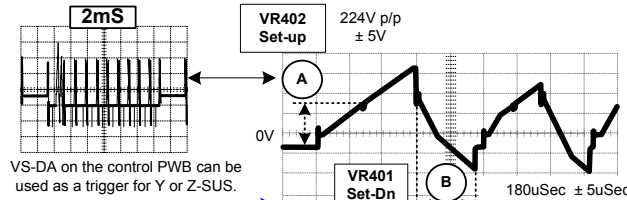


50PJ350 (50T1 Panel) CIRCUIT INTERCONNECT DIAGRAM



VS-DA on the control PWB can be used as a trigger for Y or Z-SUS.

SMPS Stand-Alone Test – Unplug P813 to Main board.
 Use two (100W) light bulbs in series between Vs and Gnd to place a load on the SMPS.
 Apply AC, all voltage should run. To Test the Set without Main board, leave P812 connected. Do not use light bulbs.
 See "Auto Gen" on the Control board to perform a Panel Test.
 If all supplies do not run when A/C is applied, disconnect P812 to isolate the excessive load.

P813 "SMPS" to P301 "Main"

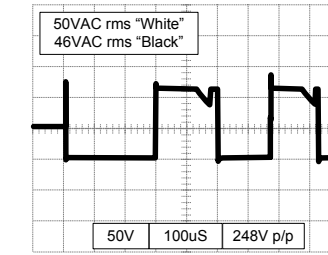
Pin	Label	STBY	Run	No Load	Diode
1-2	16V	0V	17V	17V	3.17V
3-4	Gnd	Gnd	Gnd	Gnd	Gnd
5-7	5V	0.46V	5.17V	5.19V	1.13V
8	Error_Det	2.85V	4.9V	4.9V	3.0V
9-12	Gnd	Gnd	Gnd	Gnd	Gnd
13-14	STBY_5V	3.46V	5.14V	5.19V	2.56V
15	RL_ON	0V	2.43V	0V	Open
16	AC Det	0V	4.44V	4.92V	3.1V
17	M_ON	0V	3.29V	0V	Open
18	Auto_Gnd	Gnd	Gnd	4.84V	Open

P1 "Z-SUS Board" to "Control" P101

Pin	Label	Run	Diode
*1-2	(+15V)	16V	Open
*3-4	(+15V)	16V	Open
5	Gnd	Gnd	Gnd
6	Y_OE	0.058V	Open
7	ZBIAS	1.83V	2.82V
8	Slope_Ctl	0.086V	2.82V
9	Z_ER	0.14V	2.82V
10	ZSUS_DN	0.77V	2.82V
11	ZSUS_UP	0.17V	2.82V
12	Gnd	Gnd	Gnd

P2 "Z-SUS" to "Y-SUS" P111

Pin	Diode
1-2	Gnd
3	n/c
4-5	Open
6	n/c
7-11	Open



Connect Scope between Waveform TP J36 on Z board and Gnd. Use RMS information just to check for board activity.
 VS-DA on the control PWB can be used as a trigger for Y or Z-SUS.

Step 1: RL_On command turns on the 17V, +5V, AC-Det and Error_Det. If Missing, the set will Shut Off after 10 Seconds. Error_Det. is not used by the Main.

Step 2: M5 On command Turns on M5V, then Va, then Vs.

WARNING: Remove upper Y-DRIVE Board completely if P110 or P204 is removed.

P211 "Y-SUS" to "Z-SUS" P2

Pin	Label	Run	Diode
1-2	Gnd	Gnd	Gnd
3	n/c	n/c	n/c
4-5	+Vs	*206V	Open
6	n/c	n/c	n/c
7-11	ER_PASS	98V-102V	Open

P210 "Y-SUS" to "SMPS" P812

Pin	Label	Run	P210 Diode	P812 Diode
1-2	VS	*195V	Open	Open
3	n/c	n/c	n/c	n/c
4-5	Gnd	Gnd	Gnd	Gnd
6-7	VA	*60V	Open	Open
8	Gnd	Gnd	Gnd	Gnd
9-10	M5V	5.1V	1.19V	2.1V

^a Note: The RL_On turns on +5V, 17V Error Det. and AC_DET.
^b Note: The M5-On command turns on M5V, Va and Vs.
^c Note: The Error Det line is not used in this model.
^d Note: If the AC Det line is Missing, the TV will turn off in 10 Seconds.
^e Note: Pin 18 is grounded on the Main. If opened, the power supply turns on automatically.

