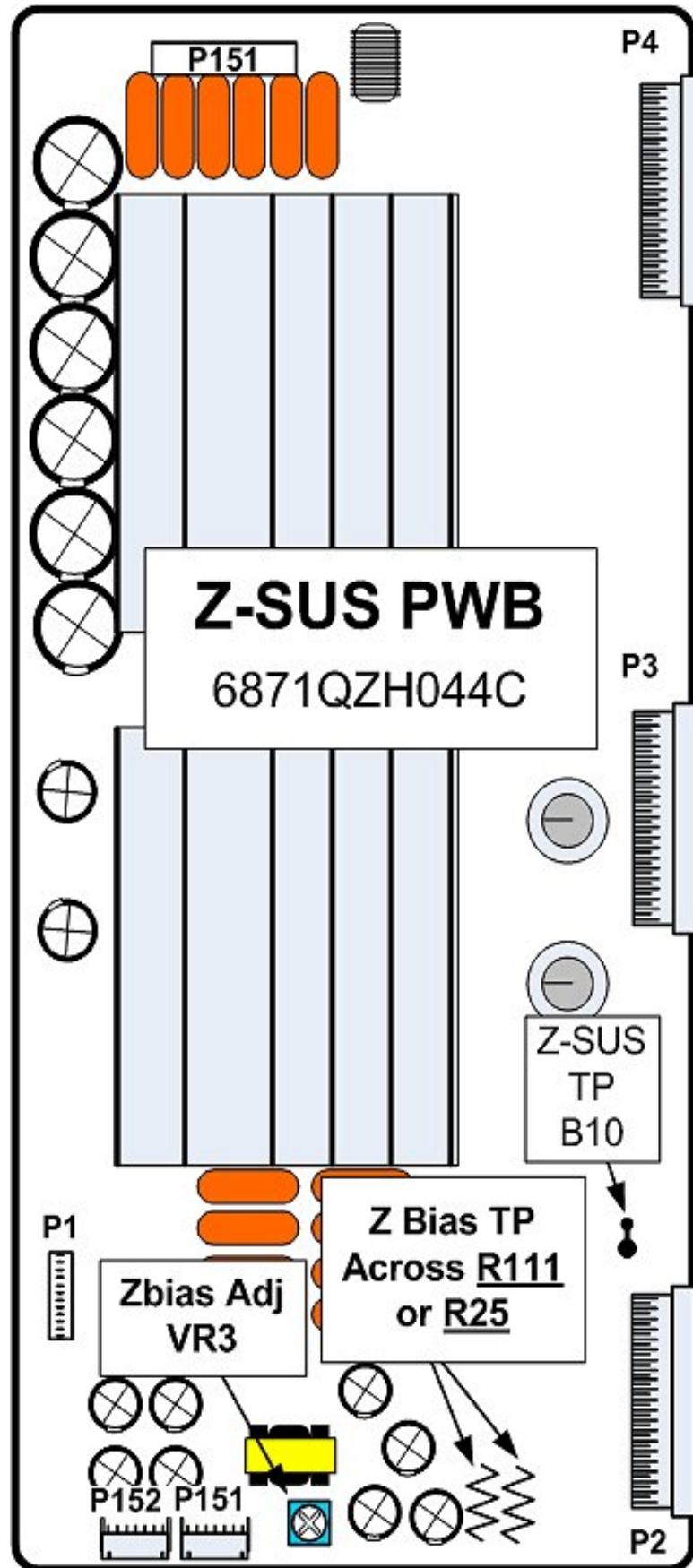
### SET-DOWN ADJUSTMENT:

Adjust **VR2** while observing area (B) and set to **150uSec  $\pm$  5uSec**.



# 50X2C Z-SUS BOARD ADJUSTMENT POINTS

50X2C PANEL





## 50X2C Z-SUS (Z-Bias) ADJUSTMENT:

### PREPARATION:

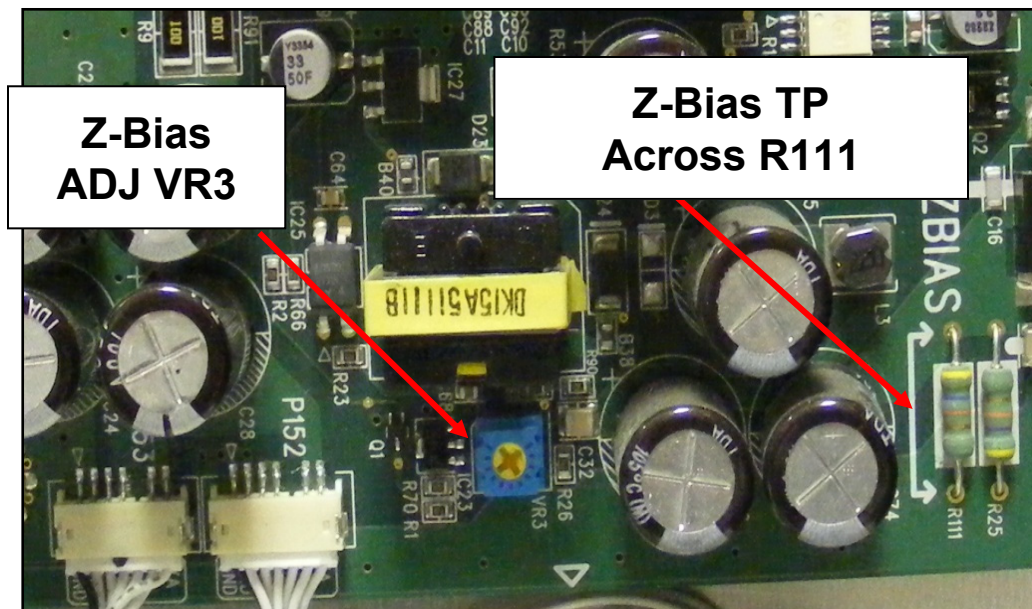
- 1) Pre-Heat unit for at least 10 Minutes before making adjustments.
- 2) Place unit into White Wash from the Customer's Menu for all adjustments.
- 3) **Be sure to use all adjustment values as indicated on the panel voltage label in the upper right hand corner of the panel.**

### PROCEDURE: (See preceding page for locations)

- 1) Place DC Volt meter on VZB TP (Across of R111 or R25).
- 2) Adjust VZB (Z Bias) VR3 in accordance to your specific Panel's voltage label.

Example of Voltage Label

Model : PDP 50X2###  
All Voltage: DC (=) 5V  
Va : 60V Vs : 192V  
115 / -200 / 115 / N.A. **95** → ZBias  
Max Watt : 400 W (Full White)



# 50X3 PANEL

## QUICK REFERENCE

### ALIGNMENT SECTION

#### MODELS USING THE 50X3 PANEL

50PB2DR/ 2DR1/ 2DR1NA / 2DRA / 2DRANA  
50PB2DRNA / 2DRNA / 2DRW / 2RRHML  
50PB2RRHTL / 2RRML / 2RRTL /  
50PC1D / 1D1 / 1D1ND / 1DB / 1DB1ND / 1DB1S  
50PC1DB1W / 1DBND / 1DCNF / 1DND / 1DR  
50PC1DR1 / 1DR1NA / 1DR2 / 1DR2NA / 1DRW  
50PC1DRW1 / 1DRWNA / 1DW / 1RTH  
50PM1MATA  
50PM2DNA  
50PX1DHUC  
50PX2DUD  
50PX4D1 / 4D1NB / 4D1S / 4D1W / 4DEB / 50PX4MHTB /  
4RHTB / 4RTB / RZB  
50PX5DNA  
50PY1DN / 1DNNA  
50PY2DR1 / 2DR1NA / 2DR1S / DR1W / DR1W1  
50PY2DRG / 2DRGNA / 2DRGW / 2DRNA / 2DRNA  
DN50PX12  
DN50PX40M



**LG**

Life's Good

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## 50X3 SMPS BOARD ADJUSTMENT POINTS

Set should be in “Full White Raster”

These two voltages are adjustable and should be adjusted to the correct values as indicated by the panel label.

Example shown on the right.

Always adjust “Highest to Lowest” voltages.

VS and VA adjustment resistors are shown in the drawing below.

They are located at the top left of the board.

VR951 is the VS adjustment pot.

VR901 is the VA adjustment pot.

5V adjustment is sealed and factory pre-aligned.

Model : PDP 50X3###

All Voltage: DC (=) 5V

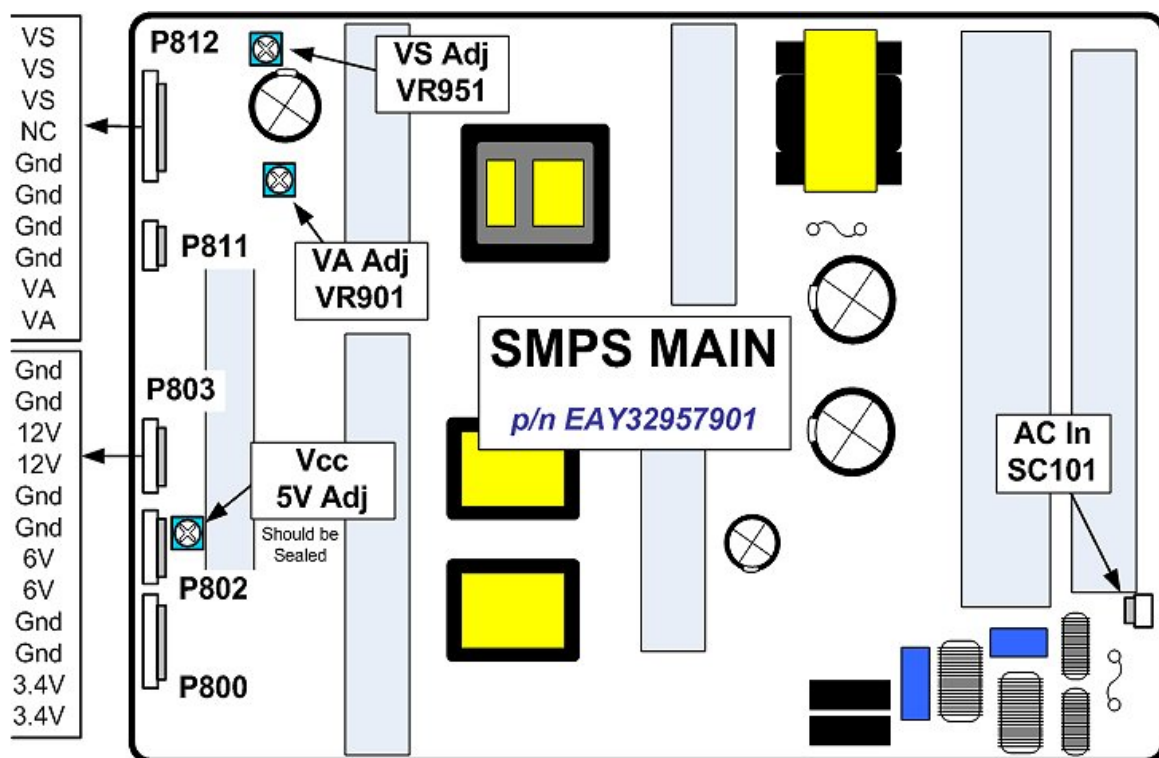
Va : 60V

Vs : 192V

115 / -200 / 115 / N.A. / 95

Max Watt : 400 W (Full White)

- 1) **VS ADJUST:** Connect DVM to pin 8, 9 or 10 of P812. Adjust VR951 until the voltage matches the panel's voltage label.
- 2) **VA ADJUST:** Connect DVM to pin 1 or 2 of P812. Adjust VR901 until the voltage matches the panel's voltage label.



## 50X3 SMPS BOARD ADJUSTMENT POINTS

Set should be in “Full White Raster”

These two voltages are adjustable and should be adjusted to the correct values as indicated by the panel's label.

Example shown on the right.

Model : PDP 50X3###  
All Voltage: DC (=) 5V  
Va : 60V Vs : 192V  
115 / -200 / 115 / N.A. / 95  
Max Watt : 400 W (Full White)

Always adjust “Highest to Lowest” voltages.

VS and VA adjustment resistors are shown in the drawing below.

They are located at the top left of the board.

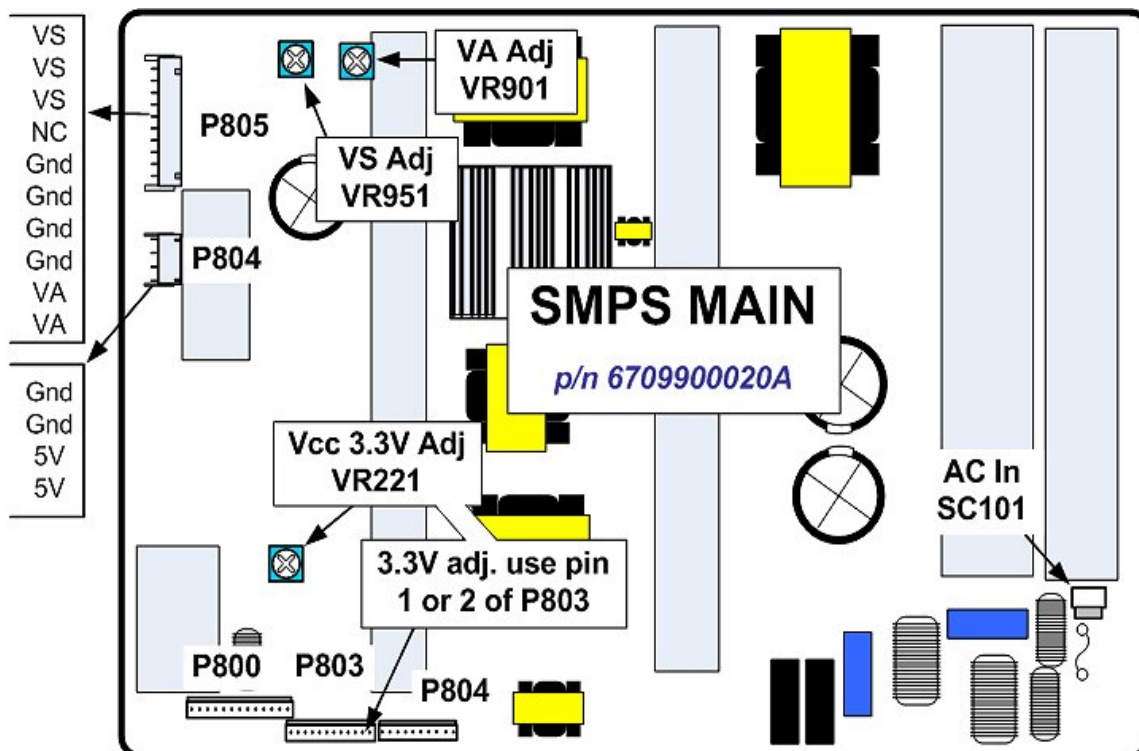
**VR951** is the VS adjustment pot.

**VR901** is the VA adjustment pot.

**VR221** is the 3.3V adjustment pot.

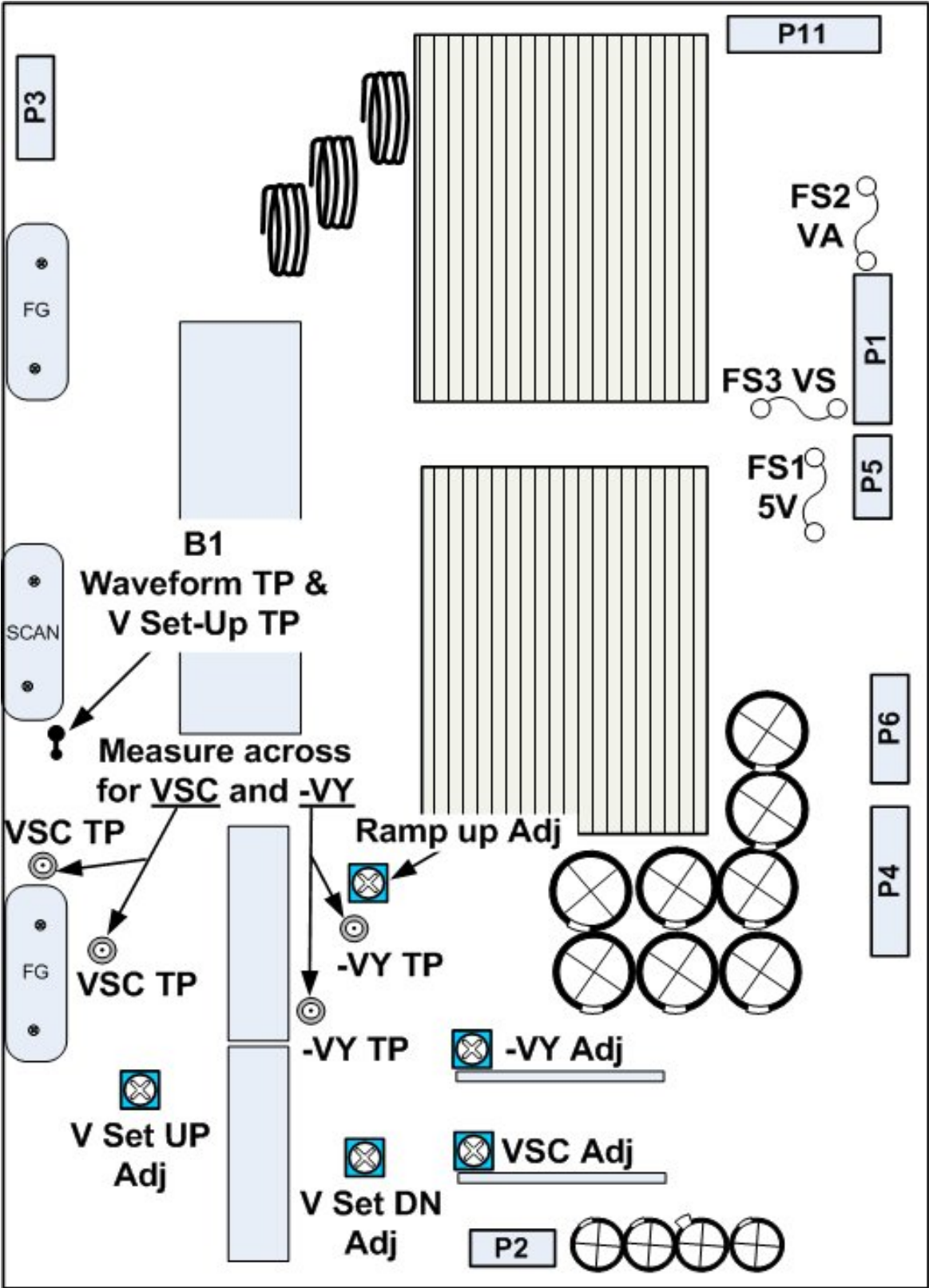
5V adjustment is sealed and factory pre-aligned.

- 1) **VS ADJUST:** Connect DVM to pin 8, 9 or 10 of P812. Adjust VR951 until the voltage matches the panel's voltage label.
- 2) **VA ADJUST:** Connect DVM to pin 1 or 2 of P812. Adjust VR901 until the voltage matches the panel's voltage label.
- 3) **3.3V ADJUST:** Connect DVM to pin 1 or 2 of P803. Adjust VR221 until the voltage reads 3.3V





# 50X3P Y-SUS PWB ADJUSTMENT POINTS



50X3 PANEL

# 50X3 VSC, -Vy ADJUSTMENTS

## PREPARATION:

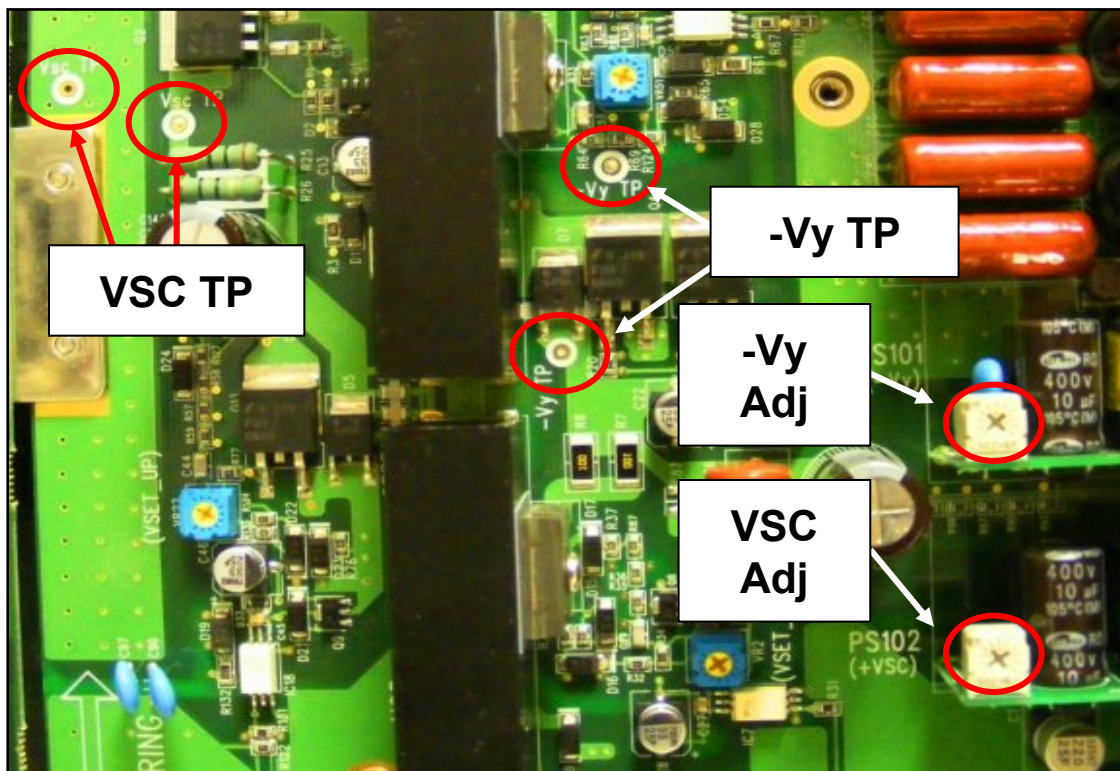
- 1) Pre-Heat unit for at least 10 Minutes before making adjustments.  
Vs and Va adjustments complete.
- 2) Place unit into White Wash from the Customer's Menu for all adjustments.
- 3) **Be sure to use all adjustment values as indicated on your specific panel's voltage label in the upper right of the panel.**

Model : PDP 50X3###  
All Voltage: DC (=) 5V  
Va : 60V Vs : 192V  
115 / -200 / 115 / N.A. / 95  
Max Watt : 400 W (Full White)

↓ ↓  
-Vy VSC

## PROCEDURE: (See figure below for locations)

- 1) **Adjust -Vy.** Measured across -Vy TPs.  
Match your specific Panel's Voltage label  $\pm 1V$ .
- 2) **Adjust VSC.** Measured across VSC TPs.  
Match your specific Panel's Voltage label  $\pm 1V$ .



*Lower Left Side Of Board*

## 50X3 Y Drive Waveform Test Point

Two pages back show the Y-SUS PWB

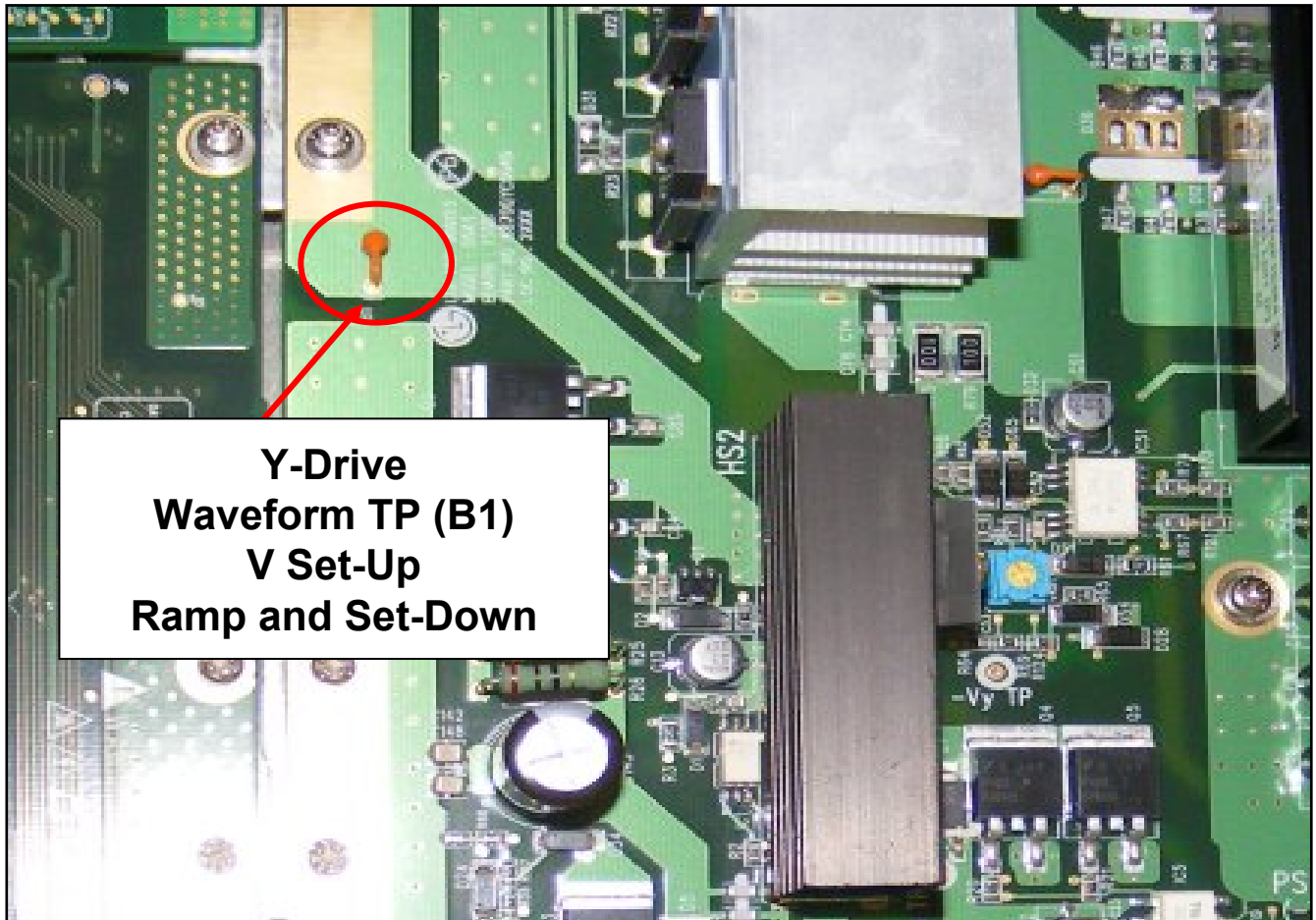
Figure Below:

Shows a close-up image of the Y-Drive waveform test point on the Y-SUS PWB. TP B1

Ramp (Ramp-Up), Set-Down and V Set-Up portions of the waveform are adjusted using this TP.

### TP LOCATION

(See next page for adjustment locations)



# 50X3 Y-DRIVE WAVEFORM ADJUSTMENTS

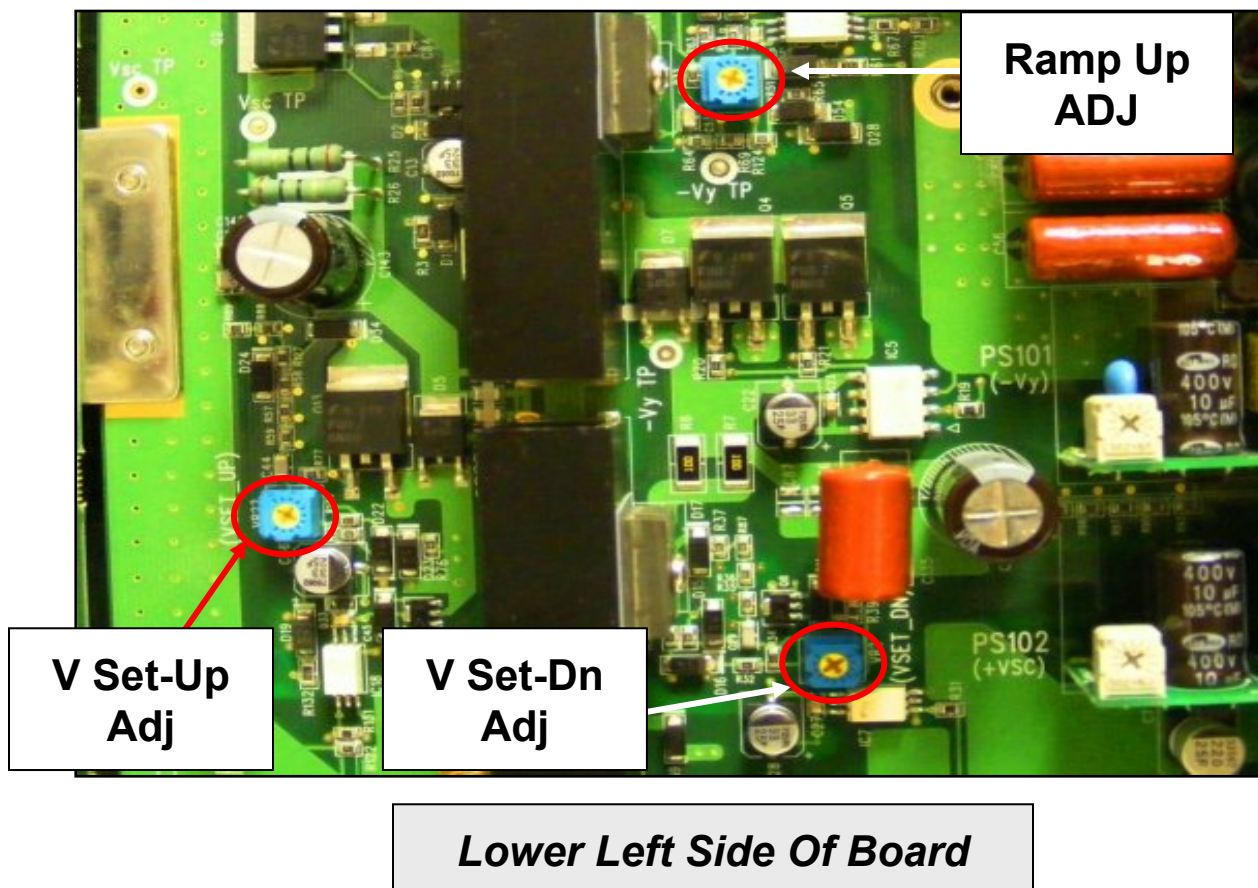
## PREPARATION:

- 1) Pre-Heat unit for at least 10 Minutes before making adjustments.  
Vs, Va, -Vy and VSC adjustments should be completed.
- 2) Place unit into White Wash from the Customer's Menu for all adjustments.
- 3) **Be sure to use all adjustment values as indicated on the panel voltage label on the panel.**

## PROCEDURE: (See figure below for locations)

See Next page for adjustment specifications.

### ADJUSTMENT LOCATIONS (See preceding page for TP location)



## 50X3 Y-Drive Waveform Adjustment

Using a Full White Raster, adjust the Y-Set-up, Ramp and Set-dn section of the Y-Drive waveform.

VS, VA, -Vy and VSC should have been adjusted.

Oscilloscope TP on the “Waveform” TP (B1) on the Y-SUS Board.

### RAMP ADJUSTMENT:

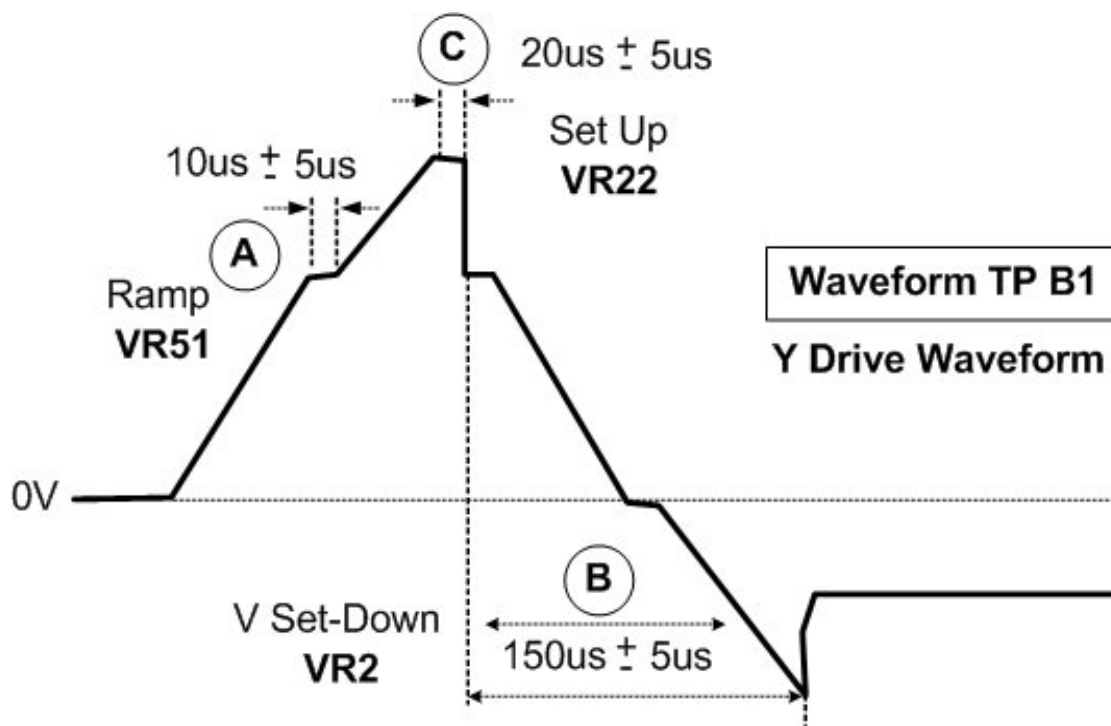
Adjust VR51 while observing area (A) and set the flat portion to  $10\mu\text{Sec} \pm 1\mu\text{Sec}$ .

### SET-UP ADJUSTMENT:

Adjust VR22 while observing area (C) and set to  $20\mu\text{Sec} \pm 1\mu\text{Sec}$ .

