HITACHI

SERVICE MANUAL

NTSC

PT2E/G AVC1-U Chassis

PA **No. 0159**

32HDT20M: PT2-E Chassis
42HDT20M: PT2-G Chassis
AVC20: AVC1-U Chassis

R/C: CLU-5723TSI

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CAUTION: These servicing instructions are for use by qualified service personnel only. To reduce the risk of electric shock do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so. Before servicing this chassis, it is important that the service technician read the “IMPORTANT SAFETY INSTRUCTIONS” in this service manual.

SAFETY NOTICE
USE ISOLATION TRANSFORMER WHEN SERVICING

Components having special safety characteristics are identified by a ⚠ on the schematics and on the parts list in this Service Data and its supplements and bulletins. Before servicing the chassis, it is important that the service technician read and follow the “Important Safety Instructions” in this Service Manual.

SPECIFICATIONS AND PARTS ARE SUBJECT TO CHANGE FOR IMPROVEMENT

PLASMA DISPLAY PANEL

MAY 2002 **HHEA-MANUFACTURING DIVISION**

1. ADJUSTMENT PROCEDURE START-UP

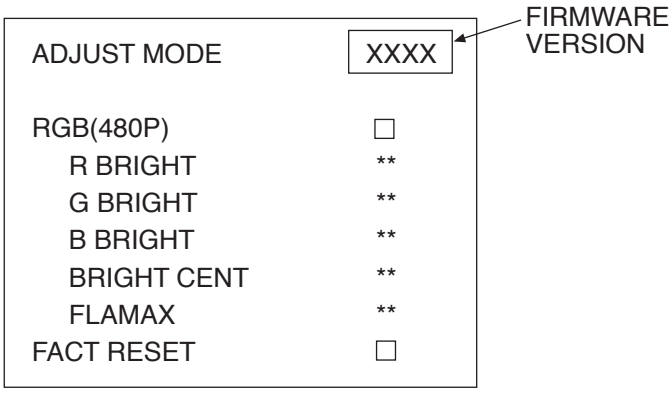
The 32/42HDT20 PDP TV set, undergoes through adjustment procedures during its assembly process. These adjustments must be done to assure the best performance of the PDP set for the consumer.

Also, after servicing, these same adjustments must be done. The adjustments are all made through the I^2C bus by changing data in the Adjustment mode menu.

Table 1 shows the complete parameter list with a brief description, signal format, the adjustment range, the initial data and the average adjustment values for the parameters that must be adjusted.

1-1 HOW TO GET TO ADJUSTMENT MODE

Chassis adjustment can be done by using the AVC20 front control panel buttons with PDP set turned off. Press “POWER” and “INPUT” keys at the same time, and hold for more than 3 seconds. Release the “POWER” button first and then immediately the “INPUT” button. The PDP set turns on in adjustment mode with OSD as follows.



To escape from Adjustment Mode press “INPUT” key to exit service adjustment mode.
Table 1 can be found on the next pages.

BACK TO ADJUSTMENTS

Table 1 - Adjustment Mode codes and data (1 of 14)

ADJUSTMENT MODE	ADJUSTMENT ITEM		ADJUSTMENT RANGE (HEX)	INITIAL DATA (HEX)	ADJUST VALUE (HEX)
RGB					
R BRIGHT	Red Brightness Adjustment	480p	FF	5A	
		720p			
		PC		5A	
G BRIGHT	Green Brightness Adjustment	480p	FF	5A	
		720p			
		PC		5A	
B BRIGHT	Blue Brightness Adjustment	480p	FF	5A	
		720p			
		PC		5A	
BRIGHT CENT	Brightness Center	480p	FF	50	53
		720p	FF	50	53
		PC	FF	50	4E
FLAMAX	White Level Setting (FLAMAX)	480p	3F	26	3F
		720p			
		PC			
SUB TINT (TA1340F Main, TA1340F Sub)					
SUB TINT	Sub Tint Control (Main TV) 0:MIN (-7 deg) F:MAX (+7 deg)		0F	07	
SUB CONTRAST(M)	Sub Contrast Control (Main TV) 00:MIN (-3db) 1F:MAX (+3db)		1F		0B*
SUB CONTRAST(S)	Sub Contrast Control (Sub TV) 00:MIN (-3db) 1F:MAX (+3db)		1F		0A*
BURN-IN (PDP)					
BURN-IN	PDP Burn-In		02	01	
WHITE BALANCE (PDP)					
R DRV	Red Drive Gain Control	HIGH	FF	FF	
		MEDIUM		FF	
		STD		FF	
G DRV	Green Drive Gain Control	HIGH	FF	FF	
		MEDIUM		FF	
		STD		FF	
B DRV	Blue Drive Gain Control	HIGH	FF	FF	
		MEDIUM		FF	
		STD		FF	
UPD64083 (3D-YC) (B9H) Read Mode					
SYNCDET	Sync Detection 0: Sync, 1: No Sync		01	-	
F-STD	Frame Sync Nonstandard Detection 0: Standard 1: Nonstandard		01	-	
V-STD	Vertical Sync Nonstandard Detection 0: Standard 1: Nonstandard		01	-	
H-STD	Horizontal Sync Nonstandard Detection 0: Standard 1: Nonstandard		01	-	
NOISE	Noise Level Detection 00: Noise Small FF: Noise Large		FF	-	

* This data is an approximate service code data. Fine adjustment must be done using the specified test procedure and adjustment tools.

BACK TO ADJUSTMENTS

Table 1. - Adjustment Mode codes and data (2 of 14)

ADJUSTMENT MODE	ADJUSTMENT ITEM		ADJUSTMENT RANGE (HEX)	INITIAL DATA (HEX)	ADJUST VALUE (HEX)
UPD64083 (3D-7/C) (B8H)					
MSS	Compulsion Frame/Line Setting		03	00	
CDL-1	C Signal Delay Adjustment		07	04	
CDL-3	C Signal Delay Adjustment		07	04	
DYCO	Y Motion Detection Coring Level		0F	02	
DYGA	Y Motion Detection Gain		0F	09	
DCCO	C Motion Detection Coring Level		0F	03	
DCGA	C Motion Detection Gain		01	06	
YNRK	Frame Cycle CNR Non-linear Filter Gain		01	00	
YNRIN	Frame Cycle YNR Filter		03	00	
YNRLI	Frame Cycle YNR Non-linear Filter Limitter level		01	01	
CNRK	Frame Cycle CNR Filter Gain		01	00	
CNRIN	Frame Cycle CNR Non-linear Filter Limitter level		03	01	
VAPGA	Vertical Aperture Control Gain		07	05	
VAPIN	Vertical Aperture Control Invert		1F	0B	
YPFG	Y Peaking Filter Gain		0F	08	
YHCOR-1	Y Output High Frequency Coring		03	01	
YHCOR-3	Y Output High Frequency Coring		03	00	
TA1340F MAIN Read Mode (D9H)					
HSYNC-M	Main H-Sync Signal		FF	--	
VSYNC-M	Main V-Sync Signal		7F	--	
CSYNC-M	Main C-Sync Signal		01	--	
TA1340F SUB Read Mode (DBH)					
HSYNC-S	Sub H-Sync Signal		FF	--	
VSYNC-S	Sub V-Sync Signal		7F	--	
CSYNC-S	Sub C-Sync Signal		01	--	
TA1340F MAIN (D8H)					
M-CONT1	Sub Contrast Control	Main TV	1F	0F	
M-CONT3	00: Min (-3db)	NTSC	1F	0C	
M-CONTD	1F: Max (+3db)	480i/480p/720p/1080i /bypass(YPBPR/DVI)	1F	1A	
M-CLR-1	Sub Color Control	Main TV	1F	0F	
M-CLR-3	00: Min (-3db)	NTSC	1F	0F	
M-CLR-D	1F: Max (+3db)	480i/480p/720p/1080i /bypass(YPBPR/DVI)	1F	1B	
MTINT-1	Sub Tint Control	Main TV	0F	07	
MTINT-3	0: Min (-7 deg)	NTSC	0F	07	
MTINT-D	F: Max (+7 deg)	480i/480p/720p/1080i /bypass(YPBPR/DVI)	0F	07	
MTOFF000	Main NTSC TOF Center Frequency Switch 0: OFF 1: MIN (0.8 fsc) 7: MAX (1.5 fsc)	TV/NTSC	07	00	
MT0FQ-O	Main NTSC TOF Q Characteristic Switch 0: MIN (0.6) 7: MAX (1.2)	TV/NTSC	07	00	

BACK TO ADJUSTMENTS

Table 1. - Adjustment Mode codes and data (3 of 14)

ADJUSTMENT MODE	ADJUSTMENT ITEM		ADJUSTMENT RANGE (HEX)	INITIAL DATA (HEX)	ADJUST VALUE (HEX)
TA1340F SUB (DAH)					
S-CONT2	Sub contrast Control	Sub TV	1F	0F	
S-CONT3	00: MIN (-3dB)	NTSC	1F	0D	
S-CONTD	1F: MAX (+3dB)	480i/480p/720p/1080i /Bypass(YPBPR/DVI)	1F	1A	
S-CLR-2	Sub Color Control	Sub TV	1F	0F	
S-CLR-3	00: MIN (-3dB)	NTSC	1F	0F	
S-CLR-D	1F: MAX (+3dB)	480i/480p/720p/1080i /Bypass (YPBPR/DVI)	1F	1B	
STINT-2	Sub Tint Control	Sub TV	0F	07	
STINT-3	0: MIN (-7deg)	NTSC	0F	07	
STINT-D	F: MAX (+7deg)	480i/480p/720p/1080i /Bypass (YPBPR/DVI)	0F	07	
STOFF00	Sub NTSC TOF Center Frequency Switch 0: off, 1: Min 0.8fsc 7: Max (1.5 fsc)	TV/NTSC	07	00	
STOFQ-0	Sub NTSC TOFQ Characteristic Switch 0: Min (0.6), 7: Max (1.2)	TV/NTSC	07	00	
TA1340F MAIN/SUB (D8H/DAH)					
Y-DL1-4	Y Delay Time Adjust 1	TV/NTSC	03	01	
Y-DL1-D	Base Band Section 0: -10 ns, 1: 0 ns 2: +10 ns, 3: +20 ns	480i/480p/720p/1080i /Bypass (YPBPR/DVI)	03	01	
Y-DL2-0	Y Delay Time Adjust 2 NTSC section 0: off 1: +40 ns 2: +80 ns, 3: +120 ns	ALL	03	00	
YBLACK4	Y Black Level Control	TV/NTSC	FF	00	
YBLACKD	00: Off 01: Min FF: Max	480i/480p/720p/1080i /Bypass (YPBPR/DVI)	FF	00	
BBLACK4	CB(PB) Black Level	TV/NTSC	FF	00	
BBLACKD	Control 00: Off 01: Miin FF: Max	480i/480p/720p/1080i /Bypass (YPBPR/DVI)	FF	00	
RBLACK4	CR(PR) Black Level	TV/NTSC	FF	00	
RBLACKD	Control 00: Off 01: Miin FF: Max	480i/480p/720p/1080i /Bypass (YPBPR/DVI)	FF	00	
AFCRAN4	Horizontal AFC Switch	TV/NTSC	01	00	
AFCRAND	0: Normal 1: Narrow	480i/480p/720p/1080i /Bypass (YPBPR/DVI)	01	00	
F-DET-4	Frequency Detection	TV/NTSC	03	00	
F-DET-D	Input Switch 0: 480I-1 TV/NTSC 1: 480I-2 TV/NTSC 2: D-SYNC2 3: HD/VD		03	00	
HSEPL-4	Horizontal Sync	TV/NTSC	03	00	
HSEPL-5	Separation	480i	03	00	
HSEPL-6	Level Switch	480p	03	00	
HSEPL-C	0: 20%, 1: 27% 2: 34%, 3: 40%	720p/1080i/Bypass	03	00	

BACK TO ADJUSTMENTS

Table 1. - Adjustment Mode codes and data (4 of 14)

ADJUSTMENT MODE	ADJUSTMENT ITEM		ADJUSTMENT RANGE (HEX)	INITIAL DATA (HEX)	ADJUST VALUE (HEX)
TA1340F MAIN/SUB (D8H/DAH) Cont.					
VSEPL-4	Vertical Sync	TV/NTSC	03	00	
VSEPL-5	Separation	480i	03	00	
VSEPL-6	Level Switch	480p	03	00	
VSEPL-C	0: 40% 1: 50%	720P/1080i/Bypass	03	00	
	2: 60% 3: 70%				
DSEPL-A	D-SYNC2-IN SYNC	480i/480p	03	00	
DSEPL-C	Separation	720p/1080i/Bypass	03	00	
	Level Switch				
	0: 20% 1: 30%				
	2: 40% 3: 50%				
AFCMD-L	AFC Gain Switch	TV	07	02	
AFCMD-3	0: Auto1 , 1: Auto 2	NTSC	07	02	
AFCMD-D	2: Auto 3, 3: Auto 4	480i/480p/720p	07	00	
	4: +6dB, 5: 0dB, 6: -12dB	/1080i/Bypass			
	7: off (Horizontal free run)				
VMODE-4	Vertical Sync Mode	TV/NTSC	01	00	
VMODE-5	Switch	480i	01	00	
	0: Normal PLL Mode				
	1: Sync Output Mode				
48ISEP4	480i Separator Mode Switch	TV/NTSC	01	01	
	0: On, 1: Off				
BANDW-L	Band Width Filter	TV	03	02	
BANDW-3	Switch	NTSC	03	02	
BANDW-5	0:Off, 1: 4.2MHz	480i	03	02	
	2: 11.3MHz, 3: Mute				
HDP0SI4	HD Output Phase	TV/NTSC	0F	08	
HDPOSI5	Adjustment	480i	0F	09	
HDPOSI6	0: 800 ns Advance	480p	0F	01	
HDPOSI7	F: Sync Center	720p	0F	08	
HDPOSIK		1080i/bypass	0F	00	
OSD-HP	OSD Horizontal Position		7F	45	
OSD-VP	OSD Vertical Position		7F	18	

BACK TO ADJUSTMENTS

Table 1. - Adjustment Mode codes and data (5 of 14)

ADJUSTMENT MODE	ADJUSTMENT ITEM		ADJUSTMENT RANGE (HEX)	INITIAL DATA (HEX)	ADJUST VALUE (HEX)
TA1399N MAIN/SUB (88H)					
SCONT-M	Sub Contrast (Main)		7F	31	
SUB-BRT	Sub Brightness Adjustment		FF	85	
COLOR-F	Color	NT1/2/HD3/4/6	7F	4B	
COLOR-G	(Center Adjustment)	NT3/HD1/2/5/MUSE	7F	50	
TINT-F	Tint	NT1/2/HD3/4/6	7F	4E	
TINT-G	(Center Adjustment)	NT3/HD1/2/5/MUSE	7F	48	
YNR	YNR		07	00	
SHARP-4	Sharpness Adjustment	NT1	1F	09	
SHARP-5		NT2/NT3	1F	06	
SHARP-6		HD2/HD3	1F	0F	
SHARP-7		HD5/HD6	1F	06	
SHARP-8		HD1/HD4/MUSE	1F	06	
WPSL	White Peak Suppressing Level		01	01	
HIBRT	High Bright color		01	00	
Y-DL-L	Group Delay correction	NT1-TV	1F	14	
Y-DL-3		NT1-VID	1F	10	
Y-DL-A		NT2/NT3/HD2/HD3	1F	12	
Y-DL-B		HD1/4/5/6/MUSE	1F	10	
COLORG0	Color Gamma Correction Point		03	02	
CLT	Color Limiter Level		01	00	
Y-GCURV	Y-Gamma Curve SW		03	03	
SCONT-S	Sub Contrast Adjustment (SUB)		1F	0F	
Y-OUTG	Y-OUT Gamma SW		01	01	
G-DRV	Green Drive Gain Adjustment		7F	3F	
B-DRV	Blue Drive Gain Adjustment		7F	3F	
R-CUT	Red Cut-off Adjustment		FF	7F	
G-CUT	Green Cut-off Adjustment		FF	7F	
B-CUT	Blue Cut-off Adjustment		FF	7F	
GB-GA-F	G/B Relative Amplitude SW	NT1/2/HD3/4/6	03	00	
GB-GA-G		NT3/HD1/2/5/MUSE	03	02	
GY-PH-F	G/B Relative Amplitude SW	NT1/2/HD3/4/6	03	00	
GY-PH-G		NT3/HD1/2/5/MUSE	03	02	
RB-GA-F	R/B Relative Amplitude SW	NT1/2/HD3/4/6	03	02	
RB-GA-G		NT3/HD1/2/5/MUSE	03	03	
RY-PH-F	R/B Relative Amplitude SW	NT1/2/HD3/4/6	03	02	
RY-PH-G		NT3/HD1/2/5/MUSE	03	02	
APRTR-M	APACON Peak Freq. SW	NTSC/Multi	07	07	
APRTR-N		HD	07	05	
APL/BSP	APL Level VS Black Stretch Start Point		03	03	
CDE	Color Detail Enhancer		03	02	
Y-GPNT	Y-Gamma Point SW		01	01	
BSP	Black Stretch Point		07	06	
BDL	Black Detection Level SW		01	01	
BLC	Black Level Automatic Correction		01	00	
BSG	Black Stretch Gain SW		01	00	

BACK TO ADJUSTMENTS

Table 1. - Adjustment Mode codes and data (6 of 14)

ADJUSTMENT MODE	ADJUSTMENT ITEM		ADJUSTMENT RANGE (HEX)	INITIAL DATA (HEX)	ADJUST VALUE (HEX)
TA1399N MAIN/SUB (88H)					
SHTRK-M	Sharpness Tracking	NTSC/Multi	03	01	
SHTRK-N		HD	03	01	
BLUE-GA	Blue Stretch Gain		3F	00	
BLUE-SP	Blue Stretch Point		7F	7F	
MSC Read Mode					
MSC-VER	MSC Version Display		7F	-	
R-CONT	Automatic Contrast Adjustment Display		7F	-	
MAX-LVL	Maximum Signal Level Display		FF	-	
MIN-LVL	Minimum Signal Level Display		FF	-	
FLAON	Automatic Signal Adjustment (FLAON)		-	-	
FLAMAX	White Level Setting (FLAMAX)		3F	23	
852/512	852 x 512 Dot Display		01	00	
OSDBLND	OSD2 Blend		0F	02	
AUTOADJ	PC Auto Adjusment 0: AUTO1, 1: AUTO2		01	00	
ENHLEVA	Level Expansion Enhancer	NTSC/HD2/HD3/Multi	1F	00	
ENHLEV7		HD5/HD6	1F	00	
ENHLEV8		HD1/HD4	1F	00	
ENHLEVH		PC ENHANCER: ON	1F	08	
NLEKA	Nonlinear Expansion	NTSC/HD2/HD3/Multi	07	00	
NLEK7	Coefficient	HD5/HD6	07	00	
NLEK8		HD1/HD4	07	00	
PLMSKSA	PLL Mask Start Point	NTSC/HD2/HD3	FF	86	
PLMSKS7		HD5/HD6	FF	7C	
PLMSKS8		HD1/HD4	FF	7E	
PLMSKSH		PC	FF	7E	
PLMSKWA	PLL Mask Width	NTSC/HD2/HD3	FF	00	
PLMSKW7		HD5/HD6	FF	1D	
PLMSKW8		HD1/HD4	FF	16	
PLMSKWH		PC	FF	01	
M_CNT_4	Contrast Center	TV/VID	7F	3C	
M_CNT_A	Contrast Center Offset	NT2/NT3/HD2/HD3	7E	3F	
M_CNT_H	Contrast Center	PC	7F	3C	
M_CNT_E	Contrast Center Offset	Multi	3C	3C	
M_BRT_4	Black Level Center	NT1/Multi	FF	56	53
M_BRT_A		NT2/NT3/HD2/HD3	FF	50	53
M_BRT_B		HD1/HD4/HD5/HD6/MUSE	FF	50	
M_BRT_H		PC	FF	50	4E
PCIN1V	PC Input Level Adjustment		7F	24	
NRMLCNT	Normal Real Wide Contrast Max		7F	5E	
R-BRT-D	R-Black Level	TV/VID	FF	5A	
R-BRT-H		PC	FF	5A	
B-BRT-D	B-Black Level	TV/VID	FF	5A	
B-BRT-H		PC	FF	5A	
G-BRT-D	G-Black Level	TV/VID	FF	5A	
G-BRT-H		PC	FF	5A	

BACK TO ADJUSTMENTS

Table 1. - Adjustment Mode codes and data (7 of 14)

ADJUSTMENT MODE	ADJUSTMENT ITEM		ADJUSTMENT RANGE (HEX)	INITIAL DATA (HEX)	ADJUST VALUE (HEX)
MSC.					
ATCNTWD	Auto. Contrast On/Off/Width	TV/VID	0F	08	
ATCNTSP	Automatic Contrast Speed	TV/VID	07	03	
R-CNT-D	R-Contrast	TV/VID	7F	40	
G-CNT-D	G-Contrast	TV/VID	7F	40	
B-CNT-D	B-Contrast	TV/VID	7F	40	
R-CNT-H	R-Cotnrast	PC	7F	40	
G-CNT-H	G-Contrast	PC	7F	40	
B-CNT-H	B-Contrast	PC	7F	40	
CLUMPS4	Clamp Pulse Start Point	NT1/NT2/NT3	FF	80	
CLUMPS6		HD2/HD3	FF	80	
CLUMPS7		HD5/HD6	FF	80	
CLUMPS8		HD1/HD4/MUSE	FF	80	
CLUMPSE		2pic/still	FF	80	
CLUMPSX		4 pix	FF	82	
CLUMPW4	Clamp Pulse Width	NT1/NT2/NT3	3F	07	
CLUMPW6		HD2/HD3	3F	07	
CLUMPW7		HD5/HD6	3F	07	
CLUMPW8		HD1/HD4/MUSE	3F	07	
CLUMPWE		2 pic/still	3F	7	
CLUMPWX		4 pix	3F	07	
MOVEVAL	Screen Saver Moving Mode		03	00	
MOVETM1	Screen Saver Moving Time	Mode 1	3C	14	
MOVETM2		Mode 2	3C	28	
MOVETM3		Mode 3	3C	3C	
PCWAKU	PC Frame Contrast		7F	2C	

BACK TO ADJUSTMENTS

Table 1. - Adjustment Mode codes and data (8 of 14)

