BBK®

SERVICE MANUAL

DW9916S-2

Ver 0.0

INDEX

PREFACE

BLOCK DIAGRAM

EXPLODED VIEW

PARTS SPECIFICATIONS

SCHEMATIC DIAGRAM&PCB SILKSCREEN

PARTSLIST

BASIC INFORMATION

Features

Introducing American LSI (C-CUBE) Company's latest So C AV system (AVS) recorder processor this unit is, capable of recording all kinds of AV input signals, such as TV, ordinary VCD and DV video camera, into high quality DVD disc. In addition, this player is also a high capacity DVD player, capable of realizing all functions of ordinary DVD player. His 2-in-1 init will make your life more enjoyable and wonderful.

Support multiple input sources recording

1 Composite video input
2 S-video input
3 TV tuner input
4 DV input
5 Analog audio terminal input
6.SCART input

Provide multiple output signals

1.Composite video output
2.S-video output
3.Component video output
4.SCART output
5.L/R double audio channels output
6.Optical / Coaxial output

Multiple DVD recording qualities

This unit provides you with 4 kinds of recording qualities, each of which has different resolution and recording time, to make you choose between high resolution picture quality and super long time of recording.

Multiple recording methods

This unit facilitates your usage with three kinds of recording methods: ordinarily manual recording, time recording, OTR one-touch recording and DV recording.

Convenient menu operation

This unit incorporates convenient interface menu operation. No need for you to remember the multifarious function buttons on remote control, and you can realize the majority of functions through using a few direction and selection buttons.

Standby function

Remote control standby function makes your operation more convenient and helps you fulfill time recording function on the basis of saving electric power.

Highly intelligent upgrading function

This unit has automatic upgrading function to make you upgrade it into the latest edition with our upgrading disc at any time.

This player can use the following discs

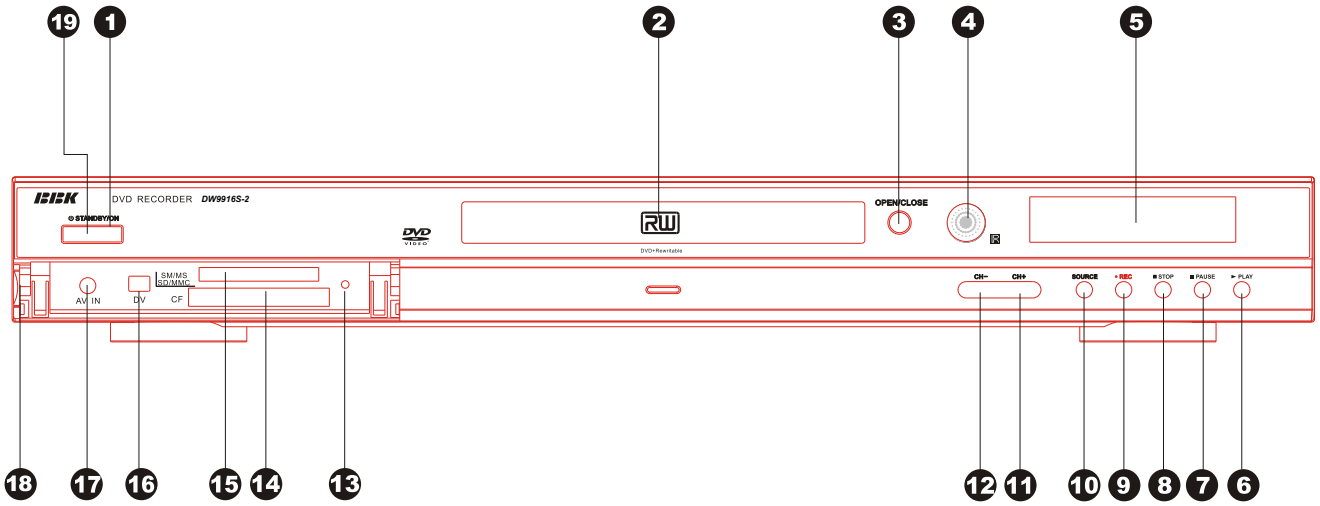
This unit can play DVD, DVD+R, DVD+RW, VCD, SVCD, CD-DA and MP3.
This unit can record DVD+R and DVD+RW

Built-in 5 in 1 Reader that can read data form the following cards

SM、MS、SD、MMC、CF

BASIC INFORMATION

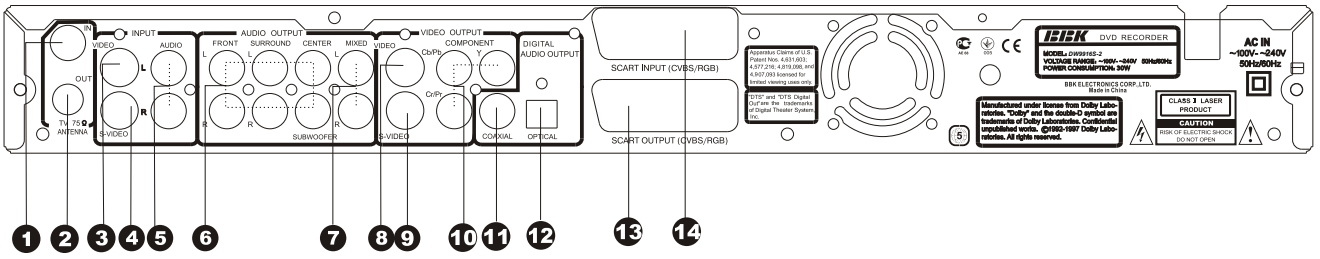
Illustration of the Front Panel



1. STANDBY/ON button
2. Disc tray
3. OPEN/CLOSE button
4. Infrared remote sensor
5. VFD display window
6. PLAY button
7. PAUSE button
8. STOP button
9. REC button
10. SOURCE button
11. CH+button
12. CH- button
13. Reader indicator
14. CF card slot
15. SM、 MS、SD、MMC card slot
16. DV input terminal
17. Front AV input terminal
18. Open the terminal protection cover here
19. STANDBY indicator

- The function of buttons on the front panel is the same with that of the corresponding ones on the remote control.
- The input terminals on the front panel can only be seen when the protection cover is opened.

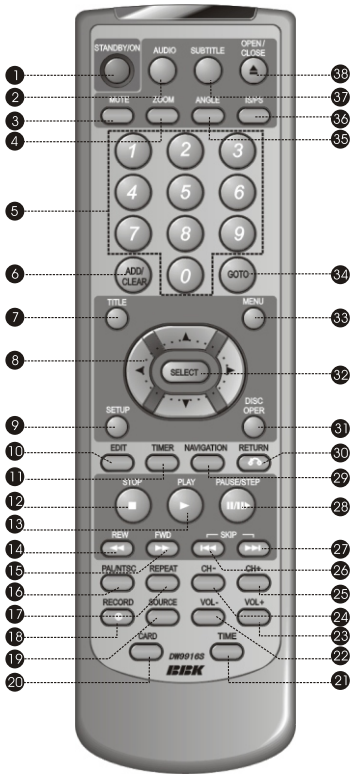
Illustration of the Rear Panel



1. TV TUNER input terminal
   ※ The antenna cable plug is inserted here
2. TV TUNER output terminal
   ※ This terminal is directly connected with the TV TUNER Input Terminal inside this unit
3. Rear COMPOSITE Video input terminal
4. Rear S-Video input terminal
5. L/R channel audio input terminals
6. 5.1 CH output terminals
7. L/R channel audio output terminals
8. COMPOSITE VIDEO output terminal
9. S-VIDEO output terminal
10. COMPONENT VIDEO output terminals
11. COAXIAL output terminal
12. OPTICAL output terminal
13. CVBS/ RGB and audio output terminal
14. CVBS/ RGB and audio input terminal

BASIC INFORMATION

Illustration of the Remote Control



1 STANDBY/ON button
Switch between standby state and working state

2 AUDIO button
※Switch the audio channel
※Switch the audio stream

3 MUTE button
Enable or disable audio output

4 ZOOM button
Enlarge the DVD/VCD picture

5 NUMBER buttons

6 ADD/CLEAR button
※Add/Clear the content items in the list window
※Clear the wrong input numbers

7 TITLE button
Display DVD titles menu

8 CURSOR buttons
Move the cursor

9 SETUP button
System setup

10 EDIT button
Enter/quit the edit mode

11 TIMER button
Enter/quit the timing record setup

12 STOP button
Stop playing/recording

13 PLAY button
Play a disc

14 REW button
Fast backward play

15 Forward button
Fast forward play

16 PAL/NTSC button
Switch the PAL/NTSC TV output system

17 REPEAT button
Repeat playback

18 RECORD button
Record the external signals

19 SOURCE button
Enter monitoring mode, switch external input signal source

20 CARD button
Enter read card mode

21 TIME button
Playing DVD disc , display corresponding time

22 VOL- button
Decrease volume

23 VOL+ button
Increase volume

24 CH- button
Switch TV channels

25 CH+ button
Switch TV channels

26 PREV button
Skip backward

27 NEXT button
Skip forward

28 PAUSE/STEP button
Pause or play frame by frame

29 NAVIGATION button
Display/hide menu

30 RETURN button
Back to the previous menu

31 DISC OPER button
Enter the disc operate mode

32 SELECT button
Confirm the selected item

33 MENU button
※Display the disc menu
※Open/close PBC

34 GOTO button
Play from the desired location

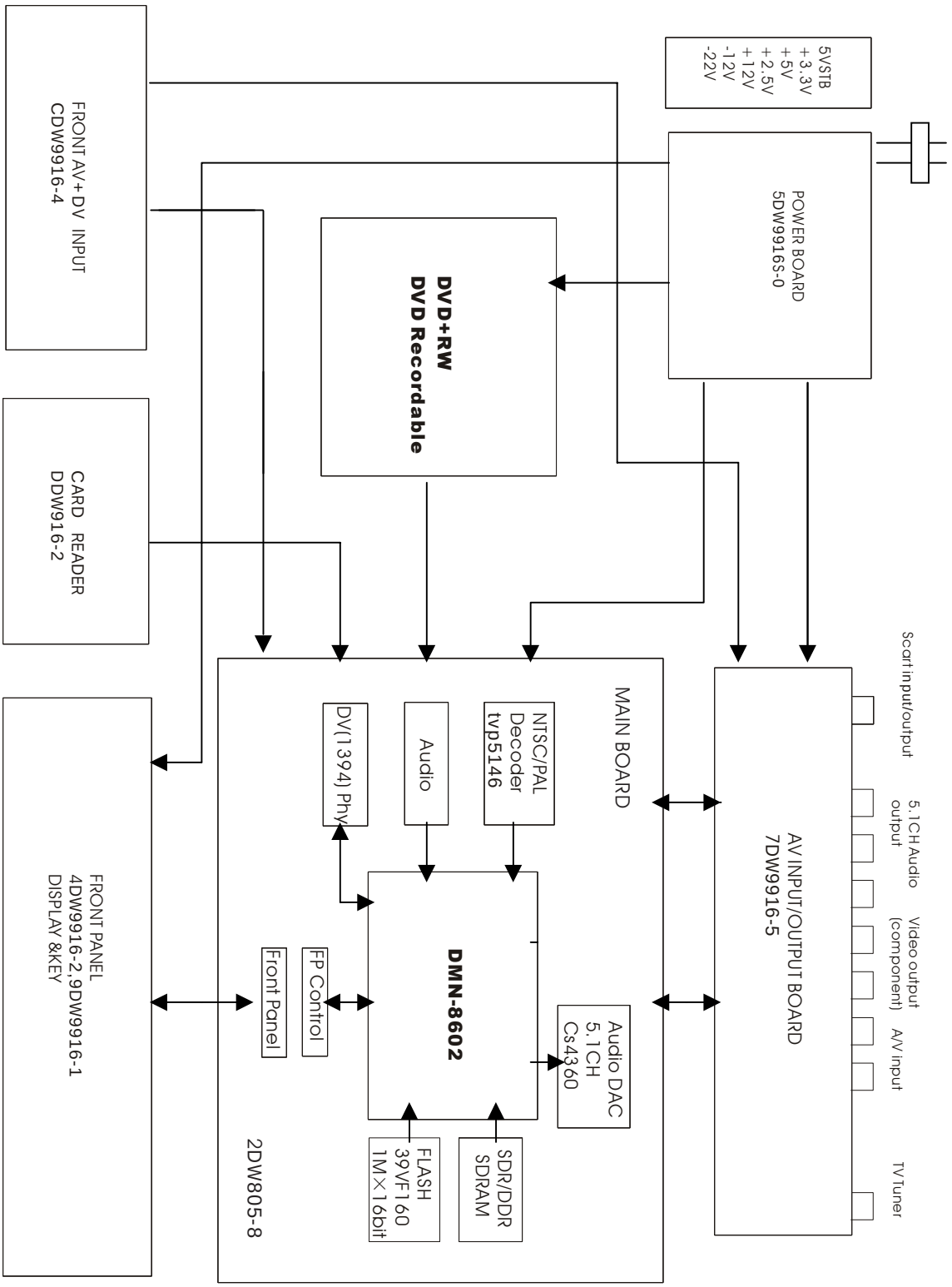
35 ANGLE button
Change camera angles

36 IS/PS button
The progressive scan and interlacing scan conversion

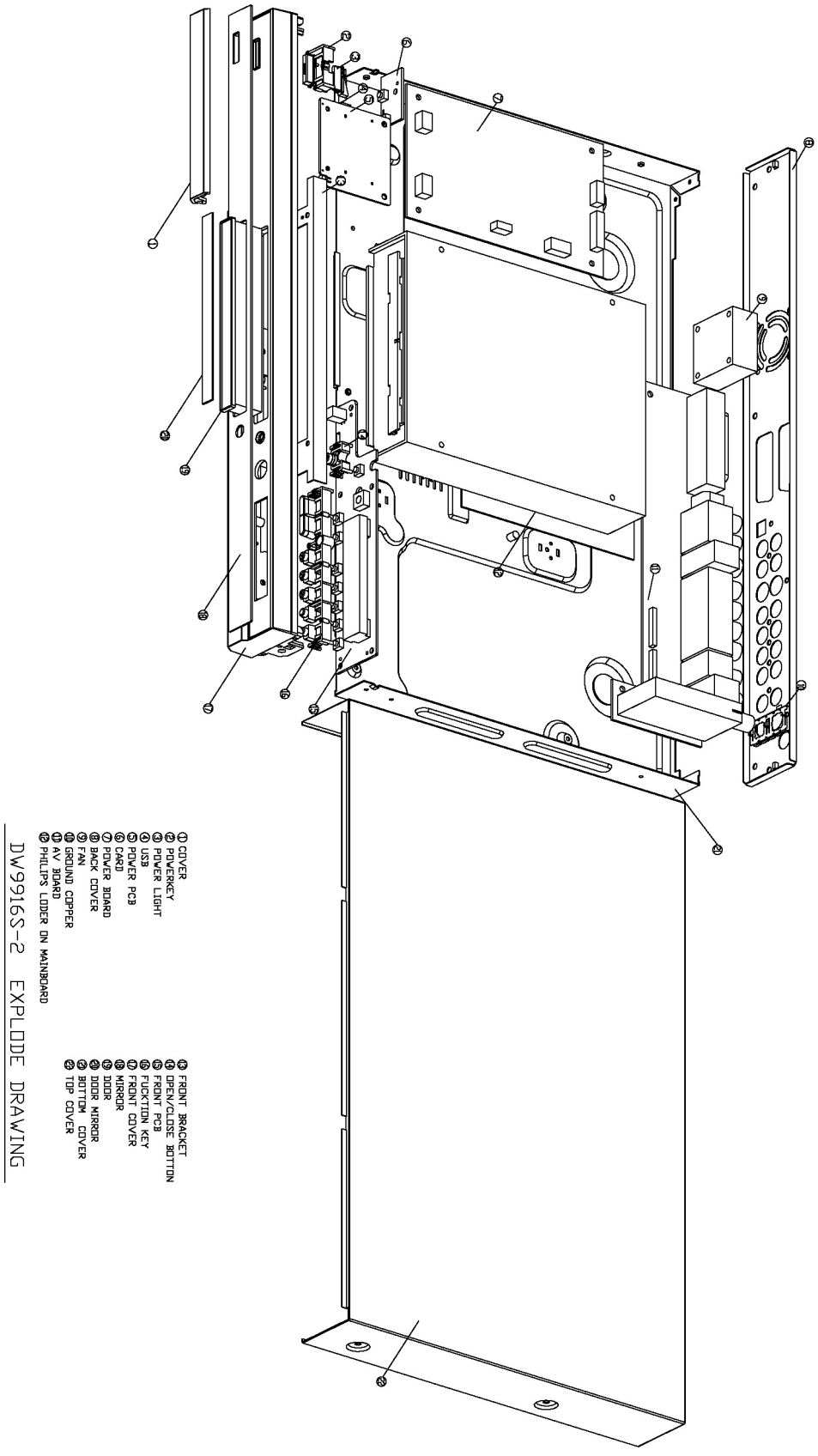
37 SUBTITLE button
Change subtitle languages

38 OPEN/CLOSE button
Open or close the disc tray

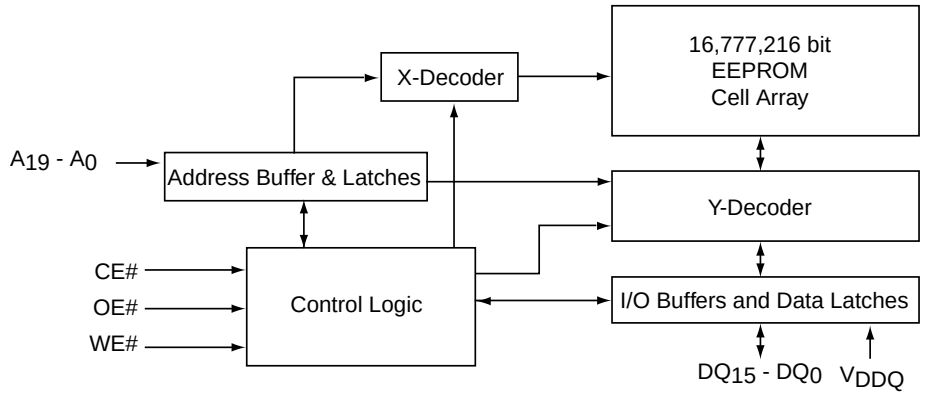
BLOCK DIAGRAM



EXPLODED VIEW



FUNCTIONAL BLOCK DIAGRAM



329 ILL B1.2

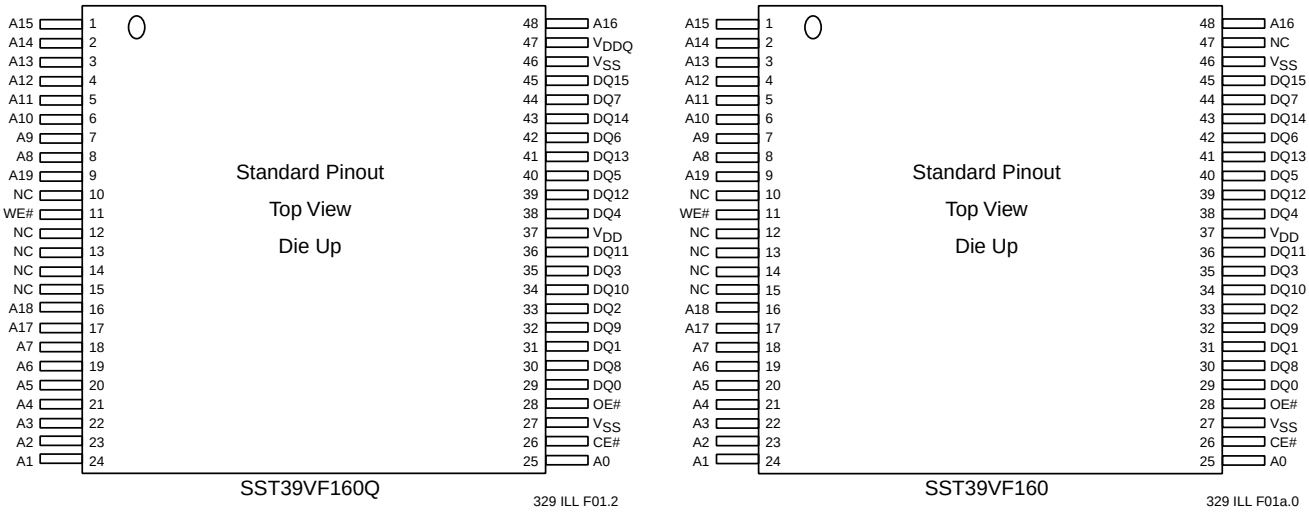


FIGURE 1: PIN ASSIGNMENTS FOR 48-PIN TSOP PACKAGES

	1	2	3	4	5	6
A	A3	A7	NC	WE#	A9	A13
B	A4	A17	NC	NC	A8	A12
C	A2	A6	A18	NC	A10	A14
D	A1	A5	NC	A19	A11	A15
E	A0	DQ0	DQ2	DQ5	DQ7	A16
F	CE#	DQ8	DQ10	DQ12	DQ14	V_{DDQ}
G	OE#	DQ9	DQ11	V_{DD}	DQ13	DQ15
H	V_{SS}	DQ1	DQ3	DQ4	DQ6	V_{SS}

SST39VF160Q

329 ILL F02.4

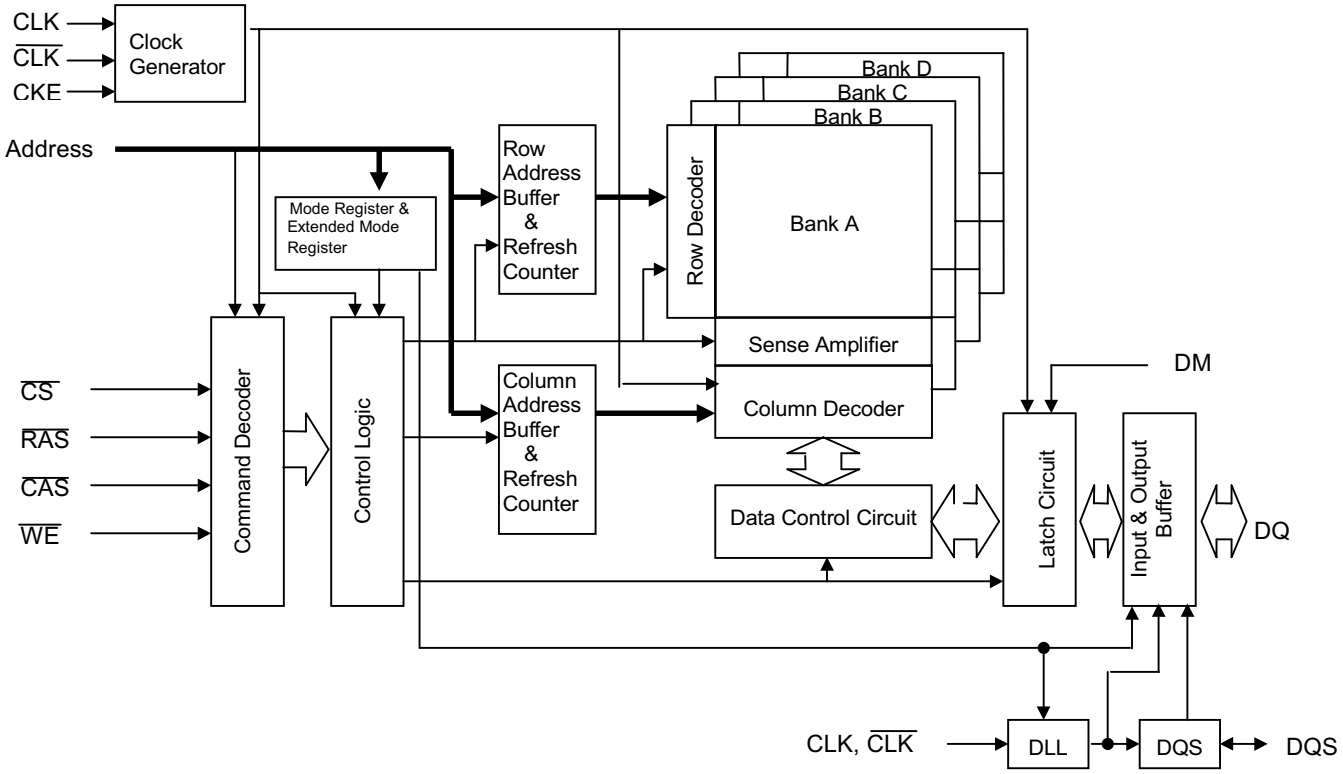
	1	2	3	4	5	6
A	A3	A7	NC	WE#	A9	A13
B	A4	A17	NC	NC	A8	A12
C	A2	A6	A18	NC	A10	A14
D	A1	A5	NC	A19	A11	A15
E	A0	DQ0	DQ2	DQ5	DQ7	A16
F	CE#	DQ8	DQ10	DQ12	DQ14	NC
G	OE#	DQ9	DQ11	V_{DD}	DQ13	DQ15
H	V_{SS}	DQ1	DQ3	DQ4	DQ6	V_{SS}

SST39VF160

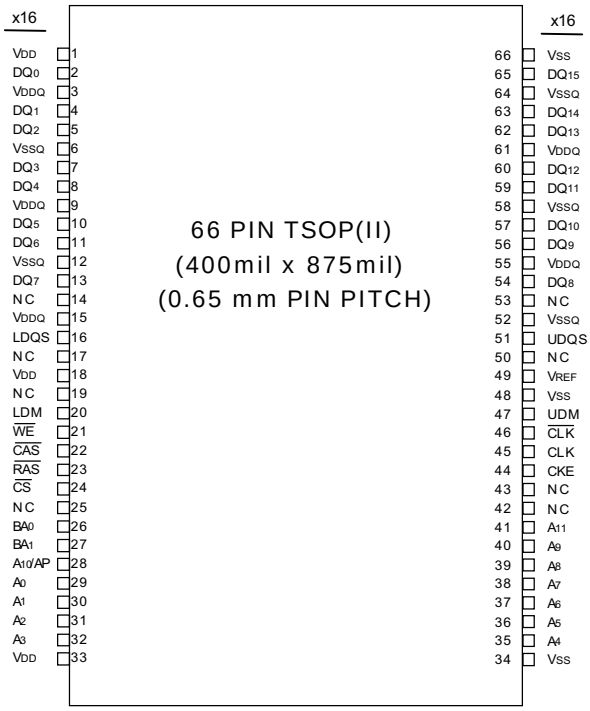
329 ILL F02a.0

FIGURE 2: PIN ASSIGNMENTS FOR 48-PIN TFBGA

Functional Block Diagram



Pin Arrangement



description (continued)

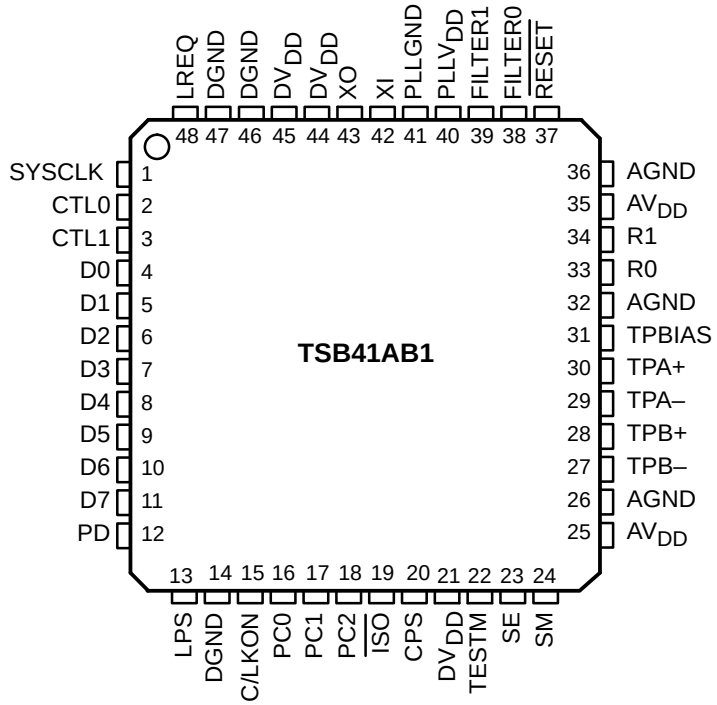
required for normal network operation regardless of the state of the PHY-LLC interface. When the interface is in the reset or disabled state and LPS is again observed active, the PHY initializes the interface and returns it to normal operation.

When the PHY-LLC interface is in the low-power disabled state, the TSB41AB1 automatically enters a low-power mode if the port is inactive (disconnected, disabled, or suspended). In this low-power mode, the TSB41AB1 disables its internal clock generators and also disables various voltage and current reference circuits depending on the state of the port (some reference circuitry must remain active in order to detect new cable connections, disconnections, or incoming TPBIAS, for example). The lowest power consumption (the ultralow-power sleep mode) is attained when the port is either disconnected, or disabled with the port interrupt enable bit cleared. The TSB41AB1 exits the low-power mode when the LPS input is asserted high or when a port event occurs which requires that the TSB41AB1 become active in order to respond to the event or to notify the LLC of the event (for example, incoming bias is detected on a suspended port, a disconnection is detected on a suspended port, a new connection is detected on a nondisabled port, etc.). The SYSCLK output becomes active (and the PHY-LLC interface is initialized and becomes operative) within 7.3 ms after LPS is asserted high when the TSB41AB1 is in the low-power mode.

The PHY uses the C/LKON terminal to notify the LLC to power up and become active. When activated, the C/LKON signal is a square wave of approximately 163-ns period. The PHY activates the C/LKON output when the LLC is inactive and a wake-up event occurs. The LLC is considered inactive when either the LPS input is inactive, as described above, or the LCtrl bit is cleared to 0. A wake-up event occurs when a link-on PHY packet addressed to this node is received, or when a PHY interrupt occurs. The PHY deasserts the C/LKON output when the LLC becomes active (both LPS active and the LCtrl bit set to 1). The PHY also deasserts the C/LKON output when a bus reset occurs unless a PHY interrupt condition exists which would otherwise cause C/LKON to be active.

PHP package terminal diagram

PHP PACKAGE
(TOP VIEW)



1.5 Functional Block Diagram

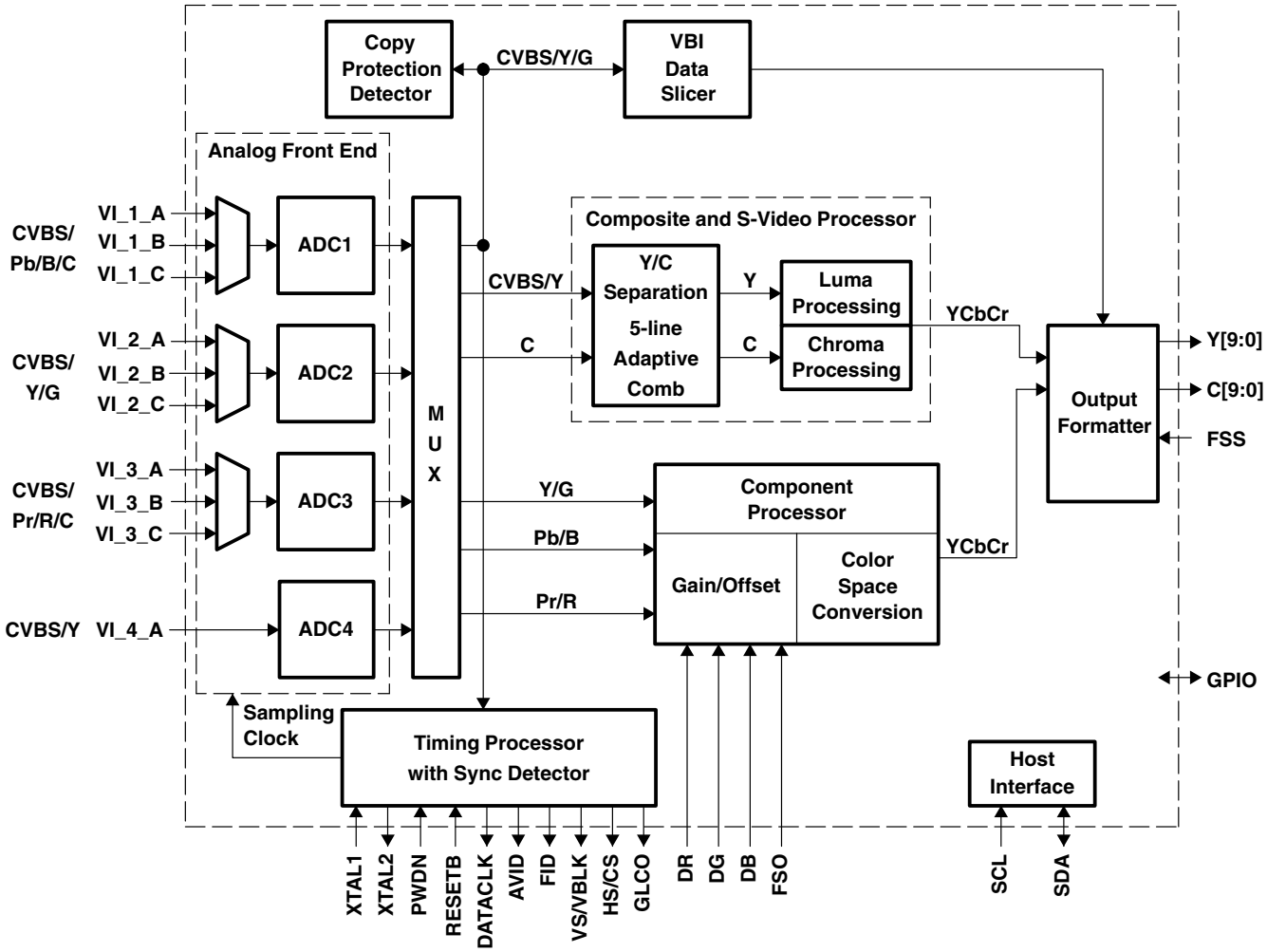


Figure 1–1. Functional Block Diagram

1.6 Terminal Assignments

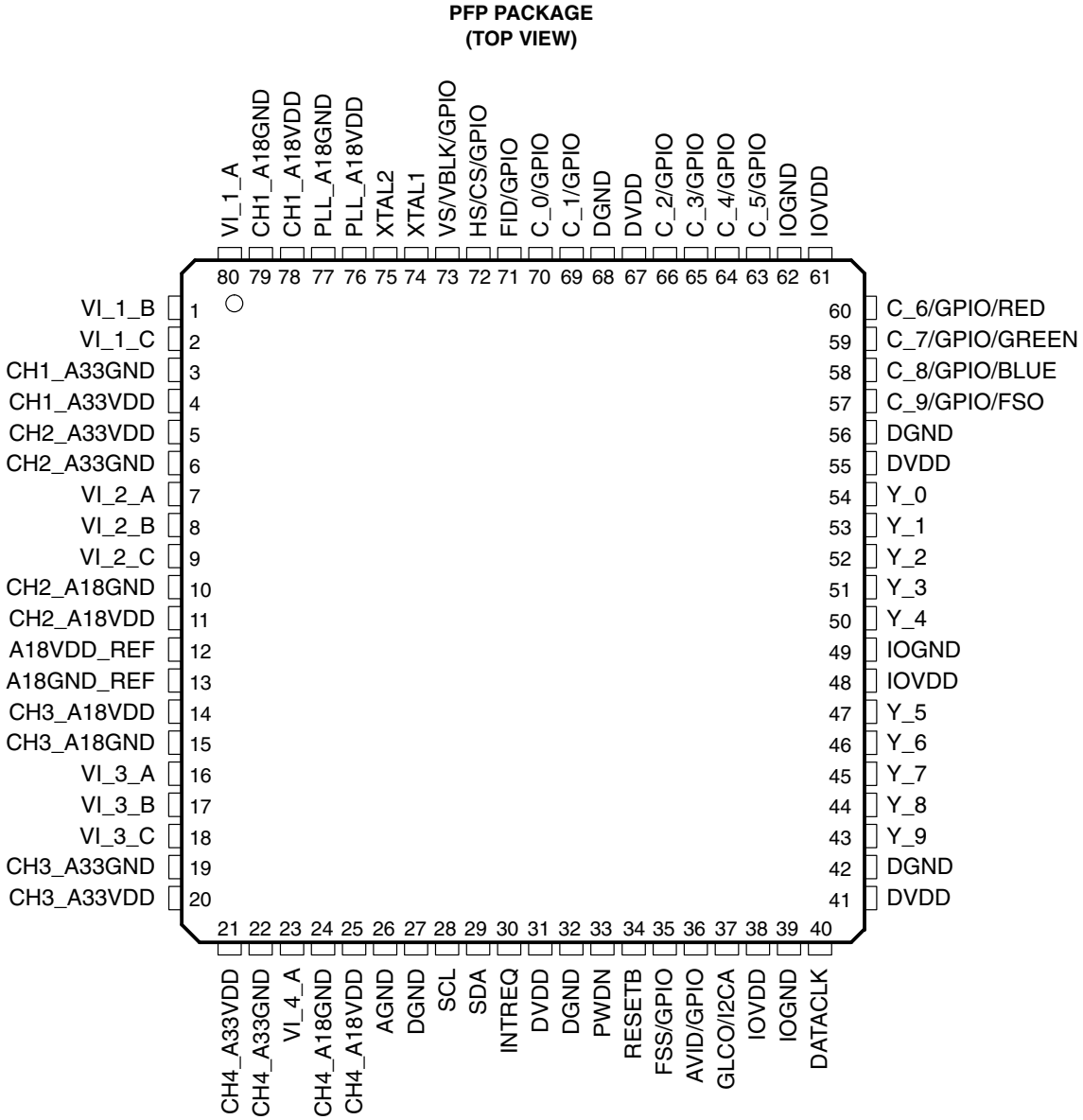


Figure 1–2. Terminal Assignments Diagram

1.7 Terminal Functions

Table 1–1. Terminal Functions

TERMINAL NAME	TERMINAL NUMBER	I/O	DESCRIPTION
Analog Video			
VI_1_A VI_1_B VI_1_C VI_2_A VI_2_B VI_2_C VI_3_A VI_3_B VI_3_C VI_4_A	80 1 2 7 8 9 16 17 18 23	I	VI_1_x: Analog video input for CVBS/Pb/B/C VI_2_x: Analog video input for CVBS/Y/G VI_3_x: Analog video input for CVBS/Pr/R/C VI_4_A: Analog video input for CVBS/Y Up to 10 composite, 4 S-video, and 2 composite or 3 component video inputs (or a combination thereof) can be supported. The inputs must be ac-coupled. The recommended coupling capacitor is 0.1 μF. The possible input configurations are listed in the input select register at I^2C subaddress 00h (see Section 2.11.1).
Clock Signals			
DATACLK	40	O	Line-locked data output clock.
XTAL1	74	I	External clock reference input. It may be connected to an external oscillator with a 1.8-V compatible clock signal or a 14.31818-MHz crystal oscillator.
XTAL2	75	O	External clock reference output. Not connected if XTAL1 is driven by an external single-ended oscillator.
Digital Video			
C[9:0]/ GPIO[9:0]	57, 58, 59, 60, 63, 64, 65, 66, 69, 70	O	Digital video output of CbCr, C[9] is MSB and C[0] is LSB. Unused outputs can be left unconnected. Also, these terminals can be programmable general-purpose I/O. For the 8-bit mode, the two LSBs are ignored.
D_BLUE	58	I	Digital BLUE input from overlay device
D_GREEN	59	I	Digital GREEN input from overlay device
D_RED	60	I	Digital RED input from overlay device
FSO	57	I	Fast-switch overlay between digital RGB and any video
Y[9:0]	43, 44, 45, 46, 47, 50, 51, 52, 53, 54	O	Digital video output of Y/YCbCr, Y[9] is MSB and Y[0] is LSB. For the 8-bit mode, the two LSBs are ignored. Unused outputs can be left unconnected.
Miscellaneous Signals			
FSS/GPIO	35	I/O	Fast-switch (blanking) input. Switching signal between the synchronous component video (YPbPr/RGB) and the composite video input. Programmable general-purpose I/O
GLCO/I2CA	37	I/O	Genlock control output (GLCO). Two Genlock data formats are available: TI format and real time control (RTC) format. During reset, this terminal is an input used to program the I^2C address LSB.
INTREQ	30	O	Interrupt request
PWDN	33	I	Power down input: 1 = Power down 0 = Normal mode
RESETB	34	I	Reset input, active low