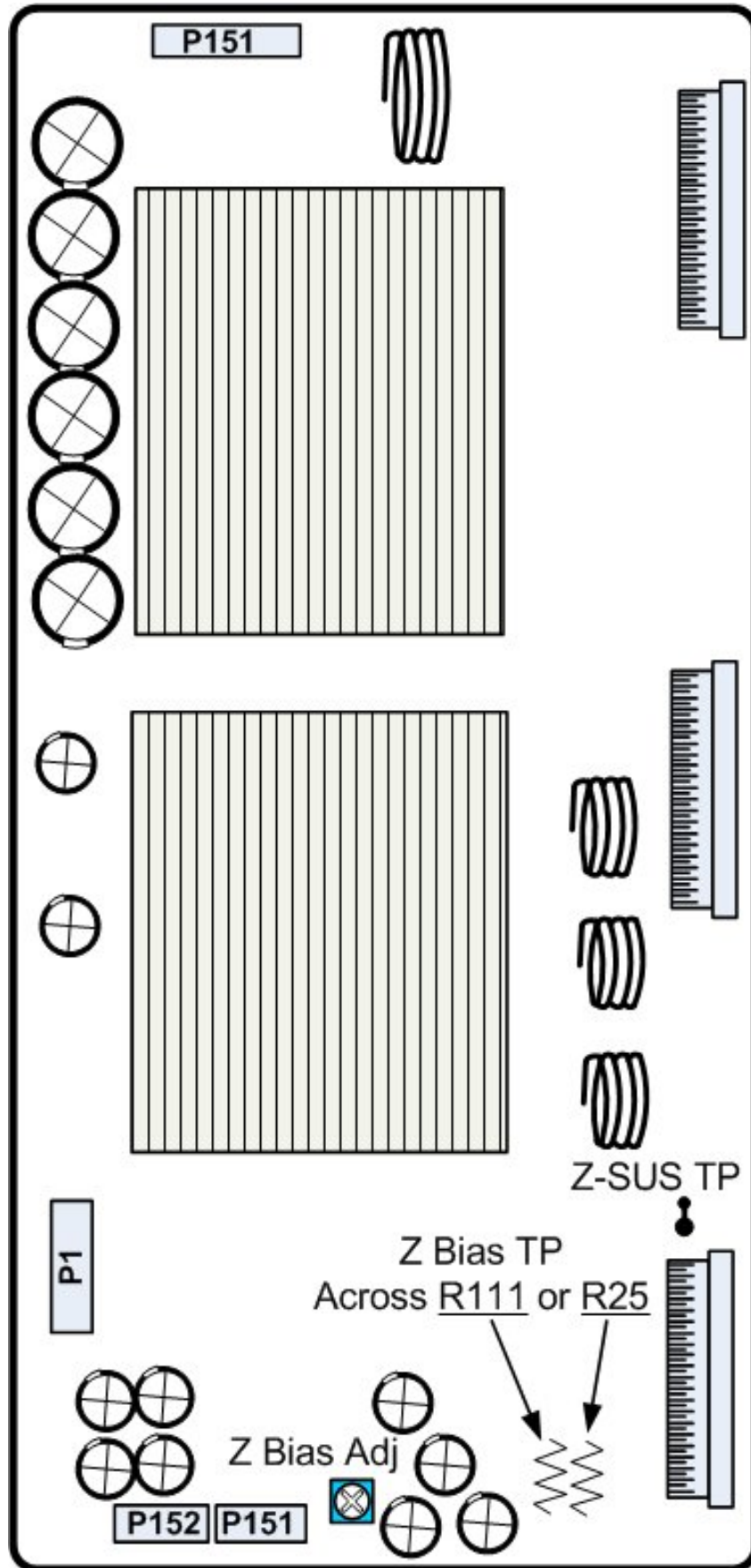
### SET-DOWN ADJUSTMENT:

Adjust VR2 while observing area (B) and set to  $150\mu\text{Sec} \pm 5\mu\text{Sec}$ .





# 50X3P Z-SUS BOARD ADJUSTMENT POINTS



## 50X3P Z-SUS (Z-Bias) ADJUSTMENT:

### PREPARATION:

- 1) Pre-Heat unit for at least 10 Minutes before making adjustments.
- 2) Place unit into White Wash from the Customer's Menu for all adjustments.
- 3) **Be sure to use all adjustment values as indicated on the panel voltage label in the upper right hand corner of the panel.**

### PROCEDURE: (See preceding page for locations)

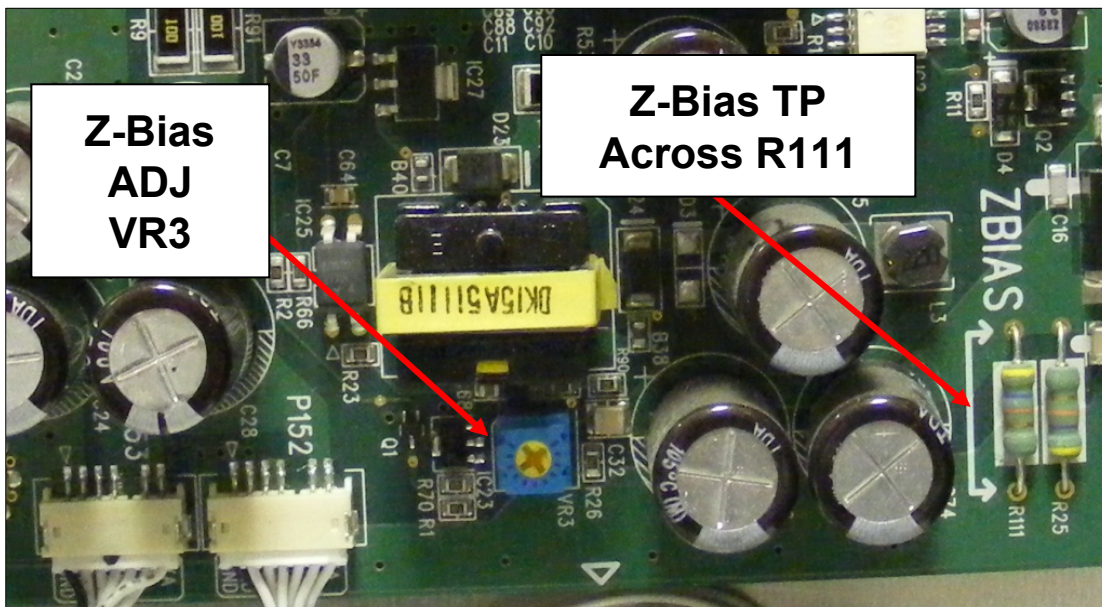
1. Place DC Volt meter on VZB TP (Across of R111).
2. Adjust VZB (Z Bias) VR3 in accordance with the Panel's voltage label.

Model : PDP 50X3###  
All Voltage: DC (=) 5V  
Va : 60V Vs : 192V  
115 / -200 / 115 / N.A. / 95  
Max Watt : 400 W (Full White)

→ Z-Bias

Z-Bias  
ADJ  
VR3

Z-Bias TP  
Across R111



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# 50X4 PANEL

## QUICK REFERENCE

### ALIGNMENT SECTION

#### MODELS USING THE 50X4 PANEL

**50PB2DR / 50PB3DP / DP1 / DR / DRW**

**50PB4DA / DR / DRP / DT / RT / RTH**

**50PC1D / D1 / D2 / DB1 / DB2 / R / RR**

**50PC5D / DP / R**

**50PC35 / DA / DAP / 51 / 55**

**50PT81 50X4P / 50PX4M**



**LG**

Life's Good

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# 50X4 SMPS PWBs ADJUSTMENT POINTS

## Part Number: EAY32957901

These two voltages are adjustable and should be adjusted to the correct values as indicated by the panel label.

Example shown in the outlined area below.

Always adjust “Highest to Lowest” voltages.

VS and VA adjustment resistors are shown in the drawing below.

They are located at the top left of the board.

**VR951** is the VS adjustment pot.

**VR901** is the VA adjustment pot.

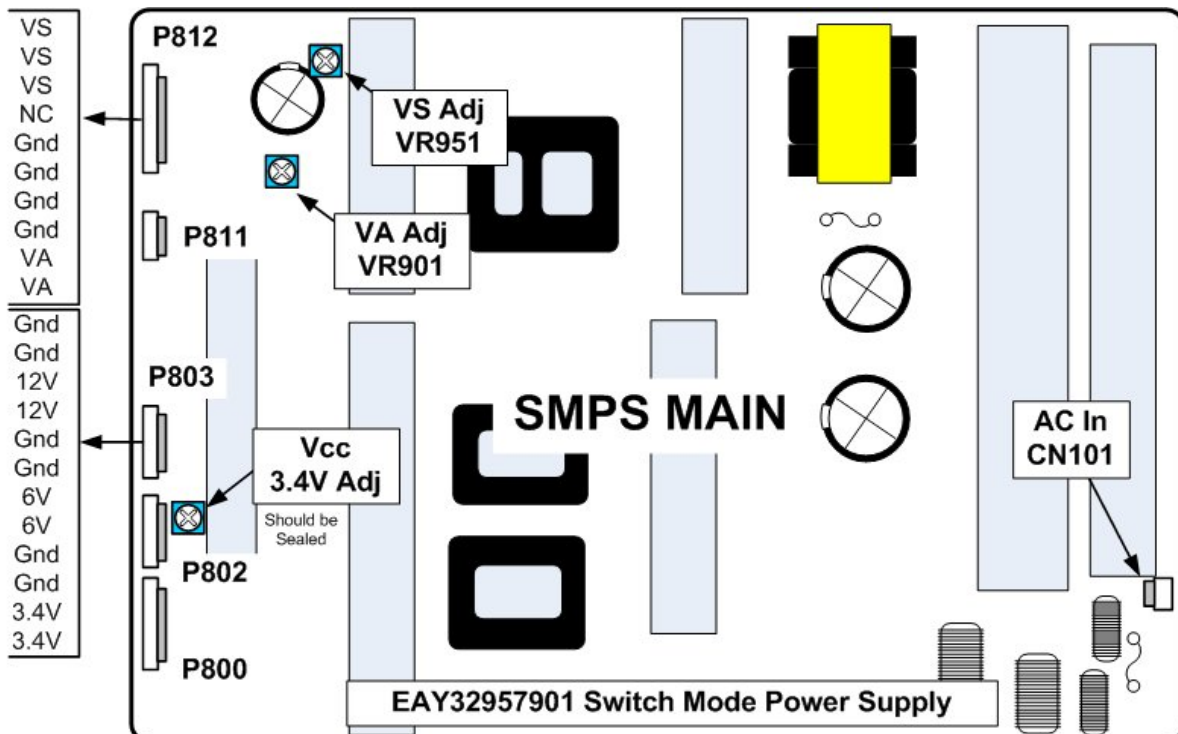
Set should be in “Full White Raster”

Model : PDP 50X4 ####  
All Voltage : DC 5V  
Va : 58V Vs : 193V  
100 / NA / 125 / NA / 100  
Max Watt : 400 W ( Full White )

VA

VS

- 1) **Vcc ADJUST:** Connect DVM to 3.4V pin of P803. Adjust **Vcc 3.4V Adj** until the voltage matches the panel's voltage label. (If sealed, just check voltage)
- 2) **VS ADJUST:** Connect DVM to pin 8, 9 or 10 of P812. Adjust **VR951** until the voltage matches the panel's voltage label.
- 3) **VA ADJUST:** Connect DVM to pin 1 or 2 of P812. Adjust **VR901** until the voltage matches the panel's voltage label.



# 50X4P SMPS BOARD ADJUSTMENT POINTS

Part Number: 6709V00001A

These two voltages are adjustable and should be adjusted to the correct values as indicated by the panel label.

Example shown in the outlined area below.

Always adjust “Highest to Lowest” voltages.

VS and VA adjustment resistors are shown in the drawing below.

They are located at the top left of the board.

VR401 is the VS adjustment pot.

VR501 is the VA adjustment pot.

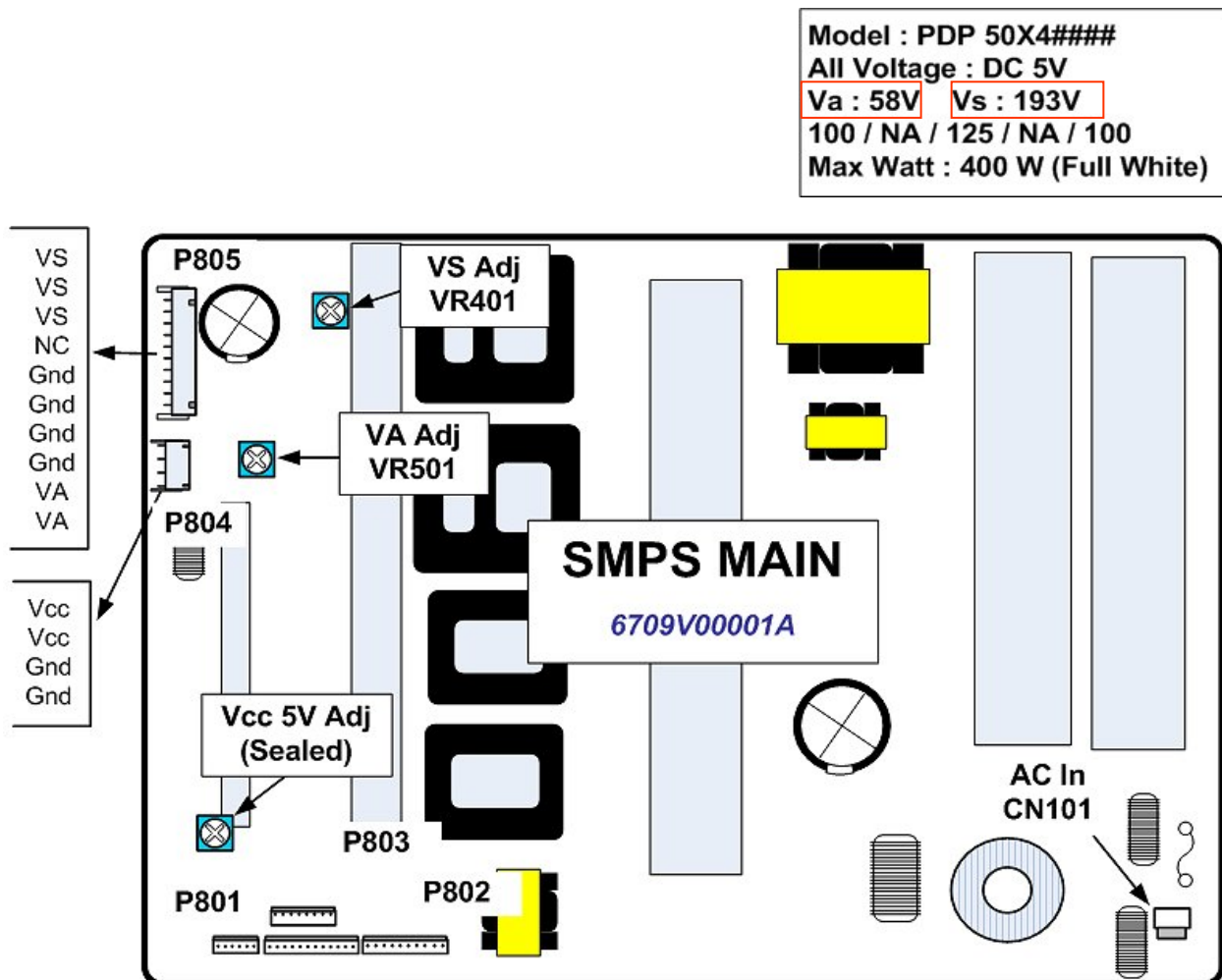
Set should be in “Full White Raster”

1) **VS ADJUST:** Connect DVM to pin 8, 9 or 10 of **P805**.

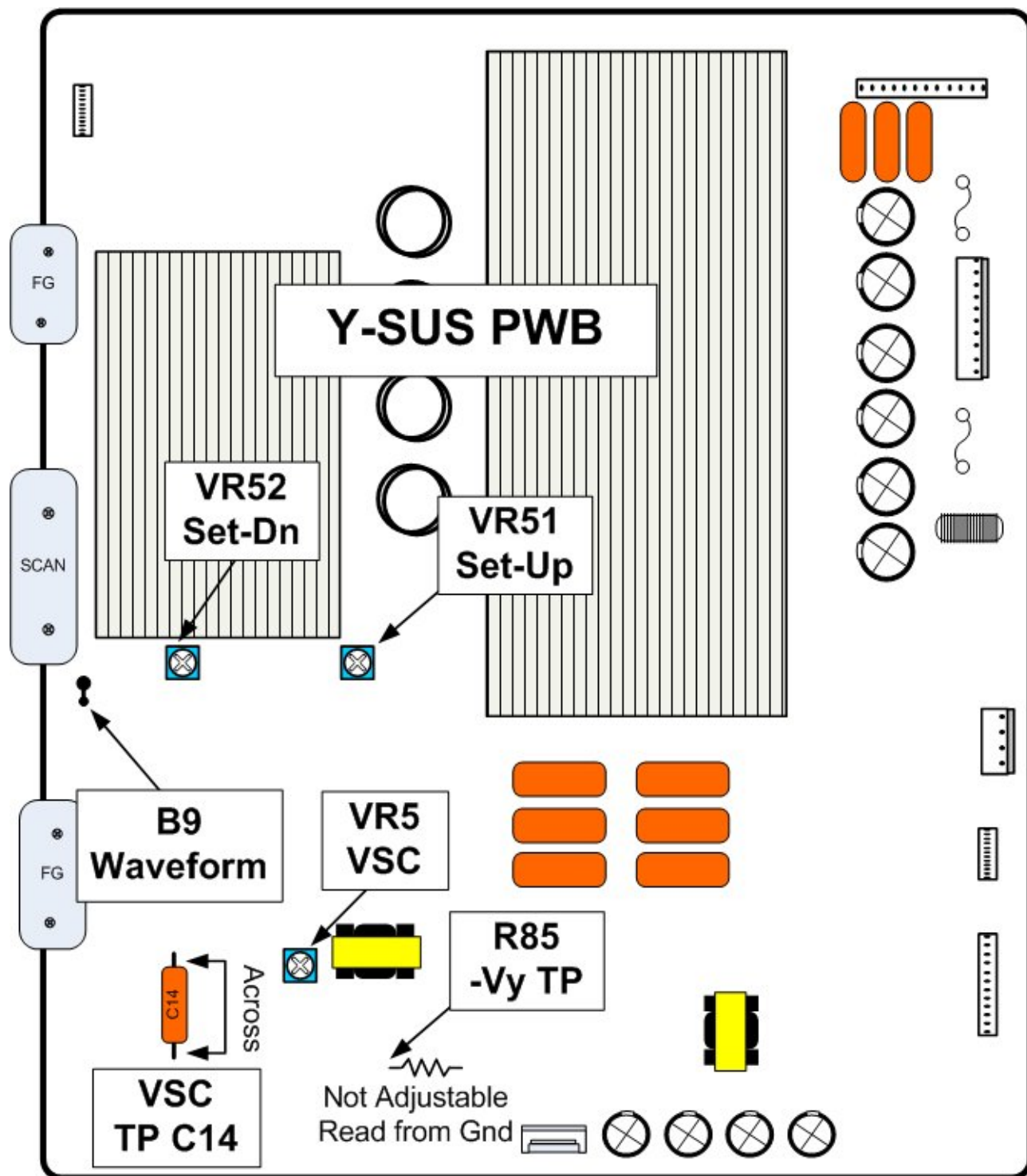
Adjust **VR401** until the voltage matches the panel’s voltage label.

2) **VA ADJUST:** Connect DVM to pin 1 or 2 of **P805**.

Adjust **VR501** until the voltage matches the panel’s voltage label.



# 50X4 Y-SUS PWB ADJUSTMENT POINTS



50X4 PANEL

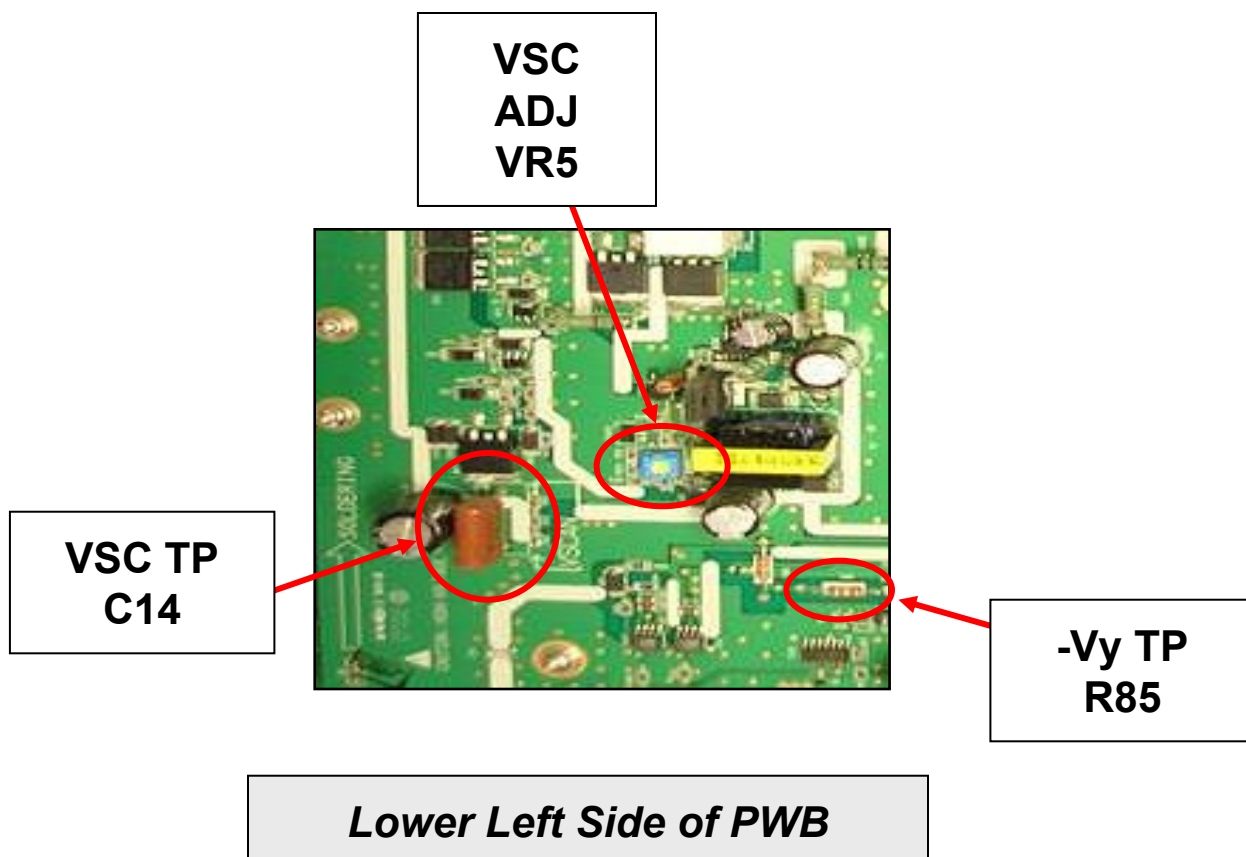
## 50X4 VSC ADJUSTMENT

### PREPARATION:

- 1) Pre-Heat unit for at least 10 Minutes before making adjustments.
- 2) Place unit into White Wash from the Customer's Menu for all adjustments.
- 3) **Be sure to use all adjustment values as indicated on the panel voltage label on the panel.**

### PROCEDURE: (See figure below for locations)

- 1) **Adjust VSC** using **VR5**. Measured across **C14**.  
Match Panel Voltage label  $\pm 1V$ .
- 2) Note: **-Vy is Not Adjustable**.  
However, it can be read across **R85**. (Approx: -130V)

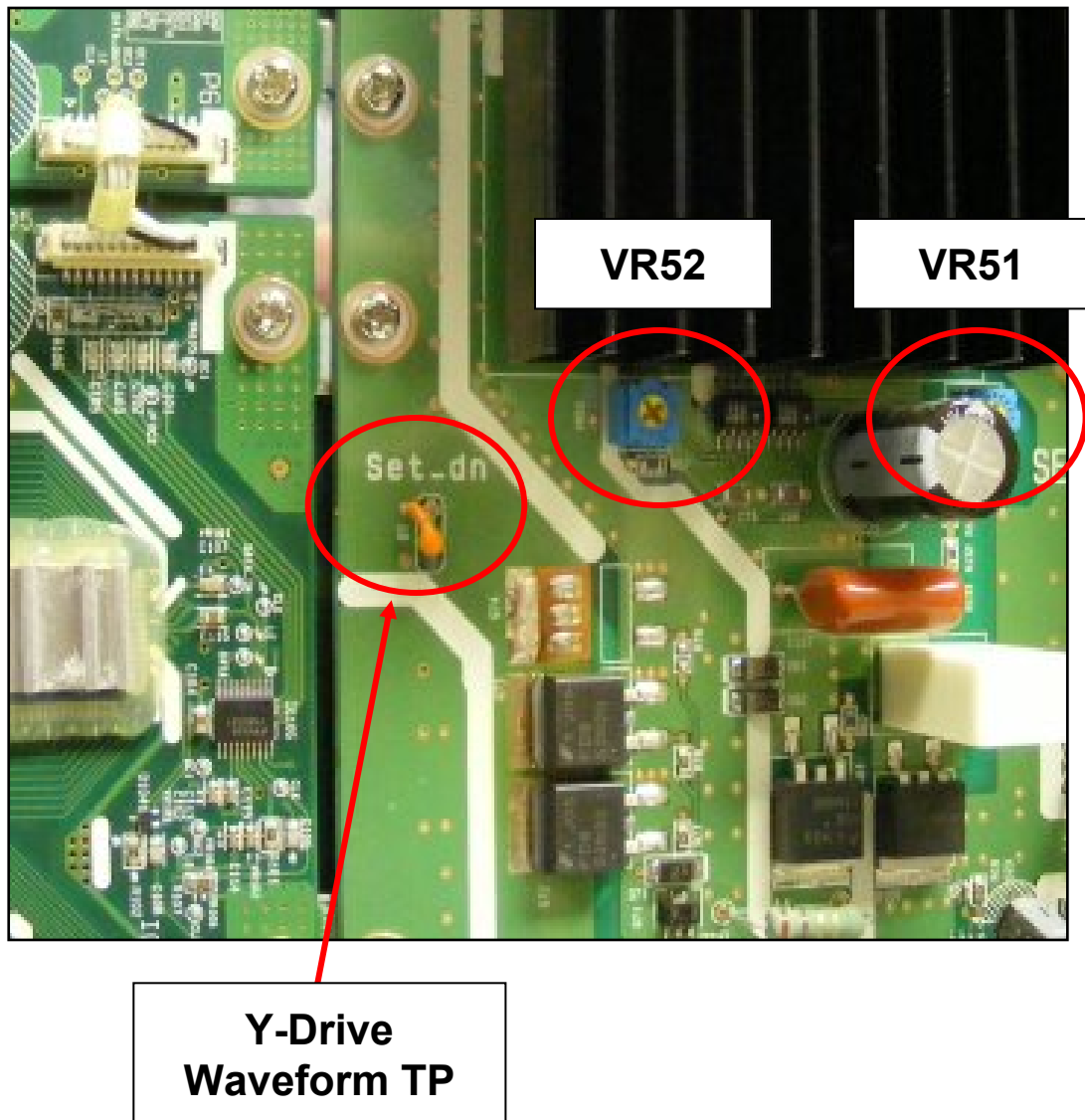


## 50X4 Y Drive Waveform Test Point

Two pages back show the Y-SUS PWB

Figure Below:

Shows a close-up image of the Y-Drive waveform test point on the Y-SUS PWB. TP B9





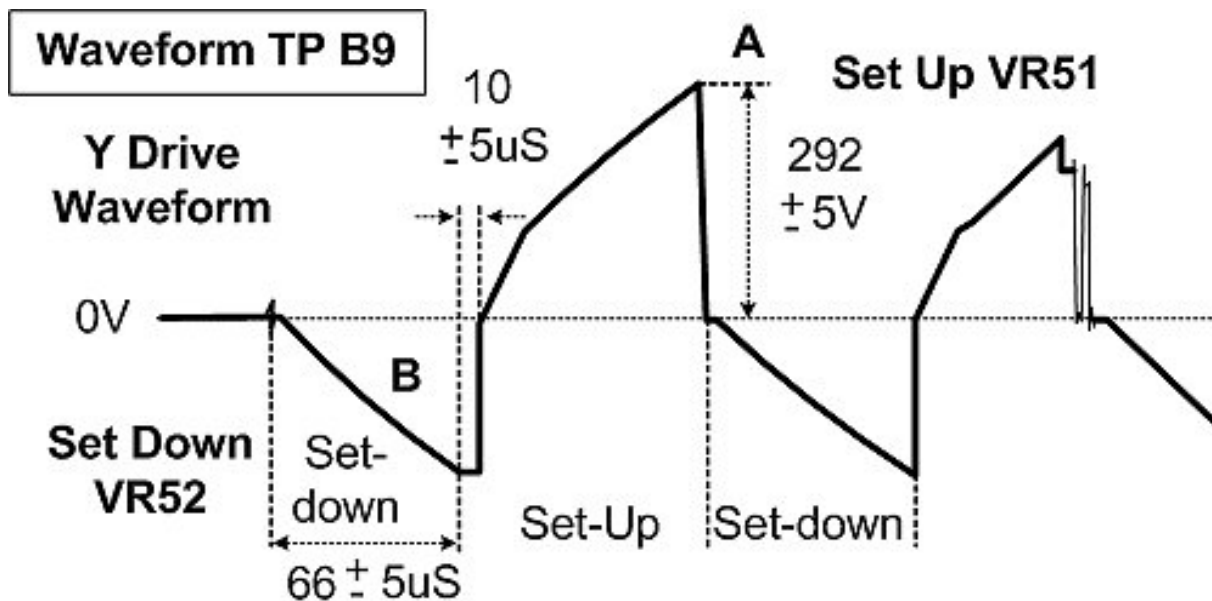
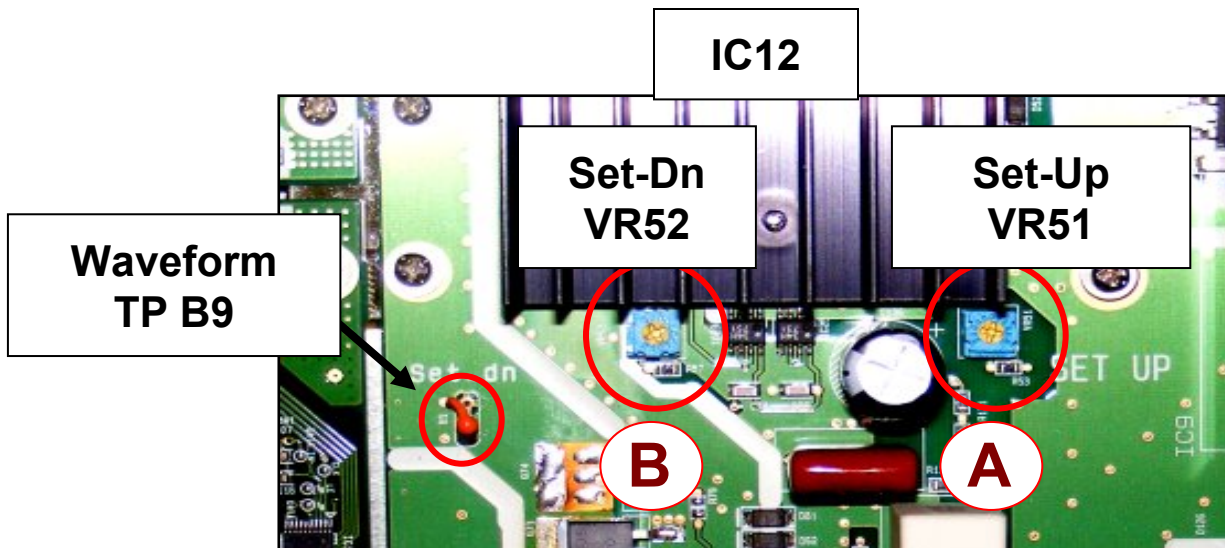
## 50X4 Y-Drive Waveform Adjustment

Using a Full White Raster, adjust the Set-up and Set-dn section of the Y-Drive waveform.

Oscilloscope TP on the “Waveform” TP **B9** on the Y-SUS PWB.

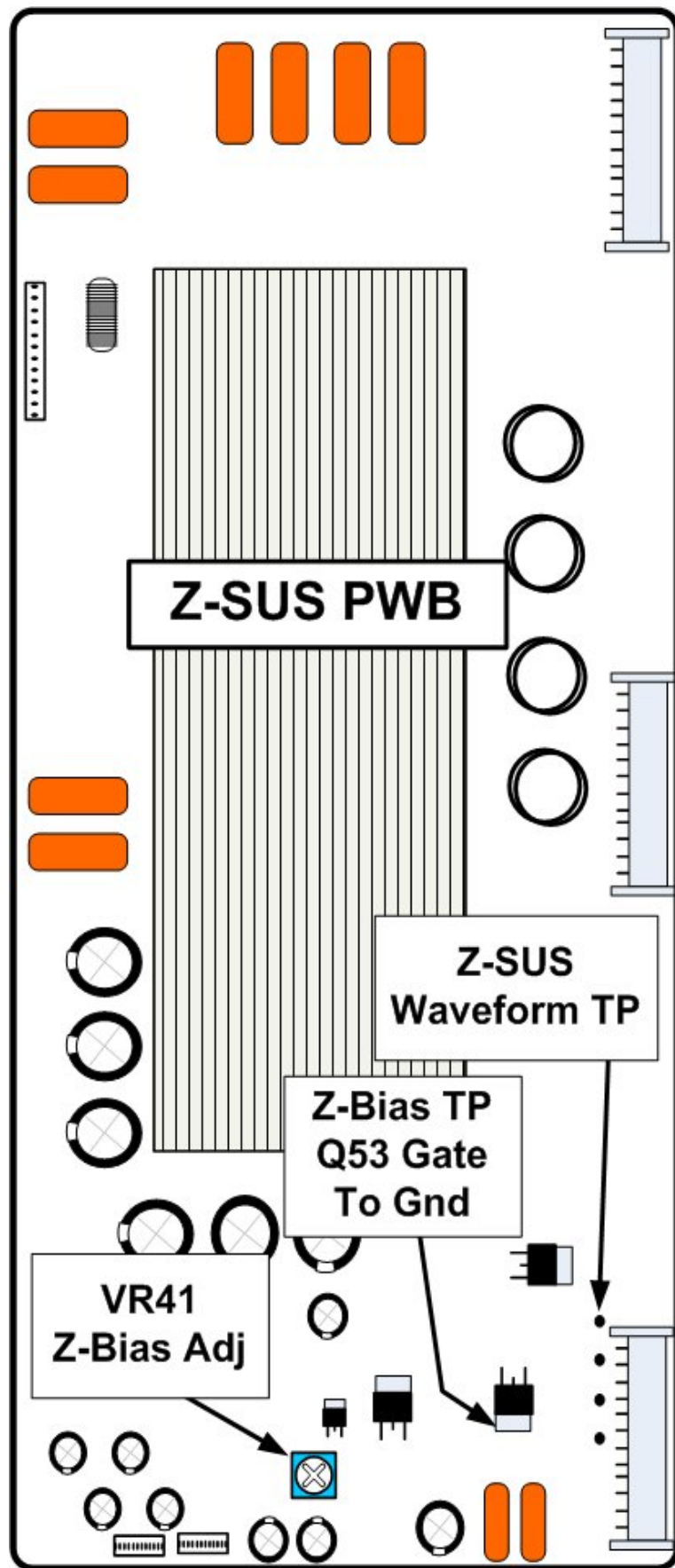
**Set-Up: Adjust VR51** while observing area (A) and set to **292V  $\pm$  5V**.