ADJUSTMENT MODE	ADJUSTMENT ITEM		ADJUSTMENT RANGE (HEX)	INITIAL DATA (HEX)	ADJUST VALUE (HEX)
TA1340F SUB (DAH)					
4x3 DET	4 X 3 Signal Detection		01	-	
PSTART	Aspect Detection Picture Vertical Start Position		FF	-	
PEND	Aspect Detection Picture Vertical End Position		FF	-	
TEND	Aspect Detection Text Vertical End Position		FF	-	
TVCINE	TV/Cinema/3-2 Pull Down Signal Detection		01	-	
MPLLH-L	Main H-Sync Horizontal	Main-TV	1F	0F	
MPLLH-5	Phase	Main-NT2/NT3	1F	0C	
MPLLH-6		Main-HD2/HD3	1F	0E	
MPLLH-7		Main-HD5/HD6	1F	11	
MPLLH-8		Main-HD1/HD4/MUSE	1F	11	
MPLVMS4	Main PLL_V Mask Pulse	Main-NTSC	1F	12	
MPLVMS6	Start Position Offset	Main-HD2/HD3	1F	10	
MPLVMS7		MainHD5/HD6	1F	0F	
MPLVMS8		Main-HD1/HD4	1F	10	
MPLVME4	Main PLL_V Mask Pulse	Main-NTSC	1F	0C	
MPLVME6	End Position Offset	Main-HD2/HD3	1F	11	
MPLVME7		Main-HD5/HD6	1F	0F	
MPLVME8		Main-HD1/HD4	1F	11	
MISMD-4		Main-TV	07	05	
MISMD-5		Main-NT2/NT3	07	05	
MISMD-6		Main-HD2/HD3	07	05	
MISMD-7		Main-HD5/HD6	07	06	
MIDMD-8		Main-HD1/HD4	07	04	
MYCLPL4	Main Y Clamp Reference	Main	07	03	
SPLLH-4	Sub H-sync Horizontal	Sub-TV	1F	0A	
SPLLH-5	Phase	Sub-NT2/NT3	1F	08	
SPLLH-6		Sub-HD2/HD3	1F	0C	
SPLLH-7		Sub-HD5/HD6	07	06	
SPLLH-8		Sub-HD1/HD4/MUSE	1F	0C	
SPLVMS4	Sub PLL_V Mask Pulse	Sub-NTSC	1F	13	
SPLVMS65	Start Position Offset	Sub-HD2/HD3	1F	11	
SPLVMS7		Sub-HD5/HD6	1F	11	
SPLVMS8		Sub-HD1/HD4	1F	11	
SPLVME4	Sub PLL_V Mask Pulse	Sub-NTSC	1F	0D	
SPLVME6	End Position Offset	Sub-HD2/HD3	1F	11	
SPLVME7		Sub-HD5/HD6	1F	10	
SPLVME8		Main-HD1/HD4	1F	11	
SISMD-4	VW Horizontal Phase	Sub-TV	07	05	
SISMD-5		Sub-NT2/NT3	07	05	
SISMD-6		Sub-HD2/HD3	1F	11	
SISMD-7		Sub-HD5/HD6	07	06	
SISMD-8		Sub-HD1/HD4	07	04	
SYCLPL4	Sub Y Clamp Reference		07	03	
C_MOV	C Forced Motion		01	00	
IP_MODE	IP Mode		01	00	

BACK TO ADJUSTMENTS

Table 1. - Adjustment Mode codes and data (9 of 14)

ADJUSTMENT MODE	ADJUSTMENT ITEM		ADJUSTMENT RANGE (HEX)	INITIAL DATA (HEX)	ADJUST VALUE (HEX)
FC					
YKLV_D	Y Frame Bright	TV/VID-except Multi	7F	60	
YKLV_3		TV/VID-Multi	7F	60	
RHCTD_4	Read Frequency Divider	NTSC	1F	0F	
RHCTD_6	Ratio Offset	HD2/HD3/Multi	1F	0F	
RHCTD_7		HD5/HD6	1F	0F	
RHCTD_8		HD1/HD4	1F	0F	
FRMT	Frame Top Position		0F	07	
FRMB	Frame Bottom Position		0F	07	
FRMR-4	Frame Right Position	Normal-NTSC	0F	08	
FRMR-6		Normal-HD2/HD3	0F	08	
FRML-4	Frame Left Position	Normal-NTSC	0F	08	
FRML-6		Normal-HD2/HD3	0F	07	
MHVAR-4	AD Clock Phase	NT1	3F	00	
MHVAR-5		NT2/NT3	3F	00	
MHVAR-6		HD2/HD3	3F	00	
MHVAR-7		HD5/HD6	3F	00	
MHVAR-8		HD1/HD4	3F	00	
BBLKLV4	B-Y/B Blanking Level	NT1/Multi	0F	07	
BBLKLV5		NT2/NT3	0F	07	
BBLKLV6		HD2/HD3	0F	07	
HFL-M	H Filter Select	NTSC/Multi	01	01	
HFL-N		HD	01	00	
RBLKLV4	R-Y/R Blanking Level	NT1/Multi	0F	07	
RBLKLV5		NT2/NT3	0F	07	
RBLKLV6		HD2/HD3	0F	07	
ENH-V-4	Vertical Enhancer	NT1/NT2/NT3/Multi	03	00	
ENH-V-6		HD2/HD3	03	00	
VECRG-4	Vertical Enhance Coring	NT1/NT2/NT3/Multi	03	00	
VECRG-6		HD2/HD3	03	00	
ENH-H-4	Horizontal Enhancer	NT1/NT2/NT3/Multi	03	00	
ENH-H-6		HD2/HD3	03	00	
HECRG-4	Horizontal Enhance Coring	NT1/NT2/NT3/Multi	03	00	
HECRG-6		HD2/HD3	03	00	
VDPOS-4	VD Position Offset	NT1	7F	41	
VDPOS-5		NT2/NT3	7E	3F	
VDPOS-6		HD2/HD3/Multi	7E	3F	
VDPOS-7		HD5/HD6	7E	3F	
VDPOS-8		HD1/HD4	7E	3F	
HDPOS-4	HD Position Offset	NT1	7F	3A	
HDPOS-5		NT2/NT3	7E	3E	
HDPOS-6		HD2/HD3/Multi	7E	3E	
HDPOS-7		HD5/HD6	7E	1B	
HDPOS-8		HD1/HD4/MUSE	7E	0A	

BACK TO ADJUSTMENTS

Table 1. - Adjustment Mode codes and data (10 of 14)

ADJUSTMENT MODE	ADJUSTMENT ITEM		ADJUSTMENT RANGE (HEX)	INITIAL DATA (HEX)	ADJUST VALUE (HEX)
FC					
HBLKR-4	Horizontal BLK Right	NT1	FF	99	
HBLKR-5	Position	NT2/NT3	FE	7F	
HBLKR-6		HD2/HD3/4pix	FF	9C	
HBLKR-7		HD5/HD6	FF	77	
HBLKR-8		HD1/HD4/MUSE	FE	77	
HBLKR-E		2pix/Freeze	FE	7F	
HBLKL-4	Horizontal BLK Left	NT1	FF	7F	
HBLKL-5	Position	NT2/NT3	FE	7F	
HBLKL-6		HD2/HD3/4pix	FF	7F	
HBLKL-7		HD5/HD6	FF	86	
HBLKL-8		HD1/HD4/MUSE	FE	86	
HBLKL-E		2pix/Freeze	FE	7F	
CBK	C Motion Detection		01	00	
VT	Vertical Time Axle Filter Interpolation		01	01	
YBK	Y Motion Detection		01	00	
BKMKT-4	Black Stretch Stop Pulse	NT1/NT2/NT3	0F	07	
BKMKT-6	Top Position Offset	HD2/HD3	0F	07	
BKMKT-7		HD5/HD6	0F	07	
BKMKT-8		HD1/HD4	0F	07	
BKMKT-E		2pix/Freeze	0F	07	
BKMKT-X		4pix	0F	07	
BKMKB-4	Black Stretch Stop Pulse	NT1/NT2/NT3	0F	07	
BKMKB-6	Bottom Position Offset	HD2/HD3	0F	07	
BKMKB-7		HD5/HD6	0F	07	
BKMKB-8		HD1/HD4	0F	07	
BKMKB-E		2pix/Freeze	0F	07	
BKMKB-X		4pix	0F	07	
BKMKR-4	Black Stretch Stop Pulse	NT1/NT2/NT3	0F	07	
BKMKR-6	Right Position Offset	HD2/HD3	0F	07	
BKMKR-7		HD5/HD6	0F	07	
BKMKR-8		HD1/HD4/MUSE	0F	07	
BKMKR-E		2pix	0F	07	
BKMKR-X		4pix	0F	07	
BKMKL-4	Black Stretch Stop Pulse	NT1/NT2/NT3	0F	07	
BKMKL-6	Left Position Offset	HD2/HD3	0F	07	
BKMKL-7		HD5/HD6	0F	07	
BKMKL-8		HD1/HD4/MUSE	0F	07	
BKMKL-E		2pix/Freeze	0F	07	
BKMKL-X		4pix	0F	07	
RDCSFT4	DC Shift YNR	NT1	03	00	
YDCSFT6		NT2/NT3	03	01	
YDCSFT6		HD2/HD3	03	01	
YDCSFTE		Multi	03	00	

BACK TO ADJUSTMENTS

Table 1. - Adjustment Mode codes and data (11 of 14)

ADJUSTMENT MODE	ADJUSTMENT ITEM		ADJUSTMENT RANGE (HEX)	INITIAL DATA (HEX)	ADJUST VALUE (HEX)
FC					
YVCLP-M	Y/G Vertical CLIP Offset Level	NTSC/Multi	0F	00	
YVCLP-N		HD	0F	00	
YVDSBGM	Y/G Vertical DSB Gain	NTSC/Multi	03	00	
YVDSBGN		HD	03	03	
YVDSBCM	Y/G Vertical DSB Coring	NTSC/Multi	07	01	
YVDSBCN		HD	07	00	
VCLP-M	Y/G Vertical Enhancer Clip ON/OFF	NTSC/Multi	01	01	
VCLP-N		HD	01	01	
YVGAINM	Y/G Vertical Enhancer Gain	NTSC/Multi	0F	06	
YVGAINN		HD	0F	04	
YN	YFRNR ON/OFF		FF	FF	
YK1-L	YFRNR Input Gain	NT1-TV	07	01	
YK1-3		NT1-(YC)/VID	07	04	
YK1-5		NT2/NT3	07	04	
YK1-6		HD2/HD3	07	04	
YK1-E		2pix/4pix/Still	07	04	
CVDSBGM	B-Y/B, R-Y/R Vertical DSB Gain	NTSC/Multi	03	00	
CVDSBGN		HD	03	00	
CVDSBCM	B-Y/B, R-Y/R Vertical Coring	NTSC/Multi	07	00	
CVDSBCN		HD	07	00	
CVGAINM	B-Y/B, R-Y/R Vertical Enhancer Gain	NTSC/Multi	0F	0F	
CVGAINN		HD	0F	09	
CN	CFRNR ON/OFF		FF	FF	
CK1-4	CFRNR Input Gain	NT1	07	04	
CK1-5		NT2/NT3	07	04	
CK1-6		HD2/HD3	07	04	
CK1-E		2pix/4pix/Still	07	04	
CDCSFT4	DC Shift CNR	NT1	03	00	
CDCSFT5		NT2/NT3	03	00	
CDCSFT6		HD2/HD3	03	00	
CDCSFTE		Multi	03	00	
YHCLP-M	Y/G Horizontal CLIP Offset Level	NTSC/Multi	0F	00	
YHCLP-N		HD	0F	00	
YHDSBGM	Y/G Horizontal DSB Gain	NTSC/Multi	03	00	
YHDSBGN		HD	03	02	
YHDSBCM	Y/G Horizontal DSB Coring	NTSC/Multi	07	01	
YHDSBCN		HD	07	00	
YFILT-M	Y/G Vertical HPF Peak Frequency Change	NTSC/Multi	03	02	
YFILT-N		HD	03	00	
HCLP-M	Y/G Vertical Enhancer CLIP ON/OFF	NTSC/Multi	01	01	
HCLP-N		HD	01	01	
YHGAINM	Y/G Vertical Enhancer Gain	NTSC/Multi	0F	07	
YHGAINN		HD	0F	06	

BACK TO ADJUSTMENTS

Table 1. - Adjustment Mode codes and data (12 of 14)

ADJUSTMENT MODE	ADJUSTMENT ITEM		ADJUSTMENT RANGE (HEX)	INITIAL DATA (HEX)	ADJUST VALUE (HEX)
FC					
YNL-4	YFRNR Passage Level	NT1	07	00	
YNL-5		NT2/NT3	07	00	
YNL-6		HD2/HD3	07	00	
YNL-E		2pix/4pix/Still	07	00	
CHDSBGM	B-Y/B, R-Y/R	NTSC/Multi	03	00	
CHDSBGN	Vertical DSB Gain	HD	03	00	
CHDSBCM	B-Y/B, R-Y/R	NTSC/Multi	07	00	
CHDSBCN	Vertical DSB Coring	HD	07	00	
CFILT-M	B-Y/B, R-Y/R Vertical HPF	NTSC/Multi	03	02	
CFILT-N	Peak Frequency Change	HD	03	02	
CHGAINM	B-Y/B, R-Y/R Vertical	NTSC/Multi	0F	0F	
CHGAINN	Enhancer Gain	HD	0F	09	
CNL-4	CFRNR Passage Level	NT1	07	02	
CNL-5		NT2/NT3	07	02	
CNL-6		HD2/HD3	07	02	
CNL-E		2pix/4pix/Still	07	02	
YCRG-M	Y/G Coring Amplitude	NTSC	07	00	
YCRG-E		2pix/Still	07	01	
YLMT-M	Y/G Amplitude Limit Value	NTSC/Multi	FF	FF	
YLMT-N		HD	FF	FF	
YVHG-M	Y/G Vertical & Horizontal	NTSC	1F	0B	
YVHG-N	Enhancer Gain	HD	1F	00	
YVSPL-M	Y/G Vertical Non Linear	NTSC/Multi	3F	02	
YVSPL-N	Peaking	HD	3F	3F	
CCRG-M	B-Y/B, R-Y/R Coring	NTSC/Multi	07	01	
CCRG-N	Amplitude	HD	07	01	
CVHG-M	B-Y/B, R-Y/R Vertical &	NTSC/Multi	1F	1F	
CVHG-N	Horizontal Enhancer Gain	HD	1F	00	
YHSPL-M	Y/G Vertical Non-Linear	NTSC/Multi	3F	02	
YHSPL-N	Peaking	HD	3F	3F	
CLAMP-M	Clamp Output	NT1/NT2/NT3	FF	7F	
CLAMP-6		HD2/HD3	FF	7F	
CLAMP-7		HD5/HD6	FF	7F	
CLAMP-8		HD1/HD4/MUSE	FF	75	
CLAMP-E		2pix/Freeze	FF	7F	
CLAMP-X		4pix	FF	7F	
WIDTHS	43V Gate Start Offset		0F	02	
WIDTHE	43V Gate Start Offset		0F	02	
V2-ST	V Gate Start Position		7F	02	
V2-EN	V Gate End Position		FF	EC	
H1-ST	H Gate Start Position		FF	78	
H1-EN	H Gate End Position		FF	A8	
B-SL-LV	Black Detect Slice Level		7F	3F	
H2-ST	Title H-Gate Start Offset		FF	DC	
H2-EN	Title H-Gate End Offset		FF	44	

BACK TO ADJUSTMENTS

Table 1. - Adjustment Mode codes and data (13 of 14)

ADJUSTMENT MODE	ADJUSTMENT ITEM	ADJUSTMENT RANGE (HEX)	INITIAL DATA (HEX)	ADJUST VALUE (HEX)
FC				
CMPRG21	Distribution value slice level for subtitle picture end position	FF	19	
CMPRF1	Bright Slice Level	FF	23	
CMPRG22	Distribution value slice level for non-subtitle picture end position	FF	20	
CMPRF23	4x3 detection distribution value slice level	FF	A0	
43-FLG5	4x3 detection	01	01	
LOCK	TV/Cinema Lock Count	07	03	
UNLOCK	TV/Cinema Unlock Count	07	01	
VGATEE	TV/Cinema Vertical Gate Offset	0F	07	
ST-FLG1	Start Line Judgement	01	00	
BK-FLG4	Black Detection Judgement	01	00	
EN-FLG3	Aspect Detection No-Text Vertical End Position	01	00	
TX-FLG2	Aspect Detection Text Vertical End Position	01	00	
CDEGREF	TV/Cinema Detection Color 2 Bit Border Volume Offset	0F	07	
YDEGREF	TV/Cinema Detection Y 2 Bit Border Volume Offset	0F	07	
CINEREF	TV/Cinema Detection Motion Area Border Volume Offset	FF	05	
RDLY-B	R B-Y Delay	03	00	
RDLY-R	R R-Y Delay	03	00	
RDLY-Y	R Y Delay	03	00	
WDLY-B	W B-Y Delay	03	01	
WDLY-R	W R-Y Delay	03	01	
WDLY-Y	W Y Delay	03	01	
CDLY	2H C Signal 1CK Delay	01	00	
YDLY	2H Y Signal 1CK Delay	01	00	
MPLLH-3	H-Sync Vertical Phase	1F	0E	
MB90098A				
OSD-HP	PC OSD Horizontal Position	0F	07	
OSD-VP	PC OSD Vertical Position	0F	07	

BACK TO ADJUSTMENTS

Table 1. - Adjustment Mode codes and data (14 of 14)

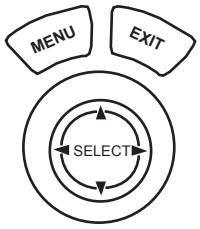
ADJUSTMENT MODE	ADJUSTMENT ITEM		ADJUSTMENT RANGE (HEX)	INITIAL DATA (HEX)	ADJUST VALUE (HEX)
PDP					
R-DRVH	Red Drive Gain Adjustment (HIGH)		FF	FF	
G-DRVH	Green Drive Gain Adjustment (HIGH)		FF	FF	
B-DRVH	Blue Drive Gain Adjustment (HIGH)		FF	FF	
R-DRVM	Red Drive Gain Adjustment (MED)		FF	FF	
G-DRVM	Green Drive Gain Adjustment (MED)		FF	FF	
B-DRVM	Blue Drive Gain Adjustment (MED)		FF	FF	
R-DRVL	Red Drive Gain Adjustment (STD)		FF	FF	
G-DRVL	Green Drive Gain Adjustment (STD)		FF	FF	
B-DRVL	Blue Drive Gain Adjustment (STD)		FF	FF	
GAMMA-D		TV/VID	02	01	
GAMMA-H		PC	02	01	
BURN-IN	Burn-In Mode		02	01	
APC	APC Control		01	00	
PDP-VER	PDP Microcomputer Version Display		03E7	--	
PDP-TM	PDP Panel Drive Time		FFFF	--	
CCFMD-D	NTSC/EBU Switch	TV/VID	01	00	
DDFME-H		PC	01	00	
CCFORMF		SDTV	01	00	
CCFORMG		HDTV	01	00	
CCFORMH		PC	01	00	
DCBONH	Tracking Adjustment Switch	TV/VID (Col. Temp.: High)	01	00	
DCBONML		TV/VID (Col. Temp.: Med/Std)	01	01	
DCBON-H		PC	01	01	
WBC	White Balance Correction		03	00	
HAPC	Heat APC Selection		01	00	
ETC					
POWSAVE	PC Power Save 0: Off 1: On		01	01	
POWS-TM	PC Power Save Timer (seconds)		FF	0F	
WIDEMOD	Wide Mode Display		07	--	
HDMODE8	1080I/1035I Select		01	00	
V CHIP					
SMPLING	Rating Detection Sampling Time T1=32xn ms		FF	00	
POLLING	Rating Detection Polling Counter		FF	0F	
START	Rating Block Start Counter		07	02	
TIMEOUT	Rating Block Release Timeout		1E	05	
STATUS	Rating Block Release Counter		07	02	
IR BLASTER					
IRDELAY	IR Start Delay Time		10	03	
IRREPT	IR Send Data Repeat Time		20	20	
HFREQ-N			0F	03	
INPUT 1	INPUT 1 Signal format setting		02	00	Note 1
INPUT 2	INPUT 2 Signal format setting		02	00	Note 1

BACK TO ADJUSTMENTS

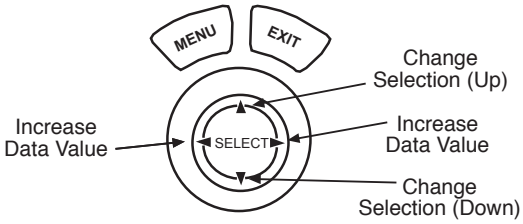
1-2. Changing Data and Selecting Adjustment Code

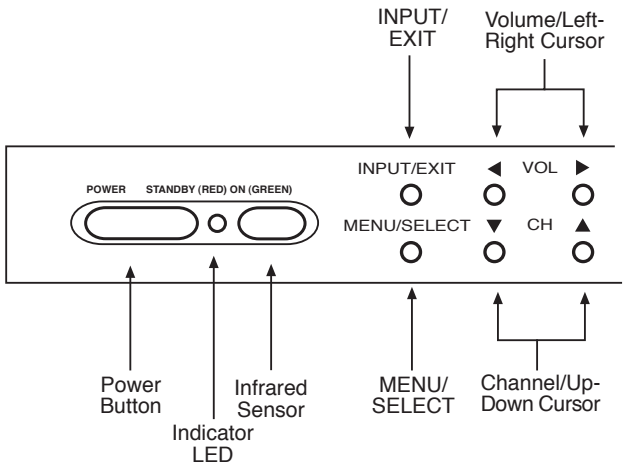
When the PDP set is in adjustment mode, the cursor ◀, ▶, ▲, ▼ and MENU keys of the remote control or front panel may be used as the adjustment keys.

A. Use any Hitachi remote control when making an adjustment.



▲, ▼ keys are used for selecting adjustment code.
◀, ▶ keys are used for changing data values.
MENU key is used to advance through the adjustment mode menus and pages.





B. To make a selection, use the CURSOR keys on the AVC front control panel or the Remote Control.

C. After finishing the necessary adjustment press the R/C EXIT key or EXIT key on the front panel.

Adjustment mode is released and PDP set returns to normal condition.

2. MEMORY INITIALIZE

2-1. MEMORY INITIALIZE OPERATION

NOTE: The execution of this function returns the adjustment codes to the initial values, therefore, **adjustment data will be lost**. We advise taking a note of all values or at least the data from adjustments that must be done (factory and service adjustments) before following the next procedures.

Procedure 1

There are two procedures for memory initialize, this is the first.

(1) Enter Adjustment mode by the method described in sub-items 1-1 and 1-2 from item I. "Adjustment procedure start up."
(2) Get to the second page of Adjust Mode by pressing remote control "Menu" key once, or with either the R/C or front panel ▲, ▼ cursor keys several times.
(3) Select MEMORY INIT adjust code.
(4) Activate MEMORY INIT by pressing ▶ cursor key for more than 3 seconds.
(5) Check that the receiving channel goes to CH03. Unit is set to factory settings and adjustment data changed to its inital values.

Procedure 2

This is the second procedure for executing memory initialize to the PDP set

(1) Remove the AVC20 case cover.
(2) With a metal tip, short the PRST connector on the AV P.W.B.
(3) Check that the set returns to delivery settings.

2-2. Factory and Service Adjustments

The adjustment items that are affected by the memory initialize operation are shown below:

ADJUST MODE	XXXX
SUB TINT	**
SUB CONTRAST(M)	0B
SUB CONTRAST(S)	0A
AFC/CLOCK TEST	☐
MEMORY INIT	☐
W/B INIT	☐
I2OPEN	☐
IR BLASTER	☐
BURN IN	**

AVERAGE VALUES

And under MSC Adjust item, the next parameters are also affected:

MSC>

M_BRT_4	53
M_BRT_A	53
M_BRT_H	4E

BACK TO ADJUSTMENTS

3.-Sub Contrast adjustment (AVC Center)

This adjustment is only necessary if picture contrast seems to be deficient, memory initialization was done without making a note of the settings, or if the IC I001(main micon) or I003 (EEPROM) were changed.