Table 1–1. Terminal Functions (Continued)

TERMINAL NAME	TERMINAL NUMBER	I/O	DESCRIPTION
Host Interface			
SCL	28	I	I^2C clock input
SDA	29	I/O	I^2C data bus
Power Supplies			
AGND	26	I	Analog ground. Connect to analog ground.
A18GND_REF	13	I	Analog 1.8-V return
A18VDD_REF	12	I	Analog power for reference 1.8 V
CH1_A18GND CH2_A18GND CH3_A18GND CH4_A18GND	79 10 15 24	I	Analog 1.8-V return
CH1_A18VDD CH2_A18VDD CH3_A18VDD CH4_A18VDD	78 11 14 25	I	Analog power. Connect to 1.8 V.
CH1_A33GND CH2_A33GND CH3_A33GND CH4_A33GND	3 6 19 22	I	Analog 3.3-V return
CH1_A33VDD CH2_A33VDD CH3_A33VDD CH4_A33VDD	4 5 20 21	I	Analog power. Connect to 3.3 V.
DGND	27, 32, 42, 56, 68	I	Digital return
DVDD	31, 41, 55, 67	I	Digital power. Connect to 1.8 V.
IOGND	39, 49, 62	I	Digital power return
IOVDD	38, 48, 61	I	Digital power. Connect to 3.3 V or less for reduced noise.
PLL_A18GND	77	I	Analog power return
PLL_A18VDD	76	I	Analog power. Connect to 1.8 V.
Sync Signals			
HS/CS/GPIO	72	I/O	Horizontal sync output or digital composite sync output Programmable general-purpose I/O
VS/VBLK/GPIO	73	I/O	Vertical sync output (for modes with dedicated VSYNC) or VBLK output Programmable general-purpose I/O
FID/GPIO	71	I/O	Odd/even field indicator output. This terminal needs a pulldown resistor. Programmable general-purpose I/O
AVID/GPIO	36	I/O	Active video indicator output Programmable general-purpose I/O

2. TYPICAL CONNECTION DIAGRAM

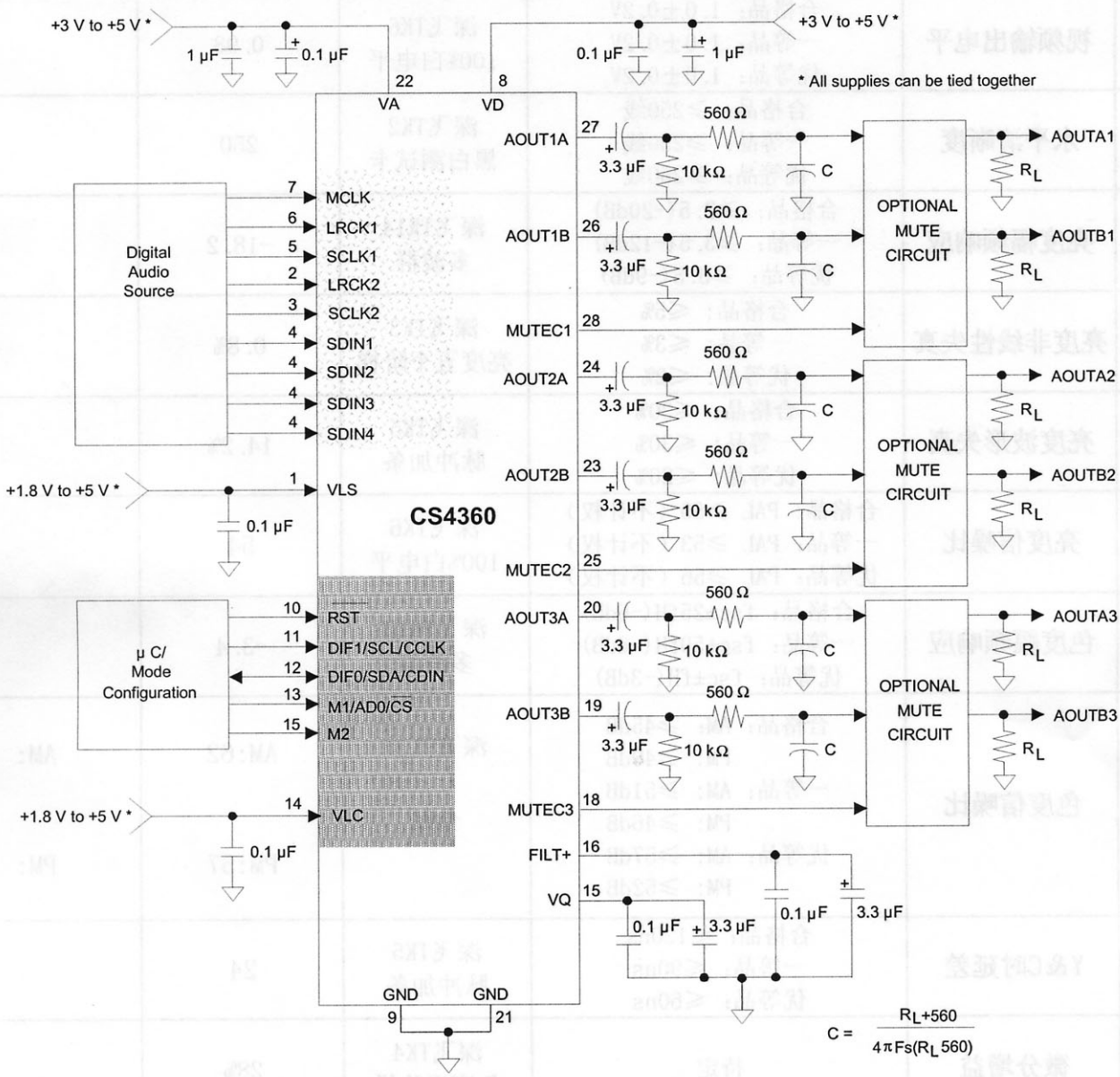
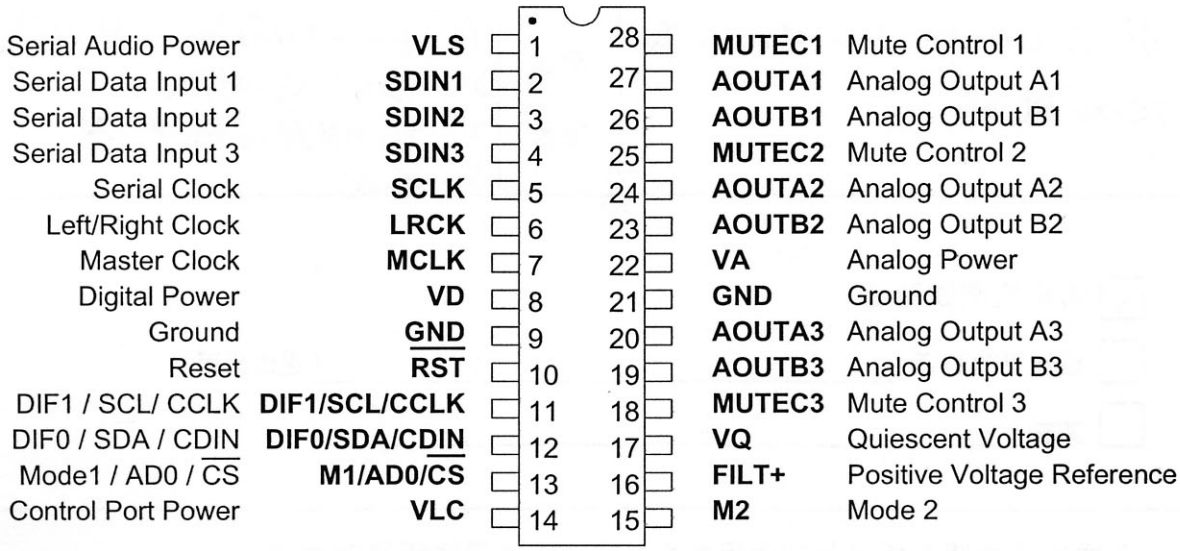


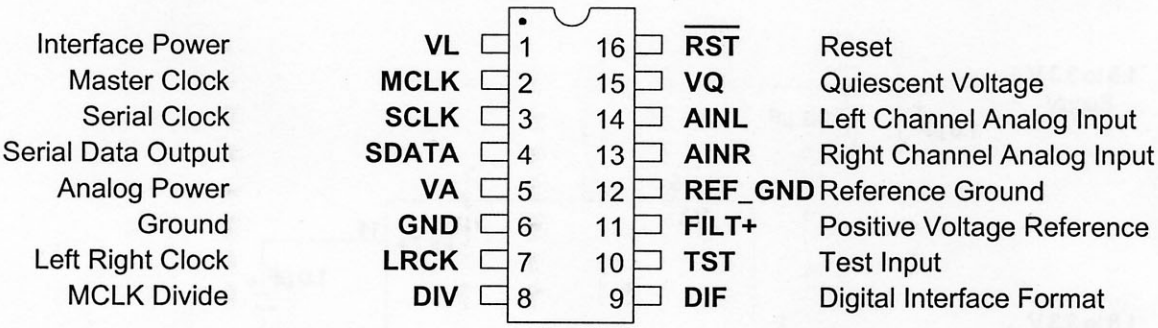
Figure 4. Typical Connection Diagram

5. PIN DESCRIPTION



Pin Name	#	Pin Description
VLS	1	**Serial Audio Interface Power** (*Input*) - Determines the required signal level for the serial audio interface. Refer to the Recommended Operating Conditions for appropriate voltages. Applies to pins 2-7.
SDIN1 SDIN2 SDIN3	2 3 4	**Serial Audio Data Input** (*Input*) - Input for two's complement serial audio data. SDIN1 corresponds to AOUT1x, SDIN2 corresponds to AOUT2x and SDIN3 corresponds to AOUT3x.
SCLK	5	**Serial Clock** (*Input*) - Serial clock for the serial audio interface.
LRCK	6	**Left / Right Clock** (*Input*) - Determines which channel, Left or Right, is currently active on the serial audio data line. The frequency of the left/right clock must be at the audio sample rate, Fs.
MCLK	7	**Master Clock** (*Input*) - Clock source for the delta-sigma modulator and digital filters. Table 6 illustrates several standard audio sample rates and the required master clock frequency.
VD	8	**Digital Power** (*Input*) - Positive power supply for the digital section. Refer to the Recommended Operating Conditions for appropriate voltages.
GND	9 21	**Ground** (*Input*) - Ground reference. Should be connected to analog ground.
$\overline{\text{RST}}$	10	**Reset** (*Input*) - The device enters a low power mode and all internal registers are reset to their default settings when low. The control port cannot be accessed when Reset is low.
VLC	14	**Control Port Interface Power** (*Input*) - Determines the required signal level for the control port and provides power for bidirectional control port pins. Refer to the Recommended Operating Conditions for appropriate voltages. Applies to pins 10-13 and 15.
FILT+	16	**Positive Voltage Reference** (*Output*) - Positive reference voltage for the internal sampling circuits. Requires the capacitive decoupling to GND as shown in the Typical Connection Diagram.

3. PIN DESCRIPTION



Interface Power	1	**VL** (*Input*) - Digital interface power supply. Typically 1.8 to 3.3 VDC.
Master Clock	2	**MCLK** (*Input*) - The master clock frequency must be either 256x, 384x, 512x, 768x or 1024x the input sample rate in Base Rate Mode (BRM) and 128x, 192x, 256x, 384x the input sample rate in High Rate Mode (HRM). Table 1 illustrates several standard audio sample rates and the required master clock frequencies.
Serial Clock	3	**SCLK** (*Input/Output*) - Clocks the individual bits of the serial data out of the SDOUT pin. The required relationship between the Left/Right clock, serial clock and serial data is defined by the DIF pin.
Serial Audio Data Out (M/S select)	4	**SDATA** (*Output*) - This pin serves two functions. First: two's complement MSB-first serial data is output on this pin. The data is clocked out of SDOUT via the serial clock and the channel is determined by the Left/Right clock. The required relationship between the Left/Right clock, serial clock and serial data is defined by the DIF pin. Second: Master/Slave mode selection is determined, at startup, by a 47 kOhm pullup/pull-down on this line. A pullup to VL selects Master mode and a pulldown to GND selects Slave mode.
Analog Power	5	**VA** (*Input*) - Analog power supply. Typically 1.8 to 3.3 VDC.
Ground	6	**GND** (*Input*) - Ground Reference.

Sample Rate (kHz)	MCLK (MHz)								
	HRM				BRM				
	128x	192x	256x*	384x*	256x	384x	512x	768x*	1024x*
32	4.0960	6.1440	8.1920	12.2880	8.1920	12.2880	16.3840	24.5760	32.7680
44.1	5.6448	8.4672	11.2896	16.9344	11.2896	16.9344	22.5792	32.7680	45.1584
48	6.1440	9.2160	12.2880	18.4320	12.2880	18.4320	24.5760	36.8640	49.1520
64	8.1920	12.2880	16.3840	24.5760	-	-	-	-	-
88.2	11.2896	16.9344	22.5792	33.8688	-	-	-	-	-
96	12.2880	18.4320	24.5760	36.8640	-	-	-	-	-

** DIV= Hi*

Table 1. Common Clock Frequencies

2. TYPICAL CONNECTION DIAGRAM

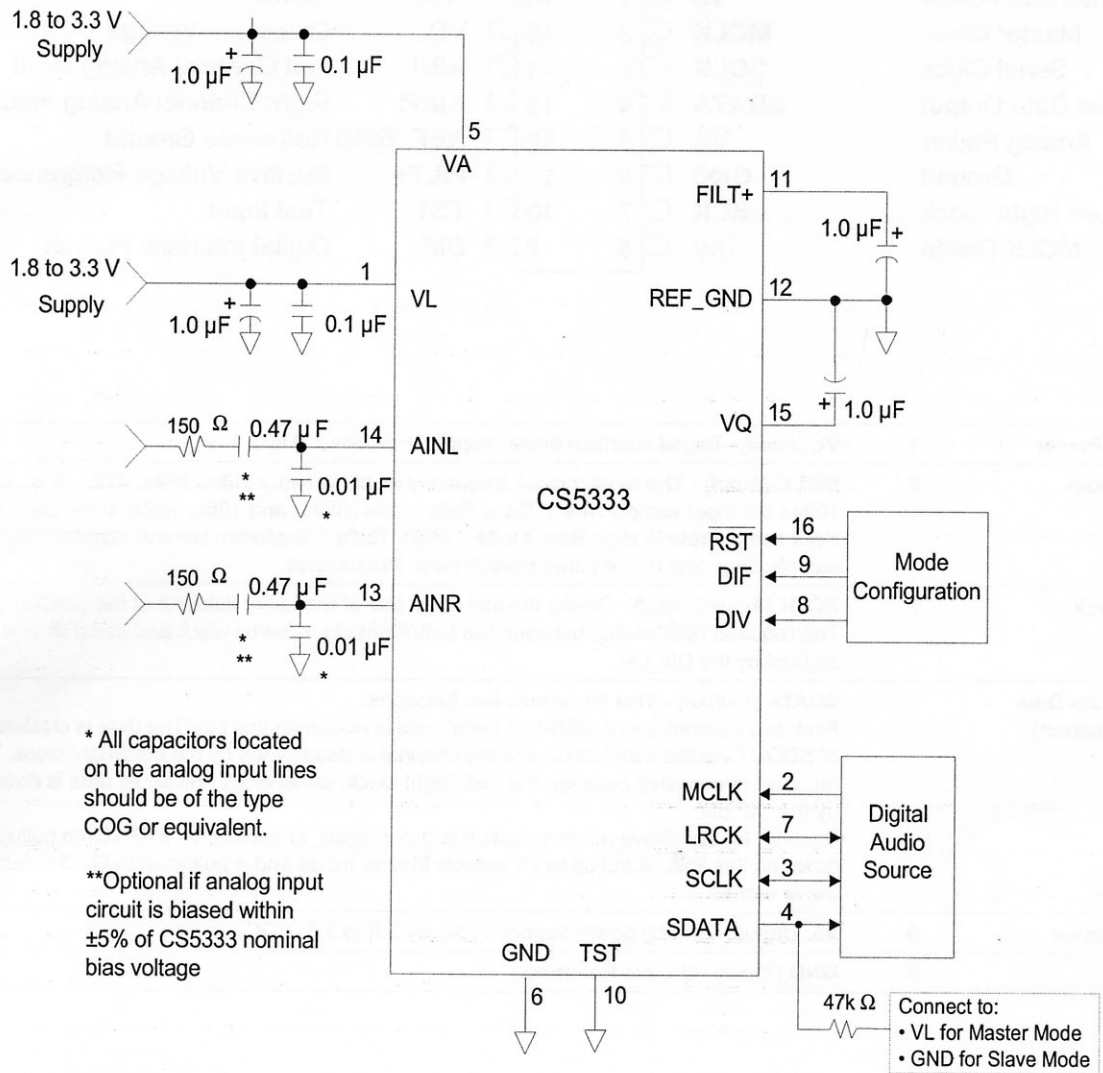


Figure 3. Typical Connection Diagram

TYPICAL APPLICATION DIAGRAM

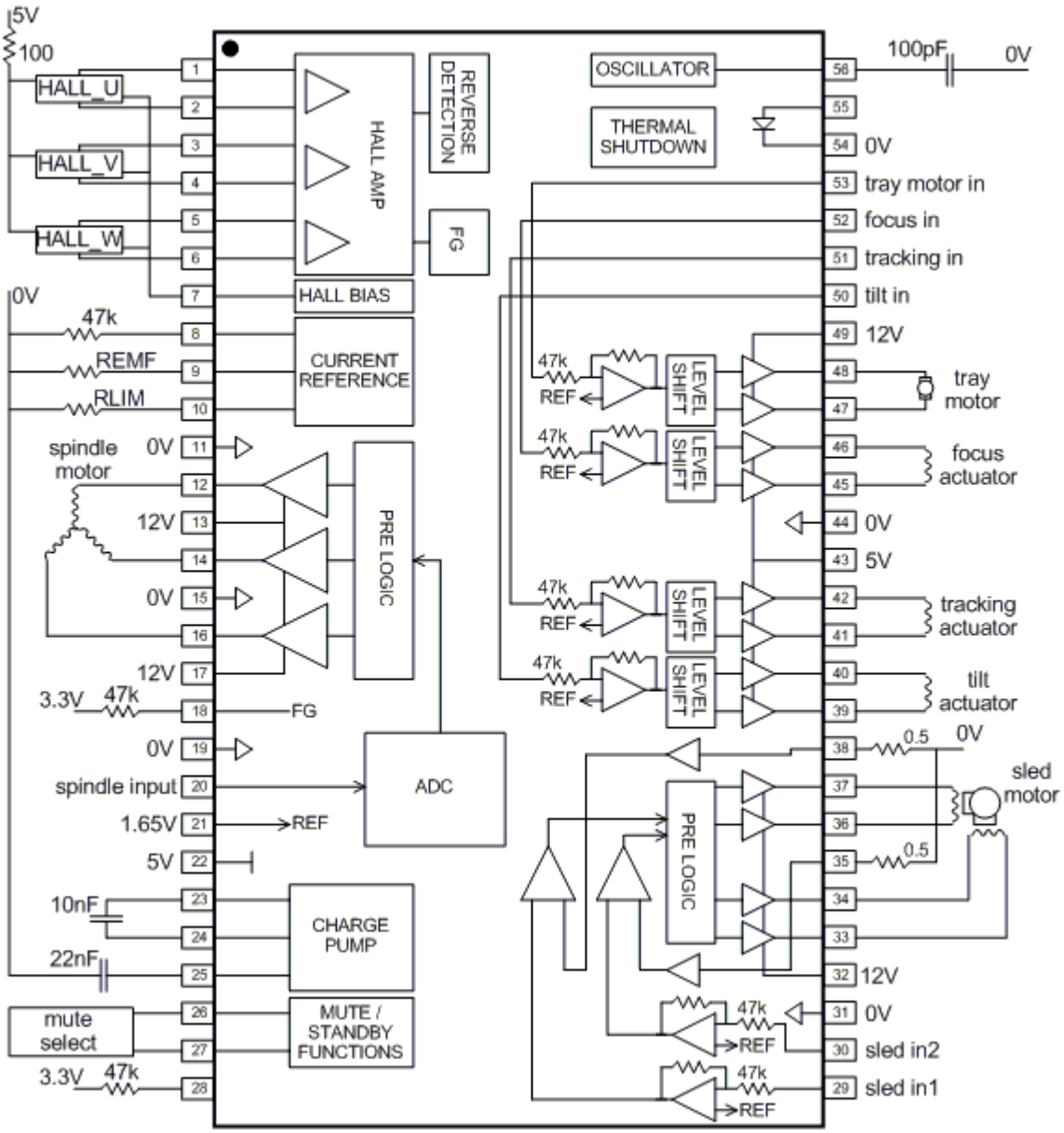


Fig. Application diagram.
For REMF and RLIM see technical discussion.

TARGET DATASHEET

PIN DESCRIPTION

PIN	SYMBOL	DESCRIPTION	PIN	SYMBOL	DESCRIPTION
1	HU+	positive Hall input U	56	COSC	ext. capacitor for int. oscillator
2	HU-	negative Hall input U	55	DIODE	diode for temperature readout
3	HV+	positive Hall input V	54	GNDDIO	temperature diode ground
4	HV-	negative Hall input V	53	INLD	loading driver input
5	HW+	positive Hall input W	52	INFCS	focus driver input
6	HW-	negative Hall input W	51	INTRK	tracking driver input
7	HBIAS	Hall element bias	50	INTLT	tilting driver input
8	RREF	ext. res. for current reference	49	VDDLD	loading driver power supply
9	REMF	ext. res. for EMF regeneration	48	OUTLD+	loading driver positive output
10	RLIM	ext. res. for current limit	47	OUTLD-	loading driver negative output
11	GNDSPN1	spindle driver power ground 1	46	OUTFCS+	focus driver positive output
12	U	spindle driver output U	45	OUTFCS-	focus driver negative output
13	VDDSPN1	spindle driver power supply 1	44	GNDACT	actuator drivers power ground
14	V	spindle driver output V	43	VDDACT	actuator drivers power supply
15	GNDSPN2	spindle driver power ground 2	42	OUTTRK+	tracking driver pos. output
16	W	spindle driver output W	41	OUTTRK-	tracking driver neg. output
17	VDDSPN2	spindle driver power supply 2	40	OUTTLT+	tilting driver pos. output
18	FG	frequency generator output	39	OUTTLT-	tilting driver neg. output
19	GNDDIG	ground supply	38	CURSLD1	sled driver 1 current sense
20	INSPN	spindle driver input	37	OUTSLD1+	sled driver 1 positive output
21	REF	reference input voltage	36	OUTSLD1-	sled driver 1 negative output
22	VDDANA	system supply voltage	35	CURSLD2	sled driver 2 current sense
23	CP1	charge pump cap. conn. 1	34	OUTSLD2+	sled driver 2 positive output
24	CP2	charge pump cap. conn. 2	33	OUTSLD2-	sled driver 2 negative output
25	CAPY	charge pump output voltage	32	VDDSLD	sled driver power supply
26	CTL1	driver logic control input 1	31	GNDANA	ground supply
27	CTL2	driver logic control input 2	30	INSLD2	sled driver 2 input
28	TEMP	thermal warning	29	INSLD1	sled driver 1 input

TARGET DATASHEET

6. Pinning information

6.1 Pinning

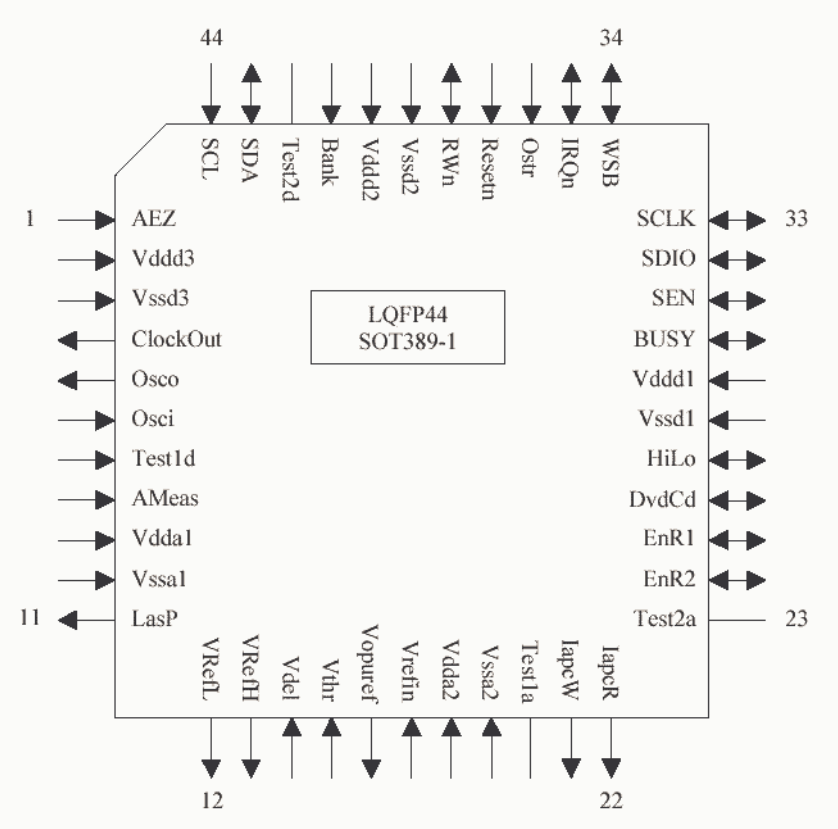


Fig 2. TZA1042 pin configuration

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5. Block diagram

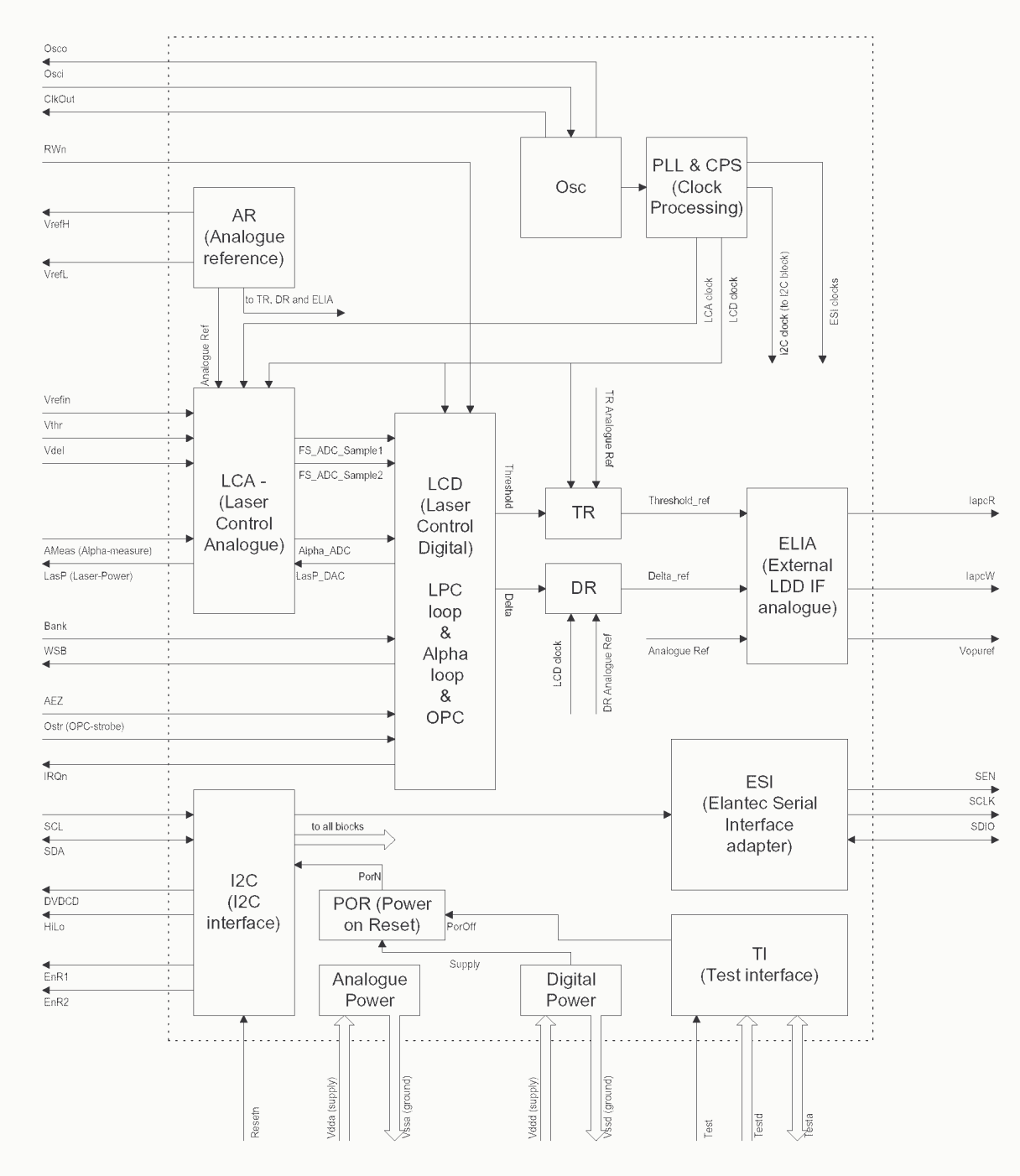

Fig 1. Block diagram of TZA1042.

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6.2 Pin description

Table 3: Pin description

Symbol	Pin	Type	Drive /Thr.	Description
AEZ	1	I hy pd	T	Alpha Error Zero/Alpha Set Zero
V_{DDD3}	2	P	-	Digital Pad Supply
V_{SSD3}	3	P	-	Digital Pad Supply
CLOCKOUT	4	T	M	Buffered Oscillator Output
OSCO	5	AO	A	Output of inverting Amplifier that forms oscillator
OSCI	6	AI	A	Input of inverting Amplifier that forms oscillator
TEST1D	7	I pd	T	Test pin
AMEAS	8	AI	A	Alpha Measure – value of measured disk writing quality
V_{DDA1}	9	P	-	Analogue Supply
V_{SSA1}	10	P	-	Analogue Supply
LASP	11	AO	A	Laser Power – indicates power level
VREFL	12	AO	A	Bandgap Voltage Reference ground connection
VREFH	13	AO	A	Bandgap Voltage Reference output
VDEL	14	AI	A	Voltage input for Delta “laser power”
VTHR	15	AI	A	Voltage input for Threshold “laser power”
VOPUREF	16	AO	A	Reference Voltage for OPU
VREFIN	17	AI	A	Input Reference Voltage for Vthr and Vdel
V_{DDA2}	18	P	-	Analogue Supply
V_{SSA2}	19	P	-	Analogue Supply
TEST1A	20	AB	A	Test pin
IAPCW	21	AO	A	Current Output of Delta Reference
IAPCR	22	AO	A	Current Output of Threshold Reference
TEST2A	23	AB	A	Test pin
ENR2	24	T	M	Programmable Output Flag
ENR1	25	B pd	M/T	Device Initialisation/Programmable Output Flag (must be driven to VDD during reset)
DVDCD	26	T	M	Programmable Output Flag for indicating DVD/CD mode
HILO	27	T	M	Programmable Output Flag for indicating High/Low reflectivity
V_{SSD1}	28	P	-	Digital Pad Supply
V_{DDD1}	29	P	-	Digital Pad Supply
BUSY	30	B	M/T	Busy Enable input from Elantec / Board test IO
SEN	31	B	M/T	Serial Enable output to Elantec / Board test IO
SDIO	32	B	M/T	Serial data input output from/to Elantec / Board test IO
SCLK	33	B	M/T	Busy Enable input from Elantec / Board test IO
WSB	34	B	M/T	Write Strategy Bank – output controls OPU write switching / Board test IO

DRAFT

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Table 3: Pin description *...continued*

Symbol	Pin	Type	Drive /Thr.	Description
IRQN	35	OD	M	Interrupt Request Not – active low interrupt request
OSTR	36	I hy pd	T	OPC Strobe – request step in alpha setpoint / Board test input
RESETN	37	I hy pd	T	Reset Not – active low reset input
RWN	38	B	M/T	Read/Write not – indicates power setpoints/Board test IO
V_{SSD2}	39	P	-	Digital Core Supply
V_{DDD2}	40	P	-	Digital Core Supply
BANK	41	I hy pd	T	CAV setpoint switching input signal / Board test IO
TEST2D	42	I pd	T	Test pin
SDA	43	BOD	M/T	I^2C Serial Data
SCL	44	I	T	I^2C Serial Clock

[1] All supply pins must be connected to the same external power supply voltage

[2] All inputs are 5V tolerant – i.e. they will drive the supply voltage (3.0-3.6V), but will work correctly when interface to a 5V drive device

[3] The pin type definition is given below:

Table 4: Pin Type Definition Table

Type	Definition
I	input
O	output
OD	open drain
B	bi-directional
BOD	bi-directional open drain
T	tri-state output
AI	analog input
AO	analog output
AB	analog bi-directional
P	power connection
hy	hysteresis on input
pd	hysteresis on output

DRAFT

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6. Pinning information

6.1 Pinning

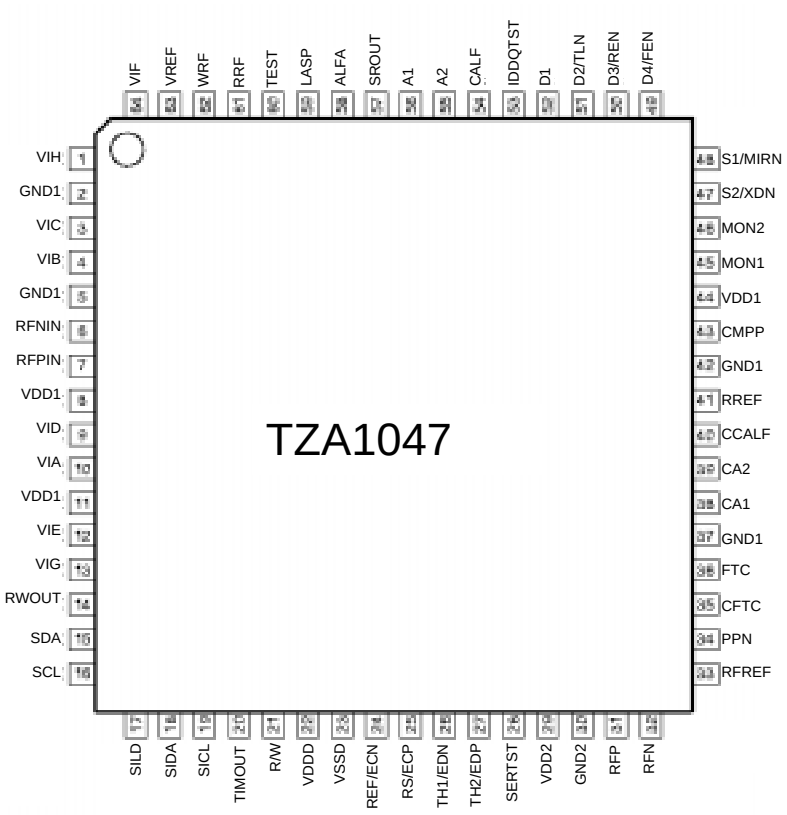

Fig 2. TZA1047 pin configuration

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5. Block diagram

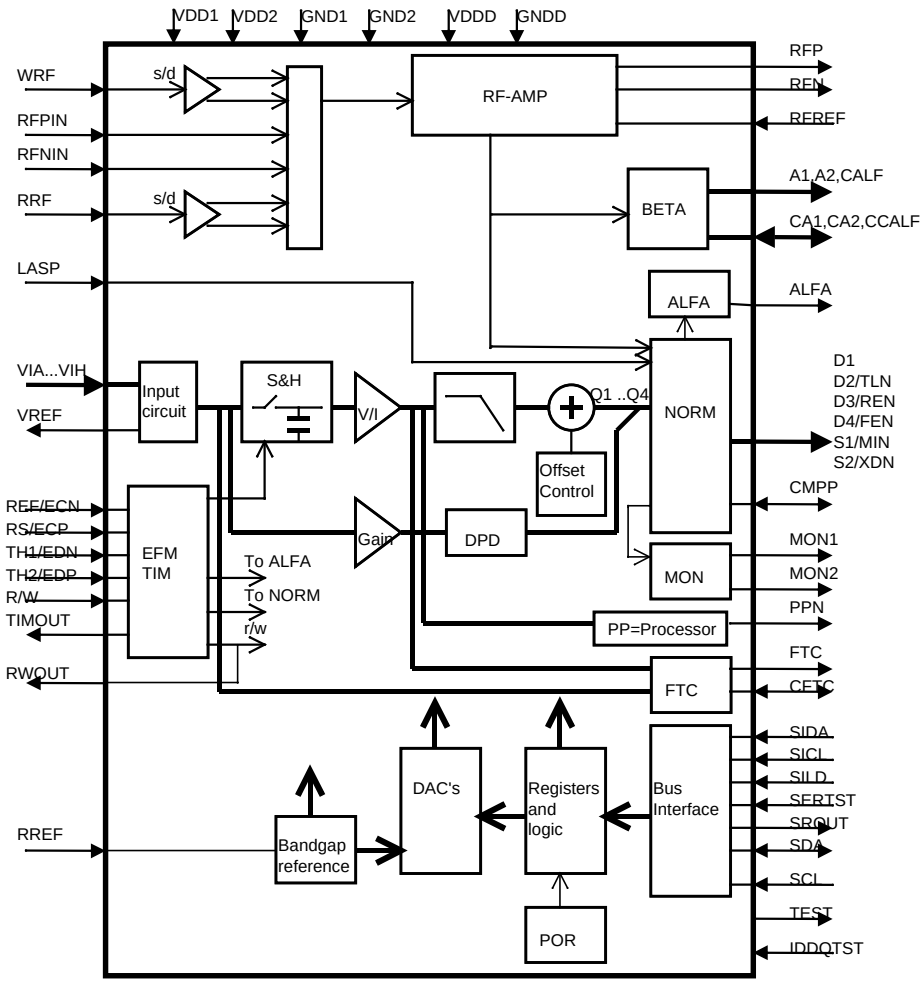

Fig 1. TZA1047 Block Diagram

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6.2 Pin description

Table 3: Pin description

Symbol	Pin	Description
VIH	1	Satellite segment H input
GND1	2	Ground
VIC	3	Central segment C input
VIB	4	Central segment B input
GND1	5	Ground
RFNIN	6	Inverse differential RF input / Single-ended RF read input
RFPIN	7	Differential RF input/ Single-ended RF write input
VDD1	8	Positive supply
VID	9	Central segment D input
VIA	10	Central segment A input
VDD1	11	Positive supply
VIE	12	Satellite segment E input
VIG	13	Satellite segment G input
RWOUT	14	R/W signal output
SDA	15	Data input/output I^2C
SCL	16	Clock input I^2C
SILD	17	Strobe line of serial bus interface
SIDA	18	Data line of serial bus interface
SICL	19	Clock line of serial bus interface
TIMOUT	20	EFMTIM test output
R/W	21	External Read/Write signal input
VDDD	22	Positive supply digital part
VSSD	23	digital ground
REF/ECN	24	Reference input for timing signals in EFMTIM bypass mode[1]/ Inverse EFM clock input[2]
RS/ECP	25	RF sampling signal[1]/ EFM clock input[2]
TH1/EDN	26	Segment sampling timing signal[1]/ Inverse EFM data input[2]
TH2/EDP	27	Segment sampling timing signal[1]/ EFM data input[2]
SERTST	28	Enable test mode (Tie to GND or leave open for normal operation)
VDD2	29	Positive supply voltage

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Table 3: Pin description *...continued*

Symbol	Pin	Description
GND2	30	Supply ground
RFP	31	RF output voltage, positive
RFN	32	RF output voltage, negative
RFREF	33	Reference voltage for differential RF output common mode level
PPN	34	Output PP voltage
CFTC	35	FTC high pass filter capacitor
FTC	36	FTC output
GND1	37	Supply ground
CA1	38	Beta circuit external capacitor
CA2	39	Beta circuit external capacitor
CCALF	40	Beta circuit external capacitor
RREF	41	Reference resistor to ground
GND1	42	Supply ground
CMPP	43	MPP external capacitor
VDD1	44	Positive supply
MON1	45	Monitor output voltage
MON2	46	Monitor output voltage
S2/XDN	47	Servo output current
S1/MIRN	48	Servo output current
D4/FEN	49	Servo output current
D3/REN	50	Servo output current
D2/TLN	51	Servo output current
D1	52	Servo output current
IDDQTST	53	Select zero dissipation mode (tie to GND for normal operation)
CALF	54	RF average level signal
A2	55	RF bottom level signal
A1	56	RF top level signal
SROUT	57	shift register output for register test mode
ALFA	58	alfa output current
LASP	59	laser power setpoint signal
TEST	60	Test output
RRF	61	Single ended RF read input voltage

DRAFT

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Table 3: Pin description *...continued*

Symbol	Pin	Description
WRF	62	Single ended RF write input voltage
VREF	63	PDIC reference voltage output
VIF	64	Satellite segment F input

[1] Only in EFM bypass mode

[2] EFM clock and data when not in EFM bypass mode.