**Set-down: Adjust VR52** while observing area (B) and set to **66uSec  $\pm$  5uSec**.





# 50X4 Z-SUS BOARD ADJUSTMENT POINTS



50X4 PANEL

# 50X4 Z-SUS (Z-Bias) ADJUSTMENT:

## PREPARATION:

- 1) Pre-Heat unit for at least 10 Minutes before making adjustments.
- 2) Place unit into White Wash from the Customer's

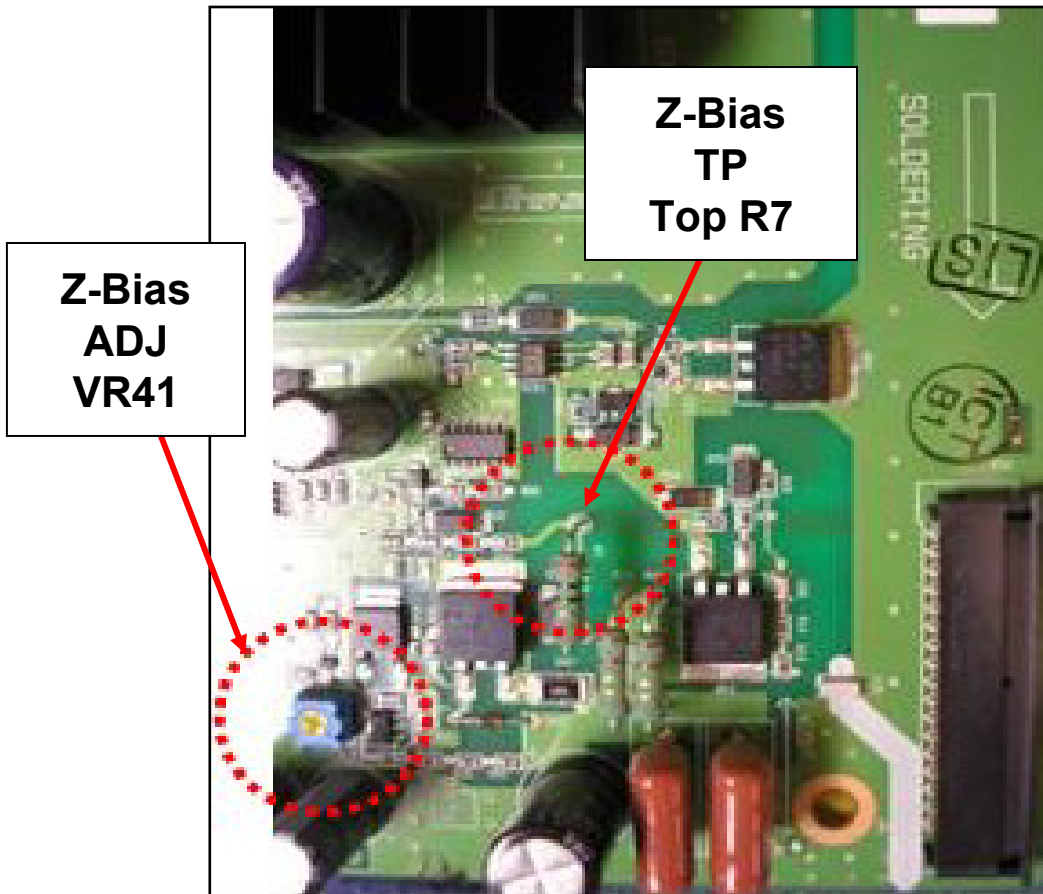
Model : PDP 50X4 ####  
All Voltage : DC 5V  
Va : 58V Vs : 193V  
100 / NA / 125 / NA / **100**  
Max Watt : 400 W ( Full White )

Zbias

- 3) Be sure to use all adjustment values as indicated on the panel voltage label in the upper left hand corner of the panel.

## PROCEDURE: (See preceding page for locations)

- 1.) Place DC Volt meter on **VZB TP** (Top of R7 to Gnd).
- 2.) **Adjust VZB (Z Bias) VR41** in accordance with your specific Panel's voltage label.



# 60H1 PANEL

## QUICK REFERENCE

## ALIGNMENT SECTION

### MODELS USING THE 60H1 PANEL

**60PY3D**

**60PB4D**



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# 60H1 SMPS PWB ADJUSTMENT POINTS

VCC, VS and VA voltages are Adjustable and should be adjusted to The correct values as indicated by the Panel label. Example shown to the right. Always adjust “Highest to Lowest” voltages. VCC, VS and VA adjustment resistors are shown in the drawing below. They are located towards the top left hand side of the board and VCC towards the bottom left hand side. RV401 is for VS, RV501 is for VA and RV601 is for VCC.

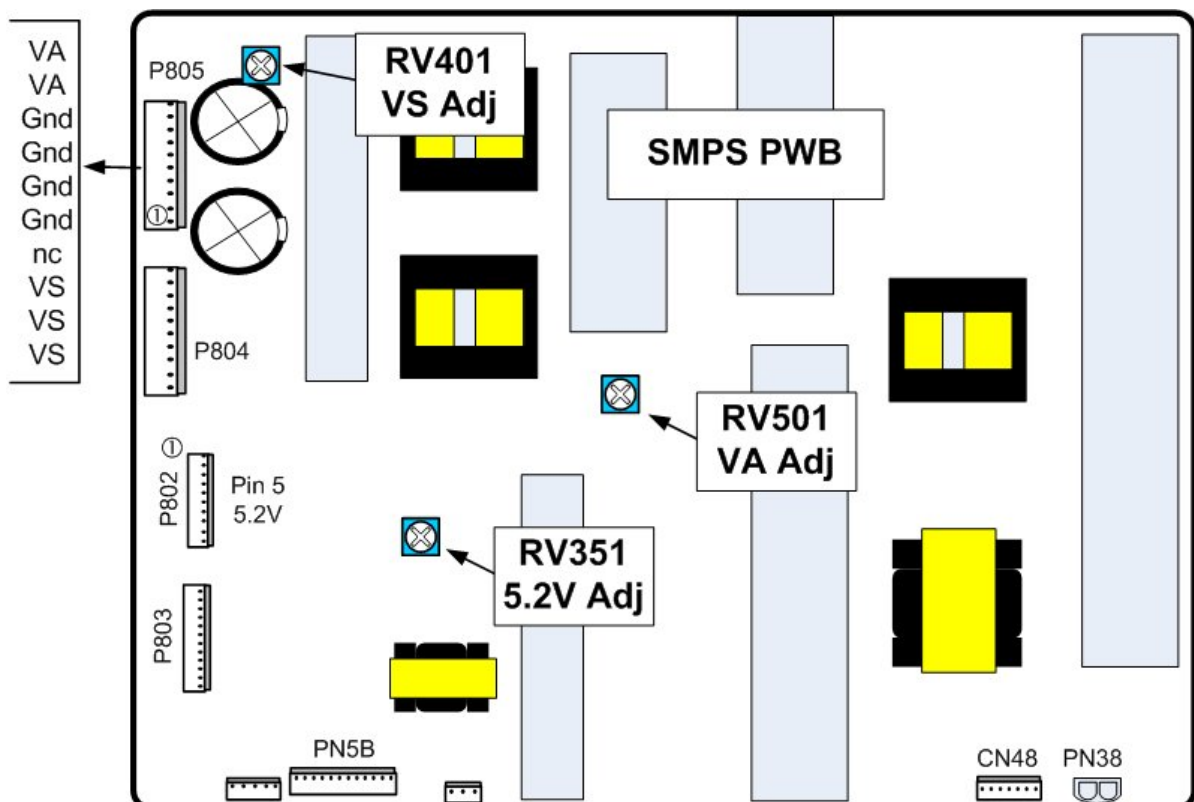
Model : PDP 60H1###	
Voltage Setting: DC 5.2V/	Va:60/ Vs:191
230. / -90 / 120 / N.A. / 170	
Max Watt : 700 W (Full White)	

VA-Adj VS-Adj

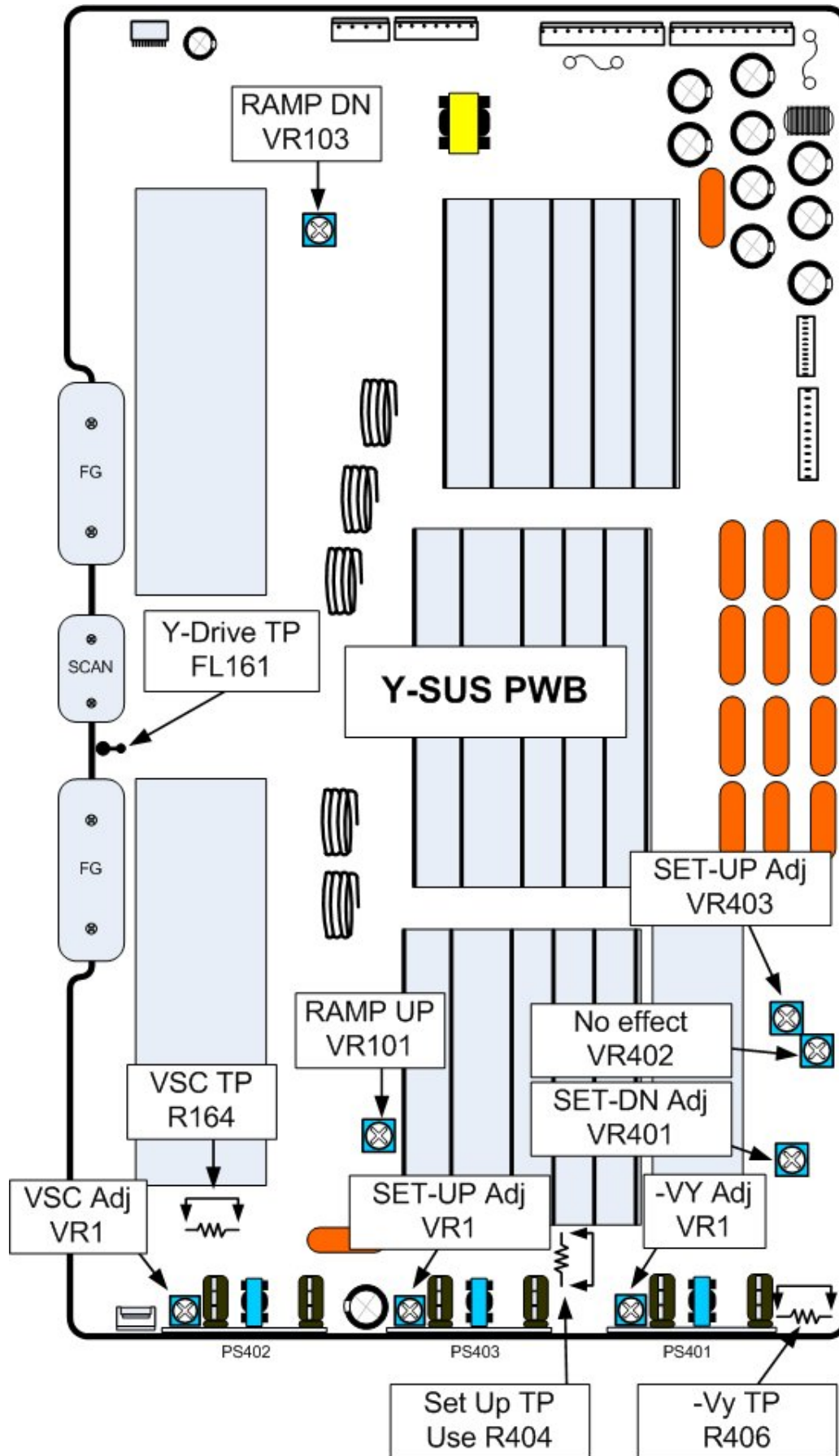
## Set should be in “Full White Raster”

- 1) 5.2V ADJUST:** Connect DVM to pin 5 of P802. Adjust RV351 until the voltage matches the panel’s voltage label.
- 2) VS ADJUST:** Connect DVM to pin 1, 2 or 3 of P805. Adjust RV401 until the voltage matches the panel’s voltage label.
- 2) VA ADJUST:** Connect DVM to pin 9 or 10 of P805. Adjust RV501 until the voltage matches the panel’s voltage label.

All measurements taken from Chassis Gnd.



# 60H1 Y-SUS PWB ADJUSTMENT POINTS





# 60H1 VSC and -Vy Voltage Adjustment Locations

These voltages are adjustable and should be adjusted to the correct values as indicated by the panel's voltage label.

Example shown above. Panel in "White Wash"

Model : PDP 60H1###  
Voltage Setting: DC 5.2V/ Va:60/ Vs:191  
230 / -90 / 120 / N.A. / 170  
Max Watt : 700 W (Full White)

Set-up -Vy VSC

## Procedure:

### 1.) Set-Up Adj variable resistor VR1 located on PS403.

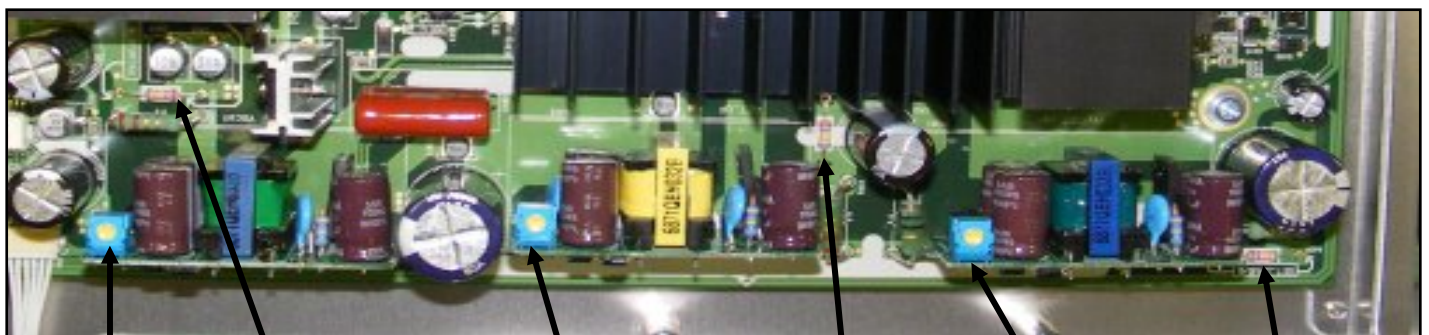
Adjust the Set-Up DC voltage while reading across **R404**.  
Match your specific panel's voltage label.

### 2.) VSC Adj variable resistor VR1 located on PS402.

Adjust the VSC DC voltage while reading across **R164**.  
Match your specific panel's voltage label.

### 3.) -Vy Adj variable resistor VR1 located on PS401.

Adjust the -Vy DC voltage while reading across **R406**.  
Match your specific panel's voltage label.



VSC  
Adj

VSC TP  
R164

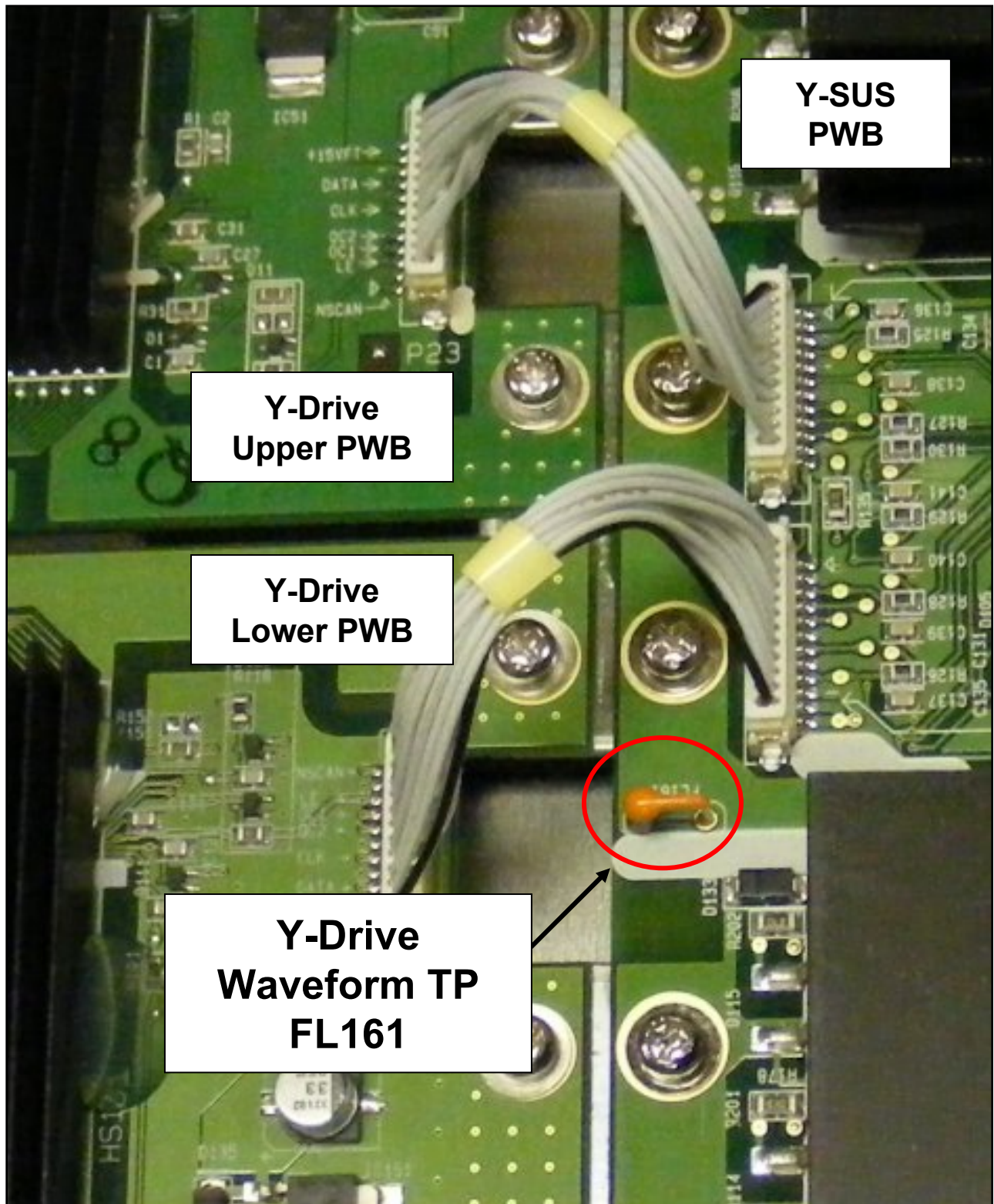
Set-Up  
Adj

Set-Up TP  
R404

-VY  
Adj

-VY  
TP R406

## 60H1 Y Drive Waveform Test Point



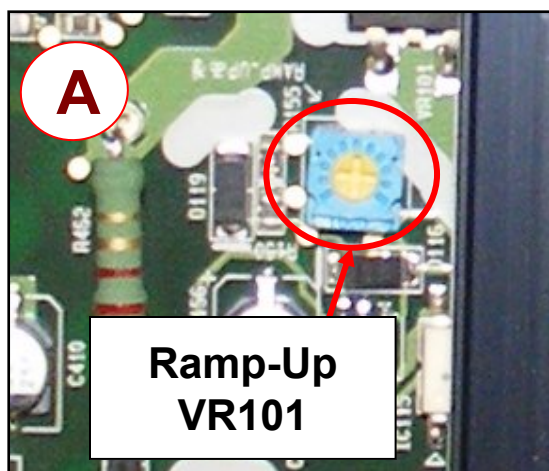
# 60H1 Y-DRIVE WAVEFORM ADJUSTMENTS

## PREPARATION:

- 1) Pre-Heat unit 10 Minutes before making adjustment  
Vs, Va, -Vy and VSC adjustments should be completed.
- 2) Place unit into White Wash from the Customer's Menu for all
- 3) **Be sure to use all adjustment values as indicated on the panel voltage label on the panel.**

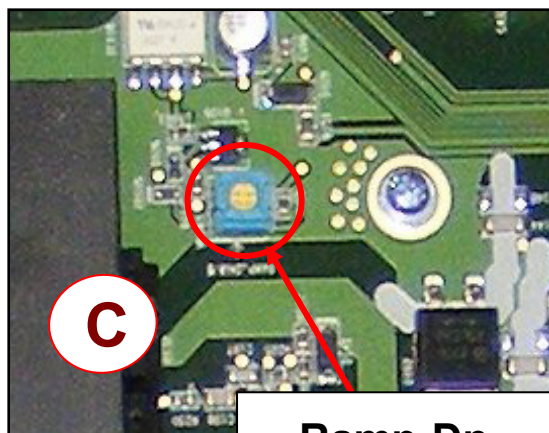
See figures below for locations)

See Next page for adjustment specifications.



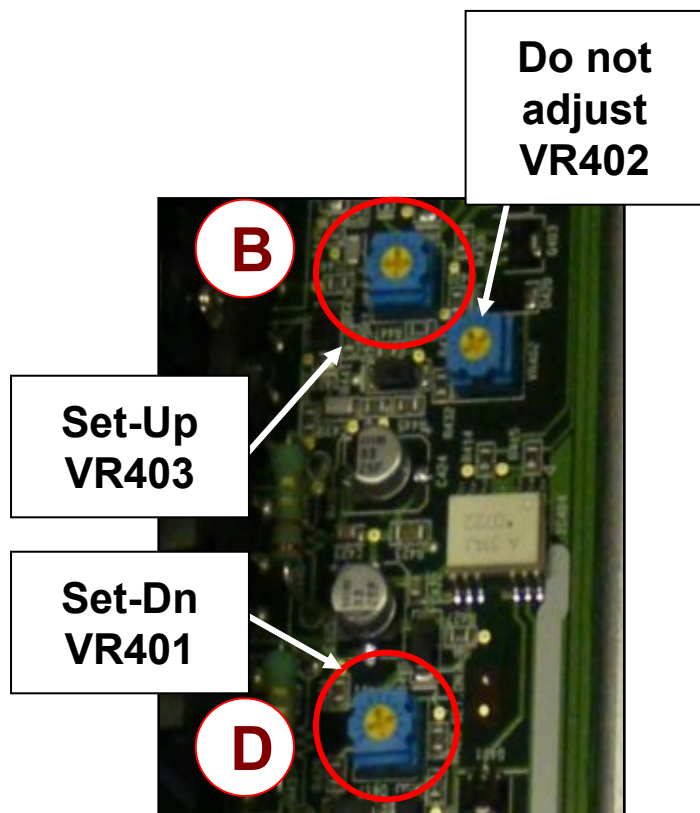
**Ramp-Up  
VR101**

*Top Left Center Of Board*



**Ramp-Dn  
VR103**

*Lower Left Side Of Board*



**Set-Up  
VR403**

**Set-Dn  
VR401**

**Do not  
adjust  
VR402**

*Center Right Side  
of Board*



## 60H1 Y-DRIVE WAVEFORM ADJUSTMENT

See Y-SUS Test Points and Adjustments diagram for locations.

All other adjustments should have been completed.

Using a Full White Raster, adjust the Y-Drive waveform.

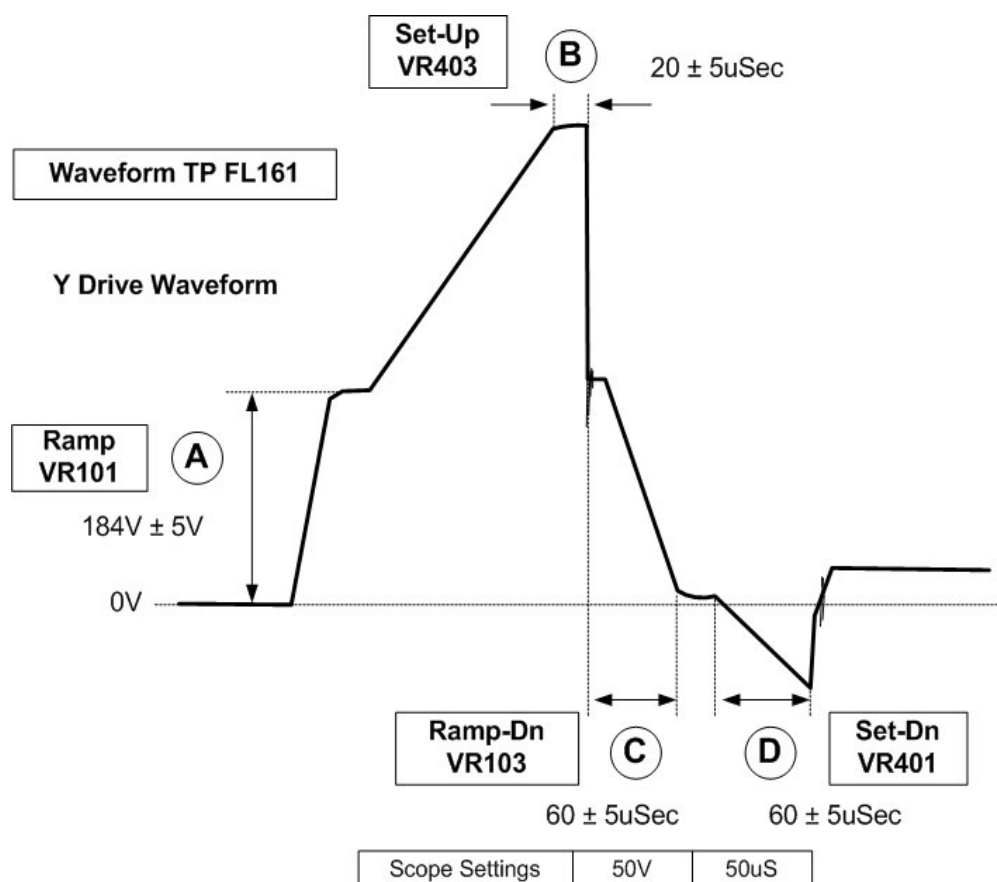
Scope "Waveform" TP FL161 on the Y-SUS PWB.

**(A) Ramp: Adjust VR101** while observing area **(A)** and set to  $184V \pm 1V$ .

**(B) Set-Up: Adjust VR403** while observing area **(B)** and set to  $20\mu\text{Sec} \pm 5\mu\text{Sec}$ .

**(C) Ramp-Down: Adjust VR103** while observing area **(C)** and set to  $60\mu\text{Sec} \pm 5\mu\text{Sec}$ .

**(D) Set-Down: Adjust VR401** while observing area **(D)** and set to  $60\mu\text{Sec} \pm 5\mu\text{Sec}$ .



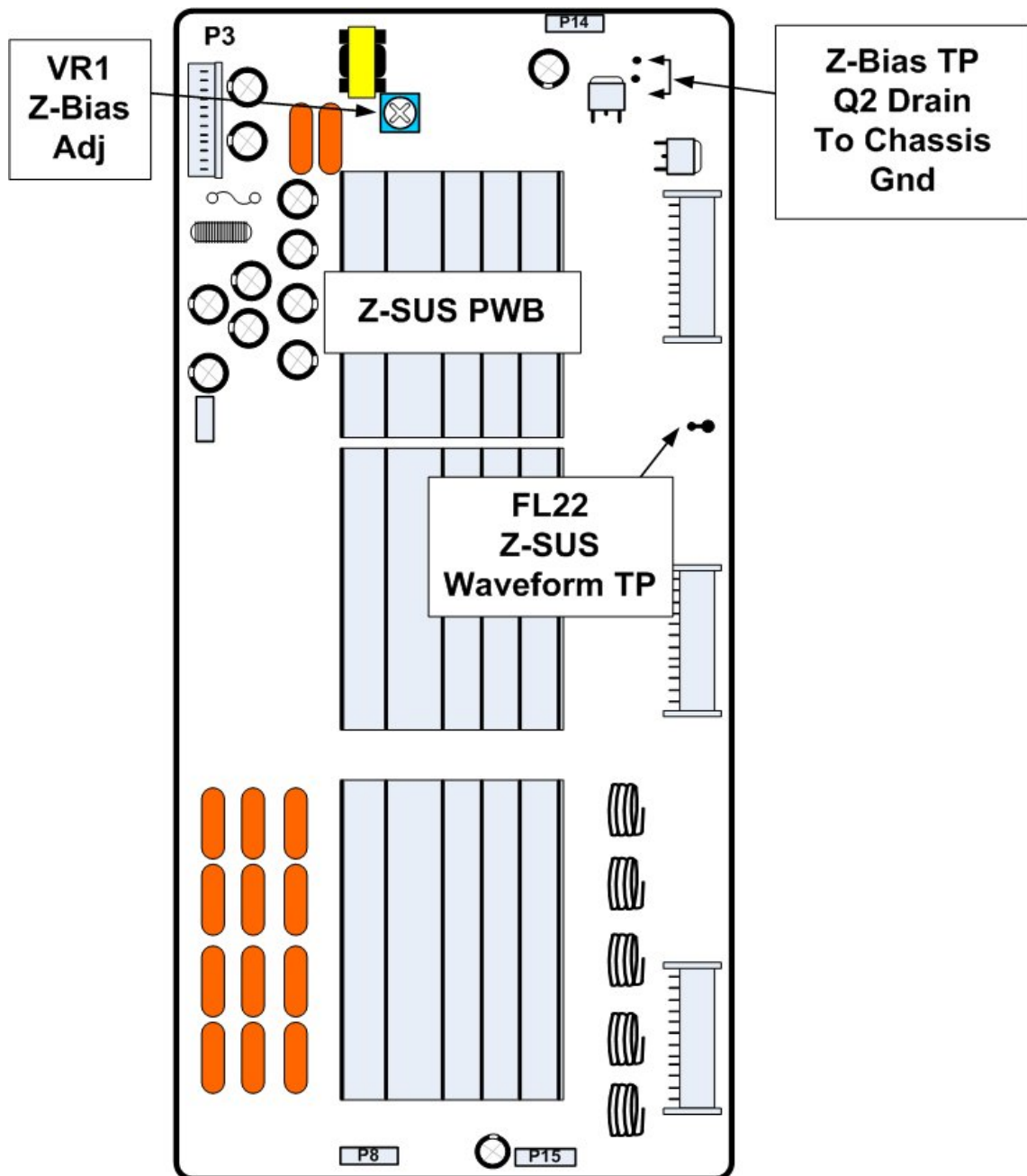
# 60H1 Z-SUS PWB ADJUSTMENT POINTS

The picture to the right represents a 60H1 Panel Voltage Label. This is for an example only.

Model : PDP 60H1###  
Voltage Setting: DC 5.2V/ Va:60/ Vs:191  
230. / -90 / 120 / N.A. / **170**  
Max Watt : 700 W (Full White)

Zbias

You should adjust your set's Z-Bias adjustment to your specific Panel's Voltage Label not this book.



# 60H1 Z-SUS (Z-Bias) ADJUSTMENT:

## PREPARATION:

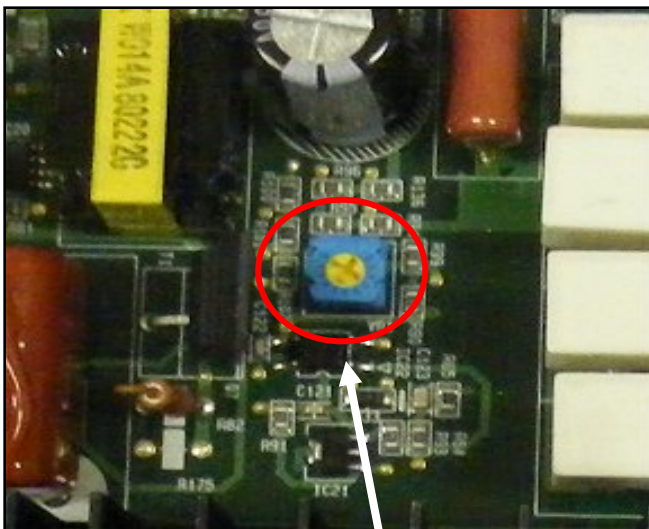
- 1) Pre-Heat unit for at least 10 Minutes before making adjustments.
- 2) Place unit into White Wash from the Customer's Menu for all adjustments.
- 3) **Be sure to use all adjustment values as indicated on the panel voltage label in the upper right hand corner of the panel.**

## PROCEDURE: (See preceding page for locations)

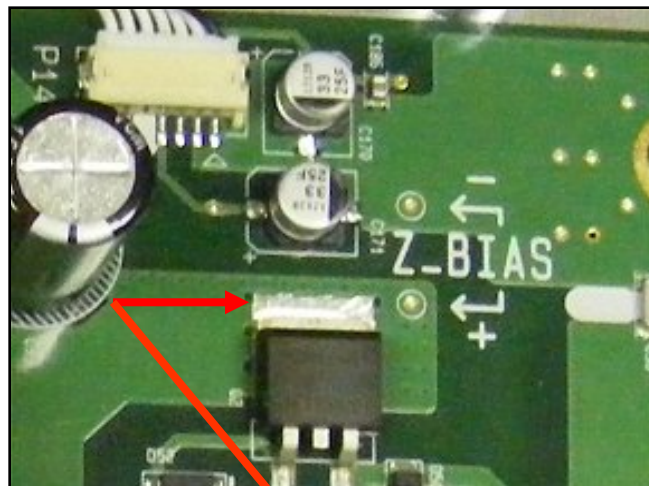
1. Place DC Volt meter across **VZB TP** (Near Q2) or measure from **Q2 Drain to Chassis Ground**.
2. Adjust **VZB (Z Bias) VR1** in accordance with your specific Panel's voltage label.

Model : PDP 60H1###  
Voltage Setting: DC 5.2V/ Va:60/ Vs:191  
230. / -90 / 120 / N.A. / **170**  
Max Watt : 700 W (Full White)

Zbias



**Z-Bias ADJ VR1**



**Z-Bias TP  
Q2 Drain to Chassis Gnd**

*Top Of Z-SUS PWB*



# 60H2 PANEL

## QUICK REFERENCE

## ALIGNMENT SECTION

### MODELS USING THE 60H2 PANEL

**60PG30FC-UA**

**60PG30F-UA**

**60PG3HFD-UA**

**60PG60F-UA**

**60PG70F-UB**

**60PG7HFD-UB**

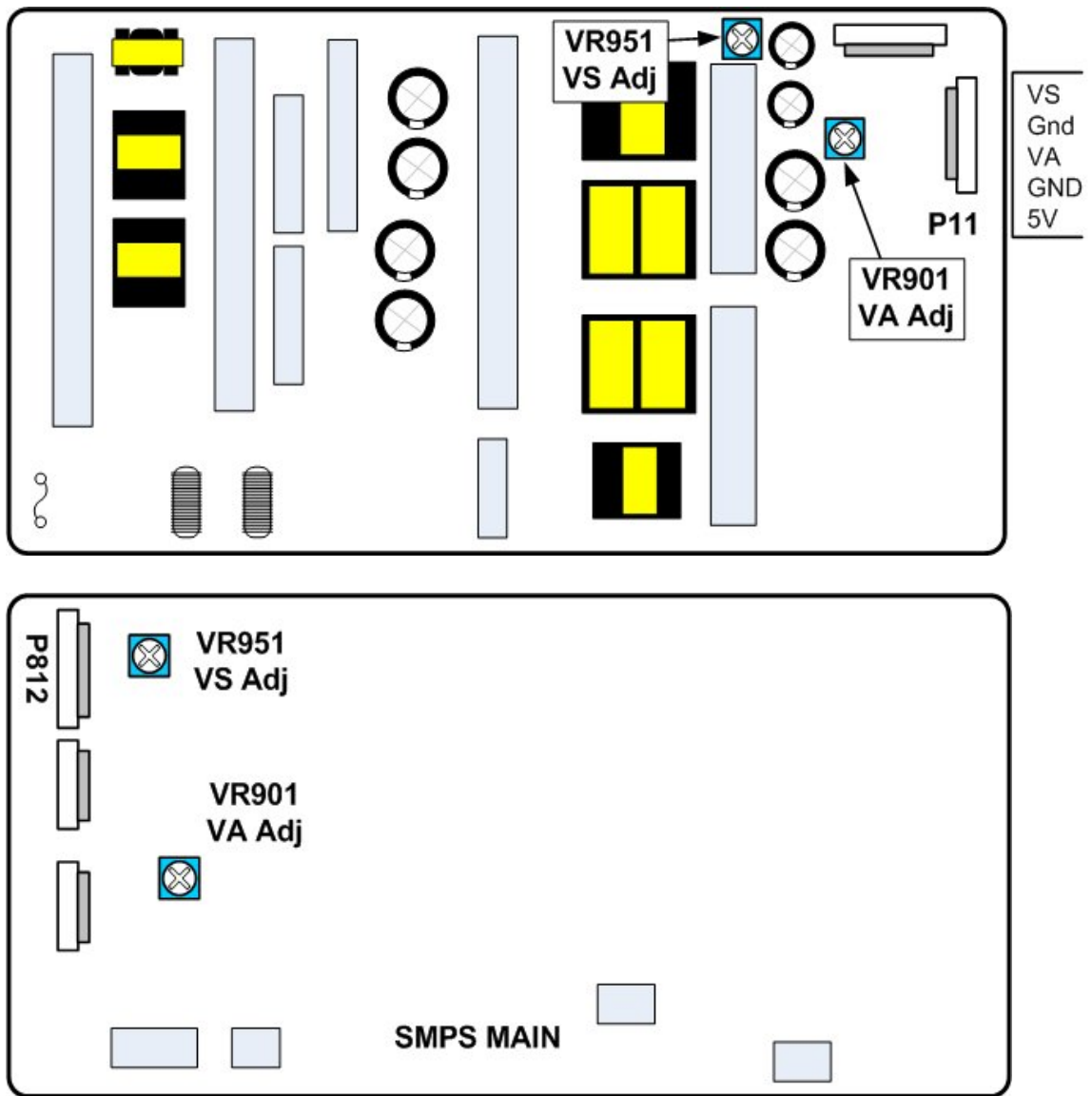


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## 60H2 SMPS PWBs ADJUSTMENT POINTS

There may be different Power Supply layout

Locate the VA and VS adjustment Pots and the VS and VA output pins for adjustment. Then match to your specific panel's voltage label.