P101 Connector "Control" to "Z-SUS Board" P1

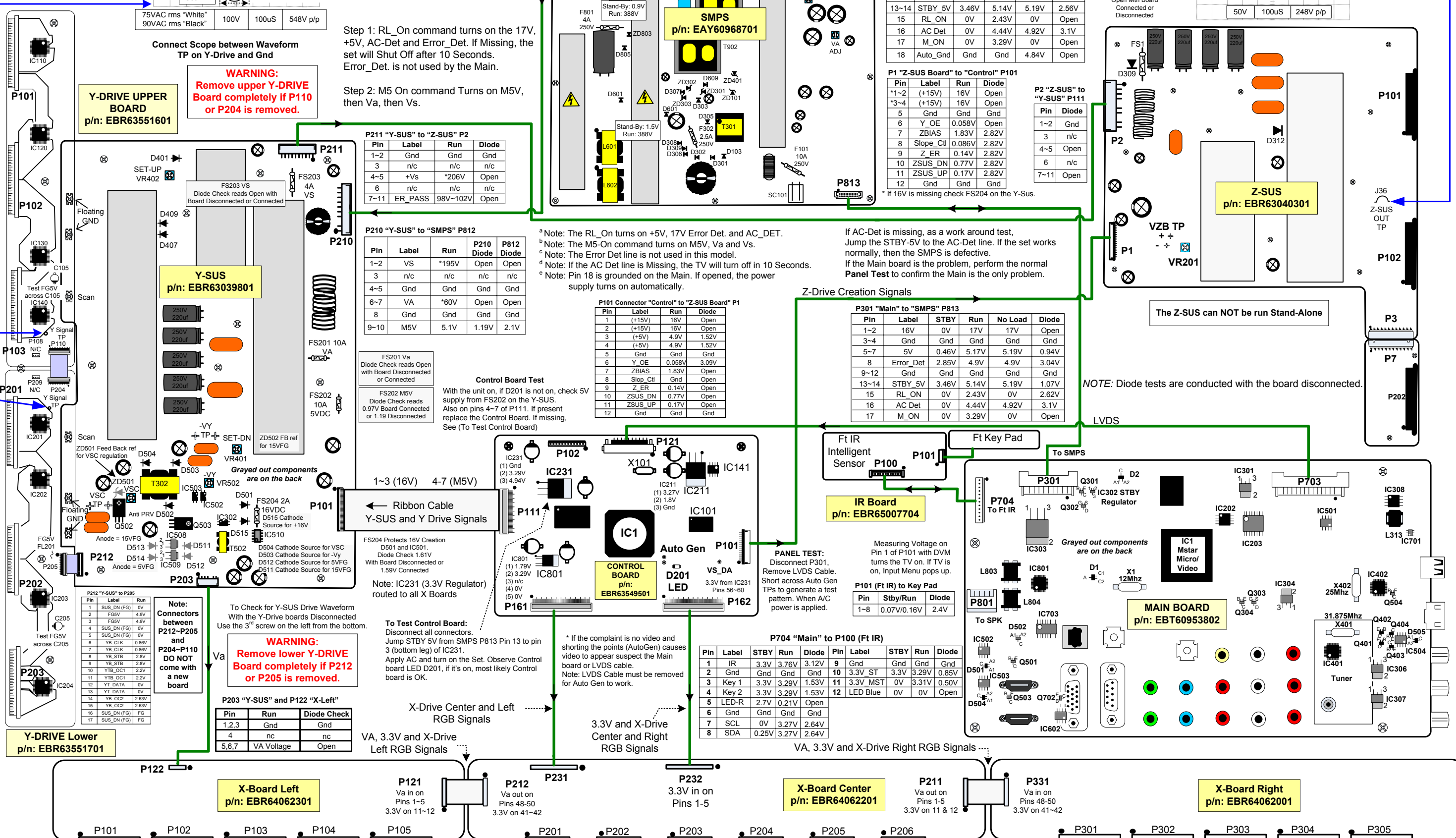
Pin	Label	Run	Diode
1	(+15V)	16V	Open
2	(+15V)	16V	Open
3	(+5V)	4.9V	1.52V
4	(+5V)	4.9V	1.52V
5	Gnd	Gnd	Gnd
6	Y_OE	0.058V	3.09V
7	ZBIAS	1.83V	Open
8	Slope_Ctl	Gnd	Open
9	Z_ER	0.14V	Open
10	ZSUS_DN	0.77V	Open
11	ZSUS_UP	0.17V	Open
12	Gnd	Gnd	Gnd