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PIN DESCRIPTION

PIN NO.	SYMBOL	NAME AND FUNCTION
1, 3, 5, 9, 11, 13	1A to 6A	data inputs
2, 4, 6, 8, 10, 12	1Y to 6Y	data outputs
7	GND	ground (0 V)
14	V_{CC}	positive supply voltage

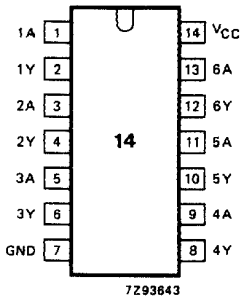


Fig.1 Pin configuration.

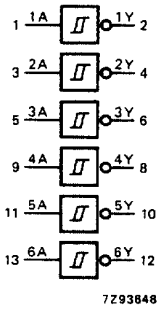


Fig.2 Logic symbol.

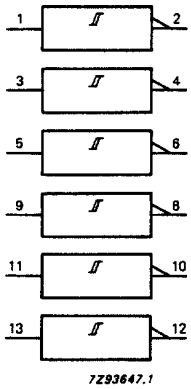


Fig.3 IEC logic symbol.

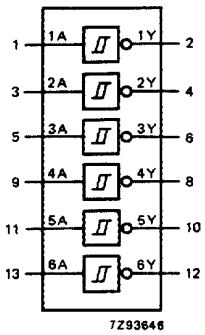


Fig.4 Functional diagram.

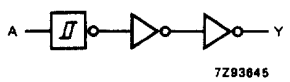


Fig.5 Logic diagram (one Schmitt trigger).

FUNCTION TABLE

INPUT	OUTPUT
nA	nY
L	H
H	L

Notes

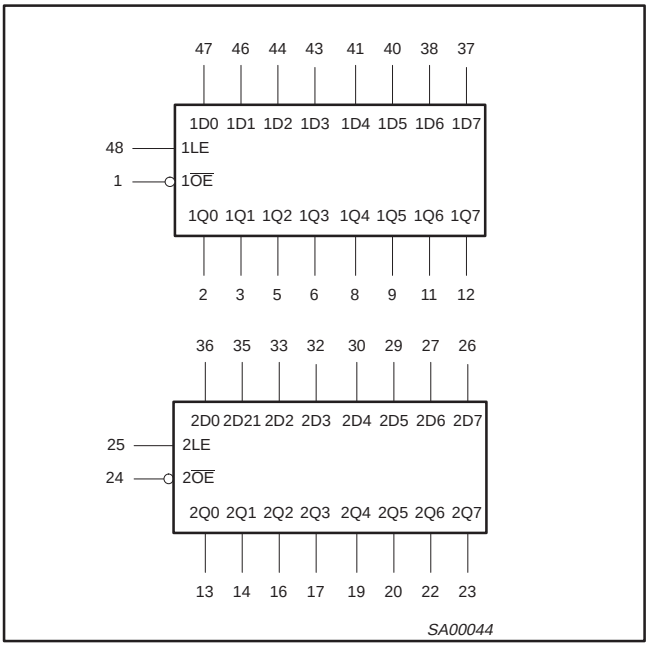
1. H = HIGH voltage level
   L = LOW voltage level

APPLICATIONS

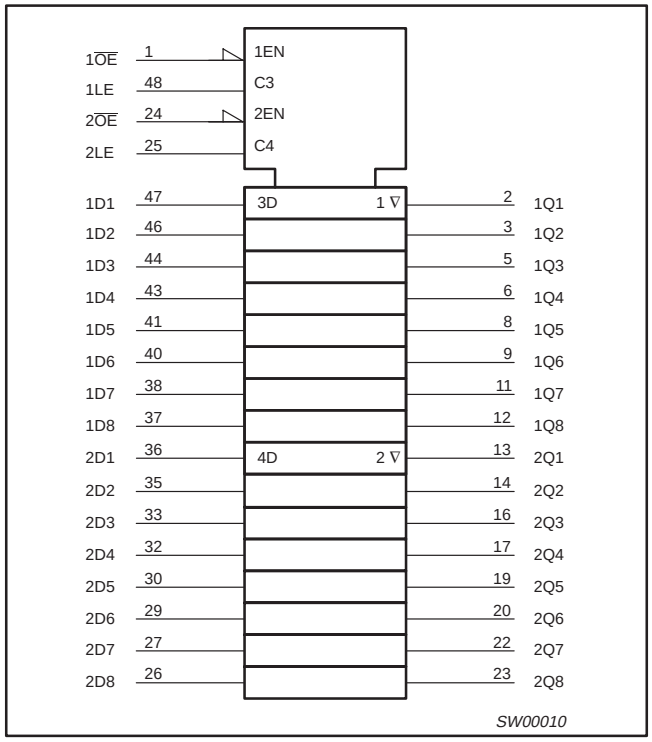
- Wave and pulse shapers
- Astable multivibrators
- Monostable multivibrators

2.5V/3.3V 16-bit transparent D-type latch (3-State) 74ALVT16373

LOGIC SYMBOL



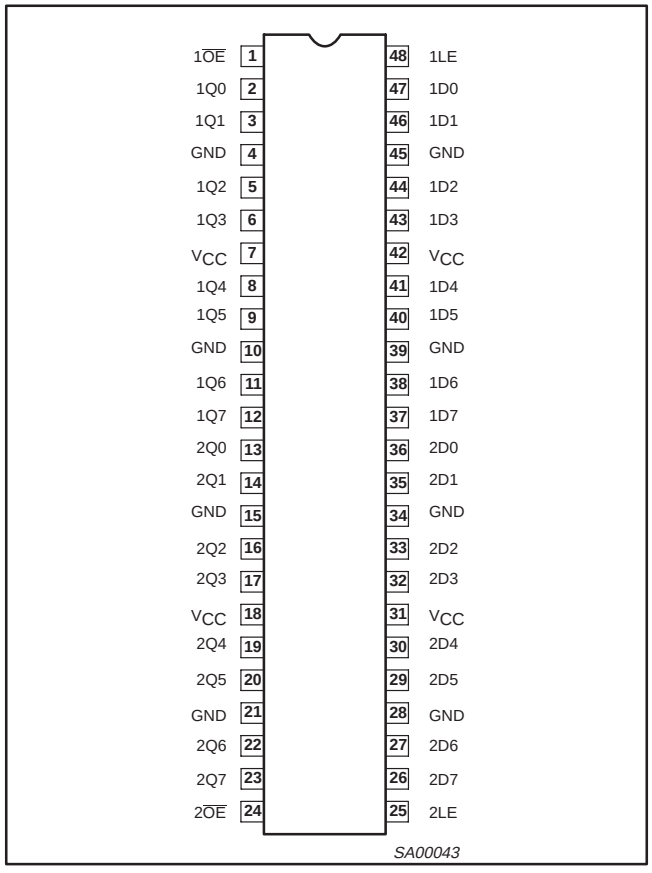
LOGIC SYMBOL (IEEE/IEC)



PIN DESCRIPTION

PIN NUMBER	SYMBOL	FUNCTION
47, 46, 44, 43, 41, 40, 38, 37, 36, 35, 33, 32, 30, 29, 27, 26	1D0 – 1D7 2D0 – 2D7	Data inputs
2, 3, 5, 6, 8, 9, 11, 12, 13, 14, 16, 17, 19, 20, 22, 23	1Q0 – 1Q7 2Q0 – 2Q7	Data outputs
1, 24	$1\overline{OE}$, $2\overline{OE}$	Output enable inputs (active-Low)
48, 25	1LE, 2LE	Enable inputs (active-High)
4, 10, 15, 21, 28, 34, 39, 45	GND	Ground (0V)
7, 18, 31, 42	V_{CC}	Positive supply voltage

PIN CONFIGURATION



2-Input 1-Output Video Switch (75Ω driver)/3-Input 1-Output Video Switch (75Ω driver)
Monolithic IC MM1221~MM1228

Outline

These ICs are high grade video switches with 2-input 1-output or 3-input 1-output and built-in 75Ω driver.
The series includes those with and without built-in clamp and 6dB amp circuits.
Circuit configuration tables and block diagrams are as follows.
MM1228 is used as the representative model in this description.

MM1221~MM1228 Series Circuit Configuration Table

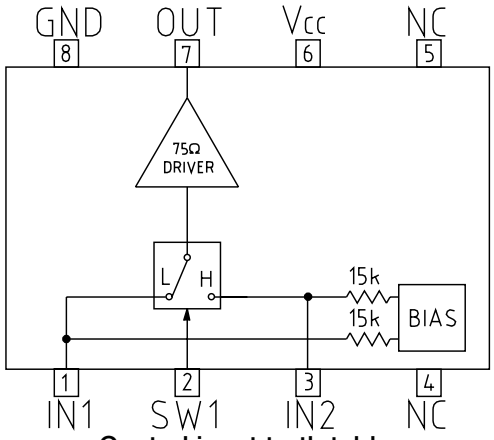
Model name	# of Inputs	# of Outputs	6dB amp circuit	Clamp circuit	Power supply voltage range
MM1221	2	1	No	No	8~13V
MM1222	2	1	Yes	No	8~13V
MM1223	3	1	No	No	8~13V
MM1224	3	1	Yes	No	8~13V
MM1225	2	1	No	Yes	4.7~13V
MM1226	2	1	Yes	Yes	4.7~13V
MM1227	3	1	No	Yes	4.7~13V
MM1228	3	1	Yes	Yes	4.7~13V

MM1221~MM1228 Input/Output Voltage Measurement Values (typ.)

Model name	Power supply voltage	5V	9V	12V	Unit
MM1221	Input voltage		4.53	6.05	V
	Output voltage		4.5	6.1	V
MM1222	Input voltage		4.05	5.4	V
	Output voltage		5.34	7.12	V
MM1223	Input voltage		4.53	6.05	V
	Output voltage		4.5	6.1	V
MM1224	Input voltage		4.05	5.4	V
	Output voltage		5.34	7.12	V
MM1225	Input voltage	1.27	2.17	2.86	V
	Output voltage	1.31	2.25	2.96	V
MM1226	Input voltage	1.3	2.2	2.9	V
	Output voltage	1.4	2.23	2.88	V
MM1227	Input voltage	1.27	2.17	2.86	V
	Output voltage	1.31	2.25	2.96	V
MM1228	Input voltage	1.3	2.2	2.9	V
	Output voltage	1.4	2.23	2.88	V

Block Diagram (MM1221~MM1228)

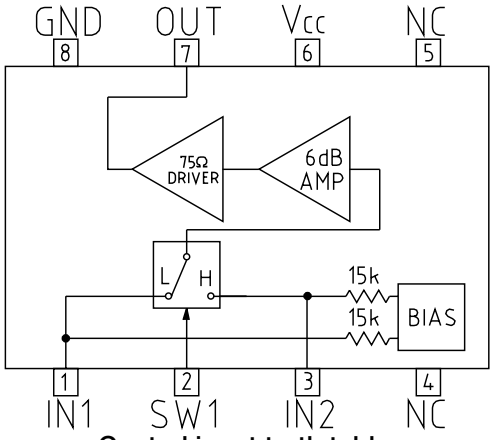
MM1221



Control input truth table

SW	OUT
L	IN1
H	IN2

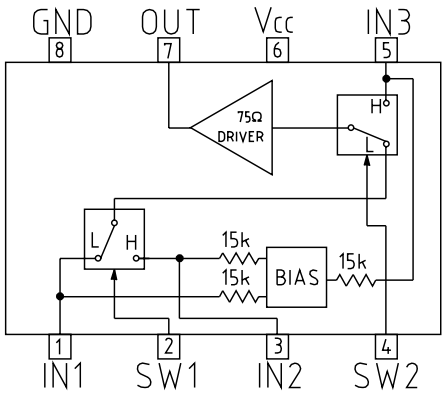
MM1222



Control input truth table

SW	OUT
L	IN1
H	IN2

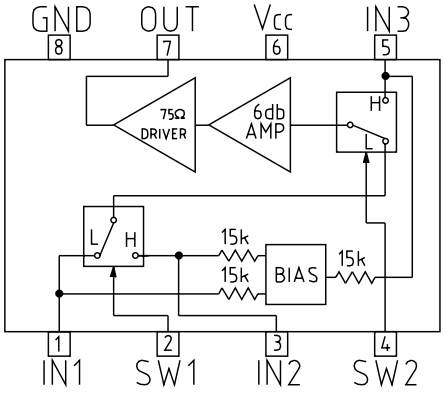
MM1223



Control input truth table

SW1	SW2	OUT
L	L	IN1
H	L	IN2
L/H	H	IN3

MM1224



Control input truth table

SW1	SW2	OUT
L	L	IN1
H	L	IN2
L/H	H	IN3

National Semiconductor

July 2003

LP2995
DDR Termination Regulator

General Description

The LP2995 linear regulator is designed to meet the JEDEC SSTL-2 and SSTL-3 specifications for termination of DDR-SDRAM. The device contains a high-speed operational amplifier to provide excellent response to load transients. The output stage prevents shoot through while delivering 1.5A continuous current and transient peaks up to 3A in the application as required for DDR-SDRAM termination. The LP2995 also incorporates a V_{SENSE} pin to provide superior load regulation and a V_{REF} output as a reference for the chipset and DDR DIMMS.

Patents Pending

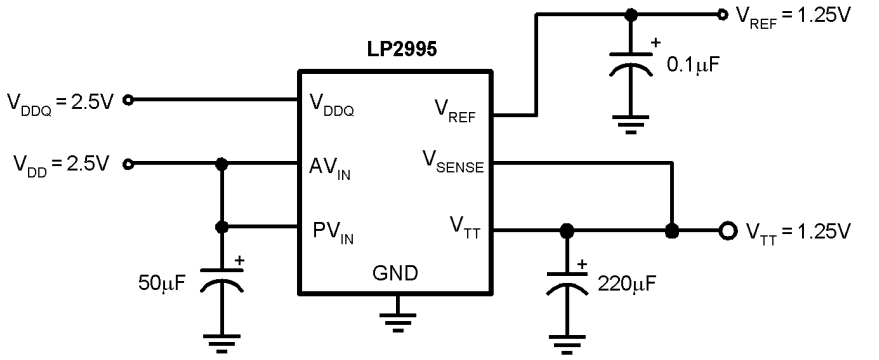
Features

- Low output voltage offset
- Works with +5v, +3.3v and 2.5v rails
- Source and sink current
- Low external component count
- No external resistors required
- Linear topology
- Available in SO-8, PSOP-8 or LLP-16 packages
- Low cost and easy to use

Applications

- DDR Termination Voltage
- SSTL-2
- SSTL-3

Typical Application Circuit



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PQxxxEZ02Z Series

Low Voltage Operation Low Power-loss Voltage Regulator

■ Features

- Low voltage operation (Minimum operating voltage: 2.35V)
  2.5V input → available 1.5 to 1.8V output
- Low dissipation current
  Dissipation current at no load: MAX.2mA
  Output OFF-state dissipation current: MAX.5μA
- Low power-loss
- Built-in overcurrent and overheat protection functions

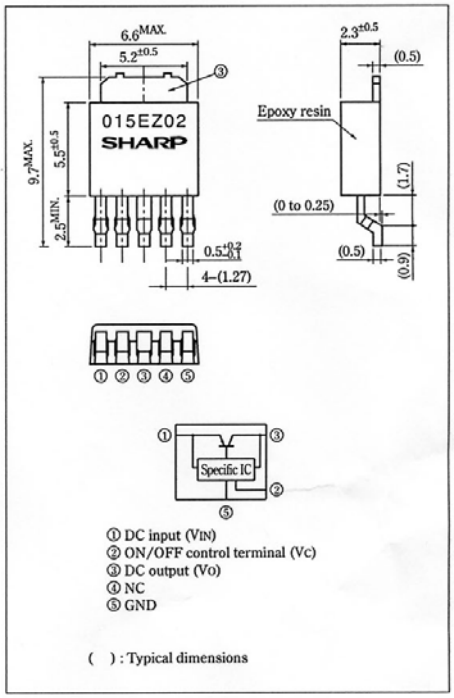
■ Applications

- Power supplies for personal computers and peripheral equipment
- Power supplies for various electronic equipment such as DVD player or STB

■ Model Line-up

Output current (Io)	Output Voltage (Vo)		
	1.5V	1.8V	2.5V
2.0A	PQ015EZ02Z	PQ018EZ02Z	PQ025EZ02Z

■ Outline Dimensions (Unit : mm)



■ Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Rating	Unit
*1 Input voltage	V_{IN}	10	V
*1 ON/OFF control terminal voltage	V_C	10	V
Output current	Io	2	A
*2 Power dissipation	P_D	8	W
*3 Junction temperature	T_j	150	°C
Operating temperature	T_{opr}	−40 to + 85	°C
Storage temperature	T_{stg}	−40 to +150	°C
Soldering temperature	T_{sol}	260 (10s)	°C

*1 All are open except GND and applicable terminals
*2 PD:With infinite heat sink
*3 Overheat protection may operate at 125 <=Tj<=150°C

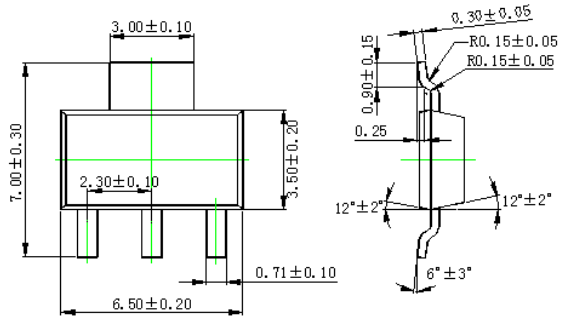
•Please refer to the chapter " Handling Precautions ".

SHARP

Notice In the absence of confirmation by device specification sheets,SHARP takes no responsibility for any defects that may occur in equipment using any SHARP devices shown in catalogs,data books,etc.Contact SHARP in order to obtain the latest device specification sheets before using any SHARP device.
Internet Internet address for Electronic Components Group http://sharp-world.com/ecg/

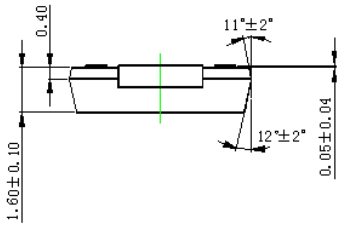
Features

Low Dropout Voltage: 1.15V at 1A Output Current
Trimmed Current Limit
On-Chip Thermal Shutdown
Three-Terminal Adjustable or Fixed 1.5V, 1.8V, 2.5V, 3.3V, 5V
Operation Junction Temperature: 0°C to 125°C



Applications

PC Motherboard
LCD Monitor
Graphic Card
DVD-Video Player
NIC/Switch
Telecom Equipment
ADSL Modem
Printer and other Peripheral Equipment



Absolute Maximum Ratings (Note 1)

Parameter	Value	Unit
V_{IN}	20	V
Maximum Junction Temperature	150	°C
Storage Temperature Range	-65 to 150	°C
Lead Temperature (Soldering, 10 sec.)	300	°C
ESD (Machine Model)	600	V

Note 1: Stresses greater than those listed under "Absolute Maximum Ratings" may cause permanent damage to the device. These are stress ratings only, and functional operation of the device at these or any other conditions beyond those indicated under "Recommended Operating Conditions" is not implied. Exposure to "Absolute Maximum Ratings" for extended periods may affect device reliability.

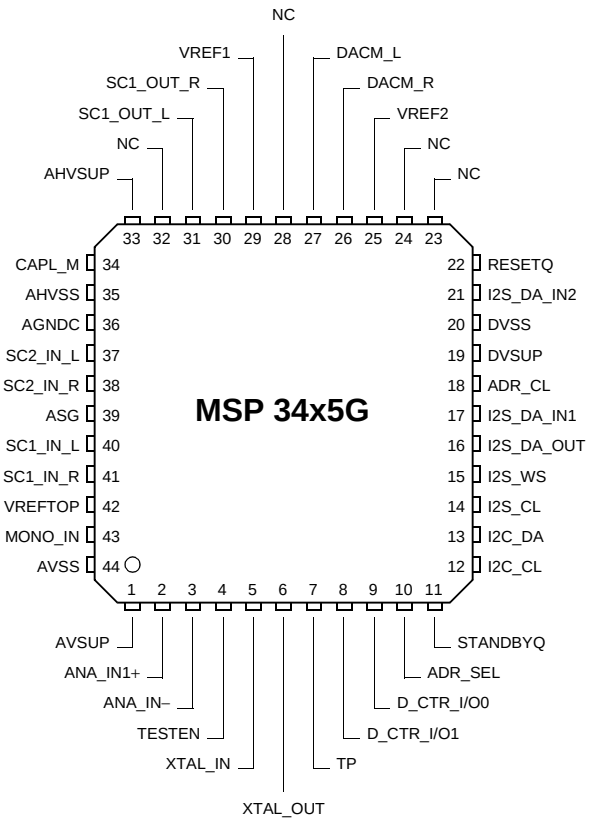
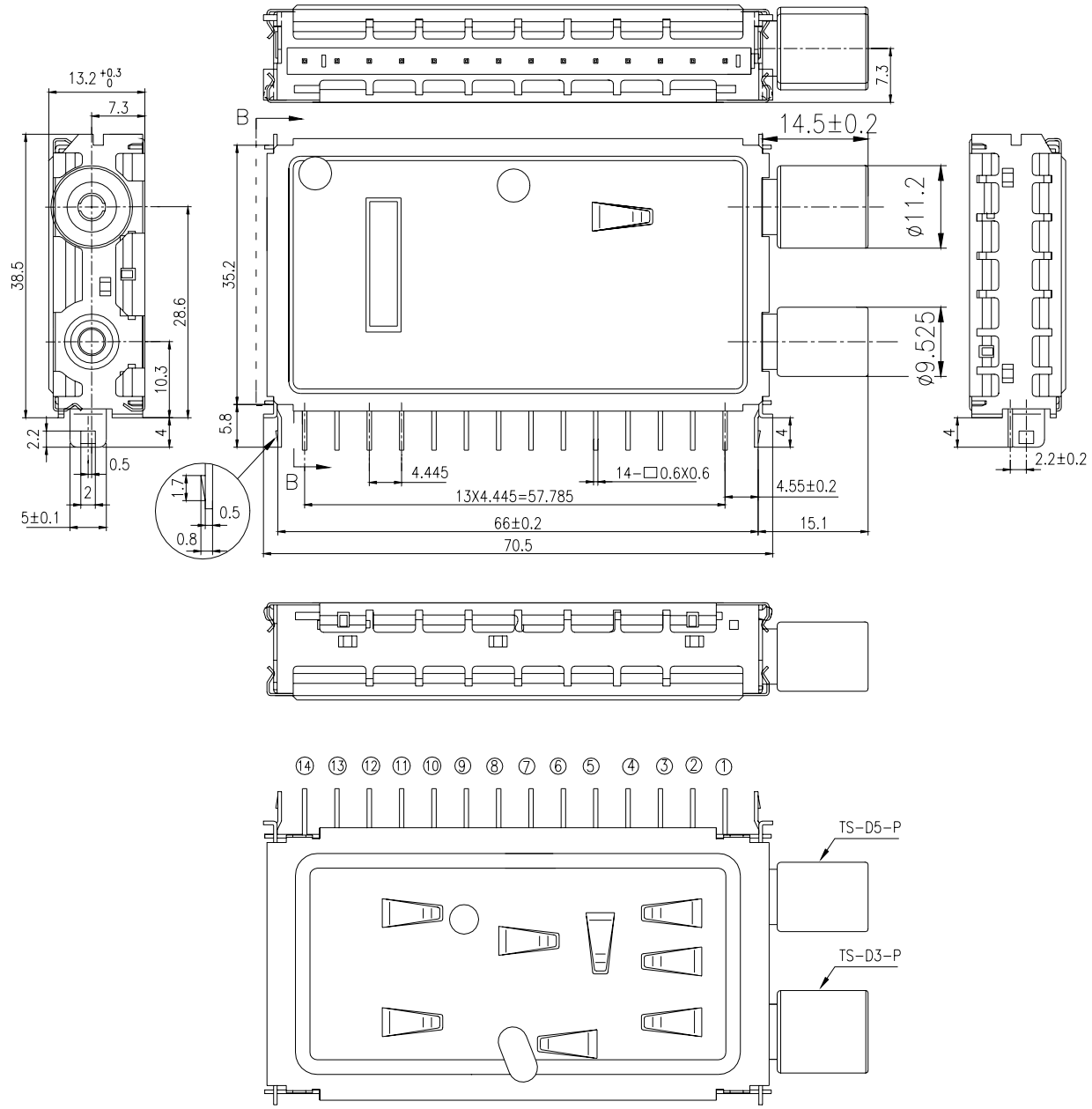
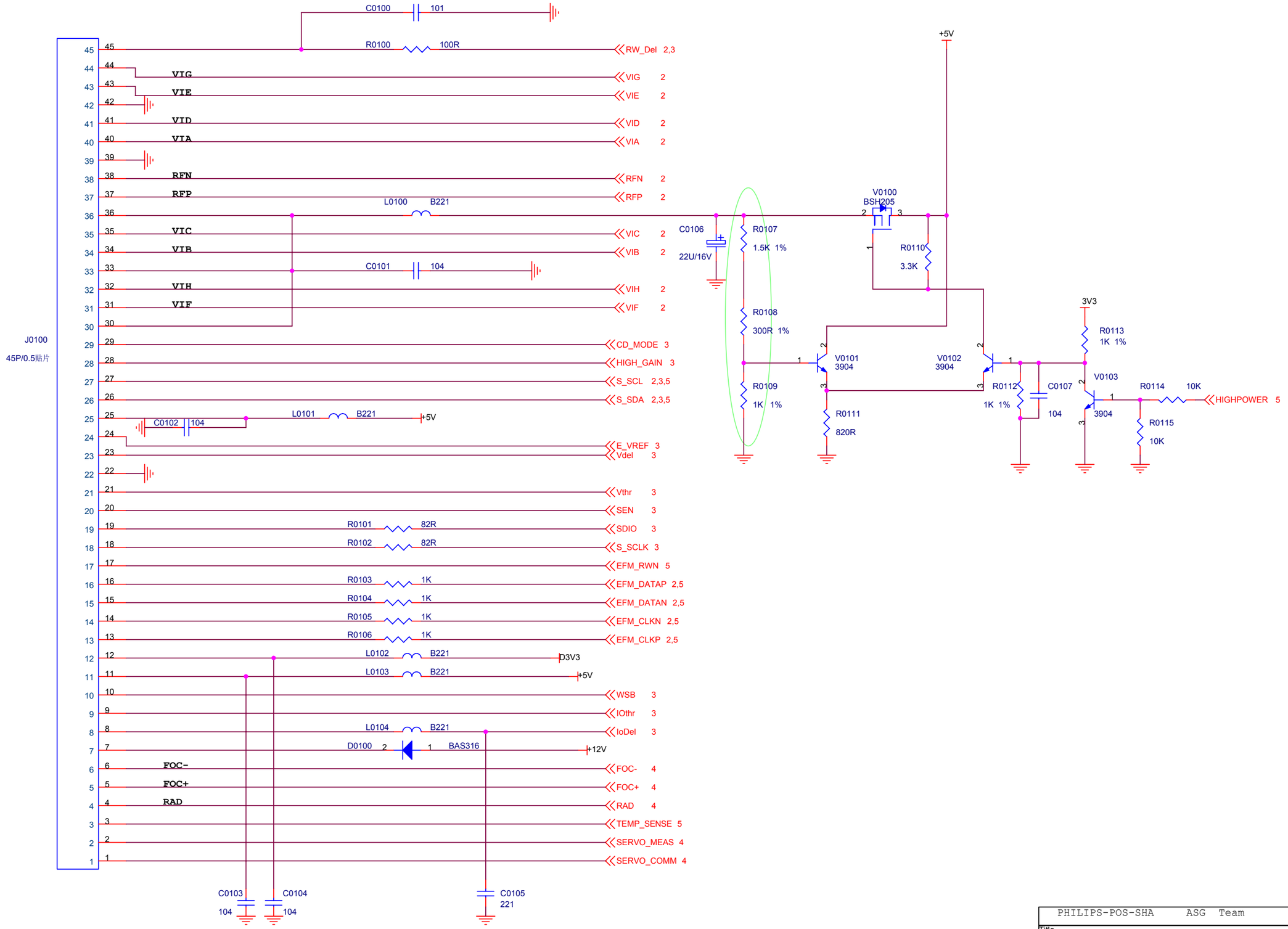


Fig. 4–10: 44-pin PMQFP package

11.Terminal for External Connection & Outline Drawing





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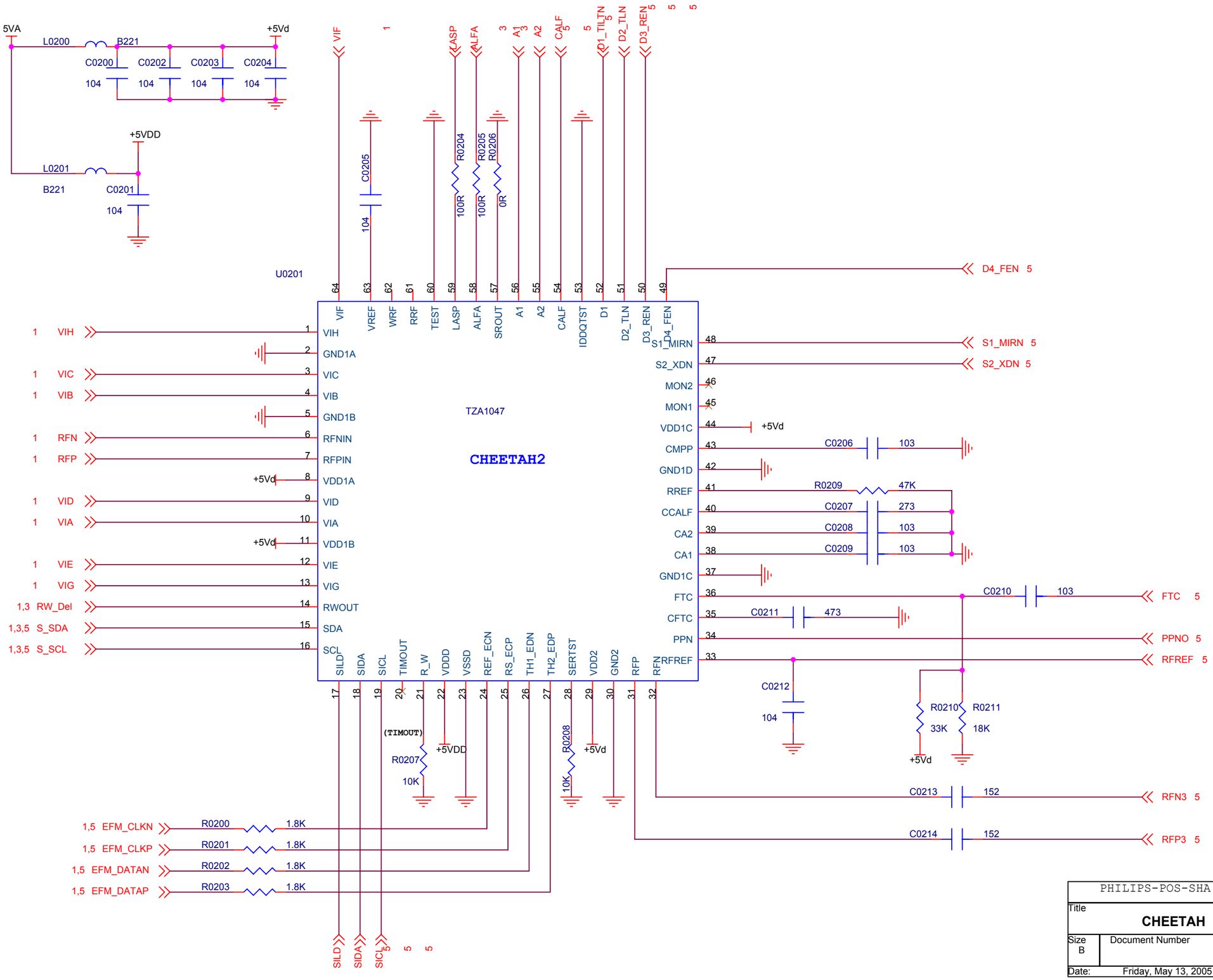
Date: Friday, May 13, 2005	Sheet 01 of 16	