## 60H2 SMPS PWBs ADJUSTMENT POINTS

These two voltages are adjustable and should be adjusted to the correct values as indicated by the panel label.

Example shown in the drawing below.

Always adjust “Highest to Lowest” voltages.

VS and VA adjustment resistors are shown in the drawing below.

They are located at the top left of the board.

VR951 is the VS adjustment pot.

VR901 is the VA adjustment pot.

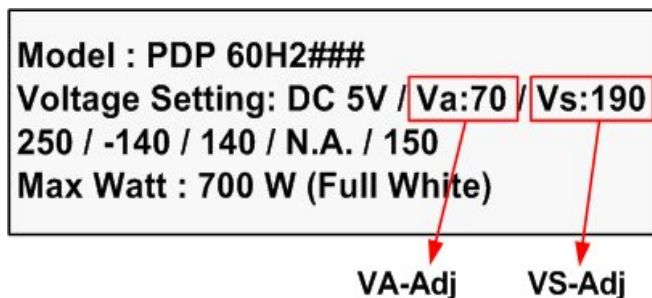
Set should be in “Full White Raster”

1) **VS ADJUST:** Connect DVM to the VS output pin.

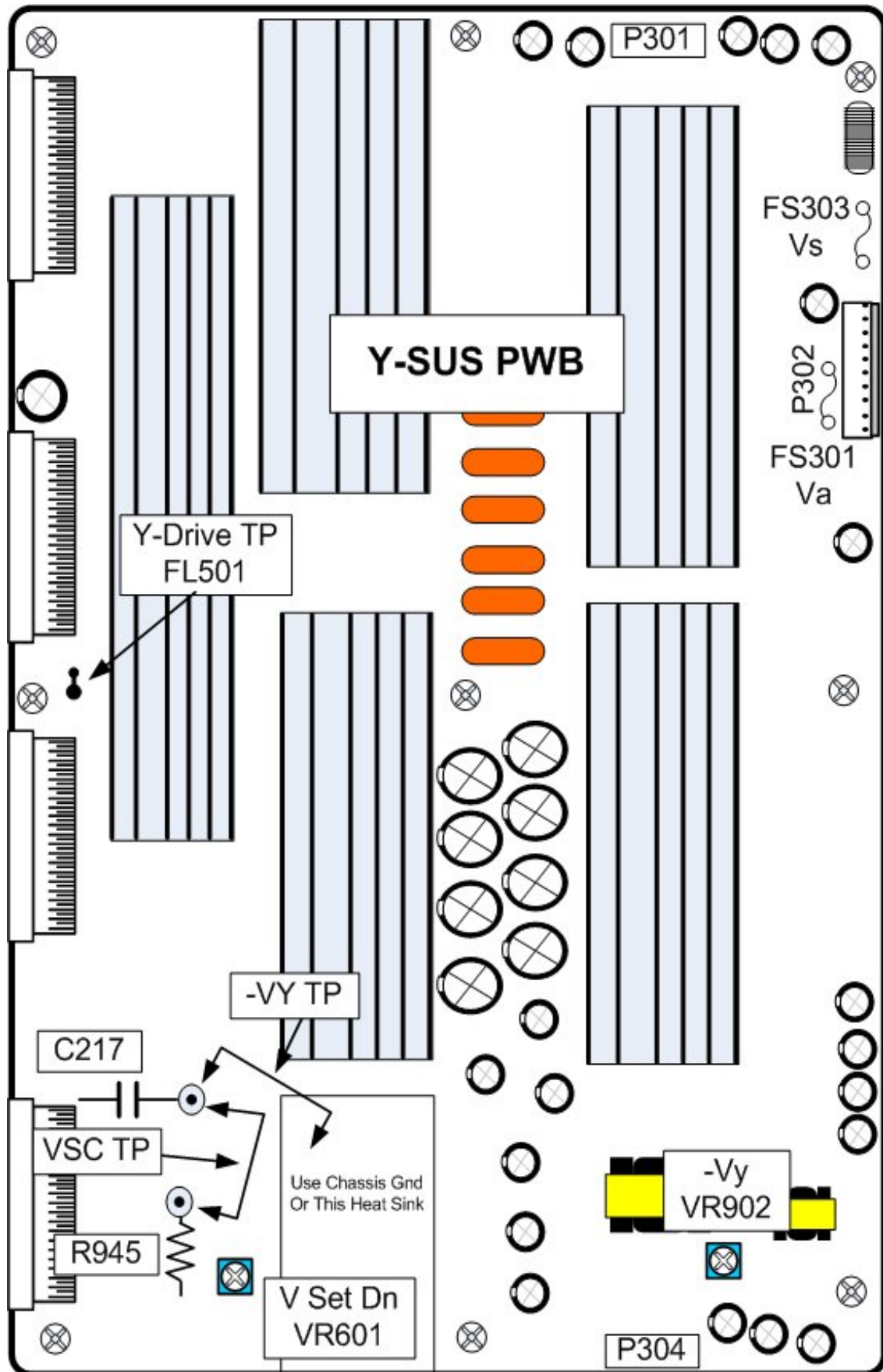
Adjust the VS adjustment pot until the voltage matches your specific panel’s voltage label.

2) **VA ADJUST:** Connect DVM to the VS output pin.

Adjust the VA adjustment pot until the voltage matches your specific panel’s voltage label.



# 60H2 Y-SUS PWB ADJUSTMENT POINTS



60H2 PANEL



# 60H2 -Vy ADJUSTMENT

## PREPARATION:

- (1) Pre-Heat unit for at least 10 Minutes before making adjustments.
- (2) Place unit into White Wash from the Customer's Menu for all adjustments.
- (3) **Be sure to use all adjustment values as indicated on the your specific panel's voltage label. See sample above.**

Model : PDP 60H2###  
Voltage Setting: 5.0V/Va:70/Vs:190  
250 / **-140** / 140 / N.A. / 150  
Max Watt : 700 W (Full White)

-Vy

## PROCEDURE: (See preceeding page for locations)

### *Lower Left of PWB*

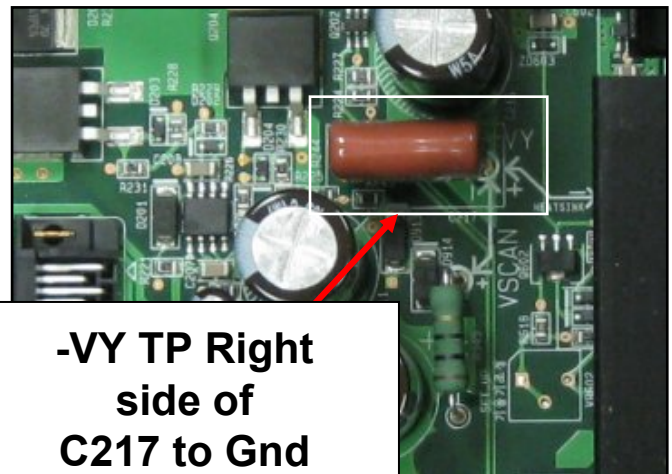
### How to Adjust -Vy

- (1) -Vy Voltage adjustment  
Measure and adjust the voltage between **C217** and GND on Y B/D .

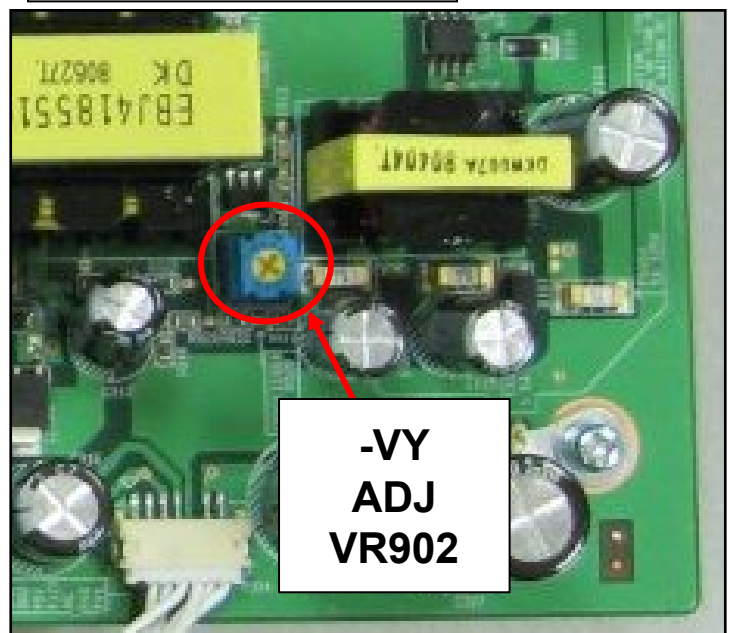
Note: The silkscreen indicates to use the heat sink, but good connection is difficult. Use chassis Gnd.

### *Bottom Right of PWB*

- (2) Turn the variable resistor of **VR902** until voltage matches your specific Panel's Voltage Label.



-VY TP Right  
side of  
C217 to Gnd



-VY  
ADJ  
VR902

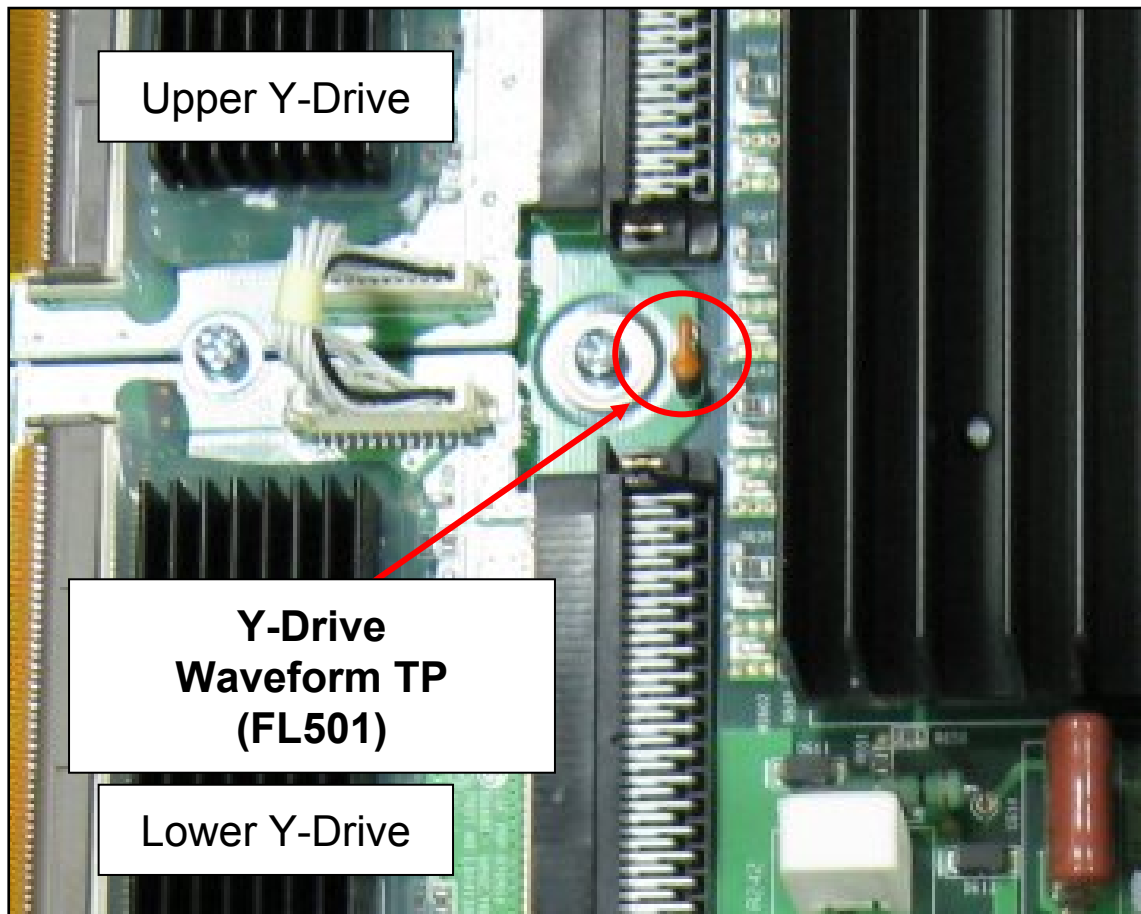
## 60H2 Y Drive Waveform Test Point

Two pages back show the Y-SUS PWB

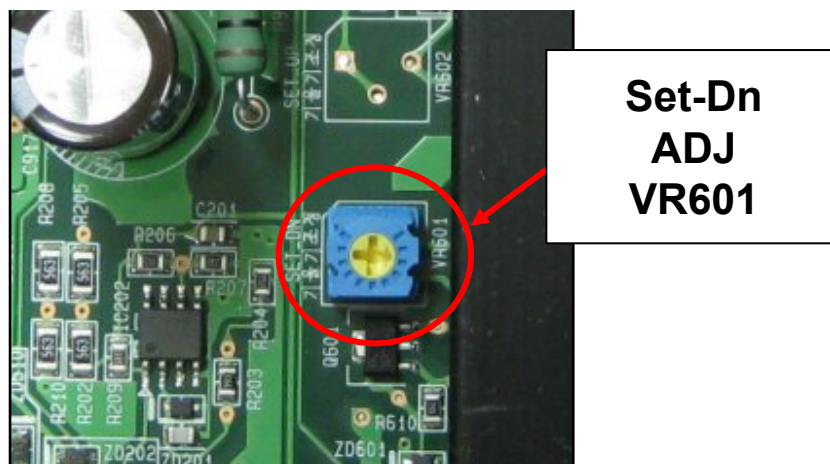
Figure Below:

Shows a close-up image of the Y-Drive waveform test point FL501 on the Y-SUS PWB.

### TP LOCATION



### VR601 ADJUSTMENT LOCATION



## 60H2 Y-SUS ADJUSTMENT:

### PREPARATION:

- (1) Pre-Heat unit for at least 10 Minutes before making adjustments.
- (2) Place unit into White Wash from the Customer's Menu for all adjustments.

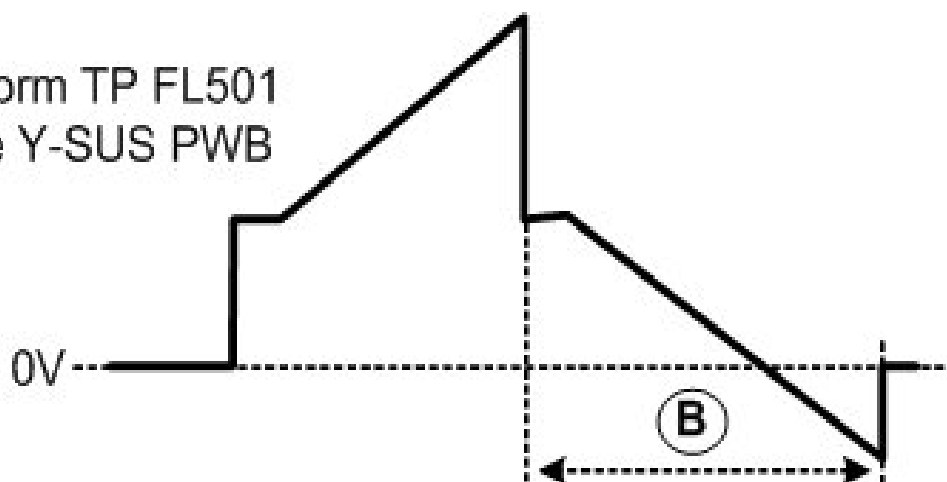
**PROCEDURE:** (See Y-SUS PWB drawing for locations)

Note: (Ramp-Up) is not adjustable in this panel.

### VR601 (Y-SET DOWN) waveform adjustment:

- 1) Connect Oscilloscope to **FL501** on the Y-SUS PWB.  
(Y-Drive Waveform Test Point, see preceding page)
- 2) Adjust **VR601** on Y-SUS until point (**B**) in the figure below is **420uS ±5uS**. (See preceding page for location)

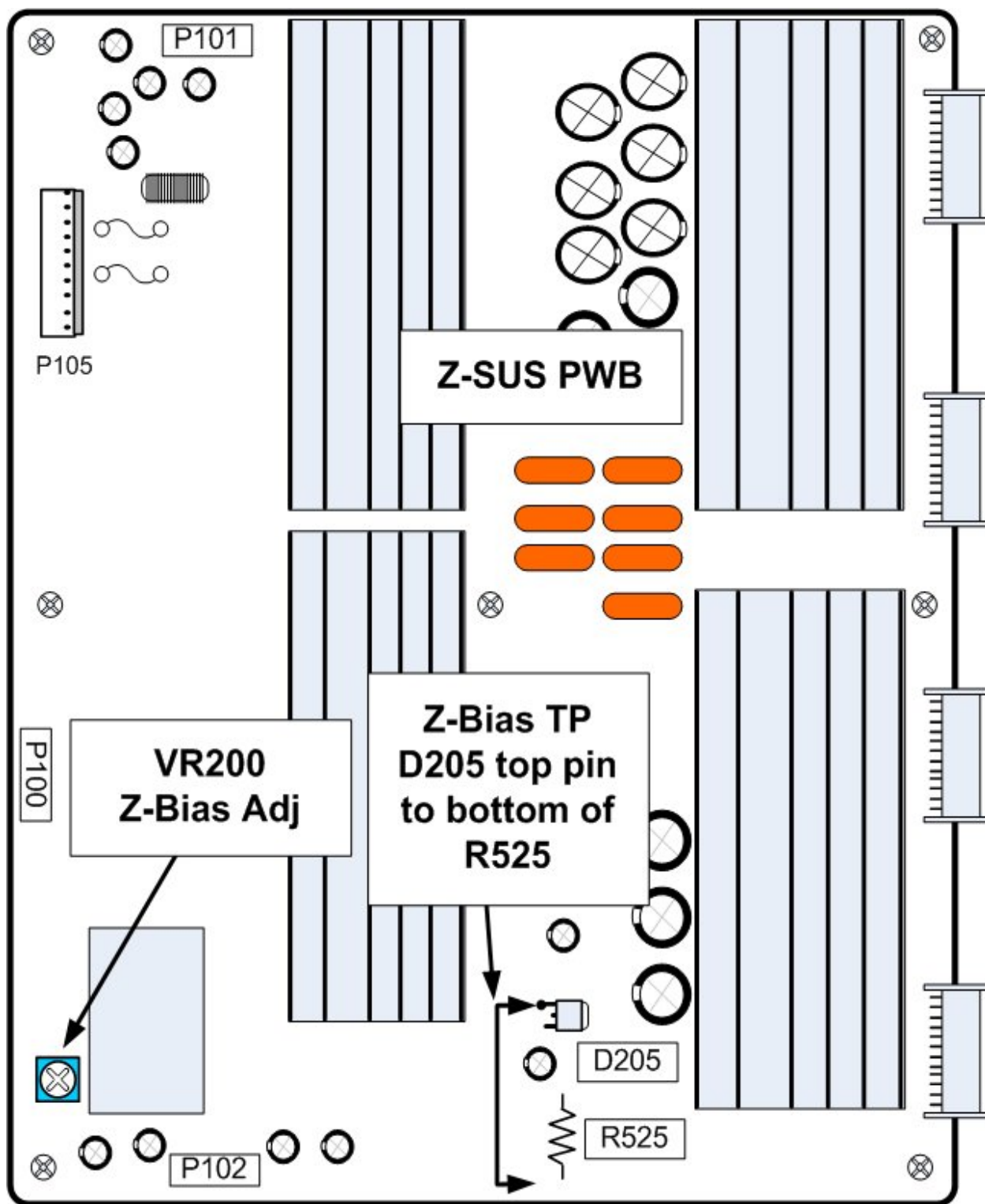
Waveform TP FL501  
On the Y-SUS PWB



V Set-Down (Ramp Dn) VR601  $420 \pm 5\mu\text{s}$

Scope Settings	100V	100uS
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# 60H2 Z-SUS PWB ADJUSTMENT POINTS



## 60H2 Z-SUS (Z-Bias) ADJUSTMENT:

### PREPARATION:

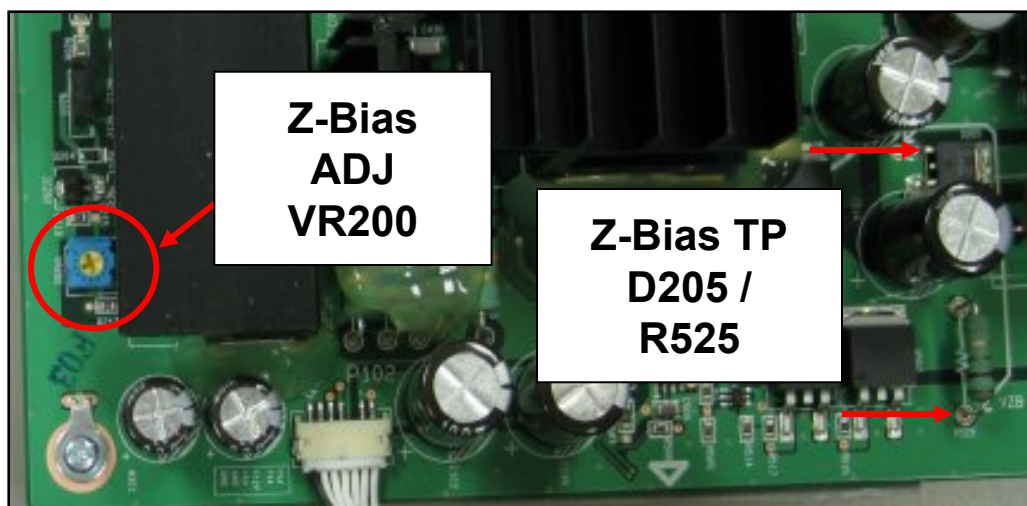
- 1) Pre-Heat unit for at least 10 Minutes before making adjustments.
- 2) Place unit into White Wash from the Customer's Menu for all adjustments.
- 3) **Be sure to use all adjustment values as indicated on the panel voltage label in the upper left hand corner of the panel.**

Model : PDP 60H2###  
Voltage Setting: 5.0V/Va:70/Vs:190  
250 / -140 / 140 / N.A. / **150**  
Max Watt : 700 W (Full White)

Zbias

### PROCEDURE: (See preceding page for locations)

1. Place DC Volt meter on **VZB TP**  
Measured from the Top leg of **D205** to the lower side of **R525**.
2. **Adjust VZB (Z Bias) VR200** in accordance with your specific Panel's Voltage Label.



# 60H3 PANEL

## QUICK REFERENCE

## ALIGNMENT SECTION

### MODELS USING THE 60H3 PANEL

**60PS11-UA**

**60PS60-UA**

**60PS60C-UA**

**60PS80-UA**





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## 60H3 SMPS BOARD ADJUSTMENT POINTS

Set should be in “White Wash”

These two voltages are adjustable and should be adjusted to the correct values as indicated by your Panel’s Voltage Label. Example shown on the right.

Always adjust “Highest to Lowest” voltages.  
VS and VA adjustment resistors are shown in the drawing below.  
They are located at the top Right of the board.

Model : PDP 60H3###  
All Voltages : DC 5.0V  
Va:68 Vs:196  
N.A. / -178 / 140 / N.A. / 100  
Max Watt : 700 W (Full White)

VAS Adj  
VR901

VS Adj  
VR951

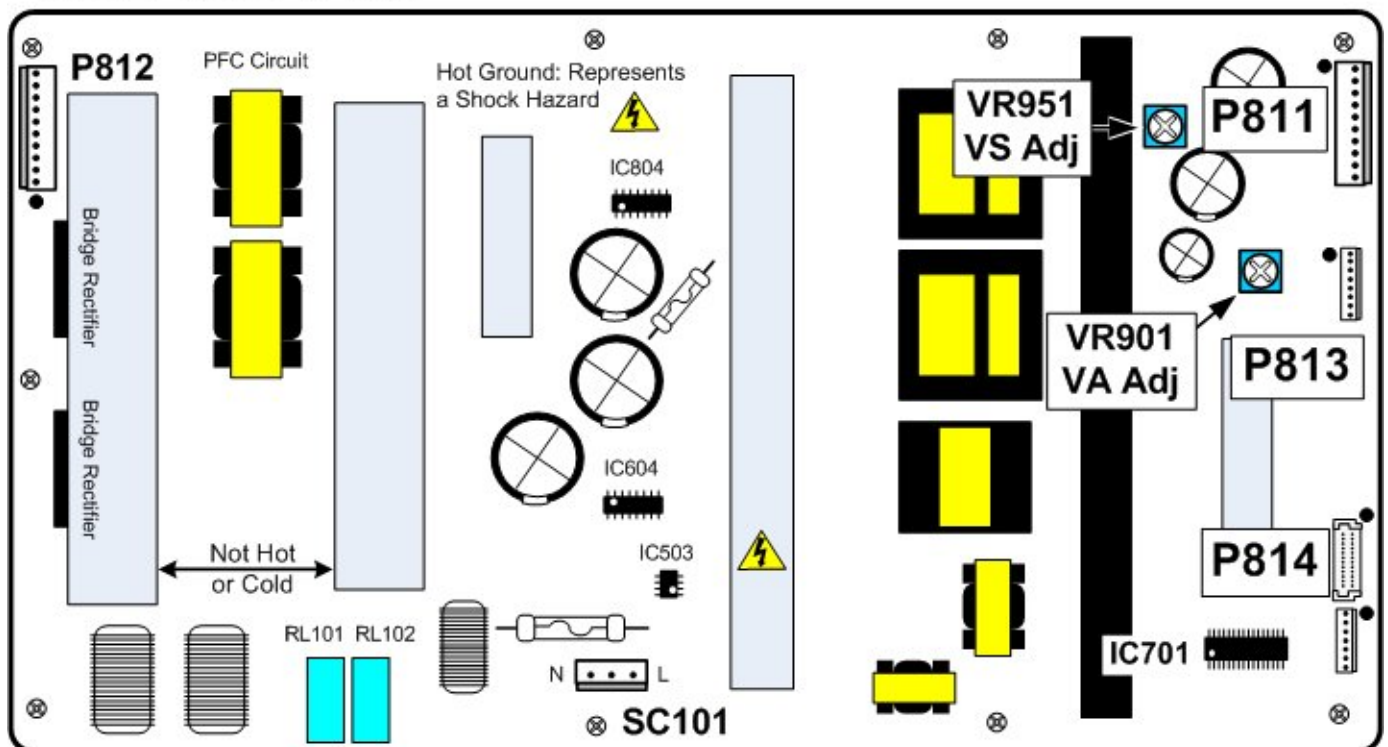
### 1) VS ADJUST:

Connect DVM to pin 1 or 2 of P811 or P812.  
Adjust VR951 until the voltage matches your panel’s voltage label.

### 2) VA ADJUST:

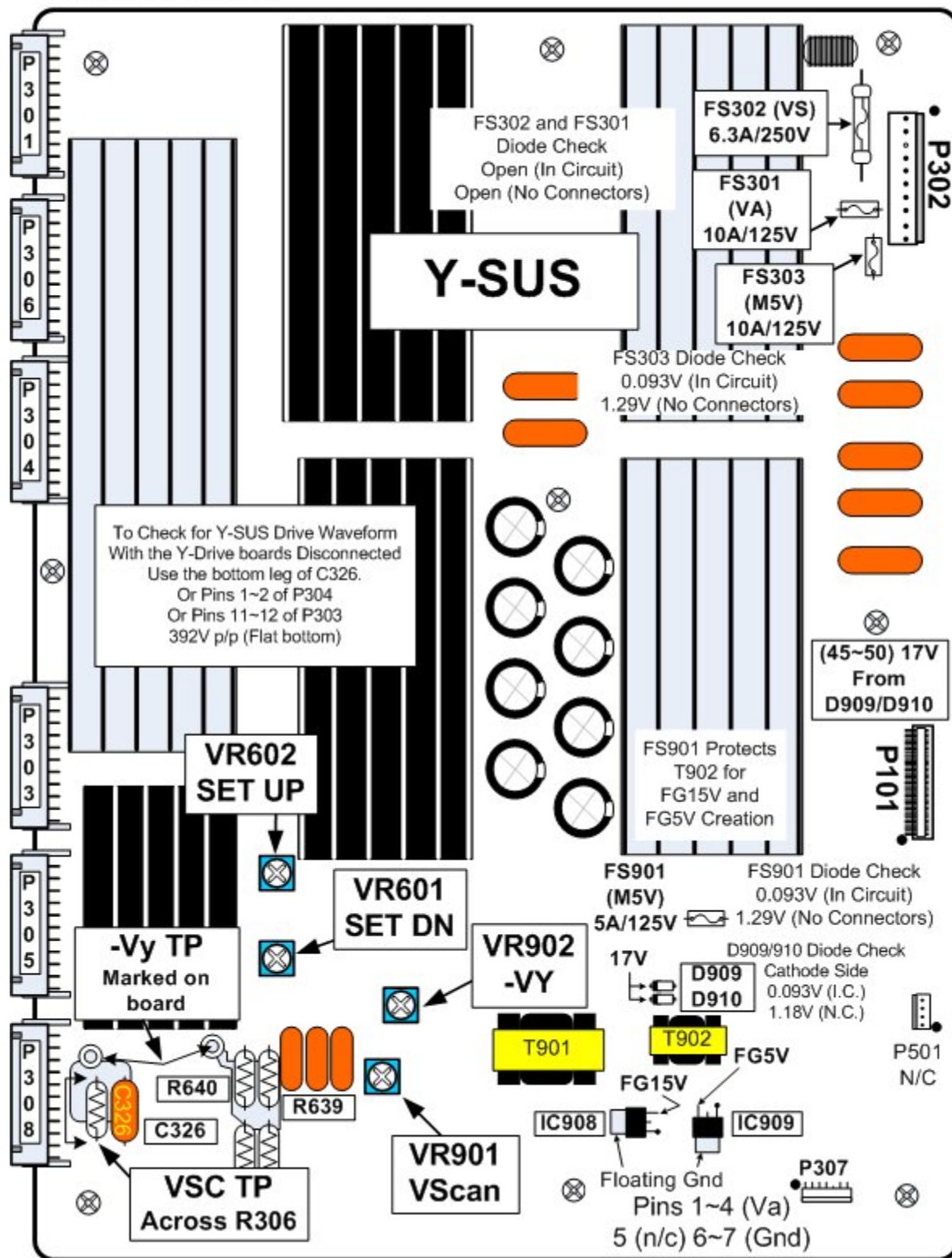
Connect DVM to pin 6 or 7 of P811 or P812.  
Adjust VR901 until the voltage matches your panel’s voltage label.

p/n EAY59547002



# 60H3 Y-SUS BOARD ADJUSTMENT POINTS

P/N EBR55492901



- 1) VS
- 2) VS
- 3) nc
- 4) Gnd
- 5) Gnd
- 6) VA
- 7) VA
- 8) Gnd
- 9) M5V
- 10) M5V

60H3 PANEL

## 60H3 VSC, -Vy ADJUSTMENTS

### PREPARATION:

- 1) Pre-Heat unit for at least 10 Minutes before making adjustments.  
Vs and Va adjustments complete.
- 2) Place unit into White Wash from the Customer's Menu for all adjustments.
- 3) **Be sure to use all adjustment values as indicated on your panel's voltage label in the upper left of the panel.**

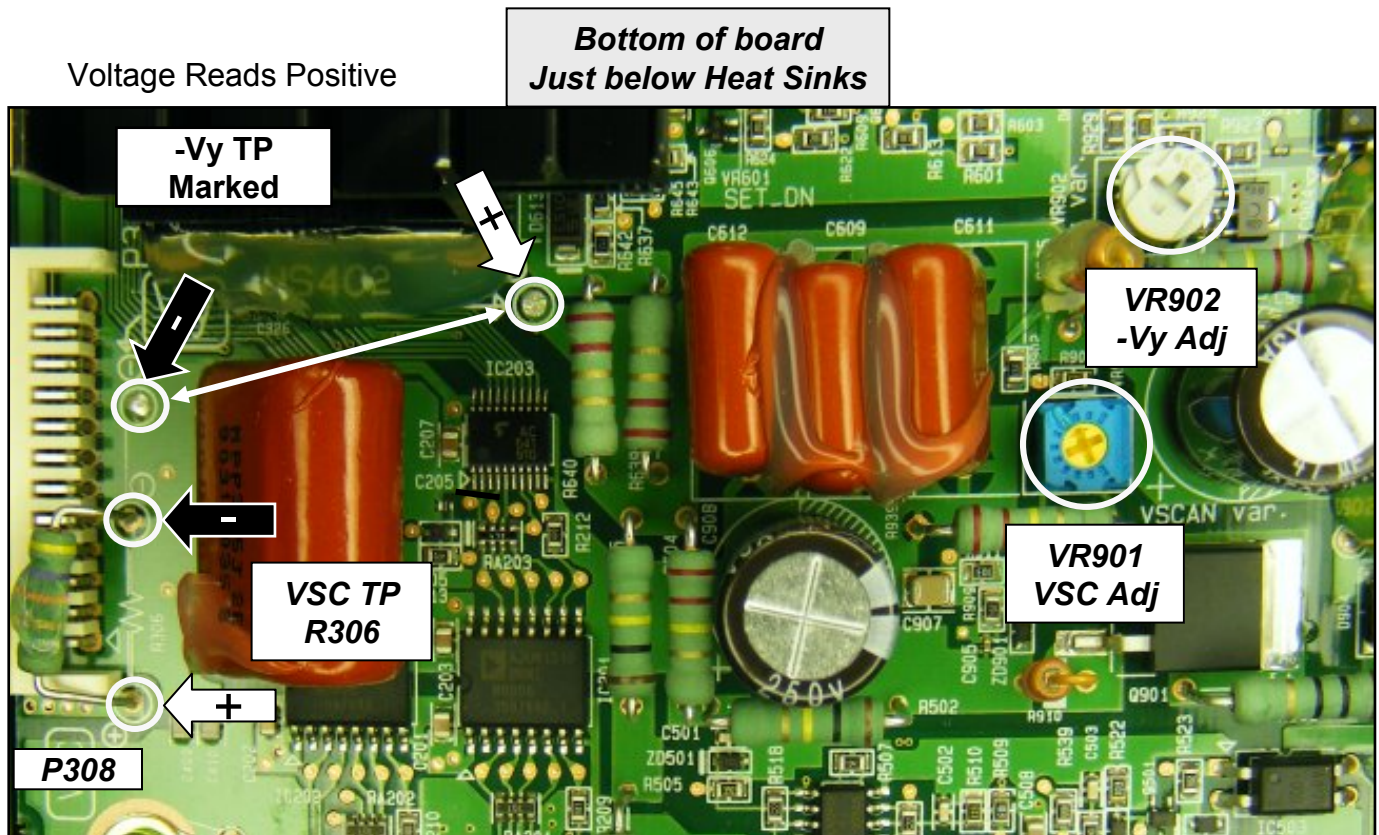
Model : PDP 60H3###  
 All Voltages : DC 5.0V  
 Va:68 Vs:196  
 N.A. / -178 / 140 / N.A. / 100  
 Max Watt : 700 W (Full White)

-Vy Adj  
VR902

VSC Adj  
VR901

### PROCEDURE: (See figure below for locations)

- 1) Adjust -Vy VR902. Measured across -Vy TPs (Marked on the board).  
Match your specific Panel's Voltage label  $\pm 1V$ .
- 2) Adjust VSC VR901. Measured across VSC TPs R306.  
Match your specific Panel's Voltage label  $\pm 1V$ .





