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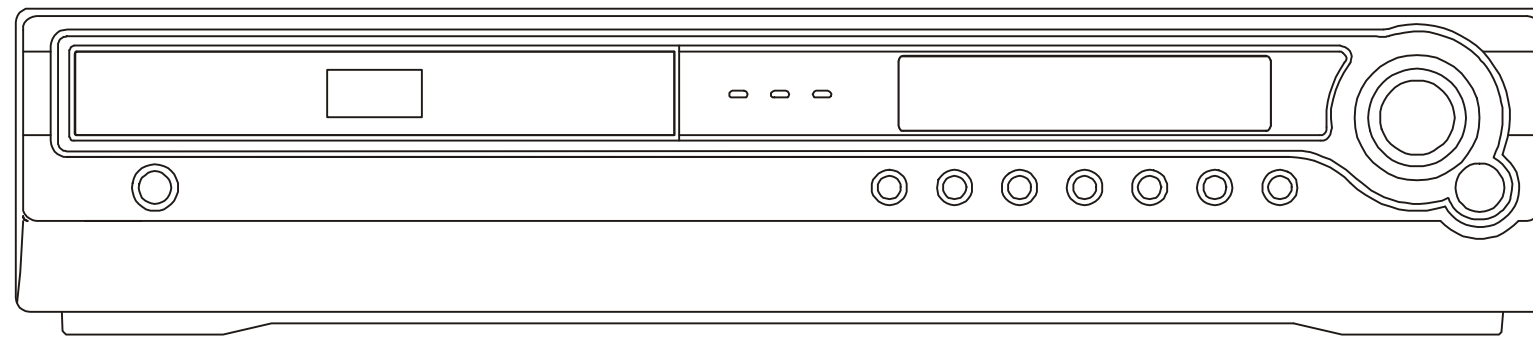
DVD HOME THEATRE SYSTEM

Model:
DV-R3110SS

SERVICE MANUAL

Service Manual

DVD HOME THEATRE SYSTEM




DV-R3110SS

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PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in this chassis have special safety characteristics. These safety characteristics often pass unnoticed and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts that have these special safety characteristics are identified in this manual and its supplements; electrical components having such features are identified by  in the schematic diagram and the parts list.

Before replacing any of these components, read the parts list in this manual carefully.

The use of substitute replacement parts that do not have the same safety characteristics as specified in the parts list may create shock, fire or other hazards.

SPECIFICATIONS

Unit	
Power supply	AC 230V ~ 50Hz
Power consumption	116 W
Signal system	Standard PAL
Laser	Semiconductor laser, wavelength 650/780nm
Signal-to-noise	More than 95dB
Audio dynamic range	More than 93dB
Harmonic distortion	Less than 1%
Operating temperature	41°F to 95°F (+5°C to 35°C)
Operating humidity	5% to 85% (no condensation)
Video Output / Input	
Output level	1 Vp-p (75 Ω)
Input level	750mV input (5Ω 10% THD output)
Audio Output / Input	
Output level	1.80 ± 0.2 Vrms (1 kHz, 0dB)
Input level	750mV input (5Ω 10% THD output)
Jack	RCA/Pin jack
Speakers Section	
Speakers (Front/Center/Rear)	
Speaker system	Bass reflex
Speaker unit	70 mm dia. cone type
Rated impedance	8 ohms
Subwoofer Section	
Speaker system	Bass reflex
Speaker unit	180 mm dia. cone type
Rated impedance	6 ohms

Specifications and external appearance are subject to change without notice.

PERFORMANCE SPECIFICATIONS

GENERAL TEST CONDITION	
Power Supply	:AC 230V ~ 50Hz
Output Load	:8 ohm Non-reactive x5 Subwoofer 6ohm x1
Reference Output	:500mW
Input Signal Source	:External AM Loop Antenna
	:75 ohm Dummy Antenna for FM
Modulation	:30% 400Hz for AM 60% for Power
	40kHz Deviation 1000Hz for FM
	7.5kHz Pilot Tone
	47.5kHz L+R 1000Hz

(AM) SECTION, AMPLITUDE, MODULATION				
	TEST ITEMS	UNIT	NOMINAL	LIMIT
1.	Tuning Range	kHz	531-1602	-
2.	I.F.	kHz	450	±3
3.	S/N 10mV/m	999kHz dB	36	30
4.	Sens. (at S/N 20dB)	603kHz 1404kHz dB	60	64
5.	I.F. Rej.	603kHz dB	50	46
6.	Image Rej.	1404kHz dB	30	22
7.	Spurious Rejection	dB	35	25
8.	Bandwidth, -6dB, at (Max. Sens. +6dB)	999kHz kHz	6	4 - 9
9.	ACA (±9 kHz) Input	999kHz dB	20	15
10.	AGC Figure Merit	100mV/m dB	45	40
11.	Distortion, 5mV/m, 30%	%	1	3
	80%	%	3	6
12.	a. 10% THD Power AC	DEV 80% W	15	13
	b. woofer 10%	DEV 80% W	25	22
13.	a. Tweet (2nd 910kHz & 3rd 1350kHz) at 75 dB I/P	dB	15	10
14.	Audio Fidelity, Centre ±(6) dB	Hz	60/2200	120/2000
15.	Low Voltage AC	%	80	85
16.	a. Mod. Hum 10mV/M	dB	36	30
	b. Hum at Min. Vol.	mV	1	3
17.	Auto Stop Sens.	dB	64	70
18.	Step Frequency	kHz	-	9
REMARKS:				
NOTE: All measurement should be done at bypass mode without EQ effects.				

PERFORMANCE SPECIFICATIONS - CONTINUED

(FM) SECTION, FREQUENCY, MODULATION					
	TEST ITEMS	UNIT	NOMINAL	LIMIT	
1.	Tuning Range	MHz	87.5 - 108	-	
2.	I.F.	MHz	10.7	±0.3	
3.	30dB S/N	90MHz	μV	20	25
		98MHz	μV	20	25
		106MHz	μV	20	25
4.	-3dB Limit Sens.	dB	16	30	
5.	I.F. Rej.	98MHz	dB	60	50
6.	Image Rej.	106MHz	dB	30	23
7.	Spurious Rejection (Max. Sens. + 6dB)	(F+0.535MHz)	dB	40	35
8.	AM Suppression	(60dB I/P)	dB	45	30
9.	Mod. Hum	(60dB I/P)	dB	48	42
10.	Distortion at 1mV/m (Mono)	22.5kHz	%	1	2
		100mV/m	75kHz	%	3
11.	Audio Fidelity, (-3dB) (Pre-emphass) (50μS) (FR.FL) 30% 400Hz for AM 60% for Power SUBWOOFER	Hz	60/9000	120/6000	
		100 Hz	36	30	
12.	Power Out, 10% THD (55K DEV) 1K=1mV Subwoofer Power out, 10% THD (55K DEV) 100Hz=1mV	W	15	13	
		W	25	22	
13.	Low Voltage AC	%	80	85	
14.	S/N Ratio at 1mV	98MHz	dB	52	46
15.	Alternate Channel Selective ±400 kHz		dB	25	18
16.	Stereo Separation		dB	26	22
17.	19kHz Leak Carrier		dB	32	27
18.	Stereo LED Indication		dB	26	30
19.	Step Frequency		kHz	-	100
20.	Auto Stop Sens.		dB	26	32
21.	Minimum VOL Hum		mV	1.0	3.0
REMARKS:					
NOTE: All measurement should be done at bypass mode without EQ effects.					

PERFORMANCE SPECIFICATIONS - CONTINUED

MW/FM STEREO & RDS TUNING WITH DVD PLAYER (for VDE)						
	FM STEREO & RDS SECTION 37.5kHz (MAIN+SUB 75kHz (PILOT) 1.2K (RDS) DEV & 1kHz INPUT		UNIT	NOR	LIMIT	
1.	Stereo Separation 1mV Input	MOD FREQ 100Hz	L/R	dB	30	25
			R/L	dB	30	25
		MOD FREQ 1kHz	L/R	dB	30	25
			R/L	dB	30	25
		MOD FREQ 10kHz	L/R	dB	25	18
			R/L	dB	25	18
2.	Stereo On Sensitivity	98MHz	dB	5	<18	
3.	S.N.C (SEP=10dB)	98MHz	dB	34	34±8	
4.	RDS Indicator Sensitivity	98MHz	dB	28	<36	
5.	RDS Seek Sensitivity	98MHz	dB	28	<36	
6.	TA Indicator Sensitivity	98MHz	dB	28	<36	
7.	TA Seek Sensitivity	98MHz	dB	28	<36	

VIDEO SECTION					
	TEST ITEMS		UNIT	NOMINAL	LIMIT
1.	Signal Level (LT2-1) 75Ω Terminated Oscilloscope 75% Color Bar	Composite	V(pp)	1.0	±0.2
		S-Y	V(pp)	0.714	±0.2
		S-C (Burst)	V(pp)	0.286	±0.05
		Component-Y	V(pp)	0.714	±0.2
2.	Frequency Char. Composite (LT2-1, REF=0dB 0.5MHz, L156 VM700A Composite)	1.0 / 0.5MHz	dB	0	±2.0
		2.0 / 0.5MHz	dB	0	±2.0
		4.0 / 0.5MHz	dB	0	±2.5
		4.75 / 0.5MHz	dB	0	±2.5
		5.75 / 0.5MHz	dB	-2.0	+3-4
3.	Frequency Char. S-Y (LT2-1, REF=0dB 0.5MHz, L156 VM700A S-Y)	1.0 / 0.5MHz	dB	0	±2.0
		2.0 / 0.5MHz	dB	0	±2.0
		4.0 / 0.5MHz	dB	0	±2.5
		4.75 / 0.5MHz	dB	0	±2.5
		5.75 / 0.5MHz	dB	-2.0	+3-4
4.	Composite Video-S/N (LT2-1) One Line Only L131 VM700A	100K-4.2MHz	dB	60	50
		(SC TR ON)			
5.	S-Y S/N (LT2-1 One Line Only)	100K-4.2MHz (SC TR ON)	60	60	50
6.	Color-AM Color-PM (One Lone Only) (LT2-1, L131 VM700A)	100Hz -500kHz	dB		>40
			dB		>40

PERFORMANCE SPECIFICATIONS - CONTINUED

AMPLIFIER SECTION					
	TEST ITEMS	UNIT	NOMINAL	LIMIT	
1.	10% THD Power AC (FL, FR)	W	15	13	
2.	Frequency Response (CT) 1K=0dB	20Hz	dB	-3	±3
		100Hz	dB	0	±3
		10kHz	dB	0	±3
		20kHz	dB	0	±6
3.	Frequency Response (RR, RL) 1K=0dB	20Hz	dB	-3	±3
		100Hz	dB	0	±3
		10kHz	dB	0	±3
		20kHz	dB	0	±5
4.	Frequency Response (FL, FR) 1K=0dB	20Hz	dB	-3	±3
		100Hz	dB	0	±3
		10kHz	dB	0	±3
		20kHz	dB	0	±3
5.	Frequency Response (Subwoofer) 1K=0dB	20Hz	dB	40	35
		100Hz	dB	40	35
6.	10% THD Power AC (Subwoofer)	W	25	22	
7.	Subwoofer THD (100Hz Ref O/P)	%	0.5	1.0	
8.	THD (1kHz, Ref O/P) FR, FL	%	0.5	0.8	
9.	Channel Unbalance (L&R)	1kHz	dB	±1	±3
10.	Minimum VOL Hum (UNWGTD/WGTD)	mV	1	3	
11.	Maximum VOL Hum (UNWGTD/WGTD)	mV	8	15	
12.	S/N (UNWGTD/CCIR-ARM2K) (L&R)	1kHz	dB	60	55
13.	Bass Effect FL, FR	dB	±10	±4	
14.	Trebl Effect FL, FR	dB	±10	±4	
15.	Middle Effect FL, FR	dB	±10	±4	
16.	Separation (FL & FR)	dB	-	45	
17.	Cross Talk For Input (AUX/CD-REF) W/BPF	dB	-	45	
REMARKS:					
Level Matching					
	CD -10dB	REF			
	AM 55% 5mV/m			±3	
	FM 40KHz 1mV			±3	
	AUX IN 750mV			±3	
NOTE: All measurement should be done at bypass mode without EQ effects.					
Audio others :6ch					
More audio prologic :on					
ITEM 1.2.3.4 Set up subwoofer for off speaker for large.					

PERFORMANCE SPECIFICATIONS - CONTINUED

AUX IN DOLBY PRO LOGIC SECTION					
	TEST ITEMS	UNIT	NOMINAL	LIMIT	
1.	10% THD Power AC (FL, FR)	W	15	13	
2.	Frequency Response (CT) 1K=0dB	20Hz	dB	-3	±5
		100Hz	dB	0	±3
		10kHz	dB	0	±3
		20kHz	dB	0	±6
		20kHz	dB	0	±6
3.	Frequency Response (RR, RL) 1K=0dB	20Hz	dB	-3	±5
		100Hz	dB	0	±3
		10kHz	dB	0	±3
		20kHz	dB	0	±5
		20kHz	dB	0	±5
4.	Frequency Response (FL, FR) 1K=0dB	20Hz	dB	-3	±5
		100Hz	dB	0	±3
		10kHz	dB	0	±3
		20kHz	dB	0	±3
		20kHz	dB	0	±3
5.	Frequency Response (Subwoofer) 1K=0dB	20Hz	dB	43	35
		100Hz	dB	43	35
6.	10% THD Power AC (Subwoofer)	W	25	22	
7.	Subwoofer THD (100Hz Ref O/P)	%	0.5	1.0	
8.	THD (1kHz, Ref O/P) FR, FL	%	0.1	0.5	
9.	Channel Unbalance (L&R)	1kHz	dB	±1	±3
10.	Minimum VOL Hum (UNWGTD/WGTD)	mV	1	3	
11.	Maximum VOL Hum (UNWGTD/WGTD)	mV	3	8	
12.	S/N (UNWGTD/CCIR-ARM2K) (L&R)	1kHz	dB	60	55
13.	Separation (FL & FR)	dB	-	50	
REMARKS:					
NOTE: All measurement should be done at bypass mode without EQ effects.					
More audio prologic : on					
ITEM 1.2.3.4.Should be set up at DVD mode, and set subwoofer as off, speaker as large.					

PERFORMANCE SPECIFICATIONS - CONTINUED

DVD AUDIO SECTION (LINE OUTPUT)					
	TEST ITEMS	UNIT	NOMINAL	LIMIT	
1.	THD+N (LT2-1, 3-1 20kHz LPF ON)	%		0.015	
2.	Output Level (LT2-1, 3-1)	V	2.0	±0.3	
3.	S/N (LT2-1, 3-20 JIS-A FILTER ON)	dB	80	70	
4.	Crosstalk (LT2-1, 3-21.22 1kHz, BPF ON)	dB		70	
5.	Frequency Range (48KHz / 24BIT) (LT2-1. 3-1~19) (FL, FR)	31Hz	dB	0	±1.0
		499Hz	dB	0	±1.0
		1kHz	dB	0	±1.0
		10kHz	dB	0	±1.0
		22kHz	dB	0	±1.0
6.	Frequency Range (96kHz / 24BIT LT2-1, 6-1~12) (FL, FR)	20Hz	dB	0	±3.0
		400Hz	dB	0	±3.0
		1kHz	dB	0	±3.0
		12.8kHz	dB	0	±3.0
		20kHz	dB	0	±3.0
7.	Digital Output Level (LT2-1, 1-1 75Ω LOADING ON)	mV	500	±100	
8.	Dynamic Range	dB		85	
9.	Black Band (TDV 545)	μM	-	600	
10.	Finger Print	μM	-	No.10	
11.	Eccentric (MDVD142 TEAC)	μM	-	200	
12.	Vertical (MDVD151 TEAC)	mm	-	0.6	
CD SECTION					
1.	Interruption (PHILIPS SBC444A)	μM	-	600	
2.	Black Dot	μM	-	600	
3.	Finger Print	μM	-	No.18	
4.	Eccentric (TCO-712 ABEX)	μM	-	140	
5.	Vertical (TCO-731R ABEX)	mm	-	0.8	
CD-R SECTION					
1.	Black Band (TCD-R025W)	μM	800	600	
2.	Finger Printers (TCD-R025W)	μM	-	65	
3.	Scratch (TCD-R021W)	mm	1.8	1.6	
4.	Eccentric (TCD-R012W)	μM	-	140	
5.	Deviation (TCD-R032W)	μM	-	810	
CD-RW SECTION					
1.	Black Band (TCD-W025W)	μM	600	500	
		μM	-	65	
		mm	-	1.0	
		μM	-	140	
		μM	-	810	

ELECTRICAL PARTS LIST

Ref. No.	Description	Mfr's Part No.	Qty.
PCB			
MAIN PCB	PCB STS21AAS-01-01 396x300x1.6mm/2 (94V0)	033-ST21A-200	1
DISPLAY & KEY PCB	PCB STS28AAS-01-01 202x174.5x1.6mm/4 (94HB)	033-ST28A-100	1
FUSE PCB	PCB STS21AAS-01-07 166x132x1.6mm/12 (94V0)	033-ST21A-106	1
MPEG+SERVO PCB	PCB STS21AAS-01-02 150x120x1.6mm (FR4)	033-ST21A-101	1
LOAD MOTOR PCB	PCB STS21AAS-01-09 171x88.5x1.6mm/12 (94V0)	033-ST21A-108	1
SCART PCB	PCB STS21AAS-01-05 140x95x1.6mm/4 (94V0)	033-ST21A-104	1
BLANK PCB	PCB STS21AAS-01-08 197x46x1.6mm/9 (94V0)	033-ST21A-107	1
TUNER PCB	PCB STS21AAS-01-04 141x130x1.6mm/3 (94V0)	033-ST21A-103	1
REMOTE CONTROL SECTION			
	RM CONTROL HANDSET (AKAI/DV-R3100/3110/ 3300SS) w/CAM0122 SPY (FOR STS25/61)	043-R15448-051	1
ACCESSORY SECTION			
	JP WIRE AWG26#UL1007 1500mm BLK CRIMPED w/TERMINAL SHS #STV8-TE AND TUBE (75ohm)	054-010A50-090	1
	AV CABLE 1.5M COAXIAL BK CABLE w/3 RCA PLUG RED,WHT,YEL #3C RCA&RCA-1500BK	122-004220-151	1
	BATTERY #GP15G 1.5V 'AA' SIZE (GP)	130-615004-001	2
	MERCURY & CADMIUM FREE (2PCS/PACKAGE)		
	AM LOOP ANT.388-88 & 388-89 MOLD BK (ABS)	132-020388-882	1
	5264-2 2.54mm w/5750mm BK AWG26#UL1007		
MAIN PCB SECTION			
RESISTORS			
R603,611,612,613	*CdF RESISTOR 1 Kohm +-5% 1/16W (1/8W)	001-010251-016	4
R504,534,580,609	*CdF RESISTOR 10 Kohm +-5% 1/16W (1/8W)	001-010351-016	4
R656,657,664,666,668,670, 672,674	*CdF RESISTOR 100 Kohm +-5% 1/16W (1/8W)	001-010451-016	8
R660	*CdF RESISTOR 150 ohm +-5% 1/16W (1/8W)	001-015151-016	1
R608	*CdF RESISTOR 15 Kohm +-5% 1/16W (1/8W)	001-015351-016	1
R602,616,617,618,619,624, 625,628,629,634,635,638,639, 654	*CdF RESISTOR 2.2 Kohm +-5% 1/16W (1/8W)	001-022251-016	14
R606,607,614,615,626,627, 636,637,658,659	*CdF RESISTOR 22 Kohm +-5% 1/16W (1/8W)	001-022351-016	10
R620,621,630,631,640,641	RESISTOR 2.2 ohm +-5% 1/16W (1/8W)	001-022851-016	6
R622,623,632,633,642,643	RESISTOR 2.7 Kohm +-5% 1/16W (1/8W)	001-027251-016	6
R652,687,688	RESISTOR 27 Kohm +-5% 1/16W (1/8W)	001-027351-016	3
R661,675	*CdF RESISTOR 3.3 Kohm +-5% 1/16W (1/8W)	001-033251-016	2
R655	*CdF RESISTOR 33 Kohm +-5% 1/16W (1/8W)	001-033351-016	1
R535,536,605,683,684	*CdF RESISTOR 4.7 Kohm +-5% 1/16W (1/8W)	001-047251-016	5
R501,502,503,505,506,601, 681,682	*CdF RESISTOR 47 Kohm +-5% 1/16W (1/8W)	001-047351-016	8
R649	RESISTOR 56 ohm +-5% 1/16W (1/8W)	001-056051-016	1
R662,676	RESISTOR 6.2 Kohm +-5% 1/16W (1/8W)	001-062251-016	2
R650,651,677,678,679,680,690	*CdF RESISTOR 6.8 Kohm +-5% 1/16W (1/8W)	001-068251-016	7
R507,508,509,510,511,512	RESISTOR 8.2 Kohm +-5% 1/16W (1/8W)	001-082251-016	6
R610	*CdF RESISTOR 1 Kohm +-5% 1/16W (1/8W)	001-010251-016	1
R517,518,523,524,533	*CdF RESISTOR 10 Kohm +-5% 1/16W (1/8W)	001-010351-016	5
R561,563	*CdF RESISTOR 100 Kohm +-5% 1/16W (1/8W)	001-010451-016	2
R646,647	*CdF RESISTOR 150 ohm +-5% 1/16W (1/8W)	001-015151-016	2
R539	*CdF RESISTOR 15 Kohm +-5% 1/16W (1/8W)	001-015351-016	1

ELECTRICAL PARTS LIST - CONTINUED

Ref. No.	Description	Mfr's Part No.	Qty.
R513,514,521,562	*CdF RESISTOR 22 Kohm +-5% 1/16W (1/8W)	001-022351-016	4
R525,526	RESISTOR 220 Kohm +-5% 1/16W (1/8W)	001-022451-016	2
R515,516,519,520	RESISTOR 27 Kohm +-5% 1/16W (1/8W)	001-027351-016	4
R527,528	*CdF RESISTOR 3.3 Kohm +-5% 1/16W (1/8W)	001-033251-016	2
R541	*CdF RESISTOR 33 Kohm +-5% 1/16W (1/8W)	001-033351-016	1
R529,530	*CdF RESISTOR 4.7 Kohm +-5% 1/16W (1/8W)	001-047251-016	2
R538	*CdF RESISTOR 47 Kohm +-5% 1/16W (1/8W)	001-047351-016	1
R537,540	RESISTOR 68K +-5% 1/16W (1/8W)	001-068351-016	2
R301,302,303,304,305,306, 307,308,309,316,318,319,321, 325,330,331,333,334,337,338, 339,343,344,345,350,361,364, 365,381,382,383,384,385,386, 387,388	*CdF RESISTOR 10 Kohm +-5% 1/16W (1/8W)	001-010351-016	36
R348	*CdF RESISTOR 15 Kohm +-5% 1/16W (1/8W)	001-015351-016	1
R340	RESISTOR 20 Kohm +-5% 1/16W (1/8W)	001-020351-016	1
R313,314,315	*CdF RESISTOR 220 ohm +-5% 1/16W (1/8W)	001-022151-016	3
R341	*CdF RESISTOR 22 Kohm +-5% 1/16W (1/8W)	001-022351-016	1
R327	RESISTOR 2.7 Kohm +-5% 1/16W (1/8W)	001-027251-016	1
R332,335,336	*CdF RESISTOR 33 ohm +-5% 1/16W (1/8W)	001-033051-016	3
R326,328,390,391,560,564	*CdF RESISTOR 4.7 Kohm +-5% 1/16W (1/8W)	001-047251-016	6
R346,347	*CdF RESISTOR 47 Kohm +-5% 1/16W (1/8W)	001-047351-016	2
R342	RESISTOR 5.6 Kohm +-5% 1/16W (1/8W)	001-056251-016	1
R324	*CdF RESISTOR 6.8 Kohm +-5% 1/16W (1/8W)	001-068251-016	1
R884	RESISTOR 10 ohm +-5% 1/4W	001-010050-014	1
R882,885,893,894,895	*CdF RESISTOR 100 Kohm +-5% 1/16W (1/8W)	001-010451-016	5
R889,890,891	*CdF RESISTOR 3.3 Kohm +-5% 1/16W (1/8W)	001-033251-016	3
R883,886	*CdF RESISTOR 4.7 Kohm +-5% 1/16W (1/8W)	001-047251-016	2
R367,368,369,375,376,377,378	*CdF RESISTOR 100 ohm +-5% 1/16W (1/8W)	001-010151-016	7
R358	*CdF RESISTOR 10 Kohm +-5% 1/16W (1/8W)	001-010351-016	1
R354	*CdF RESISTOR 1.5K +-5% 1/16W (1/8W)	001-015251-016	1
R373	*CdF RESISTOR 220 ohm +-5% 1/16W (1/8W)	001-022151-016	1
R355	*CdF RESISTOR 2.2 Kohm +-5% 1/16W (1/8W)	001-022251-016	1
R353	*CdF RESISTOR 22 Kohm +-5% 1/16W (1/8W)	001-022351-016	1
R356	*CdF RESISTOR 3.3 Kohm +-5% 1/16W (1/8W)	001-033251-016	1
R359	*CdF RESISTOR 33 Kohm +-5% 1/16W (1/8W)	001-033351-016	1
R352	*CdF RESISTOR 4.7 Kohm +-5% 1/16W (1/8W)	001-047251-016	1
R351	*CdF RESISTOR 47 Kohm +-5% 1/16W (1/8W)	001-047351-016	1
R379	RESISTOR 51 Kohm +-5% 1/16W (1/8W)	001-051351-016	1
R357	RESISTOR 5.6 Kohm +-5% 1/16W (1/8W)	001-056251-016	1
R822,824	*CdF RESISTOR 10 ohm +-5% 1/16W (1/8W)	001-010051-016	2
R811,828	*CdF RESISTOR 1 Kohm +-5% 1/16W (1/8W)	001-010251-016	2
R805,808,812,814,818,819, 830,843	*CdF RESISTOR 10 Kohm +-5% 1/16W (1/8W)	001-010351-016	8
R807,820	*CdF RESISTOR 100 Kohm +-5% 1/16W (1/8W)	001-010451-016	2
R802,815,825,835	*CdF RESISTOR 220 ohm +-5% 1/16W (1/8W)	001-022151-016	4
R803,813,848	*CdF RESISTOR 22 Kohm +-5% 1/16W (1/8W)	001-022351-016	3
R823	*CdF RESISTOR 33 ohm +-5% 1/16W (1/8W)	001-033051-016	1
R829	*CdF RESISTOR 3.3 Kohm +-5% 1/16W (1/8W)	001-033251-016	1
R804,816,826,827	*CdF RESISTOR 470 ohm +-5% 1/16W (1/8W)	001-047151-016	4
R801,817	*CdF RESISTOR 4.7 Kohm +-5% 1/16W (1/8W)	001-047251-016	2

ELECTRICAL PARTS LIST - CONTINUED

Ref. No.	Description	Mfr's Part No.	Qty.
R821	RESISTOR 56 ohm +-5% 1/16W (1/8W)	001-056051-016	1
R809	RESISTOR 5.6 Kohm +-5% 1/16W (1/8W)	001-056251-016	1
R810	RESISTOR 680 ohm +-5% 1/16W (1/8W)	001-068151-016	1
CAPACITORS			
C647	CERAMIC CAP 100 pF/50V +-10%	003-010110-050	1
C584,659	CERAMIC CAP 0.02 uF/50V +80%-20%	003-020380-050	2
C893	CERAMIC CAP 0.04 uF/50V +80%-20%	003-040380-050	1
C612,613,625,636,637	CERAMIC CAP 470 pF/50V +-10% TAPING (B TYPE/4mm)	003-047110-051	5
C660,680	#MYLAR CAP 0.01 uF/100V +-10%	004-010310-100	2
C618,619,630,631,642,643, 661,663,681,682	#MYLAR CAP 0.1 uF/50V +-10% (5x11)	004-010410-050	10
C662,679	#MYLAR CAP 0.015 uF/100V +-5%	004-015350-100	2
C664,678	#MYLAR CAP 0.0022 uF/100V +-10%	004-022210-100	2
C646	#MYLAR CAP 0.033 uF/100V +-10%	004-033310-100	1
C624,648	#MYLAR CAP 0.068 uF/100V +-10%	004-068310-100	2
C614,615,627,638,639,644, 645,665,666,668,669,670,671, 672,674,674,676,684	ELECT CAP 1 MFD/50V +-20% (5x11)	006-001000-50D	18
C626,667,673,683,685	ELECT CAP 2.2 MFD/50V +-20% (5x11)	006-002000-50D	5
C677	ELECT CAP 10 MFD/50V +-20% (5x11)	006-010000-50D	1
C610,611,622,623,634,635,650	ELECT CAP 100 MFD/16V +-20% (5x11)	006-010100-16D	7
C658	ELECT CAP 1000 MFD/16V +-20% (10x20)	006-010200-16D	1
C616,617,629,640,641	ELECT CAP 1000 MFD/25V +-20% (12.5x20)	006-010200-25D	5
C604	ELECT CAP 220 MFD/16V +-20% (6.3x11) (SA16V221M)	006-022101-16D	1
C628	ELECT CAP 2200 MFD/25V +-20% (16x25)	006-022200-25D	1
C601,602,603	ELECT CAP 2200 MFD/50V +-20% (16x31.5)	006-022200-50D	3
C605,606,607,608,609,620, 621,632,633,649	*CdF ELECT CAP 47 MFD/16V +-20% (5x11)	006-047000-16D	10
C501,502,511,512	CERAMIC CAP 100 pF/50V +-10%	003-010110-050	4
C523,524	#MYLAR CAP 0.033 uF/100V +-5%	004-033350-100	2
C521,522	#MYLAR CAP 0.068 uF/100V +-5%	004-068350-100	2
C503,504,505,506,507,508, 513,514,515,516,525,517,518, 519,520	ELECT CAP 4.7 MFD/50V +-20% (5x11)	006-004000-50D	15
C654,655	ELECT CAP 100 MFD/16V +-20% (5x11)	006-010100-16D	2
C509	*CdF ELECT CAP 47 MFD/16V +-20% (5x11)	006-047000-16D	1
C302	CERAMIC CAP 0.02 uF/50V +80%-20%	003-020380-050	1
C307,308	CERAMIC CAP 68 pF/50V +-10%	003-068010-050	2
C305,306	CERAMIC CAP 30 pF/50V +-5% (NPO) (CC45-CH1H300J/RBU04CH300J-L)	003-430050-050	2
C309	*CdF (F006-010000-16C) ELECT CAP 10 MFD/ 50V +-20% (VX/5x11)	006-010000-50C	1
C315	ELECT CAP 22 MFD/25V +-20% (5x11)	006-022000-25D	1
C301	ELECT CAP 47000 MFD/5.5V DC +80%-20% (STAR CAP) (SC-DA5R5 473 H)	006-747300-05C	1
C881,882,883,884,886	ELECT CAP 10 MFD/50V +-20% (5x11)	006-010000-50D	5
C310	ELECT CAP 47 MFD/10V +-20% (SMALL SIZE) (5x7)	006-147000-10D	1
C815,816	CERAMIC CAP 0.1 uF/16V +80%-20%	003-010480-016	2
C842	#MYLAR CAP 0.1 uF/50V +-10%	004-010410-050	1