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Title: **CHEETAH**

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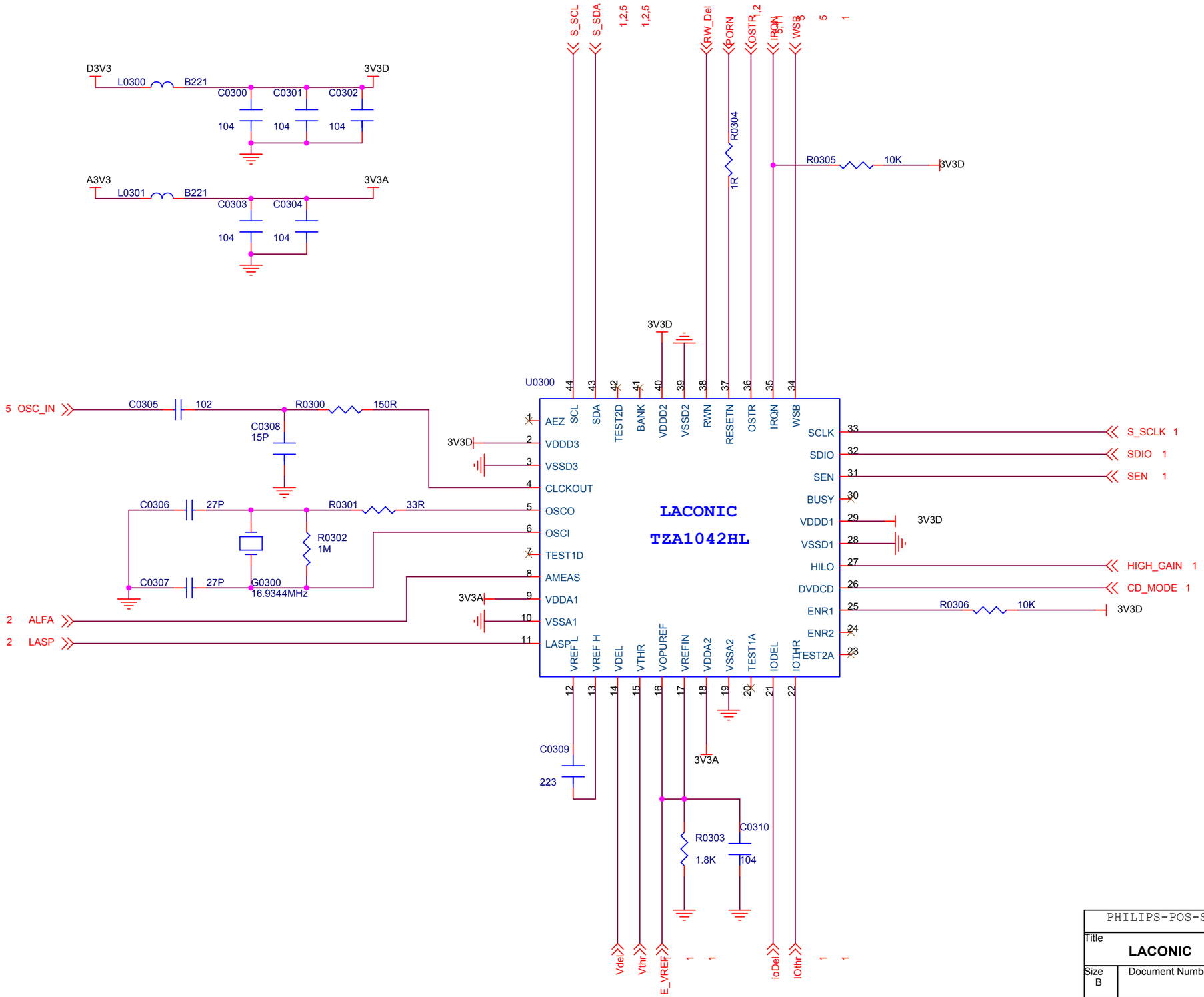
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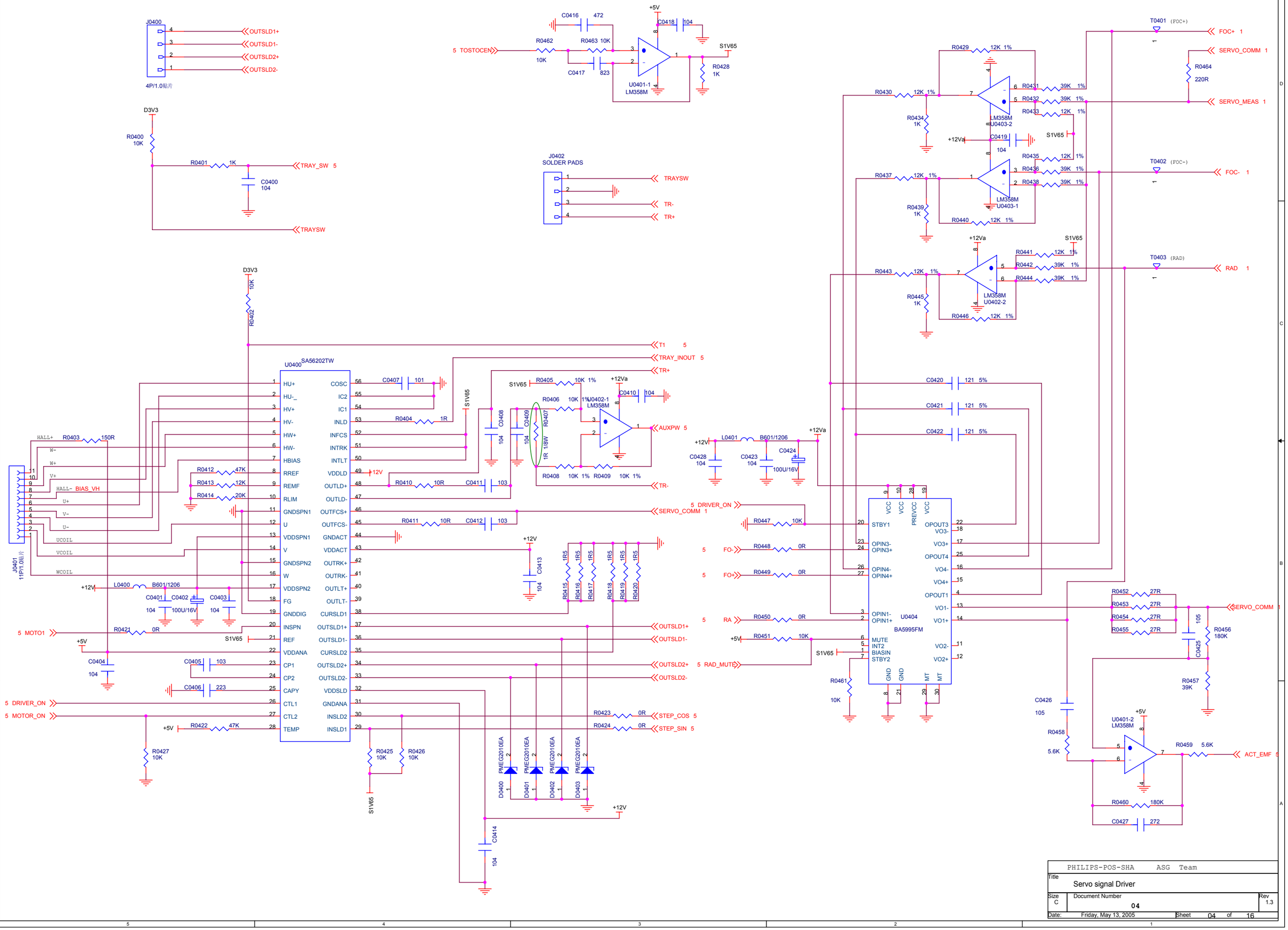
104
104
A3V3
L0301
B221
3V3A
C0303
C0304
104
104
S_SCL
S_SDA
1,2,5
1,2,5
RW_Del
PORN
OSTR
1,2
IRQN
1,2
WSB
5
1
R0304
1R
R0305
10K
3V3D
U0300
44 SCL
43 SDA
42 TEST2D
41 BANK
40 VDDD2
39 VSSD2
38 RWN
37 RESETN
36 OSTR
35 IRQN
34 WSB
1 AEZ
2 VDDD3
3 VSSD3
4 CLKOUT
5 OSCO
6 OSCI
7 TEST1D
8 AMEAS
9 VDDA1
10 VSSA1
11 LASP
12 VREF L
13 VREF H
14 VDEL
15 VTHR
16 VOPUREF
17 VREFIN
18 VDDA2
19 VSSA2
20 TEST1A
21 IODEL
22 IOTHR
33 SCLK
32 SDIO
31 SEN
30 BUSY
29 VDDD1
28 VSSD1
27 HILO
26 DVDCD
25 ENR1
24 ENR2
23 TEST2A
LACONIC
TZA1042HL
3V3D
3V3D
3V3A
5 OSC_IN
C0305
102
R0300
150R
C0308
15P
C0306
27P
R0301
33R
R0302
1M
C0307
27P
G0300
16.9344MHz
2 ALFA
2 LASP
C0309
223
3V3A
R0303
1.8K
C0310
104
R0306
10K
3V3D
S_SCLK 1
SDIO 1
SEN 1
HIGH_GAIN 1
CD_MODE 1
Vdel
Vthr
E_VREF
ioDel
IOthr
PHILIPS-POS-SHA ASG Team
Title
LACONIC
Size B
Document Number 03
Rev 1.3
Date: Friday, May 13, 2005
Sheet 03 of 16



PHILIPS-POS-SHA	ASG Team	
Title: Servo signal Driver		
Size: C	Document Number: 04	Rev: 1.3
Date: Friday, May 13, 2005	Sheet 04 of 16	

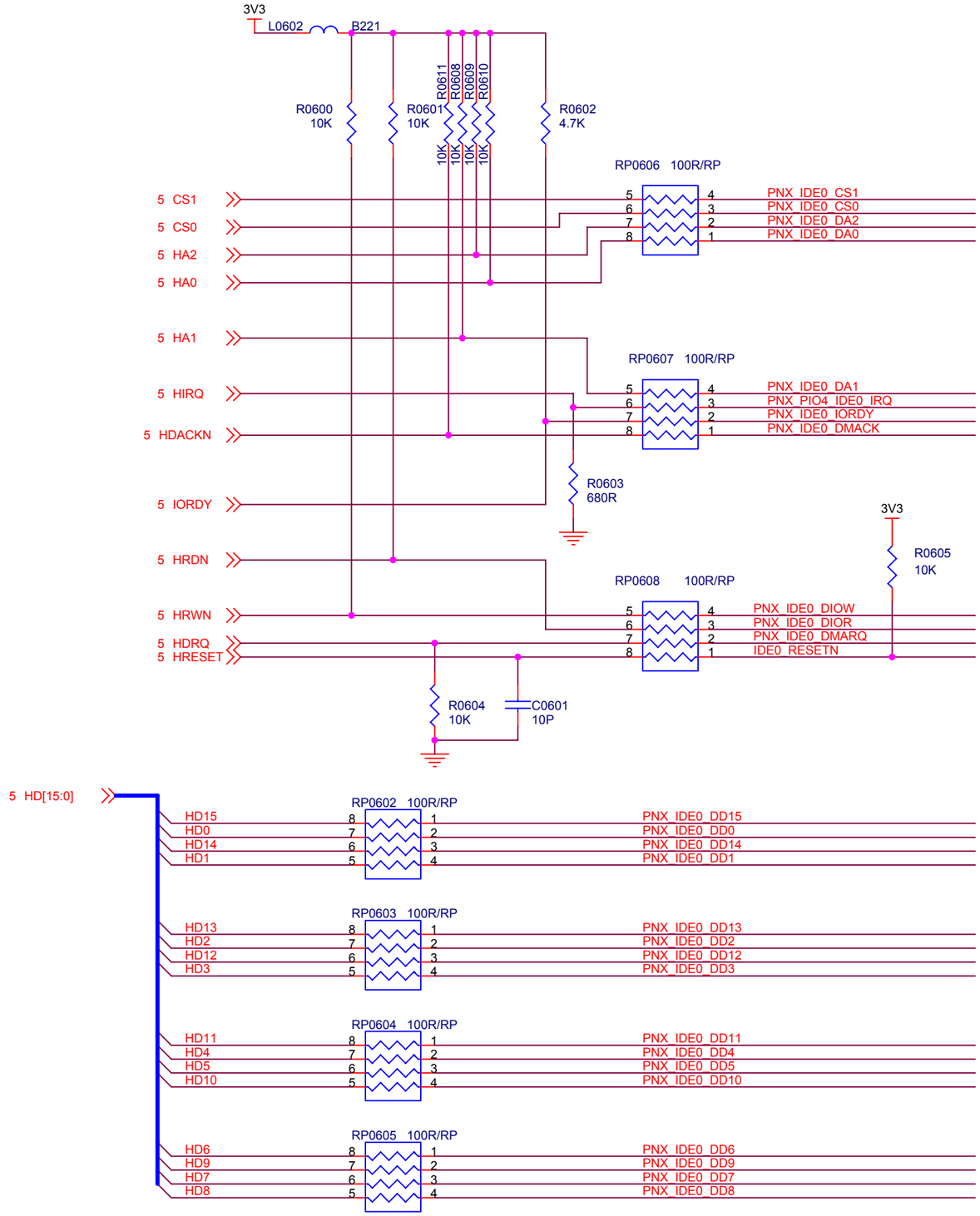
PNX7850E

CENTAURUS 1.5

Title	CENTURUS
Size	C
Document Number	05
Rev	1.3
Date:	Friday, May 13, 2005
Sheet	05 of 16

PHILIPS-POS-SHA ASG Team

DEDICATED ATAPI INTERFACE



PNX_IDE0_DD8 — 8_ATAPI_DATA8
PNX_IDE0_DD7 — 8_ATAPI_DATA7
PNX_IDE0_DD9 — 8_ATAPI_DATA9
PNX_IDE0_DD6 — 8_ATAPI_DATA6

PNX_IDE0_DD10 — 8_ATAPI_DATA10
PNX_IDE0_DD5 — 8_ATAPI_DATA5
PNX_IDE0_DD11 — 8_ATAPI_DATA11
PNX_IDE0_DD4 — 8_ATAPI_DATA4

PNX_IDE0_DD12 — 8_ATAPI_DATA12
PNX_IDE0_DD3 — 8_ATAPI_DATA3
PNX_IDE0_DD13 — 8_ATAPI_DATA13
PNX_IDE0_DD2 — 8_ATAPI_DATA2

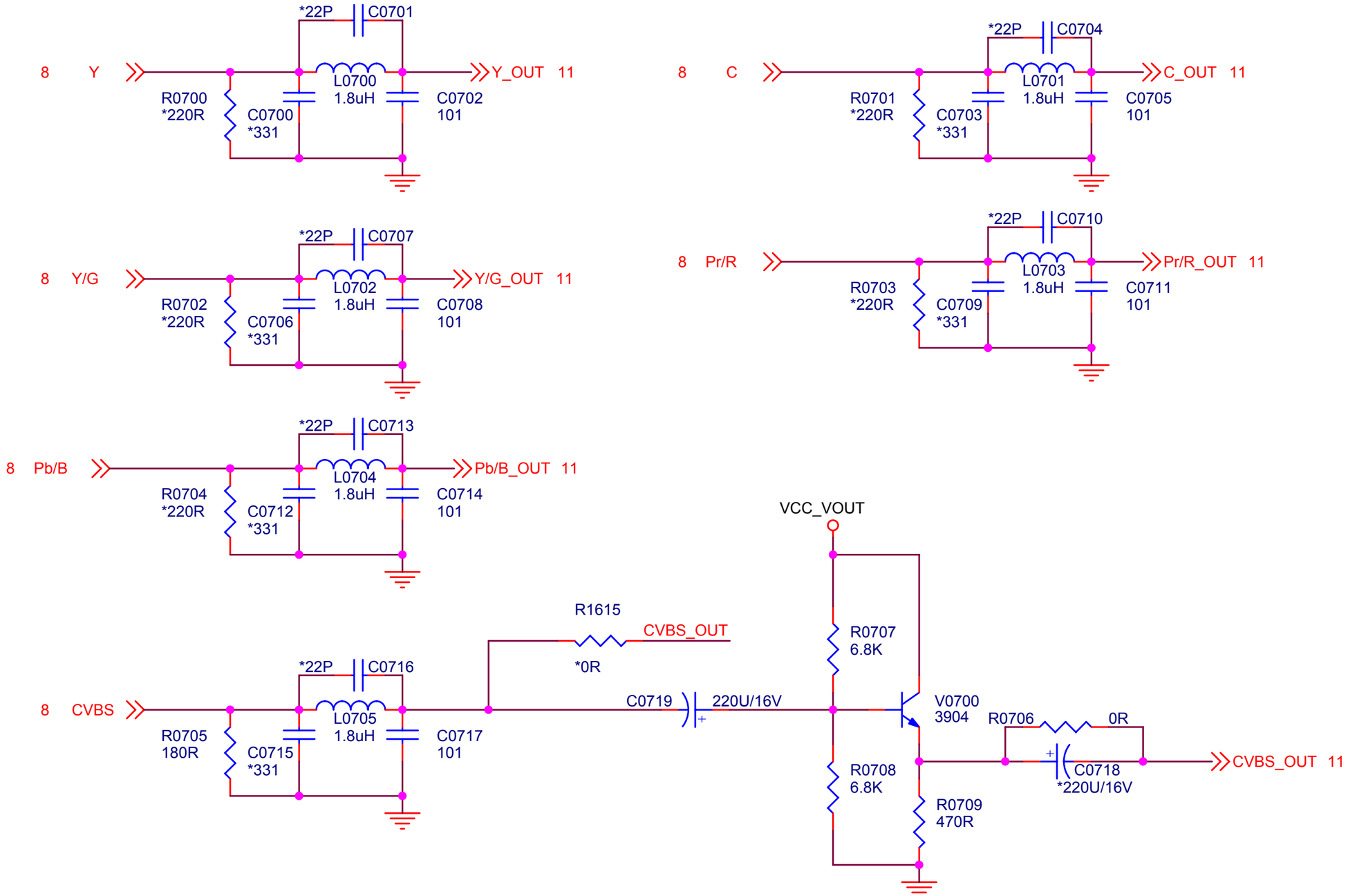
PNX_IDE0_DD14 — 8_ATAPI_DATA14
PNX_IDE0_DD1 — 8_ATAPI_DATA1
PNX_IDE0_DD15 — 8_ATAPI_DATA15
PNX_IDE0_DD0 — 8_ATAPI_DATA0

PNX_IDE0_DIOW — 8_ATAPI_DIOW_L
PNX_IDE0_DIOR — 8_ATAPI_DIOR_L
PNX_IDE0_DMACK — 8_ATAPI_DMAACK_L
PNX_IDE0_DA1 — 8_AtapiAddr1

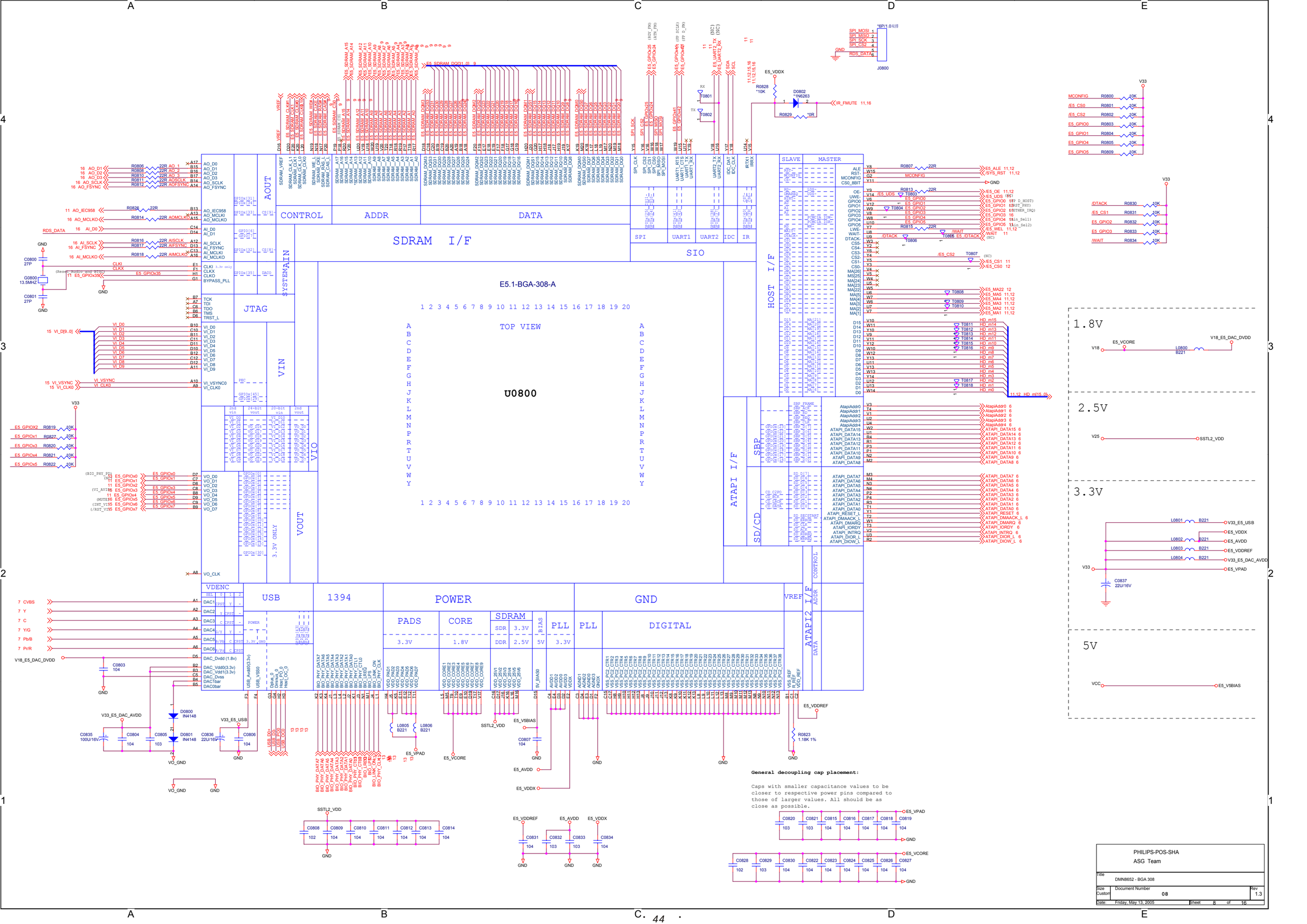
PNX_IDE0_DA0 — 8_AtapiAddr0
PNX_IDE0_DA2 — 8_AtapiAddr2
PNX_IDE0_CS0 — 8_AtapiAddr3
PNX_IDE0_CS1 — 8_AtapiAddr4

IDE0_RESETN — 8_ATAPI_RESET
PNX_PIO4_IDE0_IRQ — 8_ATAPI_INTRQ
PNX_IDE0_IORDY — 8_ATAPI_IORDY
PNX_IDE0_DMARQ — 8_ATAPI_DMARQ

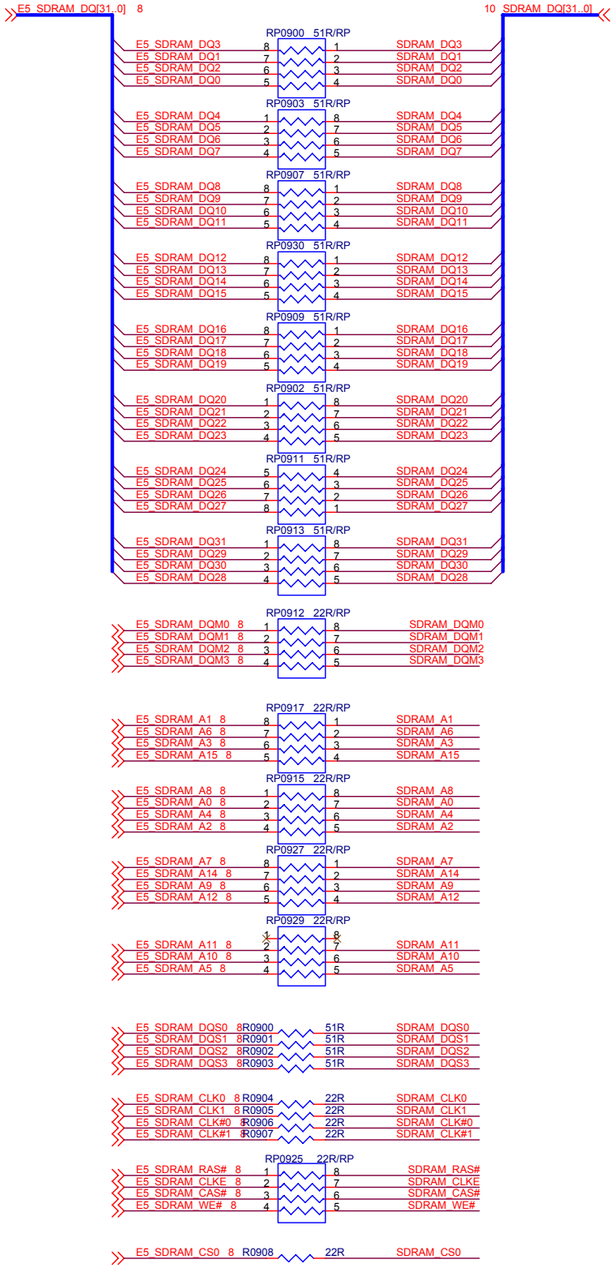
PHILIPS-POS-SHA ASG Team		
Title: POWER & ATA		
Size: B	Document Number: 06	Rev: 1.3
Date: Friday, May 13, 2005	Sheet 06 of 16	



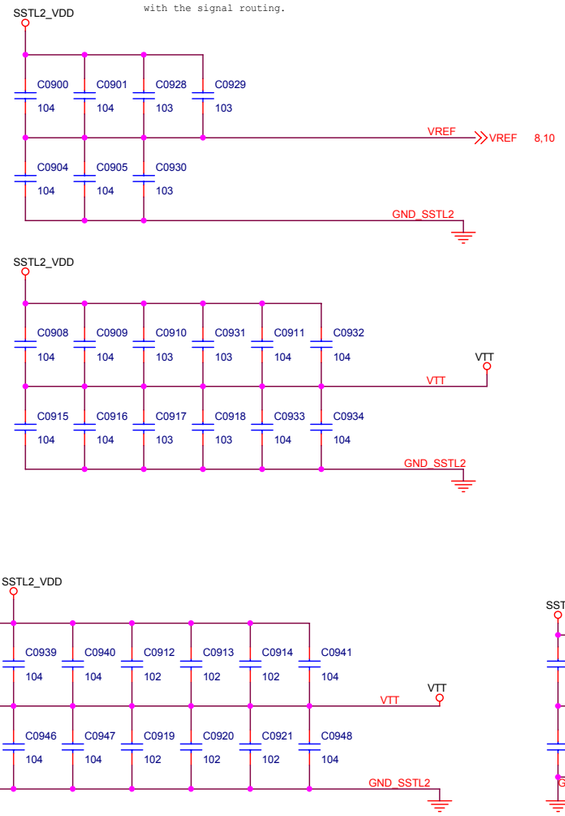
PHILIPS-POS-SHA ASG Team		
Title: VEDIO DRIVER		
Size: A	Document Number: 7	Rev: 1.3
Date: Friday, May 13, 2005	Sheet 7 of 16	

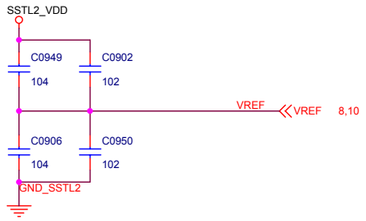

SDRAM I/F
SIO
SYSTEMAIN
JTAG
VIN
VOUT
CONTROL
ADDR
DATA
SPI
UART1
UART2
IDC
IR
HOST I/F
SLAVE
MASTER
SBP
SD/CD
ATAPI I/F
ATAPI2 I/F
USB
1394
POWER
GND
VREF
PADS
CORE
SDRAM
BIAS
PLL
DIGITAL
E5.1-BGA-308-A
TOP VIEW
U0800
1.8V
2.5V
3.3V
5V
E5_VCORE
V18_E5_DAC_DVDD
SSTL2_VDD
E5_VDDREF
E5_AVDD
E5_VDDX
E5_V5BIAS
E5_VPAD
E5_VDDQ
E5_VDDX
E5_V5BIAS
General decoupling cap placement:
Caps with smaller capacitance values to be closer to respective power pins compared to those of larger values. All should be as close as possible.
PHILIPS-POS-SHA
ASG Team
DMN8652 - BGA 308
Friday, May 13, 2005

TERMINATION AT E5.1



The VTT side of the terminaton resistors should be placed on a wide VTT island on the surface layer. The island is located at each end of the bus, so it does not interfere with the signal routing.



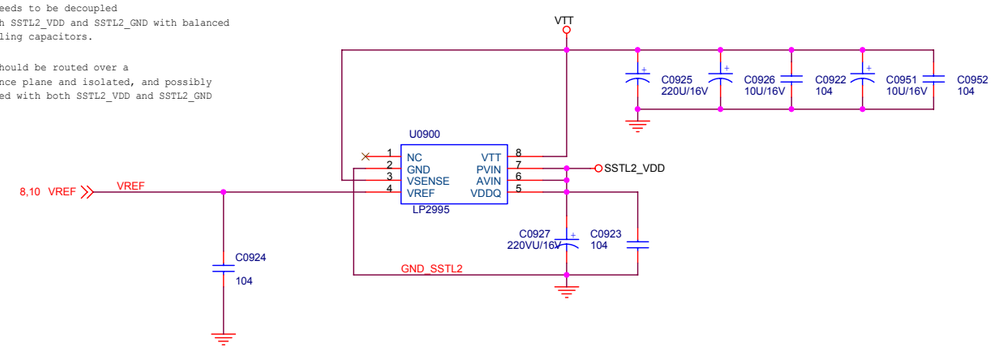


TERMINATION AT DDR

DDR TERMINATION VOLTAGE REGULATOR

VREF needs to be decoupled to both SSTL2_VDD and SSTL2_GND with balanced decoupling capacitors.

VREF should be routed over a reference plane and isolated, and possibly shielded with both SSTL2_VDD and SSTL2_GND

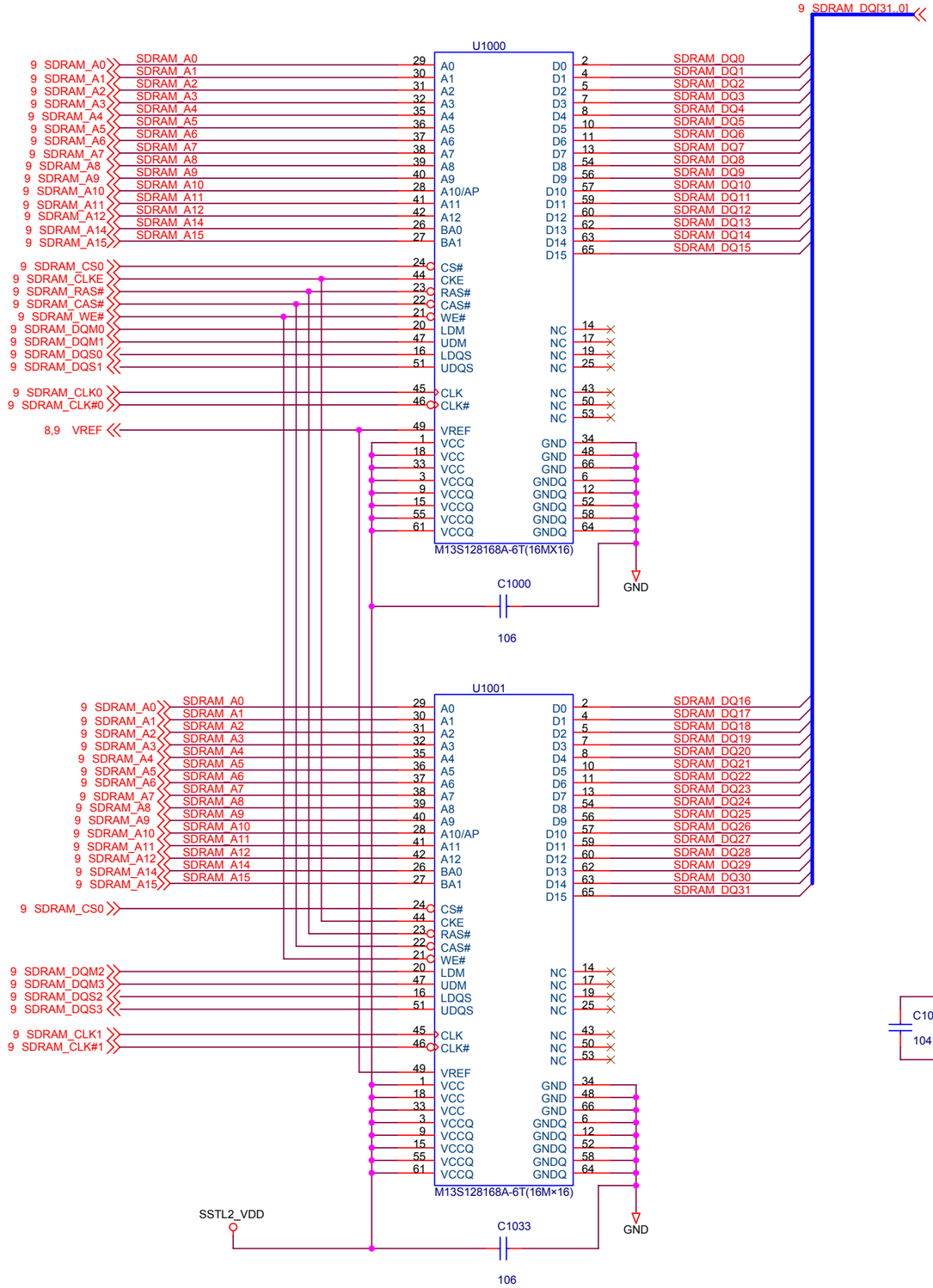


PHILIPS-POS-SHA
ASG Team

Title: TERM AT E5 09

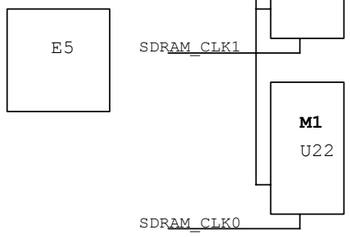
Size: C | Document Number | Rev: 1.3

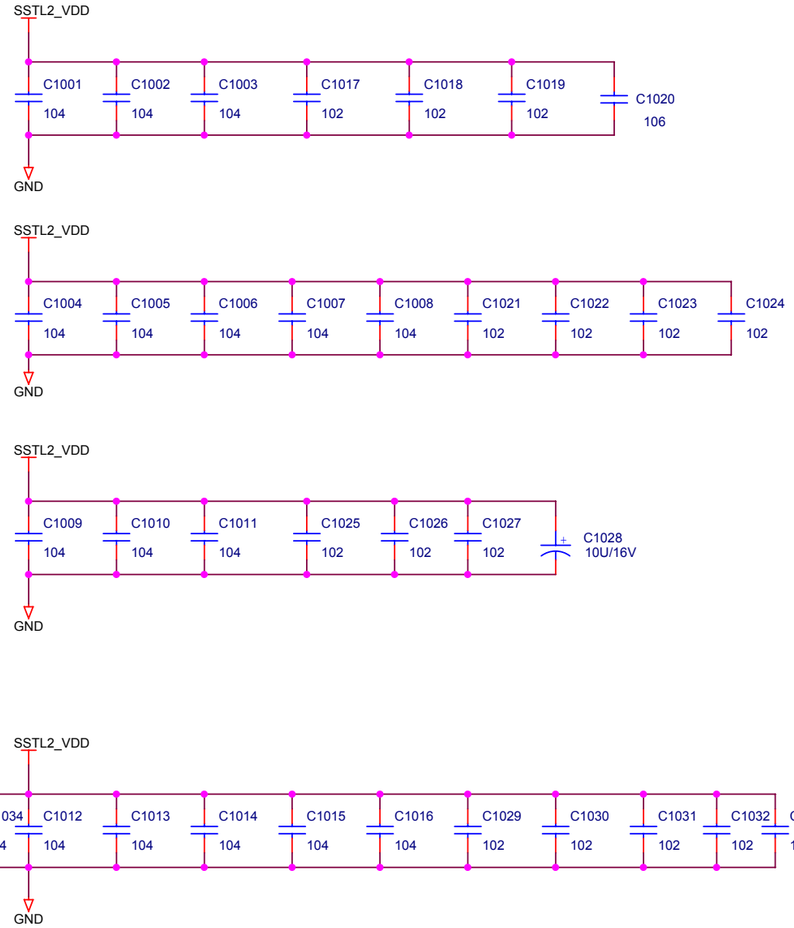
Date: Friday, May 13, 2005 | Sheet 9 of 16



LAYOUT NOTE:

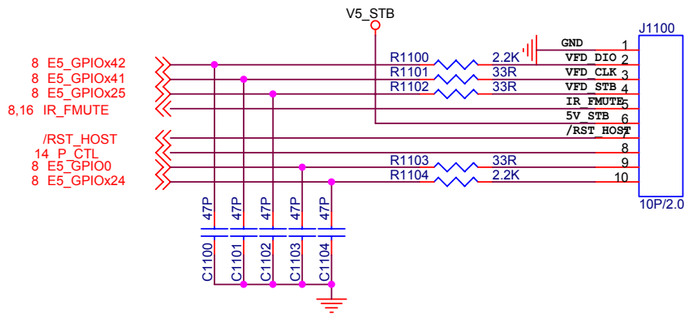
PLACEMENT



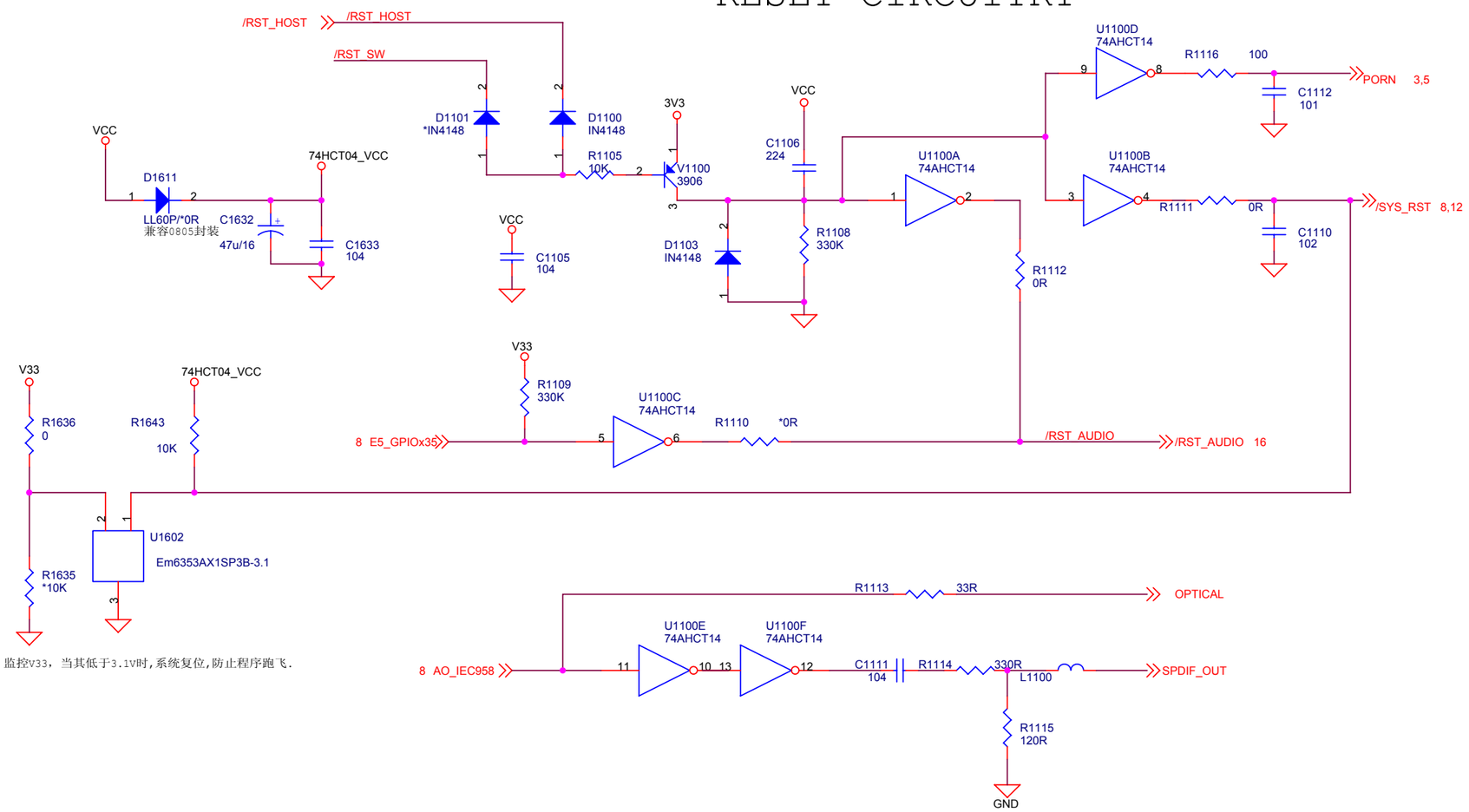


PHILIPS-POS-SHA ASG Team		
Title: 2 (8M x 16) DDR SDRAM		
Size: Custom	Document Number: 10	Rev: 1.3
Date: Friday, May 13, 2005	Sheet 10 of 16	

FRONT PANEL INTERFACE

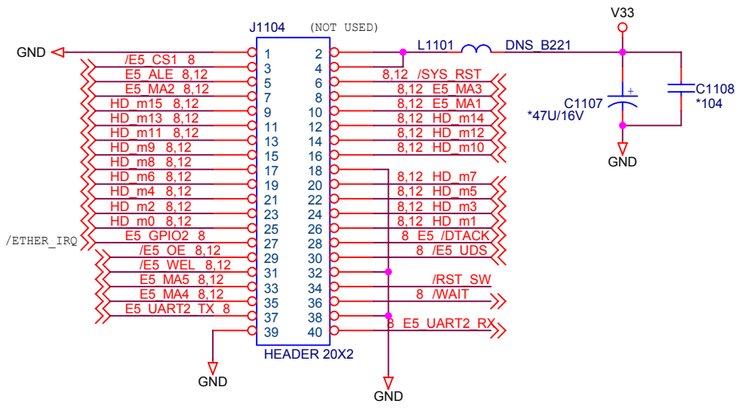


RESET CIRCUITRY



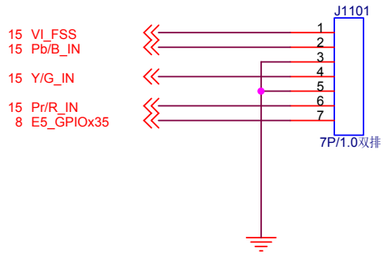
复位IC，监控V33，当其低于3.1V时,系统复位,防止程序跑飞.