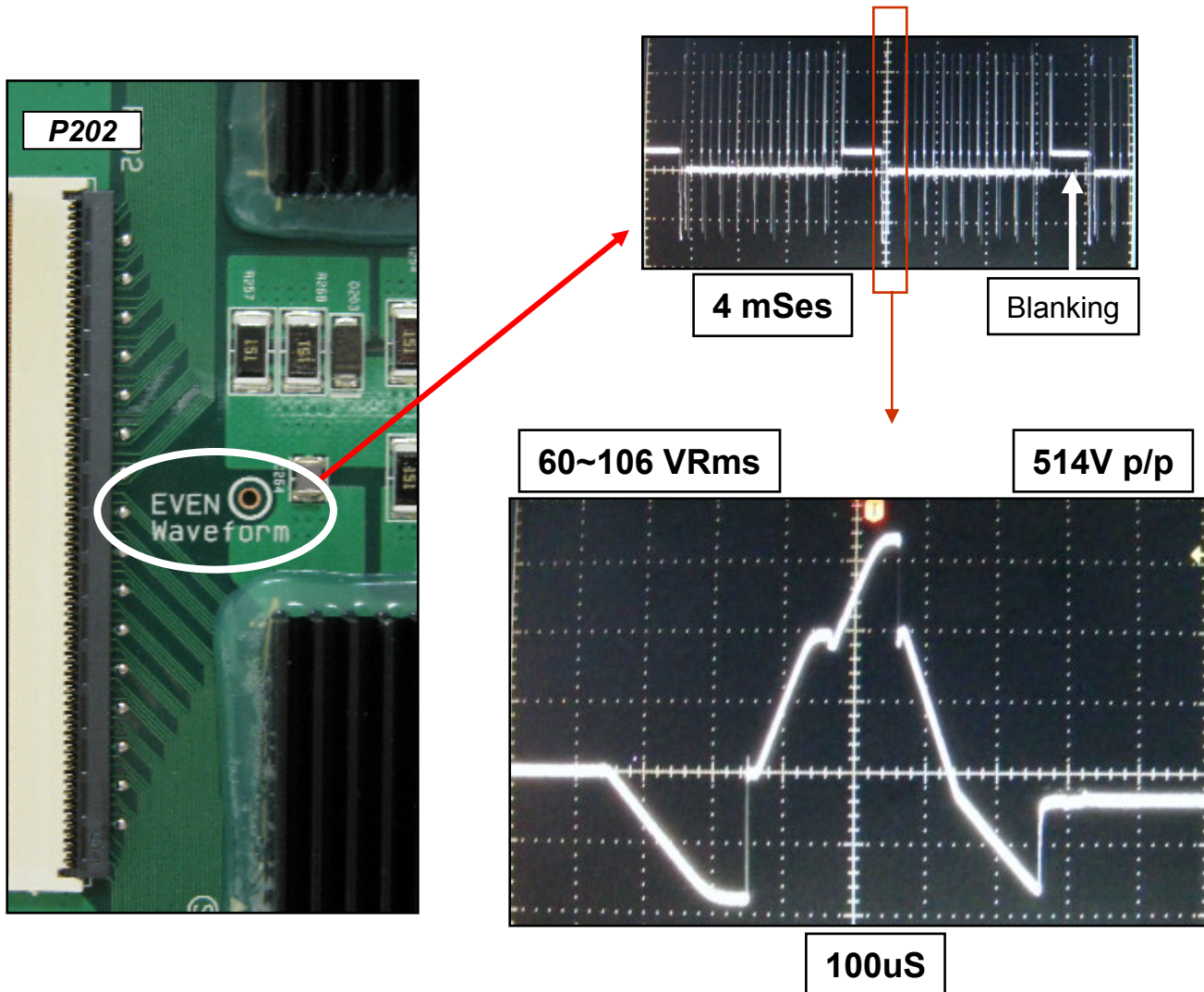
## 60H3 Y Drive Waveform Test Point

The figure below shows a close-up image of the Y-Drive waveform test point on the Y-Drive Upper board. (TP Even Waveform).

There are other Test Points that can be used. The Odd Waveform TP is just about the lower Heat Sink on the Lower Y-Drive board.

Set-Up and Set-Down portions of the waveform are adjusted using either of these Test Points.

**TP LOCATION UNDER 2<sup>nd</sup> HEAT SINK OF UPPER Y-DRIVE**  
(See next page for adjustment locations)



## 60H3 Y-DRIVE WAVEFORM ADJUSTMENTS

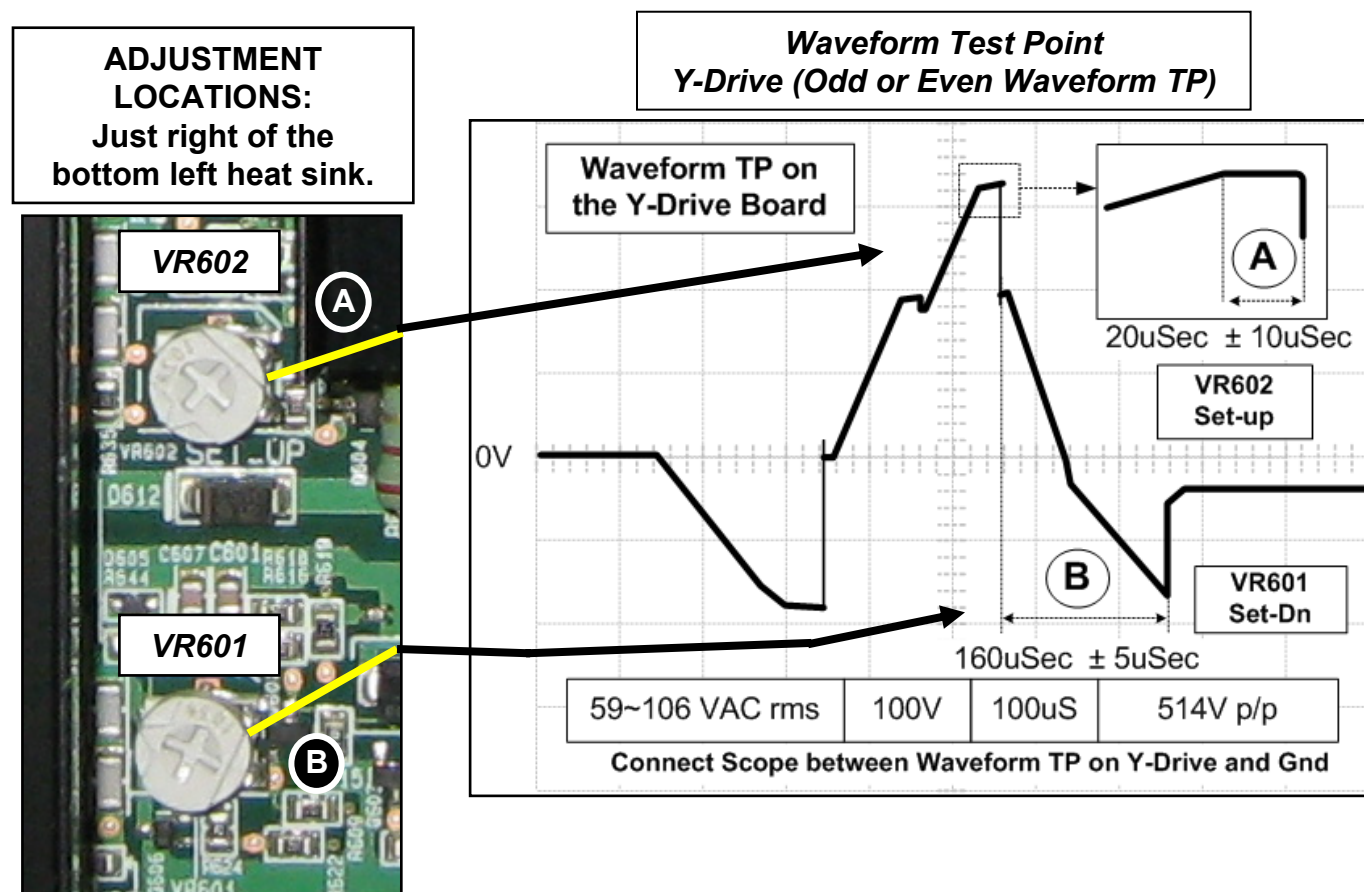
### PREPARATION:

- 1) Pre-Heat unit for at least 10 Minutes before making adjustments.  
Vs, Va, -Vy and VSC adjustments should be completed.
- 2) Place unit into White Wash from the Customer's Menu for all adjustments.

See figure below for adjustment locations.

### ADJUSTMENT LOCATIONS

(See preceding page for Waveform TP locations)



### SET-UP ADJUST:

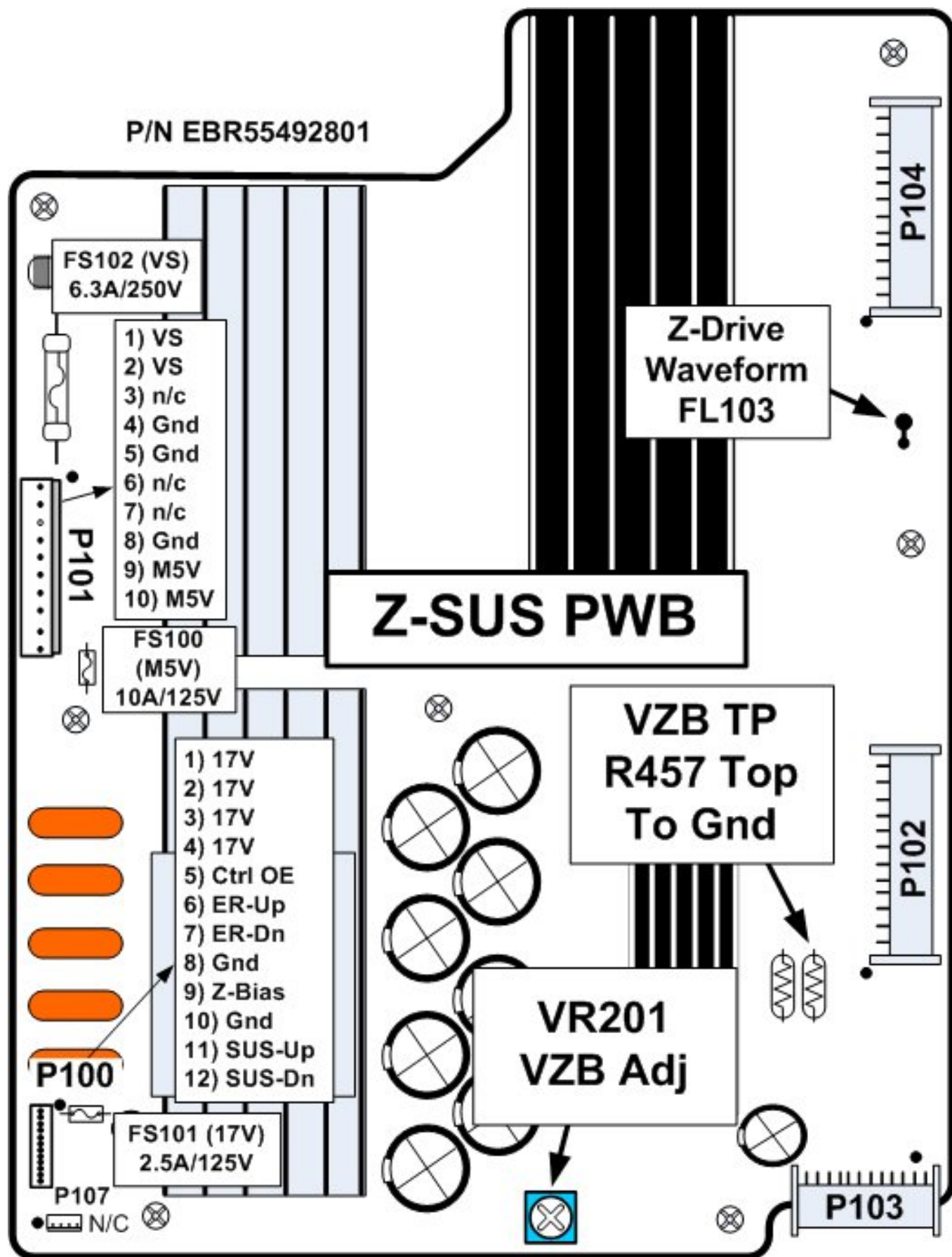
- 1) Adjust **VR602** and set the **(A)** portion of the signal to match the waveform shown above. (20uSec  $\pm$  10uSec)

### SET-DN ADJUST:

- 2) Adjust **VR601** and set the **(B)** time of the signal to match the waveform shown above. (160uSec  $\pm$  5uSec)



# 60H3 Z-SUS ADJUSTMENT POINTS



# 60H3 Z-SUS (Z-Bias) ADJUSTMENT.

## PREPARATION:

- 1) Pre-Heat unit for at least 10 Minutes before making adjustments.
- 2) Place unit into White Wash from the Customer's Menu for all adjustments.
- 3) Be sure to use all adjustment values as indicated on the panel voltage label in the upper right hand corner of the panel.

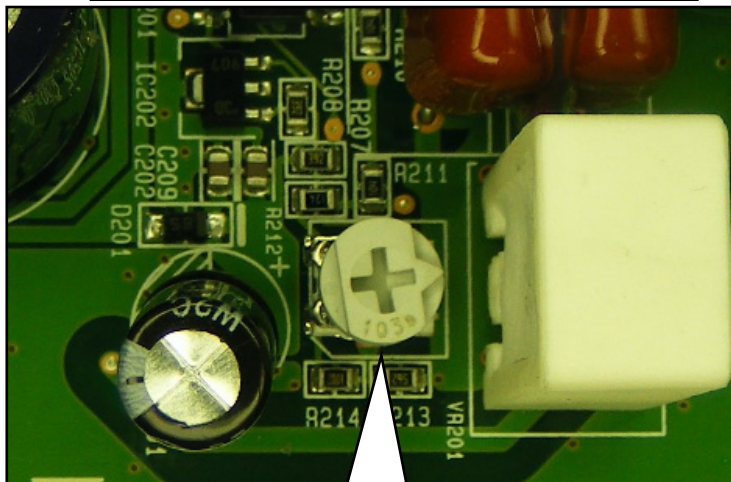
Model : PDP 60H3###  
All Voltages : DC 5.0V  
Va:68 Vs:196  
N.A. / -178 / 140 / N.A. / **100**  
Max Watt : 700 W (Full White)

VZB (Z-Bias) Adj  
VR201

## PROCEDURE: (See preceding page for locations)

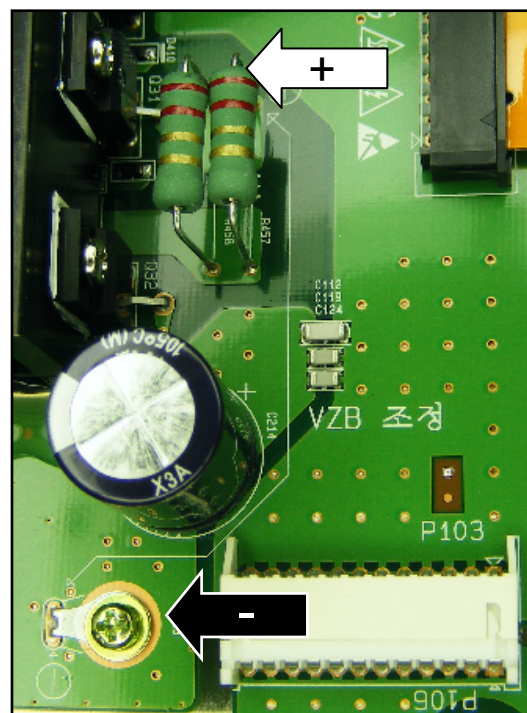
1. Place DC Volt meter on VZB TP (Top of R457 to Chassis Gnd).
2. Adjust VZB (Z Bias) VR201 in accordance with your Panel's voltage label.

**VR201 LOCATION**  
Bottom Center of Z-SUS Board



**VZB (Z Bias)**  
**VR201**

**VZB (Z-Bias) TP**  
Top Side R457



**Measured from Chassis Ground**

**R457 LOCATION**  
Bottom Right of Z-SUS Board

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# 60R1 PANEL

## QUICK REFERENCE

### ALIGNMENT SECTION

#### MODELS USING THE 60R1 PANEL

**60PK950**

**60PK750**

**60PK560**

**60PK550**

**60PK540**

**60PK250**



**LG**

Life's Good

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## 60R1 SMPS BOARD ADJUSTMENT POINTS

Set should be in “White Wash”

These two voltages are adjustable and should be adjusted to the correct values as indicated by your Panel’s Voltage Label. Example shown on the right.

Model : PDP 60R1###  
Voltage Setting: 5.0V/ Va:60/ Vs:202  
N.A. / -180 / 150 / N.A. / 105  
Max Watt : 550 W (Full White)

VA VR551 VS VR901

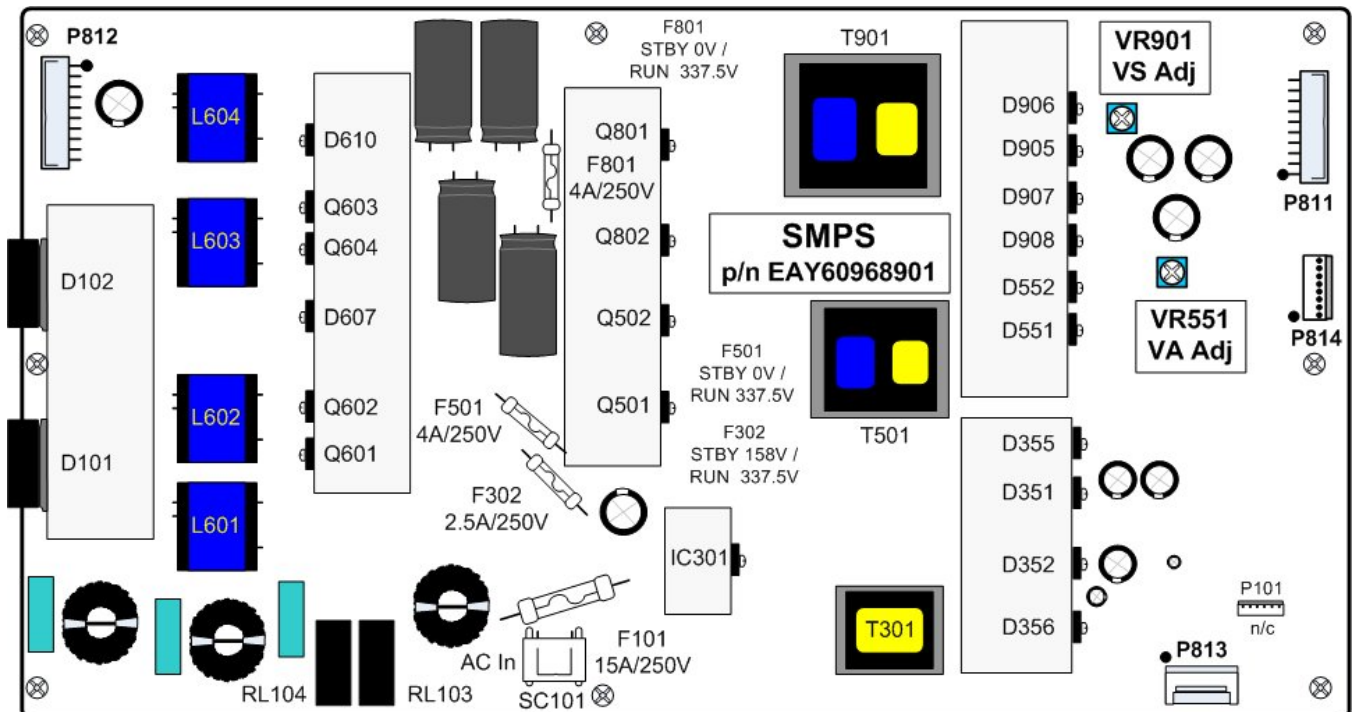
Always adjust “Highest to Lowest” voltages.  
VS and VA adjustment resistors are shown in the drawing below.  
They are located at the top Right of the board.

### 1) VS ADJUST:

Connect DVM to pin 1 or 2 of P811 or P812.  
Adjust VR901 until the voltage matches your panel’s voltage label.

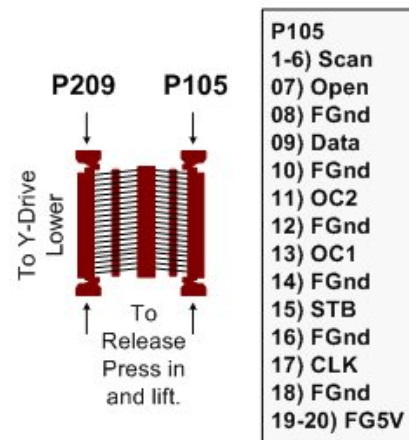
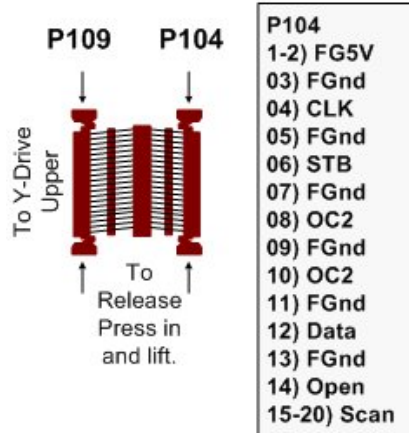
### 2) VA ADJUST:

Connect DVM to pin 6 or 7 of P811 or P812.  
Adjust VR551 until the voltage matches your panel’s voltage label.





# 60R1 PANEL



## 60R1 VSC, -Vy ADJUSTMENTS

### PREPARATION:

- 1) Pre-Heat unit for at least 10 Minutes before making adjustments.  
Vs and Va adjustments complete.
- 2) Place unit into White Wash from the Customer's Menu for all adjustments.
- 3) **Be sure to use all adjustment values as indicated on your panel's voltage label in the upper left of the panel.**

Model : PDP 60R1###  
 Voltage Setting: 5.0V/ Va:60/ Vs:202  
 N.A. **-180** / **150** / N.A. / 105  
 Max Watt : 550 W (Full White)

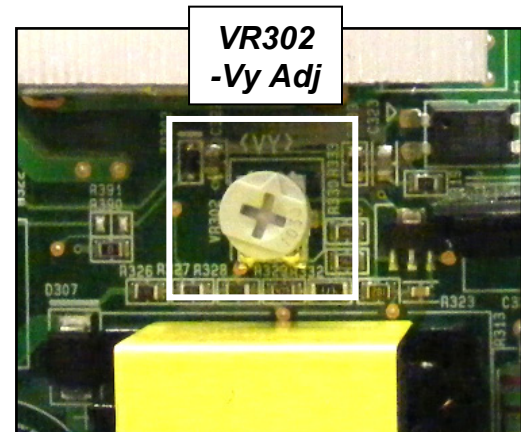
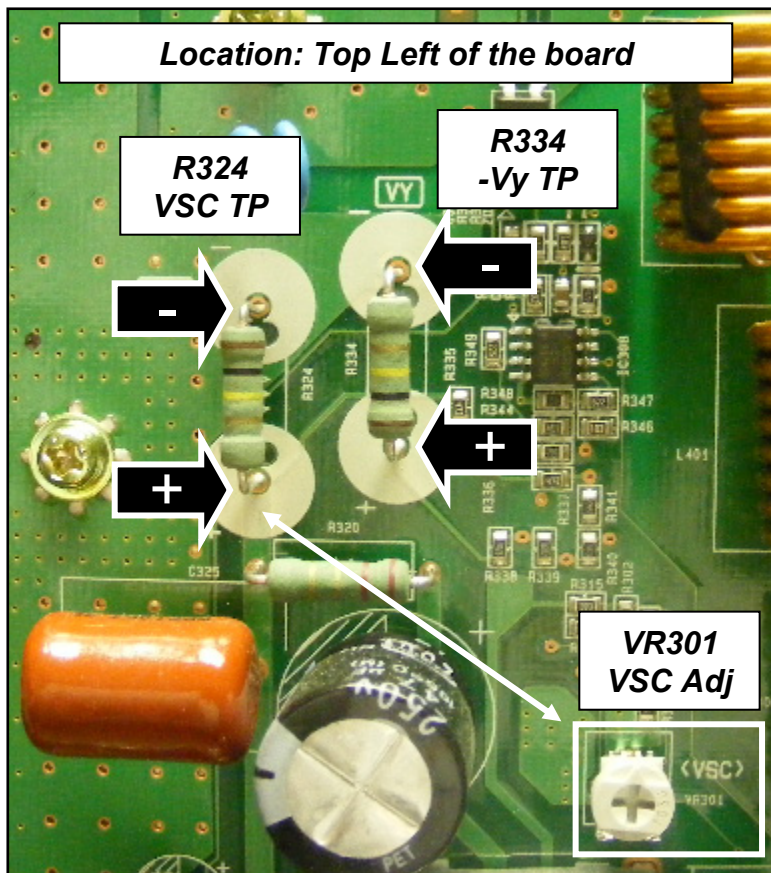
-Vy

VSC

### PROCEDURE: (See figure below for locations)

- 1) Adjust -Vy VR302. Measured across -Vy TP R334.  
Match your specific Panel's Voltage label  $\pm 1V$ .
- 2) Adjust VSC VR301. Measured across VSC TPs R324.  
Match your specific Panel's Voltage label  $\pm 1V$ .

Voltage Reads Positive



**Location:**  
**Bottom Center of board**  
**Just below Heat Sink**

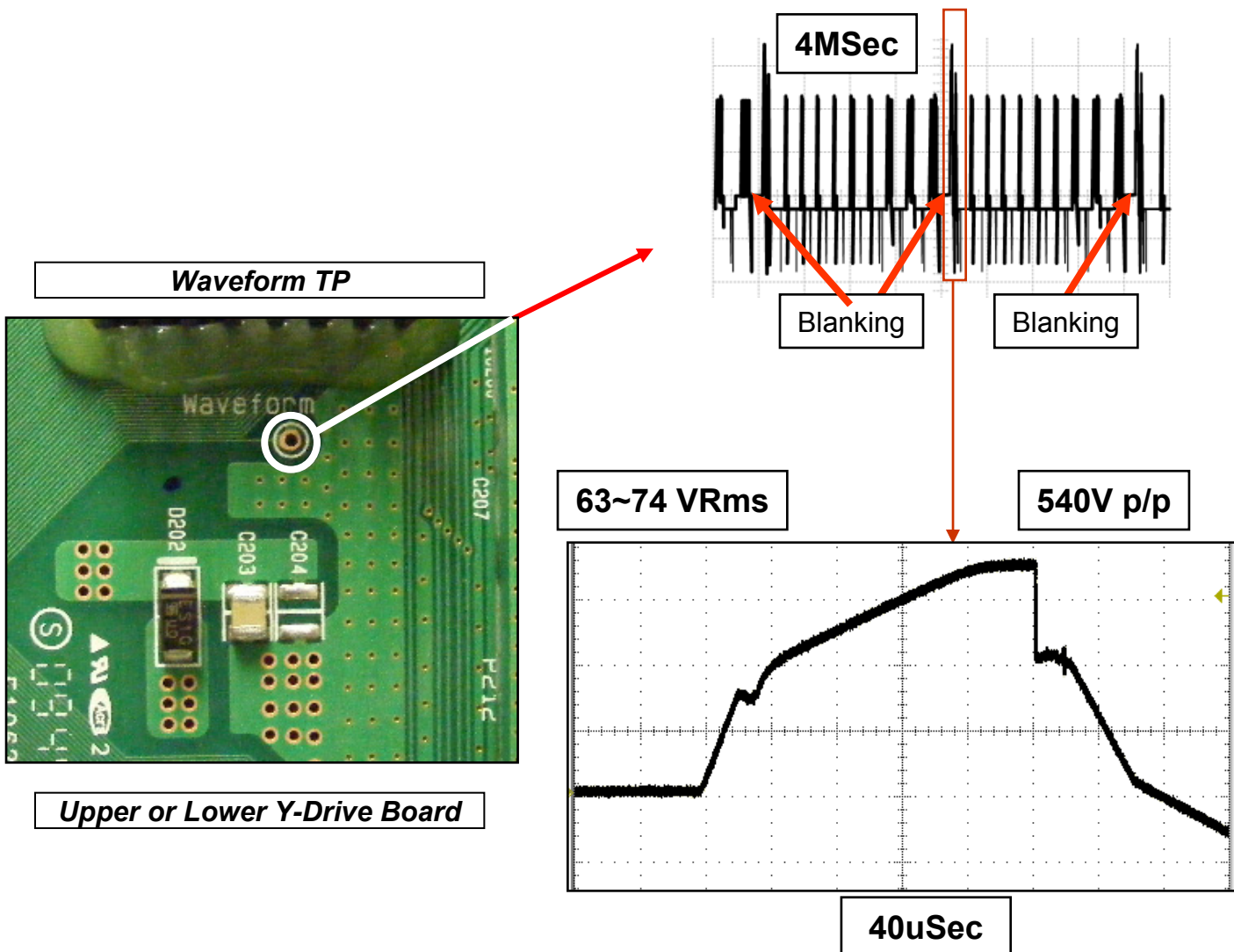
## 60R1 Y Drive Waveform Test Point

The figure below shows a close-up image of the Y-Drive waveform test point on the Y-Drive Upper board. (Waveform TP).

There is another on the Lower Y-Drive board.

Set-Up and Set-Down portions of the waveform are adjusted using either of these Test Points.

**TP LOCATION UNDER 2<sup>nd</sup> HEAT SINK OF UPPER Y-DRIVE**  
(See next page for adjustment locations)





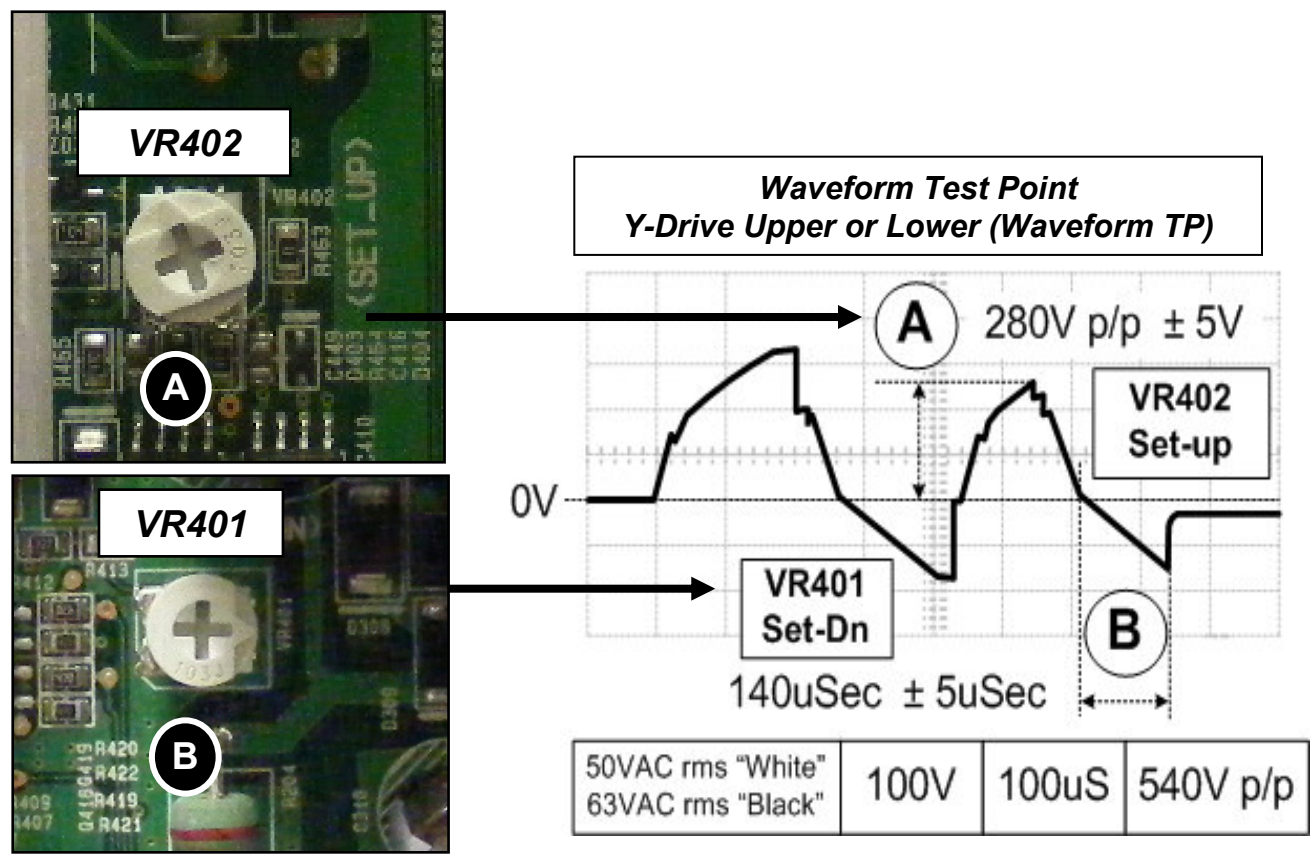
# 60R1 Y-DRIVE WAVEFORM ADJUSTMENTS

## PREPARATION:

- 1) Pre-Heat unit for at least 10 Minutes before making adjustments.  
Vs, Va, -Vy and VSC adjustments should be completed.
- 2) Place unit into **White Wash** from the Customer's Menu for all adjustments.

See figure below for adjustment locations.