ELECTRICAL PARTS LIST - CONTINUED

Ref. No.	Description	Mfr's Part No.	Qty.
C801,802,803,804,805,806,807,808,810,812,814,818,821,829,831,833,835,837,845 C827,848	CERAMIC CAP 0.02 uF/50V +80%-20% *CdF (F006-010000-16C) ELECT CAP 10 MFD/50V +-20% (VX/5x11)	003-020380-050 006-010000-50C	19 2
C840,843,844,847,850 C817	ELECT CAP 10 MFD/50V +-20% (5x11) ELECT CAP 100 MFD/16V +-20% (5x11)	006-010000-50D 006-010100-16D	5 1
C813,865 C849	ELECT CAP 100 MFD/35V +-20% (8x11.5) ELECT CAP 1000 MFD/10V +-20% (10x16)	006-010100-35D 006-010200-10D	2 1
C820,832,836,839,851 C834	ELECT CAP 220 MFD/16V +-20% (8x11.5) ELECT CAP 220 MFD/25V +-20% (8x11.5)	006-022100-16D 006-022100-25D	5 1
C830 C807,825	ELECT CAP 2200 MFD/10V +-20% (VX/12.5x20) ELECT CAP 2200 MFD/16V +-20% (12.5x25)	006-022200-10C 006-022200-16D	1 2
C811 C841	ELECT CAP 3300 MFD/25V +-20% (16x31.5) ELECT CAP 3300 MFD/50V +-20% (20x40)	006-033200-25D 006-033200-50D	1 1
C819 C828,838,846,855	*CdF ELECT CAP 47 MFD/16V +-20% (5x11) ELECT CAP 470 MFD/10V +-20% (8x11.5)	006-047000-16D 006-047100-10D	1 4
TRANSISTORS			
Q602,606,607,608,609,610,611,613 Q603	TRLNPNSSST-TAP&TO-092 3DG1815 TR PNPGEN-TAP&SC-072 DTA123ESA (ROHM) (88-WA2-662-08)	008-618150-000 008-800123-003	8 1
Q601 Q615	TR NPNSST-RAD&SC-072 DTC114ES (ROHM) TR NPNSST-RAD&SC-072 DTA114TS/A (ROHM) KRA-111M (KEC)	008-801141-000 008-801142-000	1 1
Q501,502,612 Q604	TRLNPNSSST-TAP&TO-092 3DG1815 TRLNPPWR-TAP&TO-092 3CA8550	008-618150-000 008-685500-000	3 1
Q605 Q301	TR NPNSST-RAD&SC-072 DTC114ES (ROHM) TR NPNSST-#####-### 3DG1417	008-801141-000 008-601417-000	1 1
Q302 Q852	TR NPNSST-RAD&SC-072 DTC114ES (ROHM) TRLNPNSSST-TAP&TO-092 3DG1815	008-801141-000 008-618150-000	1 1
Q851 Q806,814	TRLNPPWR-TAP&TO-092 3CA8550 (F008-211850-005) TRANSISTOR 2SB1566E/F (ROHM)	008-685500-000 008-201566-000	1 2
Q807,815 Q801,805,813	TRLNPNSSST-TAP&TO-092 3CG1015 TRLNPNSSST-TAP&TO-092 3DG1815	008-610150-000 008-618150-000	2 3
Q808 Q809	TRLNPNPWR-TAP&TO-092 3DA8050 TRLNPPWR-TAP&TO-092 3CA8550	008-680500-000 008-685500-000	1 1
Q804,812 Q802,803,811	TR PNPGEN-TAP&SC-072 DTA123ESA (ROHM) (88-WA2-662-08) TR NPNSST-RAD&SC-072 DTC114ES (ROHM)	008-800123-003 008-801141-000	2 3
INTEGRATED CIRCUITS			
IC801 IC605	(F010-207805-001) TR &&&VOL-REG&TO-092 LM78L05ACZ 5V VOLTAGE REGULATOR ICAUDIOLEVELSENSOR PT2322-S (SOP) 6-CHANNEL AUDIO PROCESSOR (ANGUS)	008-V07805-000 010-142322-000	1 1
IC604 IC601,602,603 IC502,506 IC301	IC NJM-4558D, JRC O.AMP ICAMP-POWR-#####&W TA8258H (TOSHIBA) IC BA4558N O.AMP ICMCU-48K-LCD TMP87EP26F-3D72 (ALDIAUS-DVD32) FLASH MCU	010-274558-000 010-838258-000 010-404558-000 010-918726-000	1 3 2 1

ELECTRICAL PARTS LIST - CONTINUED

Ref. No.	Description	Mfr's Part No.	Qty.
IC302 IC304	IC 74HC373(SOL)/SN74HC373D/DW TC74HC373AF ICDISPLAYDRIVER-VFD PT6311/PT6318 (ANGUS) TP6311Q	010-070373-000 010-146311-001	1 1
IC802,803	ICREGULA-P-005V001A BA05ST (ROHM)	010-400005-002	2
DIODES			
D601,602,603,604,605,606,607,608 D301,302,303,304 JP344	DIODE IN-4148 ROHM/TELEFUNKEN TAP**50 KEL(NS)(TAP:52mm)/NS(FAIRCHILD)/SEMTECH DIODE IN-4148 ROHM/TELEFUNKEN TAP**50 KEL(NS)(TAP:52mm)/NS(FAIRCHILD)/SEMTECH	011-004148-000 011-004148-000	8 5
D881,882,883 D810,811,815,816,817,818,821,822,823,885	DIODE IN-4148 ROHM/TELEFUNKEN TAP**50 KEL(NS)(TAP:52mm)/NS(FAIRCHILD)/SEMTECH DIODE IN-4148 ROHM/TELEFUNKEN TAP**50 KEL(NS)(TAP:52mm)/NS(FAIRCHILD)/SEMTECH	011-004148-000 011-004148-000	3 10
DZ804,806 DZ801 DZ802 DZ807 DZ803	ZENER DIODE MTZJT-72-12B 12V 1/2W (TSB#G51421015104) ZENER DIODE #MTZJT-7224D 24V 1/2W ZENER IN-5231B, HZ5C1, 5.1V, 1/2W ZENER DIODE 6.2V #MTZJ6.2C ZENER DIODE 10V #MTZJ10D 1/2W (ROHM)	011-010012-120 011-010024-120 011-010051-120 011-010062-005 011-010100-122	2 1 1 1 1
D887 D825 D618,809,819,820,824 D801,802,803,804 D805,806,807,808	RECTIFIER HER102 BRIDGE RECTIFIER RS602 (GOODWORK) RECTIFIER IN-4001B (F011-005401-000) RECTIFIER IN-5401BL RECTIFIER IN5822	011-020102-000 011-020602-001 011-024001-000 011-025401-000 011-025822-000	1 1 5 4 4
INDUCTORS			
L601 FB501,502,503 L603,605,609,612,613,615 WH806 J2 AND J3 AND WH803, J5,6 J11 L881 L801,802,803,804 L805	INDUCTOR 47 uH CEC-470K/708032 +-10% LAL03 TB 470K *CdF FERRITE BEAD INDUCTOR #BL01RN1-A62 0.45 uH/7A (5x3.6mm) (87-008-372-01) TOROIDAL COIL T953628/TX2409033628 LEAD WIRE 18mm FERRITE CORE R0002-M191812100AF3 T18x12x10 OD:18mm, ID:10mm, T:12mm FERRITE CORE FYE-T-062/T25x15x10 OD:25mm, ID:15mm, T:10mm FERRITE CORE #B29 FPL 40x10x6.5mm INDUCTOR 47uH CEC-470K/708032 +-10% LAL03 TB 470K INDUCTOR 3.3 uH +-20% DIA:7x10mm WIRE:DIA=0.6mm (R0002-CW68-3R3M-852243) INDUCTOR 47uH CEC-470K/708032 +-10% LAL03 TB 470K	018-010476-000 032-101162-000 037-953628-261 032-219181-000 032-225015-010 032-240010-065 018-010476-000 018-010337-300 018-010476-000	1 3 6 1 4 1 1 4 1
RESONATOR			
CX301	CERAMIC RESONATOR 8 MHz CSA 8.00 MTZ (MURATA) (87-A70-120-08C)	020-000800-000	1
SWITCHES			
SW308,309 SW301,302,303,304,305,306,307 SW501	TACT SWITCH 4P 3.85mm 100G #1102VA-4 (=021-KHH913-000) TACT SWITCH 4P 5mm 100G #1102A-4/ EVQ PAC 05R (=021-KHH901-000) SLIDE SW 1P2T SS12F47G9	021-110200-000 021-110200-002 025-120091-003	2 7 1

ELECTRICAL PARTS LIST - CONTINUED

Ref. No.	Description	Mfr's Part No.	Qty.
	PUSH SWITCH 2P2T PS3-22SP-W4CW-3.2 w/UL.VDE SEMKO APPROVAL (LUP FUNG)	021-032222-000	1
WIRES			
	FFC CABLE 22 PINS L=108mm 4+100+4 P:1mm UL2896 0.035x0.7	040-220108-100	1
TH3 TO TH4	JP WIRE AWG22#1007 5x5mm 90mm BLACK	051-275090-009	1
JK502GND TO JK506GND	*CdF JP WIRE AWG26#1007 3x3mm 60mm BLACK	051-673060-009	1
TH1	*CdF JP WIRE AWG26#1007 5x5mm 100mm RED	051-675100-006	1
TH2, TH9 TO TH10	*CdF JP WIRE AWG26#1007 5x5mm 100mm BLACK	051-675100-009	2
TH15 TO JK502GND	JP WIRE AWG26#1007 5x5mm 220mm BLACK	051-675220-009	1
WH303	HSG (2.5mm) MOLEX 5264-06 TO JST 6P-SAN w/160mm R,BK,YEL,O,GR,BL AWG28#UL1007	136-JZ0616-000	1
WH802	HSG 3CD4-3A JST PHR 2mm w/330mm RED,BLK, WHT AWG28#UL1571 SLDG 5mm	136-033CD4-200	1
WH310	HSG VCD30D-4A JST PHR-04 w/150mm BLK, BRN,RED,ORG AWG28#UL1007 SLDG 3mm	136-04V30D-200	1
WH306	HSG CD138-9 JST PHR-9/2mm w/160mm R,BLK, WHT,Y,BL,BR,OR,R,WHT JP AWG28#1095 4mm	136-090138-200	1
HEATSINK TO CAB	*CdF JP WIRE AWG26#1007 3x3mm 60mm BLACK	051-673060-009	1
WH807	HSG (2.5mm) MOLEX 5264-08 TO JST 8P-SCN w/120mm BLACK,GREYx7 AWG26#UL1007	136-J00812-001	1
WH801	HSG (2.5mm) MOLEX 5264-09 TO JST 9P-SCN w/220mm RED,GREYx8 AWG24#UL1007	136-J00922-000	1
TO SW801	HSG (3.5mm) MOLEX 51067-0300 w/230mm BLK,NC,WHT AWG18#UL1672 SLDG.12mm	136-L00323-000	1
	HSG (3.96mm) YS TJ6-2Y w/150mm RED,BLACK, AWG22#UL1007 SLDG 4mm	136-MZ0215-000	1
MISCELLANEOUS			
SPK601,602,603	4 P PUSH TERMINAL BOARD HSP-354V-05 MSP-354V-05 PBSN A,C-BLK B,D-RED (STS2x)	118-000354-001	3
JK502	PIN JACK BOARD MSP-244V1-34 NI YEL,ORN, WHT,RED	118-020244-000	1
JK503	DIN JACK HDC-056 (KUNMING)	119-000056-000	1
RTM801	⚠ THERMISTOR T5D410K45JBPDA-0/100KD-5K	124-205410-001	1
WH501	FFC CONN 6232 22 PINS w/o LOCK PITCH:1mm 00 6232 022 006 800 VERTICAL TYPE	135-006232-220	1
JK506 TO REAR PANEL	*CdF SOLDERING LUG	137-300000-000	1
JK506	PIN JACK HSP-253V-14 (KUNMING) YELLOW,RED,WHITE/BODY WHITE	118-020253-000	1
RL504	⚠ RELAY 12V 200mW ME-1-12BS 1P2T	128-120112-001	1
RL501	⚠ RELAY 12V 200mW ME-2-12 2P2T	128-120212-001	1
WH304	HEADER CTL 10 PINS PHS-10 PITCH 2mm STRAIGHT TYPE WHT COLOR (MARKING:HR)	135-PHS100-100	1
	COOLING FAN DC12V DC BRUSHLESS #MW-510H12S-3 50x50x10mm	100-090012-003	1
WH806	HEADER 3 PINS PEC #2001-WS-3 PITCH 2mm VERTICAL REPLACE:135-PHS030-030	135-2001WS-030	1
LED302,303,304	LED-G-2X5M-N- &&& SE-6221AT 2x5mm GREEN, 21mm LEAD	110-003421-205	3
SR301	REMOTE/CONTROL PHOTO RECEIVER Rohm/ RPM638CBRL/676/6938/-V4 (FORMING TYPE)	111-000638-000	1

ELECTRICAL PARTS LIST - CONTINUED

Ref. No.	Description	Mfr's Part No.	Qty.
	VFD-2COL100x20.5SM-033P VACUUM FLUORESCENT DISPLAY #VFD20-1002 (ZEC)	115-001002-000	1
WH301	(F135-000009-090) HEADER CTL 9PINS PHS-09 P:2mmSTRAIGHT TYPE WHT COLOR (MARKING:HR) *CdF SOLDERING LUG	135-PHS090-090	1
	⚠ PT003WEI35/14&&WEN& 230V:12.4V EN STD w/o FUSE (P3512-A14E)	137-300000-000	2
	⚠ PT090WEI66/62&F&BEN& 230V:27V/8V/13V/ 22V/4.2V w/FUSE 130°C (L6662-S01E)	123-A33032-100	1
F804,805	⚠ MICRO FUSE #251.630 630mA/125V WFF-215.630	123-E33551-500	1
FS802,803	⚠ *CdF FUSE #S5.6 2.5A/250V 5x20mm TIME LAG (CUL/VDE/SEMKO/BSI APP.)	124-006310-000	2
FS801	⚠ FUSE #21806.3 6.3A/250V 5x20mm TIME LAG (CUL/SEMKO/VDE/BSI)	124-025020-001	2
	⚠ RELAY 9V SDT-S-109LMR	124-063020-001	1
	⚠ PLA-ULN-7'05"-VDE-MG VDE APP.CORD 2250mm MIGRATION (HARVEST)	128-090109-000	1
	HEADER 2 PINS #TJ6-2A PITCH:3.96mm VERTICAL 1.14mm AQUIRE PIN	134-B11331-006	1
	PIN HEADER 2 PINS TJC6-02P3 PITCH:7.92mm VERTICAL 1.14mm SQUARE PIN	135-000TJ6-020	1
SW801	HEADER MOLEX 2 PINS 53265-0210 V PITCH 7mm (87-099-623-01)	135-00TJC6-020	1
WH805	HEADER 8 PINS PEC #2507-WS-8 PITCH 2.5mm VERTICAL REPLACE:135-005267-080	135-053265-020	1
WH803	HEADER CTL 4 PINS PHS-04 PITCH 2mm STRAIGHT TYPE WHT COLOR (MARKING:HR)	135-2507WS-080	1
	135-PHS040-040	135-PHS040-040	1
MPEG+SERVO SECTION			
RESISTORS			
R14,29,39,58,100,101,120,153, 177,227,229,234,236,237,241, 243, FB18,19,20	CHIP RESISTOR 0 ohm +-5% 1/16W (0603/1608)	001-300052-016	19
R10,12,230	CHIP RESISTOR 10 ohm +-5% 1/16W (0603/1608)	001-310052-016	3
R1,109,132	CHIP RESISTOR 100 ohm +-5% 1/16W (0603/1608)	001-310152-016	3
R9,11,97,106,107,122,134,135, 232	CHIP RESISTOR 1 Kohm +-5% 1/16W (0603/1608)	001-310252-016	9
R5,6,19,20,21,22,23,56,95,102, 123,124,126,130,131,141,142, 143,144,145,146,147,148,157, 163,200	CHIP RESISTOR 10 Kohm +-5% 1/16W (0603/1608)	001-310352-016	26
R31,47,48,91,94,201,202,203, 204	CHIP RESISTOR 100 Kohm +-5% 1/16W (0603/1608)	001-310452-016	9
R32,33,34,35	CHIP RESISTOR 1 ohm +-5% 1/16W (0603/1608)	001-310852-016	4
R180,183,188,191,194,197	CHIP RESISTOR 12 Kohm +-5% 1/16W (0603/1608)	001-312352-016	6
R125,218,219	CHIP RESISTOR 180 ohm +-5% 1/16W (0603/1608)	001-318152-016	3
R208,209,212,213,216,217	CHIP RESISTOR 2 Kohm +-5% 1/16W (0603/1608)	001-320252-016	6
R164	CHIP RESISTOR 22 ohm +-5% 1/16W (0603/1608)	001-322052-016	1
R15,16,206,207,210,211,214, 215	CHIP RESISTOR 220 ohm +-5% 1/16W (0603/1608)	001-322152-016	8
R223	CHIP RESISTOR 2.2 Kohm +-5% 1/16W (0603/1608)	001-322252-016	1
R24,25,26,30,50,105	CHIP RESISTOR 22 Kohm +-5% 1/16W (0603/1608)	001-322352-016	6

ELECTRICAL PARTS LIST - CONTINUED

Ref. No.	Description	Mfr's Part No.	Qty.
U17	ICRAMS-01X016M K4S161622D-TC/L60/L80 HY57V161610DTC-8/M12L16161A-7T	010-310416-002	1
U29	ICREGULA-P-005V001A BA17805FP(TO252-3)(ROHM)	010-401780-000	1
U2	ICMOTORDRIVER-04CH BA5983FM (ROHM)	010-405983-000	1
U12	ICRAMF-01X001K S-24C01BFJ-TB-01/ 24LC01BT-I/SN/M24C01-WMN6T/BR24C01AF-WE2	010-512401-001	1
U27	ICREGULA-P-&&&V&&&A LD1117S/LM117MPX-ADJ RT9164CG(SOT-223)(ST/NATIONAL/RICHTEK)	010-721117-000	1
U28	ICREGULA-P-3.3V&&&A LD1117S33C/LM117MPX -3.3/RT9164-33CG (ST/NATIONAL/RICHTEK)	010-721117-001	1
	ICMOTORDRIVER-&&CH FAN8082 (FAIRCHILD)	010-748082-000	1
U26	ICLOGIC TC74HCU04AF-EL HEX INVERTER (TAPE & WHEEL) (TSB#G51451014108)	010-847404-001	1
U11	ICDIALER-NON-00 ZR36705TQC (ZORAN) ATAPI INTERFACE	010-893670-002	1
U16	ICMPEG ZR36732PQC	010-893673-000	1
U13	ICRAMF-01X008M 8M BIT(512Kx16) FLASH RAM	010-993908-000	1
	SST39VF800A-70-4C-EK/SST39VF800-70-4C-EK (F010-474116-000) IC-DRAM	045-D00035-100	1
U6	M11B416256A-35J (SOJ) (SW034)		
DIODES			
ZD1	ZENER DIODE 6.8V #MTZJ6.8B	011-010068-001	1
D10	RECTIFIER IN-4002,100V	011-024002-990	1
D1,2,3,4,5,6,7	CHIP DIODE (SMT) RLS4148(ROHM)	011-044148-000	7
INDUCTORS			
L2,4,5,13	*CdF INDUCTOR 10 uH CEC-100K +-10%	018-010016-000	4
L26,27,28,29	C.COIL 1.8uH +-10% TAPE&REEL LK1608 1R8K-T/ MGFI1608C1R8/SDFL1608Q1R8KT	018-040187-002	4
L6	C.COIL 2.7uH +-10% TAPE&REEL LK2125 2R7K-T/ MGFI2012C2R7/SDFL2012Q2R7KT	018-040277-001	1
FB1,2,3,4,5,6,7,8,9,10,11,12, 13,14,15,16,21	FERRITE BEAD #BLM11A102S (MURATA)	032-111102-000	17
CRYSTALS & RESONATOR			
Y3	CRYSTAL 12.5 MHz +-30ppm HC-49/U/ALCCBEG	009-612500-000	1
Y4	CRYSTAL 27 MHz HC-49/U/ALCCGBE	009-627000-003	1
Y1	RESONATOR 33.8688 MHz 30ppm-50ppm ZTA33.86MX (CHEQUERS)	020-338688-000	1
WIRES			
	FFC CABLE L=240mm P=1mm SEPH02-01960(3) 24P-4+232+4-P1-CF/90 UL2896 0.035x0.7	040-240240-100	1
U2 GND TO U29 GND	*CdF JP WIRE AWG26#1007 3x3mm 70mm BLACK	051-673070-009	1
U2 GND	JP WIRE AWG26#1007 3x3mm 80mm BLACK	051-673080-009	1
J3	HSG (2mm) JST PHR-05 TO PHR-05 w/258mm BR, RED,ORN,YEL,GN AWG28#UL1095	136-C00525-800	1
J2	HSG (2mm) JST PHR-06 TO PHR-06 w/188mm BR, RED,ORN,YEL,GN,BL AWG28#UL1095	136-C00618-800	1
MISCELLANEOUS			
J5	HEADER MOLEX 6 PINS 5267-06A PITCH 2.5mm STRAIGHT TYPE	135-005267-060	1
J10	FFC CONN 6232 22 PINS w/o LOCK PITCH:1mm 00 6232 022 006 800 VERTICAL TYPE	135-006232-220	1

ELECTRICAL PARTS LIST - CONTINUED

Ref. No.	Description	Mfr's Part No.	Qty.
J1	FFC CONNECTOR 24 PINS PITCH:1mm LG BRAND GF106-24S-LS HORIZONTAL UPPER CONTACT	135-0GF106-240	1
J6	HEADER 4 PINS PEC #2507-WS-4 PITCH 2.5mm VERTICAL REPLACE:135-005267-040	135-2507WS-040	1
J9	HEADER 9 PINS PEC #2507-WS-9 PITCH 2.5mm VERTICAL REPLACE:135-005267-090	135-2507WS-090	1
J3	HEADER CTL 5 PINS PHS-05 PITCH 2mm STRAIGHT TYPE WHT COLOR (MARKING:HR)	135-PHS050-050	1
J2	*CdF HEADER CTL 6 PINS PHS-06 PITCH 2mm STRAIGHT TYPE WHT COLOR (MARKING:HR)	135-PHS060-060	1
U2 GND	SOLDERING LUG	137-300000-000	1
DVD MECHANISM - STSD-010SMT			
	DVD-FLC-01-SAMG-N DVD MECHANISM FOR CD-R CMS-S21MG6 (SAMSUNG)	163-000216-000	1
	LEAF SWITCH LS-121-0A (LUP FUNG)	022-001210-001	1
	CONN PIN 3 PINS (3.5+58+3.5) PITCH 2mm UL AWG26#2651	050-030065-200	1
CN1	(F135-2001WR-051) HEADER 5 PINS #A2001WR2-05/2001-WR-5 P:2mm HORIZONTAL MOTOR-DC-006V-NORMAL 6V #RF-500TB-12560 (MABUCHI) 10gm (KSM-2101-ABM-AL)	135-2001WR-050	1
		151-061256-000	1
RDS SECTION			
RESISTORS			
R458	CHIP RESISTOR 1 Kohm +-5% 1/16W (0603/1608)	001-310252-016	1
R471	CHIP RESISTOR 18 Kohm +-5% 1/16W (0603/1608)	001-318352-016	1
R454,456	CHIP RESISTOR 2.2 Kohm +-5% 1/16W (0603/1608)	001-322252-016	2
R457	CHIP RESISTOR 330 Kohm +-5% 1/16W (0603/1608)	001-333452-016	1
R455	CHIP RESISTOR 470 Kohm +-5% 1/16W (0603/1608)	001-347452-016	1
R453	CHIP RESISTOR 560 ohm +-5% 1/16W (0603/1608)	001-356152-016	1
CAPACITORS			
C459	CHIP CAP 0.1 uF/16V +-10% (0603/1608) (87-A10-260-08G) (C1608JB1C104K) (TDK)	003-510412-016	1
C454	CHIP CAP 0.0022 uF/50V +-10% (0603/1608) (UMK107B222KZ-TM)	003-522212-050	1
C452,453	CHIP CAP 0.022 uF/25V +-10% (0603/1608) (MCH182C223KK/GRM39X7R223K25PT)	003-522312-025	2
C456	CHIP CAP 0.047 uF/25V +-10% (0603/1608)	003-547312-025	1
C460	CHIP CAP 560 pF/50V +-10% (0603/1608)	003-556112-050	1
C457,458	CHIP CAP 33 pF/50V +-5% NPO (0603/1608) (GRM39COG330J50PT/MCH185A330JK)	003-633052-050	2
C461	ELECT CAP 2.2 MFD/50V +-20% (5x11)	006-002000-50D	1
C451	ELECT CAP 100 MFD/10V +-20% (5x11)	006-010100-10D	1
Q412,413	TR NPNSST-RAD&SC-059 2SC2712GR (87-327-125-08)	008-A02712-000	2
CRYSTAL			
CX402	CRYSTAL 4.332 MHz CSA309 CL=16pF CITIZEN (87-A70-091-01G)	009-604332-000	1
INTEGRATED CIRCUIT			
IC403	ICRDS DECODER BU1923F (ROHM)	010-351923-001	1
DIODE			
DZ402	ZENER IN-5231B, HZ5C1, 5.1V, 1/2W	011-010051-120	1
INDUCTOR			

ELECTRICAL PARTS LIST - CONTINUED

Ref. No.	Description	Mfr's Part No.	Qty.
L402	*CdF INDUCTOR 100 uH /1128/CEC-101K +-10% LAL03 TB 101K	018-010014-000	1
SCART SECTION			
RESISTORS			
R715	*CdF RESISTOR 100 ohm +-5% 1/16W (1/8W)	001-010151-016	1
R717,718,720	*CdF RESISTOR 10 Kohm +-5% 1/16W (1/8W)	001-010351-016	3
R702,703	*CdF RESISTOR 12 Kohm +-5% 1/16W (1/8W)	001-012351-016	2
R721	RESISTOR 2 Kohm +-5% 1/16W (1/8W)	001-020251-016	1
R701,706,722	RESISTOR 2.7 Kohm +-5% 1/16W (1/8W)	001-027251-016	3
R708,709	*CdF RESISTOR 33 Kohm +-5% 1/16W (1/8W)	001-033351-016	2
R710,711,712,707,719	*CdF RESISTOR 4.7 Kohm +-5% 1/16W (1/8W)	001-047251-016	5
CAPACITORS			
C701,702	ELECT CAP 0.22 MFD/50V +-20% (VX/5x11)	006-000200-50C	2
C703,704	ELECT CAP 10 MFD/50V +-20% (5x11)	006-010000-50D	2
C711,712	ELECT CAP 100 MFD/16V +-20% (5x11)	006-010100-16D	2
TRANSISTORS			
Q701,702,708,709	TR NPNGEN-BUL&TO-092 3DG9014 (9014)	008-609014-000	4
INDUCTORS			
FB70,701,702,703,704,705,706	*CdF FERRITE BEAD INDUCTOR #BL01RN1-A62 0.45 uH/7A (5x3.6mm) (87-008-372-01)	032-101162-000	7
WIRE			
	FFC CABLE 22 PINS L=128mm 4+120+4 P:1mm UL2896 0.035x0.7 (TUNG HING)	040-220128-100	1
MISCELLANEOUS			
WH702 J11	FFC CONN 6232 22 PINS w/o LOCK PITCH:1mm 00 6232 022 006 800 VERTICAL TYPE	135-006232-220	2
JK701	RGB CONNECTOR SOCKET 21 PINS HRC-021V-07(KUNMING)/MRC-021V-04 (HONDA)	135-HRC021-210	1
TUNER SECTION			
RESISTORS			
JP403,404,405,407,408,409,421,423,425	CHIP RESISTOR 0 ohm +-5% 1/16W (0603/1608)	001-300052-016	9
R467	CHIP RESISTOR 10 ohm +-5% 1/16W (0603/1608)	001-310052-016	1
R415,430,431	CHIP RESISTOR 100 ohm +-5% 1/16W (0603/1608)	001-310152-016	3
R401,410,412,443,444,445,459,465	CHIP RESISTOR 1 Kohm +-5% 1/16W (0603/1608)	001-310252-016	8
R451,461,409	CHIP RESISTOR 10 Kohm +-5% 1/16W (0603/1608)	001-310352-016	3
R402,403,435,448	CHIP RESISTOR 100 Kohm +-5% 1/16W (0603/1608)	001-310452-016	4
R420	CHIP RESISTOR 12 Kohm +-5% 1/16W (0603/1608)	001-312352-016	1
R421,442	CHIP RESISTOR 18 Kohm +-5% 1/16W (0603/1608)	001-318352-016	2
R406,416	CHIP RESISTOR 220 ohm +-5% 1/16W (0603/1608)	001-322152-016	2
R405,422,438	CHIP RESISTOR 2.2 Kohm +-5% 1/16W (0603/1608)	001-322252-016	3
R413,417,423	CHIP RESISTOR 22 Kohm +-5% 1/16W (0603/1608)	001-322352-016	3
R411,419,424,425,426,427,452	CHIP RESISTOR 3.3 Kohm +-5% 1/16W (0603/1608)	001-333252-016	7
R404,407	CHIP RESISTOR 47 ohm +-5% 1/16W (0603/1608)	001-347052-016	2
R408	CHIP RESISTOR 470 ohm +-5% 1/16W (0603/1608)	001-347152-016	1
R418,428,429,436,447	CHIP RESISTOR 4.7 Kohm +-5% 1/16W (0603/1608)	001-347252-016	5
R446	CHIP RESISTOR 47 Kohm +-5% 1/16W (0603/1608) (MCR03EZJH-473)	001-347352-016	1
R414	CHIP RESISTOR 56 ohm +-5% 1/16W (0603/1608)	001-356052-016	1
R437	CHIP RESISTOR 560 ohm +-5% 1/16W (0603/1608)	001-356152-016	1