E-Link IV Connector

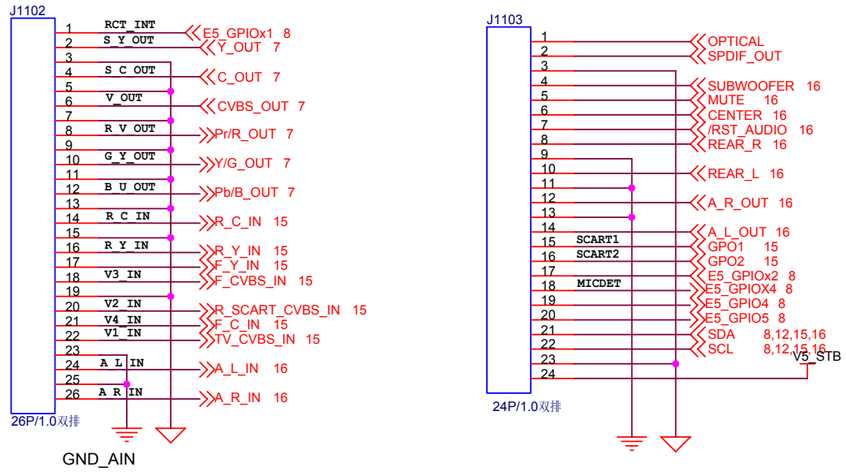


Not Used on PCBA

SCART Connector

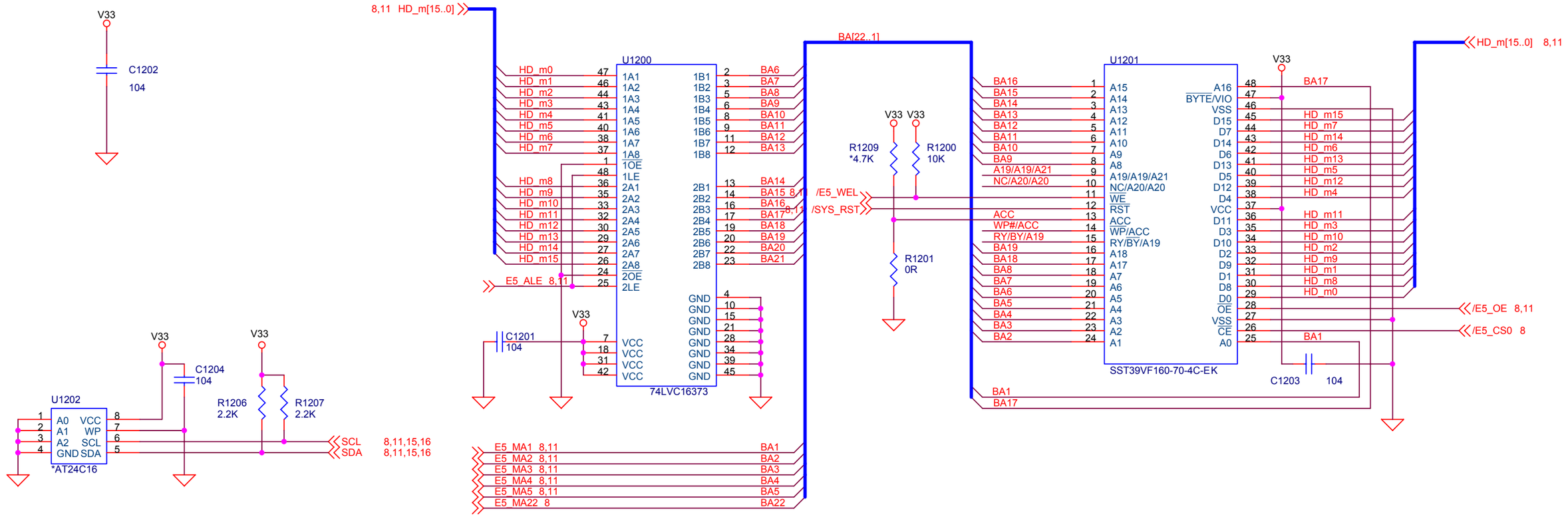


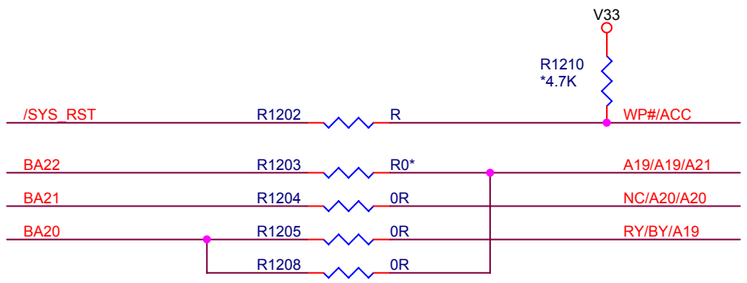
A/V I/O Connector



PHILIPS-POS-SHA ASG Team		
Title: FP, RST, IR, AV IO/ELink-3 CON, UART		
Size: Custom	Document Number: 11	Rev: 1.3
Date: Friday, May 13, 2005	Sheet 11 of 16	

FLASH MEMORY(2 or 4 or 8 Mb)





Size	Stuff	Not Stuff
1MB		R1203,R1204,R1205,R1208
2MB	R1208	R1203,R1204,R1205
4MB	R1204,R1208	R1203,R1205
8MB	R1203,R1204,R1205	R1208

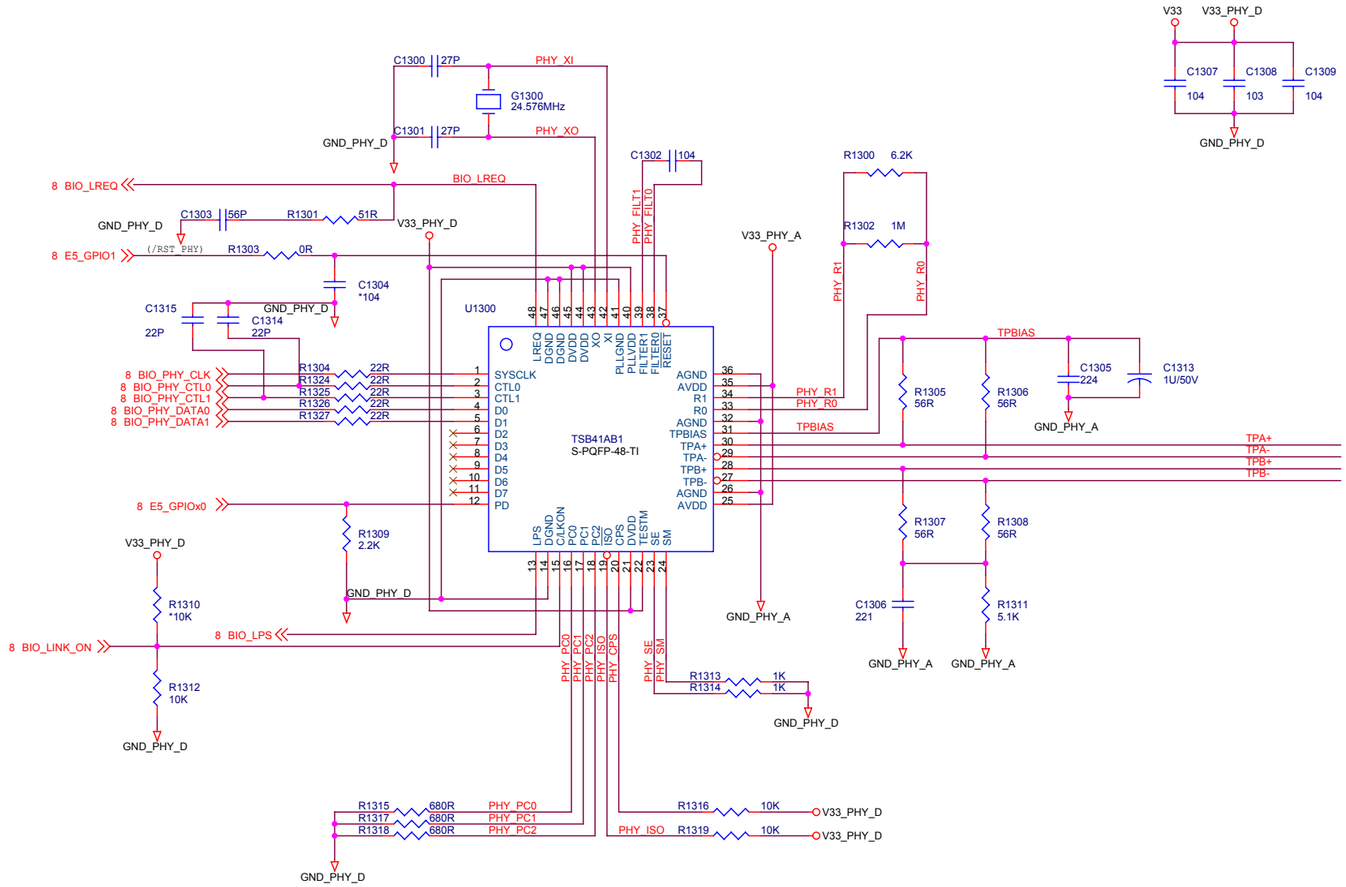
PHILIPS-POS-SHA
ASG Team

Title: FLASH, ATA, EEPROM

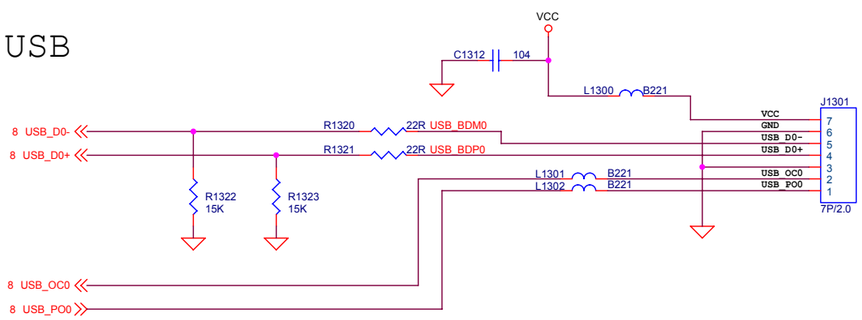
Size	Document Number	Rev
B	12	1.3

Date: Friday, May 13, 2005 Sheet 12 of 16

1394 FIREWIRE PHY

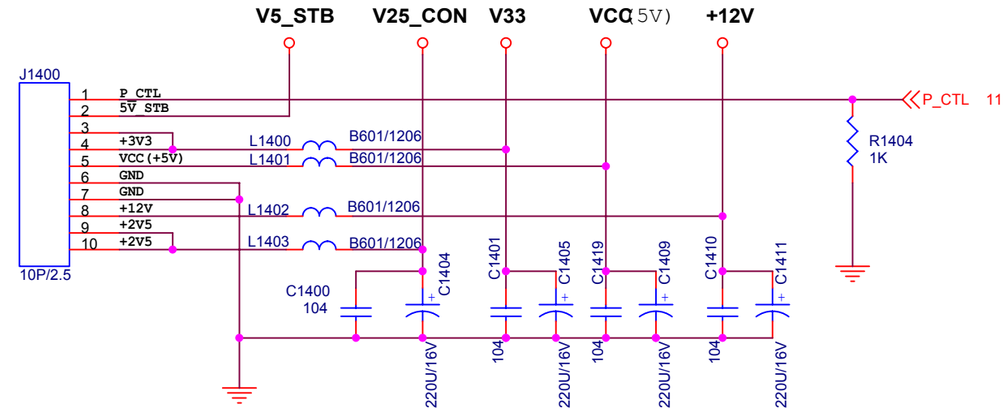


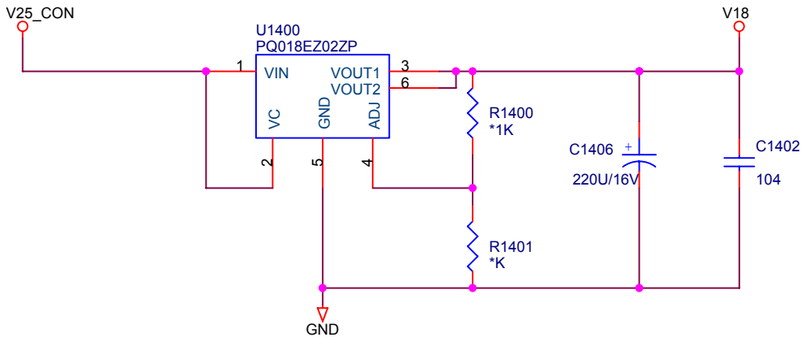
USB

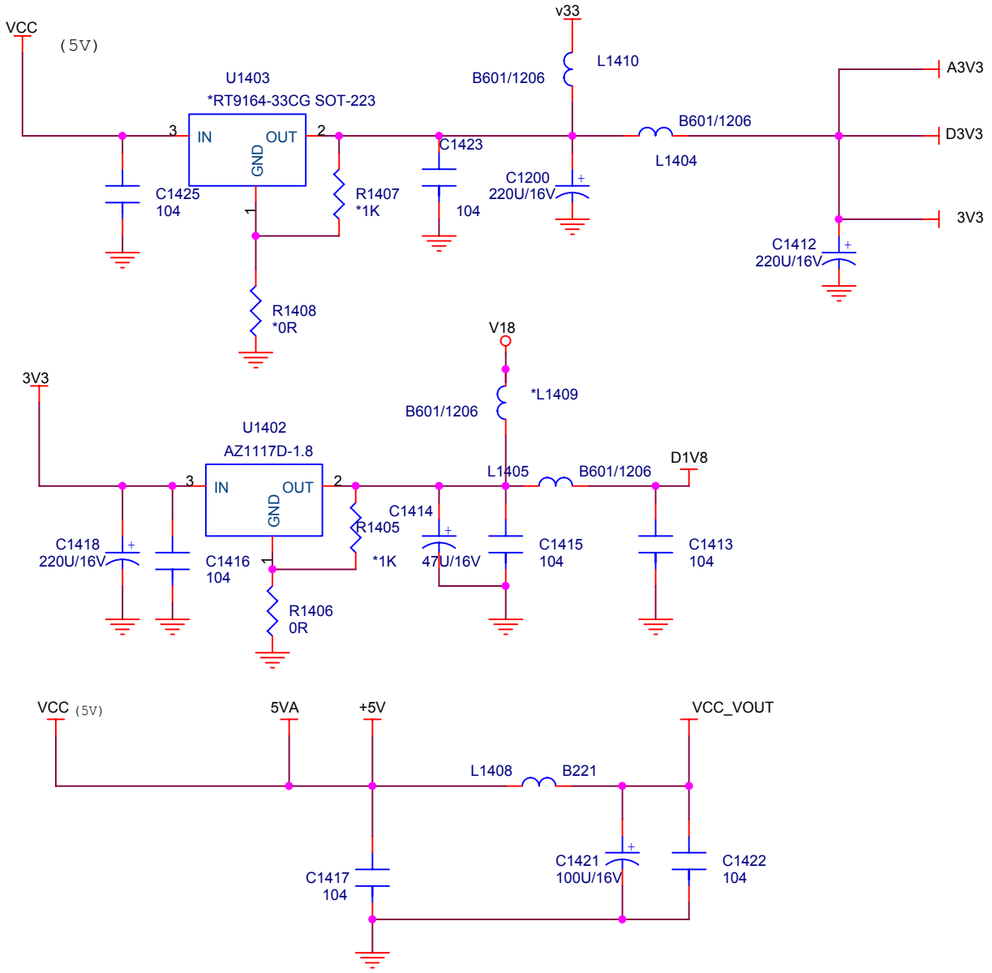


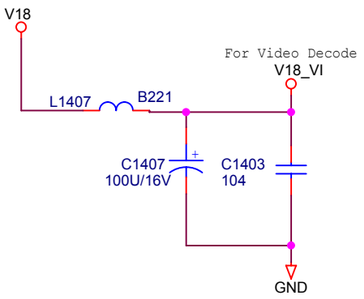
PHILIPS-POS-SHA		
ASG Team		
Title: 1394 PHY &USB		
Size: C	Document Number: 13	Rev: 1.3
Date: Friday, May 13, 2005	Sheet 13 of 16	

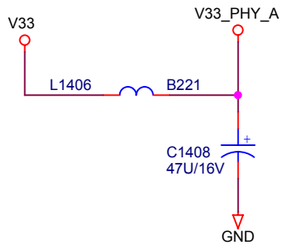
MAIN POWER CONN



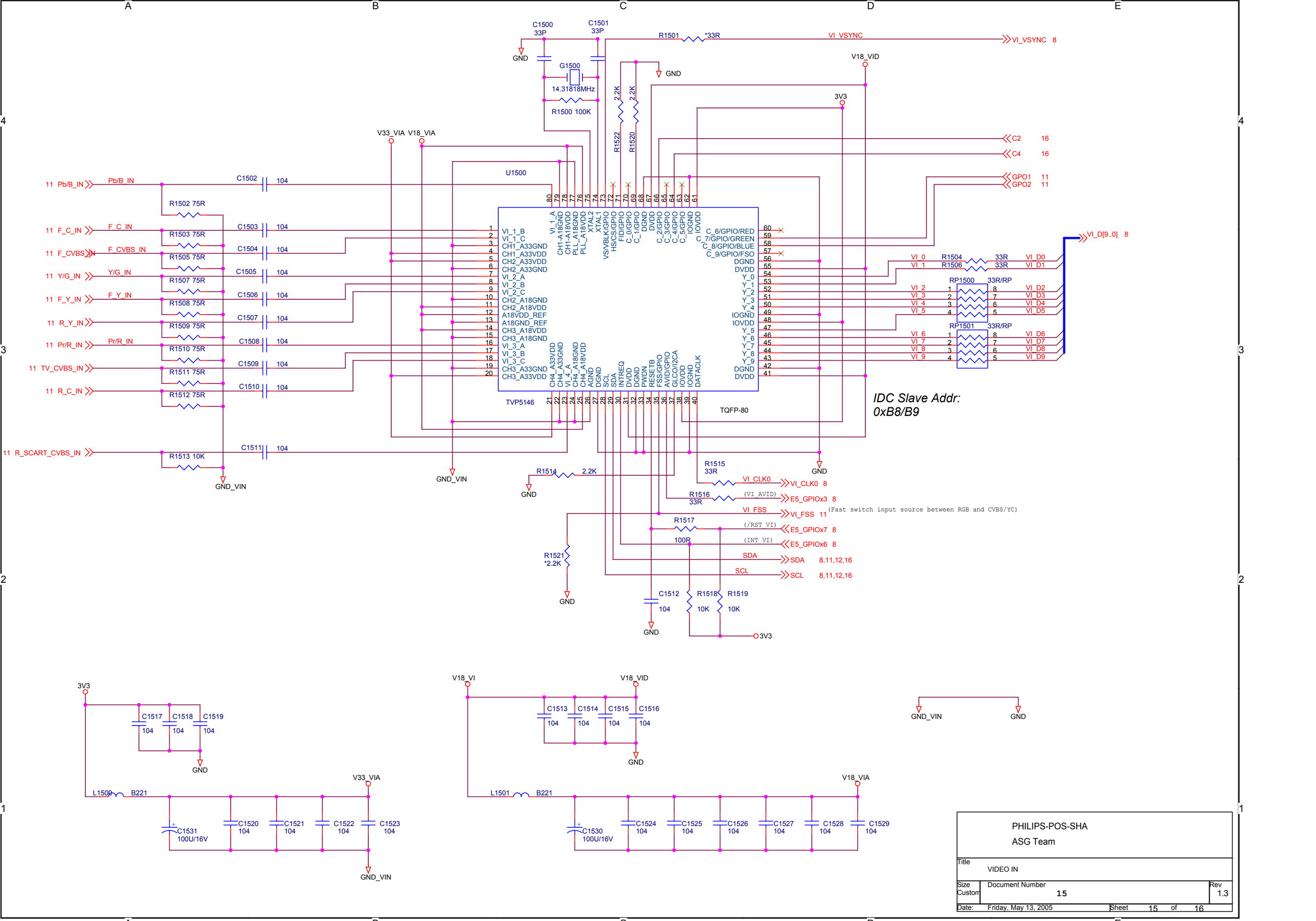


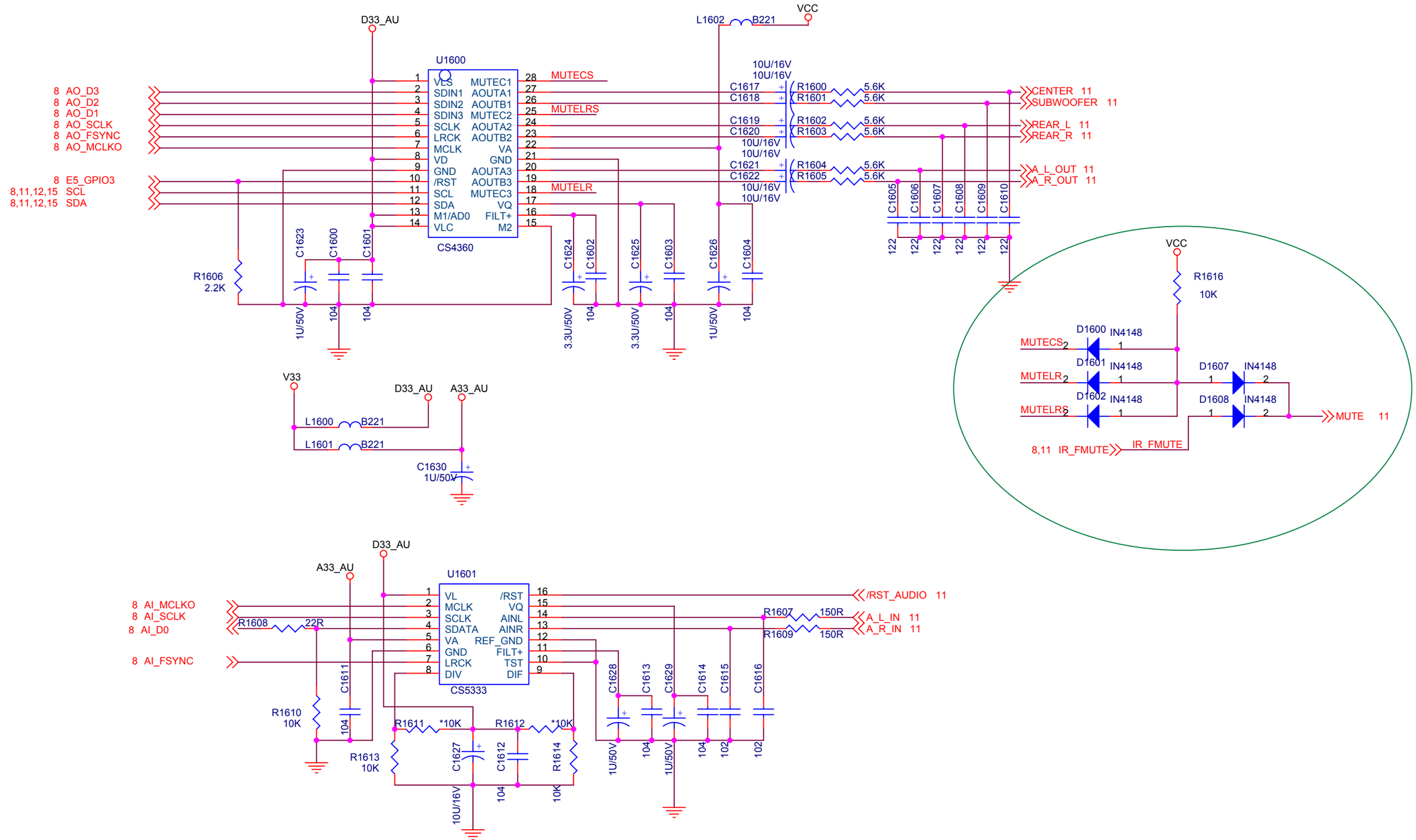






PHILIPS-POS-SHA ASG Team		
Title: POWER CONN		
Size: B	Document Number: 14	Rev: 1.3
Date: Friday, May 13, 2005	Sheet 14 of 16	


C1500 33P
C1501 33P
GND
G1500
14.31818MHz
R1500 100K
R1501 *33R
VI_VSYNC
VI_VSYNC 8
V18_VID
GND
3V3
2.2K
2.2K
R1522
R1520
V33_VIA V18_VIA
C2 16
C4 16
U1500
GPO1 11
GPO2 11
11 Pb/B_IN
Pb/B_IN
C1502 104
R1502 75R
11 F_C_IN
F_C_IN
C1503 104
R1503 75R
11 F_CVBS_IN
F_CVBS_IN
C1504 104
R1505 75R
11 Y/G_IN
Y/G_IN
C1505 104
R1507 75R
11 F_Y_IN
F_Y_IN
C1506 104
R1508 75R
11 R_Y_IN
C1507 104
R1509 75R
11 Pr/R_IN
Pr/R_IN
C1508 104
R1510 75R
11 TV_CVBS_IN
C1509 104
R1511 75R
11 R_C_IN
C1510 104
R1512 75R
11 R_SCART_CVBS_IN
C1511 104
R1513 10K
GND_VIN
VI_1_B
VI_1_C
CH1_A33GND
CH1_A33VDD
CH2_A33VDD
CH2_A33GND
VI_2_A
VI_2_B
VI_2_C
CH2_A18GND
CH2_A18VDD
A18VDD_REF
A18GND_REF
CH3_A18VDD
CH3_A18GND
VI_3_A
VI_3_B
VI_3_C
CH3_A33GND
CH3_A33VDD
VI_1_A
CH1-A18GND
CH1-A18VDD
PLL_A18GND
PLL_A18VDD
XTAL2
XTAL1
VSVBLK/GPIO
HS/CS/GPIO
FID/GPIO
C_0/GPIO
C_1/GPIO
DGND
DVDD
C_2/GPIO
C_3/GPIO
C_4/GPIO
C_5/GPIO
IOGND
IOVDD
C_6/GPIO/RED
C_7/GPIO/GREEN
C_8/GPIO/BLUE
C_9/GPIO/FSO
DGND
DVDD
Y_0
Y_1
Y_2
Y_3
Y_4
IOGND
IOVDD
Y_5
Y_6
Y_7
Y_8
Y_9
DGND
DVDD
CH4_A33VDD
CH4_A33GND
VI_4_A
CH4_A18GND
CH4_A18VDD
AGND
DGND
SCL
SDA
INTREQ
DVDD
DGND
PWDN
RESETB
FSS/GPIO
AVID/GPIO
GLCO/I2CA
IOVDD
IOGND
DATACLK
TVP5146
TQFP-80
VI_D[9..0] 8
VI_0 R1504 33R VI_D0
VI_1 R1506 33R VI_D1
RP1500 33R/RP
VI_2 VI_D2
VI_3 VI_D3
VI_4 VI_D4
VI_5 VI_D5
RP1501 33R/RP
VI_6 VI_D6
VI_7 VI_D7
VI_8 VI_D8
VI_9 VI_D9
IDC Slave Addr:
0xB8/B9
R1514 2.2K
GND
R1515 33R
VI_CLK0
VI_CLK0 8
R1516 33R
(VI_AVID)
E5_GPIOx3 8
VI_FSS
VI_FSS 11
(Fast switch input source between RGB and CVBS/YC)
R1517 100R
(/RST_VI)
E5_GPIOx7 8
(INT_VI)
E5_GPIOx6 8
SDA
SDA 8,11,12,16
SCL
SCL 8,11,12,16
R1521 *2.2K
C1512 104
R1518 10K
R1519 10K
3V3
3V3
C1517 104
C1518 104
C1519 104
GND
L1500 B221
V33_VIA
C1531 100U/16V
C1520 104
C1521 104
C1522 104
C1523 104
GND_VIN
V18_VI
V18_VID
C1513 104
C1514 104
C1515 104
C1516 104
GND
L1501 B221
V18_VIA
C1530 100U/16V
C1524 104
C1525 104
C1526 104
C1527 104
C1528 104
C1529 104
GND_VIN
GND
PHILIPS-POS-SHA
ASG Team
Title
VIDEO IN
Size
Custom
Document Number
15
Rev
1.3
Date: Friday, May 13, 2005
Sheet 15 of 16