## ADJUSTMENT LOCATIONS (See 3 pages back for Waveform TP locations)



**ADJUSTMENT LOCATIONS:**  
Bottom of the board.

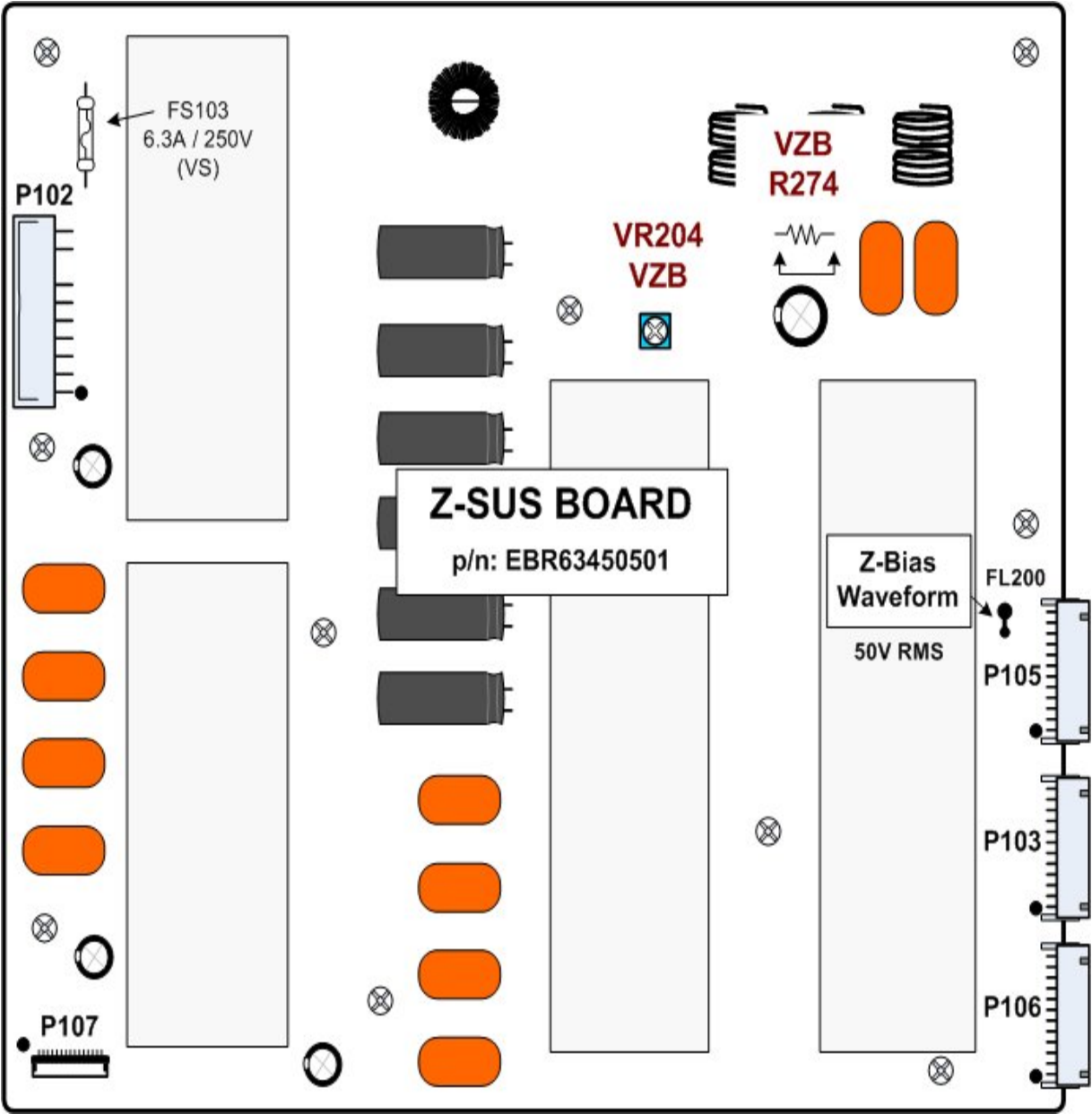
## SET-UP ADJUST:

- 1) Adjust **VR402** and set the **(A)** portion of the signal to match the waveform shown above. (280V p/p  $\pm 5V$ )

## SET-DN ADJUST:

- 2) Adjust **VR401** and set the **(B)** time of the signal to match the waveform shown above. (140uSec  $\pm 5uSec$ )

# 60R1 Z-SUS ADJUSTMENT POINTS



## 60R1 Z-SUS (Z-Bias) ADJUSTMENT:

### PREPARATION:

- 1) Pre-Heat unit for at least 10 Minutes before making adjustments.
- 2) Place unit into White Wash from the Customer's Menu for all adjustments.
- 3) Be sure to use all adjustment values as indicated on the panel voltage label in the upper right hand corner of the panel.

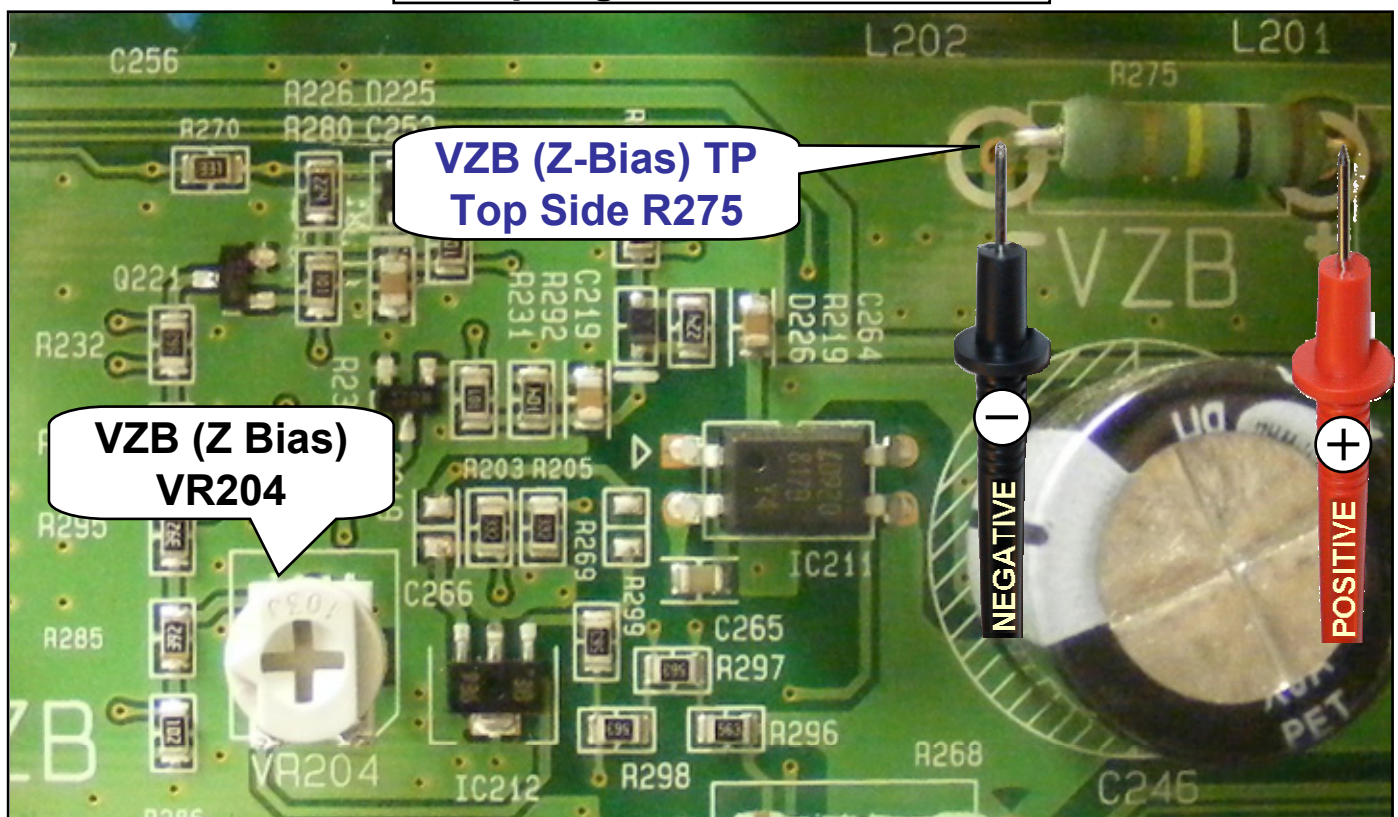
Model : PDP 60R1###  
Voltage Setting: 5.0V/Va:60/Vs:202  
N.A. / -180 / 150 / N.A. / 105  
Max Watt : 550 W (Full White)

VZB (Z Bias)

### PROCEDURE: (See preceding page for locations)

1. Place DC Volt meter on VZB TP (Across R275).
2. Adjust VZB (Z Bias) VR204 in accordance with your Panel's voltage label.

#### Top Right of Z-SUS Board





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# 60X6 PANEL

## QUICK REFERENCE

## ALIGNMENT SECTION

### MODELS USING THE 60X6 PANEL

**60PC1DAA**  
**60PT1DRNA**  
**60PY2DAB**  
**60PY2DR1**  
**60PY2DRNA**  
**60PY2RMC**  
**60PY2RTB**  
**60PY2RZB**  
**60PZ9MATA**  
**60PZ9MTA**



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## 60X6 SMPS PWBs ADJUSTMENT POINTS

These two voltages are adjustable and should be adjusted to the correct values as indicated by the panel label. Example shown below.

Always adjust “Highest to Lowest” voltages.

They are located at the top left of the board.

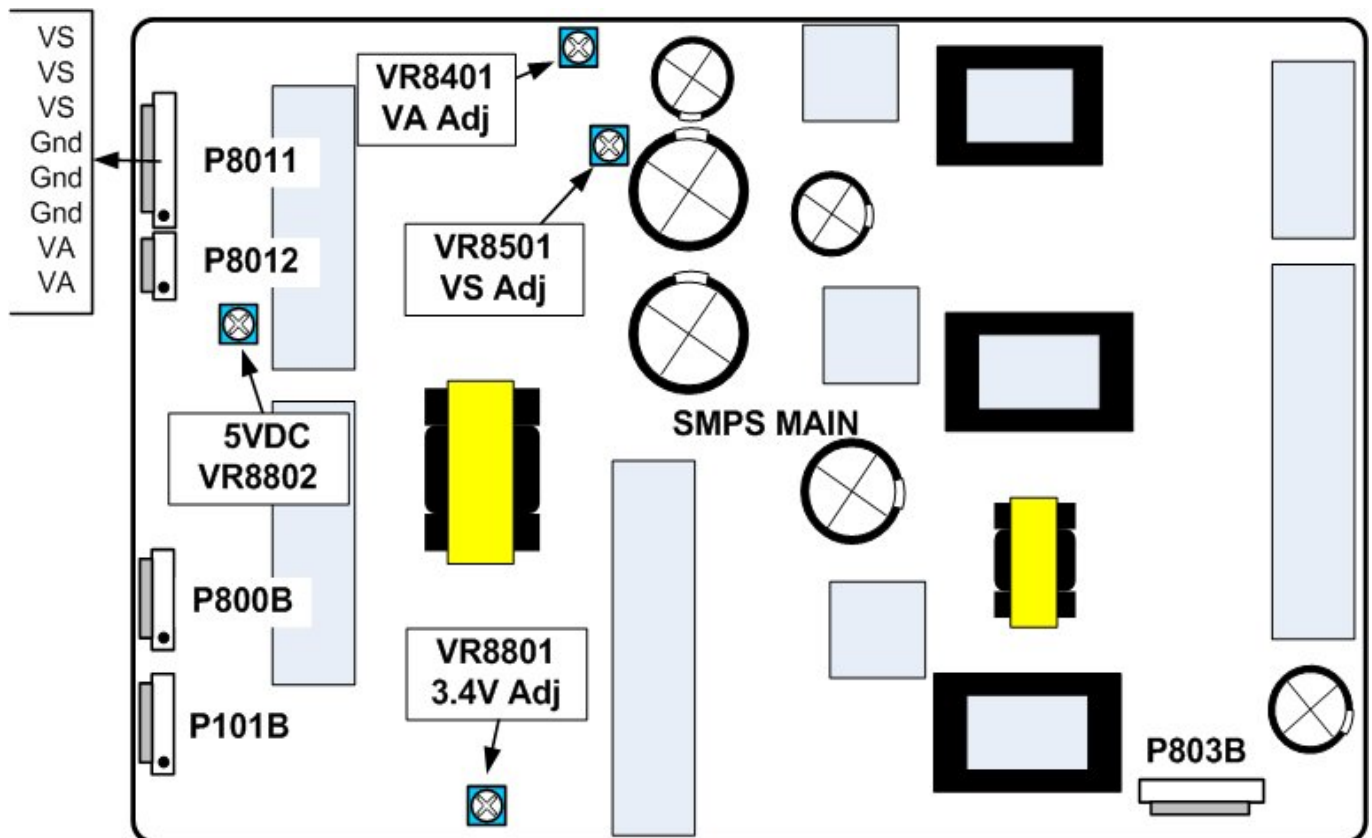
VR951 is the VS adjustment pot.

VR901 is the VA adjustment pot.

Set should be in “**Full White Raster**”

Model : PDP 60X6###  
All Voltages : DC 5.0V  
Va:60 Vs:193  
250 / -65 / 110 / N.A. / 170  
Max Watt : 570 W (Full White)

VA VS



# 60X6 SMPS PWBs ADJUSTMENT POINTS

Set should be in “Full White Raster”

See previous page for locations.

**NOTE:** If either or both of the adjustment pots for 5V and 3.4V are covered in silicon, simply check the voltage to make sure it's correct in relationship to your specific panel's voltage label.

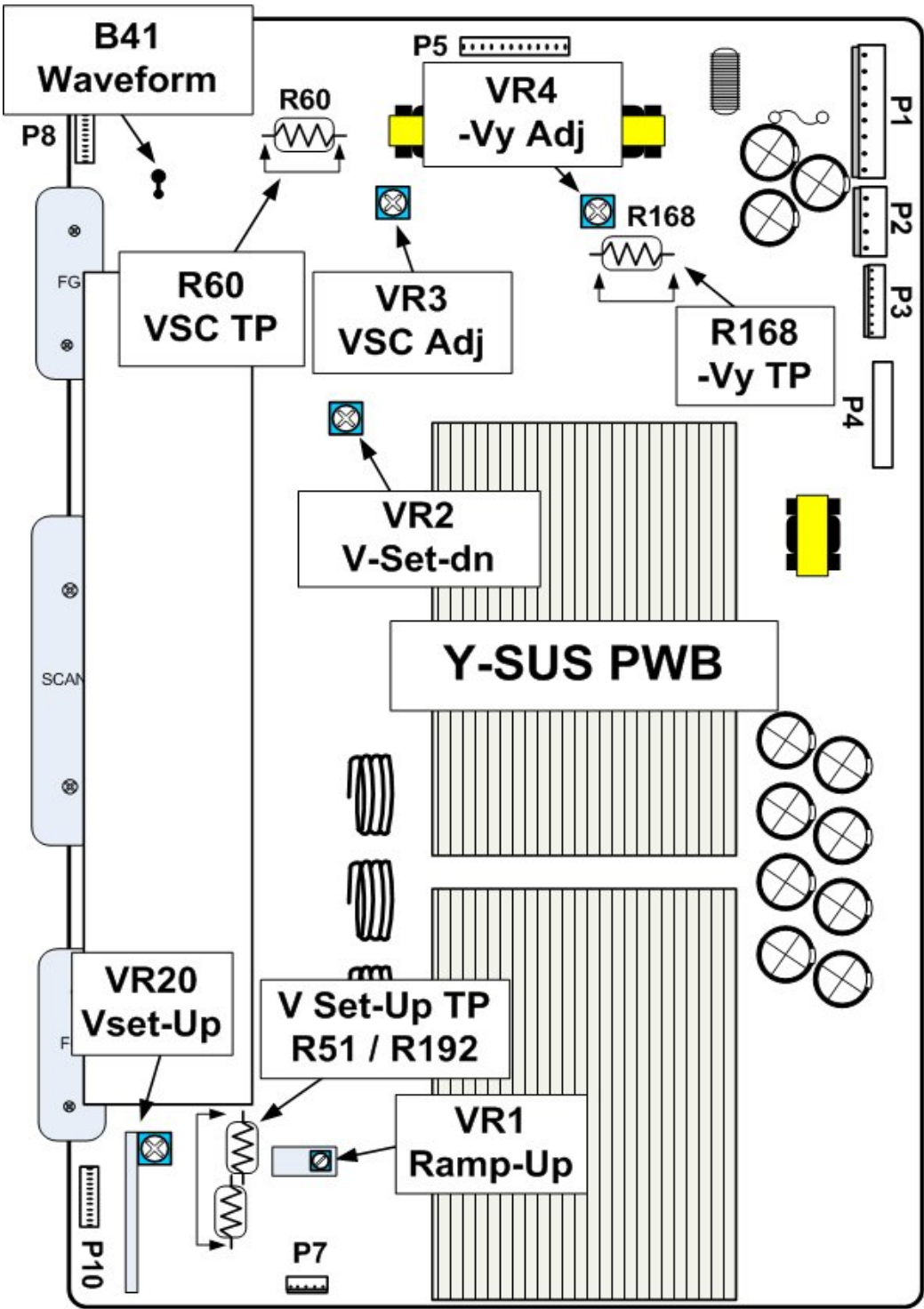
- 1) **VCC 5V ADJUST:** Connect DVM to VCC output pin.  
Adjust VR8802 until the voltage matches the panel's voltage label.
  
- 2) **VCC 3.4V ADJUST:** Connect DVM to VCC output pin.  
Adjust VR8801 until the voltage matches the panel's voltage label.
  
- 3) **VS ADJUST:** Connect DVM to pin 6, 7 or 8 of P8011. Adjust VR8501 until the voltage matches the panel's voltage label.
  
- 4) **VA ADJUST:** Connect DVM to pin 1 or 2 of P8011.  
Adjust VR8401 until the voltage matches the panel's voltage label.



# 60X6 Y-SUS PWB ADJUSTMENT POINTS

Model : PDP 60X6###  
All Voltages : DC 5.0V  
Va:60 Vs:193  
250 / -65 / 110 / N.A. / 170  
Max Watt : 570 W (Full White)

V Set-Up -Vy VSC



# 60X6 Y-SUS BOARD ADJUSTMENTS

## PREPARATION:

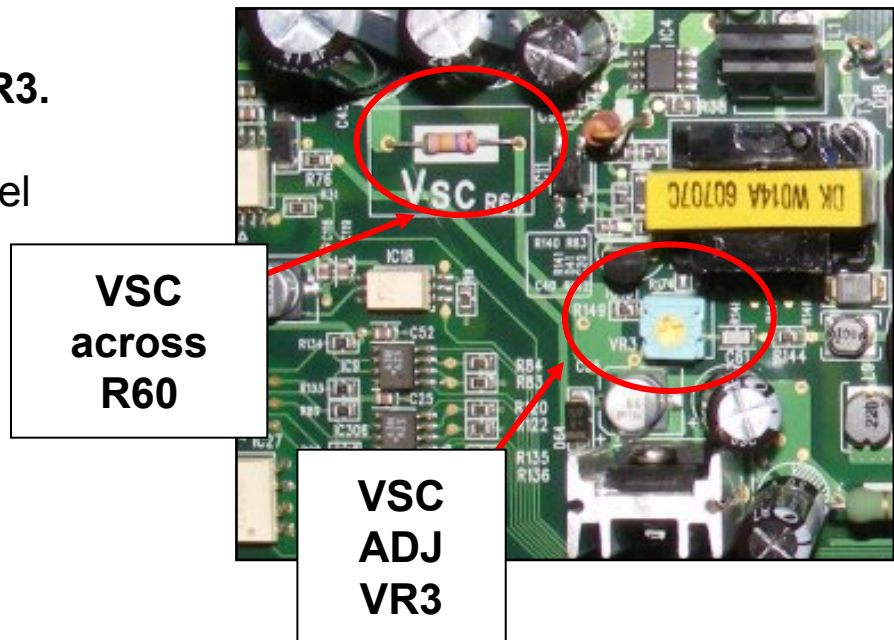
- 1) Pre-Heat unit for at least 10 Minutes before making adjustments.
- 2) Place unit into White Wash from the Customer's Menu for all adjustments.
- 3) **Be sure to use all adjustment values as indicated on the panel voltage label on the panel.**

Model : PDP 60X6###  
All Voltages : DC 5.0V  
Va:60 Vs:193  
**250 / -65 / 110 / N.A. / 170**  
Max Watt : 570 W (Full White)

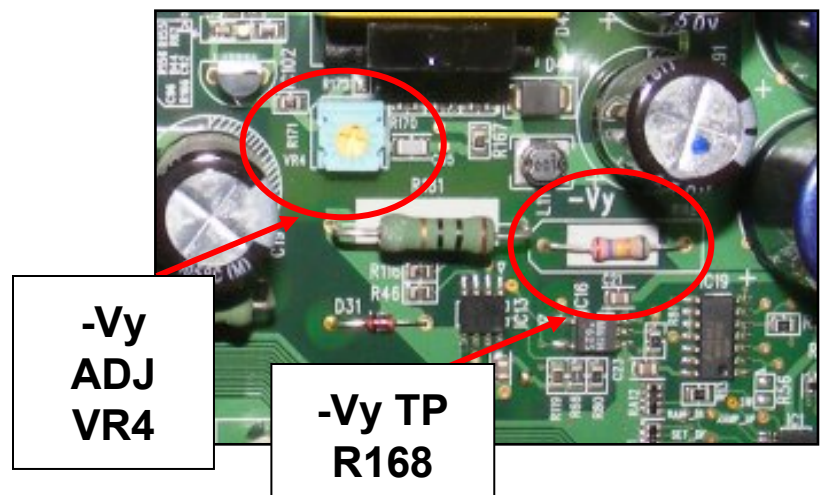
V Set-Up -Vy VSC

## PROCEDURE: (See figures below for locations)

- 1) **Adjust VSC using VR3.**  
Measured across **R60**.  
Match Panel Voltage label  $\pm 1V$ .



- 2) **Adjust -Vy using VR4.**  
Measured across **R168**.  
Match Panel Voltage label  $\pm 1V$ .

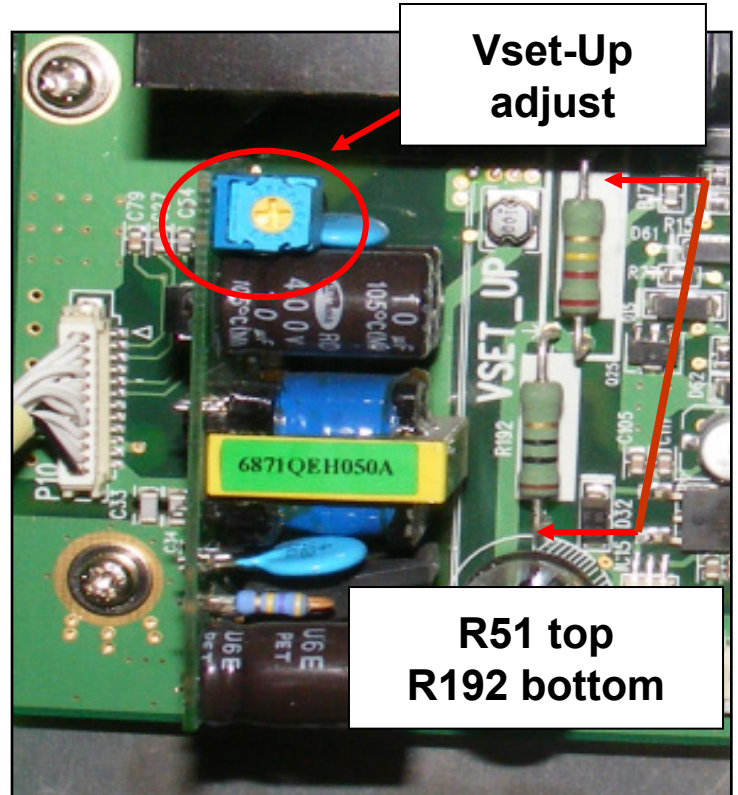


## 60X6 VSet-Up DC Voltage Adjustment

Model : PDP 60X6###  
All Voltages : DC 5.0V  
Va:60 Vs:193  
**250** / -65 / 110 / N.A. / 170  
Max Watt : 570 W (Full White)

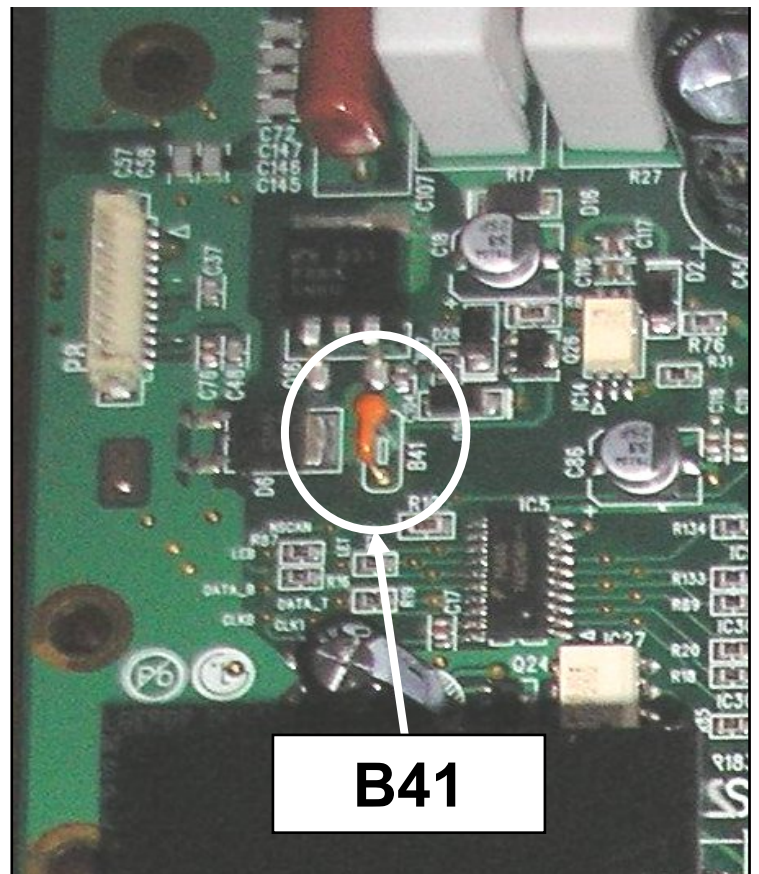
### V Set-Up

Adjust VR20 while reading from top of R51 to bottom of R192.  
Adjust and match the voltage label.



## 60X6 Y Drive Waveform Test Point

Two pages back shows the Y-SUS PWB. The Figure to the right shows a close-up image of the Y-Drive waveform test point **B41** on the Y-SUS PWB.  
LOCATION: Upper Left hand side of the Y-SUS PWB.



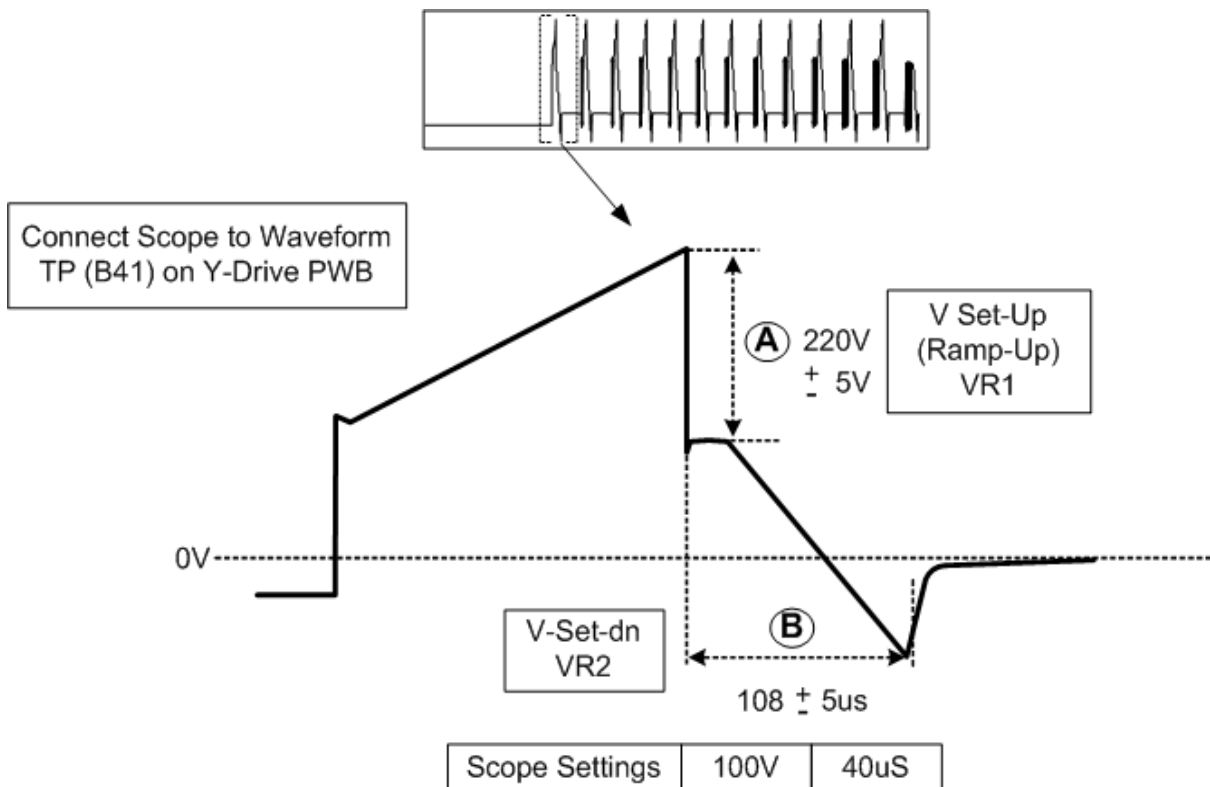
## 60X6 Y-Drive Waveform Adjustment

The adjustments  $V_a$ ,  $V_s$ ,  $-V_y$  and  $V_{SN}$  should have been completed. Using a Full White Raster, adjust the Set-up (Ramp) and Set-dn section of the Y-Drive waveform.

Attach the Oscilloscope to the “Waveform” TP (**B41**) on the Y-SUS Board.

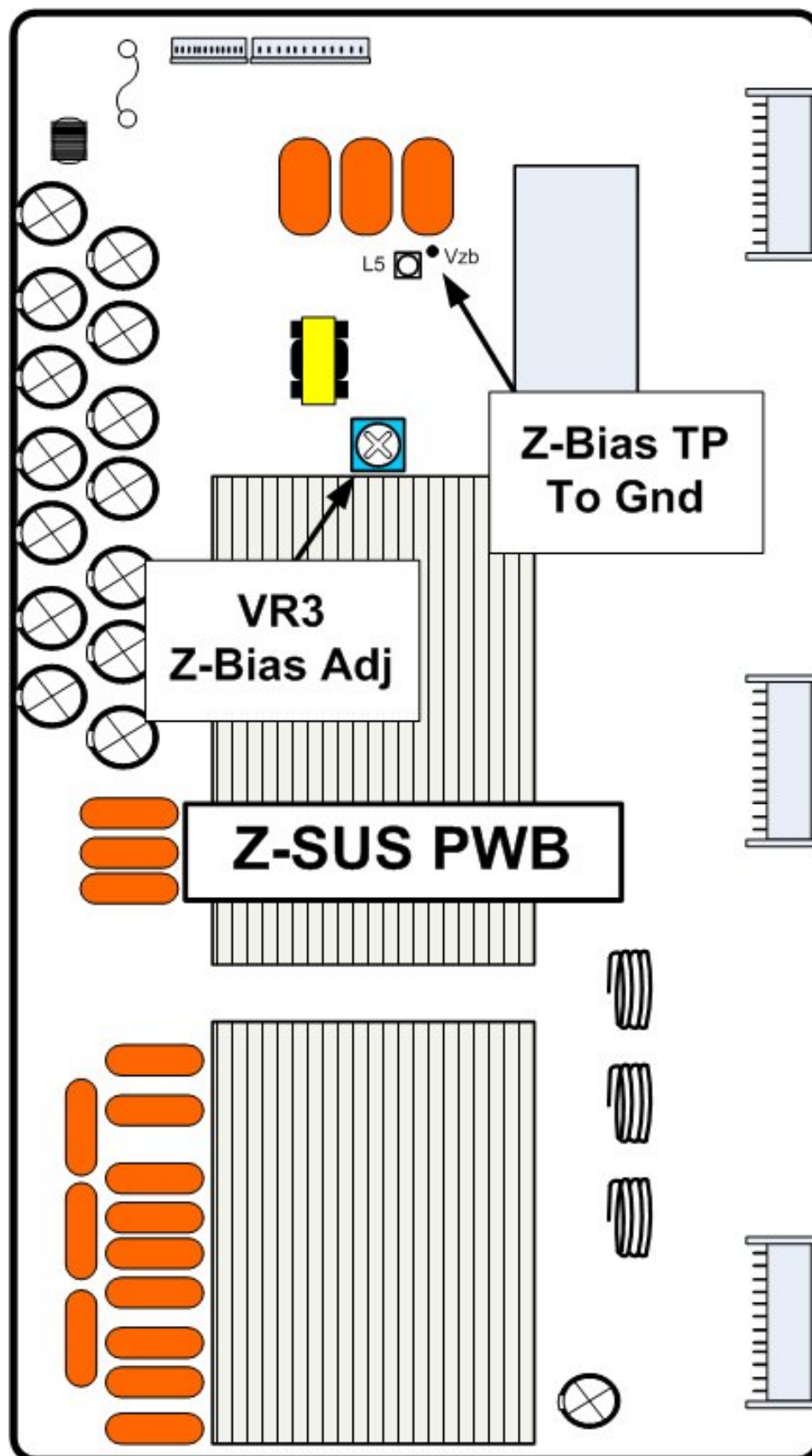
**Ramp-Up VR1:** Adjust **VR1** while observing area (**A**) and set to  $220V \pm 5V$ .