ELECTRICAL PARTS LIST - CONTINUED

Ref. No.	Description	Mfr's Part No.	Qty.
R460	CHIP RESISTOR 5.6 Kohm +-5% 1/16W (0603/1608)	001-356252-016	1
R466	CHIP RESISTOR 8.2 Kohm +-5% 1/16W (0603/1608)	001-382252-016	1
CAPACITORS			
C421	CHIP CAP 0.001 uF/50V +-10% (0603/1608) (MCH185C102KK/GRM39X7R102K50PT)	003-510212-050	1
C403,404,409,410,415	CHIP CAP 0.01 uF/50V +-10% (0603/1608) (GRM39B103K50PT)	003-510312-050	5
C418,427,436	CHIP CAP 0.1 uF/16V +-10% (0603/1608) (87-A10-260-08G) (C1608JB1C104K) (TDK)	003-510412-016	3
C422,428,429,432,433	CHIP CAP 0.015 pF/50V +-10% (0603/1608)	003-515312-050	5
C402,438	CHIP CAP 0.0022 uF/50V +-10% (0603/1608) (UMK107B222KZ-TM)	003-522212-050	2
C405,411,414,439,441,444,466	CHIP CAP 0.022 uF/50V +-10% (0603/1608)	003-522312-050	7
C473,476	CHIP CAP 0.0047 uF/50V +-10% (0603/1608)	003-547212-050	2
C406	CHIP CAP 0.047 uF/25V +-10% (0603/1608)	003-547312-025	1
C423	CHIP CAP 0.47 uF/10V +-10% (0603/1608) (LMK107BL474KA-T)	003-547412-010	1
C424	(F003-556382-016) CHIP CAP 0.056 uF/16V +-10 (0603/1608)	003-556312-016	1
C420,448,449	(F003-610112-050) CHIP CAP 100 pF/50V +-5% NPO (0603/1608)	003-610152-050	3
C413	CHIP CAP 15 pF/50V +-5% NPO (0603/1608) (UMK107CH150JZ-TM)	003-615052-050	1
C446,447	CHIP CAP 24 pF/50V +-5% NPO (0603/1608)	003-624052-050	2
C412	POLY CAP 350 pF/50V +-5% (B351J09P2HH33AAA)	005-035100-000	1
C425,467,468	ELECT CAP 0.47 MFD/50V +-20% (5x11)	006-000400-50D	3
C417,426,430,431	ELECT CAP 1 MFD/50V +-20% (5x11)	006-001000-50D	4
C435	ELECT CAP 10 MFD/50V +-20% (5x11)	006-010000-50D	1
C437,465,470	ELECT CAP 100 MFD/16V +-20% (5x11)	006-010100-16D	3
C419	ELECT CAP 22 MFD/25V +-20% (5x11)	006-022000-25D	1
C416,442	ELECT CAP 220 MFD/10V +-20% (6.3x11)	006-022100-10D	2
C471	ELECT CAP 220 MFD/16V +-20% (8x11.5)	006-022100-16D	1
C408	*CdF ELECT CAP 47 MFD/16V +-20% (5x11)	006-047000-16D	1
TC401	*CdF TRIMMER CAP CVN610 3-10pF WHITE (6x6x5mm) (JIN MYOUNG)	007-200610-000	1
TRANSISTORS			
Q402	CHIP NJFET SST201/SST201B-T1 (SILICONIX) 2SK208Y TOSHIBA	008-A00201-010	1
Q409,410	TR PNPPWR-RAD&SC-059 2SA1036K	008-A01036-000	2
Q403,404,405,411	TR NPNSST-RAD&SC-059 2SC2712GR (89-327-125-08)	008-A02712-000	4
CRYSTAL			
CX401	CRYSTAL 7.2 MHz HC-49/U	009-607200-000	1
INTEGRATED CIRCUITS			
IC401	ICRDS TA2099N (TOSHIBA) (87-A21-173-01)	010-832099-000	1
IC402	ICPLL TC9257F	010-849257-000	1
DIODES			
VD401,402	VARI CAP DIODE 1SV149B, TOSHIBA	011-000149-000	2
D401,402,403,404	DIODE IN-4148 ROHM/TELEFUNKEN TAP**50 KEL(NS)(TAP:52mm)/NS(FAIRCHILD)/SEMTECH	011-004148-000	4
INDUCTORS			

ELECTRICAL PARTS LIST - CONTINUED

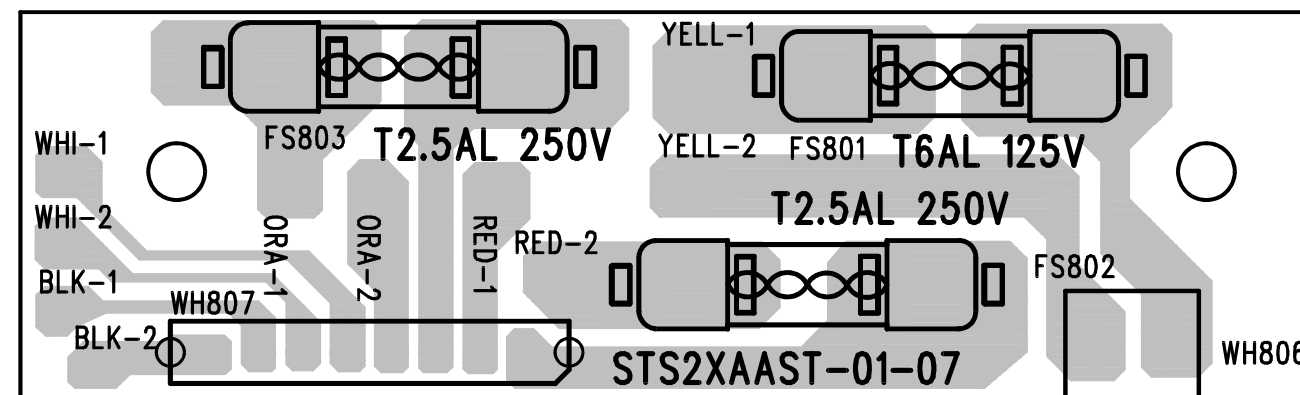
Ref. No.	Description	Mfr's Part No.	Qty.
T408,409	IFT 7PF022C 7.8mm BLACK	012-000022-078	2
T405	IFT 7M4A1772R 7.5mm YELLOW =012-001720-075	012-001772-075	1
T403	IFT 7M1A1959R 7.5mm RED =012-001905-075	012-001959-075	1
T401	IFT 7M1A1961R 7.5mm BLACK =012-001950-075	012-001961-075	1
L401,403	*CdF INDUCTOR 100 uH /1128/CEC-101K +-10% LAL03 TB 101K	018-010014-000	2
FILTERS			
CF401,402	CERAMIC FILTER SFE10.7MS3-A	019-000107-006	2
CF404	CERAMIC FILTER CDA10.7MG82-A	019-000107-028	1
CF403	(F019-000450-002) CERAMIC FILTER LTU450G2	019-000450-012	1
MISCELLANEOUS			
JK401	TUNER-FM&&00STATION FM FRONT END TUNER	042-103010-000	1
	PET-3010F/H (EU) (TAE BONG)		
	JACK COAXIAL JACK HTR-401V	118-030401-000	1
	HEADER MOLEX 2 PINS 5268-02A PITCH 2.5mm HORIZONTAL TYPE	135-005268-020	1
JK401	PIN HEADER 13 PINS S40R20 PITCH:2mm	135-S40R20-130	1
	SINGLE ROW RIGHT ANGLE		
CENTER SPEAKER SECTION - SSQC3			
FOR CT	JP WIRE AWG22#1007 5x5mm 130mm RED	051-275130-006	1
	JP WIRE AWG22#1007 5x5mm 130mm BLACK	051-275130-009	1
	PUSH TERMINAL BOARD PT-213-03 BLACK,RED	118-000213-000	1
	MSP-105H-03 BLACK,RED		
	SPK WIRE UL/CSA 2468 2x22 AWG 17/0.16mm	122-002120-401	1
	TRANS. w/BK LINE 4M w/TUBE 2xRED,BLK,BRN SPK00003*008OHM0030W w/BK DOME PAPER CAP #LF77SZ4309G50C8AS16CDB	131-308030-012	1
SUB-WOOFER SECTION - SWT1			
FOR SUB	SPK WIRE UL/CSA 2468 2x22 AWG 17/0.16mm	122-002121-005	1
	TRANS.w/BK LINE 10M w/TUBE 1xRED,BLK,WHT SPK006.5*006OHM0060W w/BK DOME PAPER CAP #LW165KZ5804G70F6A26PDB K0626	131-656060-011	1
4-SPEAKER SECTION - SSQ3			
FOR FR	JP WIRE AWG22#1007 5x5mm 130mm RED	051-275130-006	4
	JP WIRE AWG22#1007 5x5mm 130mm BLACK	051-275130-009	4
FOR FL	PUSH TERMINAL BOARD PT-213-03 BLACK, RED	118-000213-000	4
	MSP-105H-03 BLACK,RED		
FOR SR	SPK WIRE UL/CSA 2468 2x22 AWG 17/0.16mm	122-002120-402	1
	TRANS.w/BK LINE 4M w/TUBE 2xRED,BLK,YEL		
FOR SL	SPK WIRE UL/CSA 2468 2x22 AWG 17/0.16mm	122-002120-403	1
	TRANS.w/BK LINE 4M w/TUBE 2xRED,BLK,BLUE		
FOR SR	SPK WIRE UL/CSA 2468 2x22 AWG 17/0.16mm	122-002121-003	1
	TRANS.w/BK LINE 10M w/TUBE 2xRED,BLK,GRN		
FOR SL	SPK WIRE UL/CSA 2468 2x22 AWG 17/0.16mm	122-002121-004	1
	TRANS.w/BK LINE 10M w/TUBE 2xRED,BLK,ORN SPK00003*008OHM0030W w/BK DOME PAPER CAP #LF77SZ4309G50C8AS16CDB	131-308030-012	4

NOTES:

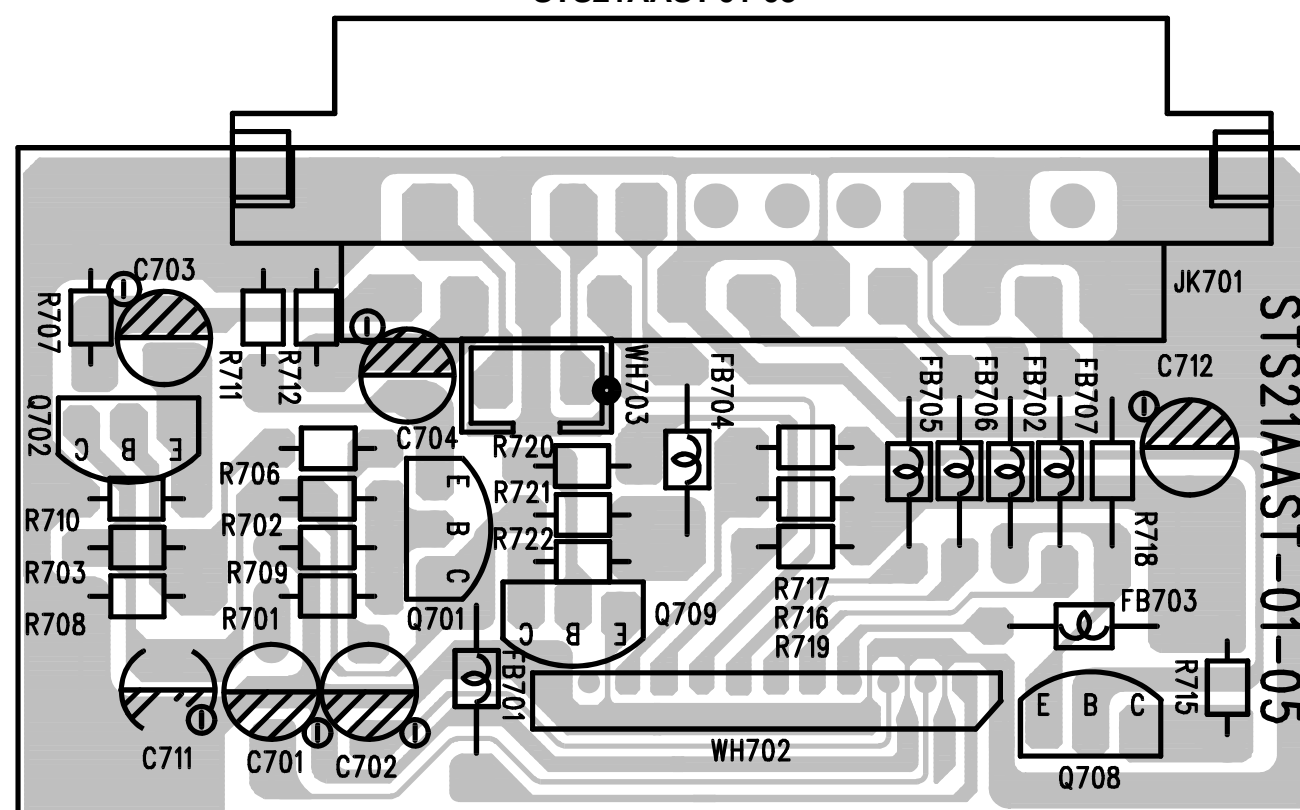
1. " # " Mylar is a registered trademark of E.I. Du Pont de Nemours and Company.
2. ⚠ Symbol in parts list represent safety parts.