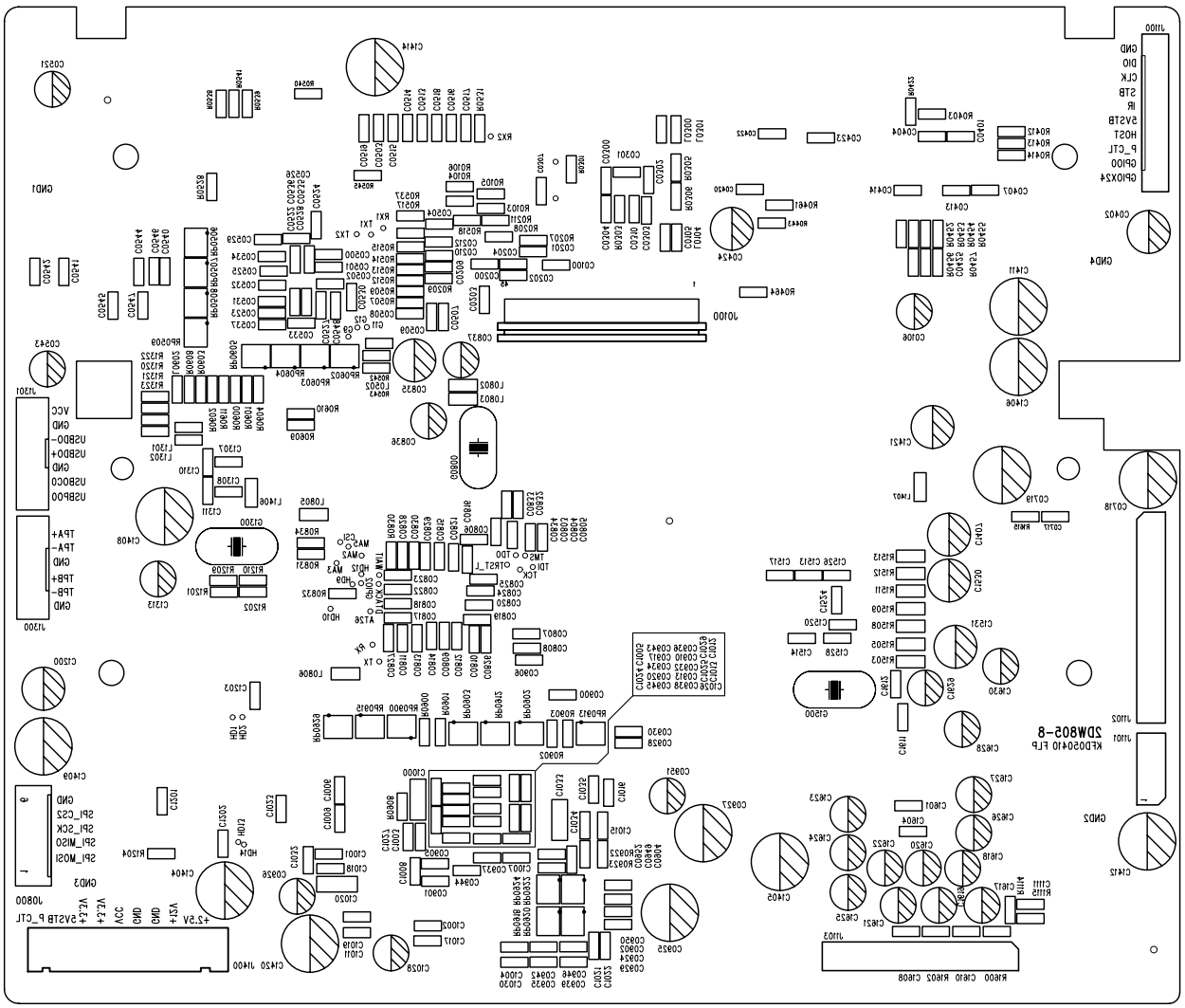


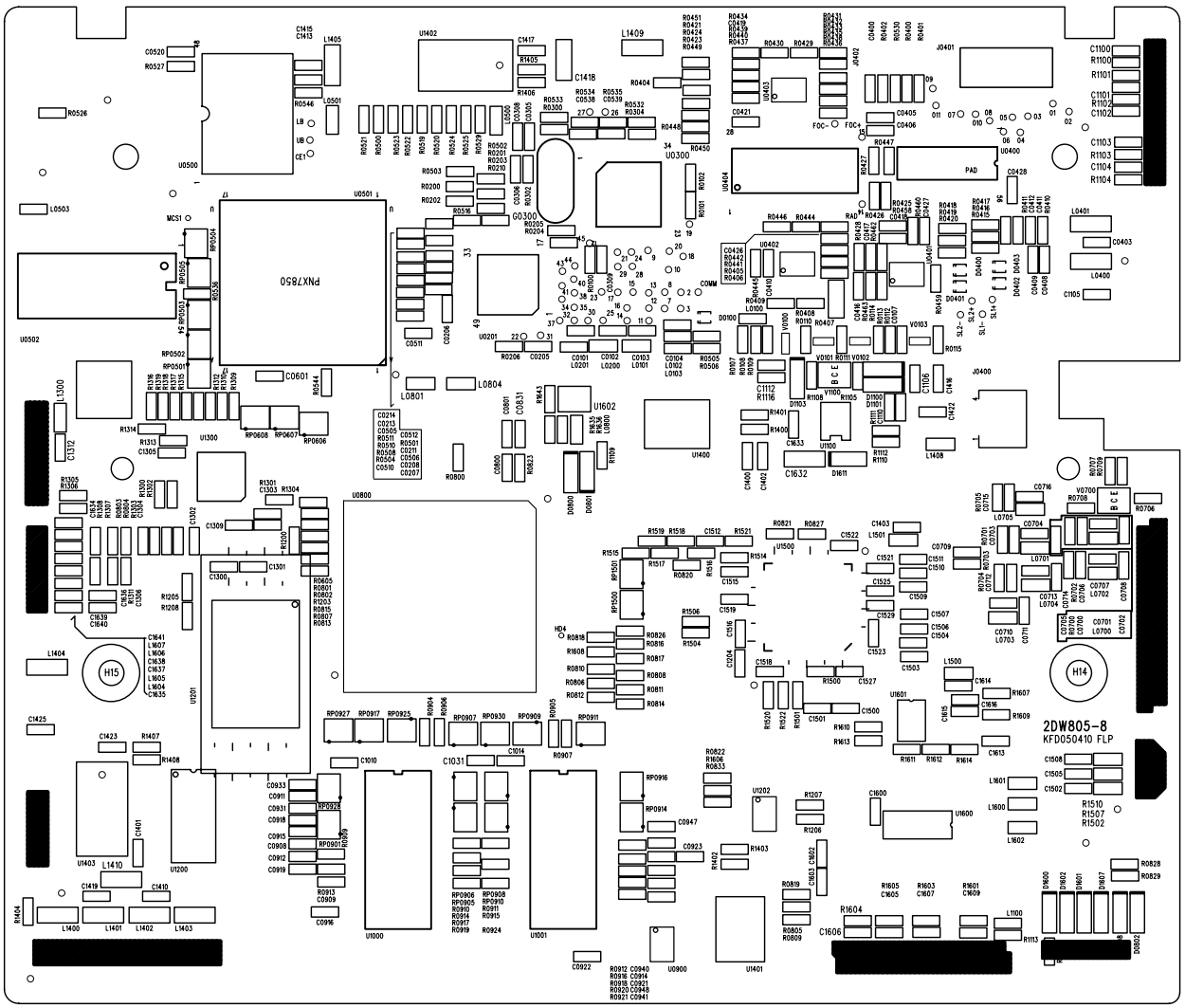
PHILIPS-POS-SHA ASG Team

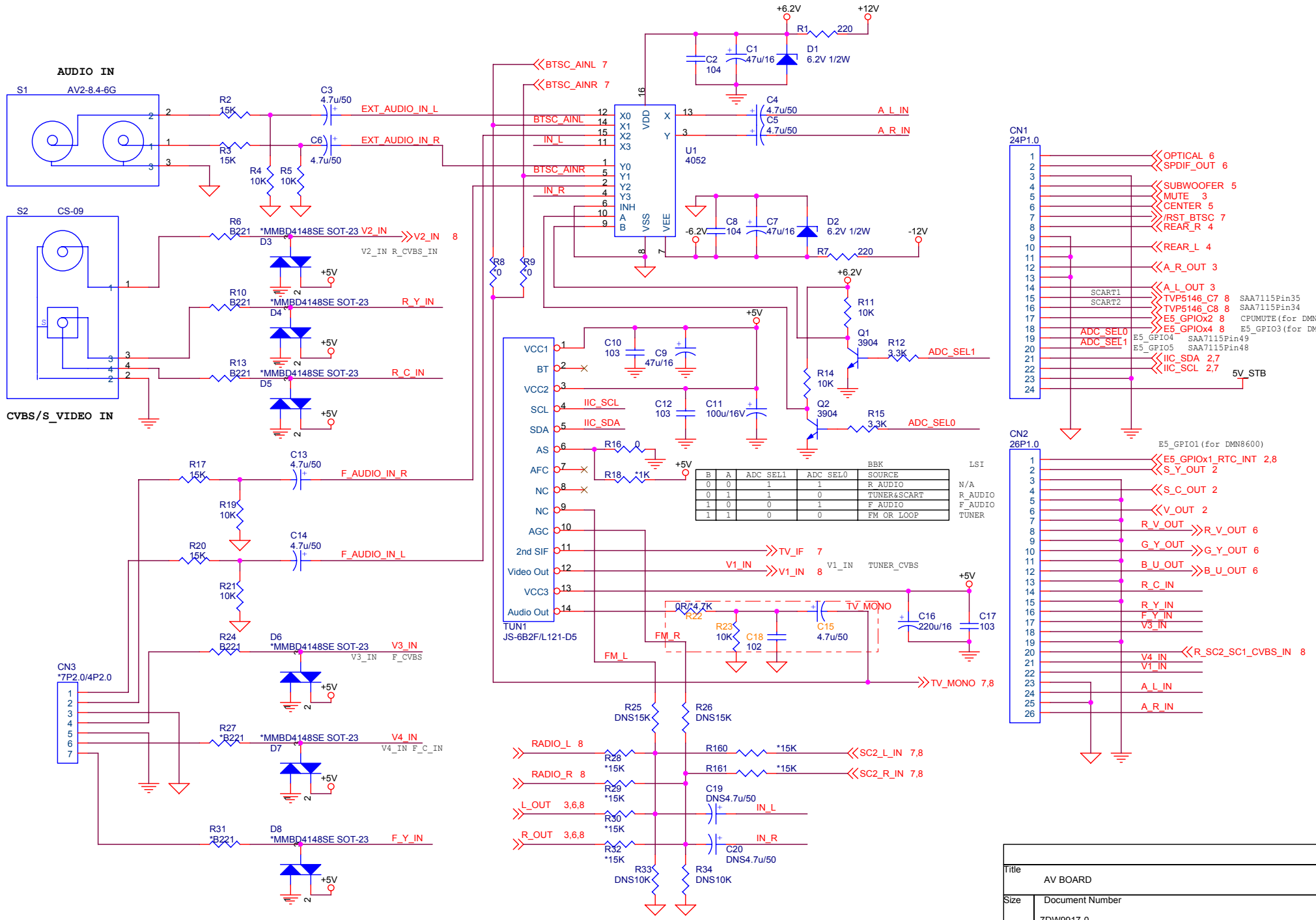
Title: AUDIO I/O

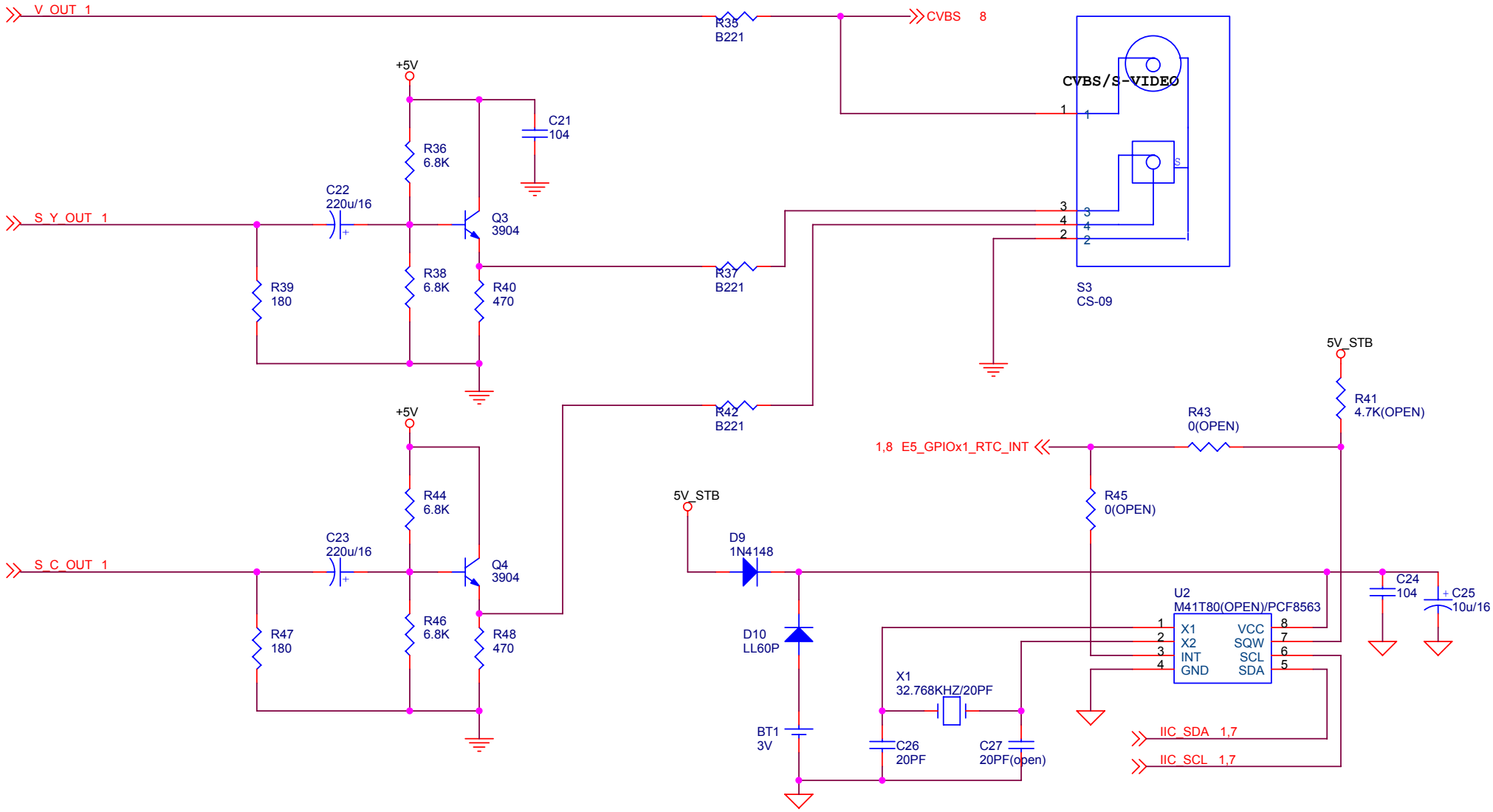
Size: B | Document Number: 16 | Rev: 1.3

Date: Friday, May 13, 2005 | Sheet 16 of 16




2DW805-8
KFD050410 FLP
PNX7850


AUDIO IN
S1 AV2-8.4-6G
S2 CS-09
CVBS/S_VIDEO IN
CN3 *7P2.0/4P2.0
U1 4052
TUN1 JS-6B2F/L121-D5
CN1 24P1.0
CN2 26P1.0
EXT_AUDIO_IN_L
EXT_AUDIO_IN_R
F_AUDIO_IN_R
F_AUDIO_IN_L
V2_IN
R_Y_IN
R_C_IN
V3_IN
V4_IN
F_Y_IN
BTSC_AINL 7
BTSC_AINR 7
IN_L
IN_R
A_L_IN
A_R_IN
+6.2V
+12V
-6.2V
-12V
+5V
5V_STB
IIC_SCL
IIC_SDA
ADC_SEL1
ADC_SEL0
TV_IF 7
V1_IN 8
TV_MONO 7,8
FM_R
FM_L
RADIO_L 8
RADIO_R 8
L_OUT 3,6,8
R_OUT 3,6,8
SC2_L_IN 7,8
SC2_R_IN 7,8
OPTICAL 6
SPDIF_OUT 6
SUBWOOFER 5
MUTE 3
CENTER 5
/RST_BTSC 7
REAR_R 4
REAR_L 4
A_R_OUT 3
A_L_OUT 3
SCART1
SCART2
TVP5146_C7 8 SAA7115Pin35
TVP5146_C8 8 SAA7115Pin34
E5_GPIOx2 8 CPUMUTE(for DMN8600)
E5_GPIOx4 8 E5_GPIO3(for DMN8600)
E5_GPIO4 SAA7115Pin49
E5_GPIO5 SAA7115Pin48
IIC_SDA 2,7
IIC_SCL 2,7
E5_GPIO1(for DMN8600)
E5_GPIOx1_RTC_INT 2,8
S_Y_OUT 2
S_C_OUT 2
V_OUT 2
R_V_OUT
G_Y_OUT
B_U_OUT
R_C_IN
R_Y_IN
F_Y_IN
V3_IN
V4_IN
V1_IN
A_L_IN
A_R_IN
R_V_OUT 6
G_Y_OUT 6
B_U_OUT 6
R_SC2_SC1_CVBS_IN 8
BBK LSI
B A ADC_SEL1 ADC_SEL0 SOURCE
0 0 1 1 R_AUDIO N/A
0 1 1 0 TUNER&SCART R_AUDIO
1 0 0 1 F_AUDIO F_AUDIO
1 1 0 0 FM_OR_LOOP TUNER
Title AV BOARD
Size Document Number 7DW9917-0 Rev 1.0
Date: Thursday, November 18, 2004 Sheet 1 of 8



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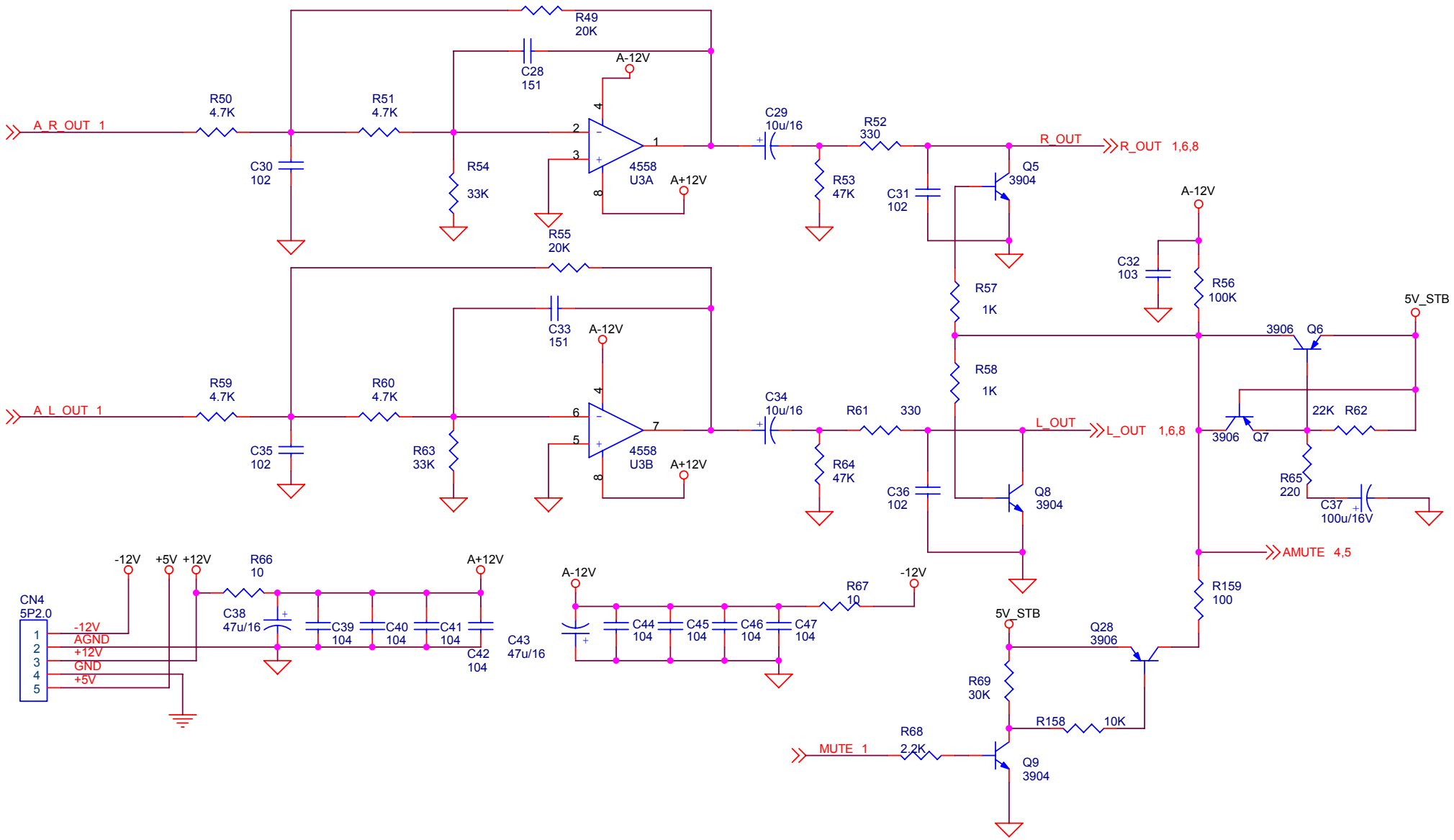
Size A4	Document Number <Doc>	Rev 1.0
Date: Thursday, November 18, 2004	Sheet 2 of 8	


A_R_OUT 1
R50 4.7K
R51 4.7K
R49 20K
C28 151
A-12V
C30 102
R54 33K
R55 20K
4558 U3A
A+12V
C29 10u/16
R52 330
R53 47K
C31 102
R_OUT
R_OUT 1,6,8
Q5 3904
A-12V
C32 103
R56 100K
R57 1K
R58 1K
5V_STB
3906 Q6
A_L_OUT 1
R59 4.7K
R60 4.7K
C33 151
C35 102
R63 33K
4558 U3B
C34 10u/16
R61 330
R64 47K
C36 102
L_OUT
L_OUT 1,6,8
Q8 3904
3906 Q7
22K R62
R65 220
C37 100u/16V
AMUTE 4,5
R159 100
CN4 5P2.0
-12V
AGND
+12V
GND
+5V
R66 10
C38 47u/16
C39 104
C40 104
C41 104
C42 104
C43 47u/16
A+12V
R67 10
C44 104
C45 104
C46 104
C47 104
5V_STB
Q28 3906
R69 30K
R158 10K
MUTE 1
R68 2.2K
Q9 3904
Title
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Size A4
Document Number
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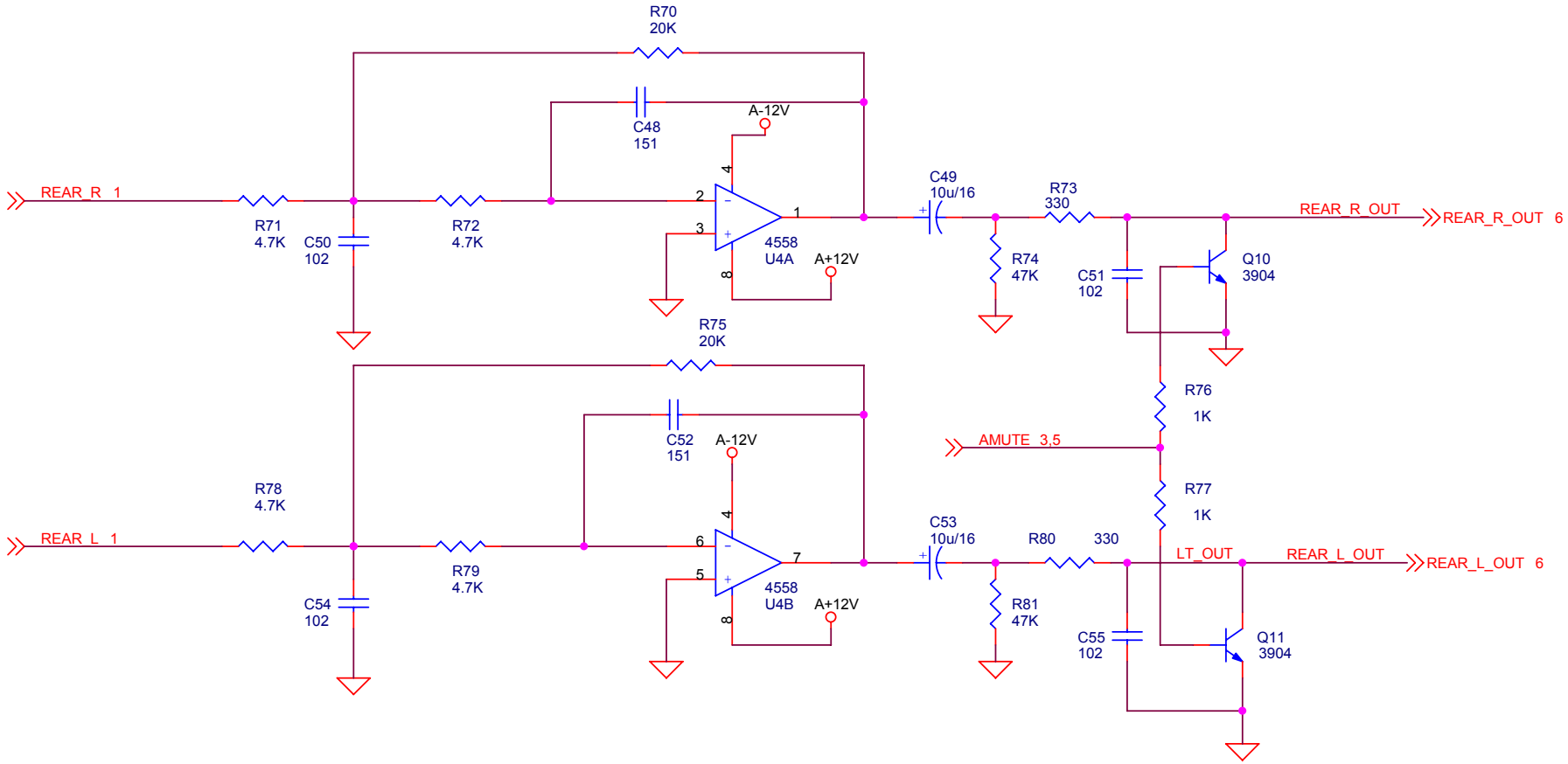
Rev 1.0
Date: Thursday, November 18, 2004
Sheet 3 of 8



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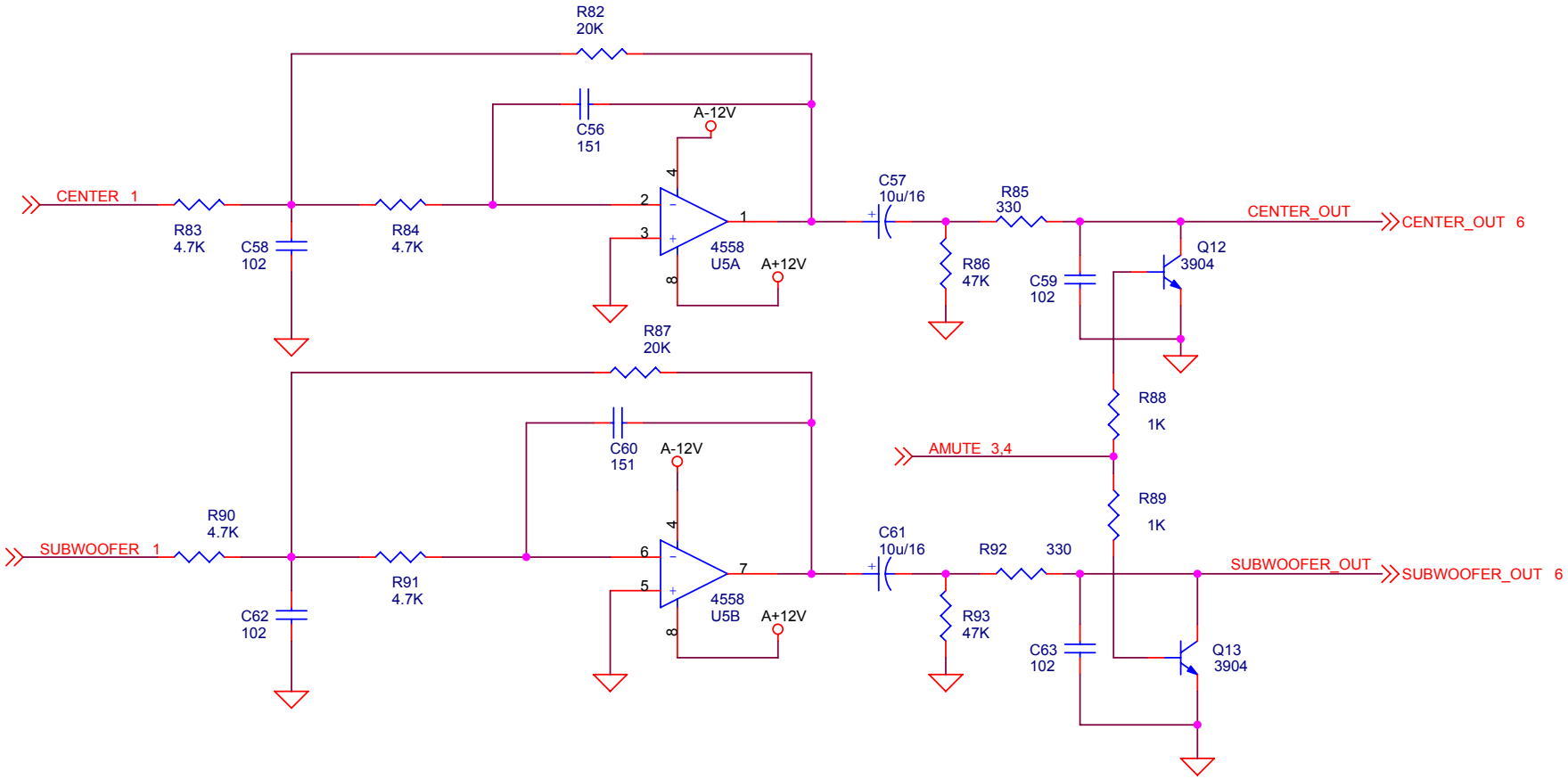
Size A4	Document Number <Doc>	Rev 1.0
Date: Thursday, November 18, 2004	Sheet 4 of 8	



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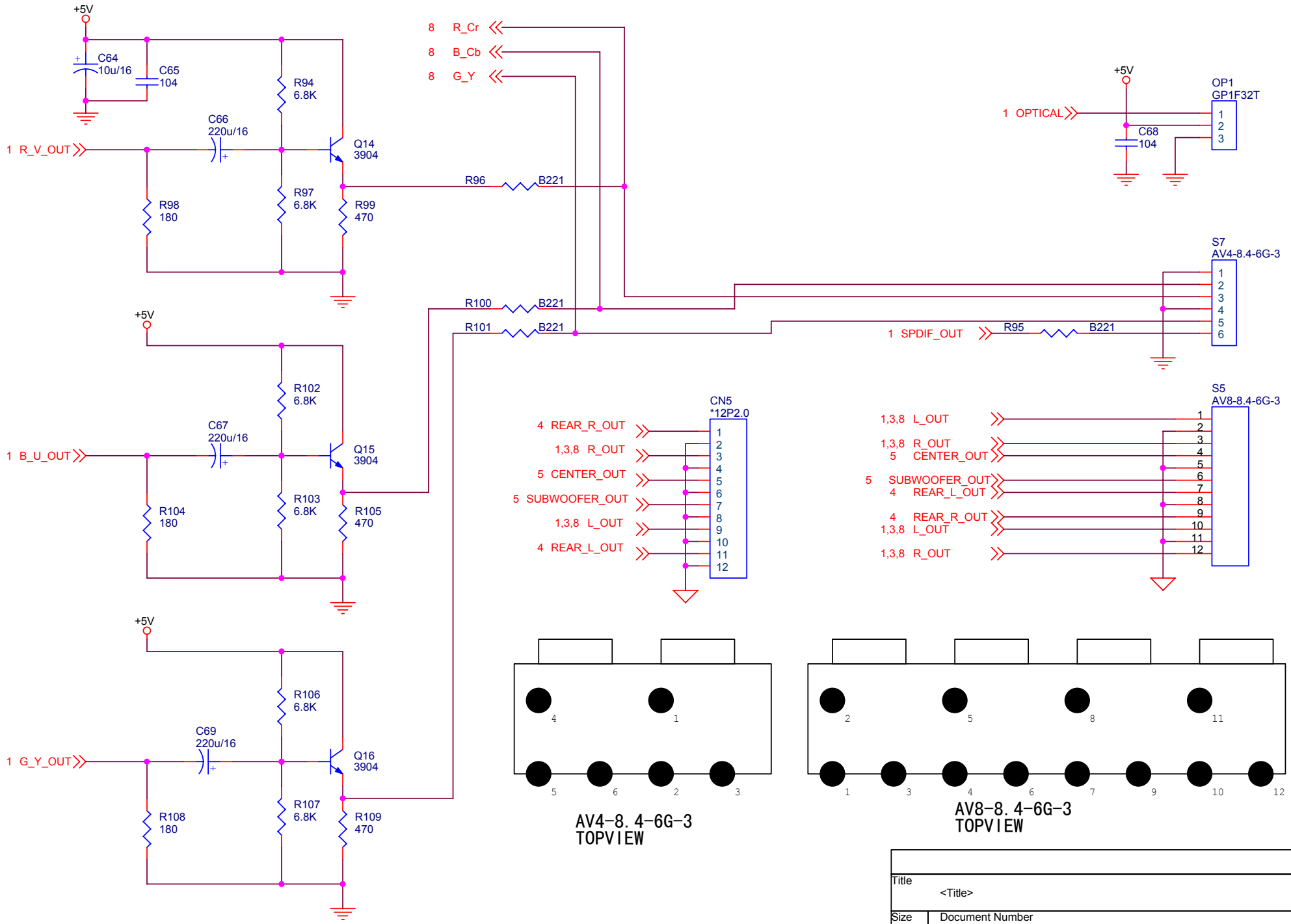
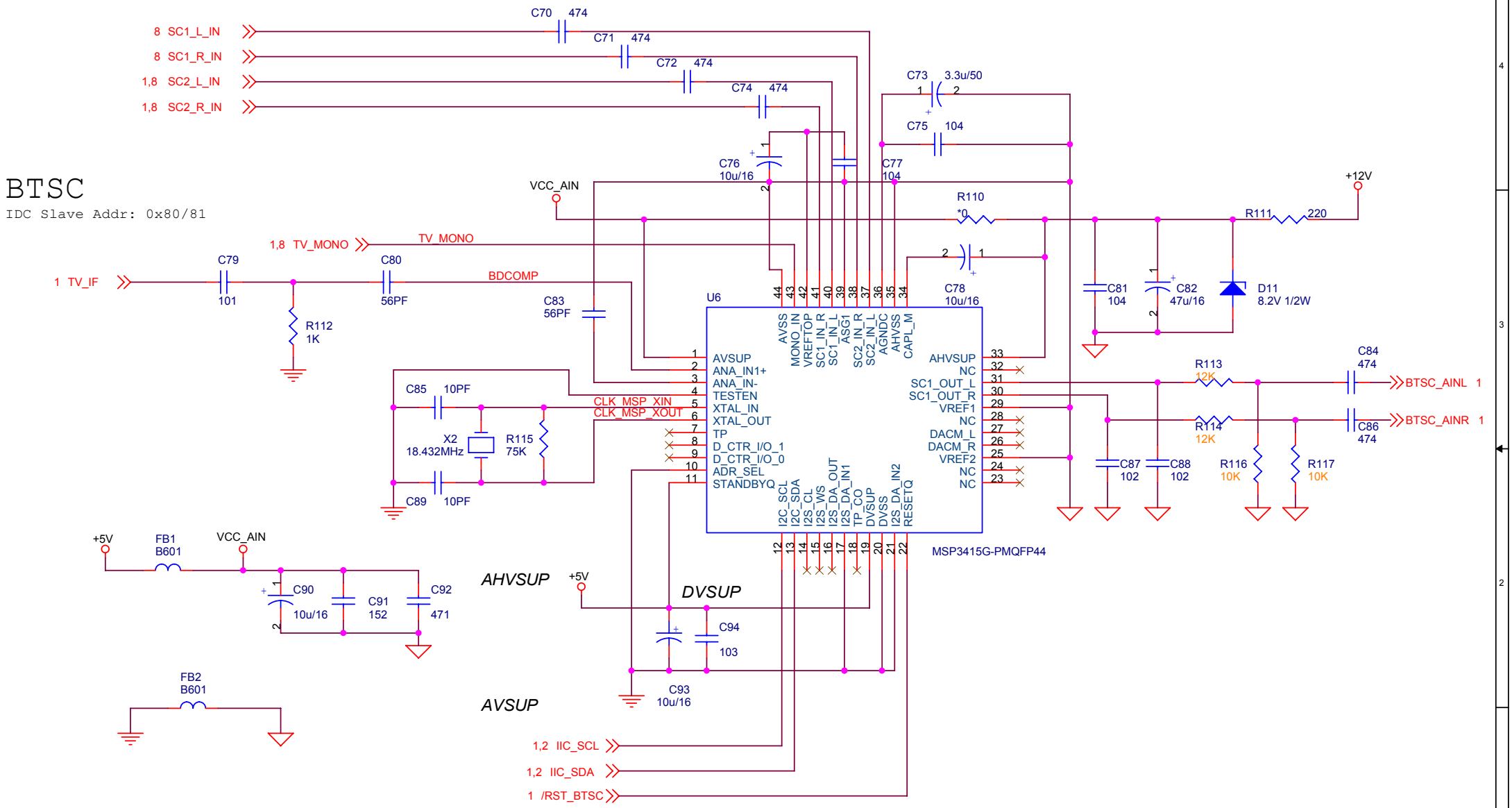
Size A4	Document Number <Doc>	Rev 1.0
Date: Thursday, November 18, 2004	Sheet 5 of 8	


+5V
C64
10u/16
C65
104
R94
6.8K
C66
220u/16
1 R_V_OUT
Q14
3904
R96
B221
R98
180
R97
6.8K
R99
470
8 R_Cr
8 B_Cb
8 G_Y
1 OPTICAL
+5V
OP1
GP1F32T
C68
104
S7
AV4-8.4-6G-3
R100
B221
R101
B221
1 SPDIF_OUT
R95
B221
+5V
R102
6.8K
C67
220u/16
1 B_U_OUT
Q15
3904
R104
180
R103
6.8K
R105
470
CN5
*12P2.0
4 REAR_R_OUT
1,3,8 R_OUT
5 CENTER_OUT
5 SUBWOOFER_OUT
1,3,8 L_OUT
4 REAR_L_OUT
S5
AV8-8.4-6G-3
1,3,8 L_OUT
1,3,8 R_OUT
5 CENTER_OUT
5 SUBWOOFER_OUT
4 REAR_L_OUT
4 REAR_R_OUT
1,3,8 L_OUT
1,3,8 R_OUT
+5V
R106
6.8K
C69
220u/16
1 G_Y_OUT
Q16
3904
R108
180
R107
6.8K
R109
470
AV4-8.4-6G-3
TOPVIEW
AV8-8.4-6G-3
TOPVIEW
Title
<Title>
Size
A4
Document Number
Rev
1.0
Date:
Thursday, November 18, 2004
Sheet
6
of
8



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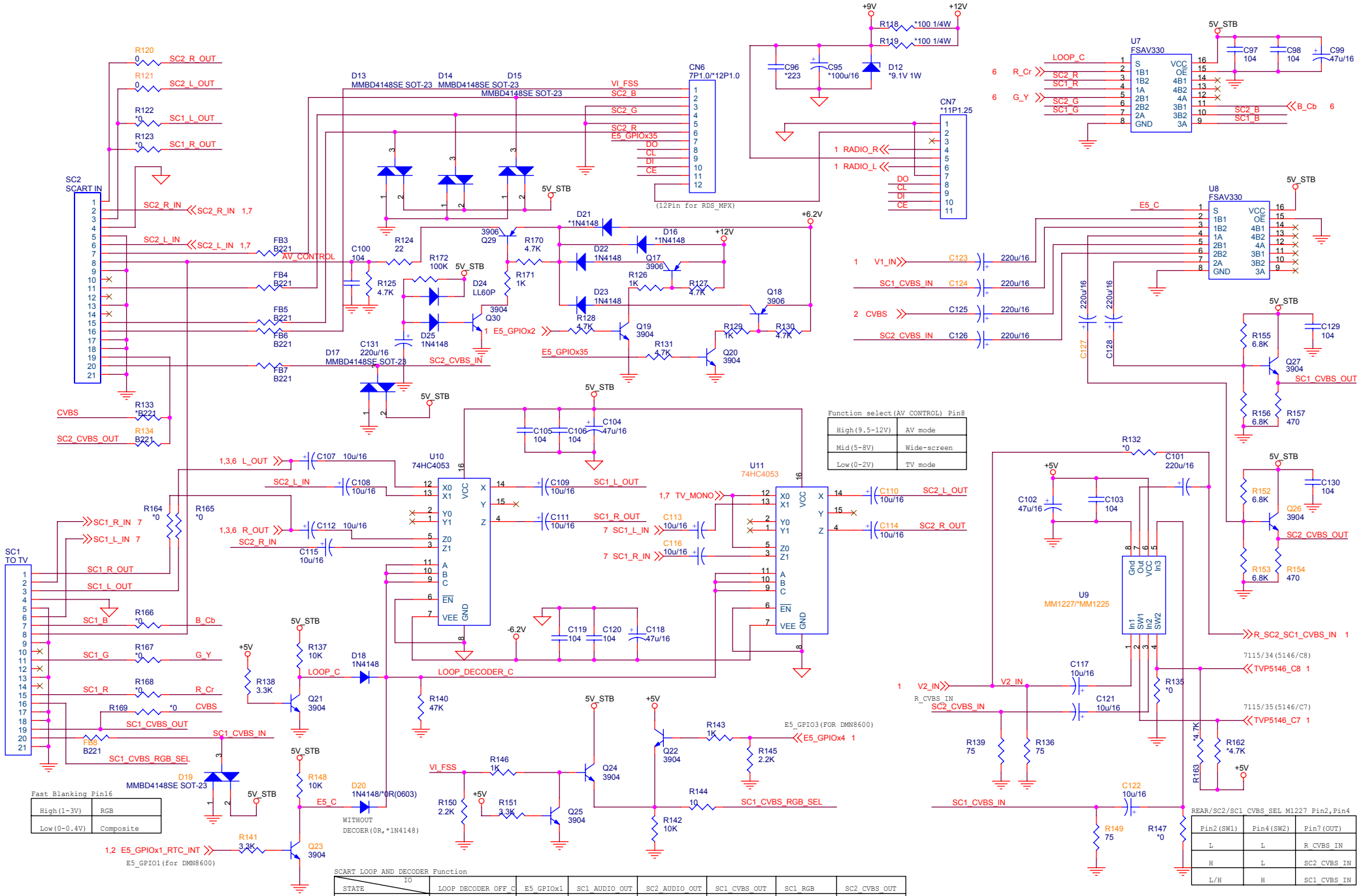
Date: Thursday, November 18, 2004	Sheet 7 of 8	