**Set-Dn VR2:** Adjust **VR2** while observing area (**B**) and set to  $108\mu\text{Sec} \pm 5\mu\text{Sec}$ .





# 60X6 Z-SUS PWB ADJUSTMENT POINTS



60X6 PANEL

## 60X6 Z-SUS (Z-Bias) ADJUSTMENT:

### PREPARATION:

- (1) Pre-Heat unit for at least 10 Minutes before making adjustments.
- (2) Place unit into White Wash from the Customer's Menu for all adjustments.
- (3) **Be sure to use all adjustment values as indicated on the panel's voltage label. See sample above.**

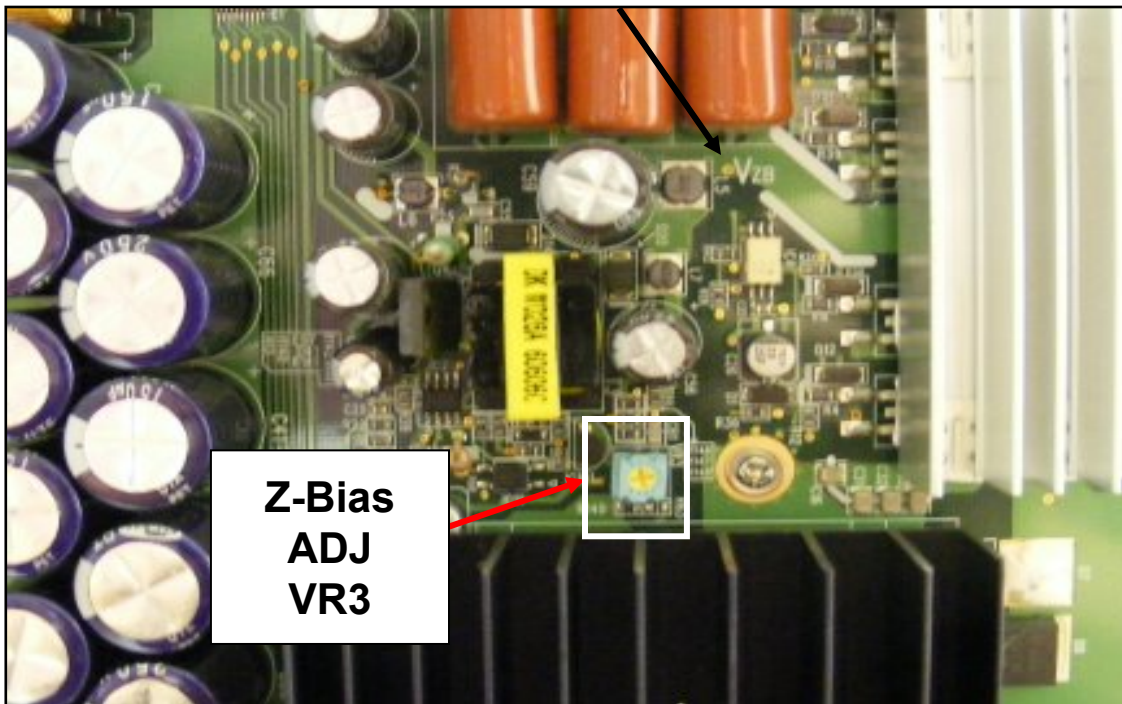
Model : PDP 60X6###  
All Voltages : DC 5.0V  
Va:60 Vs:193  
250 / -65 / 110 / N.A. / **170**  
Max Watt : 570 W (Full White)

Zbias

### PROCEDURE: (See preceding page for locations)

1. Place DC Volt meter on **VZB TP** (Top center of board. Vz b silk screened on the board). Read from Chassis ground.
2. Adjust VZB (Z Bias) **VR3** in accordance with the Panel's voltage label.

**Z-Bias TP**  
**Labeled just right of L5**





# **60X7 PANEL**

## **QUICK REFERENCE**

### **ALIGNMENT SECTION**

**MODELS USING THE 60X7 PANEL**

**60PB4DA / DR / DT**



**LG**

Life's Good

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# 60X7 SMPS PWBs ADJUSTMENT POINTS

Set should be in “Full White Raster”

These two voltages are adjustable and should be adjusted to the correct values as indicated by the panel label.

Example shown on the right.

Always adjust “Highest to Lowest” voltages.

VS and VA adjustment resistors are shown in the drawing below.

They are located at the top left of the board.

VR951 is the VS adjustment pot.

VR901 is the VA adjustment pot.

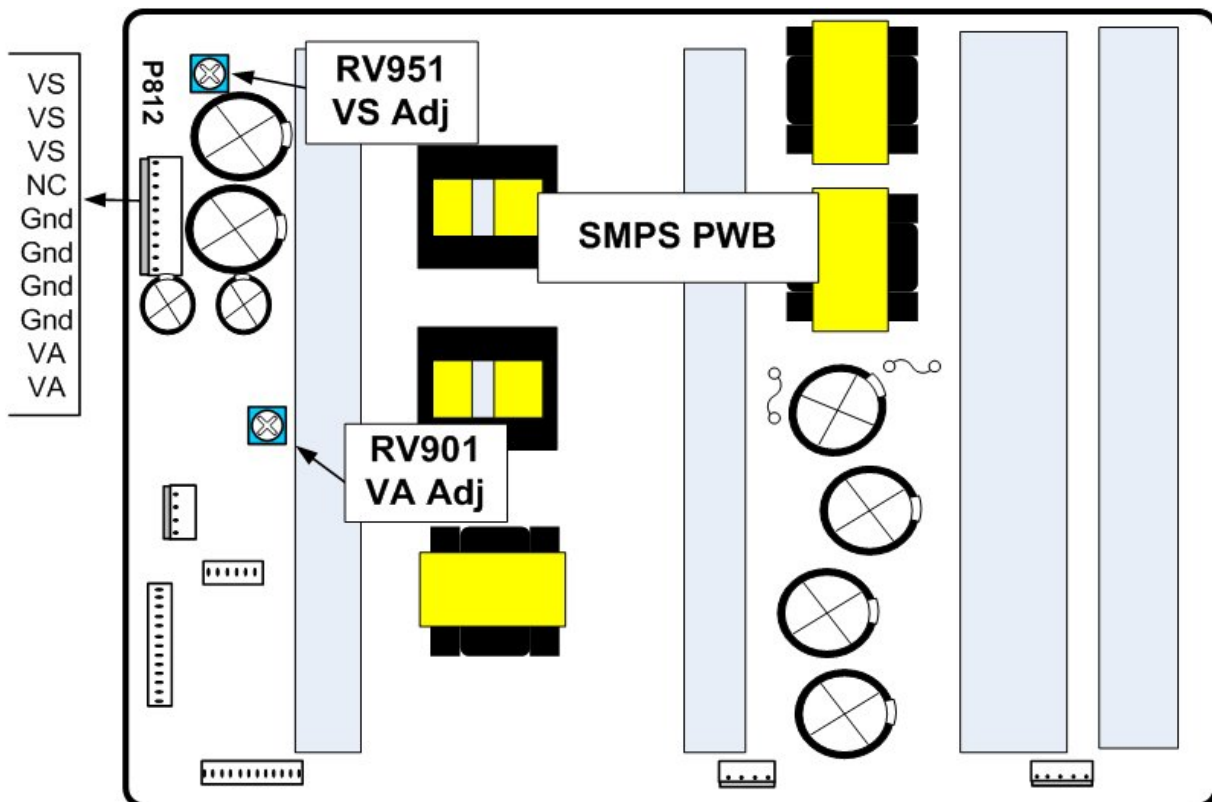
Model : PDP 60X7 ####  
All Voltage : DC 5V  
Va : 60V Vs : 190V  
N.A. / -190 / 115 / N.A. / 100  
Max Watt : 570 W ( Full White )

VA

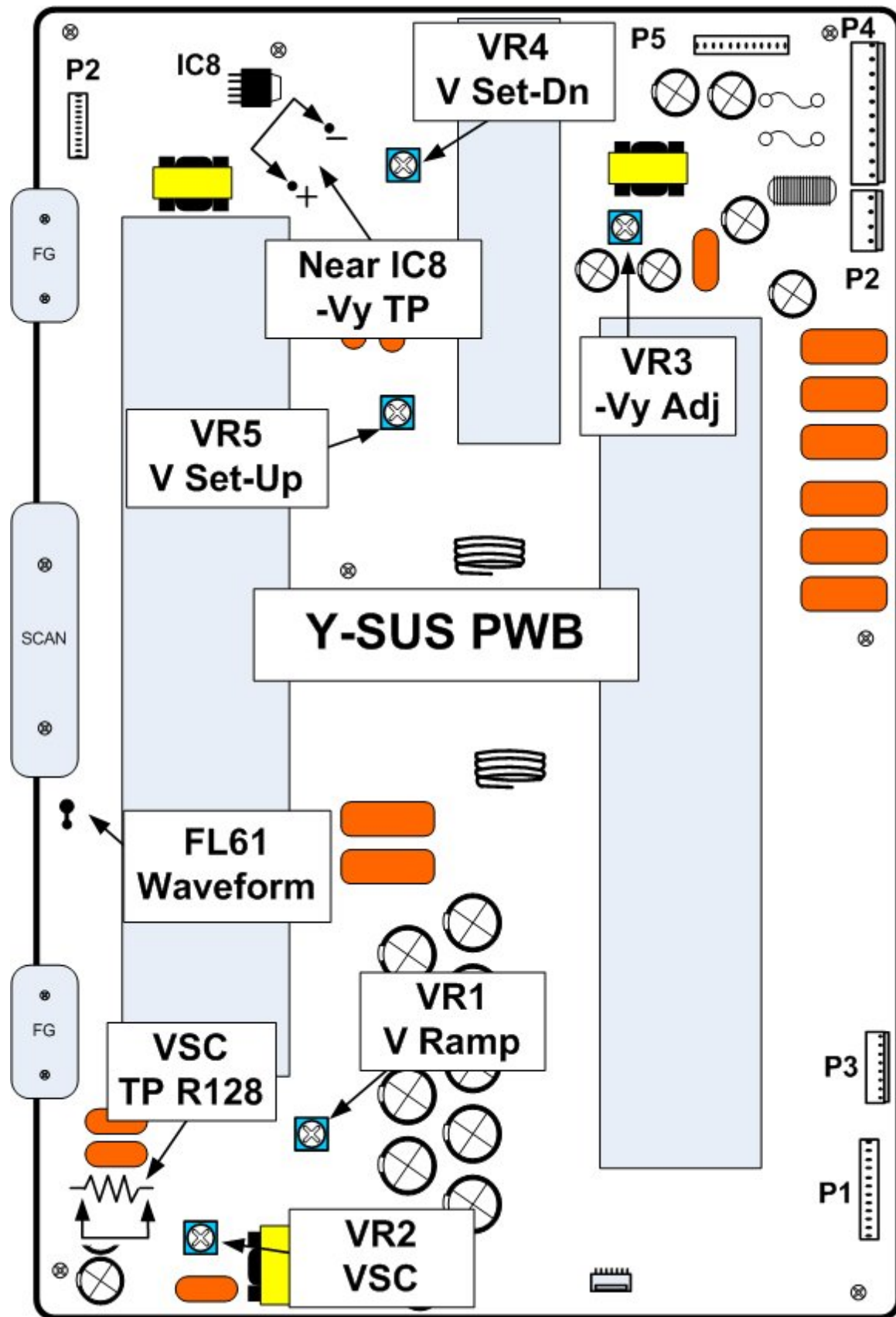
VS

## ADJUSTMENT PROCEDURE:

- 1) **VS ADJUST:** Connect DVM to pin 8, 9 or 10 of P812. Adjust VR951 until the voltage matches the panel's voltage label.
- 2) **VA ADJUST:** Connect DVM to pin 1 or 2 of P812. Adjust VR901 until the voltage matches the panel's voltage label.



# 60X7P Y-SUS PWB ADJUSTMENT POINTS



# 60X7 VSC, -Vy ADJUSTMENTS

## PREPARATION:

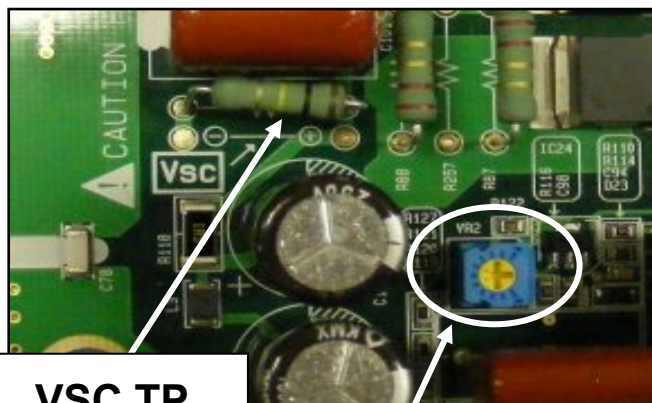
- 1) Pre-Heat unit for at least 10 Minutes before making adjustments.  
Vs and Va adjustments complete.
- 2) Place unit into White Wash from the Customer's Menu for all adjustments.
- 3) **Be sure to use all adjustment values as indicated on your specific panel's voltage label in the upper right of the panel.**

## PROCEDURE: (See figure below for locations)

- 1) Adjust -Vy (VR3). Measured across -Vy TPs (Near IC8).  
Match your specific Panel's Voltage label  $\pm 1V$ .
- 2) Adjust VSC (VR2). Measured across VSC TP R128.  
Match your specific Panel's Voltage label  $\pm 1V$ .

Model : PDP 60X7 ####  
All Voltage : DC 5V  
Va : 60V Vs : 190V  
N.A. / -190 / 115 / N.A. / 100  
Max Watt : 570 W ( Full White )

-Vy VSC

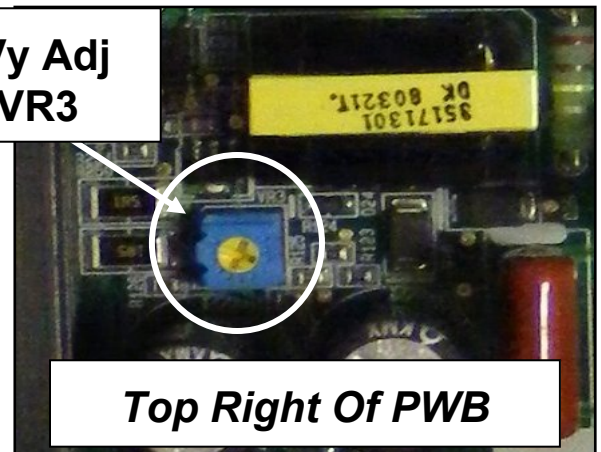


VSC TP  
R128

VSC Adj  
VR2

*Lower Left Side  
Of PWB*

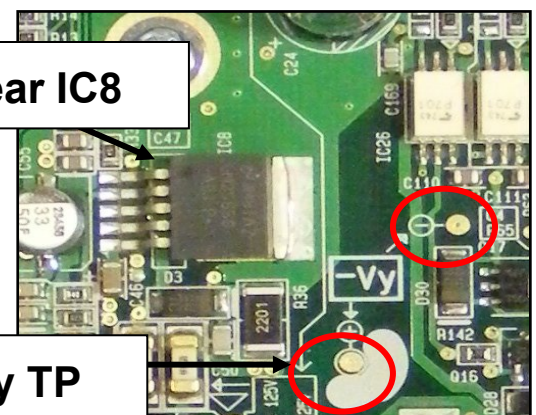
-Vy Adj  
VR3



*Top Right Of PWB*

Near IC8

-Vy TP



*Top Center Of PWB*

## 60X7 Y Drive Waveform Test Point

Two pages back show the Y-SUS PWB

Figure Below:

Shows a close-up image of the Y-Drive waveform test point on the Y-SUS PWB. TP FL61

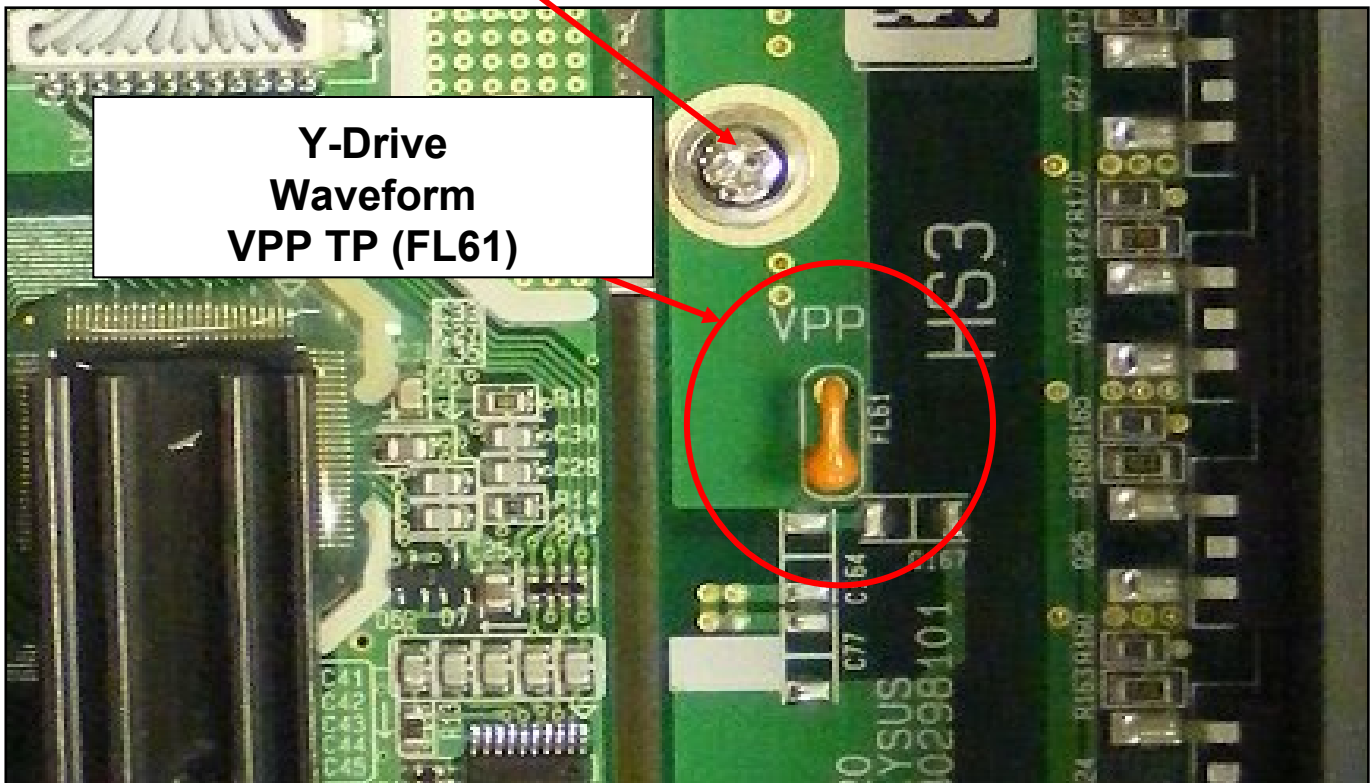
Ramp (Ramp-Up), Set-Down and V Set-Up portions of the waveform are adjusted using this TP.

### TP LOCATION

(See next page for adjustment locations)

Scan Signal

Y-Drive  
Waveform  
VPP TP (FL61)



Y-Drive  
Lower PWB

Y-SUS PWB  
Center Left



# 60X7 Y-DRIVE WAVEFORM ADJUSTMENTS

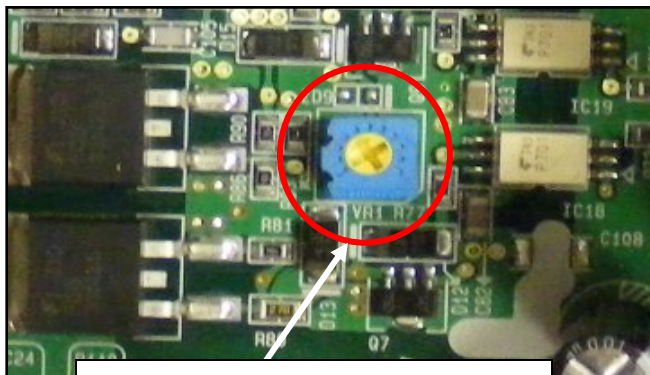
## PREPARATION:

- 1) Pre-Heat unit for at least 10 Minutes before making adjustments.  
Vs, Va, -Vy and VSC adjustments should be completed.
- 2) Place unit into White Wash from the Customer's Menu for all adjustments.
- 3) **Be sure to use all adjustment values as indicated on the panel voltage label on the panel.**

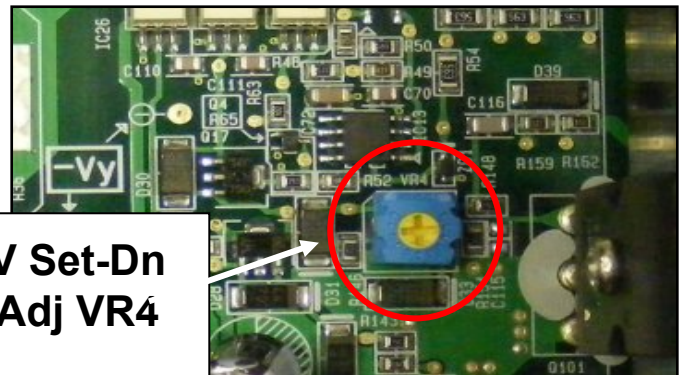
See figure below for Y-Drive waveform adjustment locations

See Next page for adjustment specifications.

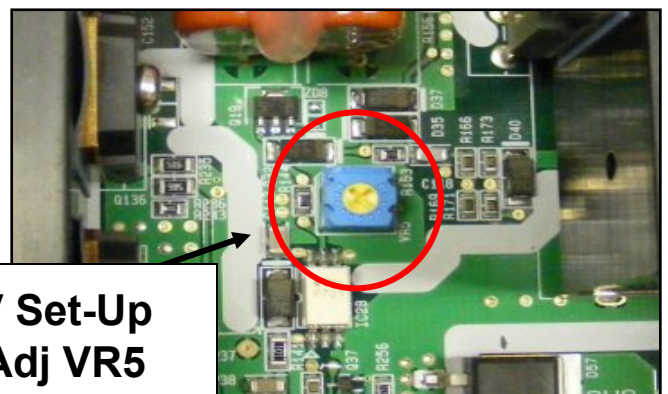
## ADJUSTMENT LOCATIONS (See preceding page for TP location)



**Ramp Up ADJ VR1**



**V Set-Dn  
Adj VR4**



**V Set-Up  
Adj VR5**

*Lower Left Side Of PWB*

# 60X7 Y-Drive Waveform Adjustment

Using a Full White Raster, adjust the Y-Set-up, Ramp and Set-dn section of the Y-Drive waveform.

VS, VA, -Vy and VSC should have been adjusted.

Oscilloscope TP on the “Y Drive Waveform” VPP TP (FL61) on the Y-SUS PWB.

## V RAMP ADJUSTMENT:

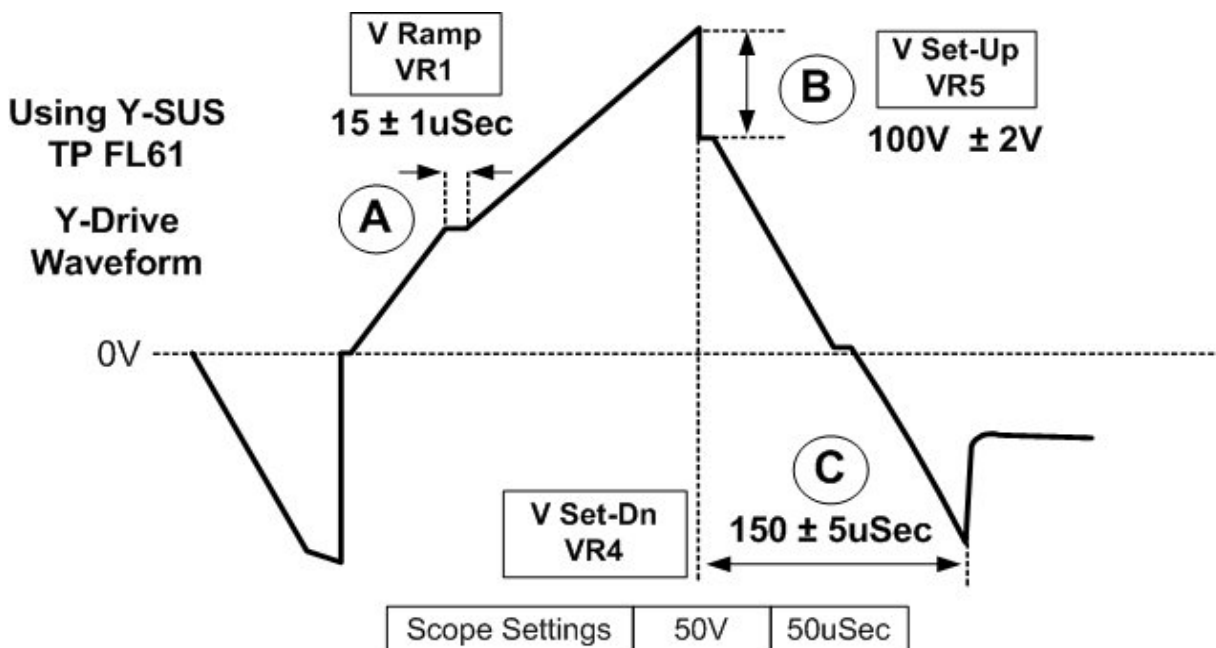
Adjust VR1 while observing area (A) and set the flat portion to  $10\mu\text{Sec} \pm 1\mu\text{Sec}$ .

## V SET-UP ADJUSTMENT:

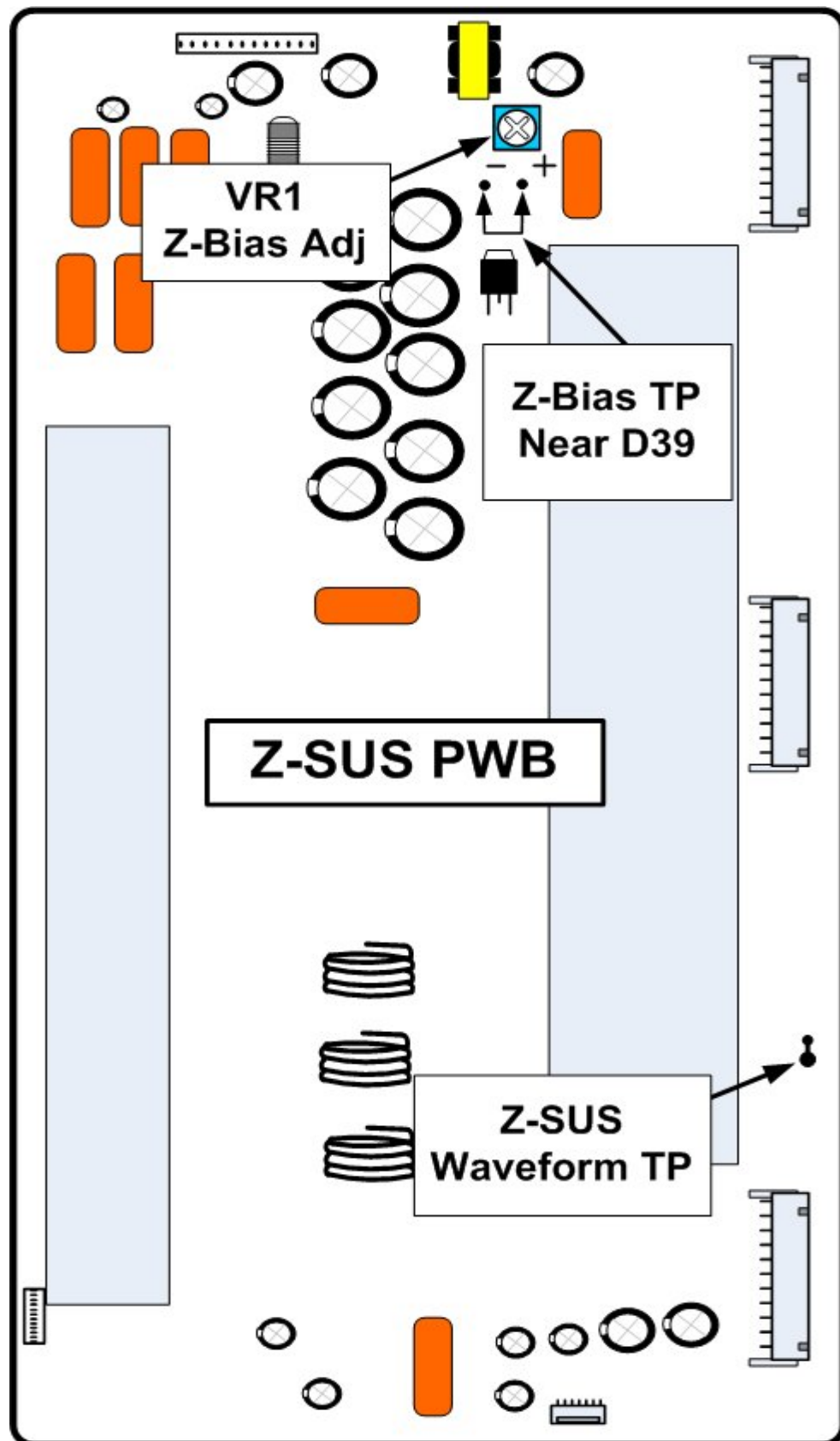
Adjust VR5 while observing area (B) and set to  $100\text{V} \pm 2\text{V}$ .

## SET-DOWN ADJUSTMENT:

Adjust VR4 while observing area (C) and set to  $150\mu\text{Sec} \pm 5\mu\text{Sec}$ .



# 60X7P Z-SUS PWB ADJUSTMENT POINTS



# 60X7P Z-SUS (Z-Bias) ADJUSTMENT:

## PREPARATION:

- 1) Pre-Heat unit for at least 10 Minutes before making adjustments.
- 2) Place unit into White Wash from the Customer's Menu for all adjustments.
- 3) **Be sure to use all adjustment values as indicated on the panel voltage label in the upper right hand corner of the panel.**

## PROCEDURE: (See preceding page for locations)

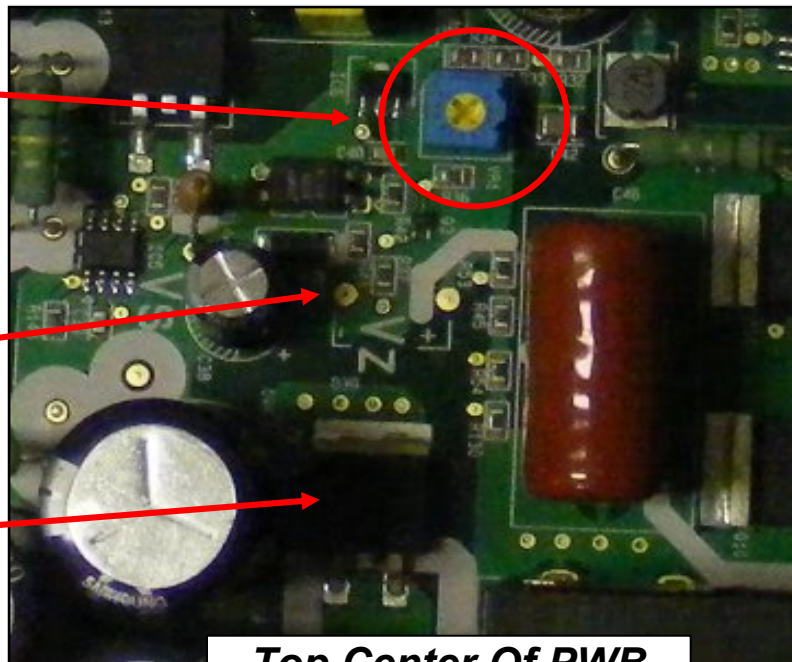
1. Place DC Volt meter across the VZB TP (Near D39).
2. Adjust VZB (Z Bias) VR1 in accordance with the Panel's voltage label.

Model : PDP 60X7 ####  
All Voltage : DC 5V  
Va : 60V Vs : 190V  
N.A. / -190 / 115 / N.A. / **100** → Zbias  
Max Watt : 570 W ( Full White )

Z-Bias  
ADJ  
VR1

Z-Bias TP

D39



*Top Center Of PWB*

# 71H2 PANEL

## QUICK REFERENCE

## ALIGNMENT SECTION

### MODELS USING THE 71H2 PANEL

**71PY1M**



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# 71H2P BOTH SMPS PWBs ADJUSTMENTS

Every adjustment is made in “Full White Raster”

Model : PDP 71H2####  
All Voltage : DC 5V, 15V  
Va : 60V Vs : 190V -Vy : -80V  
VSC : 120V Vset-up : 230V Zbias : 160V  
Max Watt : 900 W (Full White)

5.6V Adjust  
VR601

VA Adjust  
VR501

VS Adjust  
VR401

See procedure on  
next two pages

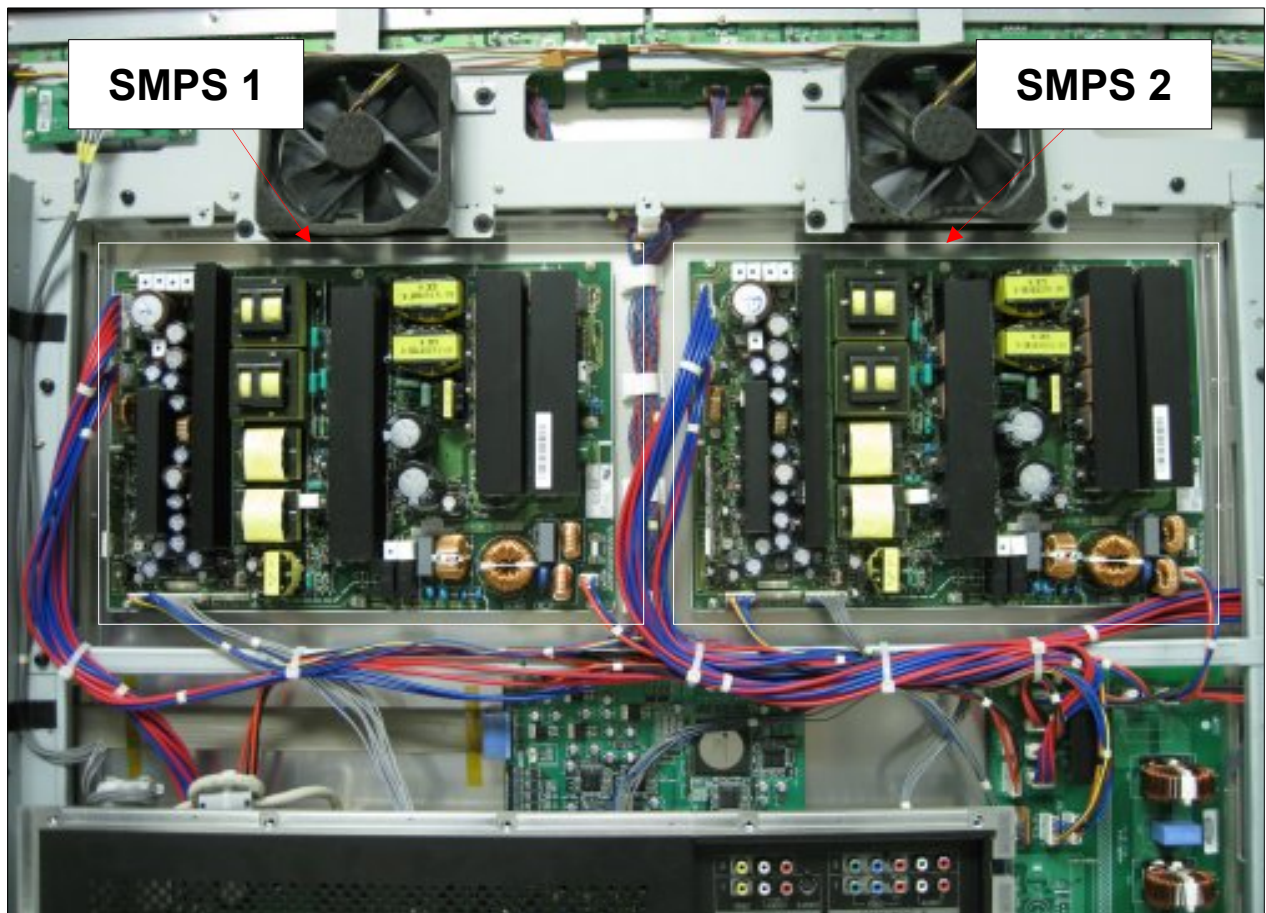
**\*Notice:**  
**5V** must be set to  
**5.6V**

**Special Note:** There are TWO Power Supplies in this set. SMPS adjustments must be done on Both SMPS Boards.

Each Power Supply must be adjusted in accordance to your specific Panel's Voltage Label. (Example shown above.)

**\*Except 5V MUST be adjusted up to 5.6V in stages.**

You should adjust first power supply up to 5.4V, then go to the other and adjust up to 5.4V. Then return to first board and adjust up to 5.6V then go to the other and adjust up to 5.6V.