Adjustment codes to be used

SUB CONTRAST(M) **
Main picture sub-contrast adjustment code

SUB CONTRAST(S) **
Sub picture sub-contrast adjustment code

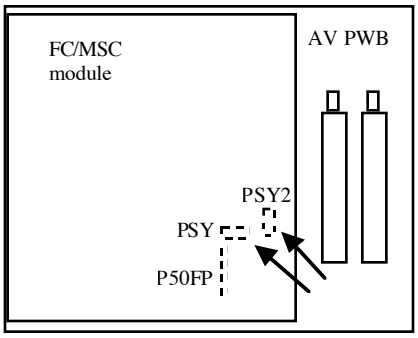
Adjustment signal to be used

RF input NTSC
100% White raster
100 IRE video level = 0.714Vdc
40 IRE sync level = -0.286Vdc
No setup voltage
Black level = 0Vdc

Adjustment equipment

40MHz minimum bandwidth Oscilloscope with probe

Adjustment point location

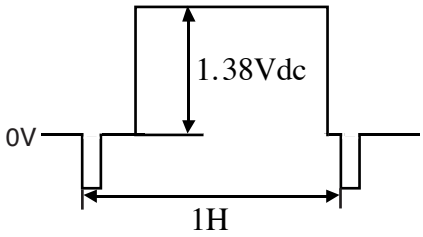


Adjustment preparation

1. Remove the 7 screws from the top cover case.
2. Turn on the TV set for at least 20 minutes before the adjusment.
3. After the 20 minutes heat-run, turn off the PDP TV set, remove the AVC20 top cover and turn the set back on by activating the adjustment mode (Check page 30). Press MENU key once after activating the Adjustment Mode to reach the sub-contrast codes.
4. Input the RF adjustment signal through antenna A (Recommended channels, VHF 03 or 04)
5. Connect the oscilloscope probe to the 5th pin if sub-picture adjustment, or 1st pin if main picture adjustment of PSY or PSY2 free connector terminals in the AV PWB. You can reach this adjustment points by entering the probe between the FC/MSC module and the U102 tunner unit.
6. Set SPLIT PIP mode with the remote control and receive the adjustment signal in both pictures, main and sub.

Adjustment procedure

1. Set the oscilloscope to display one horizontal period.
2. Adjust the amplitude of the signal with SUB CONTRAST(_) code value, to have 1.38Vdc between black level and white level.



BACK TO ADJUSTMENTS

4.- RGB Amplitude Adjustment (AVC Center)

Preparation

(1) Select “Video” - “Picture Mode” - “Sports” - “Reset”. Set “Reset” of “Video” menu when PC input is selected.
(2) Confirm the ‘Adjustment Item,’ of the Table 2 to be at ‘Initial Value’.
(3) Input 525p(480p) of RGB amplitude adj. signal into INPUT1(Component) input.
(4) Input 750p(720p) of RGB amplitude adj. signal into INPUT1(Component) input.
(5) Input VGA(60Hz) RGB amplitude adj. signal into RGB1 input.

Note: Perform pre heat-run for more than 30 min. before adjusting.

Adjustment

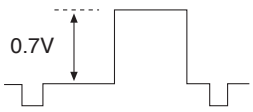
(1) Receive 525p(480p) signal, and set the Adjustment Mode menu items to the following values:
R/G/B BRIGHT = ‘5AH’
BRIGHT CENT = ‘50H’
FLAMAX = ‘27H’
(2) Select ‘RGB(480p)’ of Service Adj. menu. Press right cursor key (▶) over 2 seconds and have it perform automatic adjustment. When it’s completed, ‘Auto Adjusting’ on the screen will disappear.
(3) Receive 750p(720p) signal, and set the Adjustment Mode menu items to the following values:
R/G/B BRIGHT = ‘5AH’
BRIGHT CENT = ‘50H’
FLAMAX = ‘27H’
(4) Similarly as (2), select ‘RGB(720p)’ of Service Adj. Menu. Press ▶ for 2 sec. to have it perform automatic adjustment.
(5) Receive PC signal (VGA(60Hz)), and set the Adjustment Mode Menu items to the following:
R/G/B BRIGHT = ‘5AH’
BRIGHT CENT = ‘50H’
FLAMAX = ‘3FH’
(6) Similarly as (2), select ‘RGB(PC)’ of Service Adj. Menu. Press ▶ for 2 sec. to do automatic adjustment.
(7) After these adjustments, change the ‘ADJUST MODE’ Menu items to the “Set Values’ from table 2.

TABLE 2

SIGNAL	Adjustment Item	Initial Value	Set Value
480p	BRIGHT CENT.	50H	53H
720p	BRIGHT CENT.	50H	53H
VGA(60)	BRIGHT CENT.	50H	4EH

-Remarks
RGB amplitude adj. signal

Black White



Recommended Equipment:
ASTRO VG-823 Digital Video Generator
with RB-649 Remote Box.

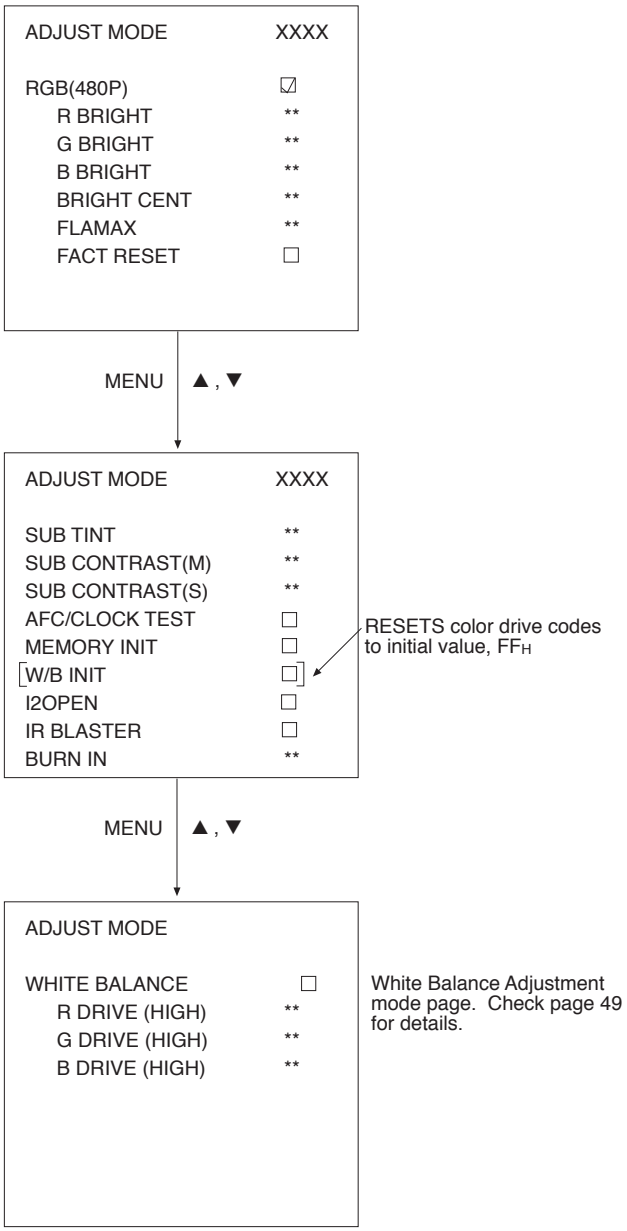
5.- White Balance Adjustments (PDP Monitor)

General Notes for White Balance

(1) If the incident illumination is more than 20 lux, change the environment (location, lighting, etc.) and ensure it to be less than 20 lux.
(2) At least one of the color drive codes must stay at its maximum value, FF_H.

Adjustment Codes to be Used

(1) Enter Adjustment Mode (see page 30).



BACK TO ADJUSTMENTS

5-1. PC Color Temperature Adjustment

Preparation

(1) Make sure the PDP set has been turned on for more than 30 min.
(2) Input WINDOW signal (window ratio 6.25%) into RGB1 terminal at VGA (75Hz) 0.7V (No set-up).NOTE 1
(3) Set RESET in PC Mode Video menu of AVC20.
(4) Confirm that the Aspect Ratio is '16:9 Standard'.
(5) Turn off the set and turn it back on activating adjustment mode.
(6) Be sure to read general notes at the start of White Balance Adjustment.

Adjustment

(1) Perform the following adjustment with the remote control or front panel controls.
(2) Measure the center of the display area of the PDP panel with a CRT color analyzer.NOTE 2
(3) Ensure that Adjustment R/G/B DRIVE (****) are all set at $255_D(FF_H)$.

ADJUST MODE

WHITE BALANCE

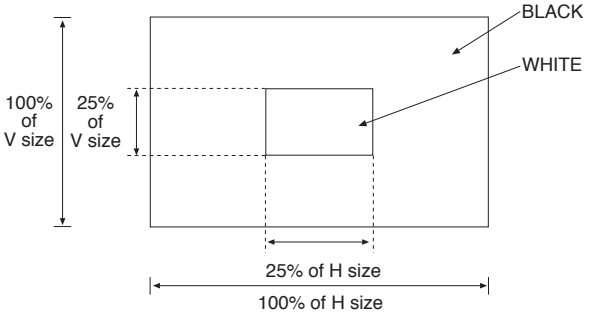
R DRIVE (****)	FF
G DRIVE (****)	FF
B DRIVE (****)	FF

(4) After receiving the PC signal, lower the value of two of the color drive codes (or only one if enough) to adjust the Red, Green, or Blue drive levels in order to match the readouts from the color analyzer with the next values.

Color Temperature		Chroma Coordinates	
Level	(K)	x	y
HIGH	9300	0.285	0.294
MEDIUM	7500	0.301	0.314
STANDARD	6500	0.314	0.327

Where:
K: Kelvin
x,y: MPCD Chromaticity Chart coordinates.
±0.005 tolerance.

NOTES:
1 - PC W/B or color temperature Adjustment signal.



Recommended equipment: VG-823 Digital Video Generator.

2- Recommended Equipment: Minolta CRT color analyzer, Model No. CA-100.

5-2. Video Color Temperature Adjustment

Preparation

(1) Make sure the PDP set has been turned on for more than 30 min.
(2) Input FULL white raster composite signal into VIDEO 2 input terminal, with the next settings.
Video level: 0.714Vp-p
SYNC: 0.286Vp-p
Set-up level: 0V
(3) Under 'Video' menu, - 'Picture Mode' - 'Sports', press RESET to return video user controls to default settings.
(4) Activate adjustment mode by following 1-1 "How to get to adjustment mode" procedure.
(5) This adjustment should be done after PC color temperature adjustment.
(6) Be sure to read general notes at the start of white balance adjustment.

Adjustment

(1) Perform the following adjustment with the remote control or front panel controls.
(2) Measure the center of the display area of the PDP panel with a CRT color analyzer.NOTE 2
(3) Ensure that Adjustment R/G/B DRIVE(****) are all set as $255_D(FF_H)$.

ADJUST MODE

WHITE BALANCE

R DRIVE (****)	FF
G DRIVE (****)	FF
B DRIVE (****)	FF

(4) After receiving the White Raster Video signal, lower the value of two of the color drive codes (or only one if enough) to adjust the Red, Green, or Blue drive levels in order to match the readouts from the color analyzer with the next values.

Color Temperature		Chroma Coordinates	
Level	(K)	x	y
HIGH	9300*	0.286	0.291
MEDIUM	7500	0.301	0.314
STANDARD	6500	0.314	0.327

* 32HDT20 - 9300K
42HDT20 - 9200K, x=0.285, y=0.298

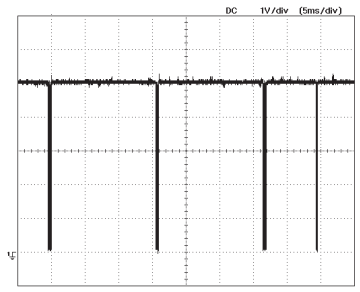
Where:
K: Kelvin
x,y: MPCD Chromaticity Chart coordinates.
±0.005 tolerance.

BACK TO ADJUSTMENTS

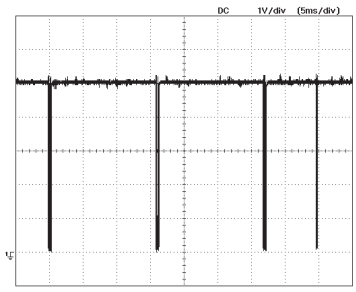
WAVEFORMS AT EACH SECTION

Numbers inside circle correspond to locations shown in the circuit diagram.

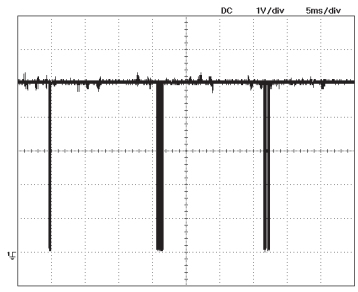
1 I001 Pin 29



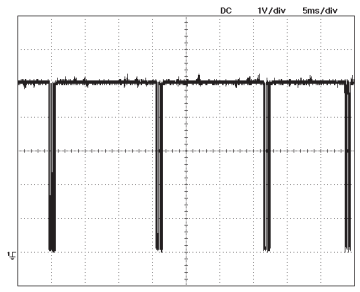
2 I001 PIN 30



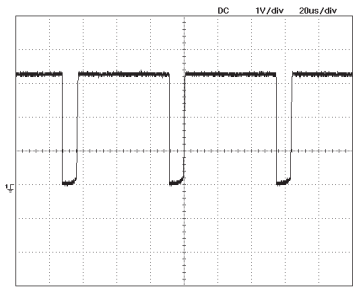
3 I001 PIN 28



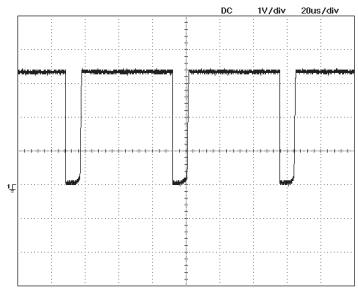
4 I001 PIN 31



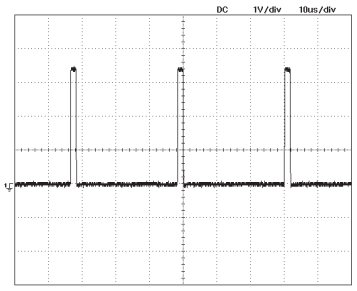
5 I001 PIN 23



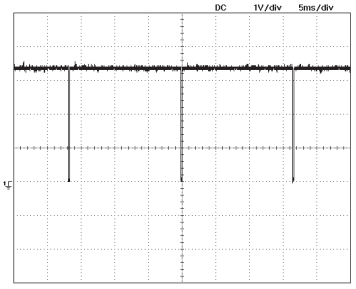
6 I001 PIN 25



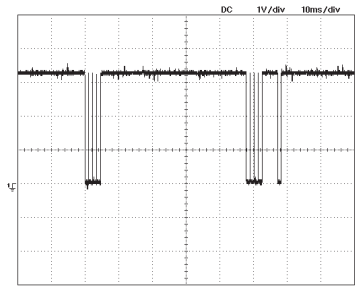
7 I001 PIN 62



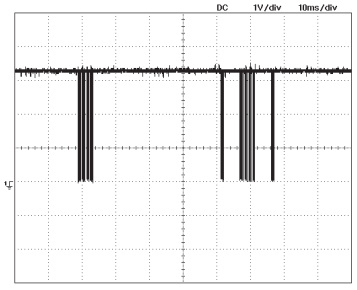
8 I001 PIN 64



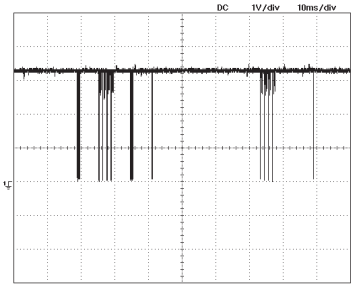
9 I001 PIN 56



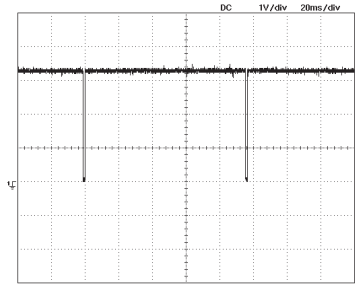
10 I001 PIN 53



11 I001 PIN 52



12 I001 PIN 55



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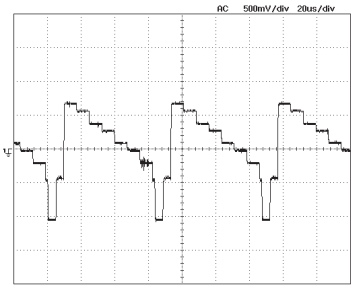
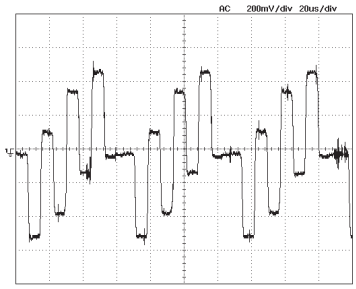
WAVEFORMS AT EACH SECTION

Numbers inside circle correspond to locations shown in the circuit diagram.

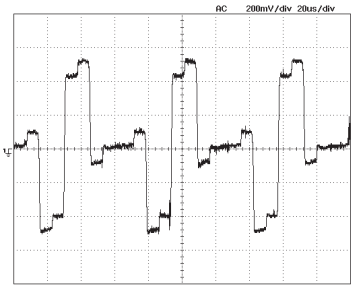
(13) TP301 (PS0FP PIN 24)



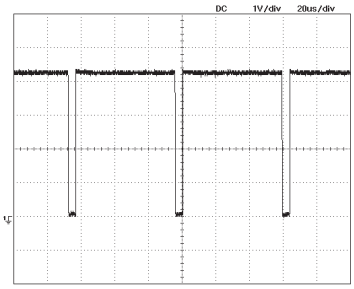
(14) TP302 (P50FP PIN 23)



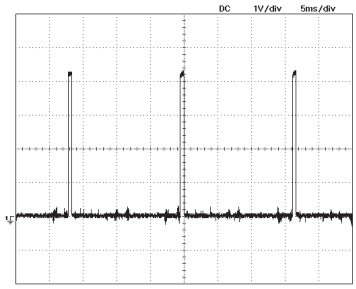
(15) TP303 (P50FP PIN 22)



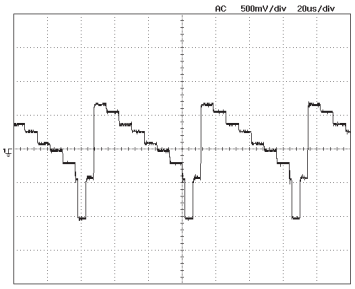
(16) TP304 (P50FP PIN 20)



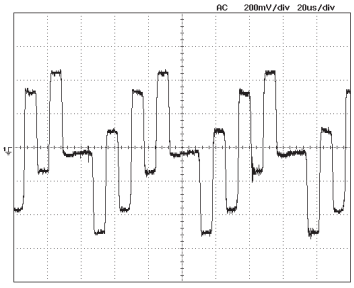
(17) TP305(P50FP PIN 19)



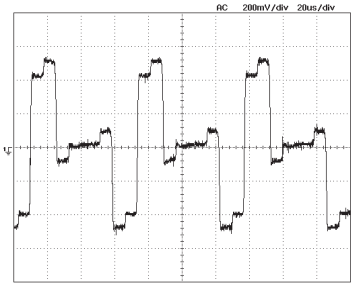
(18) TP306 (P50FP PIN 17)



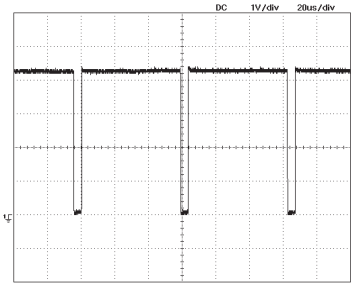
(19) TP307 (P50FP PIN 16)



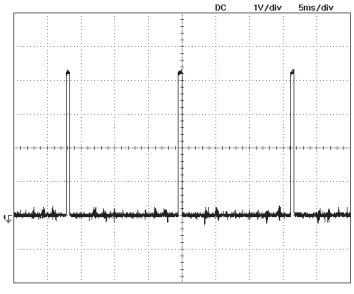
(20) TP308 (P50FP PIN 15)



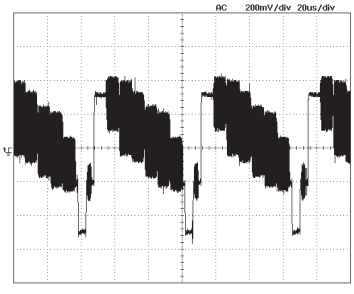
(21) TP309 (P50FP PIN 13)



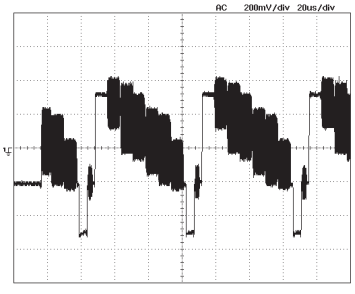
(22) TP310 (P50FP PIN 12)



(23) U102 PIN 18



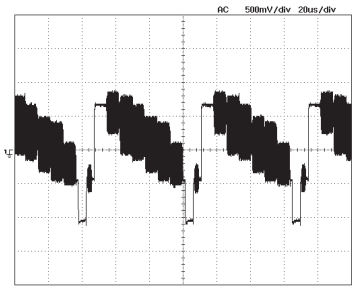
(24) U101 PIN 18



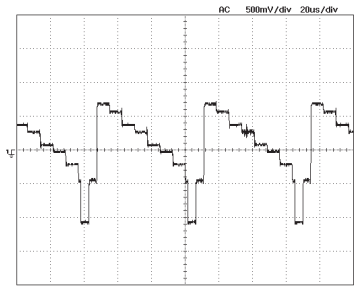
WAVEFORMS AT EACH SECTION

Numbers inside circle correspond to locations shown in the circuit diagram.