Function select(AV CONTROL) Pin8

High(9.5-12V)	AV mode
Mid(5-8V)	Wide-screen
Low(0-2V)	TV mode

Fast Blanking Pin16

High(1-3V)	RGB
Low(0-0.4V)	Composite

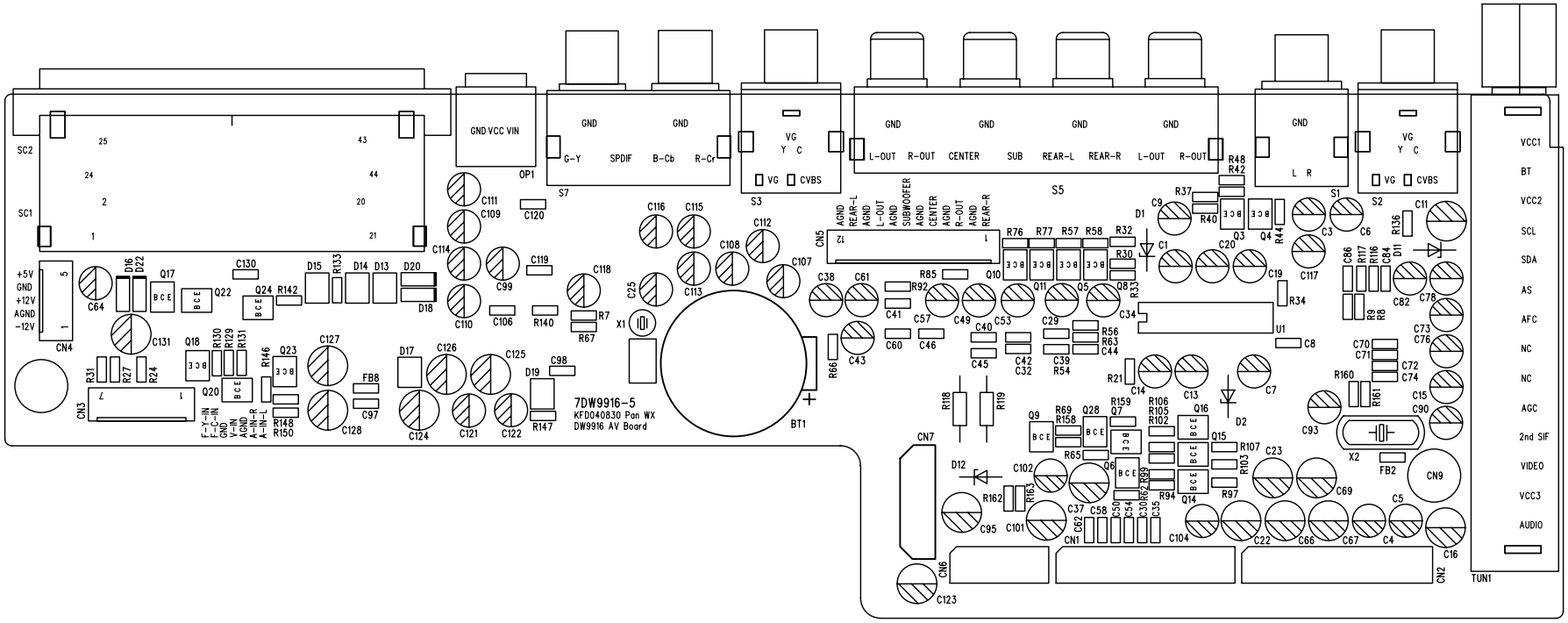
REAR/SC2/SC1_CVBS_SEL M1227 Pin2,Pin4

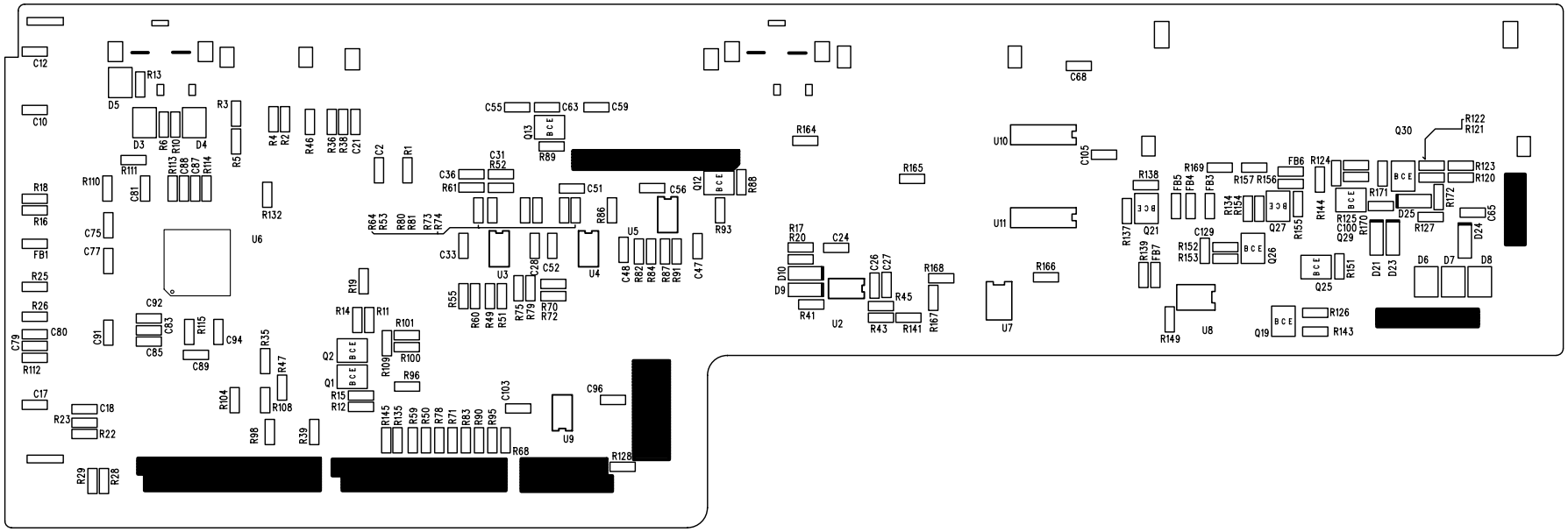
Pin2(SW1)	Pin4(SW2)	Pin7(OUT)
L	L	R_CVBS_IN
H	L	SC2_CVBS_IN
L/H	H	SC1_CVBS_IN

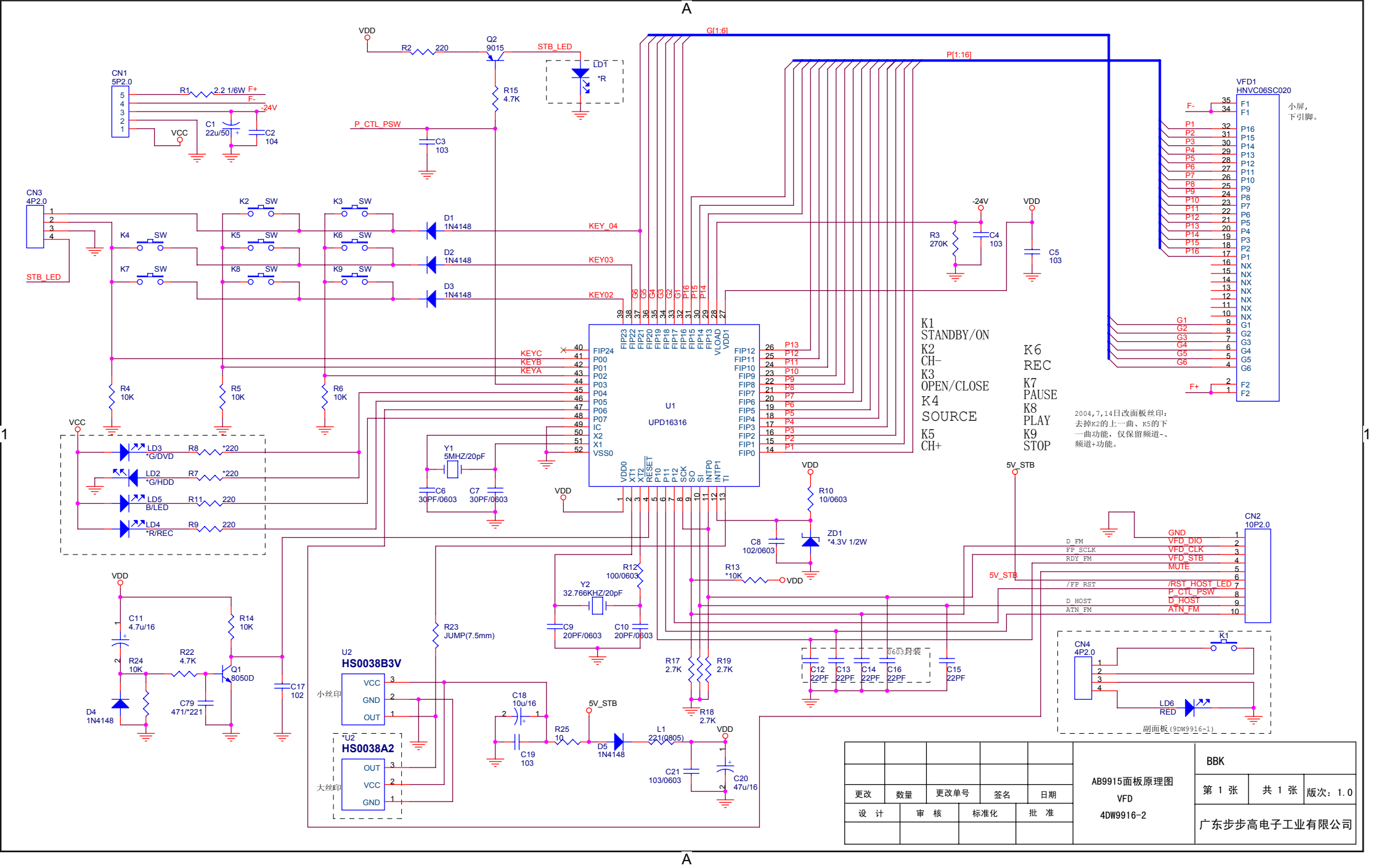
SCART LOOP AND DECODER Function

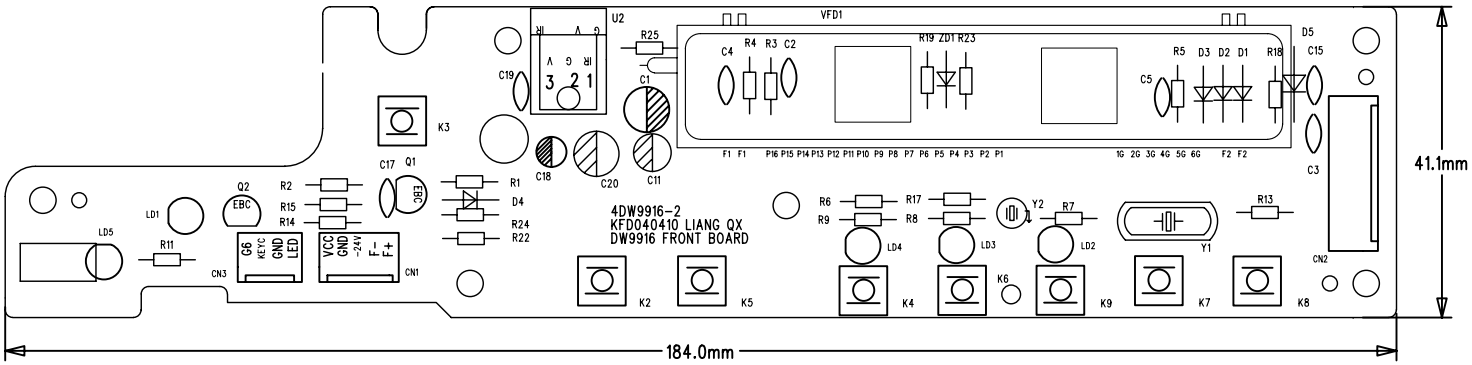
STATE \ IO	LOOP_DECODER_OFF_C	E5_GPIOx1	SC1_AUDIO_OUT	SC2_AUDIO_OUT	SC1_CVBS_OUT	SC1_RGB	SC2_CVBS_OUT
STANDBY/DECODER_OFF	H	POWER_OFF	SC2_AUDIO_IN	SC1_AUDIO_IN	SC2_CVBS_IN	SC2_RGB	SC1_CVBS_IN
POWER_ON/DECODER_ON	L	H	RW_AUDIO_OUT	SC1_AUDIO_IN	RW_CVBS_OUT	RW_RGB_OUT	TUNER_CVBS_IN
POWER_ON/DECODER_OFF	H	L	SC2_AUDIO_IN	SC1_AUDIO_IN	SC2_CVBS_IN	RW_RGB_OUT	SC1_CVBS_IN

Title	<Title>
Size A3	Document Number <Doc> <RevCode> Rev
Date: Thursday, November 18, 2004	Sheet 8 of 8

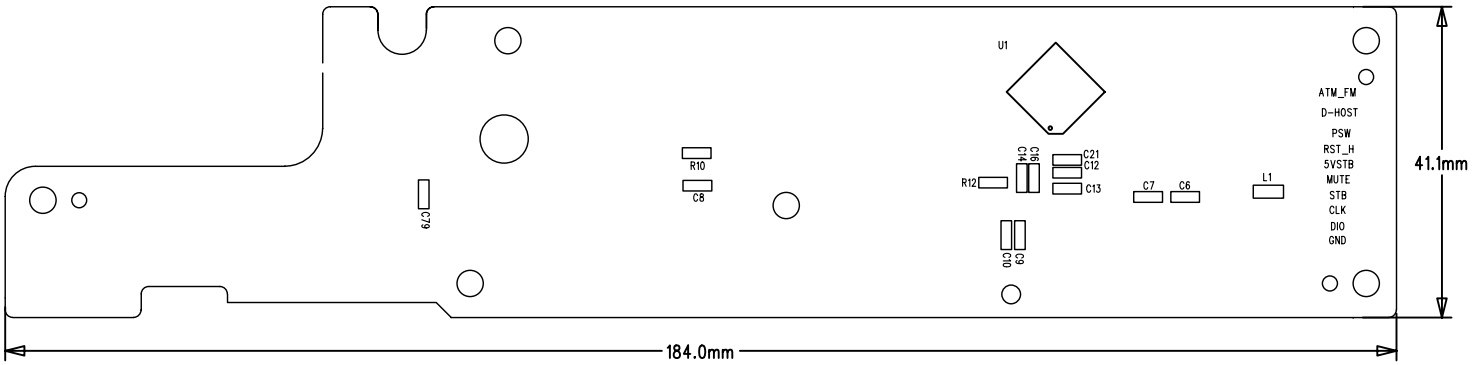

7DW9916-5
KFD040830 Pan WX
DW9916 AV Board
GND VCC VIN
OP1
G-Y SPDIF B-Cb R-Cr
L-OUT R-OUT CENTER SUB REAR-L REAR-R L-OUT R-OUT
L R
VG CVBS
VCC1
BT
VCC2
SCL
SDA
AS
AFC
NC
NC
AGC
2nd SIF
VIDEO
VCC3
AUDIO
TUN1
+5V
GND
+12V
AGND
-12V
CN4
F-Y-IN
F-C-IN
GND
V-IN
AGND
A-IN-R
A-IN-L
CN3
CN1
CN2
CN5
CN6
CN7
CN9
BT1
X1
X2
U1
S1
S2
S3
S5
S7

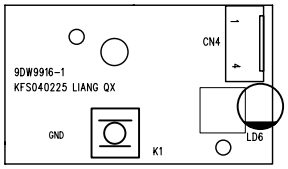



U1
UPD16316
U2
HS0038B3V
*U2
HS0038A2
VFD1
HNVC06SC020
CN1
5P2.0
CN2
10P2.0
CN3
4P2.0
CN4
4P2.0
K1
STANDBY/ON
K2
CH-
K3
OPEN/CLOSE
K4
SOURCE
K5
CH+
K6
REC
K7
PAUSE
K8
PLAY
K9
STOP
2004,7,14日改面板丝印：去掉K2的上一曲、K5的下一曲功能，仅保留频道-、频道+功能。
小屏，下引脚。
副面板(9DW9916-1)
0603封裝
AB9915面板原理图
VFD
4DW9916-2
BBK
第 1 张
共 1 张
版次：1.0
广东步步高电子工业有限公司

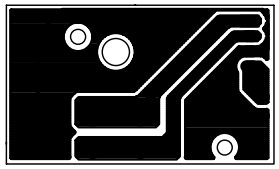


S4DW9916-2aa.pcb - Fri Dec 03 14:48:43 2004

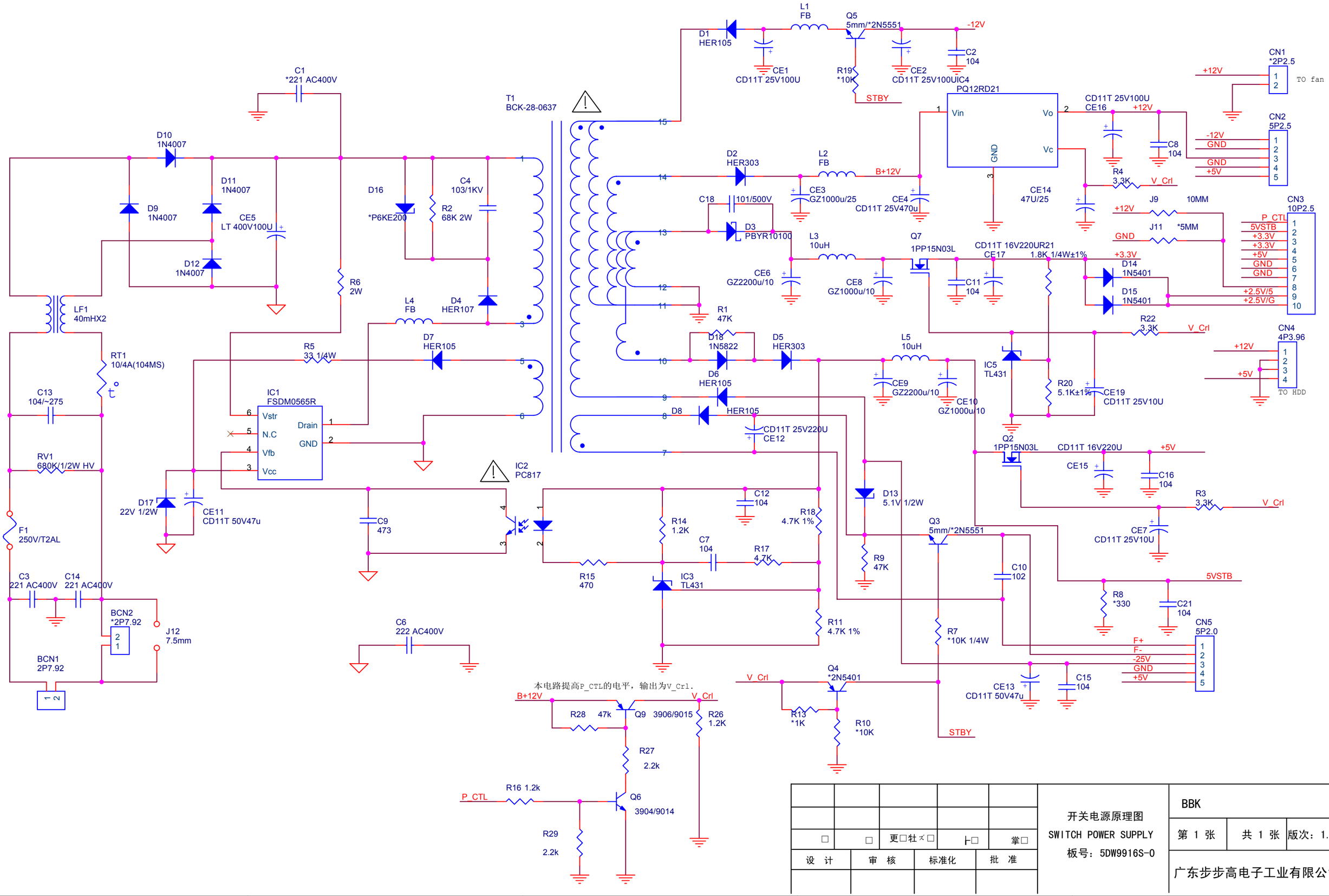

U1
R10
C8
C79
R12
C14
C16
C21
C12
C13
C7
C6
L1
C9
C10
ATM_FM
D-HOST
PSW
RST_H
5VSTB
MUTE
STB
CLK
DIO
GND
41.1mm
184.0mm



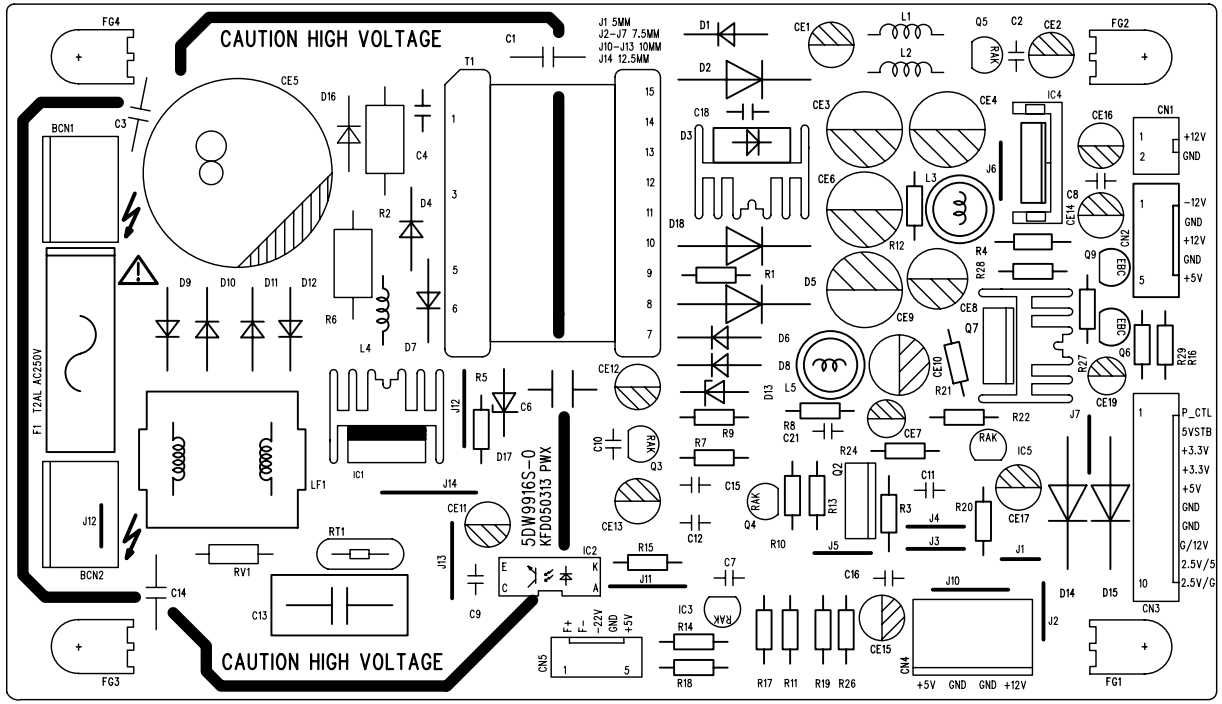
9dw9916-0.pcb - Fri Dec 03 15:07:31 2004

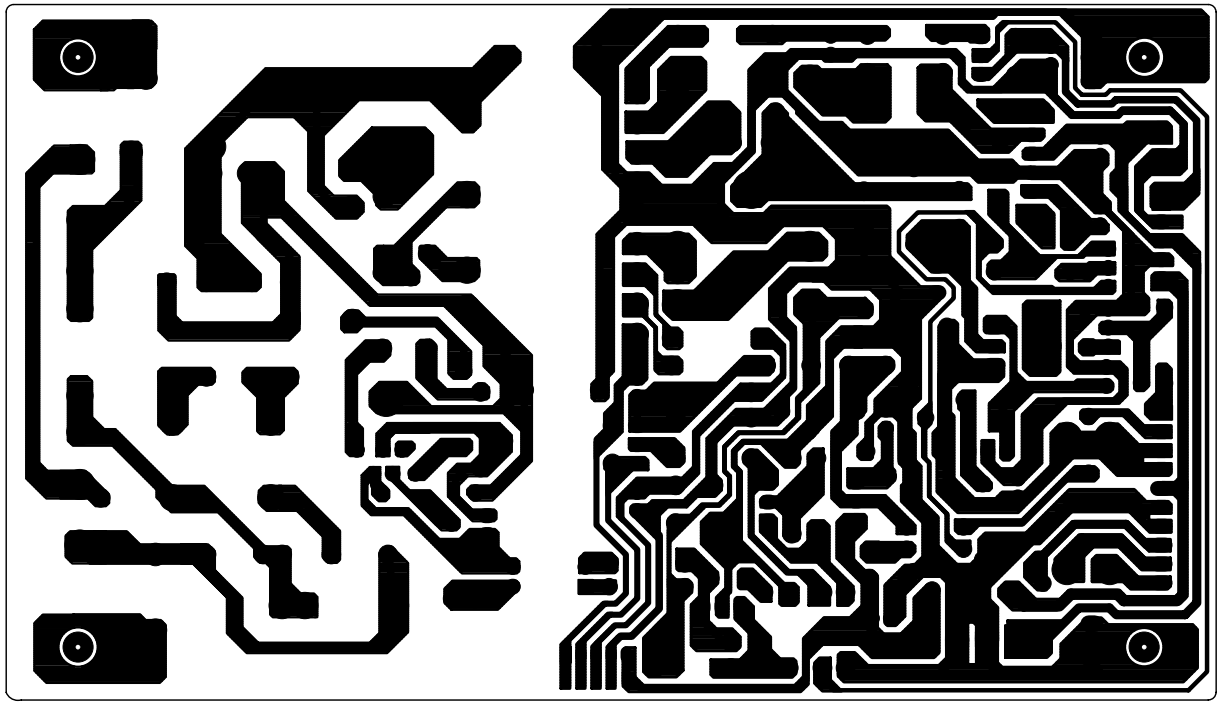


9dw9916-0.pcb - Fri Dec 03 15:07:56 2004



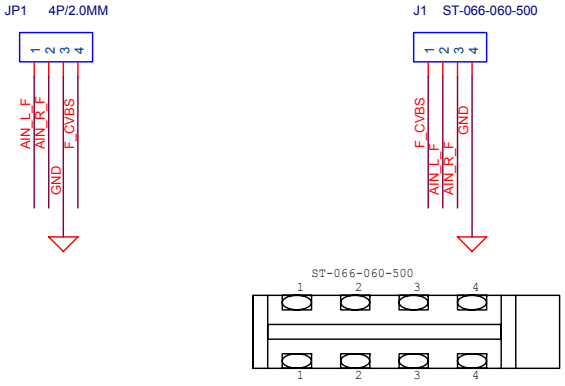
					开关电源原理图	BBK
					SWITCH POWER SUPPLY	第 1 张 共 1 张 版次：1.0
□	□	更□牡ㄨ□	⊢□	掌□	板号：5DW9916S-0	广东步步高电子工业有限公司
设 计	审 核	标准化	批 准			


CAUTION HIGH VOLTAGE
CAUTION HIGH VOLTAGE
J1 5MM
J2~J7 7.5MM
J10~J13 10MM
J14 12.5MM
5DW9916S-0
KFD050313 PWX
F1 T2AL AC250V
+12V
GND
-12V
GND
+12V
GND
+5V
P_CTL
5VSTB
+3.3V
+3.3V
+5V
GND
GND
G/12V
2.5V/5
2.5V/G
+5V GND GND +12V
F+ F- -22V GND +5V

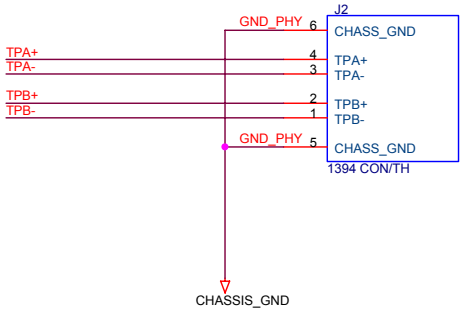


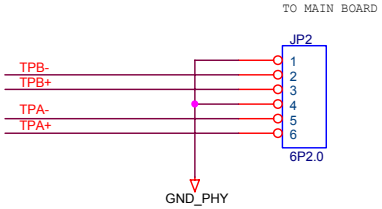
5DW9916S-0.pcb - Mon Sep 12 15:13:03 2005

To AVIO Board



FIREWIRE Interface





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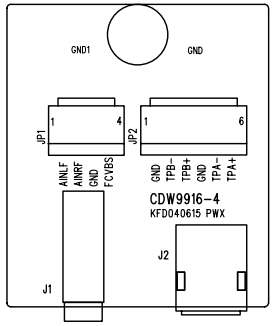
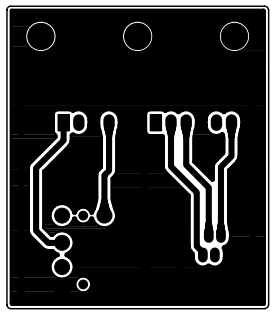
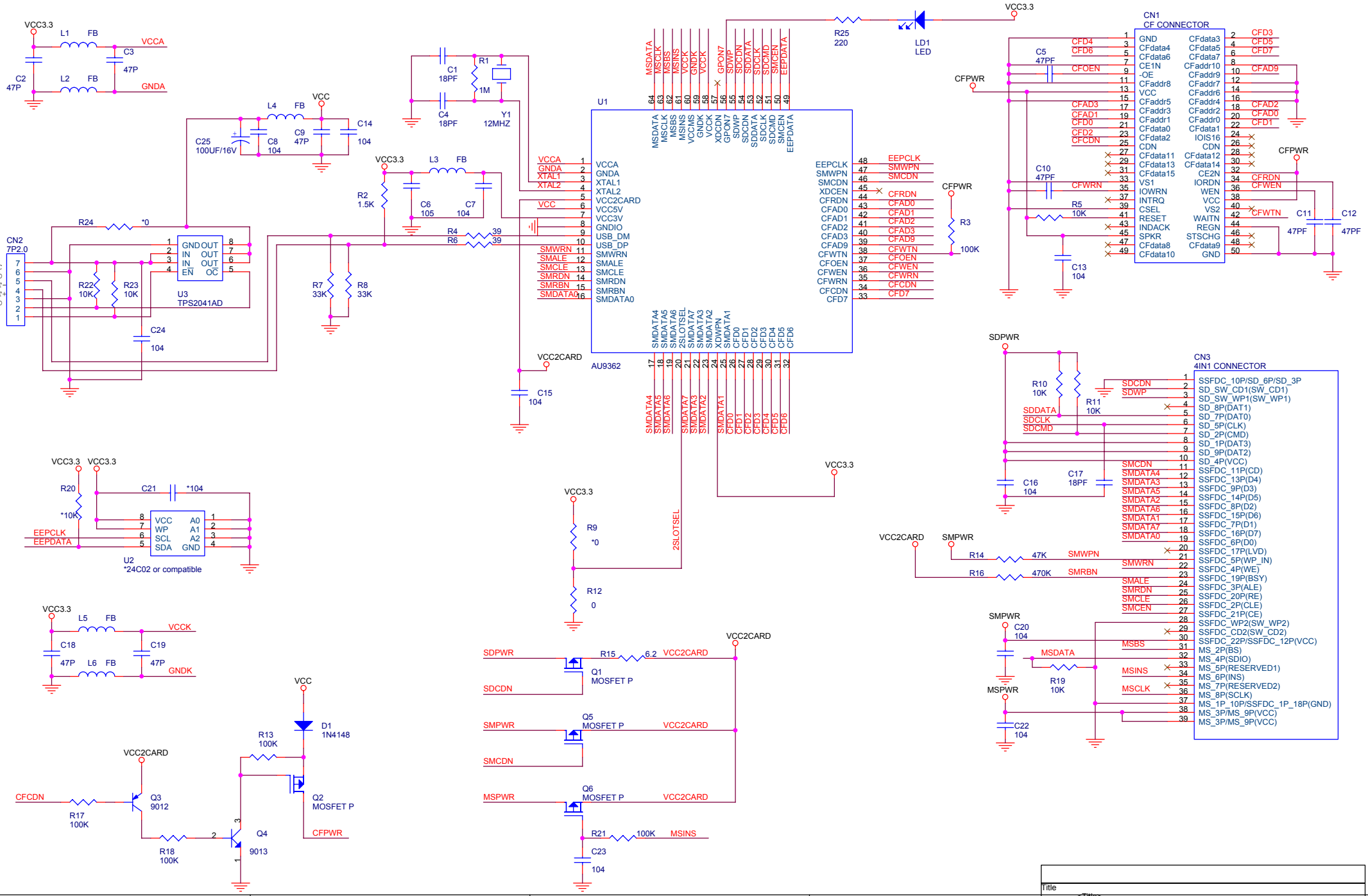
Date: Friday, May 28, 2004	Sheet 1 of 1	


GND1
GND
JP1
1
4
JP2
1
6
AINLF
AINRF
GND
FCVBS
GND
TPB-
TPB+
GND
TPA-
TPA+
CDW9916-4
KFD040615 PWX
J1
J2





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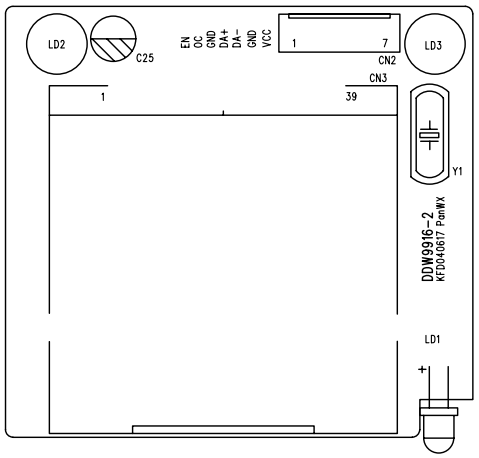
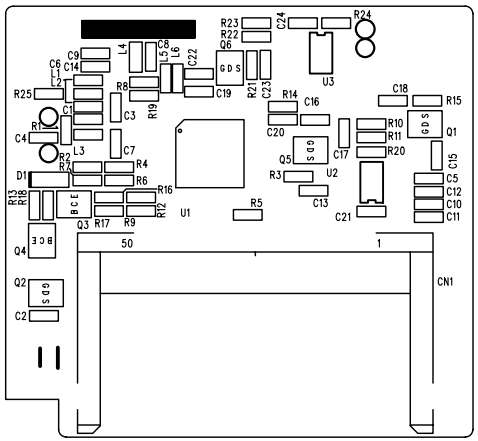
Date: Friday, June 25, 2004	Sheet 1 of 1	


LD2
C25
EN
OC
GND
DA+
DA-
GND
VCC
1
7
CN2
LD3
CN3
1
39
Y1
DDW9916-2
KFD040617 PamWX
LD1
+


R23
R22
Q6
C24
R24
U3
C9
C6
C14
L4
L5
L6
C22
C19
R21
C23
R25
R8
C3
R19
C1
R1
C4
R2
L3
C7
R4
R6
D1
R13
R18
R16
R12
Q3
R17
R9
U1
R5
R14
C16
C20
C18
R15
R10
R11
R20
Q1
Q5
C17
C15
R3
U2
C5
C12
C10
C11
C13
C21
Q4
Q2
C2
50
1
CN1

PARTS LIST				MAIN BOARD		
ITEM		DESCRIPTION			QTY	LOCATION
1		0090001	CHIP RESISTOR	1/16W 0Ω ±5% 0603	20	L1100,R0206,R0421,R0423,R0424,R0448,R0449,R0450,R0528,R0706,R1111,R1112,R1201,R1202,R1204,R1208,R1303,R0538,R1406,R1408
2		0310188	CHIP CAP	50V 10P ±5% NPO 0603	1	C0601
3		0090205	CHIP RESISTOR	1/16W 330K ±5% 0603	1	R1108
4		0090272	CHIP RESISTOR	1/16W1Ω±5% 0603	3	R0304,R0404,R0526
5		0090540	CHIP RESISTOR	1/16W1.5Ω±5% 0603	6	R0415,R0416,R0417,R0418,R0419,R0420
6		0090003	CHIP RESISTOR	1/16W 10Ω ±5% 0603	2	R0411,R0410
7		1632272	PCB	2DW805-8	1	
8		0090312	CHIP RESISTOR	1/8W1Ω±5% 1206	1	R0407
9		0090004	CHIP RESISTOR	1/16W 22Ω ±5% 0603	26	R0806,R0807,R0808,R0810,R0811,R0812,R0813,R0814,R0815,R0816,R0817,R0818,R0826,R0904,R0905,R0906,R0907,R0908,R1304,R1320,R1321,R1608,L1604,L1605,L1606,L1607
10		0090449	CHIP RESISTOR	1/16W 27Ω±5% 0603	4	R0452,R0453,R0454,R0455
11		0090005	CHIP RESISTOR	1/16W 33Ω ±5% 0603	9	R0301,R1101,R1102,R1103,R1113,R1504,R1506,R1515,R1516
12		0090230	CHIP RESISTOR	1/16W 47Ω ±5% 0603	2	R0534,R0535
13		0090220	CHIP RESISTOR	1/16W 51Ω ±5% 0603	21	R0900,R0901,R0902,R0903,R0909,R0910,R0911,R0912,R0913,R0914,R0915,R0916,R0917,R0918,R0919,R0920,R0921,R0922,R0923,R0924,R1301
14		0090291	CHIP RESISTOR	1/16W 56Ω ±5% 0603	4	R1305,R1306,R1307,R1308
15		0090273	CHIP RESISTOR	1/16W82Ω±5% 0603	2	R0102,R0101
16		0090181	CHIP RESISTOR	1/16W 100Ω ±5% 0603	6	R0100,R0204,R0205,R0501,R1517,R1116
17		0090221	CHIP RESISTOR	1/16W 120Ω ±5% 0603	1	R1115
18		0090232	CHIP RESISTOR	1/16W 150Ω ±5% 0603	5	R0300,R0403,R0536,R1607,R1609
19		0090007	CHIP RESISTOR	1/16W 180Ω ±5% 0603	1	R0705
20		0090008	CHIP RESISTOR	1/16W 220Ω ±5% 0603	1	R0464
21		0090009	CHIP RESISTOR	1/16W 330Ω ±5% 0603	1	R1114
22		0090011	CHIP RESISTOR	1/16W 470Ω ±5% 0603	1	R0709
23		0090013	CHIP RESISTOR	1/16W 680Ω ±5% 0603	4	R0603,R1315,R1317,R1318
24		0090235	CHIP RESISTOR	1/16W 820Ω ±5% 0603	1	R0111
25		0090610	EXACTITUDE CHIP RESIST	1/16W 300Ω ±1% 0603	1	R0108
26		0090014	CHIP RESISTOR	1/16W 1K ±5% 0603	15	R0103,R0104,R0105,R0106,R0401,R0428,R0434,R0439,R0445,R0504,R0507,R0508,R1313,R1314,R1404
27		0090175	EXACTITUDE CHIP RESIST	1/10W 1.18K ±1% 0805	1	R0823
28		0090304	EXACTITUDE CHIP RESIST	1/16W 10K±1% 0603	4	R0405，R0406，R0408，R0409
29		0090236	CHIP RESISTOR	1/16W 1.8K ±5% 0603	5	R0200,R0201,R0202,R0203,R0303
30		0090634	EXACTITUDE CHIP RESIST	1/16W 1.5K ±1% 0603	1	R0107
31		0090017	CHIP RESISTOR	1/16W 2.2K ±5% 0603	13	R0505,R0532,R0533,R1100,R1104,R1514,R1520,R1522,R1606,R1309,R1206,R1207,R1521
32		0090543	EXACTITUDE CHIP RESIST	1/16W1k ±1% 0603	3	R0109,R0113,R0112