PRINTED CIRCUIT BOARDS

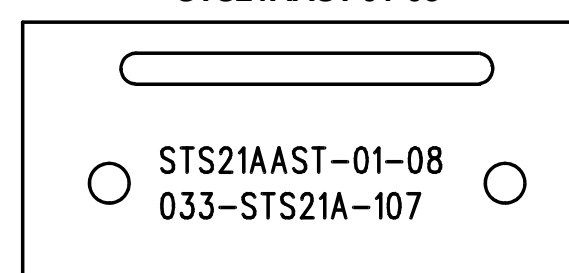
**FUSE PCB
STS21AAST-01-07**



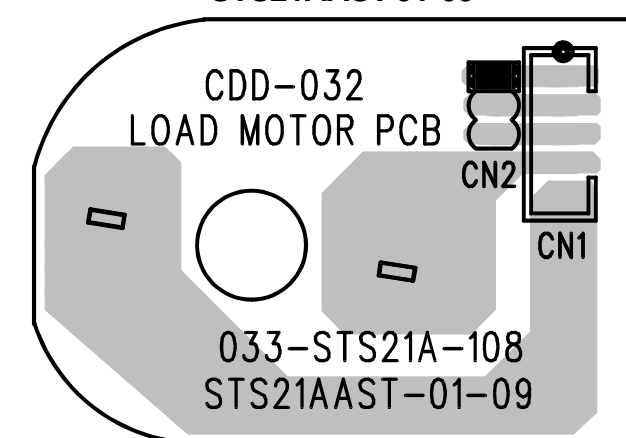
**SCART PCB
STS21AAST-01-05**



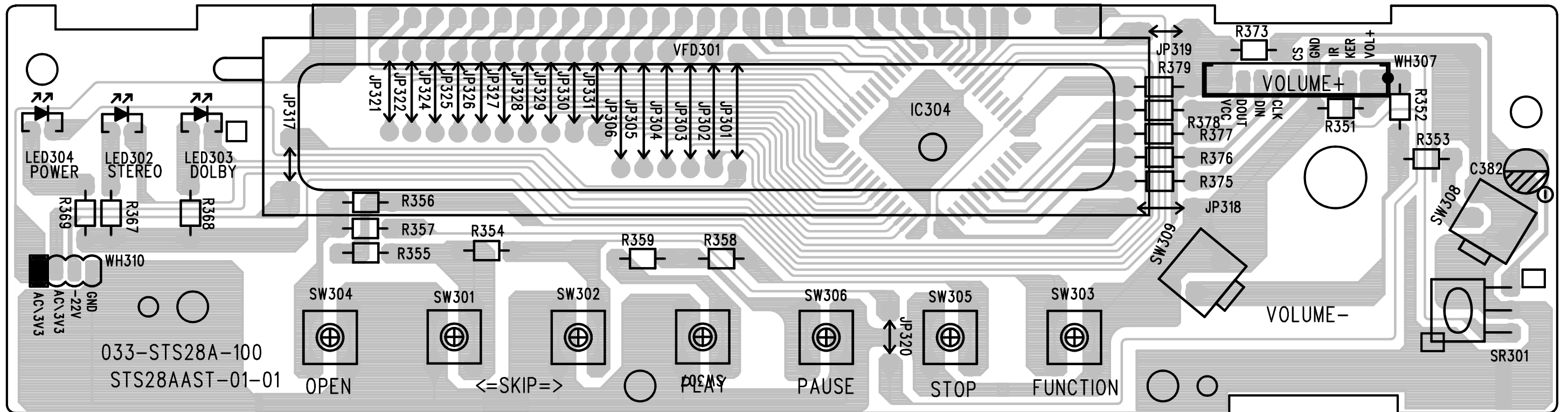
**BLANK PCB
STS21AAST-01-08**



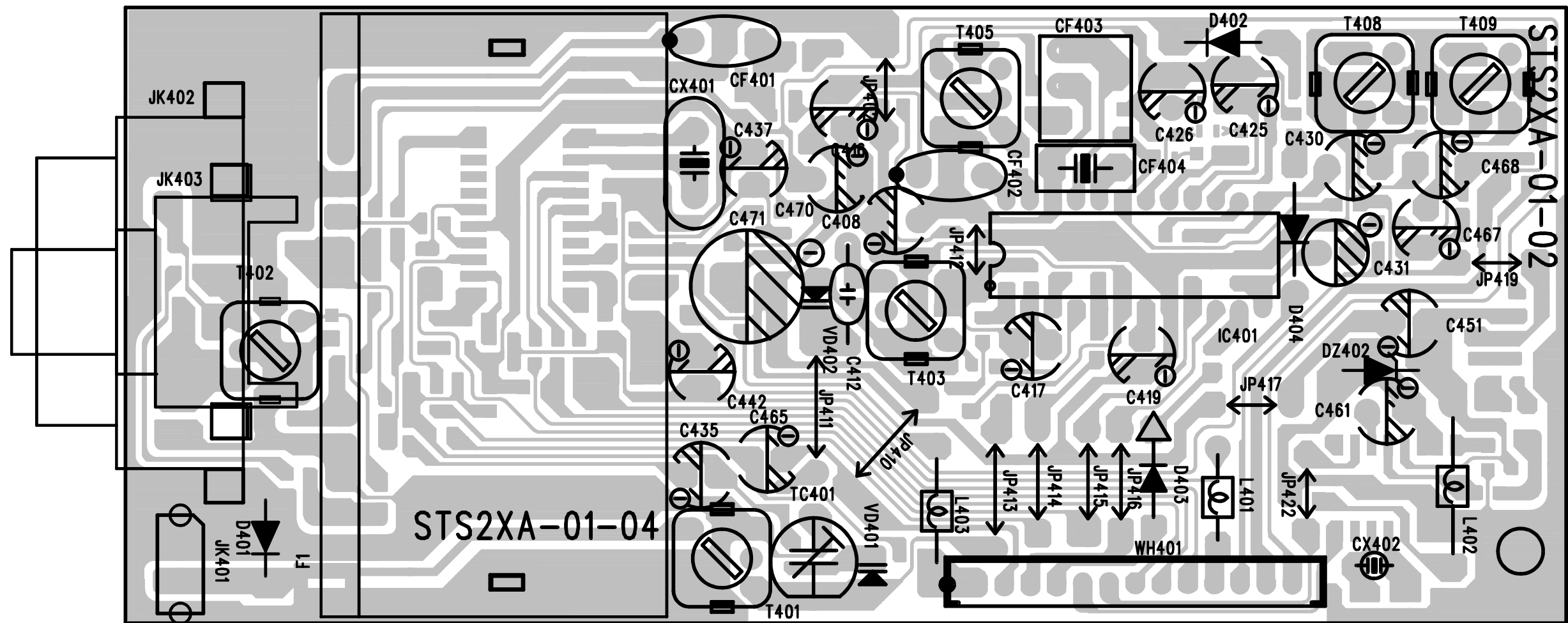
**LOAD MOTOR PCB
STS21AAST-01-09**



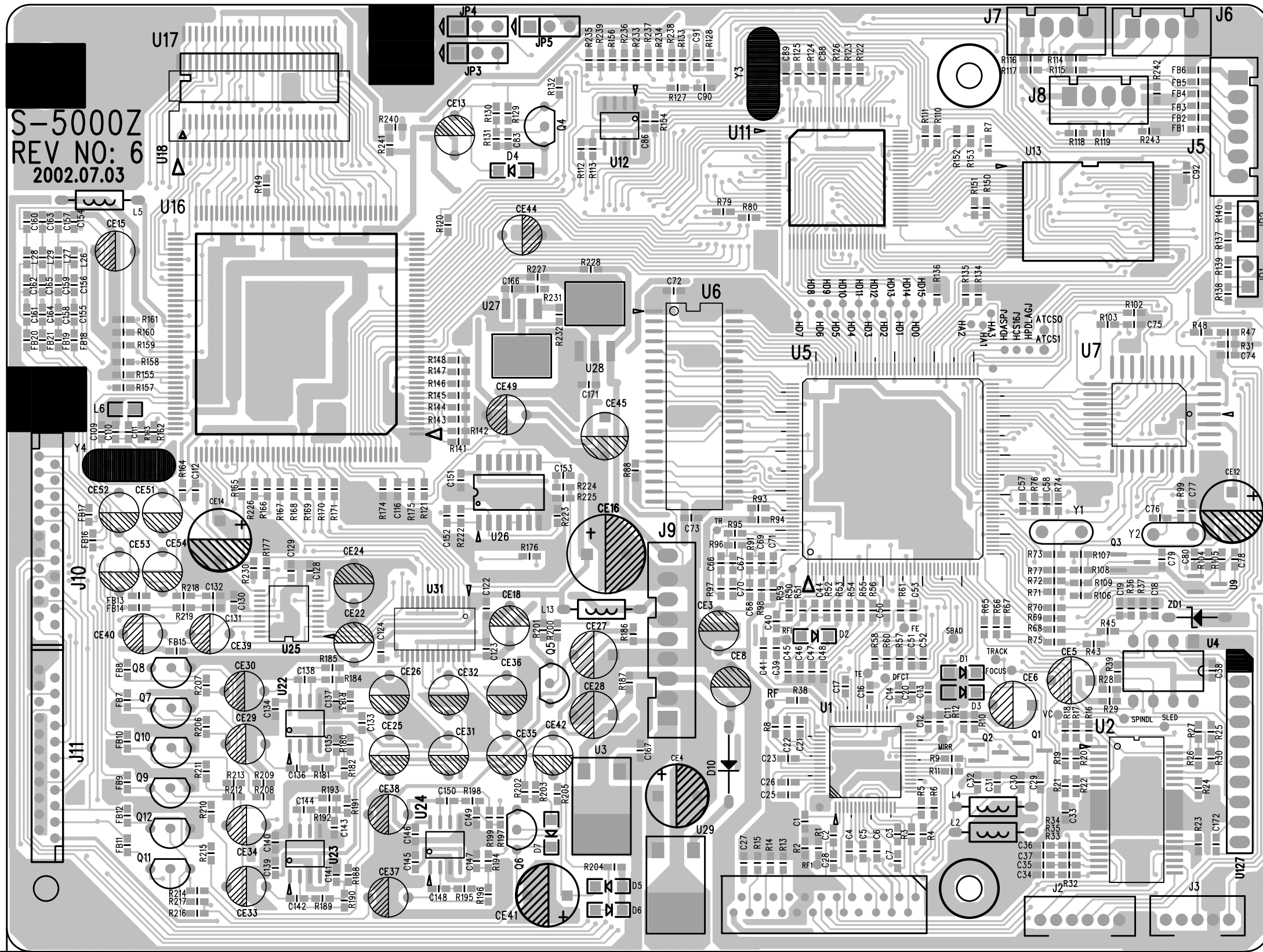
DISPLAY & KEY PCB
STS28AAST-01-01



TUNER PCB
STS21AAST-01-04

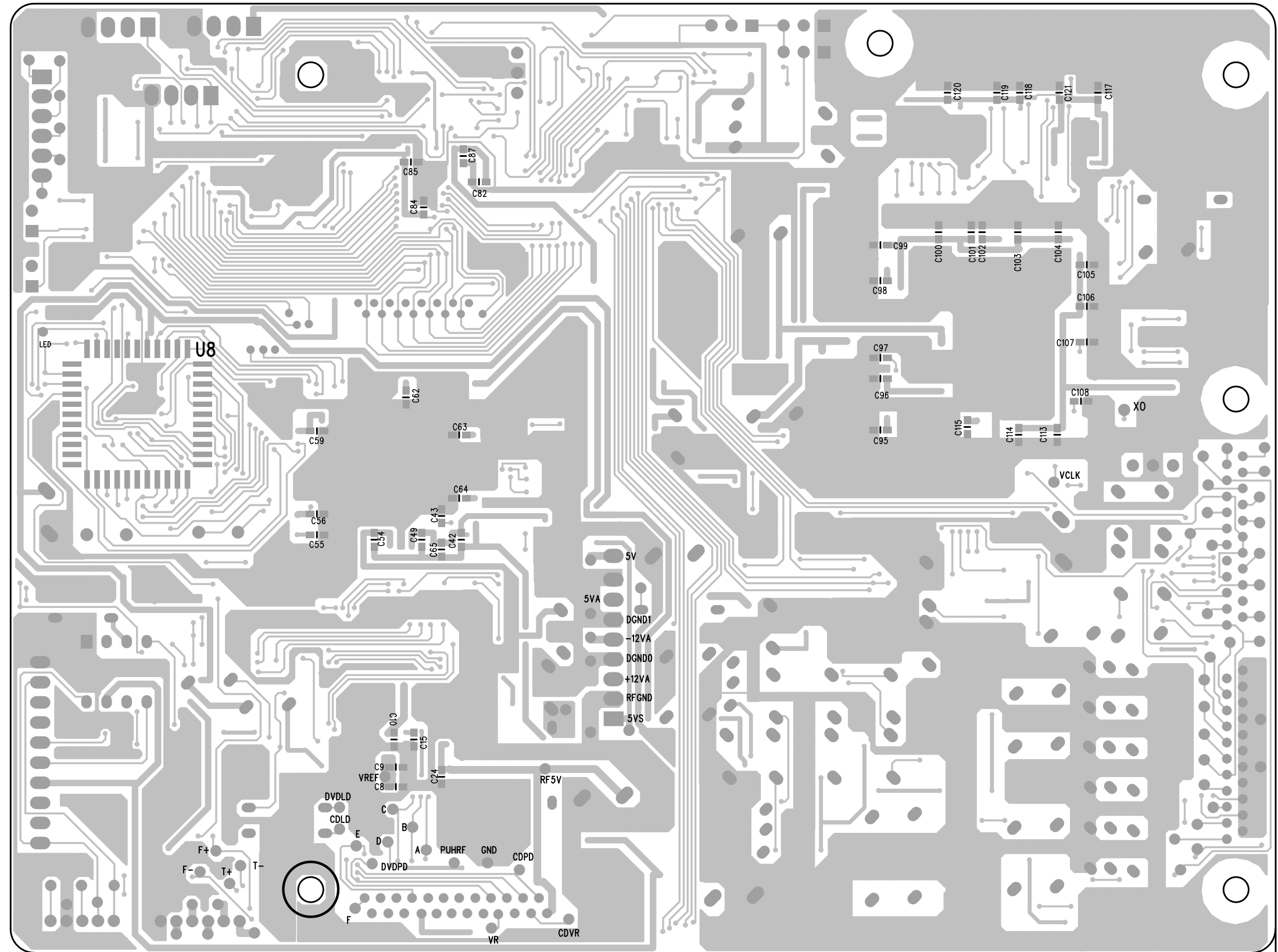


MPEG+SERVO PCB
STS21AAS-01-02



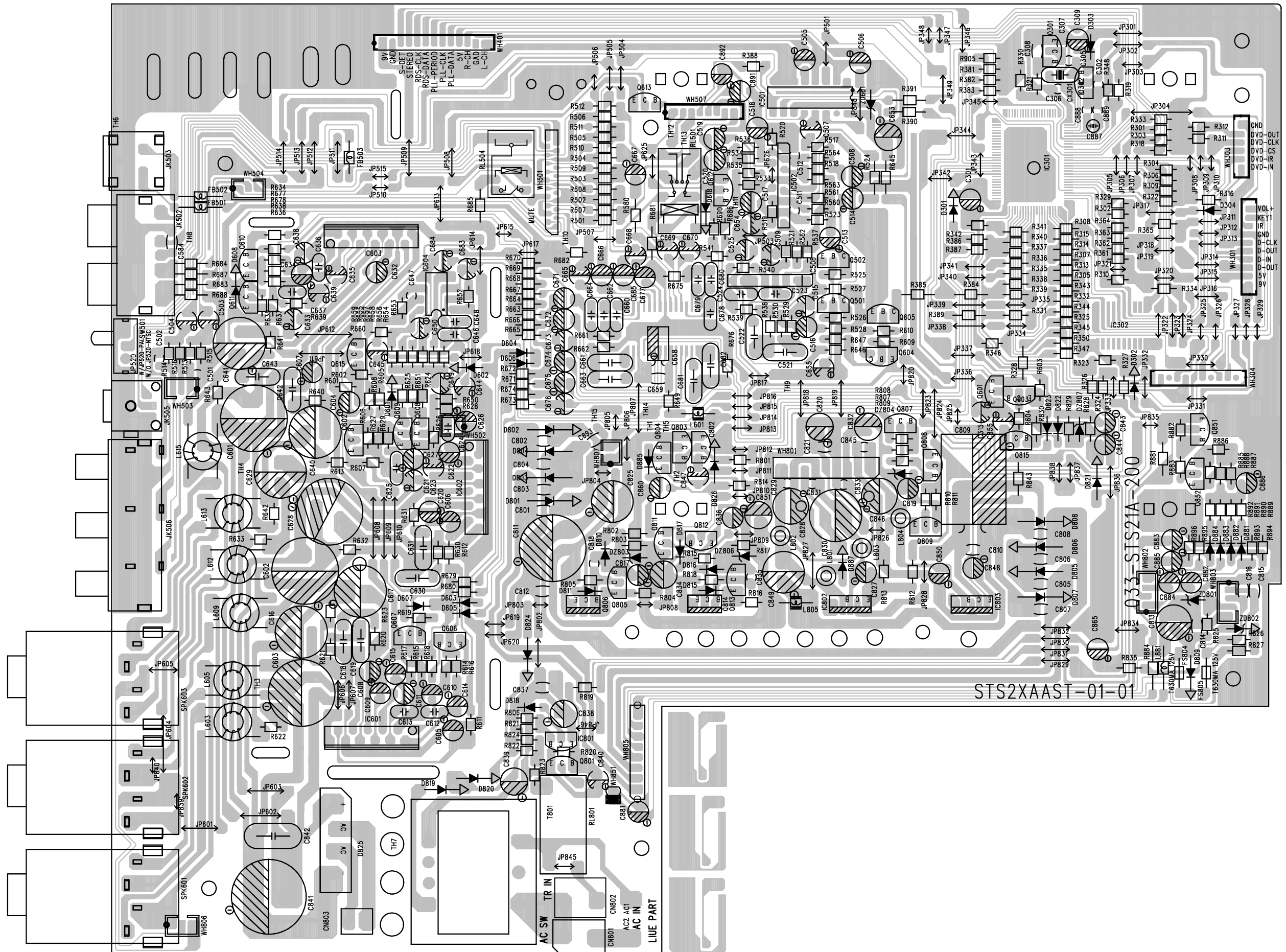
TOP VIEW

MPEG+SERVO PCB
STS21AAS-01-02

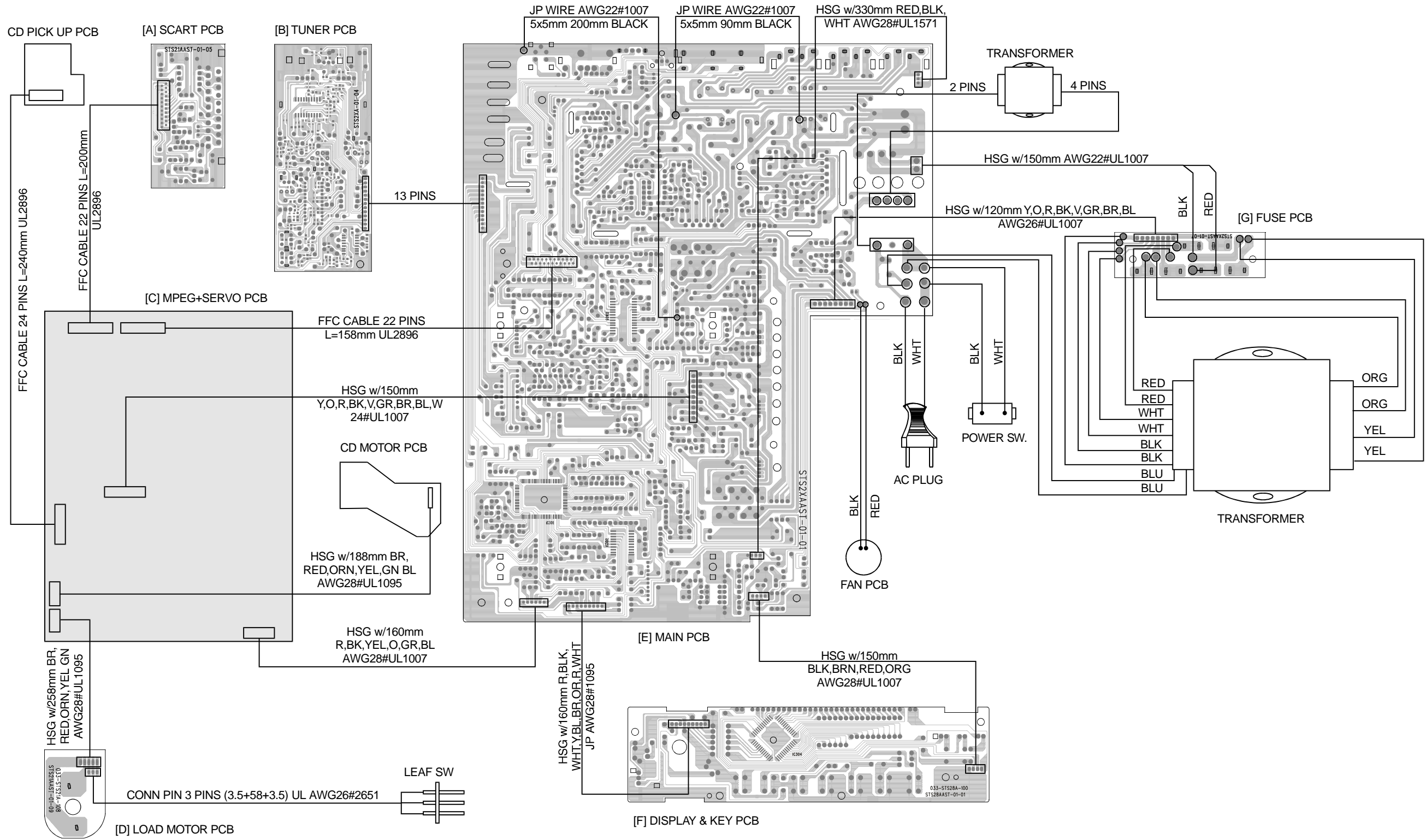


BOTTOM VIEW

MAIN PCB
STS21AAS-01-01

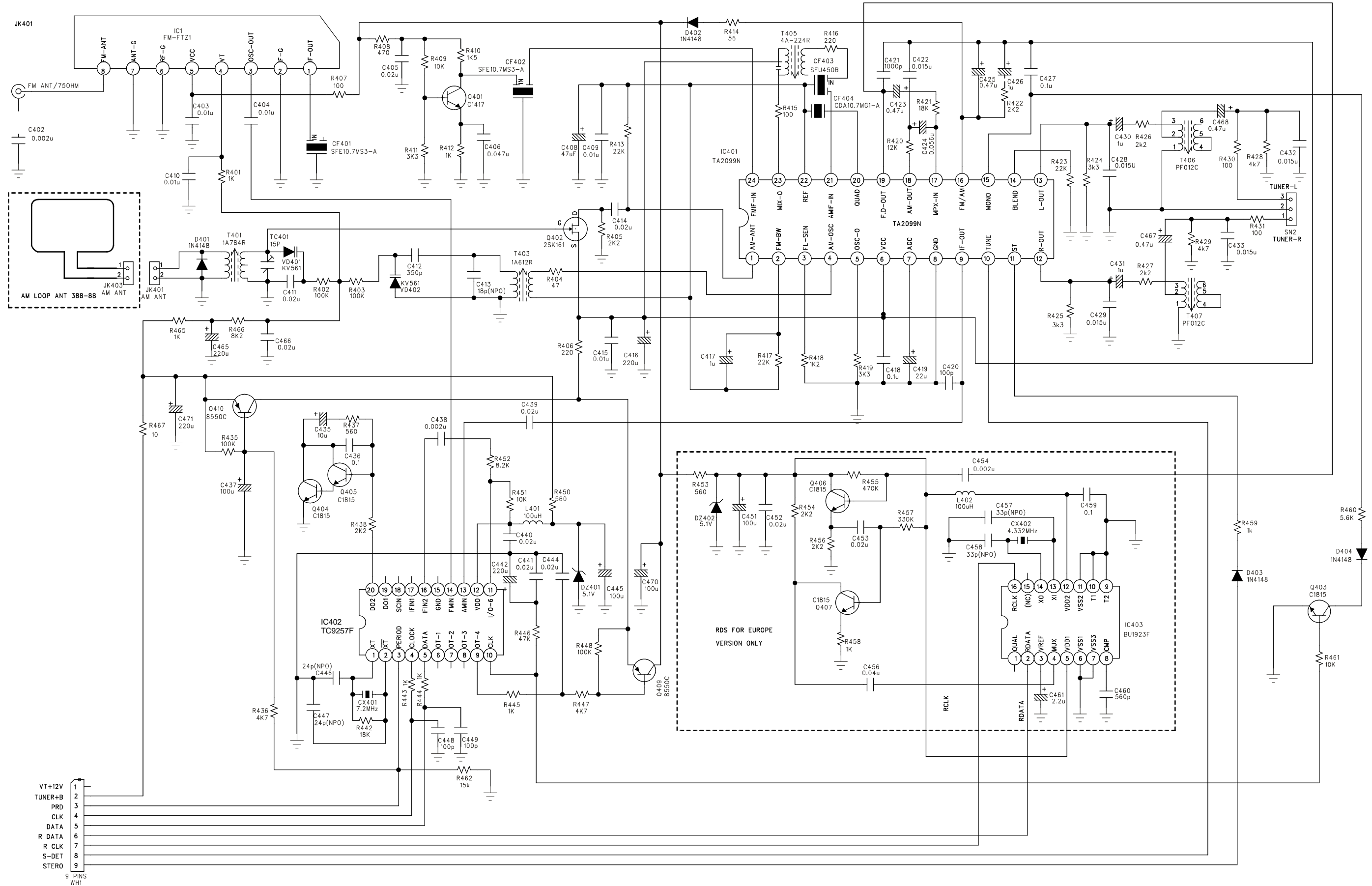


WIRING DIAGRAM



SCHEMATIC DIAGRAMS

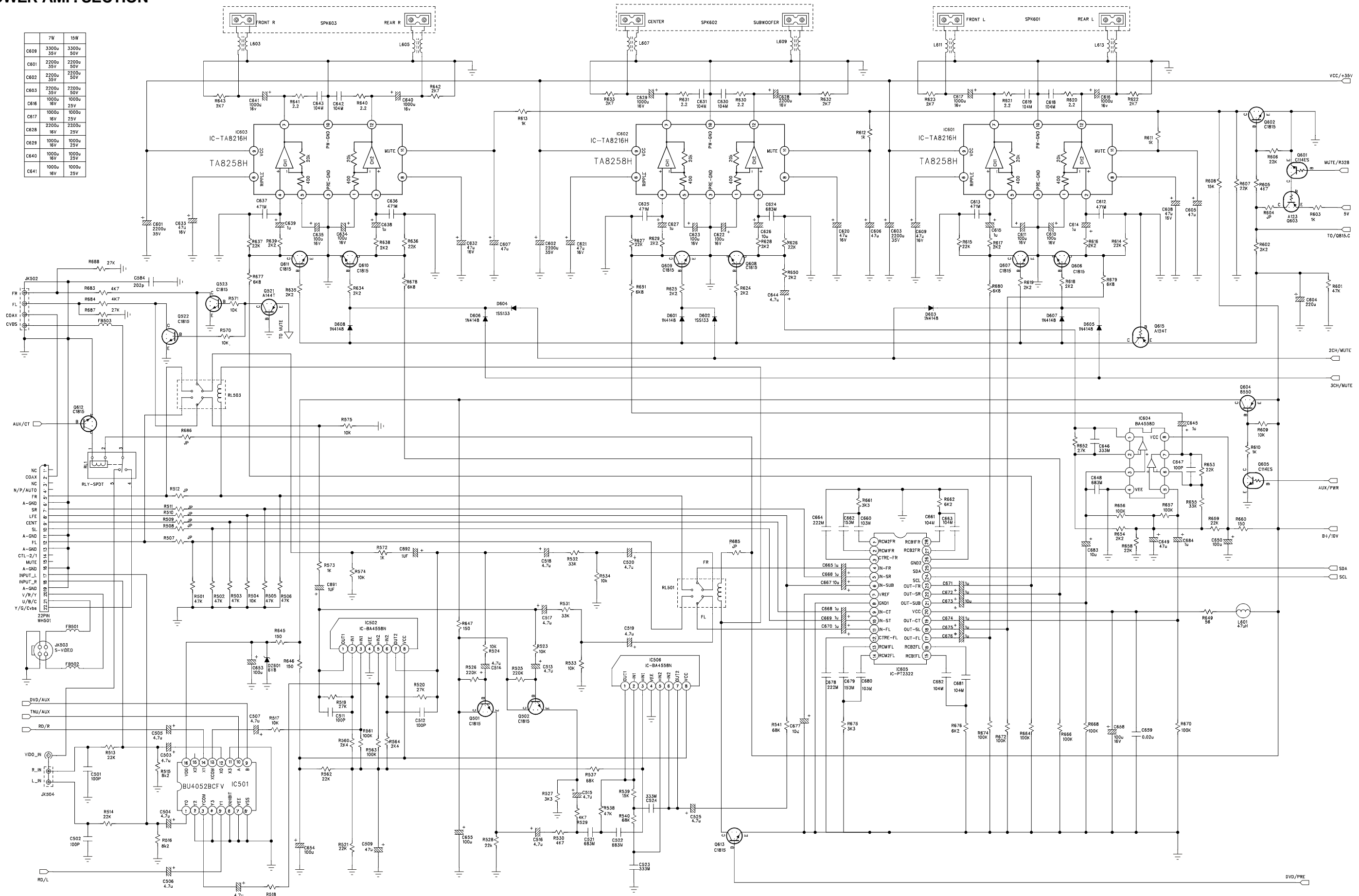
TUNER SECTION



NOTES:

1. All resistance values are indicated in "ohms" (k=1000 ohms. M=1000 kohms).
2. All capacitance values are indicated in "µF" (p=10⁻⁶ µF).

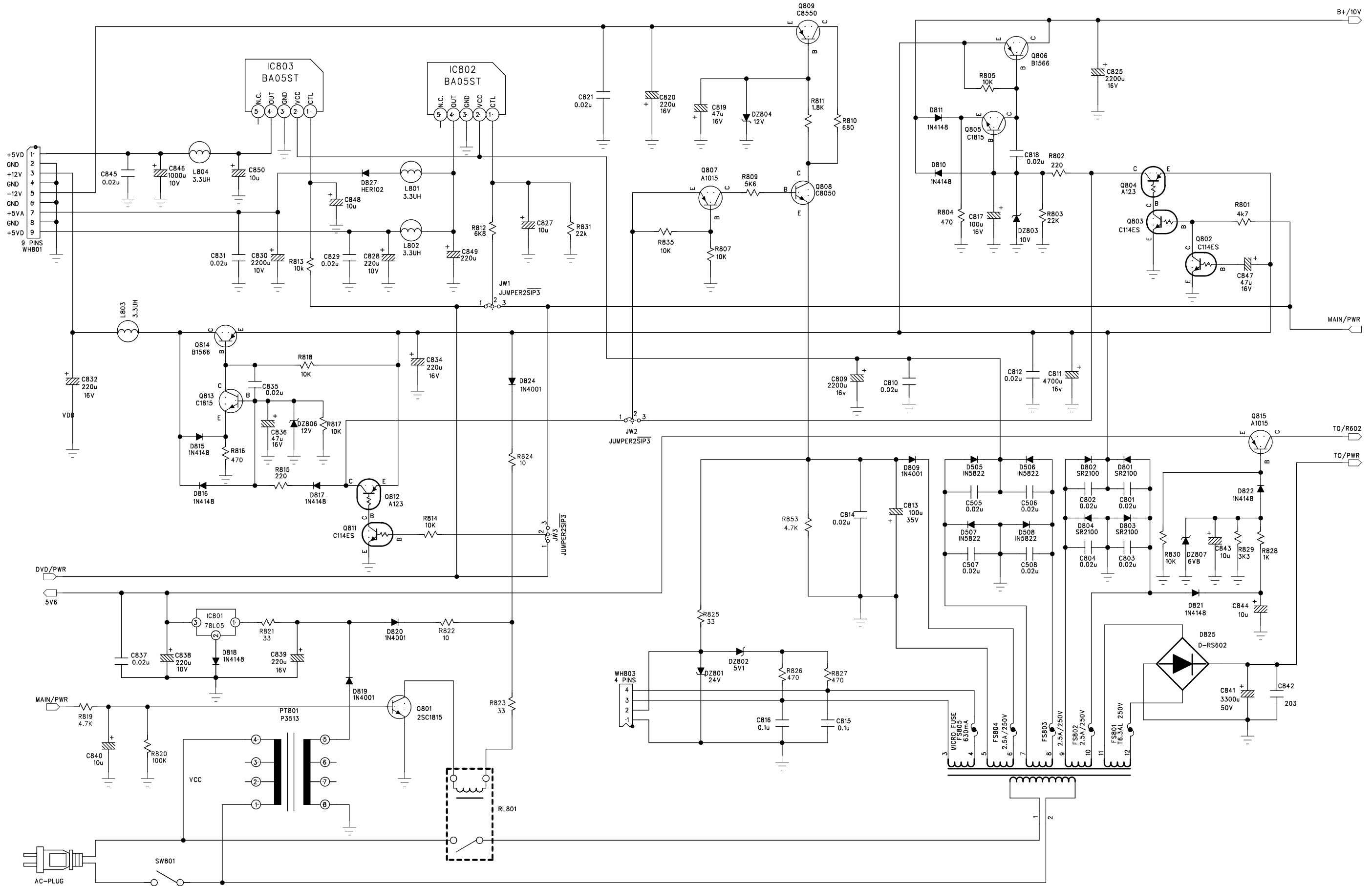
POWER AMP. SECTION



	7W	15W
C609	3300u 35V	3300u 50V
C801	2200u 35V	2200u 50V
C602	2200u 35V	2200u 50V
C603	2200u 35V	2200u 50V
C616	1000u 16V	1000u 25V
C617	1000u 16V	1000u 25V
C628	2200u 16V	2200u 25V
C629	1000u 16V	1000u 25V
C640	1000u 16V	1000u 25V
C641	1000u 16V	1000u 25V

- NOTES:**
1. All resistance values are indicated in "ohms" (k=1000 ohms. M=1000 kohms).
 2. All capacitance values are indicated in "µF" (p=10⁻⁶µF).

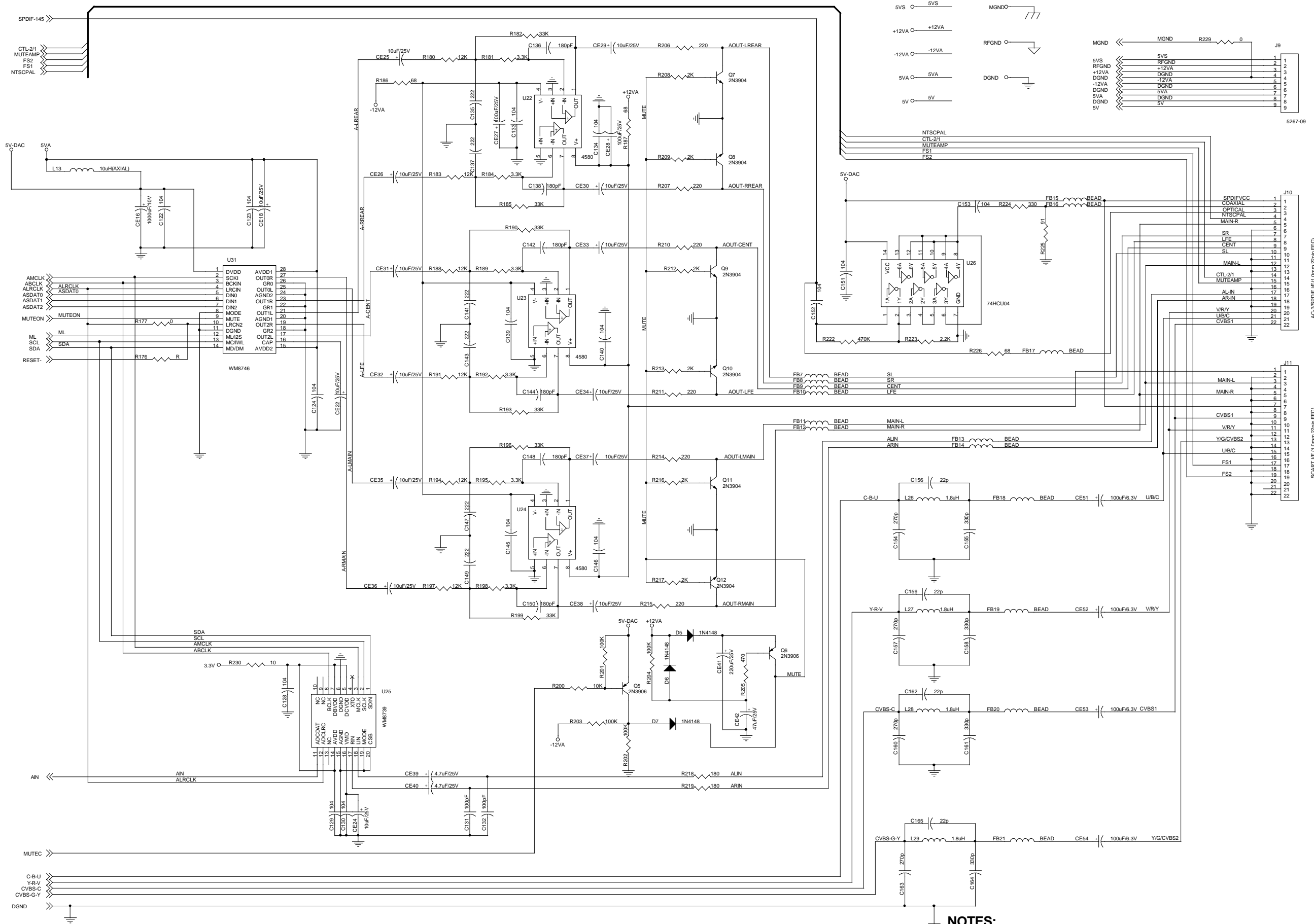
POWER SUPPLY SECTION



NOTES:

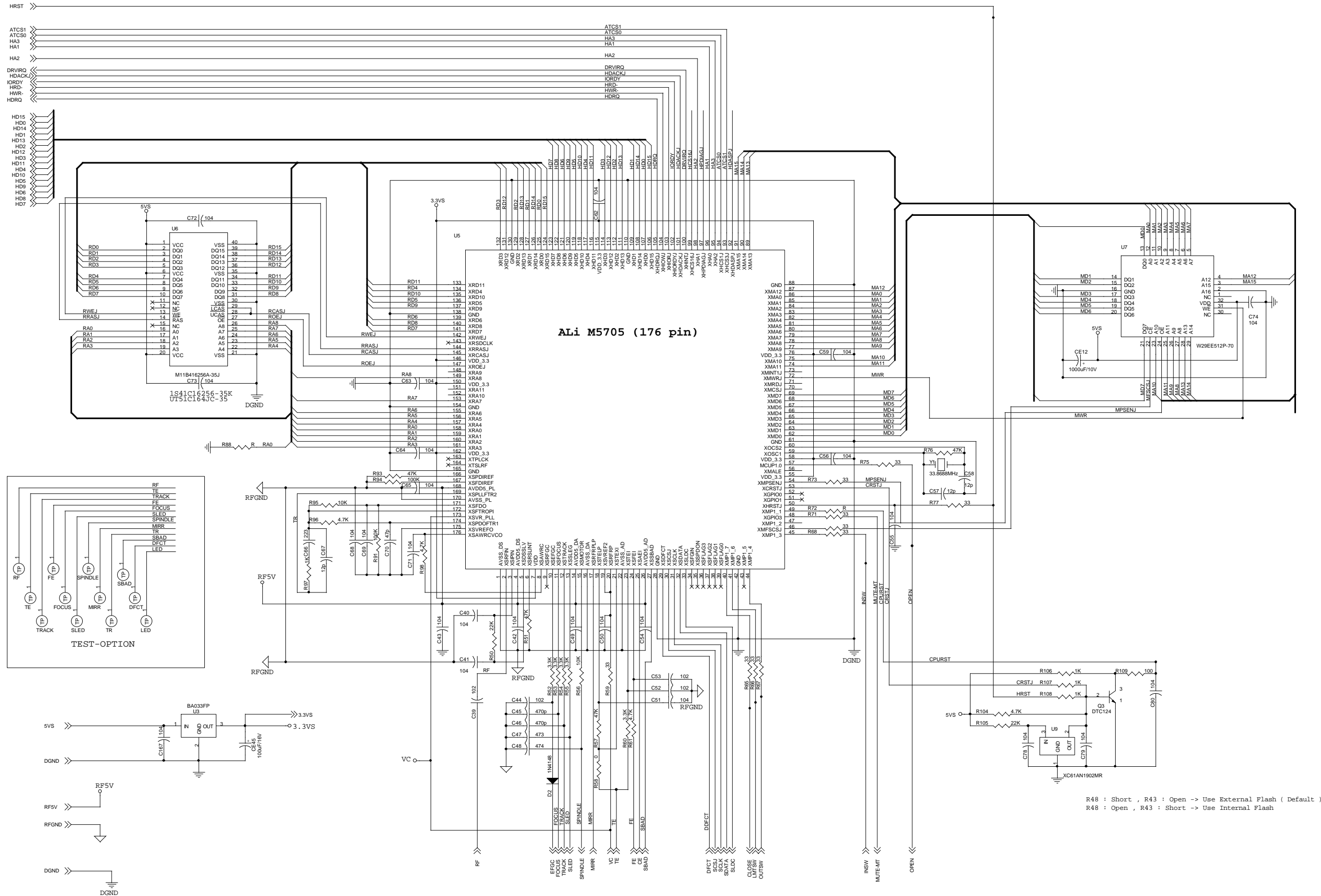
1. All resistance values are indicated in "ohms" (k=1000 ohms. M=1000 kohms).
2. All capacitance values are indicated in "µF" (p=10⁻⁶µF).