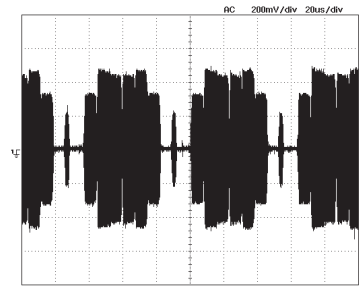
(25) TPX51 (IX01 PIN 44)



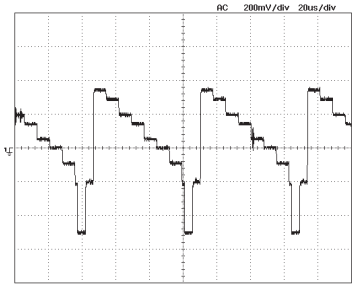
(26) TPX54 (IX01 PIN 56)



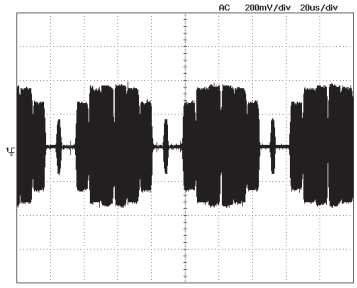
(27) TPX55 (IX01 PIN 58)



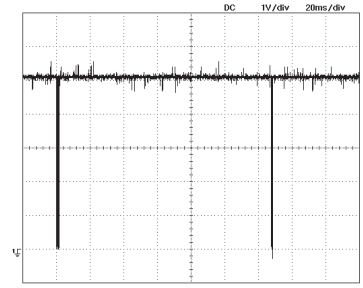
(28) TPW03 (IW01 PIN 84, after LPF)



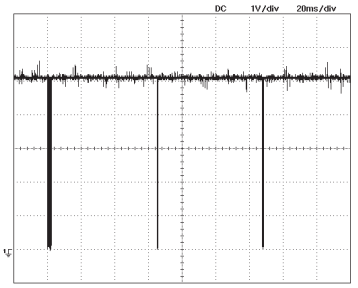
(29) TPZ23 (IW01 PIN 83, after chroma)



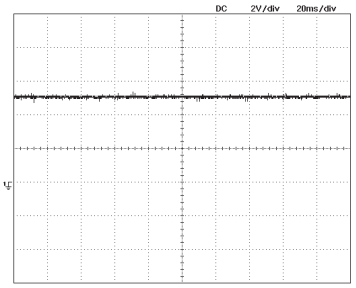
(30) I008 PIN 54



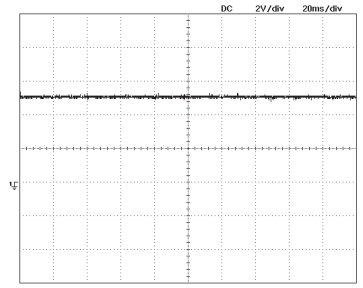
(31) I008 PIN 55



(32) I008 PIN 59



(33) I008 PIN 58



DC VOLTAGE TABLES

AVC1-U AV BOARD

AVC1-U AV (Audio/Video) board

Symbol	Pin No.	DC Voltage
I001	1	0.2
	2	1.3
	3	5
	4	4.8
	5	0
	6	0
	7	1.7
	8	0
	9	0
	10	0
	11	0
	12	3.3
	13	1.7
	14	0
	15	1.7
	16	3.3
	17	-
	18	3.3
	19	0
	20	22.8
	21	0
	22	0
	23	2.8
	24	0
	25	2.8
	26	2
	27	23.8
	28	5
	29	5
	30	5
	31	5
	32	0
	33	0
	34	0
	35	0
	36	0
	37	3.3
	38	0
	39	3.3
	40	3.3
	41	0
	42	2.55
	43	0
	44	0
	45	0
	46	0
	47	3.3
	48	3.3
	49	30
	50	30
	51	3
	52	3.2
	53	3.2
	54	183.7
	55	3.2
	56	3.2
	57	3.2
	58	3.2
	59	3.1
	60	3.2
	61	0
	62	0.1
	63	0
	64	3.3
	65	0
	66	0
	67	0
	68	0
	69	0
	70	0
	71	0
	72	0
	73	3.2
	74	3.2
	75	3.2
	76	0
	77	3.8
	78	3.3
	79	3.3
	80	4.2
	81	3.3
	82	3.3
	83	30.8
	84	30.4
	85	3.2
	86	3.2
	87	0
	88	0
	89	0
	90	0
	91	0
	92	1.7
	93	1.7
	94	3.3
	95	0.2
	96	1.3
	97	1.9
	98	0
	99	5
	100	1.9
I002	1	-
	2	-
	3	0
	4	3.3
	5	3.3
I003	1	0
	2	0
	3	0
	4	0
	5	4.86
	6	4.89
	7	-
	8	5
I201	1	6.3
	2	5.2
	3	-
	4	-
	5	-
	6	0
	7	0
	8	0
	9	-
	10	0
	11	0
	12	5.2
	13	6.3
	14	5.2
	15	5.2
	16	9
I202	1	3.3
	2	3.3
	3	0
	4	3.3
	5	3.3
	6	0
	7	3.3
	8	-
	9	-
	10	0
	11	0
	12	3.3
	13	0
	14	0
	15	0
	16	0
	17	3.3
	18	3.3
	19	0
	20	0
	21	0
	22	0
	23	0
	24	3.3
	25	0
	26	0
	27	0
	28	0
	29	0
	30	3.2
	31	3.3
	32	3.3
	33	3.3
	34	3.3
	35	3.3
	36	3.3
	37	3.3
	38	0
	39	0
	40	0
	41	0
	42	0
	43	0
	44	0
I203	1	0
	2	0
	3	5
	4	0
	5	0
	6	5
	7	0
	8	0
	9	5
	10	0
	11	3.2
	12	0
	13	0
	14	5
	15	0
	16	0
	17	3.3
	18	0
	19	0
	20	5
I204	1	5
	2	5
	3	5
	4	5
	5	5
	6	0
	7	0
	8	0

BACK TO CONTENTS

DC VOLTAGE TABLES

AVC1-U AV BOARD (CONT.)

	9	5
	10	5
	11	5
	12	5
	13	5
	14	5
	15	5
	16	5
I206	1	0
	2	3.2
	3	5
	4	3.2
	5	4.64
	6	3.2
	7	5
	8	0
	9	5
	10	0
	11	2.9
	12	0
	13	3.2
	14	4.9
	15	4.8
	16	4.8
	17	3.2
	18	4.9
	19	0
	20	5
I207	1	0
	2	0.2
	3	5
	4	4.9
	5	0.2
	6	0
	7	4.7
	8	0
	9	0.1
	10	5
	11	5
	12	4.7
	13	0.1
	14	0
	15	5
	16	5
I401	1	4.4
	2	4.3
	3	4.4
	4	4.3
	5	4.3
	6	0
	7	0
	8	0
	9	0
	10	0
	11	4.3
	12	4.4
	13	4.4
	14	4.3
	15	4.3
	16	8.9
I402	1	4.5
	2	1.5
	3	4.5
	4	8.9
	5	4.5
	6	0
	7	0
	8	4.5

	9	1.9
	10	4.5
I403	1	0
	2	2.82
	3	5.11
	4	2.8
	5	0
	6	0
	7	2.9
	8	0
	9	5.7
	10	2.9
	11	-
	12	2
	13	2.8
	14	5.1
	15	2.8
	16	2.9
I901	1	18
	2	4.5
	3	0
	4	1.3
	5	8.3
I902	1	18
	2	4.1
	3	0
	4	3.3
	5	2.4
I906	1	6.7
	2	-
	3	6.7
	4	6.7
	5	0
	6	0
	7	2.5
	8	2.5
I907	1	6.7
	2	-
	3	6.7
	4	6.7
	5	0
	6	0
	7	5
	8	5
I909	1	6.7
	2	-
	3	6.7
	4	6.7
	5	0
	6	0
	7	5
	8	5
I911	1	5
	2	-
	3	5
	4	5
	5	0
	6	0
	7	3.3
	8	3.3
I912	1	3.5
	2	10.2
	3	0
	4	9
	5	-
I913	1	3.5
	2	10.2
	3	0

	4	9
	5	-
I914	1	3.6
	2	10.2
	3	0
	4	9
	5	-
I915	1	3.5
	2	10.2
	3	0
	4	9
	5	-
I916	1	3.5
	2	10.2
	3	0
	4	8.9
	5	-
I917	1	3.5
	2	10.2
	3	0
	4	9
	5	-
IV01	1	0
	2	2.2
	3	2.8
	4	2.4
	5	1.2
	6	0
	7	0
	8	5
	9	0
	10	2.3
	11	2.2
	12	3.3
	13	3.8
	14	1.4
	15	3.6
	16	5
IW01	1	0
	2	0
	3	0
	4	0
	5	0
	6	0
	7	0
	8	0
	9	0
	10	0
	11	0
	12	0
	13	0
	14	0
	15	0
	16	0
	17	0
	18	0
	19	0
	20	0
	21	0
	22	0
	23	0
	24	0
	25	0
	26	0
	27	0
	28	0
	29	0
	30	0

DC VOLTAGE TABLES

AVC1-U AV BOARD (CONT.)

	31	2.4
	32	2.4
	33	0
	34	0
	35	0
	36	0
	37	0
	38	3.2
	39	0
	40	0
	41	0
	42	0
	43	0
	44	0
	45	2.3
	46	2.3
	47	11.2
	48	1.1
	49	0
	50	1.8
	51	0
	52	1.2
	53	2.4
	54	0
	55	0
	56	0
	57	3.3
	58	0
	59	4.8
	60	4.8
	61	0.1
	62	0.1
	63	0
	64	2.4
	65	0
	66	0
	67	0
	68	0
	69	0
	70	0
	71	0
	72	0
	73	0
	74	0
	75	0
	76	2.9
	77	0
	78	0
	79	0
	80	0
	81	2.4
	82	1
	83	1.3
	84	1.3
	85	1
	86	0
	87	0
	88	1
	89	0.6
	90	0.7
	91	1.2
	92	2.4
	93	2.4
	94	1.2
	95	0.7
	96	1.026
	97	0
	98	0

	99	0
	100	2.4
IW02	1	0
	2	0
	3	0
	4	3.2
	5	3.2
IX01	1	3.8
	2	4.4
	3	3.8
	4	4.4
	5	4.3
	6	0.1
	7	0
	8	3.8
	9	4.4
	10	3.8
	11	4.4
	12	4.3
	13	0.1
	14	4.8
	15	4.3
	16	4.4
	17	4.3
	18	4.4
	19	4.3
	20	0.1
	21	0
	22	3.8
	23	4.4
	24	3.8
	25	4.4
	26	4.33
	27	0.1
	28	4.8
	29	4.4
	30	3.8
	31	4.4
	32	0
	33	4.9
	34	4.8
	35	0
	36	0
	37	4.2
	38	4.4
	39	4.4
	40	4.4
	41	4.1
	42	9
	43	4.4
	44	4.3
	45	4.4
	46	4.4
	47	4.3
	48	0
	49	5
	50	4.4
	51	4.3
	52	4.4
	53	4.1
	54	4.4
	55	4.4
	56	4.3
	57	0
	58	4.2
	59	4.4
	60	4.3
	61	4.4

	62	4.4
	63	4.3
	64	4.4
IX02	1	1.1
	2	1
	3	1.2
	4	9
	5	5.2
	6	0
	7	4.9
	8	0
	9	5
	10	5
	11	1.2
	12	1
	13	1.1
	14	9
	15	5.2
	16	0
	17	5
	18	0
	19	5
	20	5
	21	1.2
	22	1
	23	1.2
	24	0
	25	0
	26	0
	27	4.8
	28	5
	29	0
	30	0
	31	0
	32	5
	33	0
	34	5
	35	0
	36	5
	37	0
	38	5
	39	9
	40	4.3
	41	0
	42	4.3
	43	0
	44	4.4
	45	9
	46	4.3
	47	0
	48	4.3
	49	0
	50	4.4
	51	9
	52	9
	53	5.2
	54	0
	55	5
	56	0
	57	5
	58	9
	59	5.2
	60	0
	61	5
	62	0
	63	5
	64	5
IZ01	1	9

DC VOLTAGE TABLES

AVC1-U AV BOARD (CONT.)

	2	2.4
	3	4
	4	2.4
	5	0
	6	1.9
	7	0
	8	4.9
	9	6.1
	10	4.9
	11	0
	12	9
	13	4.8
	14	4.8
	15	0
	16	2.4
	17	4.6
	18	0
	19	2.4
	20	2.3
	21	3.9
	22	3.5
	23	3.6
	24	3.8
	25	5
	26	3
	27	0
	28	2.2
	29	2.2
	30	2
IZ02	1	9
	2	2.4
	3	4.1
	4	2
	5	0
	6	2
	7	0
	8	4.9
	9	6.1
	10	4.9
	11	0
	12	0
	13	4.8
	14	4.8
	15	0
	16	2.4
	17	4.6
	18	0
	19	2.4
	20	2.3
	21	3.9
	22	3.5
	23	3.6
	24	3.8
	25	5
	26	2.9
	27	0
	28	2.2
	29	2.2
	30	2
Q001	E	0
	B	0
	C	-
Q101	E	0
	B	0.7
	C	0
Q102	E	0
	B	0.7
	C	0

Q103	E	0
	B	0.6
	C	0
Q104	E	0
	B	0
	C	3.4
Q105	E	0
	B	0.6
	C	0
Q202	E	0
	B	0.6
	C	0
Q203	E	0
	B	-1.7
	C	3.7
Q204	E	5
	B	4.5
	C	0
Q205	E	4.3
	B	4.9
	C	5
Q206	E	3.1
	B	2.5
	C	0
Q207	E	2.5
	B	3.1
	C	5
Q208	E	4.5
	B	5.1
	C	9
Q209	E	4.6
	B	5.2
	C	9
Q210	E	0
	B	0.7
	C	0
Q211	E	0
	B	0.7
	C	0
Q212	E	0.2
	B	0.4
	C	1.4
Q213	E	0
	B	0
	C	3.3
Q214	E	0
	B	0
	C	5
Q215	E	0
	B	0.1
	C	2.8
Q216	E	5.7
	B	5.9
	C	0.5
Q217	E	5.9
	B	5.2
	C	0
Q218	E	5.2
	B	4.9
	C	9
Q219	E	4.2
	B	3.6
	C	0
Q220	E	0
	B	0.1
	C	2.8
Q221	E	5.7
	B	5.8

	C	0.5
Q222	E	5.8
	B	5.2
	C	0
Q223	E	5.2
	B	5
	C	9
Q224	E	4
	B	3.4
	C	0
Q225	E	0
	B	0
	C	3.3
Q227	E	0
	B	0.7
	C	0
Q228	E	0
	B	0
	C	3.5
Q231	E	0
	B	0
	C	5
Q232	E	0
	B	0.7
	C	0
Q233	E	0
	B	0.3
	C	1
Q234	E	0
	B	0.7
	C	0
Q235	E	0
	B	0
	C	1
Q236	E	0
	B	0.7
	C	0
Q241	E	0
	B	0.6
	C	2.2
Q242	E	0
	B	0.6
	C	2.2
Q243	E	0.7
	B	0
	C	0
Q244	E	0.7
	B	0
	C	0
Q245	E	0.7
	B	0.3
	C	0
Q246	E	0.7
	B	0.8
	C	5
Q247	E	0
	B	0.6
	C	8
Q248	E	3.3
	B	3.2
	C	0
Q249	E	3.3
	B	3.2
	C	0
Q250	E	3.2
	B	3.3
	C	0
Q251	E	0

DC VOLTAGE TABLES

AVC1-U AV BOARD (CONT.)

	B	0.7
	C	0.2
Q252	E	0
	B	0.7
	C	0
Q253	E	0
	B	0
	C	5
Q254	E	0.2
	B	0.5
	C	1.6
Q401	E	9
	B	5
	C	4.3
Q401A	E	4.3
	B	5
	C	9
Q402	E	4.3
	B	5
	C	9
Q402A	E	4.3
	B	4.9
	C	9
Q403	E	4.3
	B	5
	C	9
Q403A	E	4.3
	B	5
	C	9
Q404	E	0
	B	0.6
	C	0
Q405	E	0
	B	0.6
	C	0
Q406	E	3.7
	B	4.4
	C	9
Q406A	E	3.7
	B	4.4
	C	9
Q407	E	0
	B	-0.4
	C	0.4
Q407A	E	0
	B	-0.4
	C	0.4
Q408	E	3.8
	B	4.5
	C	9
Q408A	E	3.8
	B	4.5
	C	9
Q409	E	0
	B	-0.5
	C	0.2
Q409A	E	0
	B	-0.5
	C	0.2
Q410	E	0
	B	0.7
	C	0
Q411	E	4
	B	4.5
	C	8.3
Q411A	E	4
	B	4.5
	C	8.3

Q412	E	9
	B	8.3
	C	4.7
Q412A	E	9
	B	8.3
	C	4.7
Q413	E	0.8
	B	0.2
	C	0
Q414	E	0
	B	0
	C	5.4
Q415	E	6
	B	6.7
	C	0
Q416	E	0
	B	0.7
	C	0
Q901	E	0
	B	0
	C	8.3
Q902	E	0
	B	0
	C	2.4
Q903	E	0
	B	0.6
	C	0
Q906	1	5
	2	5
	3	5
	4	0
	5	5
	6	5
	7	5
	8	5
Q907	E	0
	B	0.6
	C	0
QV01	E	3
	B	3.6
	C	9
QV02	E	2
	B	2.7
	C	8.3
QV03	E	9
	B	8.3
	C	4.6
QV04	E	4
	B	4.6
	C	9
QV05	E	3.2
	B	3.8
	C	9
QV06	E	2.1
	B	2.7
	C	8.3
QV07	E	9
	B	8.3
	C	5.5
QV08	E	4.8
	B	5.5
	C	9
QV09	E	6
	B	6.7
	C	9
QV10	E	3
	B	2.3
	C	0

QW01	E	4
	B	4.7
	C	9
QW02	E	2.3
	B	1.7
	C	0
QW03	E	2
	B	2.1
	C	9
QW04	E	2.7
	B	2
	C	0
QW05	E	2.7
	B	2
	C	0
QW06	E	2
	B	2.2
	C	3.1
QW07	E	3.3
	B	3.1
	C	0
QW08	E	0
	B	0
	C	3
QW09	E	1.9
	B	1.3
	C	0
QW10	E	1.2
	B	1.8
	C	8.3
QW11	E	9
	B	8.3
	C	2.7
QW12	E	2.1
	B	2.7
	C	9
QW13	E	2
	B	1.4
	C	0
QW14	E	1.2
	B	1.8
	C	8.3
QW15	E	9
	B	8.3
	C	6.2
QW17	E	2.5
	B	3.2
	C	9
QW18	E	3.8
	B	33.2
	C	0
QX01	E	0
	B	-0.3
	C	0.4
QX02	E	0
	B	-0.3
	C	0.41
QX03	E	3.5
	B	4
	C	9
QX04	E	3.7
	B	4.3
	C	9
QX05	E	3.5
	B	4.2
	C	9
QX08	E	0
	B	0.6

DC VOLTAGE TABLES

AVC1-U AV BOARD (CONT.)

	C	2.2
QX12	E	3.6
	B	4.2
	C	9
QX13	E	3.6
	B	4.2
	C	9
QX14	E	3.6
	B	4.3
	C	9
QX15	E	3.6
	B	4.2
	C	9
QX16	E	3.5
	B	4.2
	C	9
QX17	E	3.4
	B	4
	C	9
QX19	E	6.3
	B	6.9
	C	9
QX20	E	5
	B	5.4
	C	0
QX21	E	6.7
	B	7.3
	C	9
QX22	E	5
	B	5.4
	C	0
QX23	E	6.6
	B	7.3
	C	9
QX24	E	4.9
	B	4.3
	C	0
QX25	E	6.6
	B	7.3
	C	9
QX26	E	5
	B	4.3
	C	0
QX27	E	6.3
	B	6.9
	C	9
QX28	E	5
	B	4.4
	C	0
QX29	E	6.7
	B	7.3
	C	9
QX30	E	5
	B	4.4
	C	0
QX31	E	6.6
	B	7.3
	C	9
QX32	E	5
	B	4.3
	C	0
QX33	E	6.6
	B	7.3
	C	9
QX34	E	5
	B	4.3
	C	0
QX37	E	2.3

	B	1.7
	C	0
QX38	E	4.2
	B	3.5
	C	0
QZ01	E	4.5
	B	3.8
	C	0
QZ02	E	4.2
	B	3.6
	C	0
QZ03	E	4.2
	B	3.5
	C	0
QZ04	E	5.5
	B	6.2
	C	8.8
QZ05	E	3.6
	B	3.9
	C	8.8
QZ06	E	5.3
	B	6
	C	8.8
QZ07	E	0
	B	0
	C	5.9
QZ08	E	4.2
	B	3.5
	C	0
QZ09	E	4.2
	B	3.6
	C	0
QZ10	E	4.4
	B	3.8
	C	0
QZ11	E	3.5
	B	2.9
	C	0
QZ12	E	3.5
	B	2.9
	C	0
QZ13	E	3.5
	B	4.1
	C	8.8
QZ14	E	3.6
	B	3.9
	C	9
QZ15	E	5.3
	B	5.9
	C	8.8
QZ16	E	0
	B	0
	C	5.9
QZ17	E	3.5
	B	4.2
	C	9
QZ18	E	3.5
	B	4.2
	C	9
QZ19	E	3.8
	B	4.4
	C	8.8
QZ21	E	3.9
	B	4.6
	C	5
QZ22	E	3.9
	B	4.6
	C	4.8

QZ27	E	0
	B	0
	C	5
QZ28	E	0
	B	0
	C	5

DC VOLTAGE TABLES

AVC1-U CONTROL and SUPPLY BOARDS/PT2-E POWER FILTER BOARD

AVC1-U CONTROL BOARD

Symbol	Pin No.	DC Voltages
QM01	E	0
	B	3.2
	C	0
DM01	1	0
	2	0
	3	1.9
HM01	1	0
	2	5
	3	1.7

AVC1-U POWER SUPPLY BOARD

Symbol	Pin No.	DC Voltage
I901	1	1.7
	2	0
	3	221
	4	16.5
	5	0
I902	1	9.9
	2	8.9
	3	3
	4	17.5
I903	1	17.8
	2	17.8
	3	0
	4	17.4
I904	1	0
	2	0
	3	0
	4	2.4
I905	1	3.6
	2	4.4
	3	2
	4	4.8
I931	1	10.3
	2	5.3
	3	0
	4	5
	5	-
Q901	G	0
	A	16.5
	K	0
Q903	E	1.7
	B	2.4
	C	1.7
Q931	E	18
	B	17.2
	C	18
Q932	E	5.9
	B	6.5
	C	9
Q933	E	6.9
	B	6
	C	6.8
Q934	E	0
	B	0.7
	C	1
Q940	E	0
	B	0.6
	C	0
Q941	E	4.6
	B	4.6
	C	0
Q944	G	0
	A	17.7
	K	0

PT2-E POWER FILTER BOARD

Symbol	Pin No.	DC Voltage
I901	1	1.8
	2	0
	3	561
	4	14.3
	5	0
I902	1	11.8
	2	10.8
	3	14.3
	4	14.6
Q910	E	13.6
	B	14.3
	C	14.6
Q930	E	6.6
	B	6.6
	C	10.8

DC VOLTAGE TABLES

PT2-E SIGNAL/AUDIO BOARD

PT2-E SIG/AUDIO BOARD

Symbol	Pin No.	DC Voltage
I004	1	3.3
	2	3.3
	3	2.5
	4	2.5
	5	0
I006	1	0
	2	0
	3	0
	4	0
	5	5
	6	5
	7	0
	8	5
I007	1	0
	2	0
	3	0
	4	5
	5	5
I008	1	5
	2	2.2
	3	2.4
	4	4.8
	5	5
	6	5
	7	0
	8	5
	9	0
	10	5
	11	5
	12	0
	13	0
	14	-
	15	0
	16	0
	17	0
	18	5
	19	5
	20	5
	21	5
	22	0
	23	0
	24	3.3
	25	0.7
	26	3.3
	27	0
	28	0
	29	5
	30	5
	31	0
	32	4.7
	33	4
	34	0.7
	35	1.5
	36	4.7
	37	5
	38	0
	39	3.2
	40	0
	41	0
	42	0
	43	0
	44	-
	45	-
	46	-
	47	5
	48	5
	49	0
	50	0
	51	5
	52	5
	53	5
	54	5
	55	5
	56	0
	57	0
	58	5
	59	5
	60	5
	61	5
	62	5
	63	5
	64	5
	65	5
	66	5
	67	5
	68	5
	69	-
	70	5
	71	0
	72	0
	73	0
	74	-
	75	5
	76	-
	77	-
	78	5
	79	5
	80	0
I201	1	0
	2	5
	3	-
	4	5
	5	0
	6	5
	7	0
	8	1.3
	9	0
	10	0
	11	0
	12	1.6
	13	0
	14	3.3
	15	0
	16	3.3
	17	0
	18	3.3
	19	0
	20	3.3
I202	1	3.3
	2	0.9
	3	2.2
	4	-
	5	0
	6	-
	7	-
	8	0.9
	9	3.3
	10	0.9
	11	0.8
	12	1
	13	0
	14	2.4
	15	-
	16	0.9
	17	2.9
	18	0.9
	19	-
	20	2.4
	21	0
	22	0.9
	23	1.1
	24	2.4
	25	1.6
	26	3.3
	27	3.2
	28	3.3
	29	0
	30	1.8
	31	1.5
	32	3.3
	33	0
	34	3.3
	35	0
	36	0
	37	1.2
	38	1.3
	39	1.2
	40	1.2
	41	1.3
	42	1.1
	43	0
	44	3.3
	45	1.2
	46	1.2
	47	1.2
	48	1.2
	49	0
	50	0.9
	51	1.45
	52	1.9
	53	0
	54	1.1
	55	1.1
	56	1.1
I603	1	7.4
	2	9.8
	3	2.4
	4	5
	5	-4.3
	6	-9.3
	7	-9.3
	8	0
	9	5
	10	4.3
	11	5
	12	5
	13	-7.3
	14	-8
	15	0
	16	5
IC401	1	6
	2	0
	3	0
	4	6
	5	6
	6	6
	7	6
	8	6
	9	0.7
	10	6
	11	1.2

DC VOLTAGE TABLES

PT2-E SIGNAL/AUDIO BOARD (CONT.)