PARTS LIST					MAIN BOARD	
ITEM		DESCRIPTION			QTY	LOCATION
33		0090104	CHIP RESISTOR	1/16W 2.7K ±5% 0603	1	R0518
34		0090018	CHIP RESISTOR	1/16W 3.3K ±5% 0603	2	R0110,R0523
35		0090019	CHIP RESISTOR	1/16W 4.7K ±5% 0603	4	R0502,R0503,R0516,R0602
36		0090020	CHIP RESISTOR	1/16W 5.1K ±5% 0603	1	R1311
37		0090225	CHIP RESISTOR	1/16W 5.6K ±5% 0603	9	R0458,R0459,R0500,R1600,R1601,R1602,R1603,R1604,R1605
38		0090185	CHIP RESISTOR	1/16W 6.2K ±5% 0603	1	R1300
39		0090021	CHIP RESISTOR	1/16W 6.8K ±5% 0603	7	R0509,R0510,R0511,R0512,R0515,R0707,R0708
40		0090023	CHIP RESISTOR	1/16W 10K ±5% 0603	70	R0114,R0115,R0207,R0208,R0305,R0306,R0400,R0402,R0425,R0426,R0427,R0447,R0451,R0461~R0463,R0519~R0522,R0524,R0525,R0527,R0529,R0530,R0531,R0537,R0600,R0601,R0604,R0605,R0608,R0609,R0610,R0611,R0800,R0801,R0802~R0805,R0809,R0819~R0822,R0827,R0830~R0834,R1105,R1109,R1200,R1312,R1316,R1319,R1518,R1519,R1610,R1613,R1614,R1513,R0542,R0543,R0544,R0545,R0539,R0540
41		0090187	CHIP RESISTOR	1/16W 12K ±5% 0603	1	R0413
42		0090288	EXACTITUDE CHIP RESIST	1/16W12K±1% 0603	9	R0430,R0429,R0433,R0437,R0440,R0446,R0441,R0435,R0443
43		0090024	CHIP RESISTOR	1/16W 15K ±5% 0603	2	R1323,R1322
44		0090025	CHIP RESISTOR	1/16W 20K ±5% 0603	1	R0414
45		0090188	CHIP RESISTOR	1/16W 18K ±5% 0603	1	R0211
46		0090026	CHIP RESISTOR	1/16W 22K ±5% 0603	1	R0513
47		0090255	CHIP RESISTOR	1/16W24K±5% 0603	1	R0517
48		0090028	CHIP RESISTOR	1/16W 33K ±5% 0603	1	R0210
49		0090191	CHIP RESISTOR	1/16W 39K ±5% 0603	1	R0457
50		0090531	EXACTITUDE CHIP RESIST	1/16W 39K±1% 0603	6	R0431,R0432,R0436,R0438,R0442,R0444
51		0090029	CHIP RESISTOR	1/16W 47K ±5% 0603	4	R0209,R0412,R0422,R0506
52		0090199	CHIP RESISTOR	1/16W 180K ±5% 0603	2	R0460,R0456
53		0090034	CHIP RESISTOR	1/16W 100K ±5% 0603	2	R0514,R1500
54		0090109	CHIP RESISTOR	1/16W 1MΩ ±5% 0603	2	R0302,R1302
55		0090006	CHIP RESISTOR	1/16W 75Ω ±5% 0603	9	R1502,R1503,R1505,R1507,R1508,R1509,R1510,R1511,R1512
56		0100028	CHIP RESISTOR	1/16W22Ω ±5% 8P	6	RP0912,RP0915,RP0917,RP0925,RP0927,RP0929
57		0100019	CHIP RESISTOR	1/16W33Ω ±5% 8P	2	RP1500,RP1501
58		0100030	CHIP RESISTOR	1/16W51Ω±5% 8P	20	RP0900,RP0901,RP0902,RP0903,RP0905,RP0906,RP0907,RP0908,RP0909,RP0910,RP0911,RP0913,RP0914,RP0916,RP0918,RP0920,RP0922,RP0924,RP0928,RP0930
59		0100020	CHIP RESISTOR	1/16W100Ω±5% 8P	7	RP0602,RP0603,RP0604,RP0605,RP0606,RP0607,RP0608
60		0100033	CHIP RESISTOR	1/16W 150Ω±5% 0603×4 8P	9	RP0501,RP0502,RP0503,RP0504,RP0505,RP0506,RP0507,RP0508,RP0509
61		0260567	ELEC.CAP	CD11E 50V1U±20%4×5 1.5	1	C1623
62		0260612	ELEC.CAP	CD11E 50V3.3U±20% 4×5 1.5	2	C1624,C1625
63		0260198	ELEC.CAP	CD11C 50V10U±20%5×7 2	10	C0926,C0951,C1028,C1617,C1618,C1619,C1620,C1621,C1622,C1627

PARTS LIST				MAIN BOARD		
ITEM		DESCRIPTION			QTY	LOCATION
64		0260636	ELEC.CAP	CD11E 16V47U±20%5×5 2	5	C1630,C0424,C0835,C0836,C0837
65		0260376	ELEC.CAP	CD11C 25V47U±20% 6×7 2.5	2	C1408,C1414
66		0260201	ELEC.CAP	CD11C 16V100U±20%6×7 2.5	6	C0402,C1200,C1407,C1421,C1530,C1531
67		0260613	ELEC.CAP	CD11C 16V220U±20% 8×7 3.5	10	C0719,C0925,C0927,C1404,C1405,C1406,C1409,C1411,C1412,C1420
68		0310042	CHIP CAP	50V 15P ±5% NPO 0603	1	C0308
69		0310190	CHIP CAP	50V 27P ±5% NPO 0603	6	C1300,C1301,C0800,C0801,C0306,C0307
70		0310044	CHIP CAP	50V 33P ±5% NPO 0603	2	C1500,C1501
71		0310045	CHIP CAP	50V 47P ±5% NPO 0603	5	C1100,C1101,C1102,C1103,C1104
72		0310192	CHIP CAP	50V 56P ±5% NPO 0603	1	C1303
73		0310047	CHIP CAP	50V 101 ±5% NPO 0603	9	C0100,C0407,C0702,C0705,C0708,C0711,C0714,C0717,C1112
74		0260263	ELEC.CAP	CD110 50V47U±20%6×12 2.5	2	C0521,C0543
75		0310326	CHIP CAP	50V 121 ±5% NPO 0603	3	C0420,C0421,C0422
76		0310048	CHIP CAP	50V 151 ±5% NPO 0603	2	C0539,C0538
77		0260601	ELEC.CAP	CD11C 105℃ 50V22U±20%6×7 2.5	5	C0106,C1626,C1628,C1629,C1313
78		0310049	CHIP CAP	50V 221 ±5% NPO 0603	2	C0105,C1306
79		0310053	CHIP CAP	50V 471 ±5% NPO 0603	3	C0513,C0514,C0518
80		0310066	CHIP CAP	50V 102 ±10% X7R 0603	28	C0305,C0505,C0808,C0828,C0902,C0912~C0914,C0919~C0921,C0950,C1017~C1019,C1021~C1027,C1029,C1030,C1031,C1032,C1035,C1110
81		0310231	CHIP CAP	50V 122 ±10% X7R 0603	6	C1605,C1606,C1607,C1608,C1609,C1610
82		0310116	CHIP CAP	50V 152 ±5% X7R 0603	2	C0213,C0214
83		0310069	CHIP CAP	50V 272 ±10% X7R 0603	1	C0427
84		0310198	CHIP CAP	50V 472 ±10% X7R 0603	1	C0416
85		0310071	CHIP CAP	50V 682 ±10% X7R 0603	2	C0516,C0517
86		0310120	CHIP CAP	50V 682 ±5% X7R 0603	1	C0509
87		0310072	CHIP CAP	50V 103 ±10% X7R 0603	30	C0206,C0208,C0209,C0210,C0405,C0411,C0412,C0504,C0507,C0508,C0805,C0820,C0821,C0829,C0832,C0833,C0910,C0917,C0918,C0928,C0929,C0930,C0931,C0937,C0938,C0944,C0945,C1308,C1615,C1616
88		0310202	CHIP CAP	50V 223 ±10% X7R 0603	2	C0309,C0406
89		0310203	CHIP CAP	50V 273 ±10% X7R 0603	1	C0207
90		0310204	CHIP CAP	50V 333 ±10% X7R 0603	1	C0519
91		0310205	CHIP CAP	50V 473 ±10% X7R 0603	3	C0211,C0506,C0512
92		0310582	CHIP CAP	50V 823 ±10% X7R 0603	1	C0417

PARTS LIST				MAIN BOARD		
ITEM		DESCRIPTION			QTY	LOCATION
93		0310207	CHIP CAP	50V 104 ±20% X7R 0603	194	C0101~C0104,C0107,C0200~C0205,C0212,C0300~C0304,C0310,C0400,C0401,C0403,C0404,C0408~C0410,C0413,C0414,C0418,C0419,C0423,C0428,C0500,C0501,C0502,C0510,C0511,C0515,C0520,C0522~C0537,C0540,C0541,C0542,C0544~C0548,C1413,C1415,C1416,C1417,C1422,C0803,C0804,C0806,C0807,C0809~C0819,C0822~C0827,C0830,C0831,C0834,C0900,C0901,C0904,C0905,C0906,C0908,C0909,C0911,C0915,C0916,C0922,C0923,C0924,C0932~C0936,C0939~C0943,C0946~C0949,C0952,C1001~C1016,C1034,C1201~C1204,C1302,C1307,C1309~C1312,C1400~C1403,C1410,C1419,C1502~C1529,C1600~C1604,C1611~C1614,C1105,C1111,C1425,C1423,C1633
94		0310112	CHIP CAP	16V 224 ±10% X5R 0603	3	C1305,C0503,C1106
95		0310234	CHIP CAP	16V 105 +80%-20% Y5V 0603	2	C0426,C0425
96		0310219	CHIP CAP	16V 106 +80%-20% Y5V 1206	4	C1000,C1020,C1033,C1632
97		0390095	CHIP BEAD	FCM1608K-221T05	32	L0101,L0200,L0500,L0501,L0800,L0801,L0802,L0803,L0804,L0805,L0806,L1300,L1406,L1407,L1408,L1500,L1501,L1600,L1601,L1602,L0100,L0102,L0103,L0104,L0201,L0300,L0301,L0502,L0503,L0602,L1301,L1302
98		0390028	CHIP BEAD	BGH3216B601LT	4	L0400,L0401,L1404,L1405
99		0390096	CHIP INDUCTOR	1.8UH ±10% 1608	6	L0700,L0701,L0702,L0703,L0704,L0705
100		0700133	CHIP DIODE	BAS316 SOD323	1	D0100
101		0390417	CHIP BEAD	PZ3216D221-2R5T	4	L1403,L1402,L1401,L1400
102		0700007	CHIP DIODE	1N4148	7	D0800,D0801,D1100,D1103,D1601,D1607,D1608
103		0680058	CHIP DIODE	PMEG2010EA SOD323	4	D0400,D0401,D0402,D0403
104		0680057	CHIP DIODE	LL60P MINI-MELF	1	D1611
105		0780040	CHIP TRANSISTOR	3904	4	V0700,V0101,V0102,V0103
106		0780041	CHIP TRANSISTOR	3906	1	V1100
107		0790055	CHIP MOS TRANSISTOR	BSH205 SOT-23	1	V0100
108		0882237	IC	TZA1047 LQFP	1	U0201
109		0882238	IC	TZA1042HL LQFP	1	U0300
110		0882239	IC	SA56202TW TSOP	1	U0400
111		0882605	IC	LM358A SOP	3	U0401,U0402,U0403
112		0882241	IC	BA5995FM HSOP	1	U0404
113		0882242	IC	PNX7850E BGA	1	U0501
114		0882144	IC	K4S641632H-TC75 TSOP	1	U0502
	114.1	0882262	IC	K4S641632H-TC60 TSOP	1	U0502
	114.2	0881165	IC	K4S641632D-TC60 SOP	1	U0502
	114.3	0882221	IC	K4S641632H-UC75 TSOP	1	U0502
	114.4	0882148	IC	K4S641632F-TC60燭SOP	1	U0502
	114.5	0881042	IC	M12L64164A-7T TSOP	1	U0502
115		0881935	IC	DMN-8602 BGA	1	U0800

PARTS LIST				MAIN BOARD		
ITEM		DESCRIPTION			QTY	LOCATION
116		0881814	IC	LP2995 SOP	1	U0900
117		0881815	IC	M13S128168A-6T TSOP	2	U1000,U1001
118		0881816	IC	SN74HCT14PWR TSSOP	1	U1100
119		0881818	IC	SN74ALVCH16373 TSSOP	1	U1200
120		0881819	IC	TSB41AB1PHP QFP	1	U1300
121		0881820	IC	PQ018EZ02ZP	1	U1400
122		0882320	IC	AZ1117D-1.8 TO-252	1	U1402
123		0881821	IC	PQ025EZ01ZP	1	U1401
124		0882672	IC	L2146 PQFP	1	U1500
	124.1	0881936	IC	TVP5146 PQFP	1	U1500
125		0881057	IC	CS4360 SSOP	1	U1600
126		0881059	IC	CS5333 SSOP	1	U1601
127		0960009	CRYSTAL	16.9344MHz 49-S	1	G0300
128		0960171	CRYSTAL	13.50MHZ 49-S	1	G0800
129		0960169	CRYSTAL	24.576MHz 49-S	1	G1300
130		0960229	CRYSTAL	14.31818MHZ 49-S	1	G1500
131		1940154	SOCKET	45P 0.5MM	1	J0100
132		1940232	SOCKET	4P 1.0MM	1	J0400
133		1940233	SOCKET	11P 1.0MM	1	J0401
134		1940023	SOCKET	7P 2.0MM	1	J1301
135		1940005	SOCKET	6P 2.0MM	1	J1300
136		1940046	SOCKET	10P 2.0MM	1	J1100
137		1940030	SOCKET	10P 2.5MM	1	J1400
138		1940224	SOCKET	4/3P 1.0MM	1	J1101
139		1940161	SOCKET	12P 1.0MM	1	J1103
140		1940120	SOCKET	13P 1.0MM	1	J1102
141		0881127	IC	RT9164-33CG SOT-223	1	U1403

PARTS LIST						MAIN KEY
ITEM		DESCRIPTION			QTY	LOCATION
1		0090003	CHIP RESISTOR	1/16W 10Ω ±5% 0603	1	R10
2		0090181	CHIP RESISTOR	1/16W 100Ω ±5% 0603	1	R12
3		0000381	CARBON FILM RESISTOR	1/6W2.2Ω±5%7.5mm	1	R1
4		0000118	CARBON FILM RESISTOR	1/6W10Ω±5%7.5mm	1	R25
5		0000488	CARBON FILM RESISTOR	1/6W220Ω±5%7.5mm	3	R2,R9,R11
6		0000475	CARBON FILM RESISTOR	1/6W2.7K±5%7.5mm	3	R17,R18,R19
7		0000133	CARBON FILM RESISTOR	1/6W4.7K±5%7.5mm	2	R15,R22
8		0000137	CARBON FILM RESISTOR	1/6W10K±5%7.5mm	5	R4,R5,R6,R14,R24
9		0000667	CARBON FILM RESISTOR	1/6W270K±5%7.5mm	1	R3
10		0310085	CHIP CAP	50V 20P ±5% NPO 0603	2	C9,C10
11		0310191	CHIP CAP	50V 30P ±5% NPO 0603	2	C6,C7
12		0310043	CHIP CAP	50V 22P ±5% NPO 0603	4	C12,C13,C14,C16
13		0310196	CHIP CAP	50V 471 ±10% 0603	1	C79
14		0310066	CHIP CAP	50V 102 ±10% 0603	1	C8
15		0310072	CHIP CAP	50V 103 ±10% 0603	1	C21
16		0200123	CER.CAP	50V 102 ±10% 5mm	1	C17
17		0200032	CER.CAP	50V 22P ±5% NPO 5mm	1	C15
18		0200131	CER.CAP	50V 103 ±10% 5mm	4	C3,C4,C5,C19
	18.1	0200132	CER.CAP	50V 103 ±20% 5mm	4	C3,C4,C5,C19
19		0200139	CER.CAP	50V 104 +80%-20% 5mm	1	C2
20		0390095	CHIP BEAD	FCM1608K-221T05	1	L1
21		0260076	ELEC.CAP	CD11C 50V22U±20%6×7 2.5	1	C1
22		0260241	ELEC.CAP	CD11C 16V4.7U±20%4×7 1.5	1	C11
23		0260196	ELEC.CAP	CD11C 16V10U±20%4×7 1.5	1	C18
24		0260200	ELEC.CAP	CD11C 16V47U±20%5×7 2	1	C20
25		0620076	LED	3B3HC BLUE	1	LD5
26		0570006	DIODE	1N4148	5	D1~D5
27		0780033	TRANSISTOR	9015C	1	Q2
28		0780050	TRANSISTOR	S8050D	1	Q1
29		0881013	IC	D16316 QFP	1	U1
30		0960017	CRYSTAL	32.768KHz 3×9	1	Y2
31		0960114	CRYSTAL	5.00MHZ 49-S	1	Y1
32		1200459	LED DISPLAYS	HNVC06SC020	1	VFD1
33		1340003	TACT SWITCH	6×6×1	8	K2~K9
34		1631546	PCB	4DW9916-2	1	
41		2360016	REMOTE RECEIVING	HS0038B3V	1	U2
	41.1	2360024	REMOTE RECEIVING	LTOP-4338	1	U2

PARTS LIST				AUXILIARY KEY		
ITEM		DESCRIPTION			QTY	LOCATION
1		1562990	PCB	9DW9916-1	1	
2		1340003	TACT SWITCH	6×6×1	1	K1
3		1940141	SOCKET	4P2.0mm	1	CN4
4		0620106	LED	3R 4HD RED	1	LD6

PARTS LIST				DV+FRONT AV BOARD		
ITEM		DESCRIPTION			QTY	LOCATION
1		1860040	1394 SOCKET	IEEE1394 4P/F DIP	1	J2
2		1980055	EARPHONE SOCKET	CKX-3.5-20A	1	J1
3		1631682	PCB	CDW9916-4	1	

PARTS LIST					CARD READER BOARD	
ITEM		DESCRIPTION			QTY	LOCATION
1		0090001	CHIP RESISTOR	1/16W 0Ω ±5% 0603	1	R12
2		0090313	CHIP RESISTOR	1/16W6.8Ω±5% 0603	1	R15
3		0090237	CHIP RESISTOR	1/16W 39Ω ±5% 0603	2	R4,R6
4		0090008	CHIP RESISTOR	1/16W 220Ω ±5% 0603	1	R25
5		0090016	CHIP RESISTOR	1/16W 1.5K ±5% 0603	1	R2
6		0090023	CHIP RESISTOR	1/16W 10K ±5% 0603	6	R5,R10,R11,R19,R22,R23
7		0090029	CHIP RESISTOR	1/16W 47K ±5% 0603	1	R14
8		0090109	CHIP RESISTOR	1/16W 1MΩ ±5% 0603	1	R1
9		0090034	CHIP RESISTOR	1/16W 100K ±5% 0603	5	R3,R13,R17,R18,R21
10		0090208	CHIP RESISTOR	1/16W 470K ±5% 0603	1	R16
11		0090028	CHIP RESISTOR	1/16W 33K ±5% 0603	2	R7,R8
12		0310189	CHIP CAP	50V 18P ±5% NPO 0603	3	C1,C4,C17
13		0310045	CHIP CAP	50V 47P ±5% NPO 0603	9	C2,C3,C5,C9,C10,C11,C12,C18,C19
14		0310084	CHIP CAP	50V 104 +80%-20% 0603	10	C7,C8,C13,C14,C15,C16,C20,C22, C23,C24
	14.1	0310058	CHIP CAP	25V 104 +80%-20% 0603	10	C7,C8,C13,C14,C15,C16,C20,C22, C23,C24
15		0310234	CHIP CAP	16V 105 +80%-20% 0603	1	C6
16		0390095	CHIP BEAD	FCM1608K-221T05	6	L1,L2,L3,L4,L5,L6
17		0780062	CHIP TRANSISTOR	9014C	1	Q4
18		0780063	CHIP TRANSISTOR	9015C	1	Q3
19		0700007	CHIP DIODE	1N4148	1	D1
20		0790041	MOSFET	SI2305DS SOT-23	4	Q1,Q2,Q5,Q6
21		0620004	LED	Φ3 BLUE	1	LD1
22		0260027	CD	CD11 16V100U±20%6×12 2.5	1	C25
23		1990021	SOCKET	SD/MS/MMC/SMC 39P H=6.75 TOP	1	CN3
24		1990020	SOCKET	50芯 H=5.55 BOTTOM	1	CN1
25		0882297	IC	TPS2051 SOP	1	U3
26		0882202	IC	AU9362A21-MCL QFP	1	U1
27		0960019	CRYSTAL	12.00MHz 49-S	1	Y1
28		3870980	CF CARD COVER	DV971K	1	
29		1631691	PCB	DDW9916-2	1	

PARTS LIST		POWER BOARD				
ITEM		DESCRIPTION			QUTY	LOCATION
1		0000273	CARBON FILM RESISTOR	1/4W33Ω±5%10	1	R5
2		0000279	CARBON FILM RESISTOR	1/4W470Ω±5%10	1	R15
3		0000287	CARBON FILM RESISTOR	1/4W3.3K±5%10	3	R4,R22,R3
4		0010063	METAL FILM RESISTOR	1/4W4.7K±1%10	2	R18,R11
5		0010297	METAL FILM RESISTOR	1/4W5.1K±1% 10	2	R20
6		0000289	CARBON FILM RESISTOR	1/4W4.7K±5% 10	1	R17
7		0000301	CARBON FILM RESISTOR	1/4W47K±5%10	3	R9,R13,R28
8		0000361	CARBON FILM RESISTOR	1/4W1.2K±5% 10	3	R14,R26,R16
9		0000432	CARBON FILM RESISTOR	1/4W150Ω±5% 10	1	R12
10		0000286	CARBON FILM RESISTOR	1/4W2.2K±5% 10	3	R23,R29,R27
11		0070001	HIGH VOLTAGE CARBON FILM RESISTOR	1/2W680K±5%	1	RV1
12		0010270	METAL FILM RESISTOR	1/4W1.8K±1% 10	1	R21
13		0010157	METAL OXIDE FILM RESISTOR	2W68K±5% 15×7	2	R2,R6
14		0200136	CER.CAP	50V 473 ±20% 5mm	1	C9
15		0200139	CER.CAP	50V 104 +80%-20% 5mm	8	C2,C7,C8,C12,C15,C16,C11,C21
16		0200144	CER.CAP	1000V 102 ±20% 7.5mm	1	C4
17		0200225	CAP	400VAC 222 ±20% 10mm	1	C6
18		0200232	CER.CAP	500V 101 ±10% 5mm	1	C18
19		0200268	CAP	CT81 250VAC221±10% 10mm	2	C3,C14
20		0210066	CAP	275V 104 ±20% 15mm	1	C13
	20.1	0210070	CAP	275V 104 ±10% 15mm	1	C13
21		0260581	ELEC.CAP	CD11T 25V100U±20%6×12 2.5	3	CE1,CE2,CE16
22		0260594	ELEC.CAP	CD11T 25V220U±20%8×12 3.5	1	CE12
23		0260558	ELEC.CAP	CD11T 25V470u±20%10×16 5	1	CE4
24		0260400	ELEC.CAP	GZ 25V1000U±20%10×25 5	1	CE3
25		0260582	ELEC.CAP	CD11T 25V10U±10%5×11 2	2	CE7,CE19
26		0260559	ELEC.CAP	CD11T 50V47u±20%6×12 2.5	3	CE11,CE13,CE14
27		0260583	ELEC.CAP	CD11T 16V220U±20%6×12 2.5	2	CE15,CE17
28		0260442	ELEC.CAP	GZ 10V2200U±20%10×24 5	2	CE6,CE9
29		0260443	ELEC.CAP	GZ 10V1000U±20%8×16 3.5	2	CE8,CE10
30		0260584	ELEC.CAP	LT 400V100U±20%22×30 10	1	CE5

PARTS LIST — POWER BOARD

ITEM		DESCRIPTION			QUTY	LOCATION
31		0390052	FERRITE BEAD	FB	3	L1,L2,L4
32		0410077	INDUCTOR IRON	10UH 3A 5mm	2	L3,L5
33		0460500	TRANSFORMER	BCK-28-0637	1	T1
34		1940001	SOCKET	2p 2.5mm	1	CN1
35		0570005	DIODE	1N4007	4	D9,D10,D11,D12
36		0570007	DIODE	1N5401	2	D14,D15
37		0570013	DIODE	HER105	4	D1,D6,D7,D8
38		0570014	DIODE	HER107	1	D4
39		0570018	DIODE	HER303 17.5×8mm	2	D2,D5
40		0680006	SCHOTTKY DIODE	1N5822	1	D18
41		0580006	ZENER	5.1V ±5% 1/2W	1	D13
42		0580033	ZENER	5.6V ±5% 1/2W	1	D16
43		0580048	ZENER	22V ±5% 1/2W	1	D17
44		0680047	SCHOTTKY DIODE	PBYR10100 TO-220	1	D3
45		0780024	TRANSISTOR	2N3906	1	Q9
	45.1	0780033	TRANSISTOR	9015C	1	Q9
46		0780023	TRANSISTOR	2N3904	1	Q6
	46.1	0780032	TRANSISTOR	9014C	1	Q6
47		0790024	MOSFET	1PP14N03L TO-220	2	Q7,Q2
	47.1	0790025	MOSFET	AP40N03P TO-220	2	Q7,Q2
	47.2	0790028	MOSFET	1PP15N03L TO-220	2	Q7,Q2
48		0880553	IC	LM431ACZ TO-92	2	IC3,IC5
	48.1	0880581	IC	TL431C TO-226AA(LP)	2	IC3,IC5
	48.2	0880800	IC	431L TO-92	2	IC3,IC5
49		0881326	IC	PQ12RD21 TO-220	1	IC4
50		0881934	IC	FSDM0565R TO-220F-6L	1	IC1
51		1000004	INDUCTOR IRON	UT-20 40mH ±20% 10×13	1	LF1
52		1050002	THERM RESISTOR	NTC SCK-104MS±20%	1	RT1
53		1080011	OPTOTRANSISTOR	HS817	1	IC2
54		1563678	PCB	5DW9916S-0	1	
55		1940004	SOCKET	5p 2.5mm	1	CN2

PARTS LIST		POWER BOARD				
ITEM		DESCRIPTION			QUTY	LOCATION
56		1940024	SOCKET	5p 2.0mm	1	CN5
57		1940030	SOCKET	10p 2.5mm	1	CN3
58		1940037	SOCKET	4p 3.96mm	1	CN4
59		2300003	FUSE	T2AL 250V	1	F1

PARTS LIST						CONTROLLER
ITEM		DESCRIPTION			QTY	LOCATION
1		0260196	ELEC.CAP	CD11C 16V10U±20%4×7 1.5	1	C801
2		0200062	CER. CAP	50V 151 ±10% 2.5mm	2	C802,C803
3		0090014	CHIP RESISTOR	1/16W 1K ±5% 0603	1	R802
4		0000381	CARBON FILM RESISTO	1/6W2.2 Ω ±5%7.5mm	1	R801
5		0570006	DIODE	1N4148	2	D801,D803
6		0630002	REMOTE OUTPUT	LTE-3271	1	LED801
	6.1	0630003	REMOTE OUTPUT	TSAL6200	1	LED801
	6.2	0630008	REMOTE OUTPUT	TSAL7200	1	LED801
7		0780130	CHIP TRANSISTOR	STC3265	1	Q801
	7.1	0780150	CHIP TRANSISTOR	UTC 8050S（D9-D）	1	Q801
8		0880186	IC	HT6222 SOP	1	U801
	8.1	0880220	IC	PT2222 SOP	1	U801
9		0970003	CAP	455E	1	X801
10		1563169	PCB	8DW9917-1	1	

PARTS LIST — REAR AV BOARD

ITEM		DESCRIPTION			QTY	LOCATION
1		0090001	CHIP CAP	1/16W 0Ω ±5% 0603	4	R16,R135,R147,D20
2		0090003	CHIP CAP	1/16W 10Ω ±5% 0603	3	R66,R67,R144
3		0090004	CHIP CAP	1/16W 22Ω ±5% 0603	1	R124
4		0090006	CHIP CAP	1/16W 75Ω ±5% 0603	2	R136,R139
5		0090181	CHIP CAP	1/16W 100Ω ±5% 0603	1	R159
6		0090007	CHIP CAP	1/16W 180Ω ±5% 0603	5	R39,R47,R98,R104,R108
7		0090008	CHIP CAP	1/16W 220Ω ±5% 0603	4	R1,R7,R65,R111
8		0090009	CHIP CAP	1/16W 330Ω ±5% 0603	6	R52,R61,R73,R80,R85,R92
9		0090011	CHIP CAP	1/16W 470Ω ±5% 0603	6	R40,R48,R99,R105,R109,R157
10		0090014	CHIP CAP	1/16W 1K ±5% 0603	12	R57,R58,R76,R77,R88,R89,R112,R126,R129,R143,R146,R171
11		0090017	CHIP CAP	1/16W 2.2K ±5% 0603	3	R68,R145,R150
12		0090018	CHIP CAP	1/16W 3.3K ±5% 0603	4	R12,R15,R138,R151
13		0090019	CHIP CAP	1/16W 4.7K ±5% 0603	18	R50,R51,R59,R60,R71,R72,R78,R79,R83,R84,R90,R91,R125,R127,R128,R130,R131,R170
14		0090021	CHIP CAP	1/16W 6.8K ±5% 0603	12	R36,R38,R44,R46,R94,R97,R102,R103,R106,R107,R155,R156
15		0090023	CHIP CAP	1/16W 10K ±5% 0603	11	R4,R5,R11,R14,R19,R21,R116,R117,R137,R142,R158
16		0090187	CHIP CAP	1/16W 12K ±5% 0603	2	R113,R114
17		0090024	CHIP CAP	1/16W 15K ±5% 0603	4	R2,R3,R17,R20
18		0090025	CHIP CAP	1/16W 20K ±5% 0603	6	R49,R55,R70,R75,R82,R87
19		0090026	CHIP CAP	1/16W 22K ±5% 0603	1	R62
20		0090189	CHIP CAP	1/16W 30K ±5% 0603	1	R69
21		0090028	CHIP CAP	1/16W 33K ±5% 0603	2	R54,R63
22		0090029	CHIP CAP	1/16W 47K ±5% 0603	7	R53,R64,R74,R81,R86,R93,R140
23		0090242	CHIP CAP	1/16W 75K ±5% 0603	1	R115
24		0090034	CHIP CAP	1/16W 100K ±5% 0603	2	R56,R172
25		0260028	ELEC.CAP	CD11 16V220U±20%6×12 2.5	11	C16,C22,C23,C66,C67,C69,C101,C125,C126,C128,C131
26		0260019	ELEC.CAP	CD11 16V10U±20%5×11 2	20	C29,C34,C49,C53,C57,C61,C64,C76,C78,C90,C93,C107,C108,C109,C111,C112,C115,C117,C121,C25
27		0260025	ELEC.CAP	CD11 16V47U±20%5×11 2	10	C1,C7,C9,C38,C43,C82,C99,C102,C104,C118
28		0260027	ELEC.CAP	CD11 16V100U±20%6×12 2.5	2	C11,C37
29		0260127	ELEC.CAP	CD11 16V4.7U±20%5×11 2	6	C3,C4,C5,C6,C13,C14
30		0260211	ELEC.CAP	CD11 50V3.3U±20%5×11 2	1	C73
31		0310188	CHIP CAP	50V 10P ±5% NPO 0603	2	C85,C89
32		0310085	CHIP CAP	50V 20P ±5% NPO 0603	1	C26
33		0310047	CHIP CAP	50V 101 ±5% NPO 0603	1	C79
34		0310048	CHIP CAP	50V 151 ±5% NPO 0603	6	C28,C33,C48,C52,C56,C60
35		0310066	CHIP CAP	50V 102 ±10% 0603	14	C30,C31,C35,C36,C50,C51,C54,C55,C58,C59,C62,C63,C87,C88
36		0310067	CHIP CAP	50V 152 ±10% 0603	1	C91
37		0310072	CHIP CAP	50V 103 ±10% 0603	5	C10,C12,C17,C32,C94
38		0310192	CHIP CAP	50V 56P ±5% NPO 0603	2	C80,C83
39		0310196	CHIP CAP	50V 471 ±10% 0603	1	C92

PARTS LIST						REAR AV BOARD
ITEM		DESCRIPTION			QTY	LOCATION
40		0310207	CHIP CAP	50V104 ±20% 0603	27	C2,C8,C21,C39,C40,C41,C42,C44,C45,C46,C47,C65,C68,C75,C77,C81,C97,C98,C100,C103,C105,C106,C119,C120,C129,C130,C24
41		0310379	CHIP CAP	25V 474 +80%-20% 0603	6	C70,C71,C72,C74,C84,C86
	41.1	0310542	CHIP CAP	16V 474±10% 0603	6	C70,C71,C72,C74,C84,C86
42		0390095	CHIP BEAD	FCM1608K-221T05	16	FB3,FB4,FB5,FB6,FB7,R6,R10,R13,R24,R35,R37,R42,R95,R96,R100,R101
43		0390142	CHIP BEAD	FCM1608-601T02	2	FB1,FB2
44		0580007	ZENER	6.2V 1/2W	2	D1,D2
45		0580008	ZENER	8.2V 1/2W	1	D11
46		0700007	CHIP DIODE	1N4148	5	D9,D18,D22,D23,D25
47		0680057	CHIP SCHOTTKY DIODE	LL60P MINI-MELF	2	D10,D24
48		0700056	CHIP DUAL DIODE	MMBD4148SE SOT-23	4	D13,D14,D15,D17
49		0780040	CHIP TRANSISTOR	3904	22	Q1,Q2,Q3,Q4,Q5,Q8,Q9,Q10,Q11,Q12,Q13,Q14,Q15,Q16,Q19,Q20,Q21,Q22,Q24,Q25,Q27,Q30
	49.1	0780062	CHIP TRANSISTOR	9014C	22	Q1,Q2,Q3,Q4,Q5,Q8,Q9,Q10,Q11,Q12,Q13,Q14,Q15,Q16,Q19,Q20,Q21,Q22,Q24,Q25,Q27,Q30
50		0780041	CHIP TRANSISTOR	3906	6	Q6,Q7,Q17,Q18,Q28,Q29
	50.1	0780063	CHIP TRANSISTOR	9015C	6	Q6,Q7,Q17,Q18,Q28,Q29
51		0880443	IC	CD4052BCN DIP	1	U1
	51.1	0881429	IC	CD4052BE DIP	1	U1
52		0881080	IC	PCF8563T SO8	1	U2
53		0881817	IC	MM1225XF SOP	1	U9
54		0882267	IC	FSAV330 TSSOP	2	U7,U8
55		0881226	IC	RC4558D SOP	3	U3,U4,U5
56		0881842	IC	MSP3415G QFP	1	U6
57		0881992	IC	74HC4053D SOP	1	U10
58		0960017	CRYSTAL	32.768KHz 3×9	1	X1
59		0960238	CRYSTAL	18.432MHz ±10PPM 49-S	1	X2
60		1020023	TUNER	JS-6B2F/L121-D5	1	TUN1
61		1090009	OPTICAL OUTPUT	GP1F32T	1	OP1
	61.1	1090024	OPTICAL OUTPUT	TX179AT	1	OP1
62		1631848	PCB	7DW9916-5	1	
63		1860056	SCART SOCKET	SCART 02	1	SC1
64		1910059	SOCKET	CS-09	2	S2,S3
65		1910062	SOCKET	AV2-8.4--6G	1	S1
66		1910079	SOCKET	AV8-8.4-6G-3	1	S5
67		1910078	SOCKET	AV4-8.4-6G-3	1	S7
68		1940024	SOCKET	5P 2.0mm	1	CN4
69		1940022	SOCKET	4P 2.0mm	1	CN3
70		1940120	SOCKET	13/13P1.0mm	1	CN2
71		1940161	SOCKET	12/12P1.0mm	1	CN1
72		1940224	SOCKET	4/3P 1.0mm	1	CN6
73		1480010	FASTENER CELL	CR2032	1	
74		3630185	CELL SOCKET	1403G6-GBK4B	1	BT1

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