A/V OUTPUT SECTION

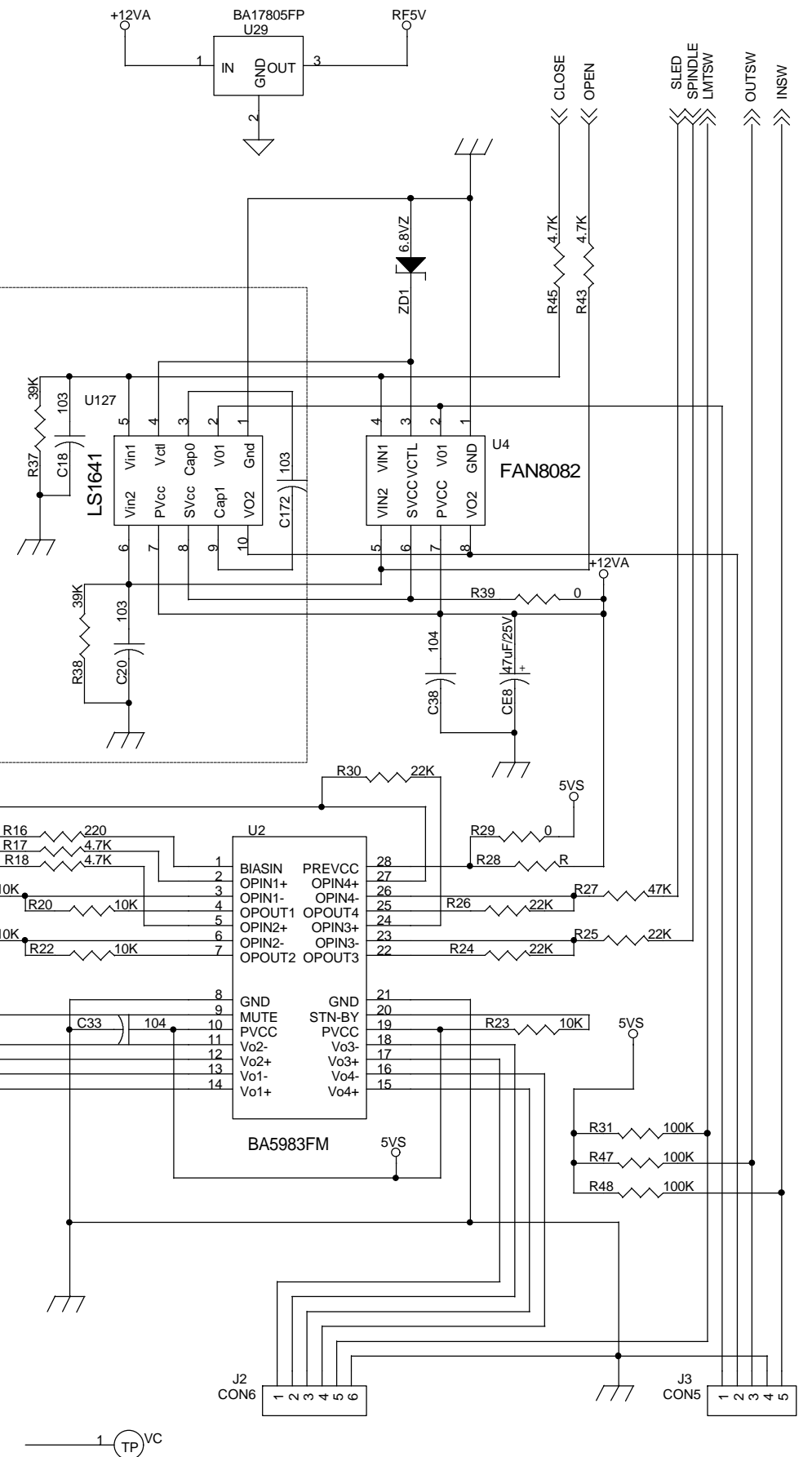
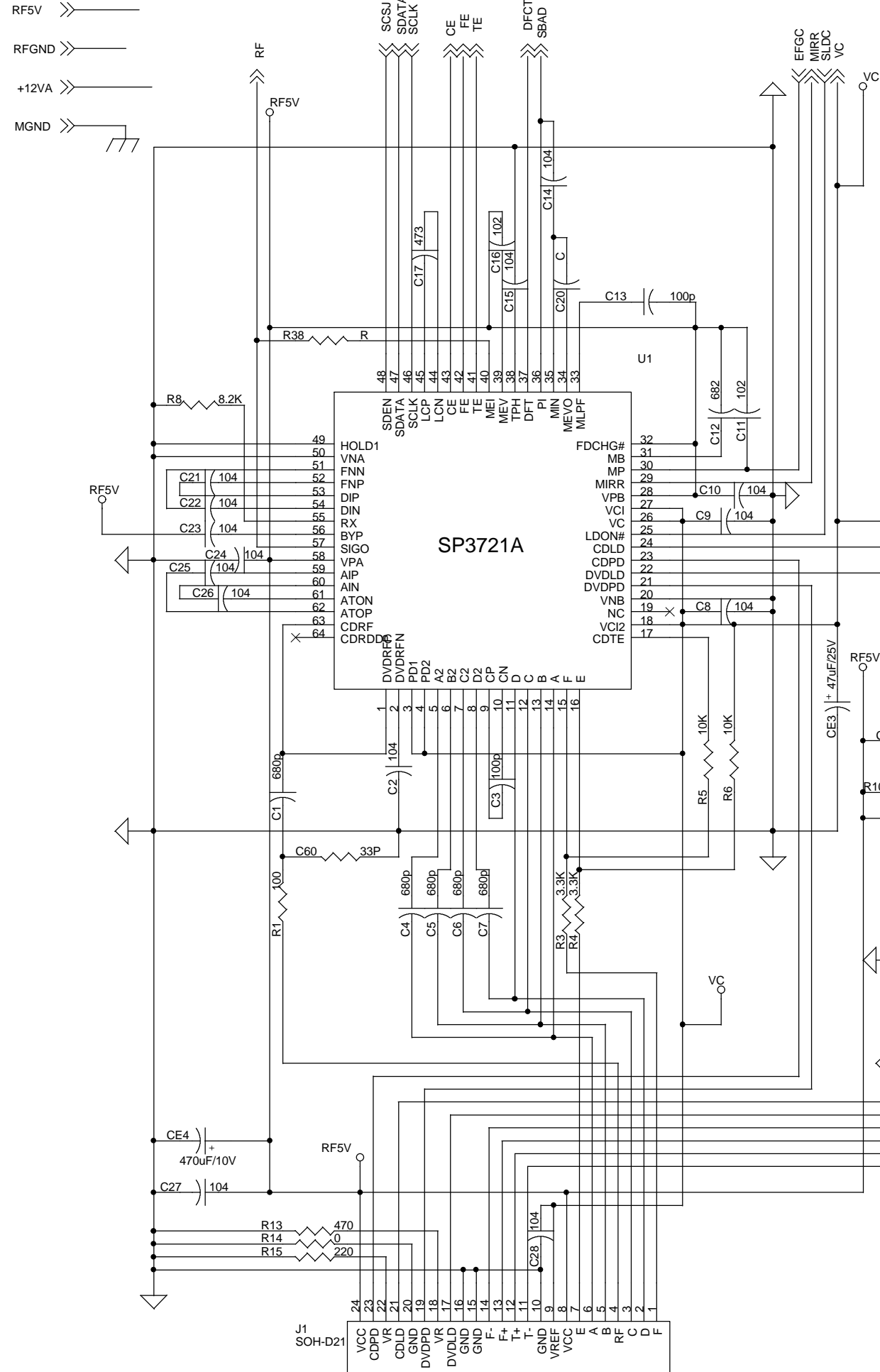


- NOTES:**
1. All resistance values are indicated in "ohms" (k=1000 ohms. M=1000 kohms).
 2. All capacitance values are indicated in "µF" (p=10⁻⁶µF).

CHANNEL DECODER & U-COM SECTION



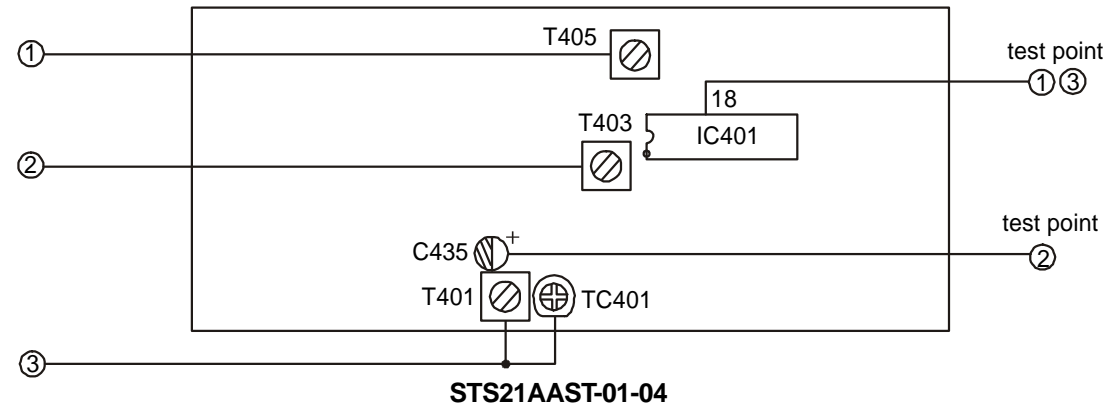
PREAMP & MOTOR DRIVER SECTION



- NOTES:**
1. All resistance values are indicated in "ohms" (k=1000 ohms. M=1000 kohms).
 2. All capacitance values are indicated in "µF" (p=10⁻⁶ µF).

ALIGNMENT SET-UP PROCEDURES

TUNER SECTION



1. AM IF Adjustment

Test point: IC401 (TA2099N)
Adjustment location: T405
T405 ----- 450±3kHz

2. MW Frequency Range Adjustment

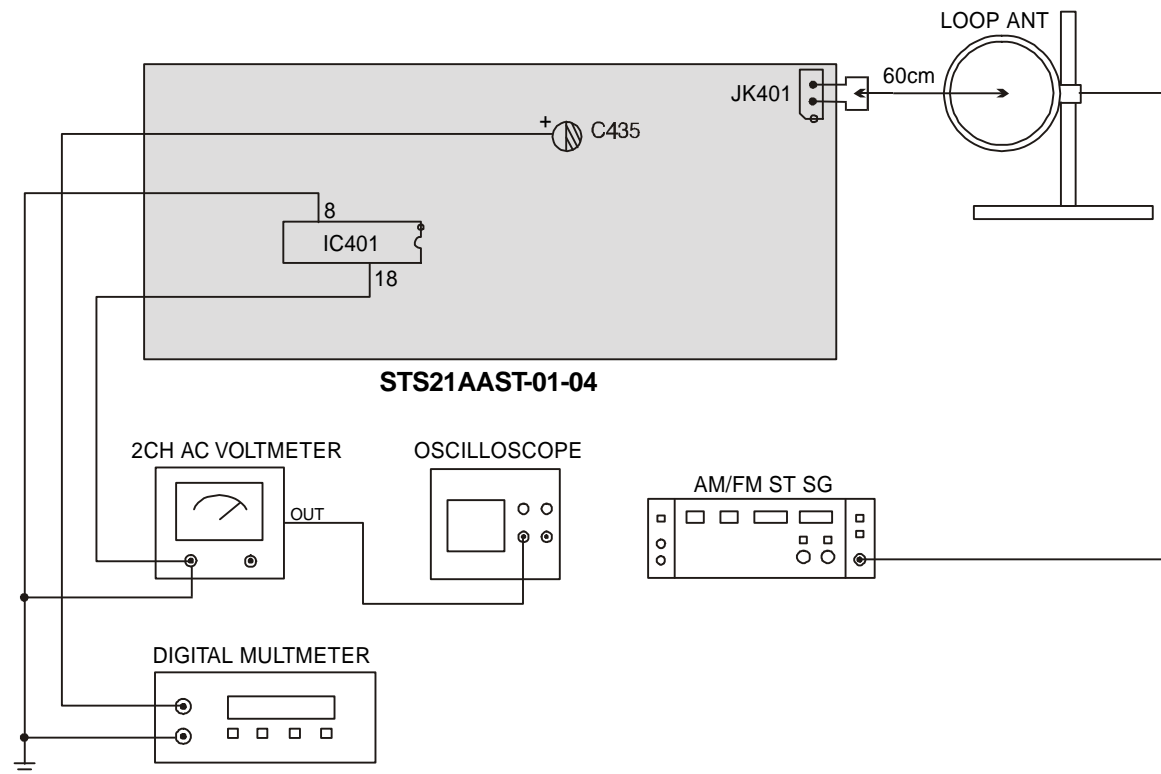
Test point: C435 ⊕
Adjustment location: T403
Set the tuner frequency to be 531kHz.
Adjust T403 so that the test point voltage is 1.7±0.05V.

3. MW Tracking Adjustment

Test point: IC401 (TA2099N) 18PIN
Adjustment location: T401, TC401
T401 ----- 603kHz waveform max.
TC401 ----- 1404kHz waveform max.

EQUIPMENT CONNECTION DIAGRAM

MW SECTION



VOLTAGE CHART

CPU & DISPLAY CONTROL SECTION

TEST CONDITION: DVD PLAY

IC301 (TMP87EP26F)

PIN'S NUMBER	1	2	3	4	5	6	7	8	9	10
DVD PLAY	0	2.43	2.15	4.75	0	0.24	0	4.01	4.61	0
PIN'S NUMBER	11	12	13	14	15	16	17	18	19	20
DVD PLAY	0.06	0.06	0.03	3.30	0.03	4.88	0.04	4.92	4.88	4.92
PIN'S NUMBER	21	22	23	24	25	26	27	28	29	30
DVD PLAY	4.92	4.88	0	4.92	4.88	0	3.30	4.92	0.04	4.89
PIN'S NUMBER	31	32	33	34	35	36	37	38	39	40
DVD PLAY	4.88	0.04	0.03	4.88	4.84	0.04	4.88	4.88	0	2.81
PIN'S NUMBER	41	42	43	44	45	46	47	48	49	50
DVD PLAY	4.88	4.02	4.88	4.88	0	2.44	0.16	4.87	0	0
PIN'S NUMBER	51	52	53	54	55	56	57	58	59	60
DVD PLAY	4.92	/	/	/	/	/	/	/	/	/
PIN'S NUMBER	61	62	63	64	65	66	67	68	69	70
DVD PLAY	/	/	/	/	/	/	/	/	/	/
PIN'S NUMBER	71	72	73	74	75	76	77	78	79	80
DVD PLAY	/	/	/	/	/	/	/	/	/	/
PIN'S NUMBER	81	82	83	84	85	86	87	88	89	90
DVD PLAY	/	/	/	/	/	/	/	/	/	/
PIN'S NUMBER	91	92	93	94	95	96	97	98	99	100
DVD PLAY	/	/	/	/	/	/	/	/	/	4.92

IC302 (TC74HC373AP)

PIN'S NUMBER	1	2	3	4	5	6	7	8	9	10
DVD PLAY	0.02	0.01	0.02	3.29	4.98	4.97	3.29	0.15	0	0
PIN'S NUMBER	11	12	13	14	15	16	17	18	19	20
DVD PLAY	4.29	0	0.15	0.15	0	0	0.15	0	0	4.99

TRANSISTOR	Q301(2SC1417)			Q302(DTC114ES)		
	E	C	B	E	C	B
DVD PLAY	0	0.24	0	0	4.21	0

IC304 (PT6311)

PIN'S NUMBER	1	2	3	4	5	6	7	8	9	10
DVD PLAY	2.18	2.09	1.95	1.94	4.33	4.99	0	4.99	4.99	2.01
PIN'S NUMBER	11	12	13	14	15	16	17	18	19	20
DVD PLAY	1.95	0	0	4.99	/	/	/	/	/	/
PIN'S NUMBER	21	22	23	24	25	26	27	28	29	30
DVD PLAY	/	/	/	/	/	/	/	/	/	/
PIN'S NUMBER	31	32	33	34	35	36	37	38	39	40
DVD PLAY	/	/	4.99	-25.10	/	/	/	/	/	/
PIN'S NUMBER	41	42	43	44	45	46	47	48	49	50
DVD PLAY	/	/	/	/	5.00	5.00	5.00	5.00	5.00	4.80
PIN'S NUMBER	51	52								
DVD PLAY	0	2.69								

VOLTAGE CHART - CONTINUED

**POWER AMP. SECTION
TEST CONDITION: DVD PLAY**

IC601 (TA8258H)

PIN'S NUMBER	1	2	3	4	5	6
DVD PLAY	1.45	0	0	0	1.44	9.55
PIN'S NUMBER	7	8	9	10	11	12
DVD PLAY	13.00	5.10	28.90	0	6.14	12.80

IC602 (TA8258H)

PIN'S NUMBER	1	2	3	4	5	6
DVD PLAY	1.45	0	0	0	1.44	9.55
PIN'S NUMBER	7	8	9	10	11	12
DVD PLAY	13.00	5.10	28.90	0	6.14	12.80

IC603 (TA8258H)

PIN'S NUMBER	1	2	3	4	5	6
DVD PLAY	1.45	0	0	0	1.44	9.55
PIN'S NUMBER	7	8	9	10	11	12
DVD PLAY	13.00	5.10	28.90	0	6.14	12.80

IC604 (NJM4558D)

PIN'S NUMBER	1	2	3	4	5	6	7	8
DVD PLAY	5.07	5.05	4.77	0	4.99	5.04	5.05	10.05

IC605 (PT2322-S)

PIN'S NUMBER	1	2	3	4	5	6	7	8	9	10
DVD PLAY	4.20	4.22	4.20	4.19	4.19	4.20	4.21	0	4.19	4.19
PIN'S NUMBER	11	12	13	14	15	16	17	18	19	20
DVD PLAY	4.20	4.21	4.22	4.21	4.22	4.22	4.22	4.22	4.22	8.46
PIN'S NUMBER	21	22	23	24	25	26	27	28		
DVD PLAY	4.22	4.22	4.23	4.32	4.32	0	4.21	4.22		

IC506 (BA4558N)

PIN'S NUMBER	1	2	3	4	5	6	7	8
DVD PLAY	1.08	1.08	0.90	0	1.07	1.13	1.13	1.64

IC502 (BA4558N)

PIN'S NUMBER	1	2	3	4	5	6	7	8
DVD PLAY	1.07	0.95	0.91	0	0.91	0.95	1.01	1.64

IC803 (BA05ST)

PIN'S NUMBER	1	2	3	4	5
DVD PLAY	4.20	7.86	0	5.00	0

IC802 (BA05ST)

PIN'S NUMBER	1	2	3	4	5
DVD PLAY	2.79	7.80	0	5.00	0

VOLTAGE CHART - CONTINUED

IC801 (LM78L05ACZ)

PIN'S NUMBER	1	2	3
DVD PLAY	5.68	0.60	11.48

TRANSISTOR	Q802(C1145ES)			Q803(C114ES)			Q804(A114)		
	E	C	B	E	C	B	E	C	B
DVD PLAY	0	2.08	0.13	0	0	2.08	14.18	13.80	0
TRANSISTOR	Q805(C1815)			Q806(B1566)			Q807(A1015)		
	E	C	B	E	C	B	E	C	B
DVD PLAY	9.95	13.41	10.47	14.11	10.65	13.56	14.09	13.65	13.08
TRANSISTOR	Q808(C8050)			Q809(C8550)			Q811(C114ES)		
	E	C	B	E	C	B	E	C	B
DVD PLAY	18.90	18.80	18.23	11.35	11.37	12.03	0	0	2.70
TRANSISTOR	Q812(A123)			Q813(C1815)			Q814(B1566)		
	E	C	B	E	C	B	E	C	B
DVD PLAY	14.02	14.04	0	11.50	13.55	12.05	14.16	12.21	13.43
TRANSISTOR	Q815(A1015)								
	E	C	B						
DVD PLAY	5.61	0	5.65						

MPEG+SERVO SECTION

TEST CONDITION: DVD PLAY

U16 (ZR36732PQC)

PIN'S NUMBER	1	2	3	4	5	6	7	8	9	10
DVD PLAY	0	0.00	3.30	3.30	3.27	3.27	3.27	3.27	2.16	0
PIN'S NUMBER	11	12	13	14	15	16	17	18	19	20
DVD PLAY	3.27	1.85	3.27	0	3.27	3.30	2.10	1.06	3.31	0.82
PIN'S NUMBER	21	22	23	24	25	26	27	28	29	30
DVD PLAY	1.63	1.40	1.39	1.23	1.49	3.30	1.15	1.21	1.78	1.54
PIN'S NUMBER	31	32	33	34	35	36	37	38	39	40
DVD PLAY	3.22	3.30	1.85	1.24	0	0.35	3.25	3.30	3.21	0
PIN'S NUMBER	41	42	43	44	45	46	47	48	49	50
DVD PLAY	0.49	0.54	0.53	3.30	0.44	0.45	0.35	0.49	0	0.37
PIN'S NUMBER	51	52	53	54	55	56	57	58	59	60
DVD PLAY	0.27	3.30	2.12	0.35	0.51	0	3.04	3.30	3.14	3.16
PIN'S NUMBER	61	62	63	64	65	66	67	68	69	70
DVD PLAY	3.23	3.19	1.85	0	0	1.75	3.30	1.71	0	1.35
PIN'S NUMBER	71	72	73	74	75	76	77	78	79	80
DVD PLAY	3.31	1.40	0	1.40	1.48	1.27	3.31	1.40	1.61	0
PIN'S NUMBER	81	82	83	84	85	86	87	88	89	90
DVD PLAY	1.63	1.53	3.29	0.52	1.71	0	2.30	1.71	3.29	0.64
PIN'S NUMBER	91	92	93	94	95	96	97	98	99	100
DVD PLAY	1.42	1.66	0.07	3.28	3.04	1.64	0	3.28	3.24	0.26
PIN'S NUMBER	101	102	103	104	105	106	107	108	109	110
DVD PLAY	0.77	1.25	1.03	3.28	1.12	1.47	0	1.22	0	0
PIN'S NUMBER	111	112	113	114	115	116	117	118	119	120
DVD PLAY	0	3.28	0.29	0	0	1.82	1.59	0	1.61	1.59
PIN'S NUMBER	121	122	123	124	125	126	127	128	129	130
DVD PLAY	1.82	3.29	0	3.29	0	3.28	1.70	0	0	3.29
PIN'S NUMBER	131	132	133	134	135	136	137	138	139	140
DVD PLAY	1.63	0	0	0	2.90	3.29	1.07	0	0	1.04
PIN'S NUMBER	141	142	143	144	145	146	147	148	149	150
DVD PLAY	1.64	3.29	1.82	0	0	0.50	0	0.53	0.53	0
PIN'S NUMBER	151	152	153	154	155	156	157	158	159	160
DVD PLAY	2.57	0	0	2.20	1.96	1.65	2.33	0	1.65	0

VOLTAGE CHART - CONTINUED

U11 (ZR36705TQC)

PIN'S NUMBER	1	2	3	4	5	6	7	8	9	10
DVD PLAY	0	0	3.29	3.29	3.29	3.38	3.29	3.30	3.29	3.29
PIN'S NUMBER	11	12	13	14	15	16	17	18	19	20
DVD PLAY	1.45	3.29	3.29	3.29	0	0	0	0	3.29	3.29
PIN'S NUMBER	21	22	23	24	25	26	27	28	29	30
DVD PLAY	2.86	0.67	3.30	3.29	3.86	3.86	5.07	5.07	3.37	3.20
PIN'S NUMBER	31	32	33	34	35	36	37	38	39	40
DVD PLAY	3.15	3.43	3.32	4.67	2.35	3.43	1.85	1.93	3.16	0
PIN'S NUMBER	41	42	43	44	45	46	47	48	49	50
DVD PLAY	3.80	2.40	3.29	1.80	0.06	1.22	0.05	0	0	0
PIN'S NUMBER	51	52	53	54	55	56	57	58	59	60
DVD PLAY	0	0	0	0	0	0	0	0	1.60	2.53
PIN'S NUMBER	61	62	63	64	65	66	67	68	69	70
DVD PLAY	3.29	3.29	3.29	3.29	0	5.04	0.04	3.29	5.05	3.29
PIN'S NUMBER	71	72	73	74	75	76	77	78	79	80
DVD PLAY	0	3.29	3.11	3.11	2.03	5.05	5.05	3.29	5.05	5.05
PIN'S NUMBER	81	82	83	84	85	86	87	88	89	90
DVD PLAY	5.05	3.30	3.29	3.29	3.27	0.53	2.91	3.63	0.00	1.43
PIN'S NUMBER	91	92	93	94	95	96	97	98	99	100
DVD PLAY	1.50	3.29	0.15	3.29	3.29	3.29	3.29	3.29	4.32	0.02

U12 (S-24C01BFS)

PIN'S NUMBER	1	2	3	4	5	6	7	8
DVD PLAY	0	0	0	0	3.75	0	0	4.94

U13 (SST39VF800A)

PIN'S NUMBER	1	2	3	4	5	6	7	8	9	10
DVD PLAY	0.70	0.50	0.60	0.70	0.60	2.80	0	2.82	0	0
PIN'S NUMBER	11	12	13	14	15	16	17	18	19	20
DVD PLAY	3.20	3.30	0	0	0	0.40	0.70	2.50	2.30	0.40
PIN'S NUMBER	21	22	23	24	25	26	27	28	29	30
DVD PLAY	0.65	1.00	1.00	1.92	1.45	0	0	1.26	1.28	1.44
PIN'S NUMBER	31	32	33	34	35	36	37	38	39	40
DVD PLAY	1.58	0.64	1.50	1.22	1.25	1.08	3.30	0	0.74	0.71
PIN'S NUMBER	41	42	43	44	45	46	47	48		
DVD PLAY	0	1.04	0.81	2.04	1.70	0	3.30	0.19		

U17 (K4S161622D)

PIN'S NUMBER	1	2	3	4	5	6	7	8	9	10
DVD PLAY	3.30	1.45	0.70	0	0.77	0.75	3.30	2.10	0.82	0
PIN'S NUMBER	11	12	13	14	15	16	17	18	19	20
DVD PLAY	0.78	0.90	3.30	0	3.19	3.23	3.16	3.08	0.52	1.74
PIN'S NUMBER	21	22	23	24	25	26	27	28	29	30
DVD PLAY	0	0	0.45	0	3.30	0	0.55	0.55	0.53	0.55
PIN'S NUMBER	31	32	33	34	35	36	37	38	39	40
DVD PLAY	0.26	0.30	0	3.30	1.73	0	0	3.30	1.45	1.23
PIN'S NUMBER	41	42	43	44	45	46	47	48	49	50
DVD PLAY	0	1.20	1.15	3.30	1.65	1.16	0	1.16	0.86	0

U25 (WM8739EDS)

PIN'S NUMBER	1	2	3	4	5	6	7	8	9	10
DVD PLAY	3.76	0	1.68	0.25	3.15	0	3.15	1.65	0.37	0.69
PIN'S NUMBER	11	12	13	14	15	16	17	18	19	20
DVD PLAY	0.97	1.65	0	3.15	0	1.56	1.56	1.57	0	0

VOLTAGE CHART - CONTINUED

U31 (WM8746EDS)

PIN'S NUMBER	1	2	3	4	5	6	7	8	9	10
DVD PLAY	4.32	1.68	1.65	1.65	1.66	1.65	1.65	0	0	1.65
PIN'S NUMBER	11	12	13	14	15	16	17	18	19	20
DVD PLAY	0	3.30	0	3.75	4.35	2.17	2.18	0	2.18	0
PIN'S NUMBER	21	22	23	24	25	26	27	28		
DVD PLAY	2.18	0	2.18	0	2.18	0	2.18	4		

U22 (NJM4580E)

PIN'S NUMBER	1	2	3	4	5	6	7	8
DVD PLAY	0	0	0	10.43	0	0	0	11.23

U23 (NJM4580E)

PIN'S NUMBER	1	2	3	4	5	6	7	8
DVD PLAY	0	0	0	10.43	0	0	0	11.23

U24 (NJM4580E)

PIN'S NUMBER	1	2	3	4	5	6	7	8
DVD PLAY	0	0	0	10.43	0	0	0	11.23

U26 (74HCU04AF)

PIN'S NUMBER	1	2	3	4	5	6	7
DVD PLAY	2.03	2.10	2.10	2.16	2.16	2.15	0
PIN'S NUMBER	8	9	10	11	12	13	14
DVD PLAY	3.16	2.15	2.16	2.15	2.16	2.15	4.32

U7 (W29EE512P-70)

PIN'S NUMBER	1	2	3	4	5	6	7	8
DVD PLAY	0	0	1.65	1.88	2.10	2.09	1.59	1.75
PIN'S NUMBER	9	10	11	12	13	14	15	16
DVD PLAY	2.00	1.96	1.97	1.96	1.61	1.86	1.69	0
PIN'S NUMBER	17	18	19	20	21	22	23	24
DVD PLAY	1.43	1.65	2.00	0	1.76	0	1.80	1.70
PIN'S NUMBER	25	26	27	28	29	30	31	32
DVD PLAY	1.25	1.81	1.77	0.70	2.24	0	3.33	4.91

U1 (M5703T/SP3721A)

PIN'S NUMBER	1	2	3	4	5	6	7	8
DVD PLAY	3.56	3.56	2.51	2.51	3.50	3.50	3.50	3.50
PIN'S NUMBER	9	10	11	12	13	14	15	16
DVD PLAY	3.52	0	0	2.54	2.54	2.57	3.01	2.53
PIN'S NUMBER	17	18	19	20	21	22	23	24
DVD PLAY	4.29	2.51	0	0	0.17	3.33	0	5.00
PIN'S NUMBER	25	26	27	28	29	30	31	32
DVD PLAY	0	2.51	2.51	5.01	0.12	2.73	2.56	5.01
PIN'S NUMBER	33	34	35	36	37	38	39	40
DVD PLAY	0	4.24	0	3.20	0	3.34	4.95	3.23
PIN'S NUMBER	41	42	43	44	45	46	47	48
DVD PLAY	2.52	2.49	1.83	4.28	3.96	3.33	0	0
PIN'S NUMBER	49	50	51	52	53	54	55	56
DVD PLAY	0	0	2.50	2.52	0	3.47	0.59	2.34
PIN'S NUMBER	57	58	59	60	61	62	63	64
DVD PLAY	2.98	5.01	3.53	3.53	3.80	3.80	3.54	1.41

VOLTAGE CHART - CONTINUED

U5 (M5705)