P301 "Main" to "SMPS" P813

Pin	Label	STBY	Run	No Load	Diode
1-2	16V	0V	17V	17V	Open
3-4	Gnd	Gnd	Gnd	Gnd	Gnd
5-7	5V	0.46V	5.17V	5.19V	0.94V
8	Error_Det	2.85V	4.9V	4.9V	3.04V
9-12	Gnd	Gnd	Gnd	Gnd	Gnd
13-14	STBY_5V	3.46V	5.14V	5.19V	1.07V
15	RL_ON	0V	2.43V	0V	2.62V
16	AC Det	0V	4.44V	4.92V	3.1V
17	M_ON	0V	3.29V	0V	Open

NOTE: Diode tests are conducted with the board disconnected.

The Z-SUS can NOT be run Stand-Alone



P212 "Y-SUS" to P205

Pin	Label	Run
1	SUS_DN (FG)	0V
2	FGSV	4.9V
3	FGSV	4.9V
4	SUS_DN (FG)	0V
5	SUS_DN (FG)	0V
6	YB_CLK	0.86V
7	YB_CLK	0.86V
8	YB_STB	2.8V
9	YB_STB	2.8V
10	YTB_OC1	2.2V
11	YTB_OC1	2.2V
12	YTB_DATA	0V
13	YTB_DATA	0V
14	YB_OC2	2.63V
15	YB_OC2	2.63V
16	SUS_DN (FG)	FG
17	SUS_DN (FG)	FG

P203 "Y-SUS" and P122 "X-Left"

Pin	Run	Diode Check
1,2,3	Gnd	Gnd
4	nc	nc
5,6,7	VA Voltage	Open

X-Board Left
 p/n: EBR64062301

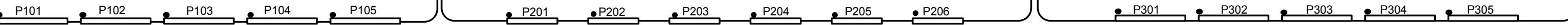
Pin	Run	Diode Check
1,2,3	Gnd	Gnd
4	nc	nc
5,6,7	VA Voltage	Open

X-Board Center
 p/n: EBR64062201

Pin	Run	Diode Check
1,2,3	Gnd	Gnd
4	nc	nc
5,6,7	VA Voltage	Open

X-Board Right
 p/n: EBR64062001

Pin	Run	Diode Check
1,2,3	Gnd	Gnd
4	nc	nc
5,6,7	VA Voltage	Open



50PJ350 Main Board (Front Side) Component Voltages

IC202 7V (to IC405)

Pin Regulator
 [1] Gnd
 [2] Gnd
 [3] Gnd
 [4] Gnd
 [5] 3.3V
 [6] 3.3V
 [7] Gnd
 [8] 3.3V

IC308 1.3V_VDDC

Pin Regulator
 [1] Do not measure
 [2] Gnd
 [3] 5.04V
 [4] 6.07V
 [5] 4.99V
 [6] 1.28V
 [7] 1.28V
 [8] 4.27V

Use scope:
 Pin 1: 1.4~1.7V P/P
 Using DVM, set
 shuts off.

Use scope:
 Pin 8: 600mV P/P
 Using DVM, set
 shuts off.

Q401 Tuner CVBS Pin Buffer (Analog)

[B] 1.19V
 [E] 1.86V
 [C] Gnd

Q402 IF_P Buffer Pin (Digital)

[B] 1.18V
 [E] 1.18V
 [C] Gnd

Q403 Tuner SIF Pin Buffer (Digital)

[B] 1.32V
 [E] 1.99V
 [C] Gnd

Q404 IF_N Buffer Pin (Digital)