# 71H2P SMPS PWB (1) ADJUSTMENTS

Set should be in “Full White Raster”

These voltages are adjustable and should be adjusted to the correct values as indicated by the panel label. (Except 5V → 5.6V)

Example label shown on the right.

Model : PDP 71H2####  
All Voltage : DC 5V, 15V  
Va : 60V Vs : 190V -Vy : -80V  
VSC : 120V Vset-up : 230V Zbias : 160V  
Max Watt : 900 W (Full White)

VA Adjust VR501  
VS Adjust VR401

5.6V Adjust VR601

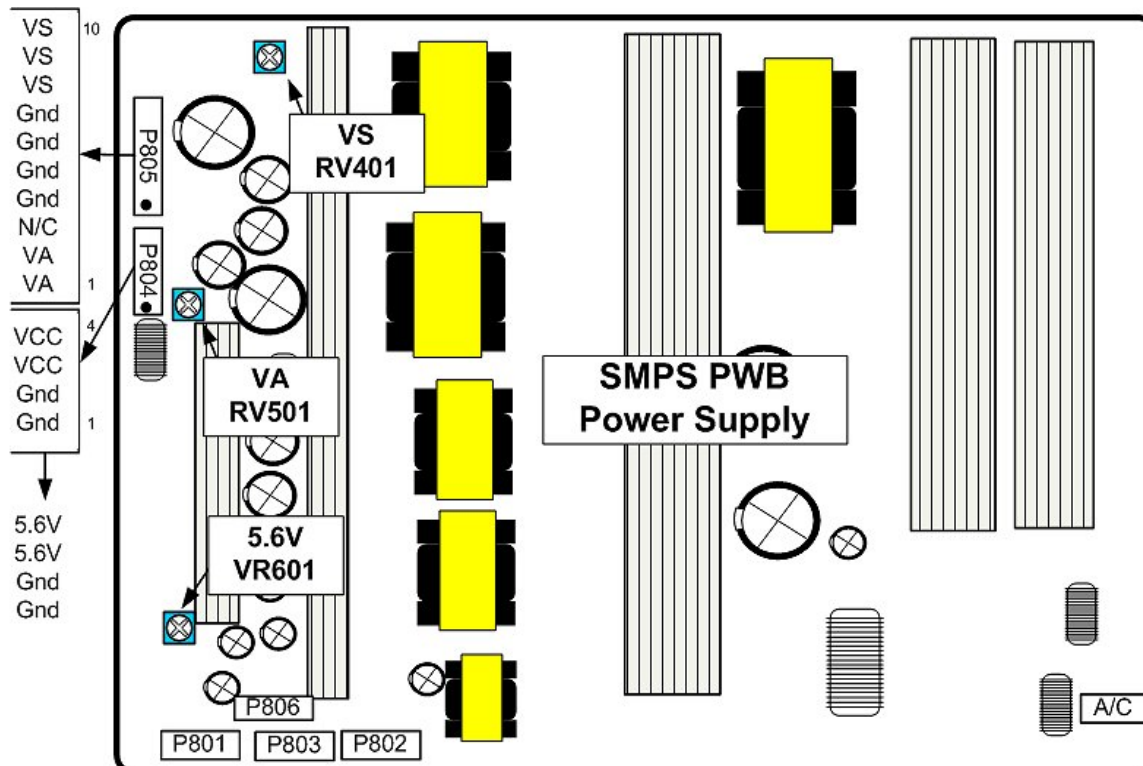
5.6V VCC, VS and VA adjustment resistors are shown in the drawing below. They are located on the left hand side of the board.

**RV601** 5V adjustment pot. (Adjust in stages up to 5.6V)

**RV401** is VS adjustment. **RV501** is VA adjustment.

**PROCEDURE: Must be done on Both SMPS Boards.**

- 1) **VCC ADJUST:** Connect DVM to pin 3 or 4 of P804.  
Adjust VR601 up to 5.4V, then move to other power supply.  
Adjust other SMPS to 5.4V, then go back to first power supply  
and adjust up to 5.6V then go to the other power supply and  
adjust up to 5.6V. Then return to first power supply and continue.
- 2) **VS ADJUST:** Connect DVM to pin 1, 2 or 3 of P805. Adjust RV401 until the voltage matches the panel's voltage label.
- 3) **VA ADJUST:** Connect DVM to pin 9 or 10 of P805. Adjust RV501 until the voltage matches the panel's voltage label.



# 71H2P SMPS PWB (2) ADJUSTMENTS

## Set should be in “Full White Raster”

These voltages are adjustable and should be adjusted to the correct values as indicated by the panel label. (Except 5V → 5.6V)

Example label shown on the right.

Model : PDP 71H2####  
All Voltage : DC 5V, 15V  
Va : 60V Vs : 190V -Vy : -80V  
VSC : 120V Vset-up : 230V Zbias : 160V  
Max Watt : 900 W (Full White)

VA Adjust VR501  
VS Adjust VR401

5.6V Adjust VR601

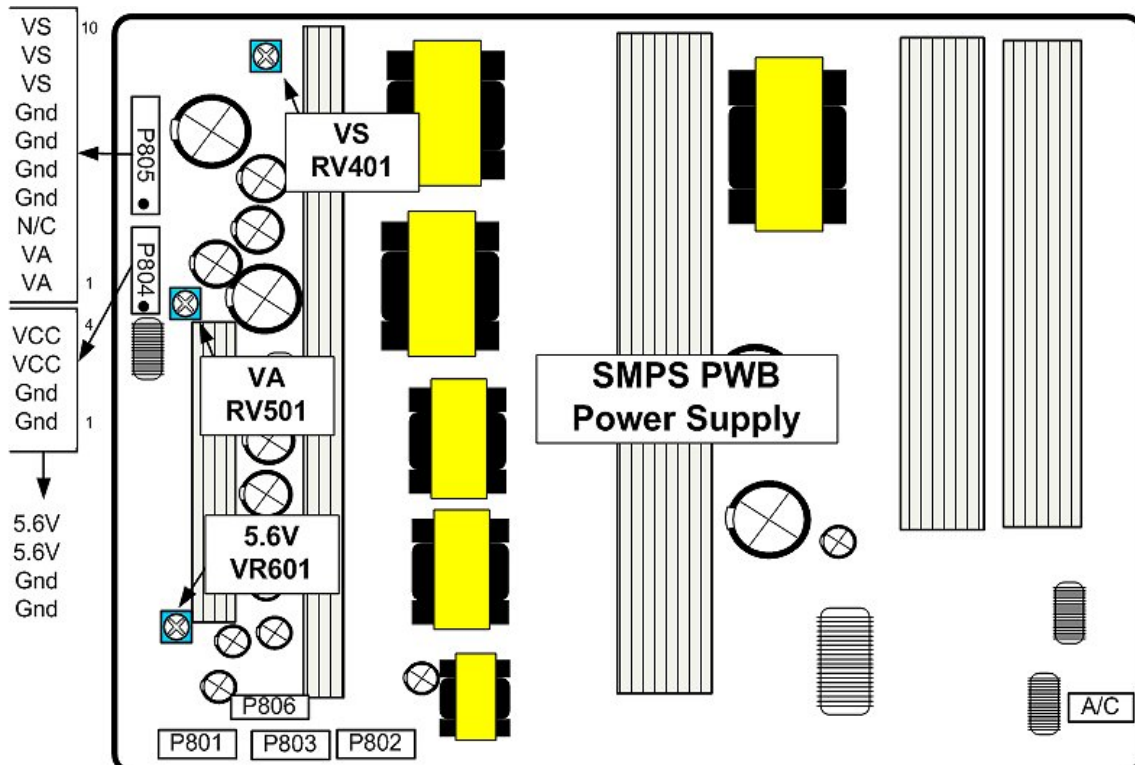
5.6V VCC, VS and VA adjustment resistors are shown in the drawing below. They are located on the left hand side of the board.

**RV601** 5V adjustment pot. (Adjust in stages up to 5.6V)

**RV401** is VS adjustment. **RV501** is VA adjustment.

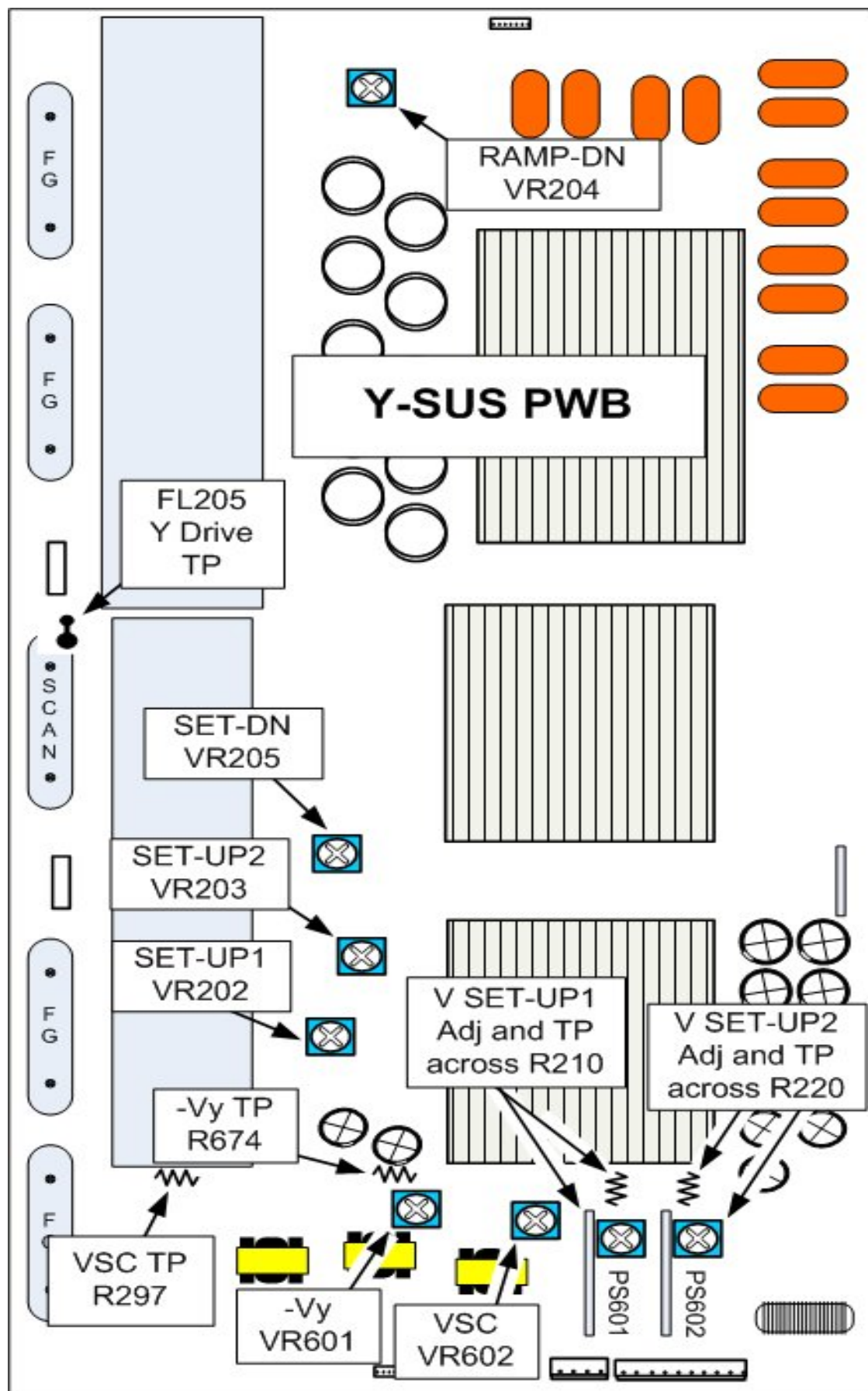
## PROCEDURE: Must be done on Both SMPS Boards.

- 1) **VCC ADJUST:** Note: See previous Power Supply adjustment page. The 5.6V adjustment should already be completed as described on the previous page.
- 2) **VS ADJUST:** Connect DVM to pin 1, 2 or 3 of P805. Adjust RV401 until the voltage matches the panel's voltage label.
- 3) **VA ADJUST:** Connect DVM to pin 9 or 10 of P805. Adjust RV501 until the voltage matches the panel's voltage label.





# 71H2 Y-SUS PWB ADJUSTMENT POINTS



# 71H2 Y-DRIVE ADJUSTMENT TEST POINTS

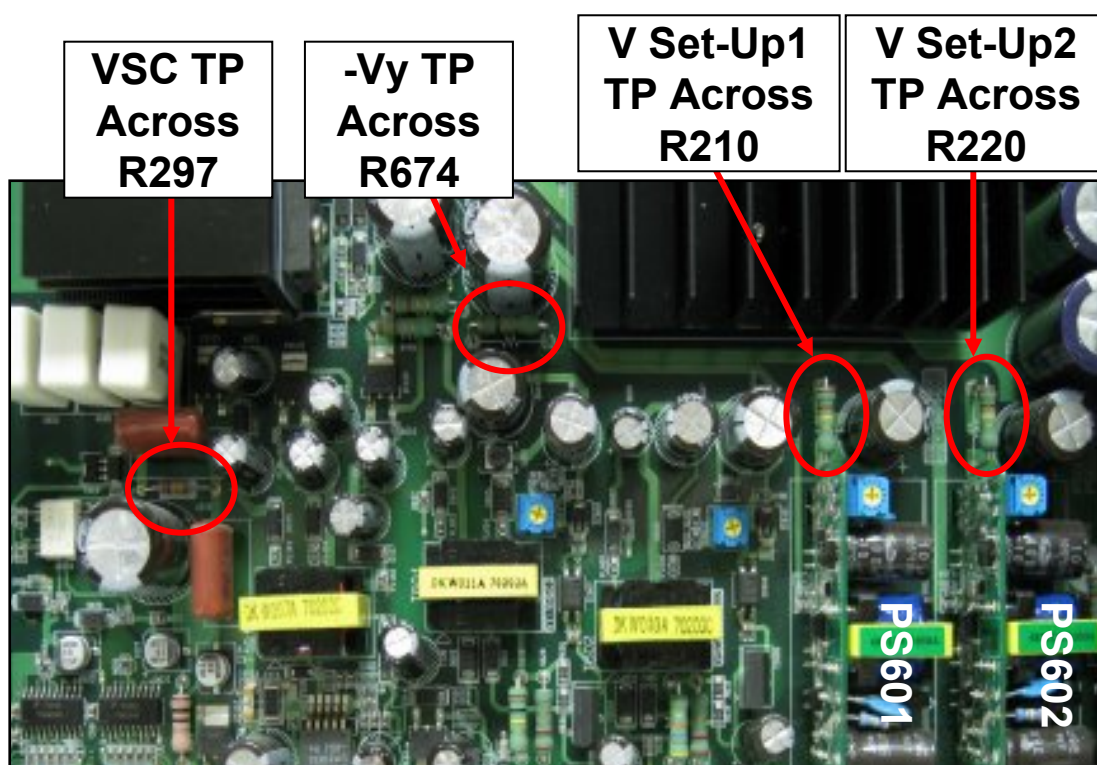
## PREPARATION: (Refer to Y-SUS PWB Layout)

- 1) Pre-Heat unit for at least 10 Minutes before making adjustments.  
VS, VA and 5V adjustments should be completed.
- 2) Place unit into White Wash from the Customer's Menu for all adjustments.
- 3) **Be sure to use all adjustment values as indicated on the panel voltage label on the panel.**

## PROCEDURE: (See figure below for TP locations)

See Next page for adjustment specifications.

### ADJUSTMENT TEST POINT LOCATIONS (See preceding page for TP location)



*Lower Side Of PWB*

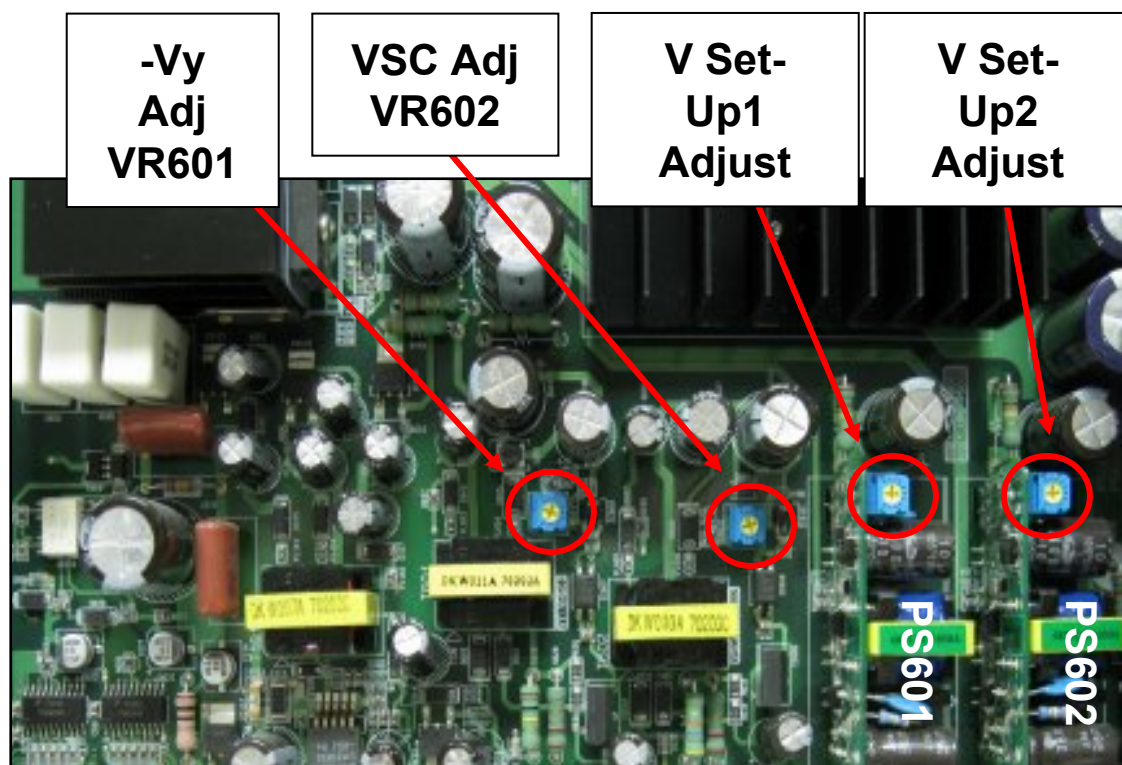
# 71H2 Y-DRIVE ADJUSTMENT LOCATIONS

## PREPARATION: (Refer to Y-SUS PWB Layout)

- 1) Pre-Heat unit for at least 10 Minutes before making adjustments.  
VS, VA and 5V adjustments should be completed.
- 2) Place unit into White Wash from the Customer's Menu for all adjustments.
- 3) **Be sure to use all adjustment values as indicated on the voltage label on your specific panel.**

**LOCATIONS:** See Y-SUS Drawing for locations.  
(See figure below for TP and Adjustment location)

## ADJUSTMENT LOCATIONS (See preceding page for PWB pictorial)



*Lower Side Of Board*



# 71H2 Set-Up 1 and 2, VSC, -Vy ADJUSTMENTS

## PREPARATION:

- 1) Pre-Heat unit for at least 10 Minutes before making adjustments.
- 2) VS, VA and 5V adjustments complete.
- 3) Place unit into White Wash from the Customer's Menu.

## PROCEDURE:

(Match all voltages in accordance with your specific Panel's voltage label.)

Model : PDP 71H2####  
All Voltage : DC 5V, 15V  
Va : 60V Vs : 190V -Vy : -80V  
VSC : 120V Vset-up : 230V Zbias : 160V  
Max Watt : 900 W (Full White)

VSC

V Set-Up

-Vy

**ADJUSTMENTS:** See preceeding two pages for TP and Adjustment locations.

### 1) V Set-Up 1 Adjustment (On PS601).

Measured across V Set-Up1 TP **R210**.

Adjust the variable resistor on the PS601 board and match your panel's voltage label for Vset-up.

### 2) V Set-Up 2 Adjustment (On PS602).

Measured across V Set-Up2 TP **R220**.

Adjust the variable resistor on the PS602 board and match your panel's voltage label for Vset-up.

### 3) VSC Adjustment. Measured across VSC TP **R297**.

Adjust the variable resistor **VR602** and match your specific Panel's voltage label.

### 4) -Vy Adjustment. Measured across VSC TP **R674**.

Adjust the variable resistor **VR601** and match your specific Panel's voltage label.

## 71H2 Y Drive Waveform Test Point

Two pages back show the Y-SUS PWB

Figure Below:

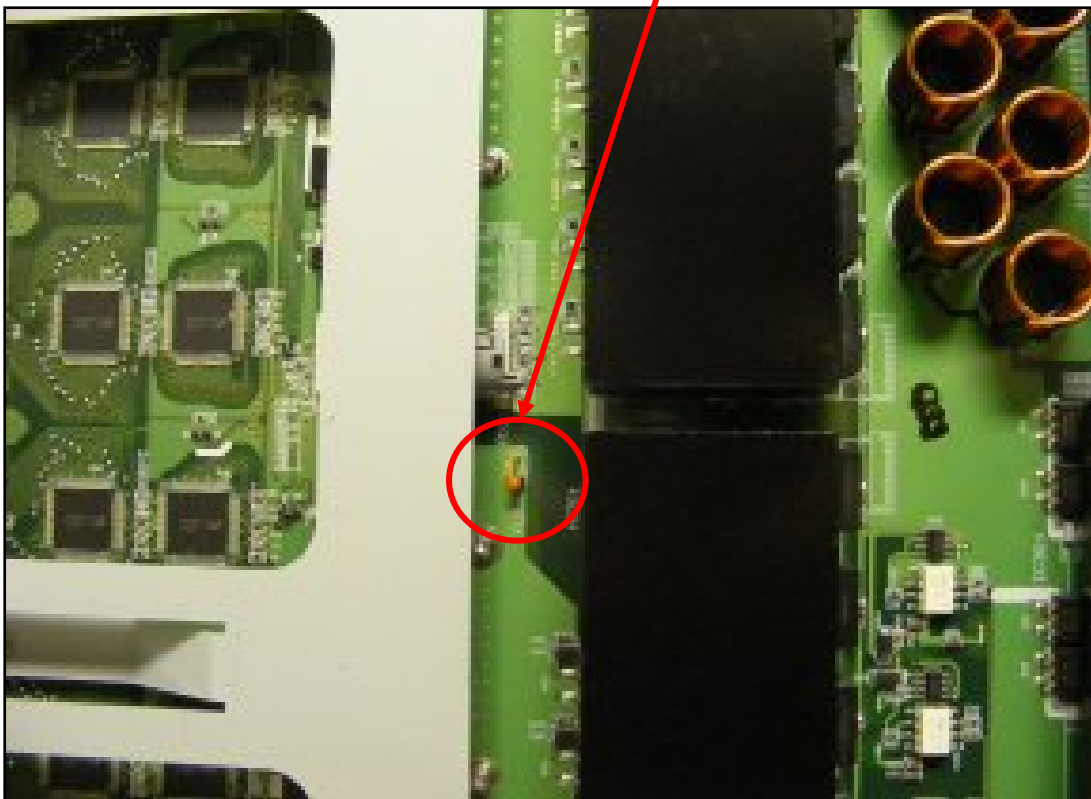
Shows a close-up image of the Y-Drive waveform test point on the Y-SUS PWB. TP **FL205**

V-Set-Up1, V-Set-Up2, Ramp-Dn and Set-Down portions of the waveform are adjusted using this TP.

### TP LOCATION

(See next page for adjustment locations)

Y-Drive  
Waveform TP (FL205)  
V Set-Up and Set-Down



# 71H2 Y-Drive Waveform Adjustment

Using a Full White Raster.

VS, VA, -Vy, Vsetup 1 & 2 DC and VSC should be complete.

**“Waveform” TP (FL205) on the Y-SUS PWB.**

**V SET-UP 1 ADJUSTMENT:** (Using 1<sup>st</sup> pulse after blanking)

Adjust VR202 while observing area (A) in the 1<sup>st</sup> pulse and set the Peak to  $170V \pm 5V$ .

**V SET-UP 2 ADJUSTMENT:** (Using 11<sup>th</sup> pulse after blanking)

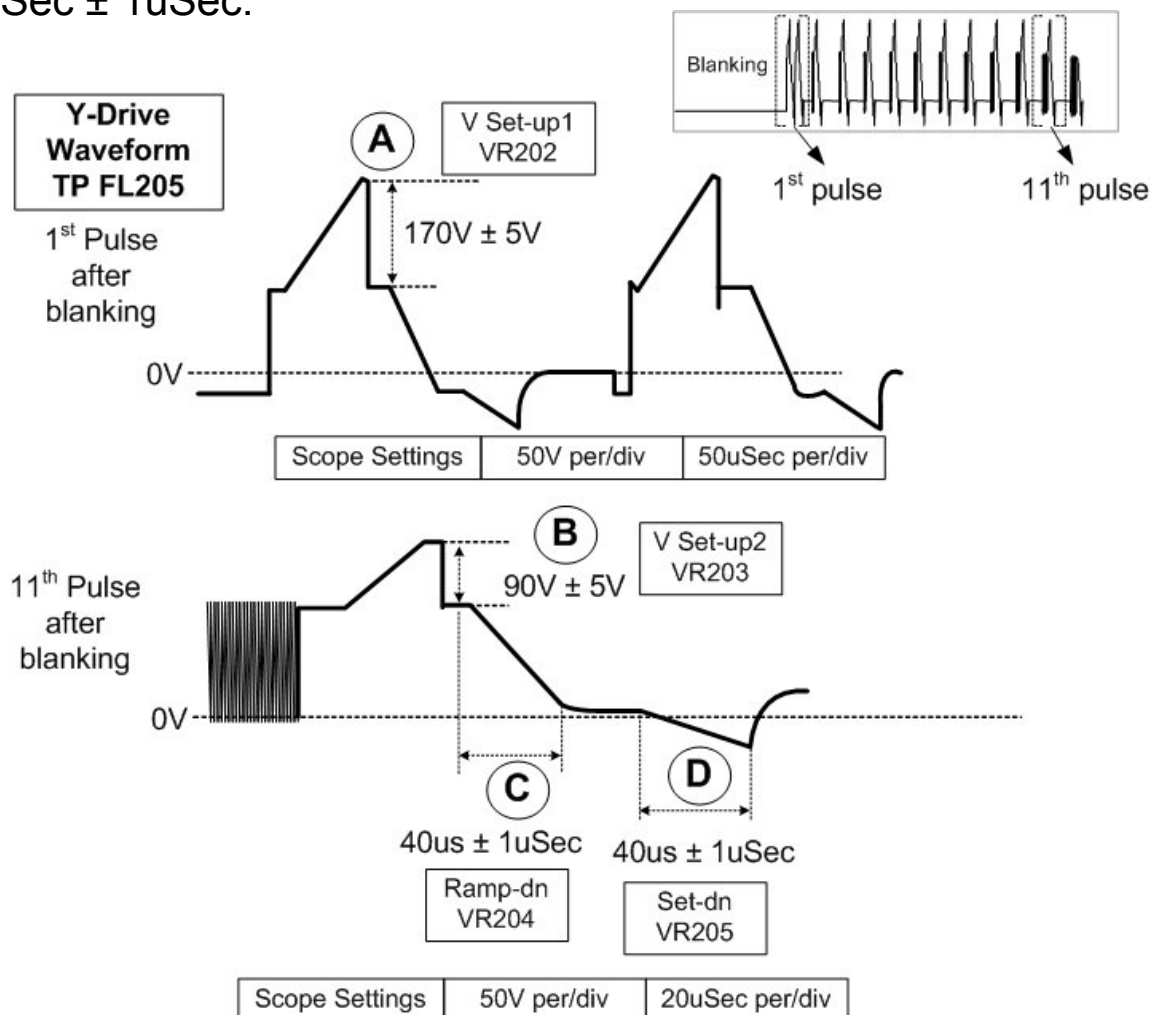
Adjust VR203 while observing area (B) and set the Peak to  $90V \pm 5V$ .

**RAMP-DOWN ADJUSTMENT:** (Using 11<sup>th</sup> pulse after blanking)

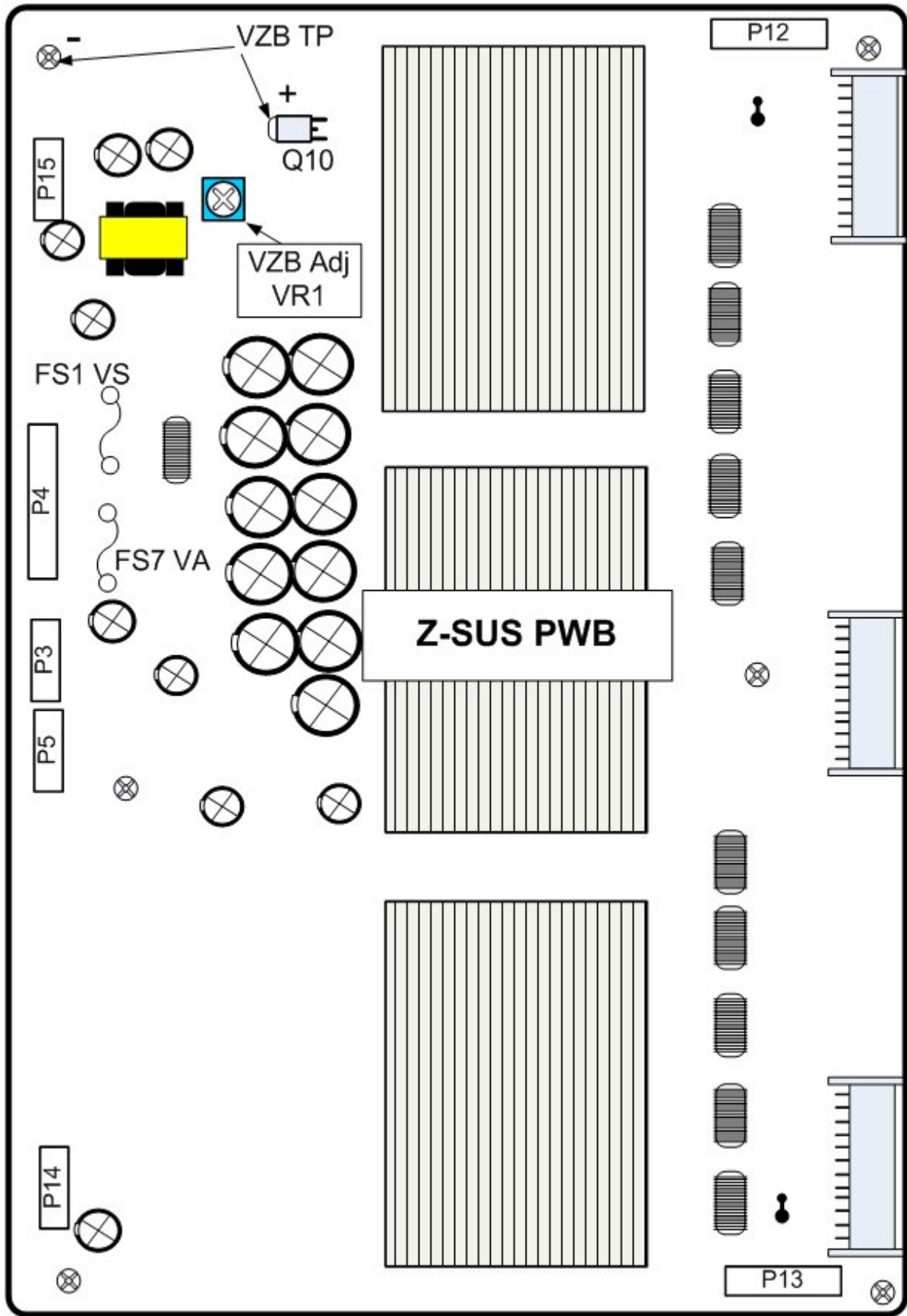
Adjust VR204 while observing area (C) and set to  $40\mu\text{Sec} \pm 1\mu\text{Sec}$ .

**SET-DOWN ADJUSTMENT:** (Using 11<sup>th</sup> pulse after blanking)

Adjust VR205 while observing area (D) and set to  $40\mu\text{Sec} \pm 1\mu\text{Sec}$ .



# 71H2 Z-SUS PWB ADJUSTMENT POINTS



## 71H2 Z-SUS (Z-Bias) ADJUSTMENT:

### PREPARATION:

- 1) Pre-Heat unit for at least 10 Minutes before making adjustments.
- 2) All other adjustments complete.
- 3) Place unit into White Wash from the Customer's Menu.

### PROCEDURE:

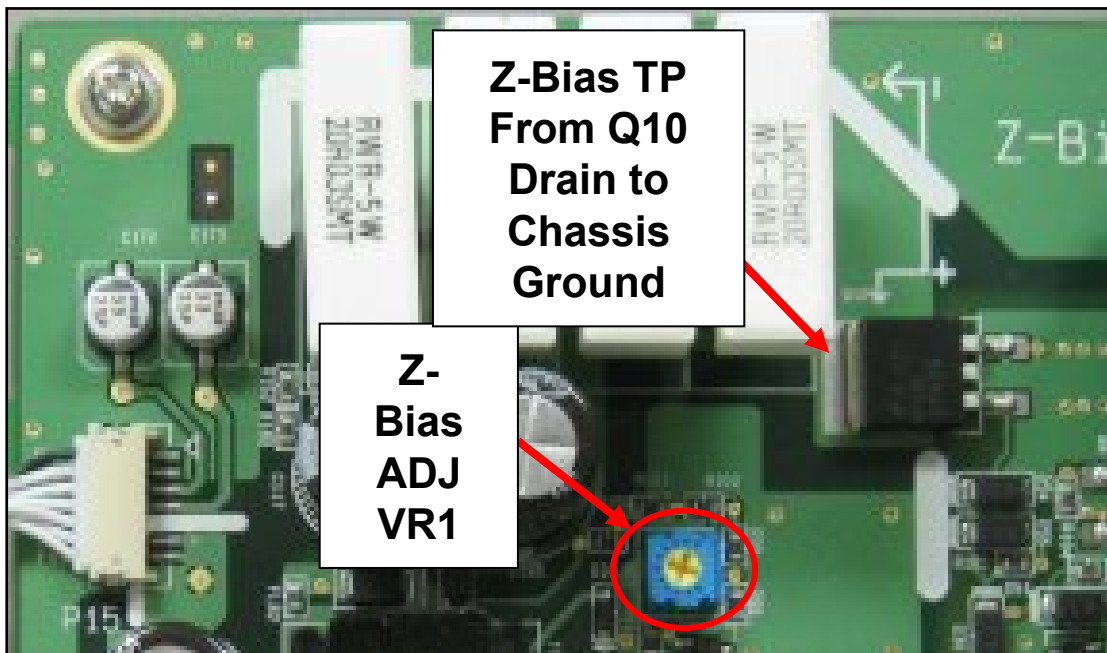
(Match all voltages in accordance with your specific Panel's voltage label.)

Model : PDP 71H2####  
 All Voltage : DC 5V, 15V  
 Va : 60V Vs : 190V -Vy : -80V  
 VSC : 120V Vset-up : 230V **Zbias : 160V**  
 Max Watt : 900 W (Full White)

Z Bias

### PROCEDURE: (See preceding page for PWB Layout)

- 1.) **Z Bias Adjustment.** Measured from the Drain of Q10 to Chassis Ground.  
 Adjust the variable resistor **VR1** and match your specific Panel's voltage label.



*Top Left Side Of PWB*



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