PIN'S NUMBER	1	2	3	4	5	6	7	8	9	10
DVD PLAY	0	2.50	2.48	5.01	2.49	2.51	3.34	1.26	2.49	3.12
PIN'S NUMBER	11	12	13	14	15	16	17	18	19	20
DVD PLAY	2.56	2.48	2.51	5.01	2.11	0	0.10	2.51	2.51	2.51
PIN'S NUMBER	21	22	23	24	25	26	27	28	29	30
DVD PLAY	2.52	0	2.52	2.49	1.95	5.01	3.21	0	0	0
PIN'S NUMBER	31	32	33	34	35	36	37	38	39	40
DVD PLAY	3.34	0	0	2.62	3.34	0	0	0	3.34	1.65
PIN'S NUMBER	41	42	43	44	45	46	47	48	49	50
DVD PLAY	4.86	0	0	4.86	0	0	2.62	3.33	2.59	3.31
PIN'S NUMBER	51	52	53	54	55	56	57	58	59	60
DVD PLAY	2.60	2.60	0	0	0	2.59	1.66	0	0	0
PIN'S NUMBER	61	62	63	64	65	66	67	68	69	70
DVD PLAY	0	1.59	1.89	1.72	0.22	1.70	2.01	2.01	1.76	2.62
PIN'S NUMBER	71	72	73	74	75	76	77	78	79	80
DVD PLAY	2.59	0	0	0	1.78	3.34	1.82	1.82	2.14	2.10
PIN'S NUMBER	81	82	83	84	85	86	87	88	89	90
DVD PLAY	1.51	1.75	2.00	1.97	1.97	1.98	1.91	0	0.60	2.23
PIN'S NUMBER	91	92	93	94	95	96	97	98	99	100
DVD PLAY	1.63	2.60	3.30	3.09	1.05	1.53	2.60	1.90	0.10	0
PIN'S NUMBER	101	102	103	104	105	106	107	108	109	110
DVD PLAY	4.09	3.99	1.25	0	0	1.71	1.35	0	1.58	0
PIN'S NUMBER	111	112	113	114	115	116	117	118	119	120
DVD PLAY	0.88	1.26	0.75	1.30	3.34	0	1.68	0	0.99	0.66
PIN'S NUMBER	121	122	123	124	125	126	127	128	129	130
DVD PLAY	0	0	0	0	0	1.89	1.90	0	1.81	0
PIN'S NUMBER	131	132	133	134	135	136	137	138	139	140
DVD PLAY	1.81	1.58	0	1.83	0	1.94	1.89	0	0	0
PIN'S NUMBER	141	142	143	144	145	146	147	148	149	150
DVD PLAY	0	0	1.70	0	3.09	3.34	0	0	0.30	0
PIN'S NUMBER	151	152	153	154	155	156	157	158	159	160
DVD PLAY	0	0	0	0	0.25	0.20	0	0	0	0
PIN'S NUMBER	161	162	163	164	165	166	167	168	169	170
DVD PLAY	0	3.34	0.12	0.11	0	2.51	2.51	0	2.68	0
PIN'S NUMBER	171	172	173	174	175	176				
DVD PLAY	2.51	2.51	2.51	2.51	2.51	1.75				

U3 (BA033FP)

PIN'S NUMBER	1	2	3
DVD PLAY	4.95	0	3.35

U9 (XC61AN1902MR)

PIN'S NUMBER	1	2	3
DVD PLAY	4.88	3.47	0

U2 (BA5983FM)

PIN'S NUMBER	1	2	3	4	5	6	7	8	9	10
DVD PLAY	2.49	2.51	2.51	2.46	2.51	0	2.53	0	3.32	4.88
PIN'S NUMBER	11	12	13	14	15	16	17	18	19	20
DVD PLAY	2.40	2.53	2.51	2.41	2.24	2.08	3.52	0.76	4.88	3.68
PIN'S NUMBER	21	22	23	24	25	26	27	28		
DVD PLAY	0	2.84	2.51	2.51	2.48	2.51	2.51	4.90		

VOLTAGE CHART - CONTINUED

U29 (BA17805FP)

PIN'S NUMBER	1	2	3
DVD PLAY	11.44	0	5.02

U4 (FAN8082)

PIN'S NUMBER	1	2	3	4	5	6	7	8
DVD PLAY	0	0.37	0.19	1.44	1.44	12.16	12.17	0.37

U27 (LD1117S)

PIN'S NUMBER	1	2	3	4
DVD PLAY	1.85	1.85	3.31	0.59

U28 (LD1117S33C)

PIN'S NUMBER	1	2	3	4
DVD PLAY	0	3.30	4.95	3.30

U6 (M11B416256A-35J)

PIN'S NUMBER	1	2	3	4	5	6	7	8	9	10
DVD PLAY	4.94	1.54	1.54	1.10	1.30	4.95	0.80	0.56	0.65	0.54
PIN'S NUMBER	11	12	13	14	15	16	17	18	19	20
DVD PLAY	0	0	3.33	3.31	0	0.10	0.20	0.11	0.15	4.94
PIN'S NUMBER	21	22	23	24	25	26	27	28	29	30
DVD PLAY	0	0.24	0.25	0.30	0.23	0.33	0.22	3.18	3.21	0
PIN'S NUMBER	31	32	33	34	35	36	37	38	39	40
DVD PLAY	1.97	1.94	1.94	1.95	0	1.83	1.85	0	1.93	0

TUNER SECTION

TEST CONDITION: SET AM/FM ON ONE FREQUENCY

IC401 (TA2099N)

PIN'S NUMBER	1	2	3	4	5	6	7	8
AM	1.97	2.72	0.11	1.97	1.34	6.37	0.48	0
FM	1.95	2	0	2	0.97	7.43	1.29	0
PIN'S NUMBER	9	10	11	12	13	14	15	16
AM	4.96	0.04	5.68	0.76	0.77	0.11	4.89	4.92
FM	4.98	4	4.13	0.77	0.77	0.00	0.52	0.65
PIN'S NUMBER	17	18	19	20	21	22	23	24
AM	1.19	0.48	2.05	1.81	1.97	1.97	6.43	1.97
FM	1.19	1.32	1.99	2.44	1.97	1.97	7.40	1.97

IC402 (TC9257F)

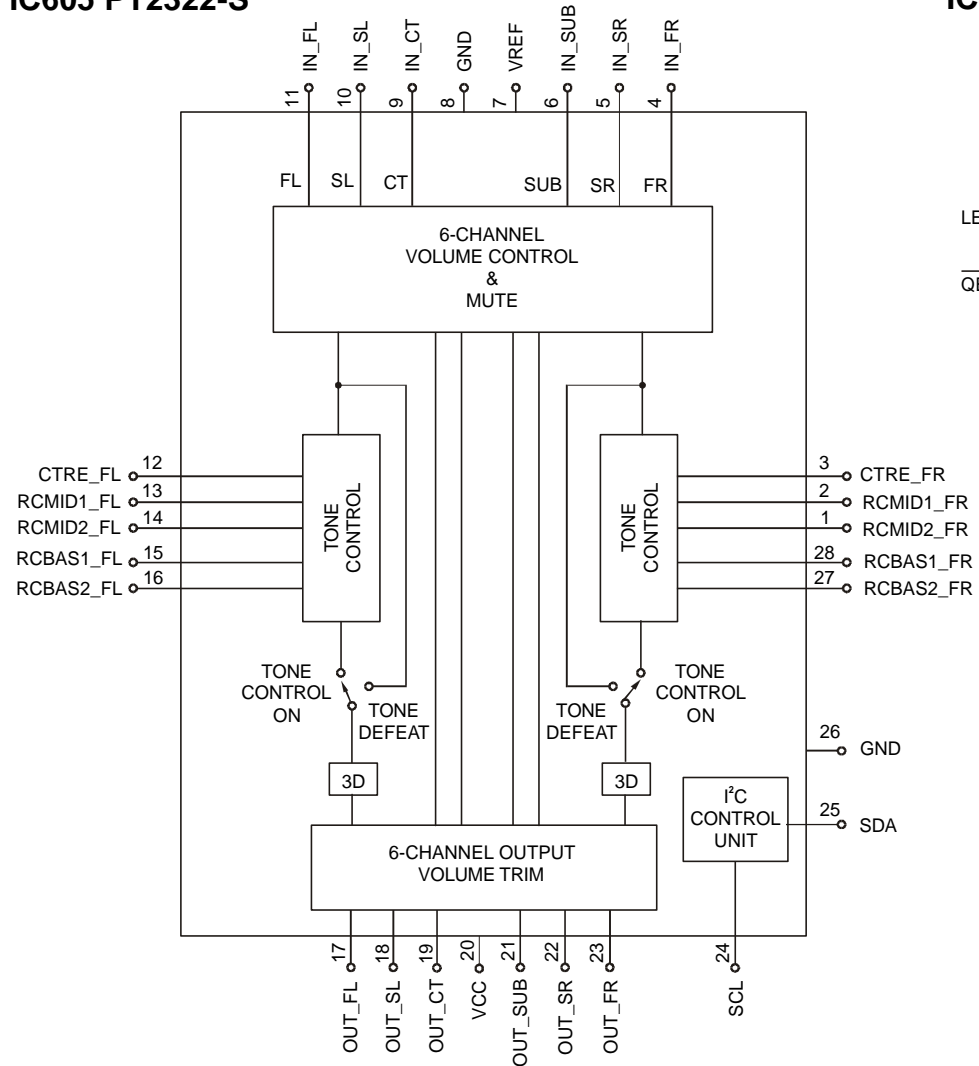
PIN'S NUMBER	1	2	3	4	5	6	7	8	9	10
AM	2.45	2.47	4.29	4.29	0.01	0.14	0.02	0.11	0.02	0.02
FM	2.38	2.41	4.97	4.97	0	0.14	0	0.11	0	0
PIN'S NUMBER	11	12	13	14	15	16	17	18	19	20
AM	4.97	4.97	0	2.43	0	2.44	1.44	1.37	1.15	1.14
FM	0	0	0	2.36	0	2.36	0.17	0.17	0.76	1.08

IC403 (BU1923F)

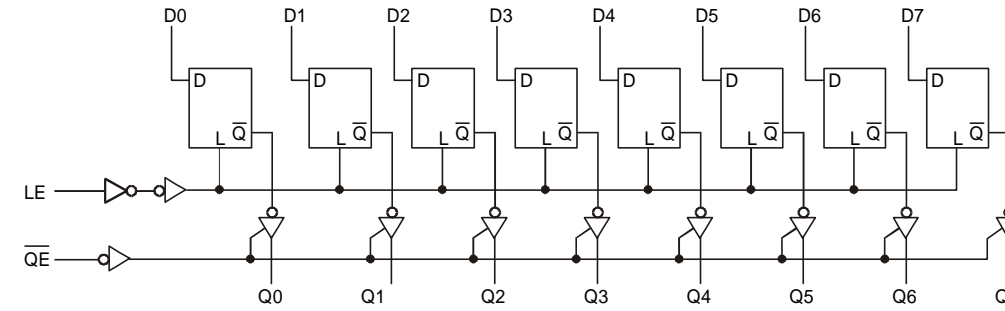
PIN'S NUMBER	1	2	3	4	5	6	7	8
FM	2.13	2.41	2.30	2.27	4.30	0	0	2.29
PIN'S NUMBER	9	10	11	12	13	14	15	16
FM	0	0	0	4.30	0	2.06	0	2.25