	12	1.2
	13	5
	14	5
	15	0
	16	12
	17	5
	18	5
	19	1.4
	20	1.4
	21	6
	22	6
	23	6
	24	6
	25	6
	26	6
	27	6
	28	-
	29	-
	30	6
IC402	1	6
	2	6
	3	6
	4	6
	5	6
	6	6
	7	6
	8	6
	9	6
	10	6
	11	6
	12	6
	13	0
	14	0
	15	0
	16	12
	17	6
	18	6
	19	0
	20	12
	21	12
	22	6
	23	6
	24	6
	25	6
	26	6
	27	6
	28	6
	29	6
	30	6
IC403	1	6
	2	6
	3	6
	4	6
	5	6
	6	0
	7	0
	8	0
	9	5
	10	5
	11	-
	12	-
	13	-
	14	-
	15	-
	16	7.5
IC404	1	0
	2	5
	3	0

	4	1.1
	5	0
	6	4.2
	7	0
	8	5
	9	2.5
	10	2.5
	11	0
	12	2.5
	13	2.5
	14	2.5
	15	-
	16	0
	17	0
	18	0
	19	0
	20	0
	21	7.8
	22	12
	23	7.8
	24	7.8
	25	12
	26	7.8
	27	12
	28	0
	29	20
	30	5
	31	15
	32	6
IP02	1	14
	2	3.3
	3	0
	4	1.2
	5	13.6
Q002	E	5
	B	5
	C	-
Q003	E	5
	B	4.4
	C	5
Q004	E	0
	B	0.7
	C	0
Q007	E	4
	B	3.3
	C	0
Q008	E	0.7
	B	0
	C	0
Q009	E	1.5
	B	0.9
	C	0
Q201	E	0
	B	0.7
	C	0
Q202	GND	0
	IN	0
	OUT	0.7
Q203	E	5
	B	3
	C	3
Q204	E	5
	B	3
	C	3
Q401	E	0
	B	0.7
	C	0.8
Q402	E	0.6

	B	1.2
	C	0.7
Q403	GND	0
	IN	0
	OUT	1.2
Q404	GND	0
	IN	0
	OUT	0
Q405	GND	0
	IN	0
	OUT	0
Q406	GND	0
	IN	5
	OUT	0
Q407	GND	0
	IN	0
	OUT	0
QA01	GND	0
	IN	3.3
	OUT	0
QA02	E	0
	B	0
	C	5

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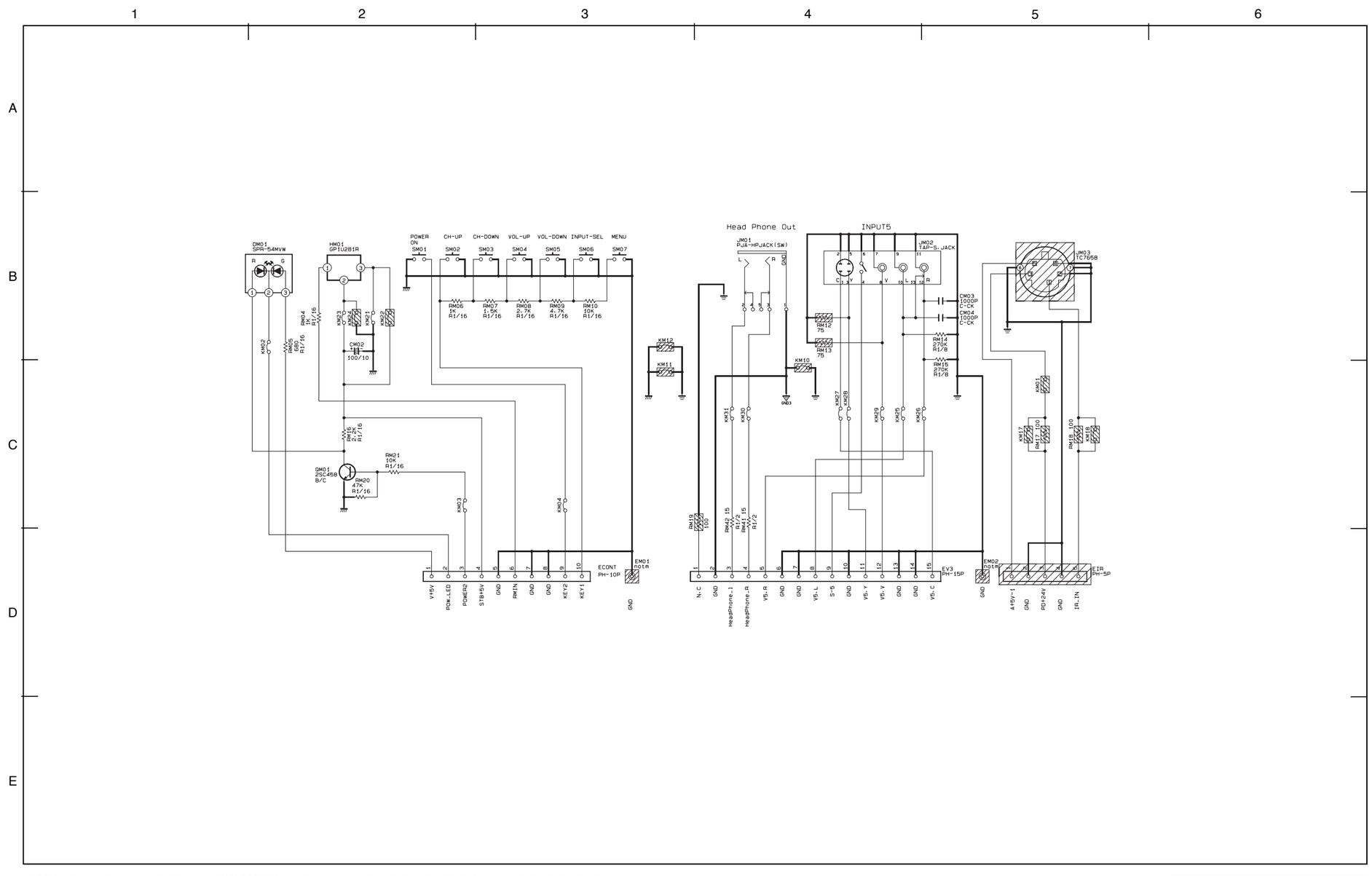
BASIC CIRCUIT DIAGRAM



- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

AVC1-U CONTROL

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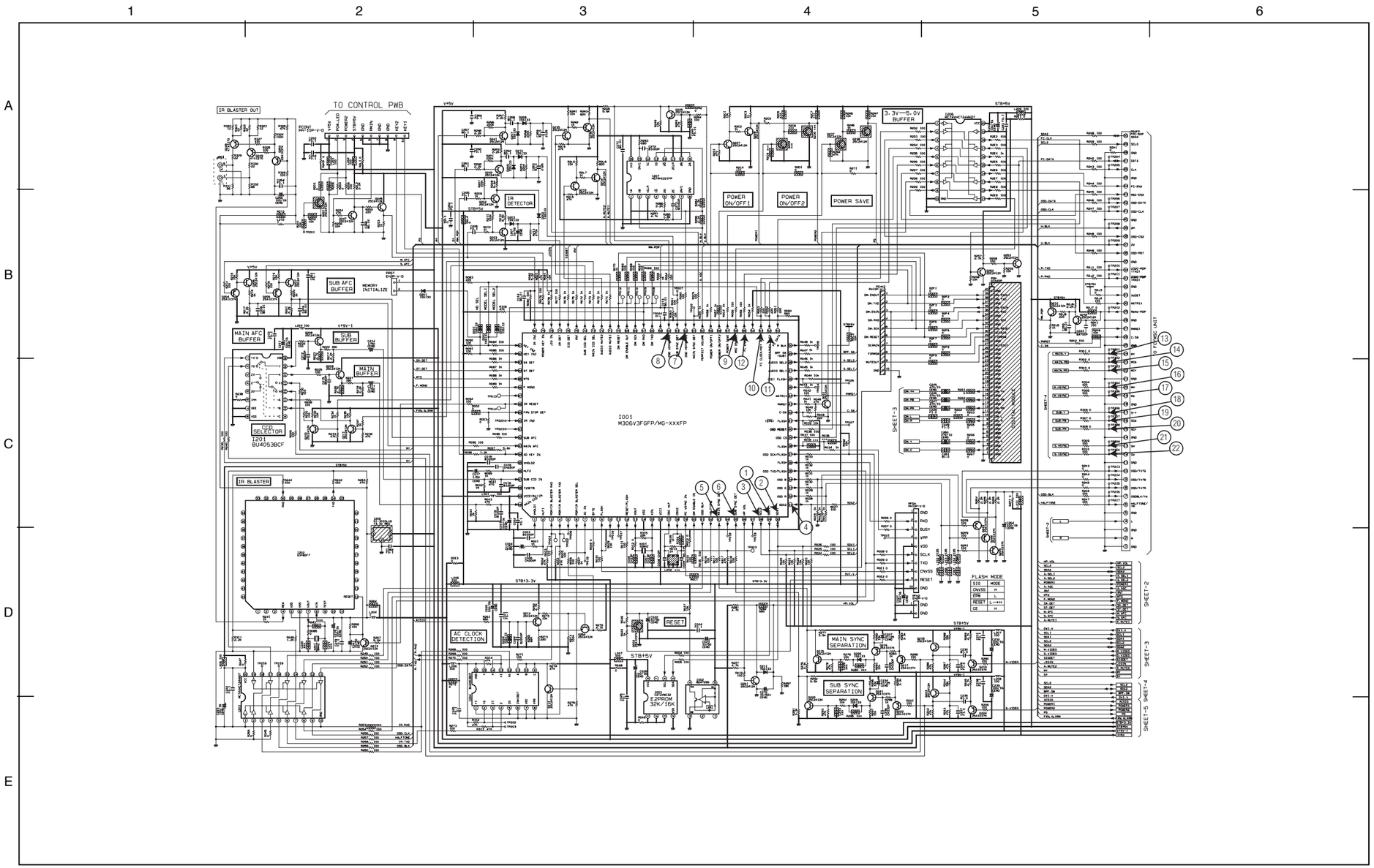
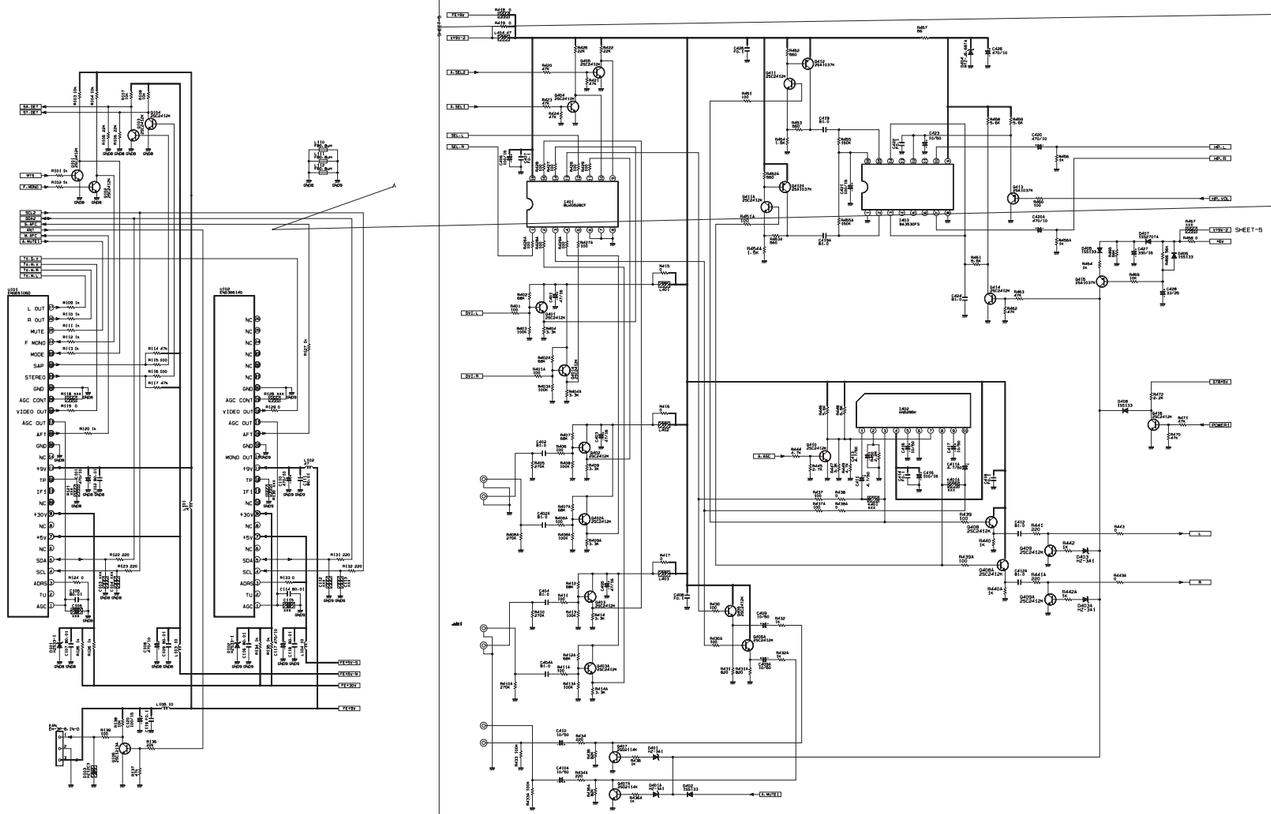
BASIC CIRCUIT DIAGRAM



- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

AVC1-U AV 1/5


SHEET-5

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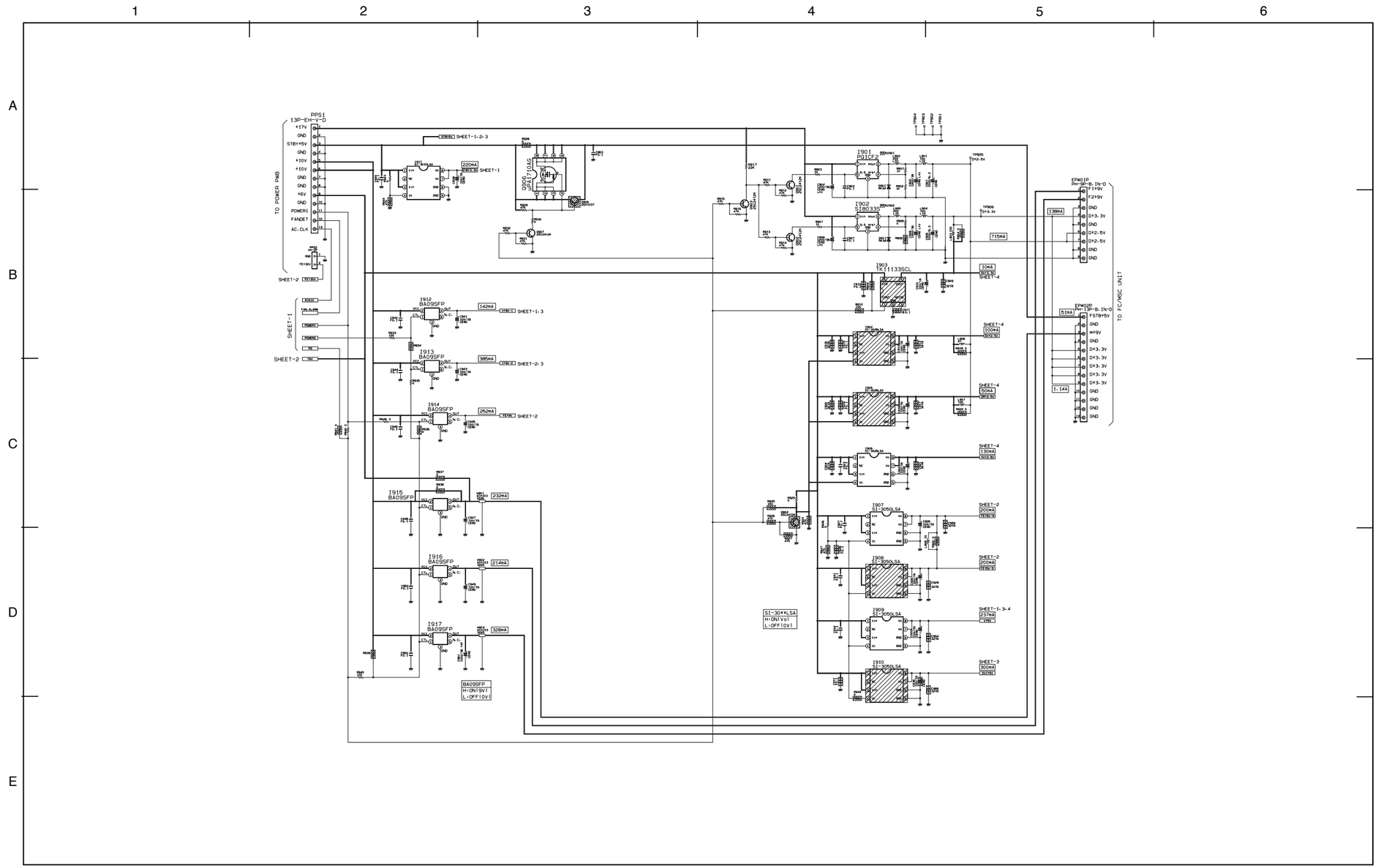
BASIC CIRCUIT DIAGRAM



- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

AVC1-U AV 5/5

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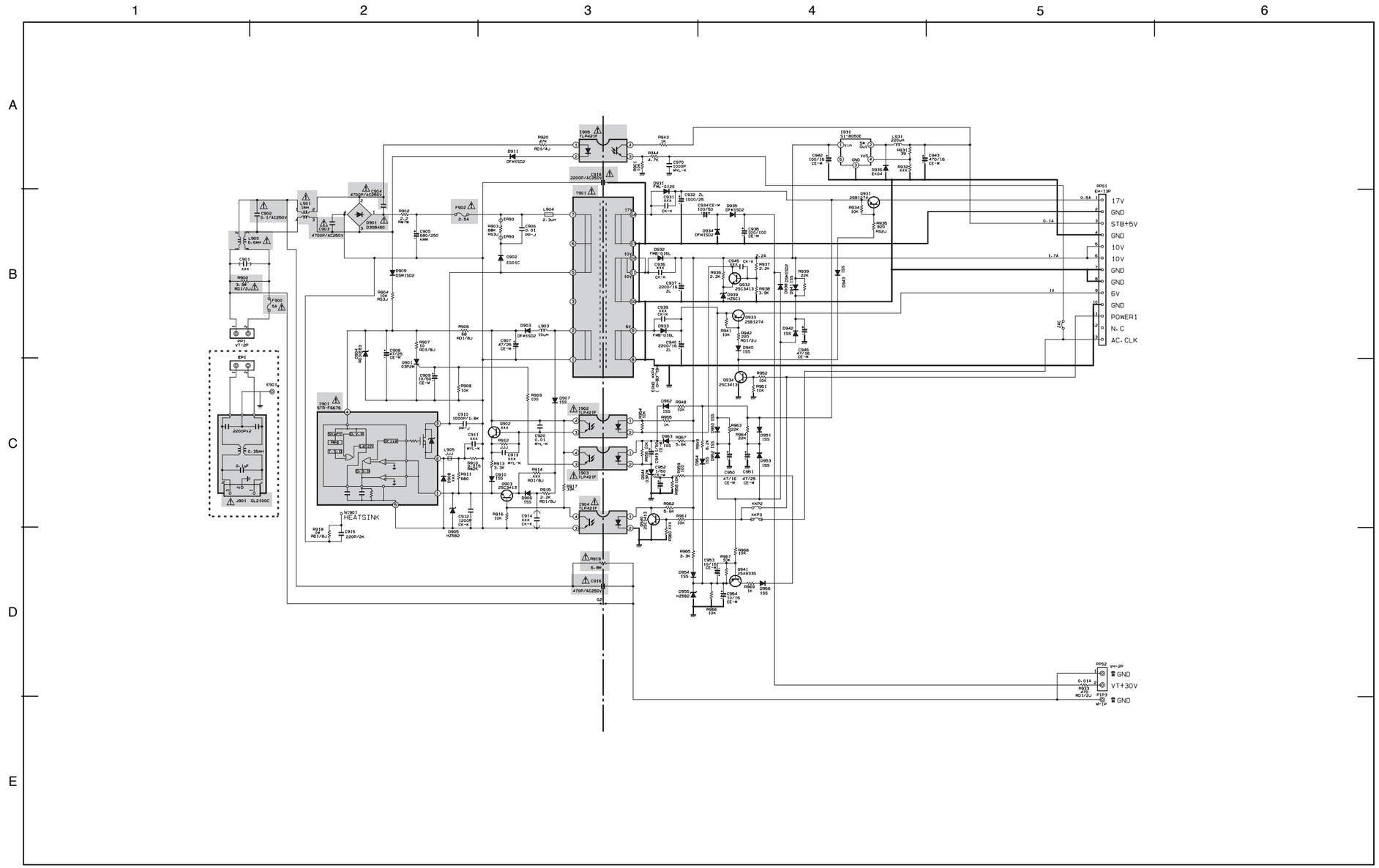
BASIC CIRCUIT DIAGRAM