[B] 1.32V
 [E] 1.99V
 [C] Gnd

Q502 HDMI CEC Pin Buffer

[1 B] Gnd
 [2 S] 3.18V
 [3 D] 3.29V
 [4 G] 3.3V

D1 Reset Pin Speed Up

[A1] Gnd
 [A] 0V
 [A2] Gnd

D2 LED-R Pin Routing

[A1] 0V
 [C] 0.13V
 [A2] 0.28V

D501 B+ Routing Pin to IC502

[A1] 0V
 [A] 4.54V
 [A2] 5.0V

D504 B+ Routing Pin to IC504

[A1] 0V
 [A] 4.54V
 [A2] 5.0V

D505 B+ Routing Pin to IC503

[A1] 0V
 [A] 4.54V
 [A2] 5.0V

50PJ350 Main Board (Back Side) Component Voltages

IC203 Winbond Serial Pin Flash

[1] 0V
 [2] 3.30V
 [3] n/c
 [4] n/c
 [5] n/c
 [6] n/c
 [7] 0V
 [8] 3.3V
 [9] 0V
 [10] Gnd
 [11] n/c
 [12] n/c
 [13] n/c
 [14] n/c
 [15] 0V
 [16] 0V

IC301 1.8V_MST Pin Regulator

[1] 0.6V
 [2] 1.85V (Out)
 [3] 3.3V (In)

IC302 3.3V_VST Pin Regulator

[1] Gnd
 [2] 3.3V (Out)
 [3] 5.09V (In)

IC303 3.3V_MST Pin Regulator

[1] Gnd
 [2] 3.3V (Out)
 [3] 5.04V (In)

IC304 1.2V_DVDD Reg Pin Dig Ch Only

[1] Gnd
 [2] 1.2V (Out)
 [3] 3.3V (In)

IC306 3.3V_TU Pin Regulator

[1] Gnd
 [2] 3.3V (Out)
 [3] 4.97V (In)

IC307 1.8V_TU Pin Regulator

[1] Gnd
 [2] 1.8V (Out)
 [3] 3.3V (In)

IC501 HDCP Data Pin EEPROM

[1] Gnd
 [2] Gnd
 [3] 3.3V
 [4] Gnd
 [5] 3.3V
 [6] 3.3V
 [7] 3.3V
 [8] 3.3V

IC502 IC503, IC504 EDID Data Pin For HDMI

[1] Gnd
 [2] Gnd
 [3] Gnd
 [4] Gnd
 [5] 4.52V
 [6] 4.52V
 [7] 3.33V
 [8] 4.53V

IC602 RGB Pin EEPROM

[1] Gnd
 [2] Gnd
 [3] Gnd
 [4] Gnd
 [5] 5.09V
 [6] 5.09V
 [7] 3.33V
 [8] 5.09V

IC701 USB 5V Pin Limiter

[1] 4.97V (In)
 [2] Gnd
 [3] 3.3V (Enable)
 [4] 0V
 [5] 0V
 [6] 4.97V (Out)

IC703 RS232 Tx/Rx Pin

[1] 3.3V
 [2] 5.45V
 [3] 0V
 [4] 0V
 [5] (-5.37V)
 [6] (-5.4V)
 [7] (-5.4V)
 [8] 0V
 [9] 3.3V
 [10] 3.3V
 [11] n/c
 [12] n/c
 [13] 0V
 [14] 5.45V
 [15] Gnd
 [16] 3.3V (B+)

Q301 Driver for 5V_MST Pin Switch Q302

[B] 0.6V
 [C] 0V
 [E] Gnd

Q302 5V_MST Pin Switch

[G] 0V
 [S] 5.09V
 [D] 5.04V

Q303 3.3V_PVSB Sw Pin Dig Ch Only

[G] 0V
 [S] 3.3V
 [D] 3.3V

Q304 Driver for 3.3V_PVSB Pin Switch Q303

[B] 0.64V
 [C] 0V
 [E] Gnd

Q501, Q503

Hot Swap
 Pin Switch for HDMI
 [B] 0V
 [C] 0V
 [E] Gnd

Q702 RS232 Pin Tx Buffer

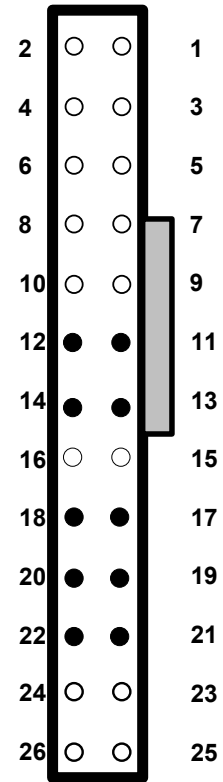
[B] 0.6V
 [C] 0V
 [E] Gnd

D502 HDMI CEC Limiter Pin

[A1] 0V
 [A2] 3.28V
 [C] 3.1V

Connector P703 Configuration

● - indicates signal pins.



15 and 16
Is the Video Clock and
Data lines