IC BLOCK DIAGRAMS & IC PINS DESCRIPTION

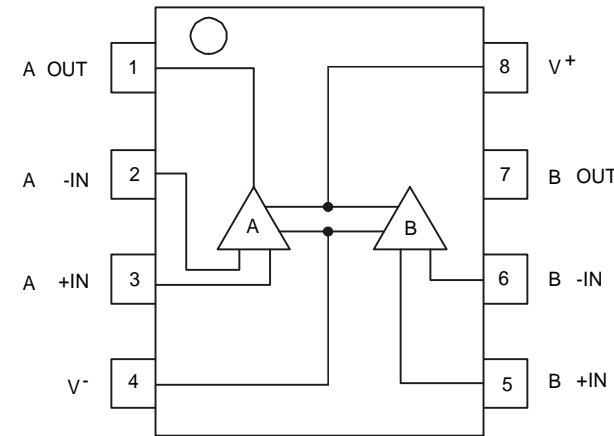
IC605 PT2322-S



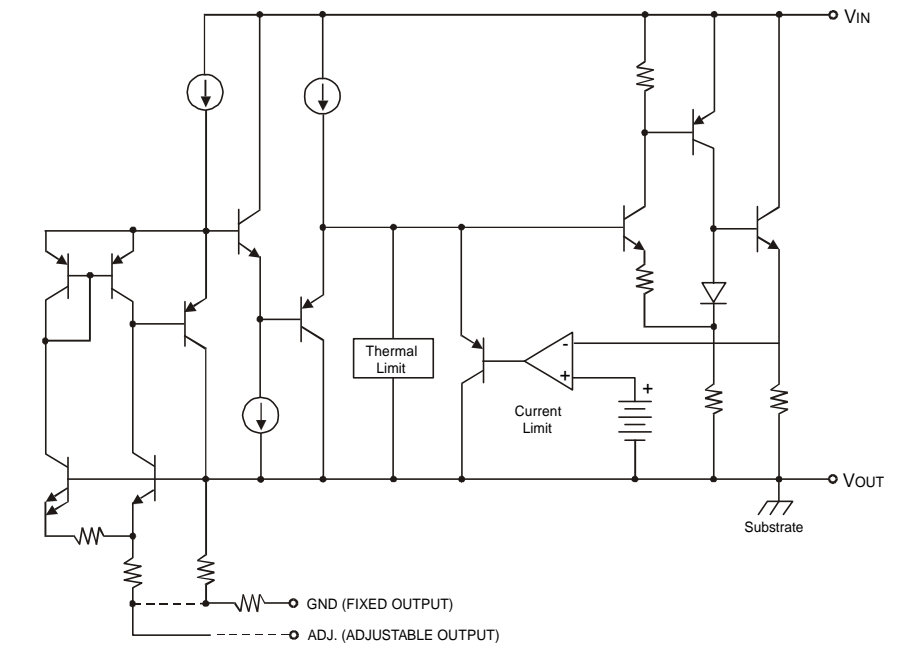
IC302 TC74HC373AF



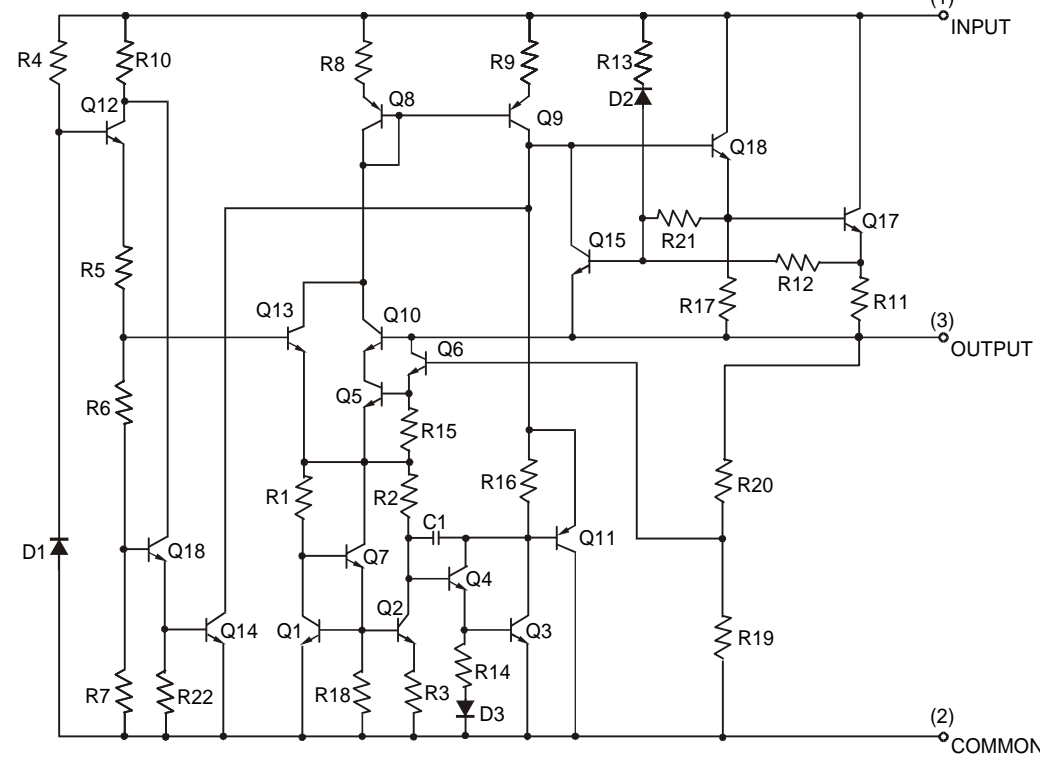
U22, U23, U24 NJM4580E



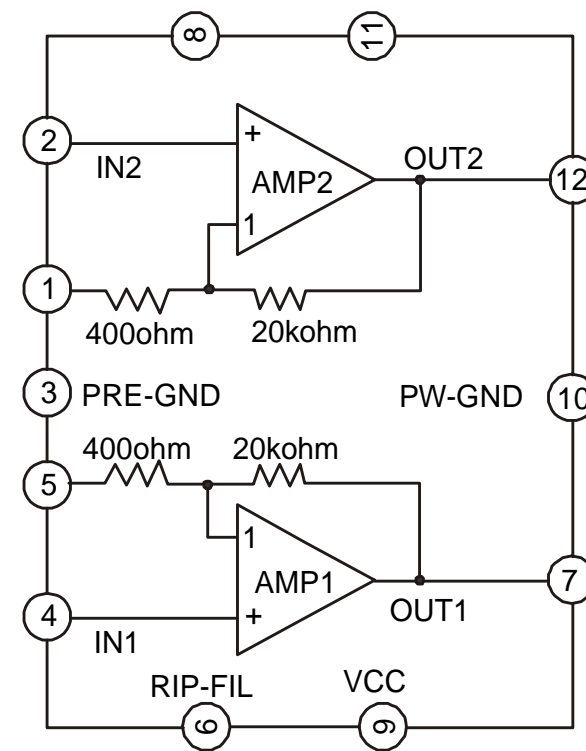
**U27 LD1117S
U28 LD1117S33**



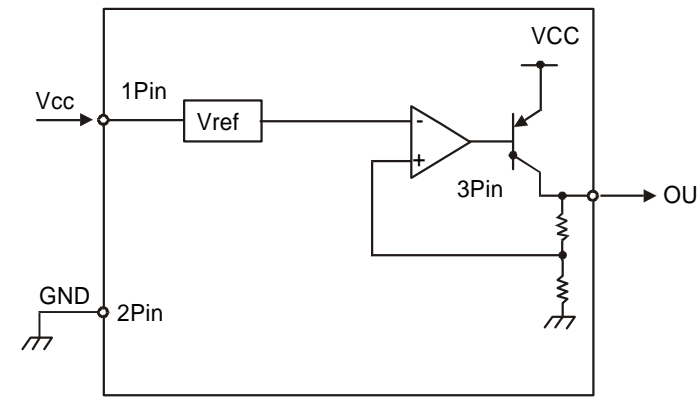
U29 BA17805FP



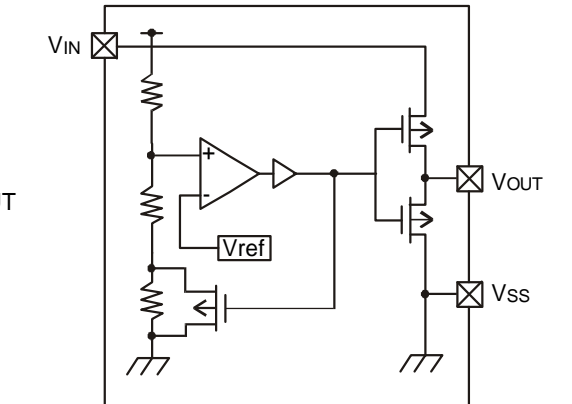
IC601, IC602, IC603 TA8258H



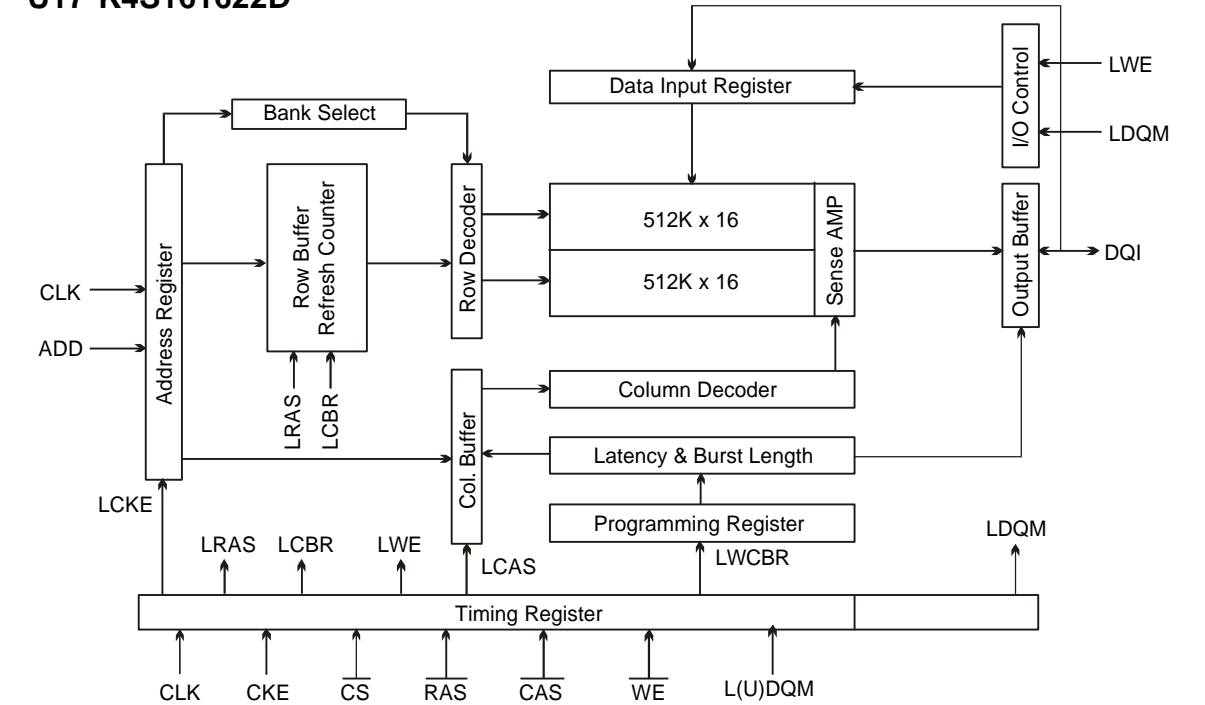
U3 BA033FP



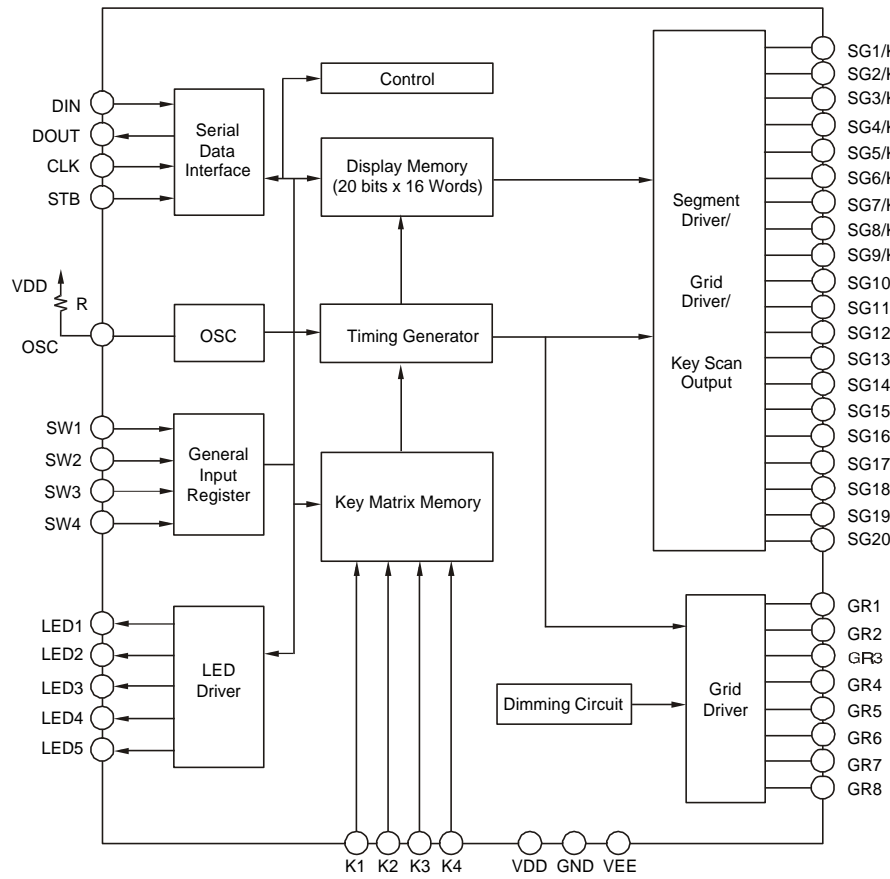
U9 XC61AN1902MR



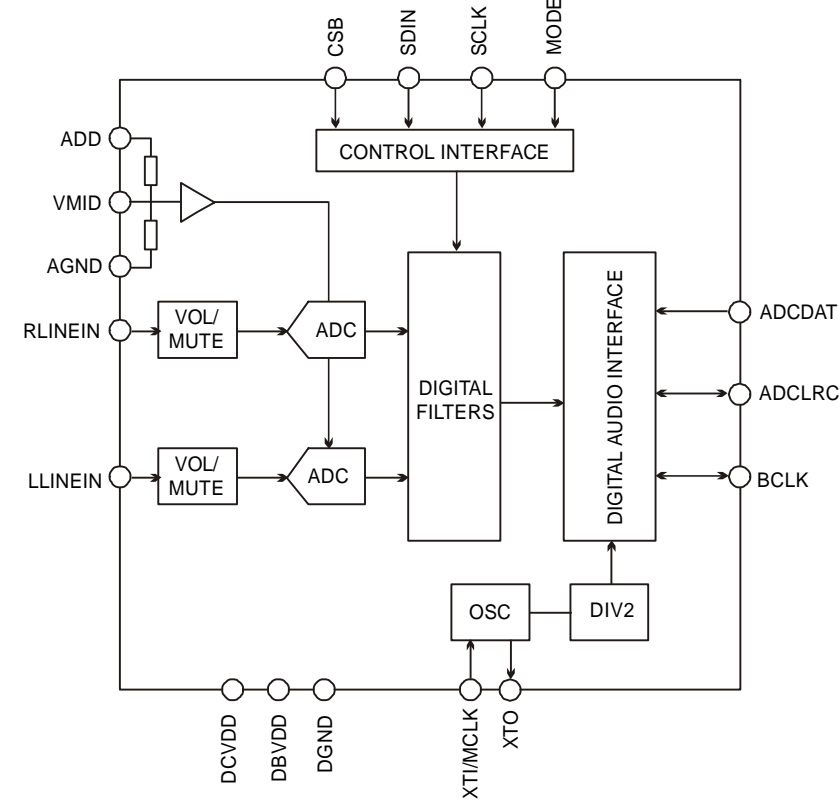
U17 K4S161622D



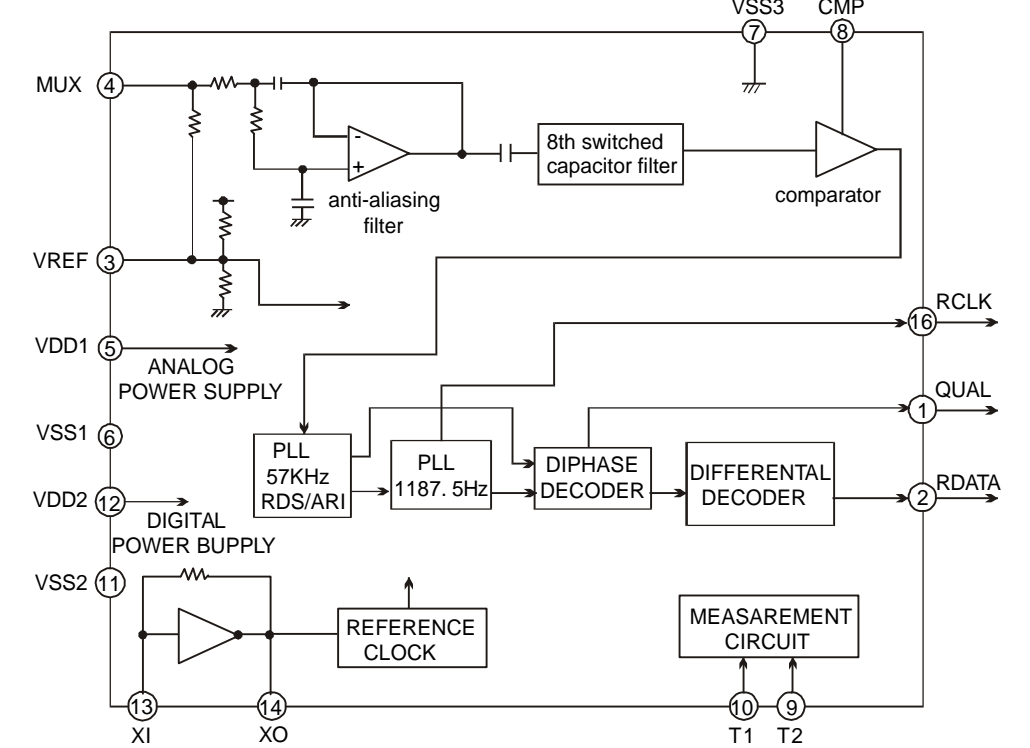
IC304 PT6311



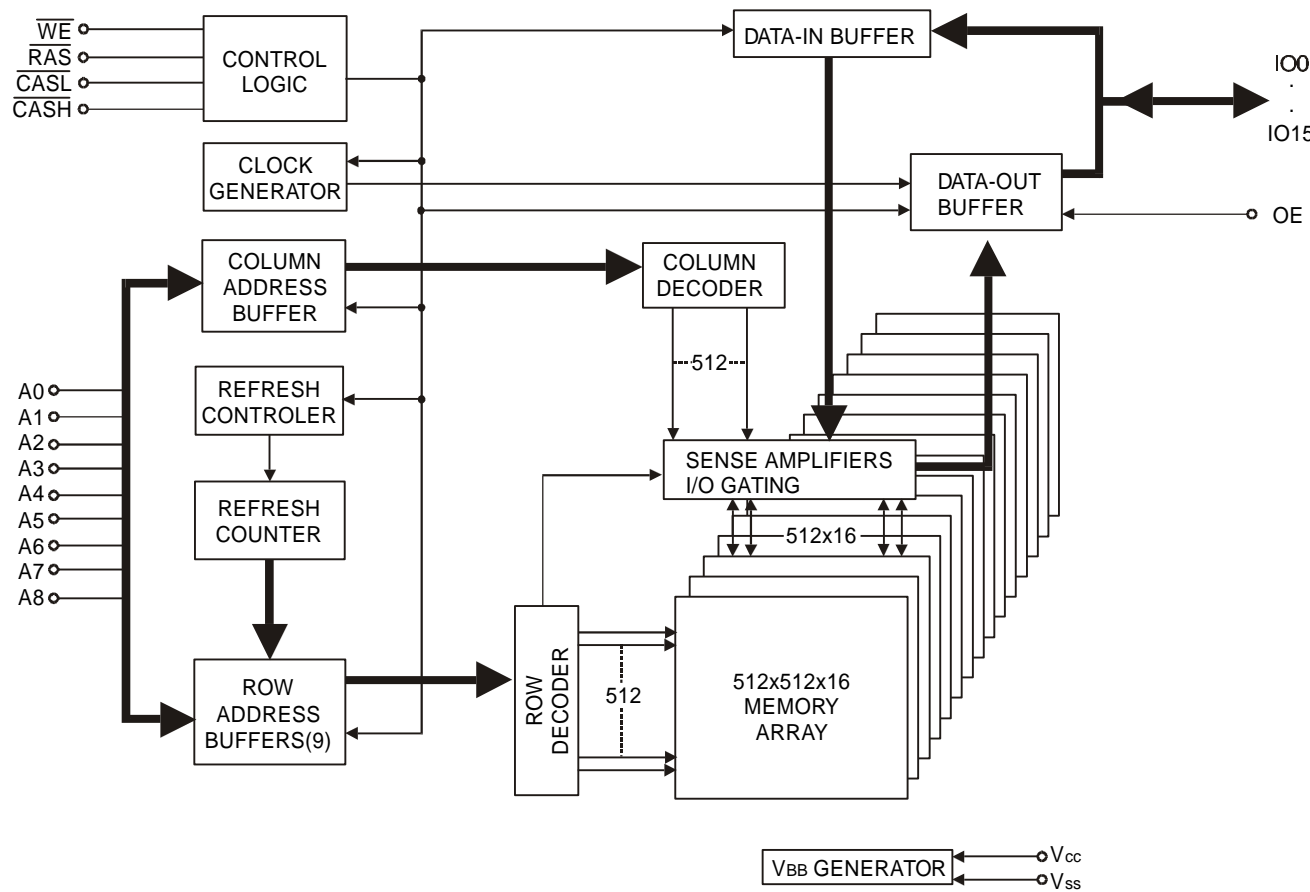
U25 WM8739



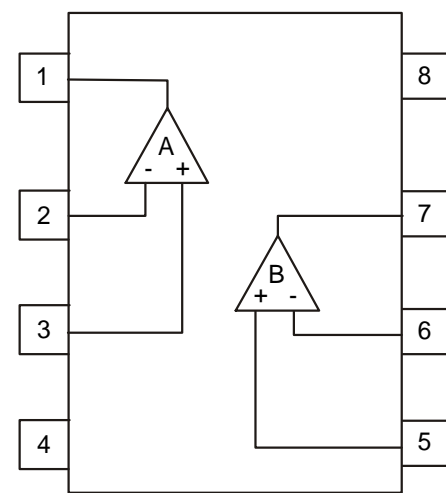
IC403 BU1923F



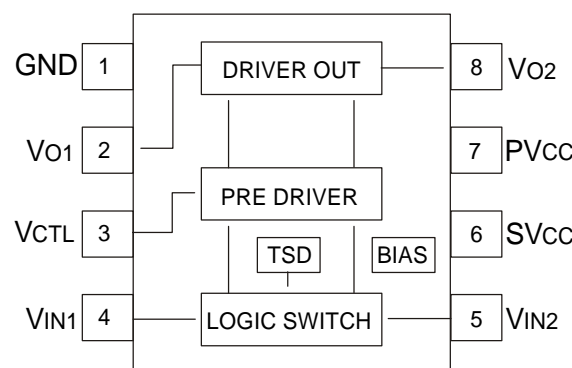
U6 M11B416256A



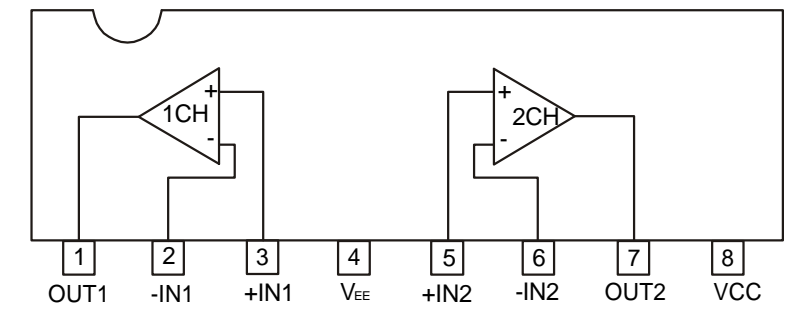
IC604 NJM4558D



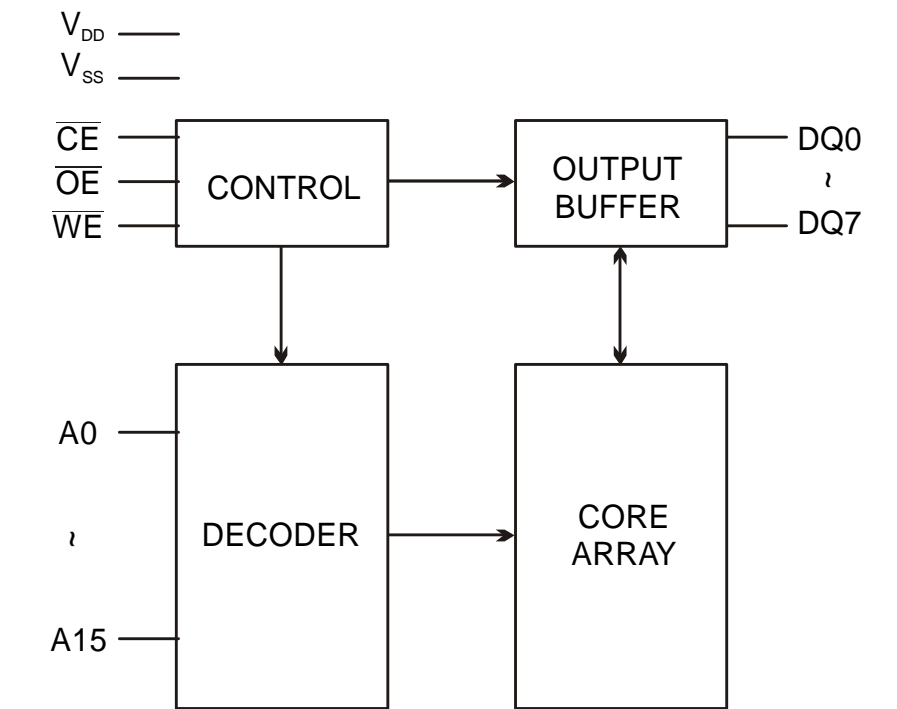
U4 FAN8082



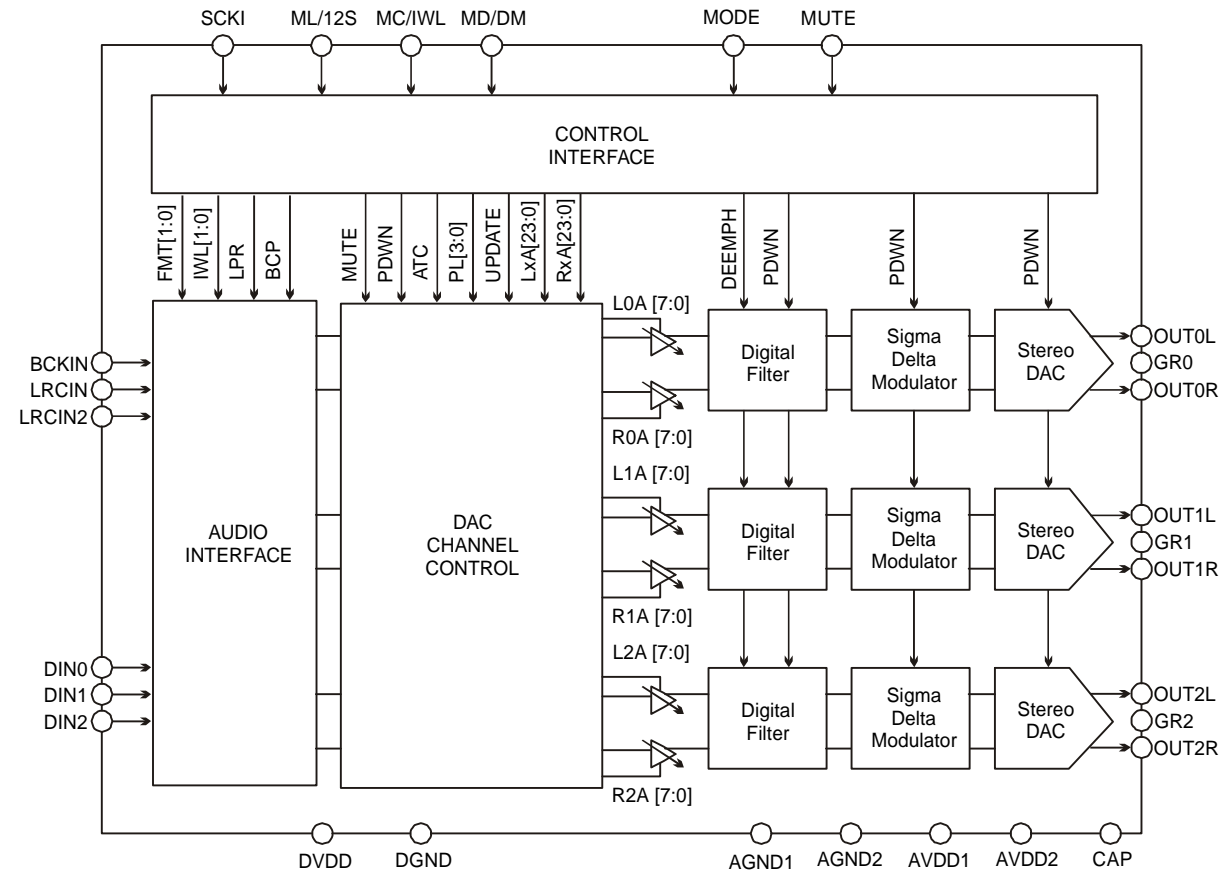
IC502, IC506 BA4558N



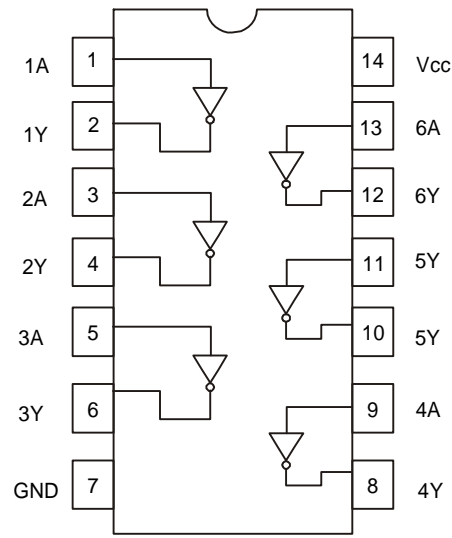
U7 W29EE512P-70



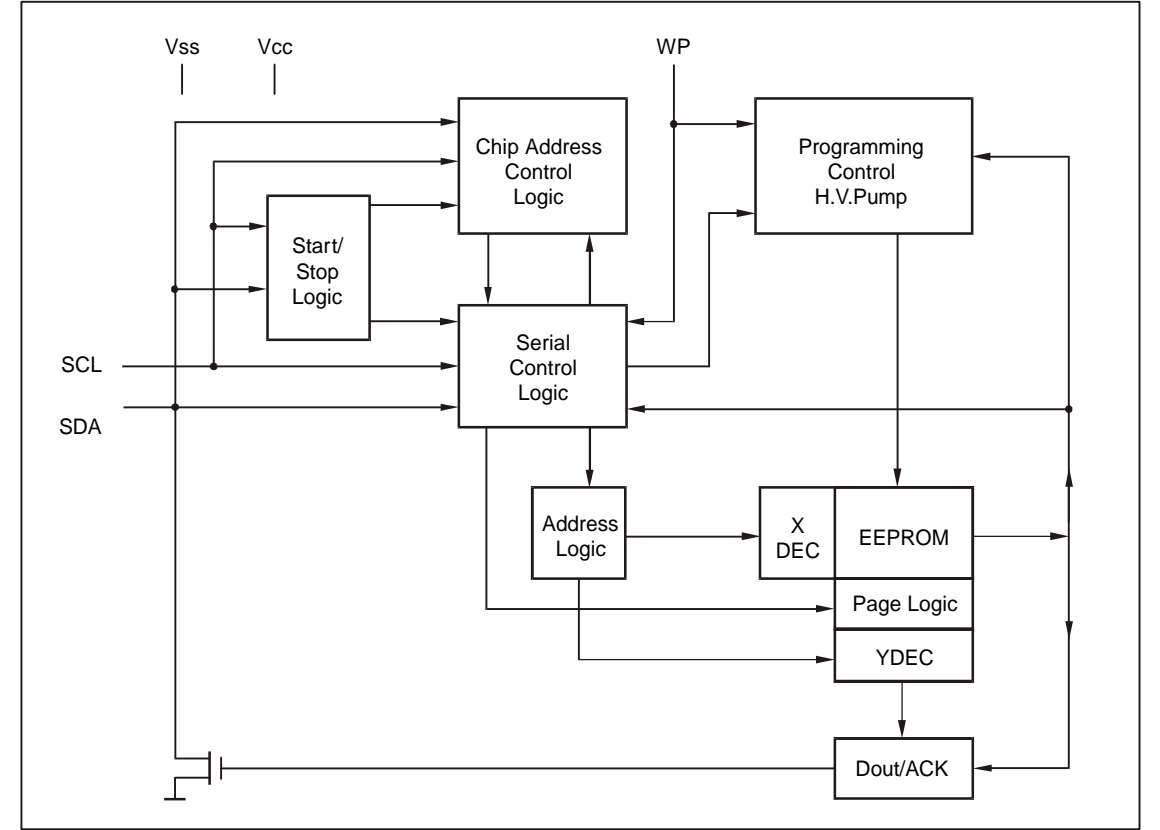
U31 WM8746EDS



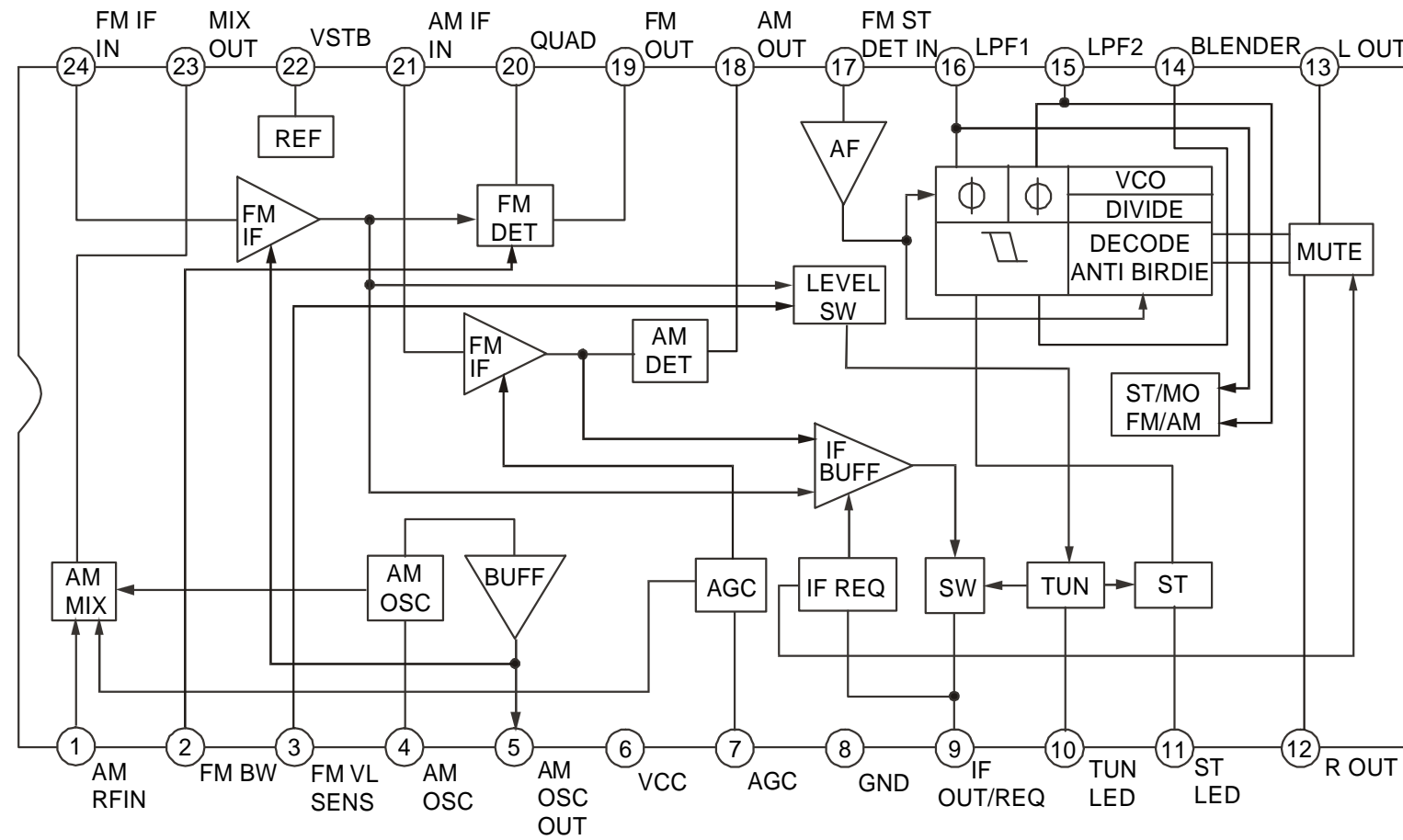
U26 TC74HCU04AF



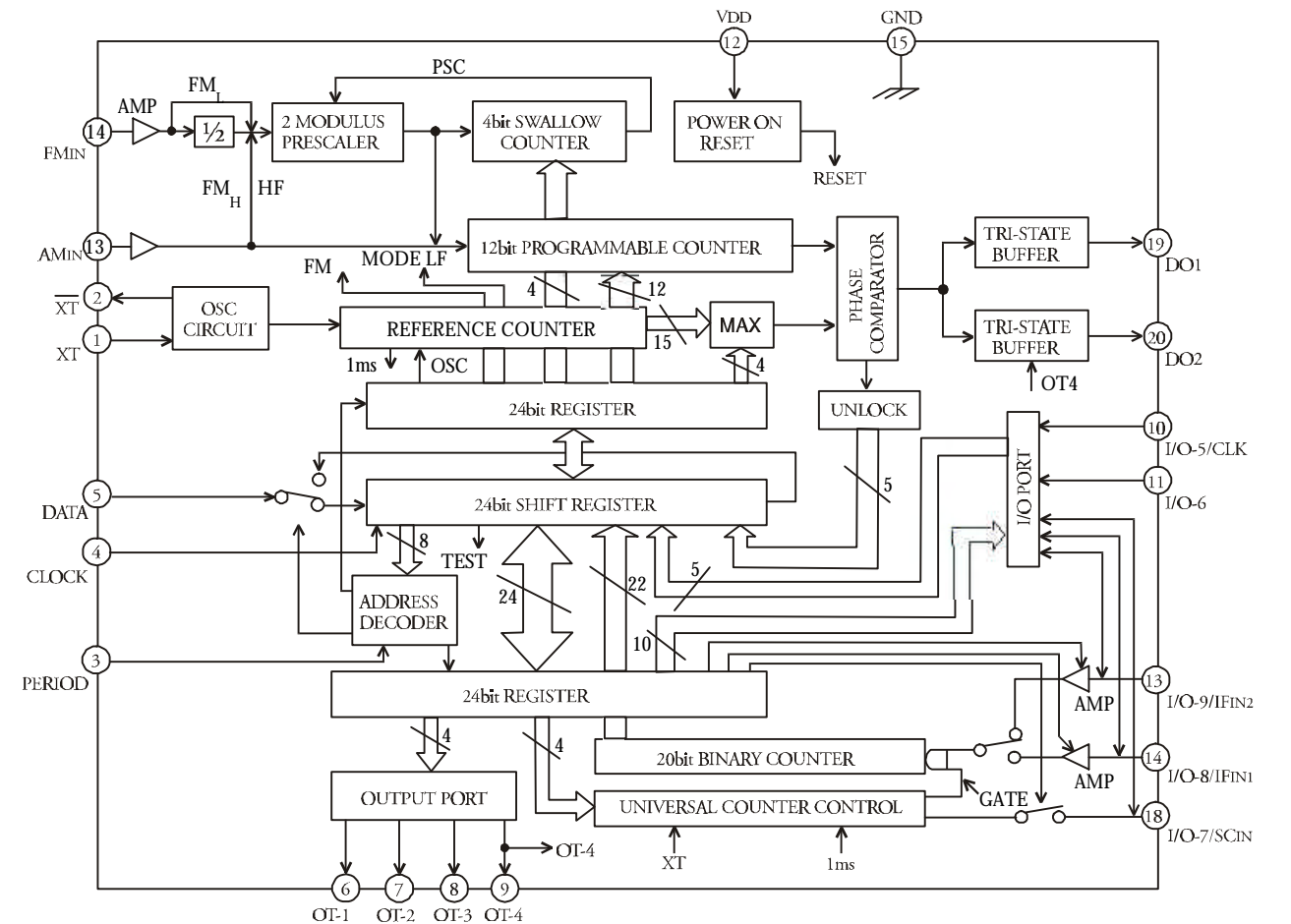
U12 AT24C01A/S-24C01BFJ



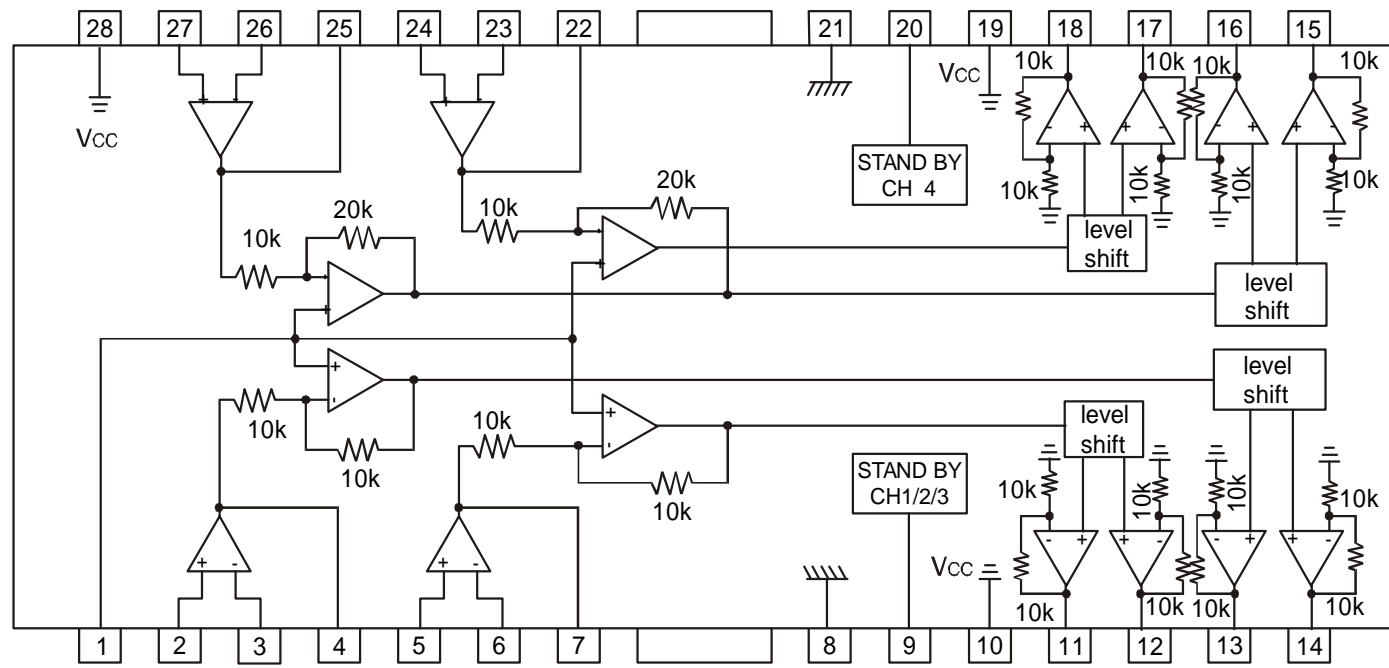
IC401 TA2099N



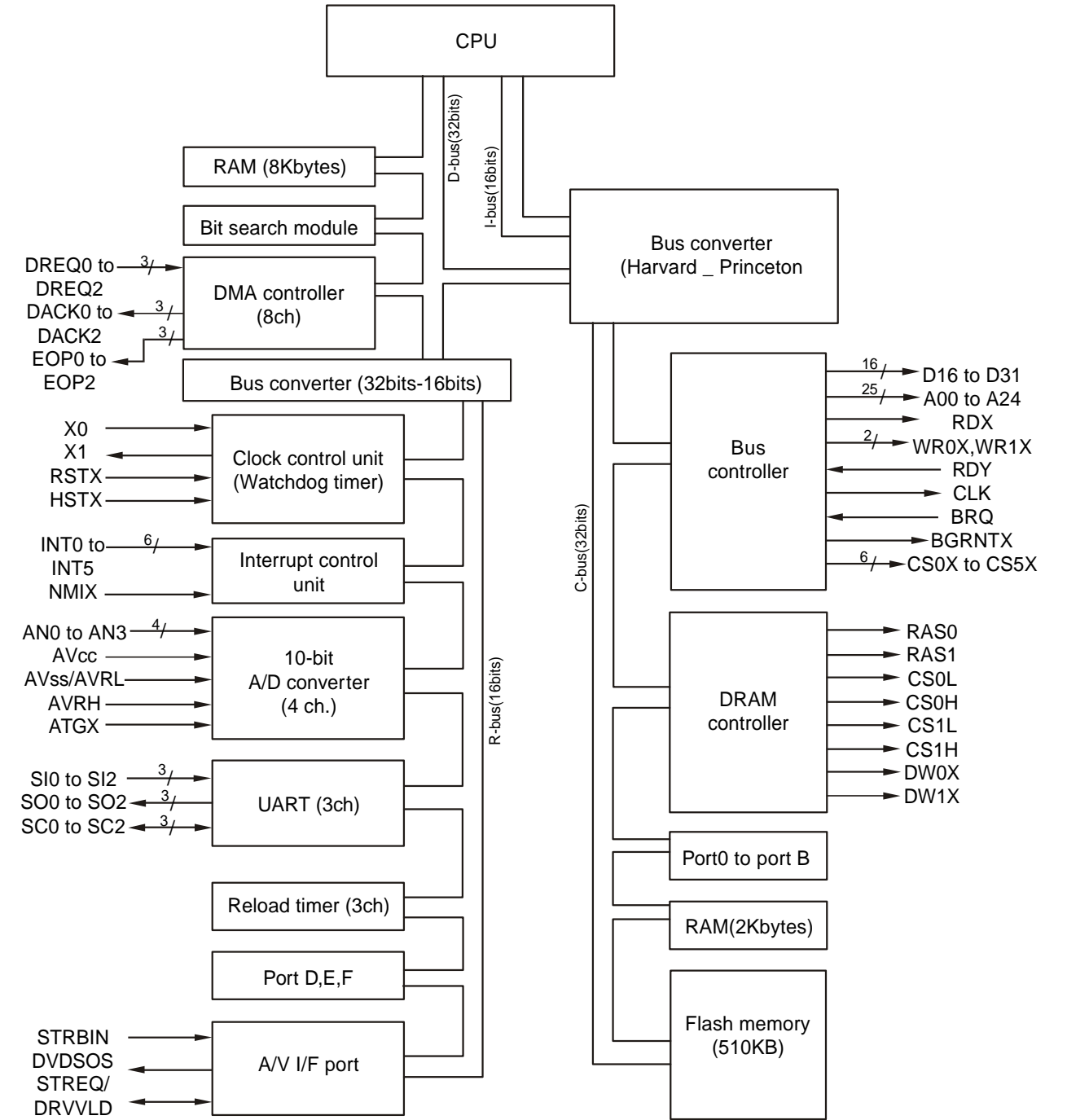
IC402 TC9257F



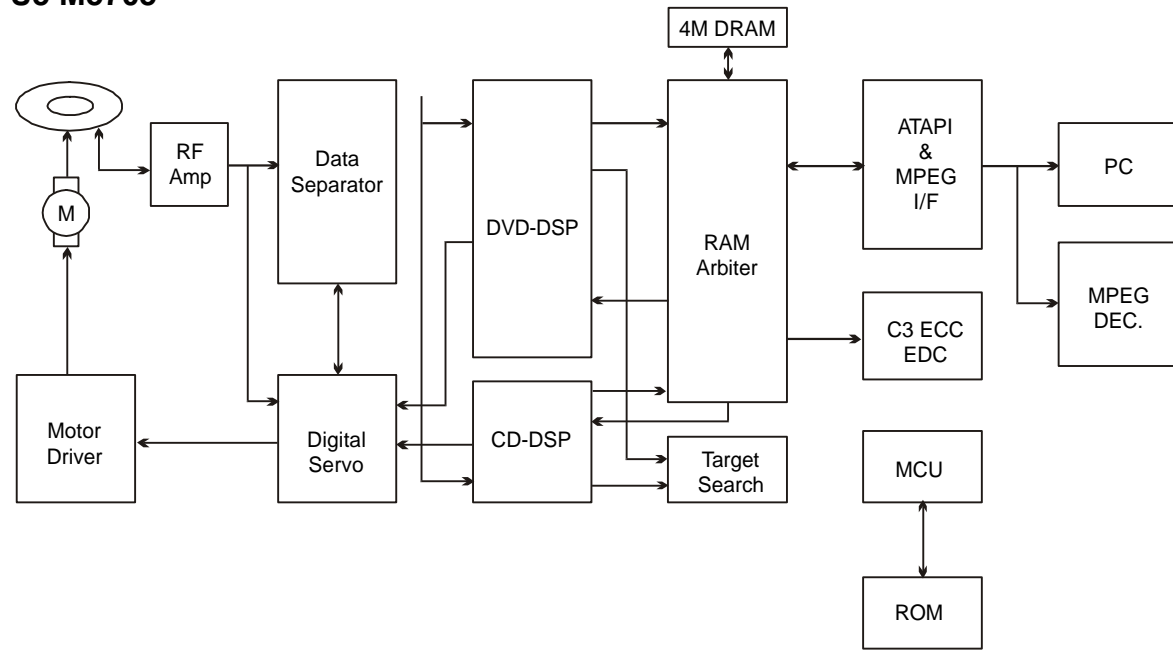
U2 BA5983FM



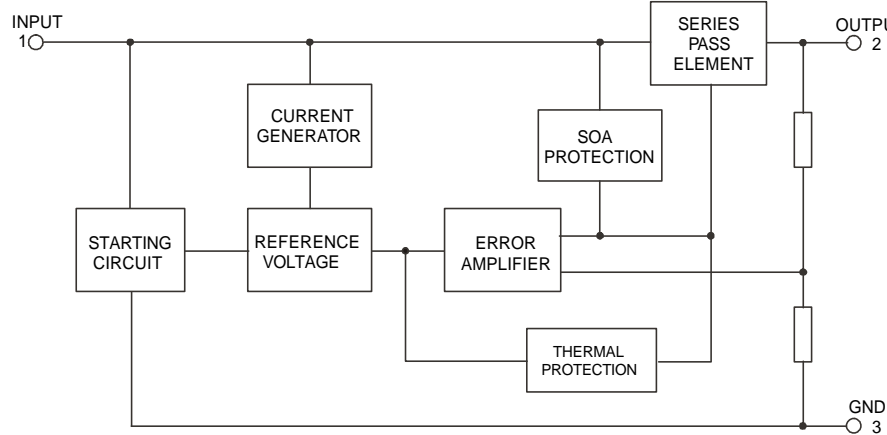
U11 ZR36705TQC



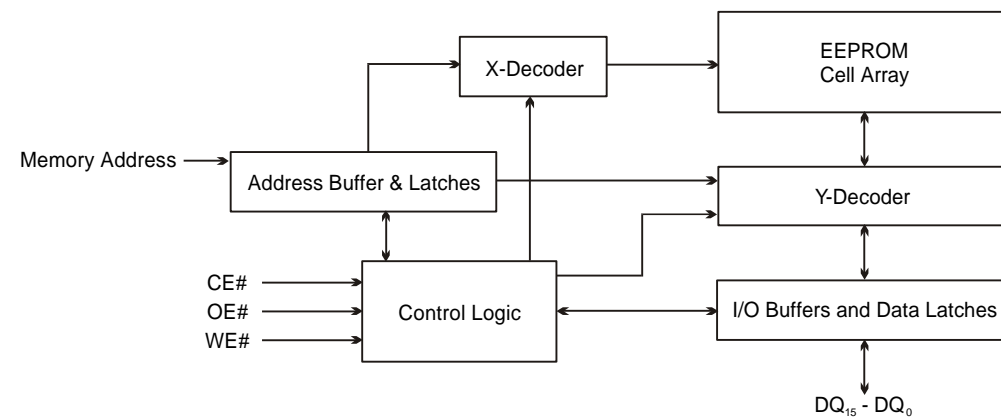
U5 M5705



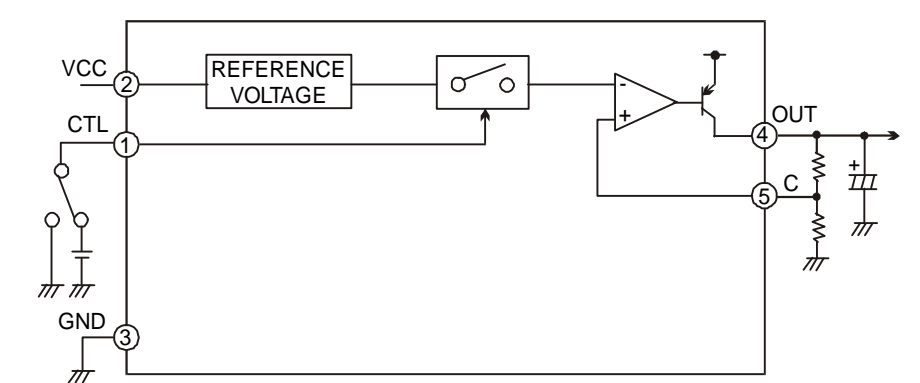
IC801 LM78L05ACZ



U13 SST39VF800A



IC802, IC803 BA05ST



IC301 TMP-87EP26F PINS DESCRIPTION

Pin	Port Nome	Pin Name	Description
1	VSS	VSS	Ground
2	XOUT	XOUT	8MHz
3	XIN	XIN	8MHz
4	/RESET	RESET	
5	P2.2(XTOUT)	CS	CS to Display driver
6	P2.1(XTIN)	CLK	Clock to Display driver
7	TEST	TEST	
8	P2.0 (INT5/STOP)	STOP*	Poewer Down detector
9	P4.0 (INT3/TC3)	IR*	Remote controller
10	P4.1 (PWM/PDO)	CLKSHIFT	Clock shift on tuner
11	P4.2 (/SCK1)	RDSCLK*	RDS Clock input pin
12	P4.3 (S11)	REDSDAT*	RDS Data input pin
13	P4.4 (SO1)	Tuner-/DVD	Selection of Tuner or DVD
14	P4.5 (/SCK2)	DVD-VCLK*	DVD VFD Clock pin
15	P4.6 (SI2)	DVD-VDAT*	DVD VFD Data pin
16	P4.7 (SO2)		
17	P0.0	/OE	373 OE pin
18	P0.1	LE	373 LE pin
19	P0.2	DOUT	Data input from Display Driver
20	P0.3	PLL-CLK	Tuner Clock pin
21	P0.4	PLL-PERIOD	Tuner Period pin
22	P0.5	STEREO	Tuner STEREO input pin
23	P0.6	DVD-ACT	(Not used)
24	P0.7	DVD-IR	IR signal to DVD
25	P1.0 (/INT0)	SHORT-CIRCUIT	Speaker Short circuit detect
26	P1.1 (INT1)		
27	P1.2 (INT2/TC1)	DVD-VCS	DVD CS to Display driver
28	P1.3 (DVO)	CH-MUTE	
29	P1.4 (PPG)	AUX	Channel Mute pin
30	P1.5 (TC2)	DVD-PWR	AUX Channel Selection
31	P1.6	MAIN-PWR	DVD Power control pin
32	P1.7	SYSMUTE	Main Power control pin
33	P3.0	VRDDIN	System Mute
34	P3.1	VFDCS	Data output to Display driver
35	P3.2	VFDCCLK	Clock to Display driver
36	P3.3	PLL-DATA	Tuner Data pin
37	P3.4	SCL	I2C Clock pin for Volume IC
38	P3.5	SDA	I2C Data pin for Volume IC
39	P3.6	CH-MUTE	Channel mute pin
40	P5.0 (AIN0)	COUNTRY	Tuner Country selection
41	P5.1(AIN1)	SIGNAL-DET	Tuner Signal Strength detection
42	P5.2 (AIN2)	JOG-VOL+	Jogger Volume +
43	P5.3 (AIN3)	JOG-VOL-	Jogger Volume -
44	P5.4 (AIN4)	KEY0	Keyboard
45	P5.5 (AIN5)		
46	P5.6 (AIN6)	AM-STEP	Tuner AM Step selection
47	P5.7 (AIN7)		
48	VAREF	VAREF	Analog VCC
49	BOOT	BOOT(H-Program)	Program Data to EEPROM
50	VSS	VSS	Ground
51	VDD	VDD	+5V
52	P8.0 (SEG39)		
53	P8.1 (SEG38)		
54	P8.2 (SEG37)		

IC301 TMP-87EP26F PINS DESCRIPTION - CONTINUED

Pin	Port Nome	Pin Name	Description
55	P8.3 (SEG36)		
56	P8.4 (SEG35)		
57	P8.5 (SEG34)		
58	P8.6 (SEG33)		
59	P8.7 (SEG32)		
60	P7.0 (SEG31)		
61	P7.1 (SEG30)		
62	P7.2 (SEG29)		
63	P7.3 (SEG28)		
64	P7.4 (SEG27)		
65	P7.5 (SEG26)		
66	P7.6 (SEG25)		
67	P7.7 (SEG24)		
68	P6.0 (SEG23)		
69	P6.1 (SEG22)	RVS_SW	3-CD Tokyo Pigeon Changer
70	P6.2 (SEG21)	FWD_SW	3-CD Tokyo Pigeon Changer
71	P6.3 (SEG20)	OPCL_SW	3-CD Tokyo Pigeon Changer
72	P6.4 (SEG19)	CN1_SW	3-CD Tokyo Pigeon Changer
73	P6.5 (SEG18)	CN2_SW	3-CD Tokyo Pigeon Changer
74	P6.6 (SEG17)	HOME_SW	3-CD Tokyo Pigeon Changer
75	P6.7 (SEG16)	EXTRA_SW	3-CD Tokyo Pigeon Changer
76	P9.0 (SEG15)	CMF	3-CD Tokyo Pigeon Changer
77	P9.1 (SEG14)	DMR	3-CD Tokyo Pigeon Changer
78	P9.2 (SEG13)	DMF	3-CD Tokyo Pigeon Changer
79	P9.3 (SEG12)	DMR	3-CD Tokyo Pigeon Changer
80	SEG11		
81	SEG10		
82	SEG9		
83	SEG8		
84	SEG7		
85	SEG6		
86	SEG5		
87	SEG4		
88	SEG3		
89	SEG2		
90	SEG1		
91	SEG0		
92	COM3		
93	COM2		
94	COM1		
95	COM0		
96	VLC	LCD Power	
97	PD0		
98	PD1		
99	PD2		
100	VDD	VDD	

U1 M5703T PINS DESCRIPTION

Pin No.	Pin Name	Type	Description
Input Pins:			
1,2	DVDRFP DVDRFN	I	RF Signal Inputs. Differential RF signal attenuator input pin.
63	CDRF	I	RF Signal input. Single-ended RF signal attenuator input pin
59,60	AIP,AIN	I	AGC Amplifier Inputs. Differential AGC amplifier input pins.
53,54	DIP,DIN	I	Analog inputs for RF single Buffer. Differential analog inputs to the RF single-ended output buffer and full wave rectifier.
32	FDCHG#	I	Low Impedance Enable. A TTL compatible input pin that activates the FDCHG switches. A low level activates the switches and the falling edge of the internal FDCHG triggers the fast decay for the MIRR bottom hold circuit.(open high)
49	HOLD1	I	Hold Control. A TTL compatible control pin which, when pulled high, disables the RF AGC charge pump and holds the RF AGC amplifier gain at its present value.(open high)
14-11	A,B,C,D	I	Photo Detector Interface Inputs. Inputs from the main beam photo detector matrix outputs.
8-5	A2,B2,C2,D2	I	photo Detector Interface Inputs. AC coupled inputs for the DPD from the main beam photo detector matrix outputs.
16-15	E,F	I	CD tracking Error Inputs. Inputs from the CD photo detector error outputs.
3-4	PD1,PD2	I	CD photodetector interface inputs. From the CD photo detector error outputs.
40	MEI	I	Mirror Envelope Input.The SIGO envelope input pin.
35	MIN	I	RF signal input for Mirror.AC coupled inputs for the mirror detection circuit from,the pull-in signal output.(PI)
21	DVDPD	I	APC Input. DVD APC input pin from the monitor photo diode.
23	CDPD	I	APC Input. CD APC input pin from the monitor photo diode.
25	LDON#	I	APC Output On/Off. APC output control pin. A low level activates the LD output. (open high)
Output Pins:			
62,61	ATOP/ATON	O	Differential Attenuator Output.Attenuator outputs.
52,51	FNP,FNN	O	Differential Normal Output.Filter normal outputs.
57	SIGO	O	Single Ended Normal Output.Single-ended RF output.
64	CDRFDC	O	CD RF Signal Output.Single ended CD RF summing output.
42	FE	O	Focusing Error Signal Output. Focus error output-reference to VCI.
41	TE	O	Tracking Error Signal Output. Tracking error output reference to VCI.
43	CE	O	Center Error Signal Output. Center error output reference to VCI.
34	MEVO	O	SIGO Bottom Envelope Output.Bottom envelope for Mirror detection.
37	DFT	O	Defect Output. Pseudo CMOS output.When a defect is detected,the DFT output goes high.Also the servo AGC output can be monitored at this pin,when CAR bits 7-4 are '0011'.
29	MIRR	O	Mirror Detect Output. Mirror Detect comparator output. Pseudo CMOS output.
36	PI	O	Pull-in Signal Output.The summing signal output of A,B,C,D or PD1,PD2 for mirror detection. Reference to VCI.
22	DVDLD	O	APC output DVD APC output pin to control the laser power.
24	CDLD	O	APC output CD APC output pin to control the laser power.
Analog pins:			
56	BYP	I/O	The RF AGC integration capacitor CBYP,is connected between BYP and VPA.
9	CP	I/O	Differential Phase tracking LPF pin. An external capacitance is connected between this pin and the CN pin.
10	CN	I/O	Differential Phase tracking LPF pin. An external capacitance is connected between this pin and the CP pin.
45	LCP	-	Center Error LPF Pin.An external capacitance is connected between this pin and the LCN pin.
44	LCN	-	Center Error LPF Pin.An external capacitance is connected between this pin and the LCP pin.
30	MP	-	MIRR signal Peak hold pin. An external capacitance is connected to between this pin and VPB.

U1 M5703T PINS DESCRIPTION - CONTINUED

Pin No.	Pin Name	Type	Description
31	MB	-	MIRR signal Bottom hold pin. An external capacitance is connected to between this pin and VPB.
39	MEV	-	Sigo Bottom Envelope pin. An external capacitance is connected between this pin and VPB.
17	CDTE	-	CD Tracking. E-F Opamp output for feedback.
38	TPH	-	PI Top Hold pin. An external capacitance is connected between this pin and VPB.
26	VC	-	Reference Voltage output. This pin provides the internal DC bias reference voltage (+2.5V fix). Output impedance is less than 50ohms.
27	VC1	-	Reference Voltage input. DC bias voltage input for the servo input reference.
18	VC12	-	Reference Voltage Input. DC bias voltage input for the servo input reference.
55	RX	-	reference Resistor Input. An external 8.2kohm,1% resistor is connected from this pin to ground to establish a precise PTAT (proportional to absolute temperature) reference current for the filter.
33	MLPF	-	MIRR signal LPF pin An external capacitance is connected between this pin and VPB.
19	NC	-	No Connect.
Serial Port Pins:			
48	SDEN	I	Serial Data Enable. Serial Enable CMOS input.A high level input enables the serial port.(not to be left open)
47	SDATA	I/O	Serial Data.Serial data bi-directional CMOS Pin. NRZ programming data for the internal registers is applied to this input.(Not to be left open).
46	SCLK	I	Serial Clock Serial Clock CMOS input. The clock applied to this pin is synchronized with the data applied to DSATA.(Not to be left open)
Power Pins:			