1
2
3
4
5
6
A
B
C
D
E
PPS1 EH-13P
17V
GND
STB+5V
GND
10V
10V
GND
GND
6V
GND
POWER1
N.C
AC.CLK
PPS2 VH-2P
GND
VT+30V
PJP3
GND
HEATSINK
I901 STR-F6676
I902 TLP421F
I903 TLP421F
I904 TLP421F
I905 TLP421F
I931 S1-8050E
D901 D3SBA60
D902 EG01C
D903 DF15S2
D904 RD1/2J
D905 HZ5B2
D906 RD1/8J
D907 1SS
D908 10K
D909 DSM1S02
D910 1SS
D911 DF15S2
D912 1206B CK-K
D913 DSM1S02
D914 XXX CK-K
D915 2.2K RD1/8J
D916 2.2K RD1/8J
D917 XXX
D918 1M RD1/8J
D919 6.8K
D921 FMB-G12L
D922 FMB-G16L
D923 FMB-G16L
D924 FMB-G16L
D925 DSM1S02
D926 DSM1S02
D927 DSM1S02
D928 DSM1S02
D929 DSM1S02
D930 DSM1S02
D931 2SB1274
D932 2SC3413
D933 2SB1274
D934 DF15S2
D935 DF15S2
D936 EK04
D937 2.2K
D938 3.9K
D939 HZ6C1
D940 1SS
D941 DSA9335
D942 1SS
D943 1SS
D944 1SS
D945 CK-K
D946 47/16 CE-W
D947 1SS
D948 10K
D949 1SS
D950 47/25 CE-W
D951 1SS
D952 10K
D953 1SS
D954 1SS
D955 HZ5B2
D956 1SS
D957 5.6K
D958 1SS
D959 1SS
D960 XXX
D961 10K
D962 5.6K
D963 1SS
D964 1SS
D965 3.3K
D966 10K
D967 1SS
C901 XXX
C902 0.1/AC250V
C903 4700P/AC250V
C904 4700P/AC250V
C905 680/250 KMH
C906 0.01 PP-J
C907 47/25 CE-W
C908 47/25 CE-W
C909 10/50 CE-W
C910 1000P/1.8K PP-J
C911 XXX WYL-K
C912 1206B CK-K
C913 XXX WYL-K
C914 XXX CK-K
C915 220P/2K
C916 470P/AC250V
C917 XXX
C918 0.01 PP-J
C919 0.01 WYL-K
C920 0.01 WYL-K
C921 XXX CK-K
C922 XXX CK-K
C923 XXX CK-K
C924 XXX CK-K
C925 XXX CK-K
C926 XXX CK-K
C927 XXX CK-K
C928 XXX CK-K
C929 XXX CK-K
C930 XXX CK-K
C931 XXX CK-K
C932 ZL 1000/25
C933 XXX CK-K
C934 CE-W 100/50
C935 CE-W 100/50
C936 XXX CK-K
C937 2200/16 ZL
C938 XXX CK-K
C939 XXX CK-K
C940 2200/16 ZL
C941 XXX CK-K
C942 100/16 CE-W
C943 470/16 CE-W
C944 XXX CK-K
C945 XXX CK-K
C946 47/16 CE-W
C947 XXX CK-K
C948 XXX CK-K
C949 XXX CK-K
C950 47/16 CE-W
C951 47/25 CE-W
C952 1/50 CE-W
C953 10/16 CE-W
C954 10/16 CE-W
C955 XXX CK-K
C956 XXX CK-K
C957 XXX CK-K
C958 XXX CK-K
C959 XXX CK-K
C960 XXX CK-K
C961 XXX CK-K
C962 XXX CK-K
C963 XXX CK-K
C964 XXX CK-K
C965 XXX CK-K
C966 XXX CK-K
C967 XXX CK-K
C968 XXX CK-K
C969 XXX CK-K
C970 1000P MYL-K
L900 0.6mH
L901 10mH 1.2A
L902 3.3mH
L903 10uH
L904 3.3mH
L905 33U
L906 XXX
L907 XXX
L908 XXX
L909 XXX
L910 XXX
L911 XXX
L912 XXX
L913 XXX
L914 XXX
L915 XXX
L916 XXX
L917 XXX
L918 XXX
L919 XXX
L920 XXX
L921 XXX
L922 XXX
L923 XXX
L924 XXX
L925 XXX
L926 XXX
L927 XXX
L928 XXX
L929 XXX
L930 XXX
L931 200uH
R901 680
R902 RG/B
R903 68K RS3J
R904 10K RS3J
R905 1K
R906 68 RD1/8J
R907 10 RD1/8J
R908 10K
R909 100
R910 2.2K RD1/8J
R911 680
R912 XXX
R913 3.3K
R914 XXX RD1/8J
R915 2.2K RD1/8J
R916 10K
R917 33K
R918 1M RD1/8J
R919 6.8K
R920 47K RD1/4J
R921 XXX
R922 XXX
R923 XXX
R924 4.7K
R925 XXX
R926 XXX
R927 XXX
R928 XXX
R929 XXX
R930 XXX
R931 39
R932 XXX
R933 XXX
R934 10K
R935 820 RG2J
R936 2.2K
R937 2.2K
R938 3.9K
R939 22K
R940 155
R941 10K
R942 220 RD1/2J
R943 1K
R944 XXX
R945 XXX
R946 XXX
R947 XXX
R948 10K
R949 XXX
R950 XXX
R951 10K
R952 10K
R953 XXX
R954 XXX
R955 XXX
R956 10K
R957 XXX
R958 XXX
R959 XXX
R960 XXX
R961 10K
R962 5.6K
R963 22K
R964 22K
R965 3.3K
R966 10K
R967 XXX
R968 10K
R969 1K
F900 5A
F902 2.5A
T901 GL2100C
T902 XXX
T903 XXX
T904 XXX
T905 XXX
T906 XXX
T907 XXX
T908 XXX
T909 XXX
T910 XXX
T911 XXX
T912 XXX
T913 XXX
T914 XXX
T915 XXX
T916 XXX
T917 XXX
T918 XXX
T919 XXX
T920 XXX
T921 XXX

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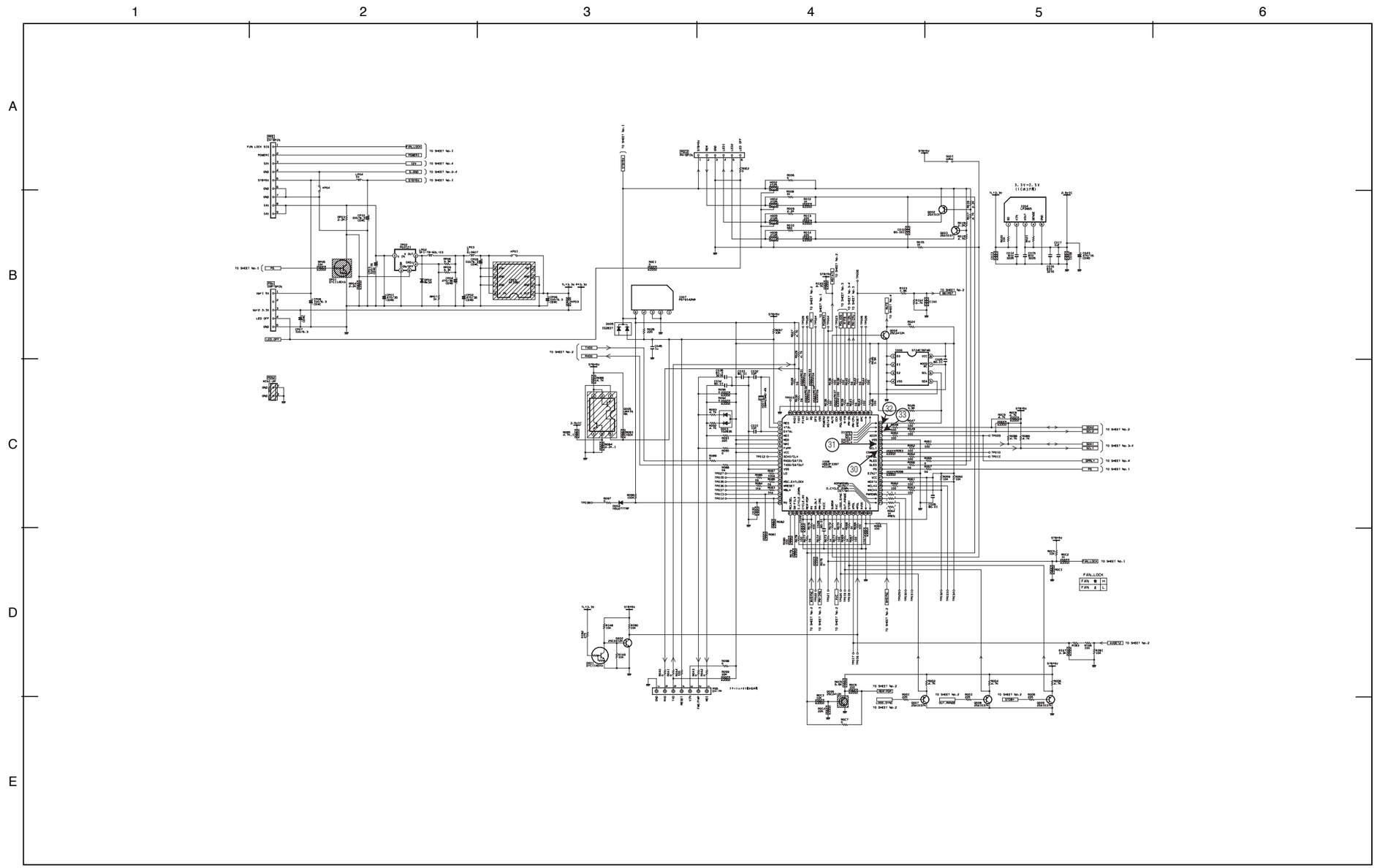
BASIC CIRCUIT DIAGRAM



- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

PT2-E SIGNAL/AUDIO 1/4

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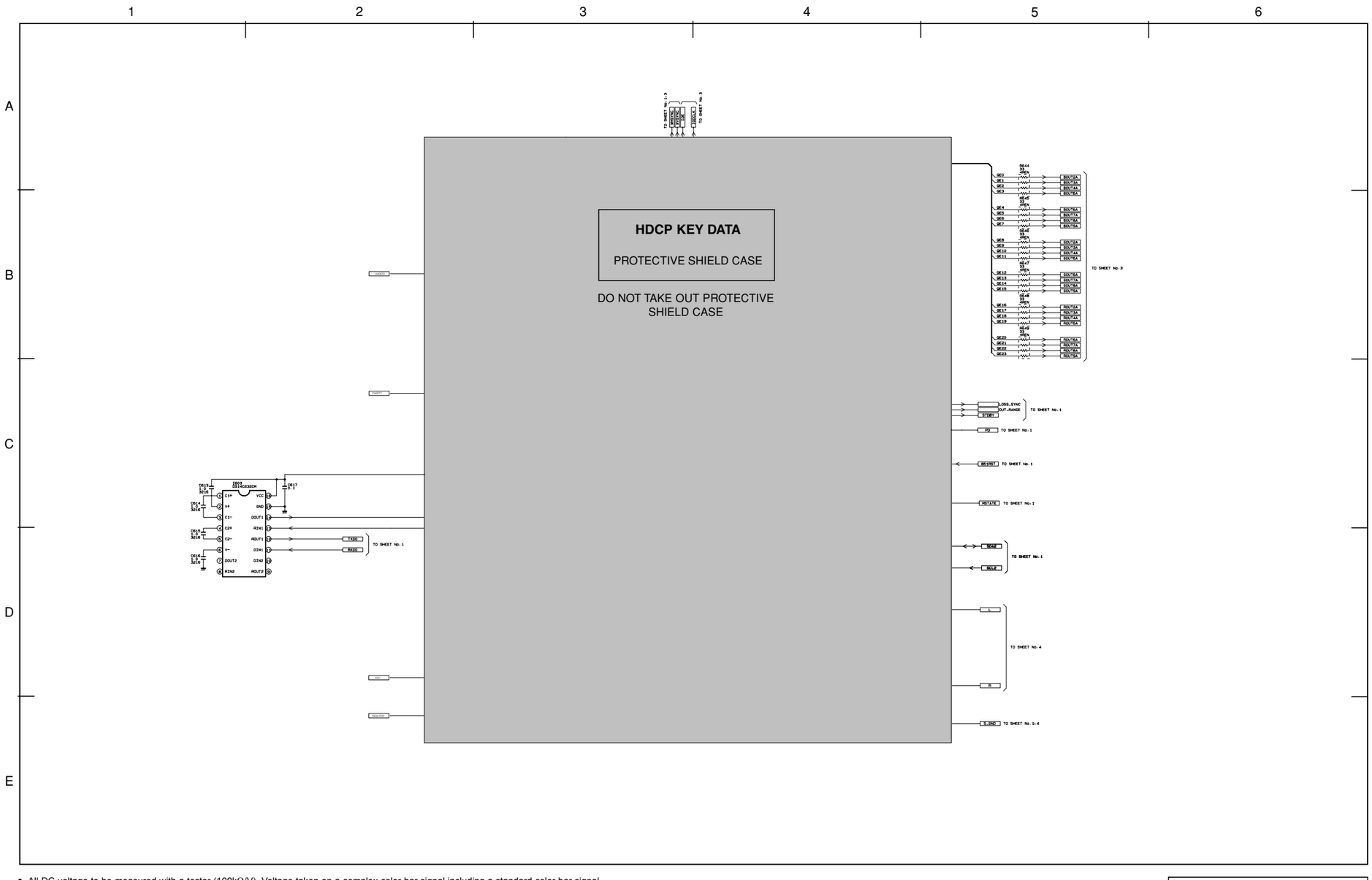
BASIC CIRCUIT DIAGRAM



- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
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PT2-E SIGNAL/AUDIO 2/4

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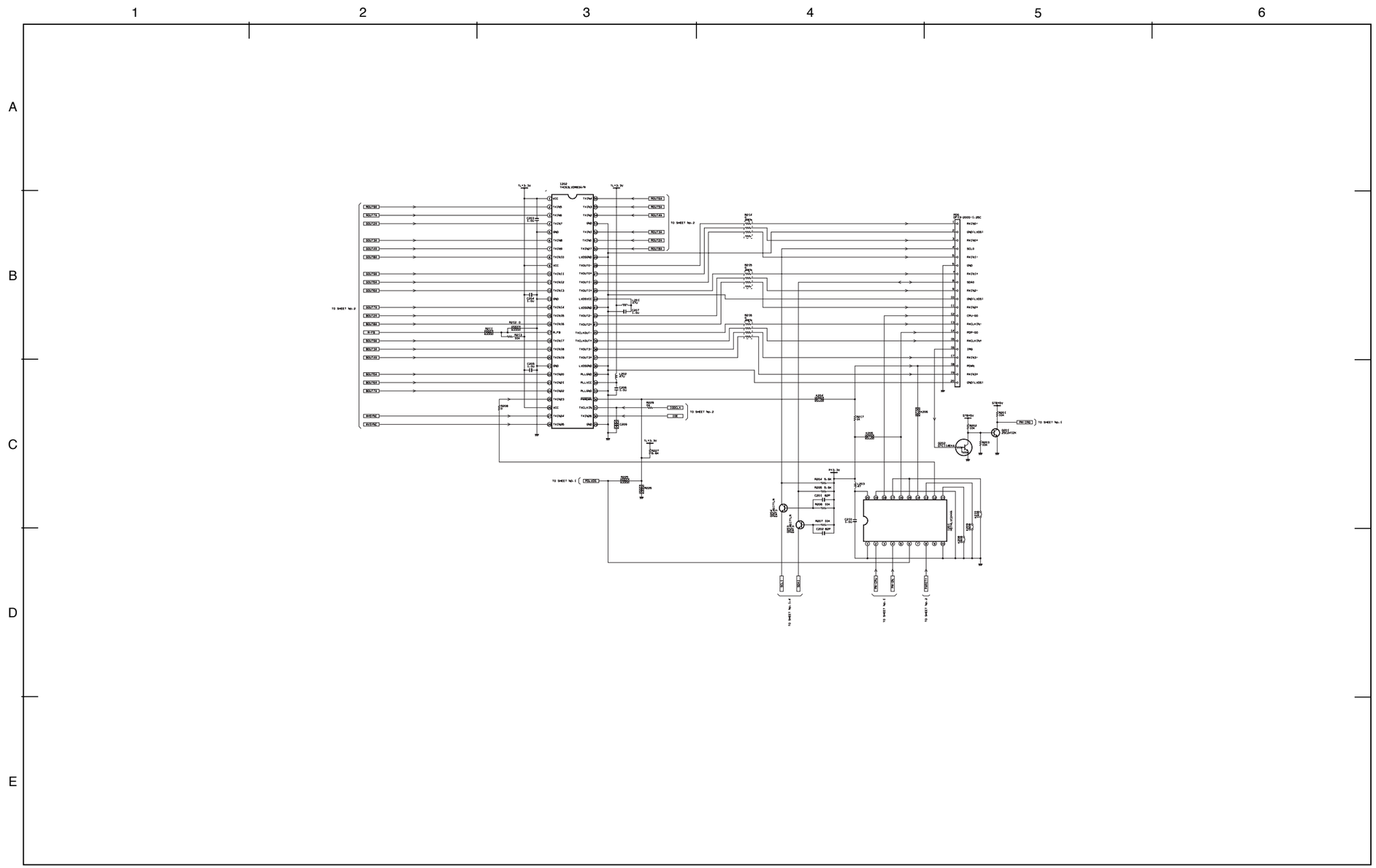
BASIC CIRCUIT DIAGRAM



- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
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PT2-E SIGNAL/AUDIO 3/4

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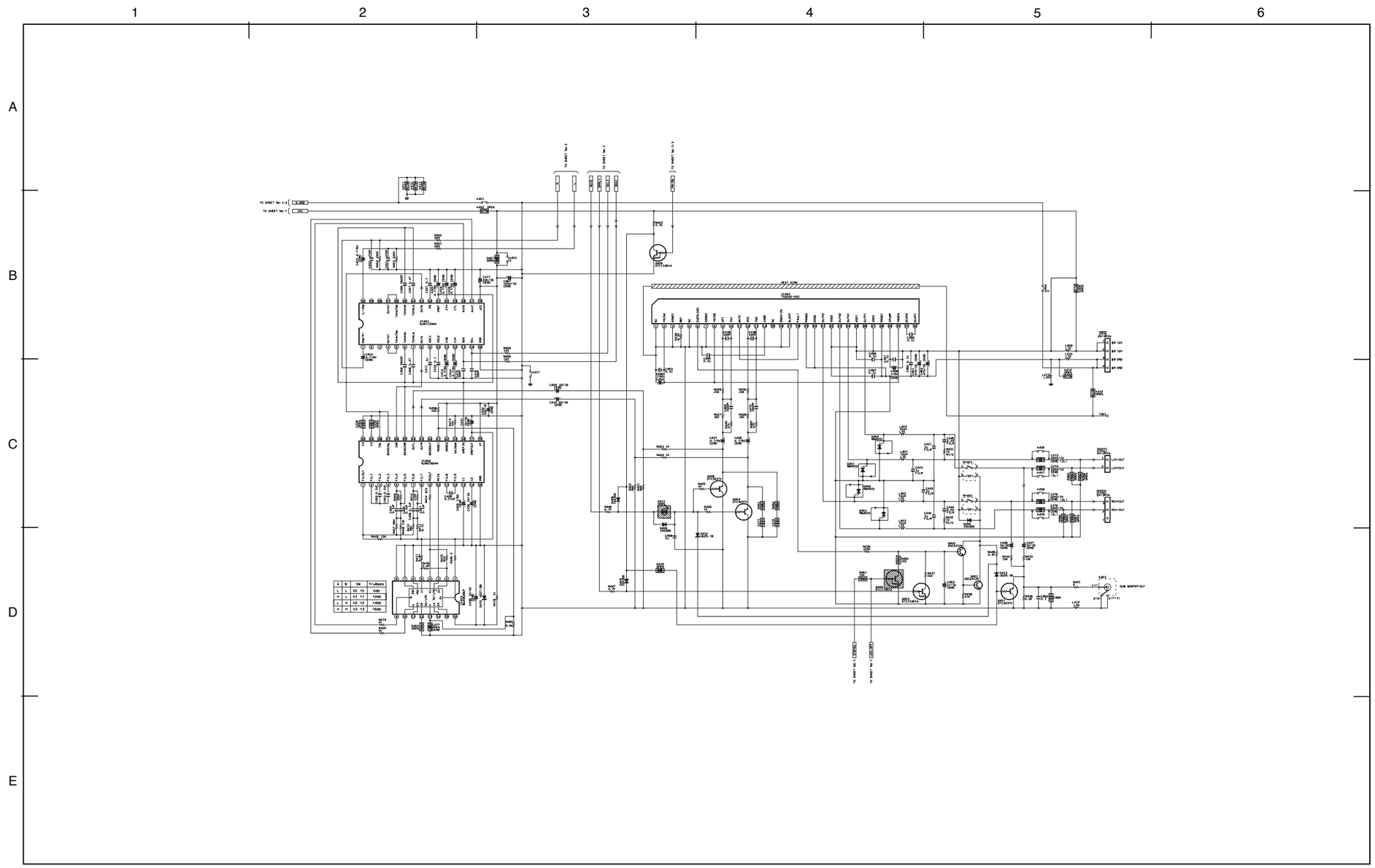
BASIC CIRCUIT DIAGRAM



- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

PT2-E SIGNAL/AUDIO 4/4

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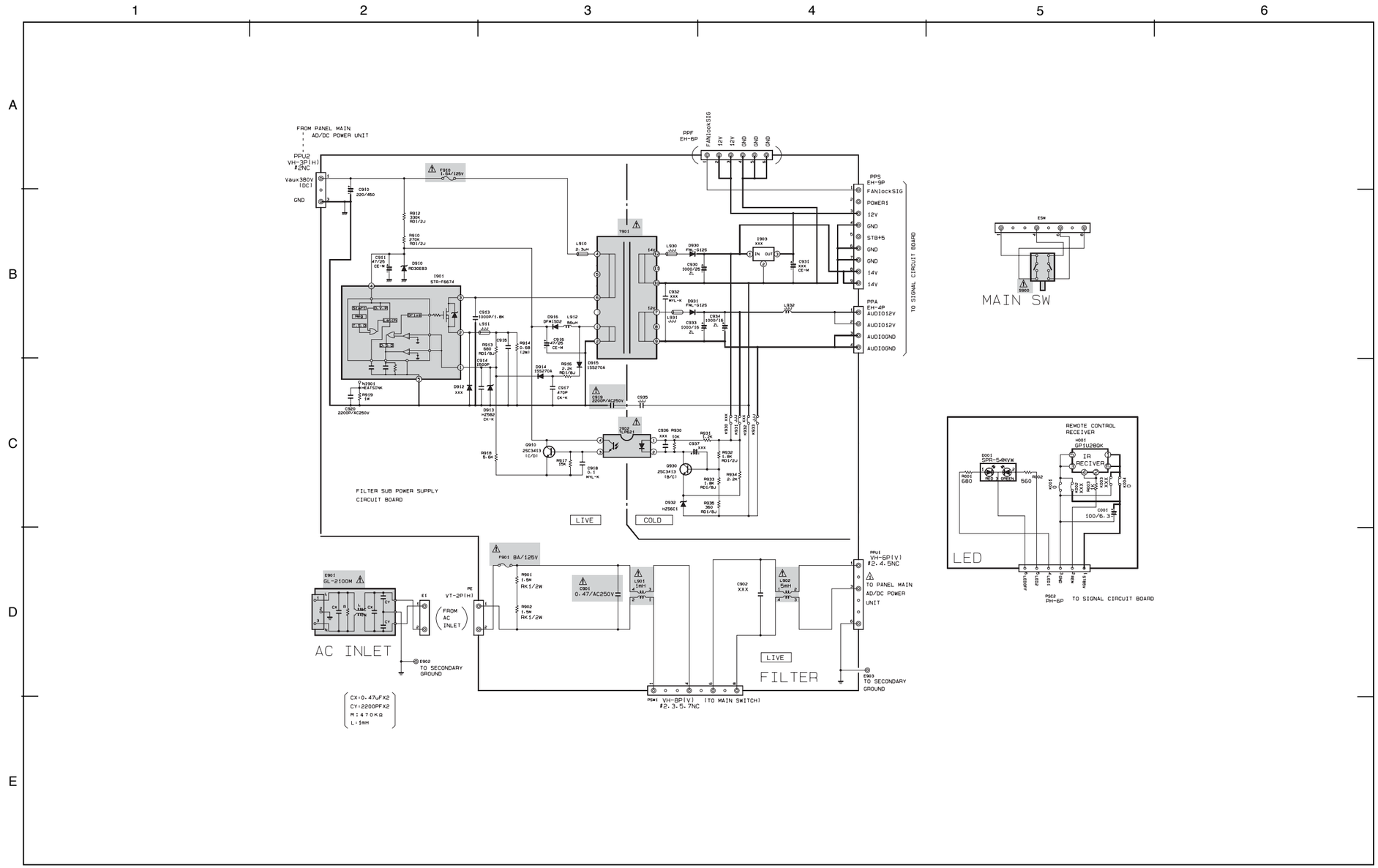
BASIC CIRCUIT DIAGRAM



- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

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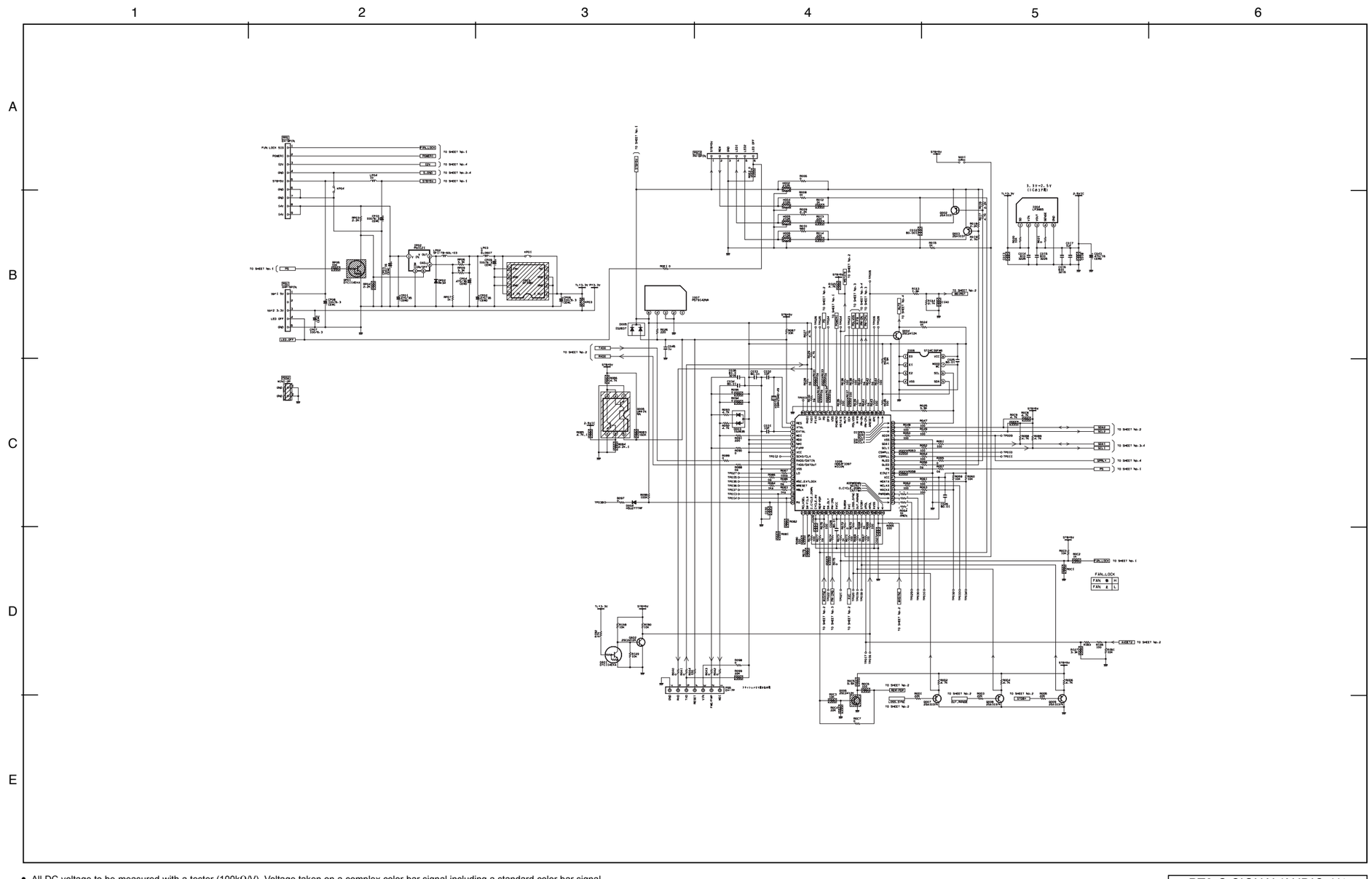
BASIC CIRCUIT DIAGRAM



- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
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PT2-G SIGNAL/AUDIO 1/4

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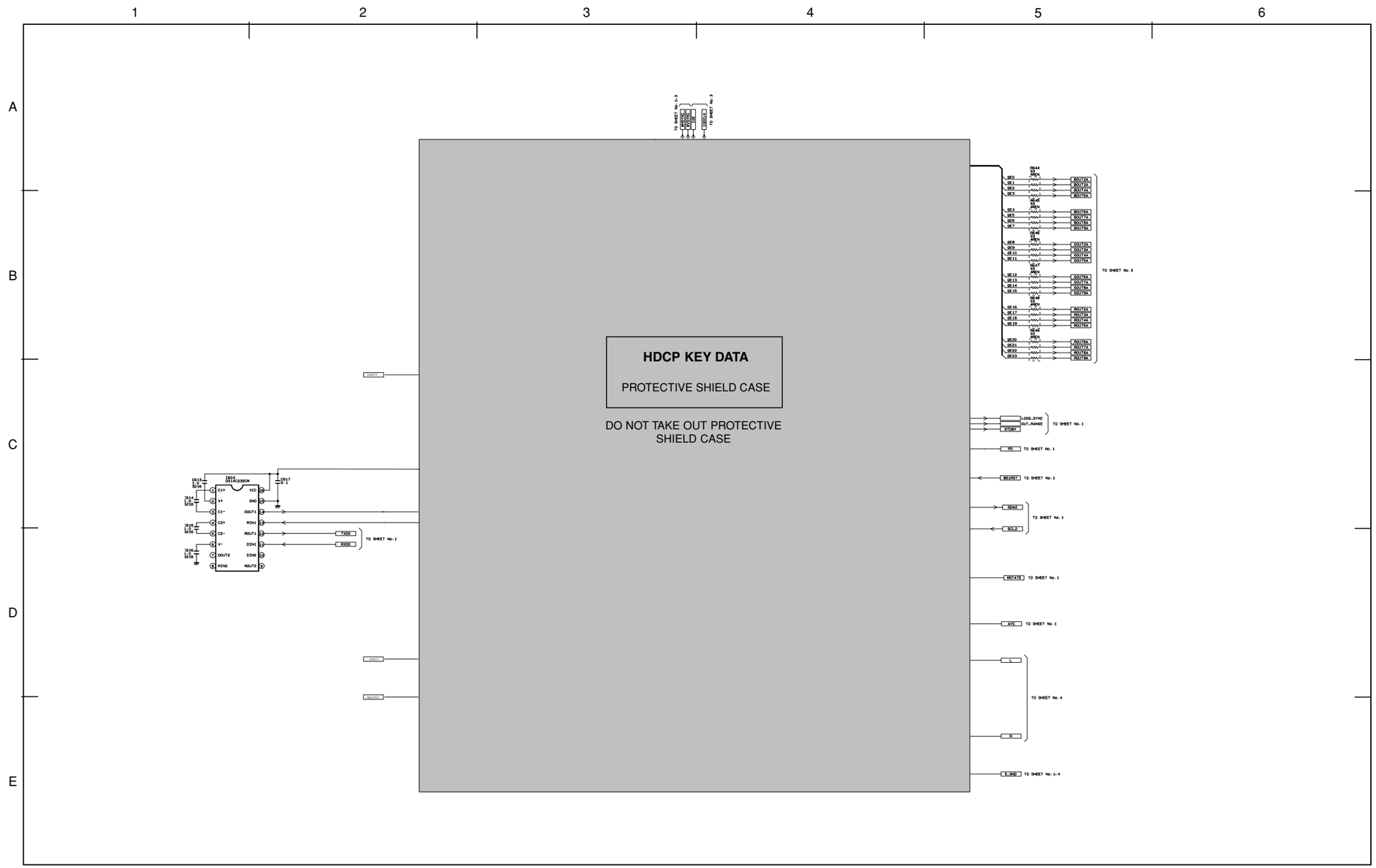
BASIC CIRCUIT DIAGRAM



- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

PT2-G SIGNAL/AUDIO 2/4

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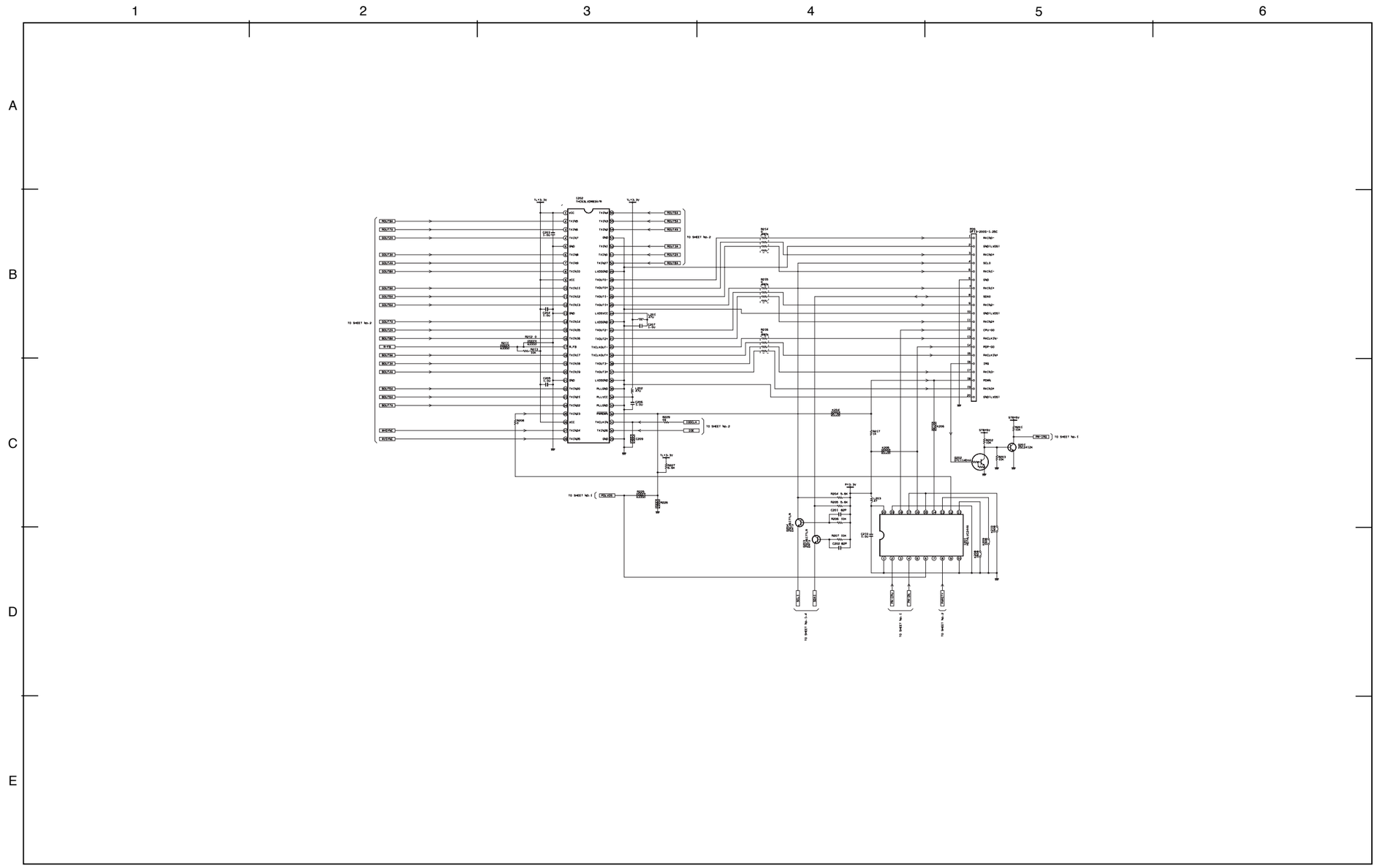
BASIC CIRCUIT DIAGRAM



- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

PT2-G SIGNAL/AUDIO 3/4

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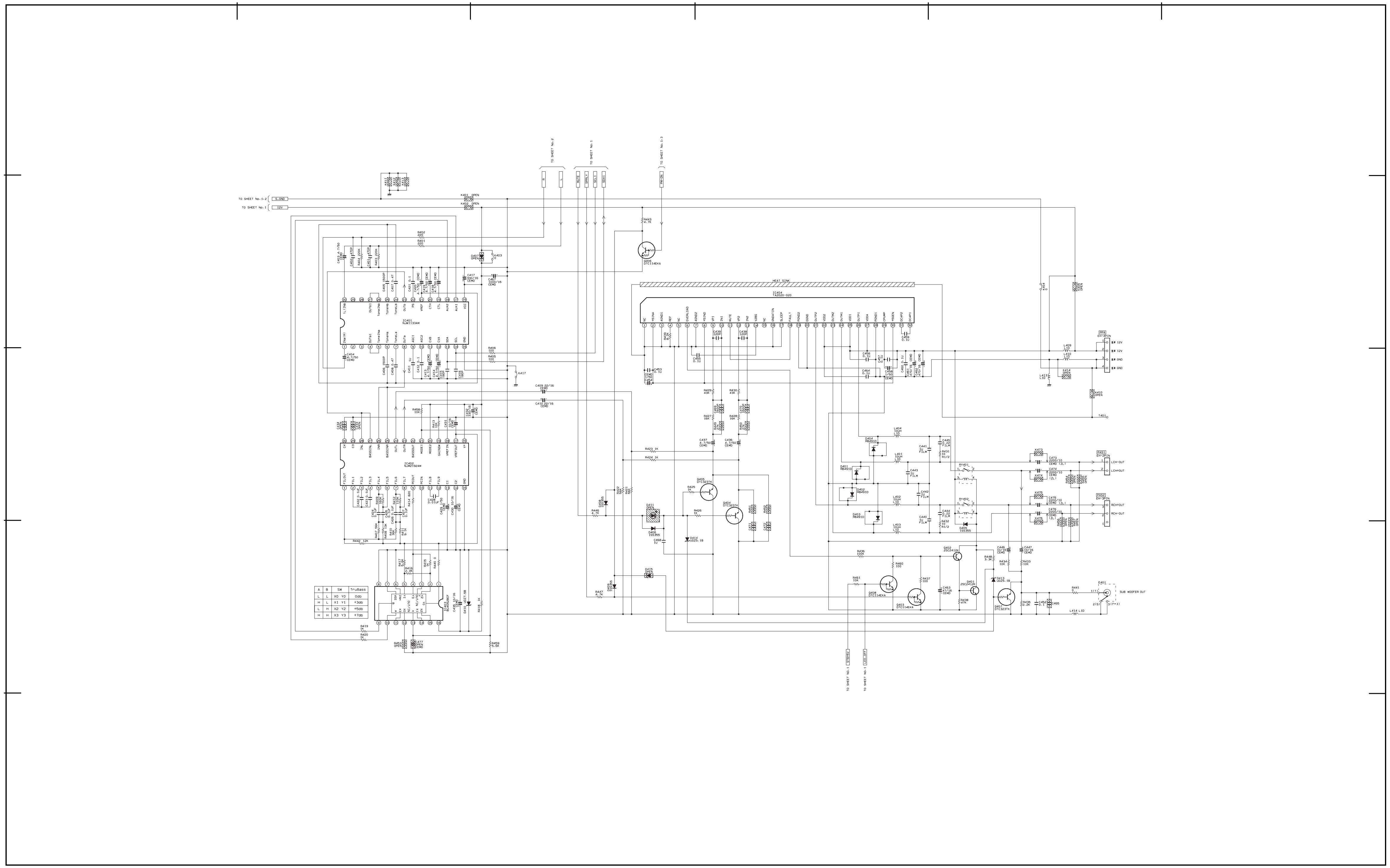
BASIC CIRCUIT DIAGRAM



A	B	SW	TruBass
L	L	X0 Y0	0db
H	L	X1 Y1	+3db
L	H	X2 Y2	+5db
H	H	X3 Y3	+7db

- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

PT2-G SIGNAL/AUDIO 4/4

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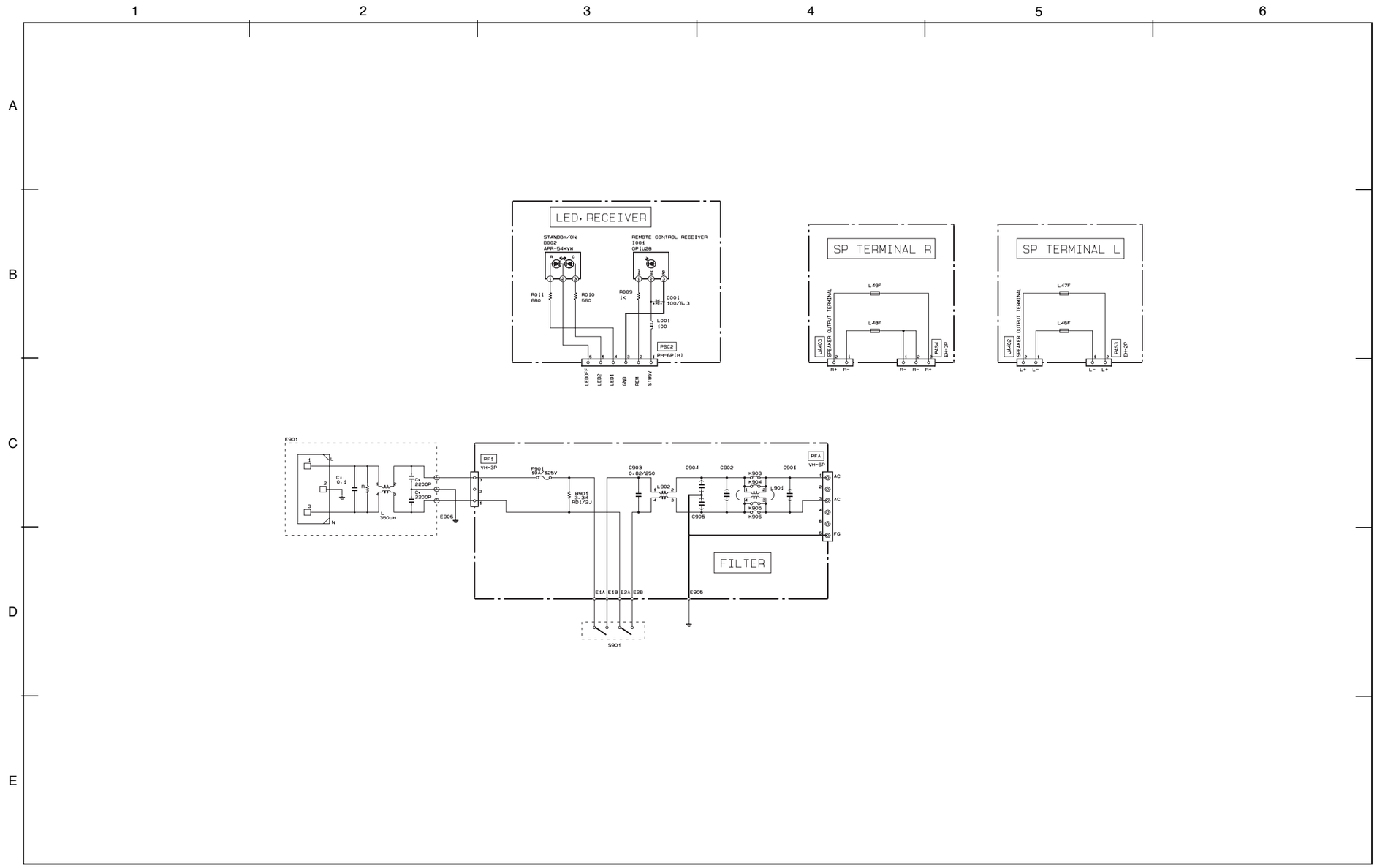
BASIC CIRCUIT DIAGRAM

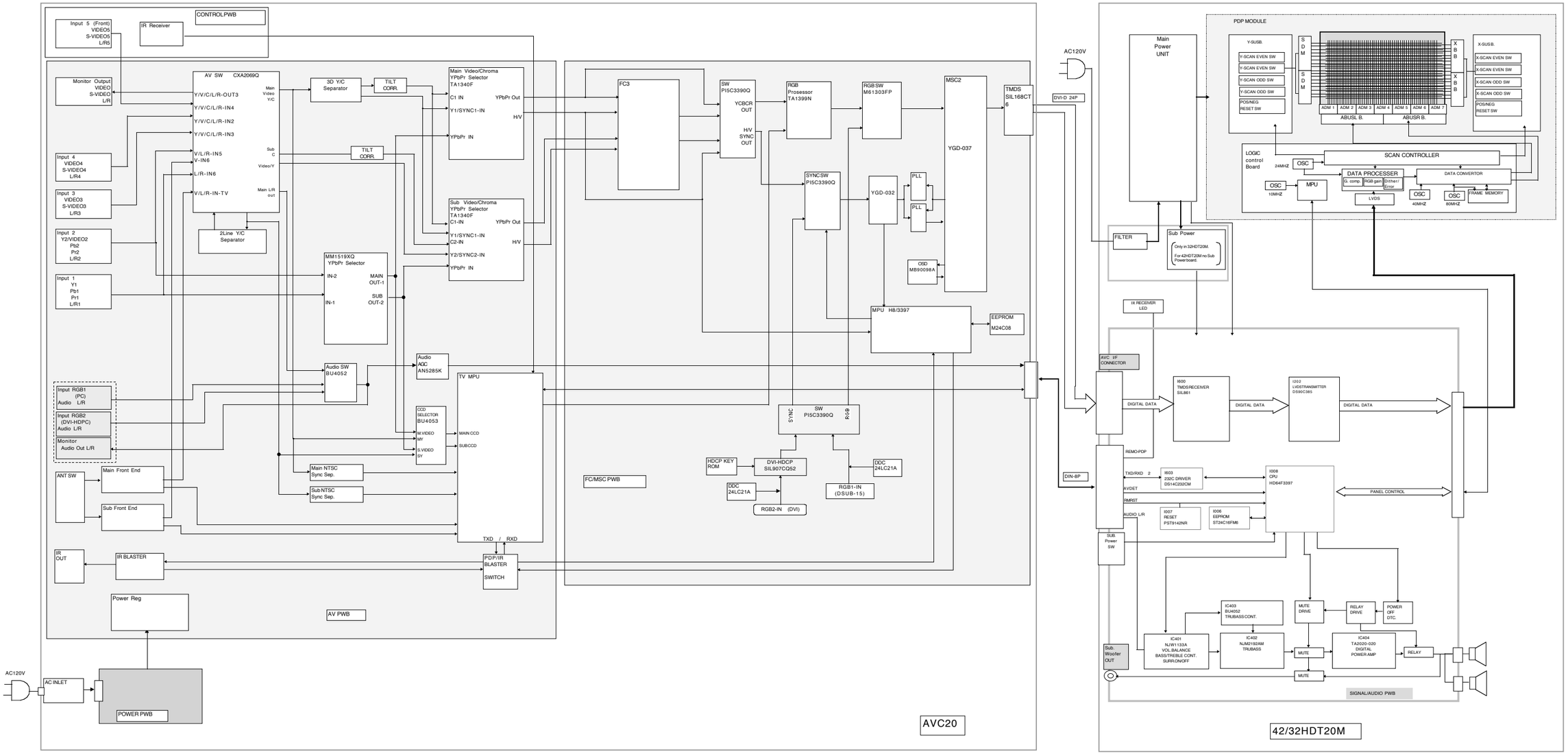


- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

PT2-G FILTER

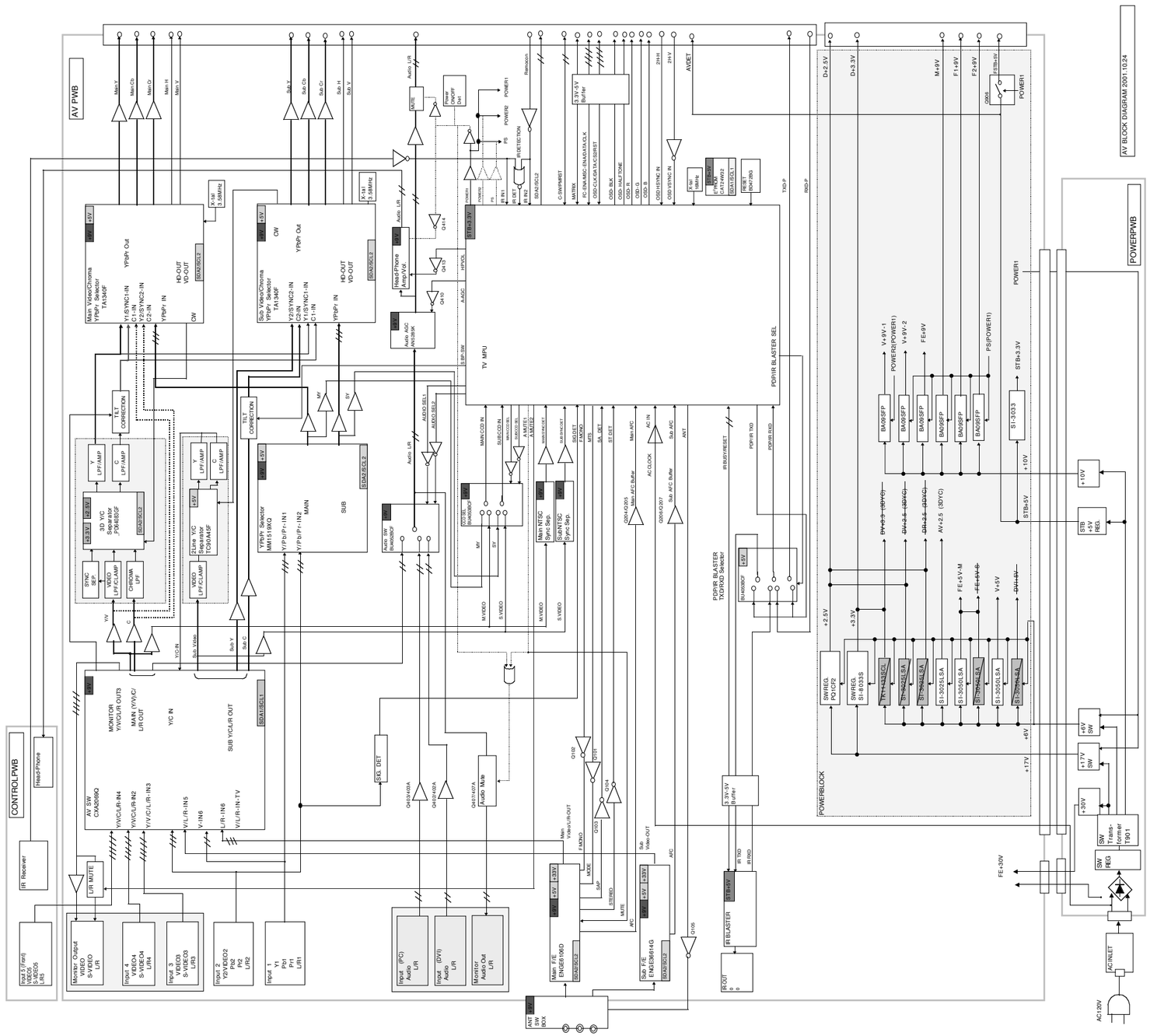
BLOCK DIAGRAM

AVC20 - 32/42HDT20M



BLOCK DIAGRAM

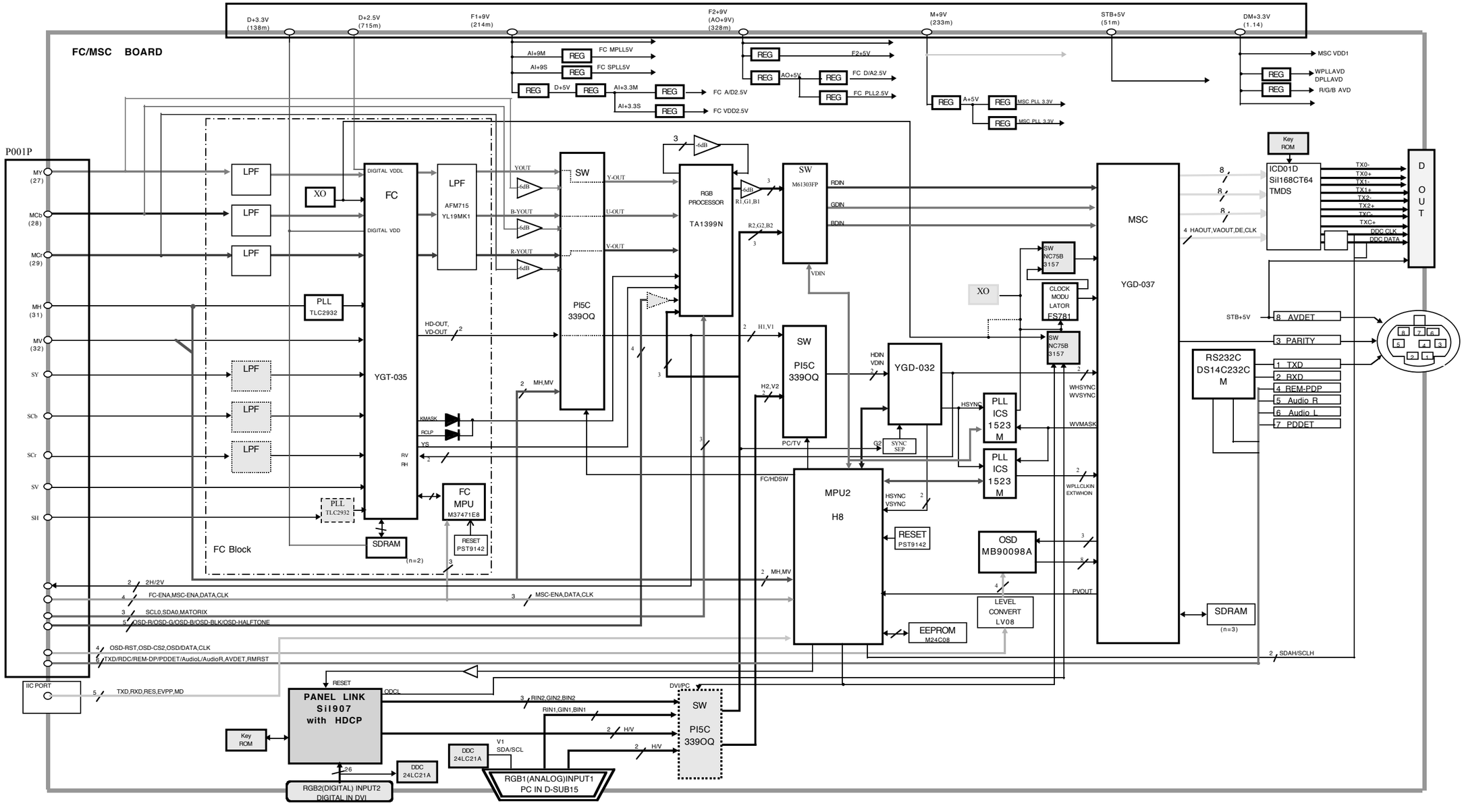
A/V BOARD



BLOCK DIAGRAM

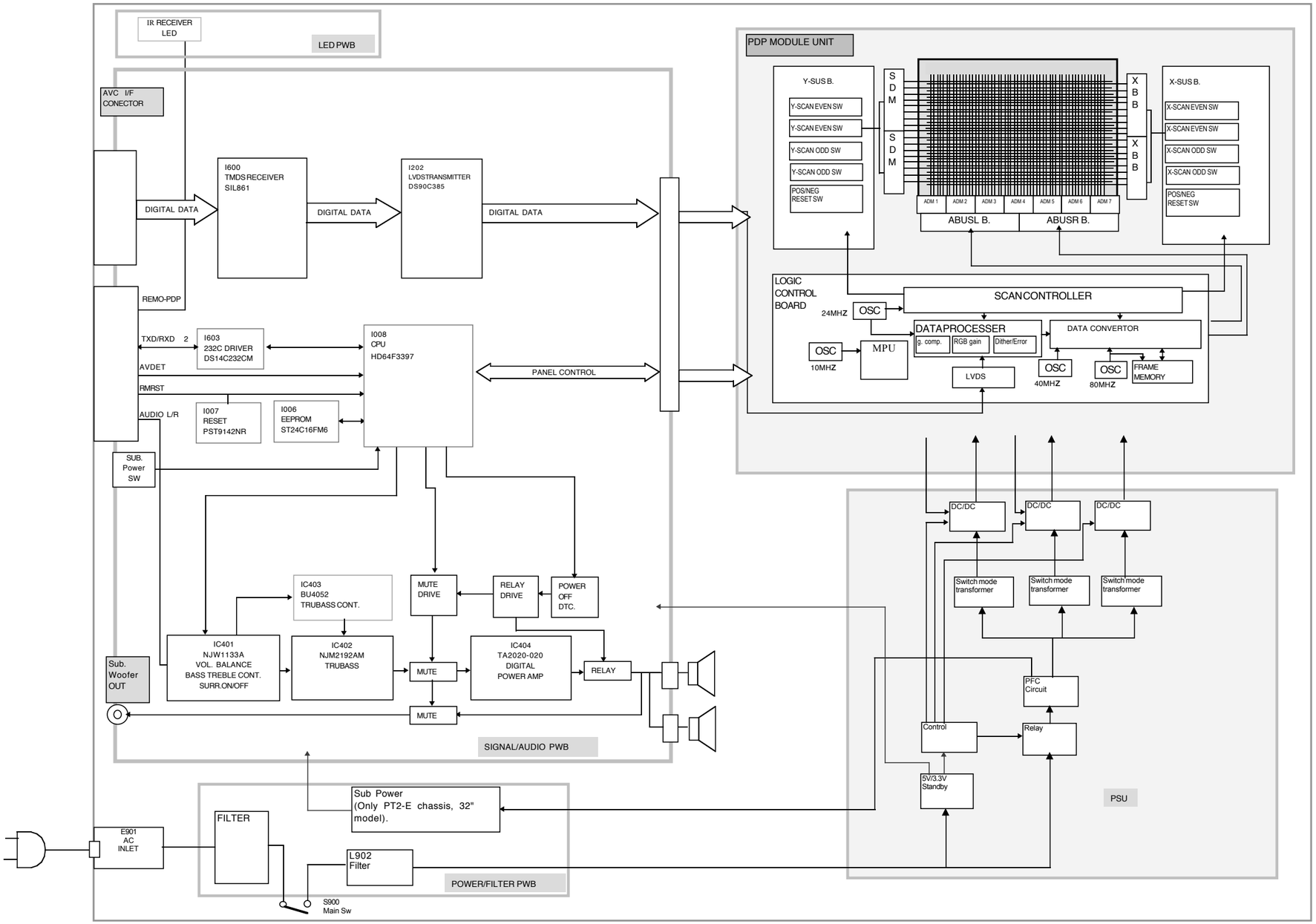
FC/MSC BOARD

NOTE: FC/MSC unit in the AVC20 chassis is considered a component and therefore removing its top or bottom shield covers is prohibited. The block diagram must be used only as a functional reference. Tampering with the IC ICD07D is also prohibited.



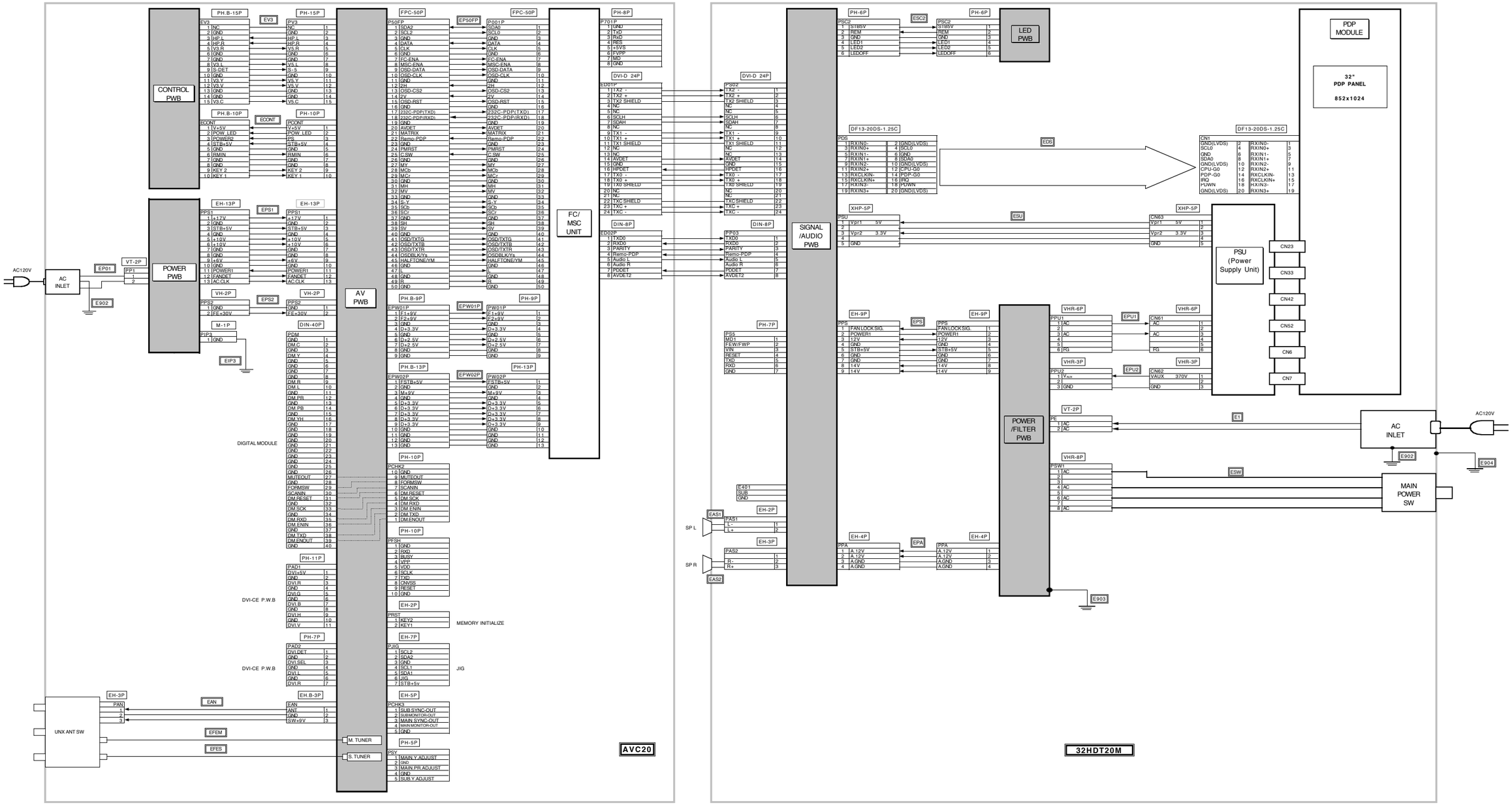
BLOCK DIAGRAM

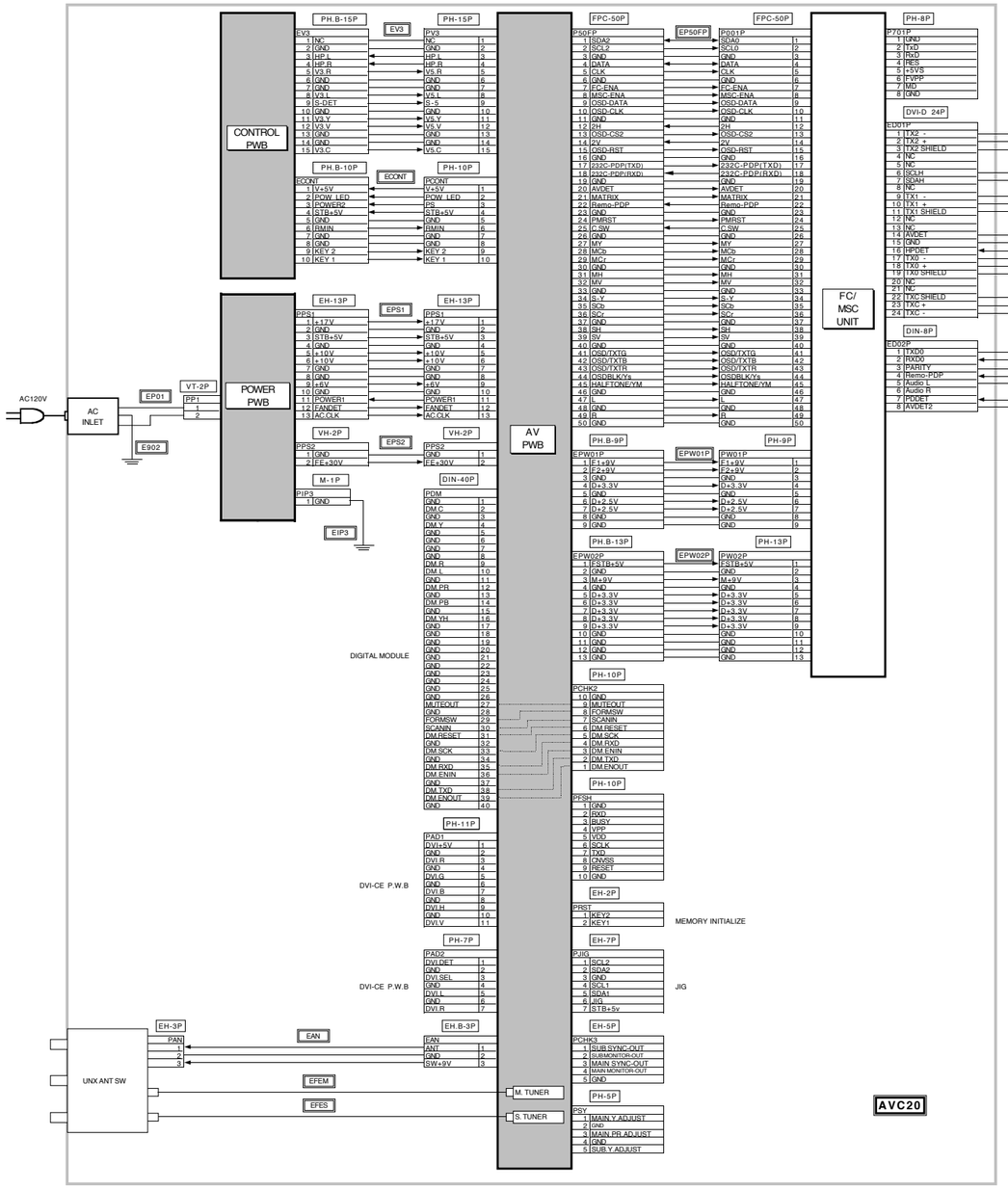
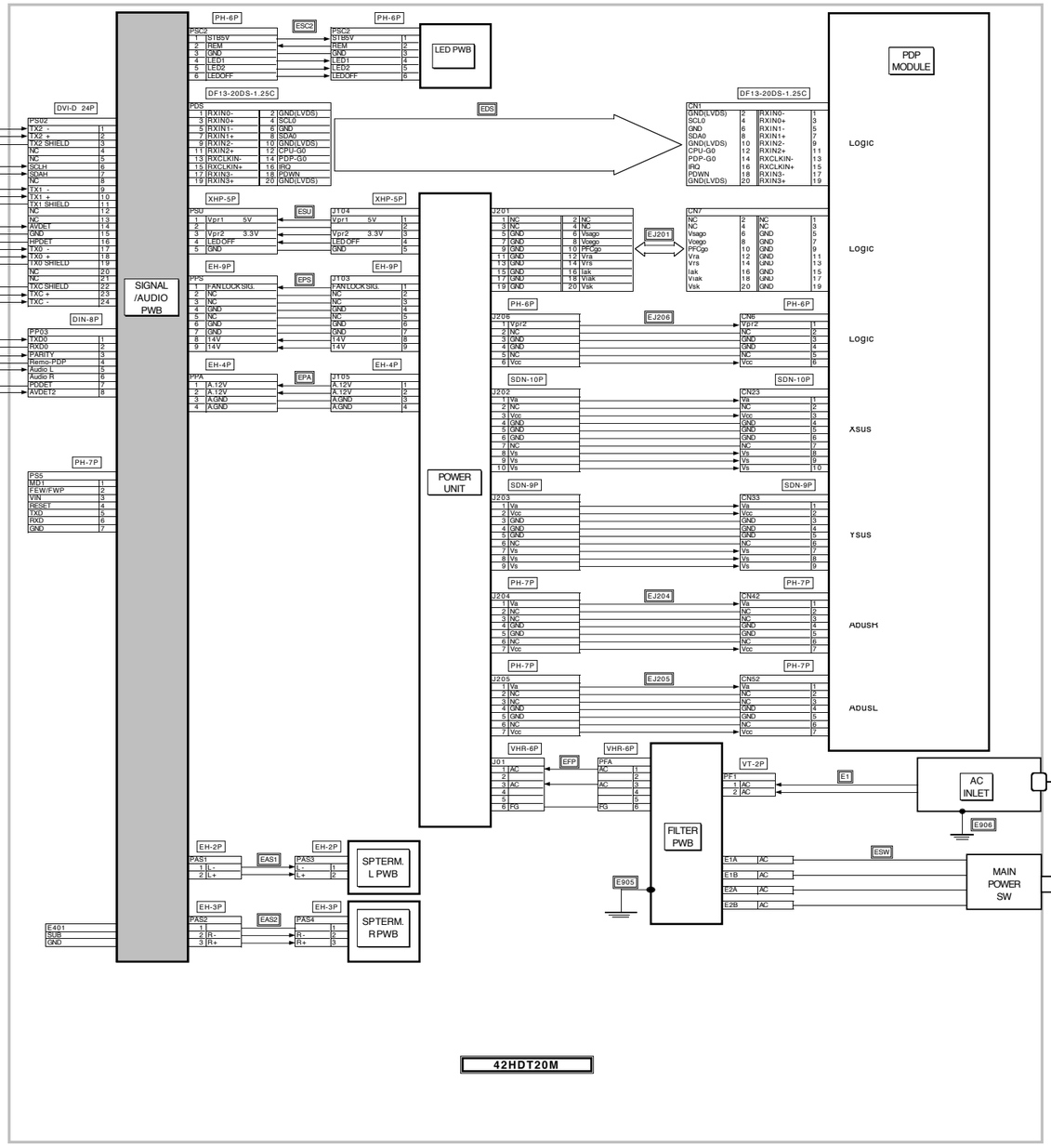
32/42HDT20M



CONNECTION DIAGRAM

32HDT20M



CONNECTION DIAGRAM

42HDT20M