58	VPA		Power. Power supply pin for the RF block and serial port.
28	VPB		Power. Power supply pin for the servo block.
50	VNA		Ground. Ground pin for the RF block and serial port.
20	VNB		Ground. Ground pin for the servo block.

U16 ZR36732PQC PINS DESCRIPTION

Pin No.	Pin Name	Type	Description
Reset, Standby and Idle Status Interface			
124	RESET#	I	Reset input. Once de-asserted, the Decoder starts the initialization process.
122	STNDBY#	I	Stand-by input. When asserted together with RESET#, all outputs and bidirectional pins float, such that the Decoder is electrically disconnected from its surroundings. All internal clocks are disabled, and the power consumption is minimized.
160	IDLE	3-S	Idle, Init and Reset states indication output.
Host Interface			
2	HWID	I	Determines the width of the host interface data bus. It is allowed to be changed only during RESET. A low level (GNPD) configures the Decoder to an 8-bit host data interface, a high level (VDDP) to 16-bit width.
1	HORD	I	Determines the order of bytes on the host interface data bus in case of 16-bit width (HWID at VDDP). It is allowed to be changed only during RESET. A low level (GNPD) configures the Decoder to input/output the m.s. Byte on HD [15:8]; A high level (VDDP) to input/output the m.s. byte on HD [7:0], Must be at GNPD if the host data bus is 8 bits.
4	HTYPE	I	Determines the protocol type for the 8 and 16 bits modes host interface. It is allowed to be changed only during RESET. A low level (GNPD) configures the Decoder to type A, a high level (VDDP) to type B.
17,18 20,21 22,23 24,25	HD[7],HD[6] HD[5],HD[4] HD[3],HD[2] HD[1],HD[0]	3-S	For 16 bits mode, the 8 I.S. Data lines of host data bus. For 8 bits mode, only these signals are defined as host data signals.
9,11 13,15	HD[11],HD[10] HD[9],HD[8]	3-S	When HWID is connected to VDDP, these are data lines 11:8 of the 16-bit host data bus.
5,6 7,8	HD[15],HD[14] HD[13],HD[12]	3-S	When HWID is connected to VDDP, these are data lines 15:12 of the 16-bit host data bus. When HWID is connected to GNPD, these are the CD-DSPI ² S input port pins as explained in the CD-DSP pin description.
27,28 29,30	HA[3],HA[2] HA[1],HA[0]	I	Host address inputs. These input signals indicate the register accessed in every cycle on the host interface.
32	HCS#	I	Host chip-select input.
31	HWR#-HR/W#	I	In host protocol Type A (HTYPE= GNPD):HR/W# This input determines the direction of the host access. In host protocol Type B (HTYPE=VDDP):HWR#.Host write input.
34	HRD#-HDS#	I	In host protocol Type A (HTYPE = GNPD): HDS#. Data strobe input (active low) In host protocol Type B (HTYPE=VDDP):HRD#.Host read input.(active low.)
36	HRDY	3-S	Host ready output. When this signal is tri-stated (i.e., it requires a pull-up resistor), up to SysConfig.CodBurstLed bytes of code can be written to the Decoder with no need to poll its condition in between. When HRDY is low during a host access, the Decoder may still receive at least two additional bytes of code without corrupting the data.
37	HIRQ#	3-S	Interrupt request. This output signal requests an interrupt from the host controller, if one of the events associated to interrupts occurs, and it is not masked-off. It is de-asserted if the host responds to the interrupt by reading the interrupt status register, or if the host disables the interrupt, or after RESET Deassertion of the HIRQ# output has two modes: De-activated and then tri-stated or directly to is a tri-state condition. The pin needs external pull-up resistor.
39	HACK#	HACK#	Host acknowledge output. In protocol A, the Decoder indicates that a read or write cycle is completed by asserting this output. In protocol B, this signal is used by the Decoder to indicate a wait state that may be used by fast hosts. In protocol B the host may ignore the HACK# signal. When this signal is deasserted it is de-activated and then tri-stated. This pin needs an external pull-up resistor.

U16 ZR36732PQC PINS DESCRIPTION - CONTINUED

Pin No.	Pin Name	Type	Description
General Purpose I/O (Host Interface)			
134	GPAIO	3-S	General purpose input/output pin, monitored/controlled by the audio processor software. After RESET, this pin is defined as input. Its definition can be configured through ADP commands.
145	GPSI	I	General purpose input, monitored by the system de-multiplexer/video processor software.
143	GPSO	O	General purpose output, controlled by the system de-multiplexer/video processor software. After RESET it outputs a low level.
DVD-DSP interface			
151	DVDREQ	O	DVD-DSP data request output (programmable polarity)
149	DVDVALID	I	DVD-DSP data valid input (programmable polarity)
148	DVDSOS	I	DVD-DSP start of sector input (programmable polarity)
159,158 157,156 155,154 153,152	DVDAT[7],[6] DVDAT[5],[4] DVDAT[3],[2] DVDAT[1],[0]	I	DVD-DSP data input bus.
150	DVDSTRB	I	DVD-DSP data bit strobe (clock) input. Programmable polarity.
147	DVDERR	I	DVD-DSP error indication input. Programmable polarity.
5 6 7 8	CDERR CDFRM CDDAT CDCLK	I	When HWID is connected to GNPD, these are the CD DSPI ² S input port pins as follows: CDERR: data error indication input CDFRM: left/right channel frame input CDDAT: data input CDCLK: bit clock input
			When HWID is connected to VDDP, these are HD [15:12] of the host data bus, as explained in the host interface pin description.
Video Syncs and Clocks Interface			
127	VCLKx2	3-S	Main video clock. 27.000MHz.
92	VCLK	3-S	A division by two of the VCLKx2 signal. This signal is used as a sync qualifier.
95	HSYNC	3-S	Horizontal sync. Polarity and duration are programmable.
93	VSYNC	3-S	Vertical sync. Polarity and duration are programmable.
96	FI	3-S	Field indication. Polarity is programmable.
Analog Video Encoder Interface			
102	CVBS/G/Y (DAC A)	O	When the Decoder outputs composite video, this line is CVBS When the Decoder outputs RGB, this line is the Green output When the Decoder outputs YUV, this line is the Y output
105	Y/R/V (DAC B)	O	When the Decoder outputs the composite video, this line is Y When the Decoder outputs RGB, this line is the Red output When the Decoder outputs YUV, this line is the V output
106	C/B/U (DAC C)	O	When the Decoder outputs the composite video, this line is C When the Decoder outputs RGB, this line is the Blue output When the Decoder outputs YUV, this line is the U output
103	CVBS/C (DAC D)	O	When the Decoder outputs any of the types of video, this line can be programmed to output either composite or C.
108	RSET	I	Resistive load for gain adjustment of the DACs
111	VREF	I	Voltage reference for gain adjustment of the DACs
100	COSYNC	3-S	Composite sync output, Active only when RGB analog output is selected. Otherwise, the signal is low.
Digital Audio Interface			
131	AMCLK	3-S	Audio Master Clock input/output. 128, 192, 256 or 384 times the sampling frequency (programmable)
133	S/PDIF (AOUT[3])	O	S/PDIF transmitter output for digital coded or reconstructed audio data. Alternately can be used as a fourth audio output. After RESET this pin outputs low level.
138,137 136	AOUT[2],[1] AOUT[0]	O	Serial outputs of digital stereo audio.

U16 ZR36732PQC PINS DESCRIPTION - CONTINUED

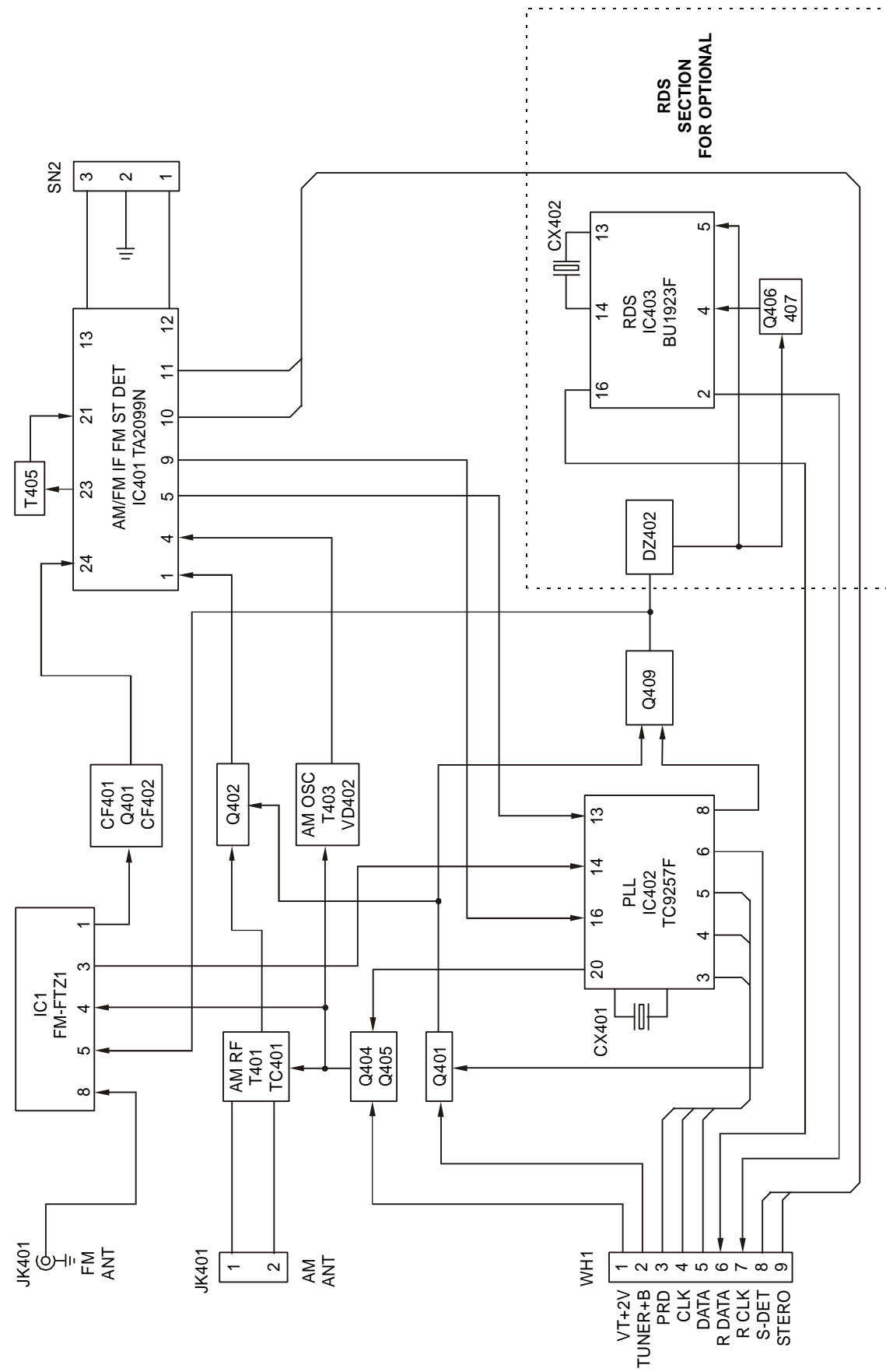
Pin No.	Pin Name	Type	Description
113	AIN	I	Serial input of digital stereo audio.
139	ALRCLK	O	Digital audio left/right select output for the audio port. Square wave, at the sampling frequency. Programmable polarity interpretation for input.
141	ABCLK	O	Digital audio bit-clock output. Data on AOUT and AIN is output or latched, respectively, with the rising or falling (programmable) edge of this clock.
PLL/Clock Interface			
120	GCLK	I	27.000MHz clock or crystal input for main processing clock generation.
117	GCLK1	I	27.000MHz clock input for audio master clock generation. In normal operation must be connected to GCLK.
119	XO	O	Output to a crystal that is connected to GCLK. If a crystal is not used at GCLK, XO must be left not connected.
115	PLLCFG[1]	I	PLL configuration inputs. Allowed to be changed only during RESET. In normal operation both pins must be connected to GNDP
118	PLLCFG[0]	I	
SDRAM Interface			
90,87 84,81 78,75 72,68 70,74	RAMDAT[15], [14],[13],[12] RAMDAT[11] [10],[9],[8] RAMDAT[7],[6]	3-S	SDRAM bidirectional data bus.
76,79 82,85 88,91	RAMDAT[5],[4] RAMDAT[3],[2] RAMDAT[1],[0]		
55,53 54,51 48,46 43,41 42,45 47,50	RAMADD[11] [10],[9],[8] RAMADD[7],[6] RAMADD[5],[4] RAMADD[3],[2] RAMADD[1],[0]	O	SDRAM address bus output.
60	RAMRAS#	O	SDRAM row select output.
61	RAMCAS#	O	SDRAM column select output.
66	PCLK	O	SDRAM clock output (Same as internal processing clock)
64	RAMDQM	O	SDRAM data masking output.
57	RAMCS0#	O	SDRAM chip select output for the lower (or only) 2MB device (16Mbit)
59	RAMCS1#	O	SDRAM chip select output for the upper 2MB device (16Mbit).
62	RAMWE#	O	SDRAM write enable output.
Test Signal Interface			
125	SCNENBL	I	Production test pin (connected directly to GNDP in normal operation).
129	TESTMODE	I	In normal operation this pin must be connected directly to GNDP.
112	ICEMODE#	I	In normal operation this pin must be connected directly to VDDP. If it is asserted, then the ADP goes into ICE mode. In this mode 4 of the Decoder pins turn into ICE interface pins: HD[11] = TCK - ICE interface clock HD[10] = TMS -ICE interface mode select input HD[9] = TDO -ICE interface data output HD[8] = TDI - ICE interface data input
Power Signals			
10,40,49 56,64,69 80,86,97 128,146	GNDP		Digital ground of 3.3 V supply.
3,16,19,26 38,44,52,58 67,71,77,83 89,94,98,99 126,135,140	V _{DDP}		3.3V Digital power supply.

U16 ZR36732PQC PINS DESCRIPTION - CONTINUED

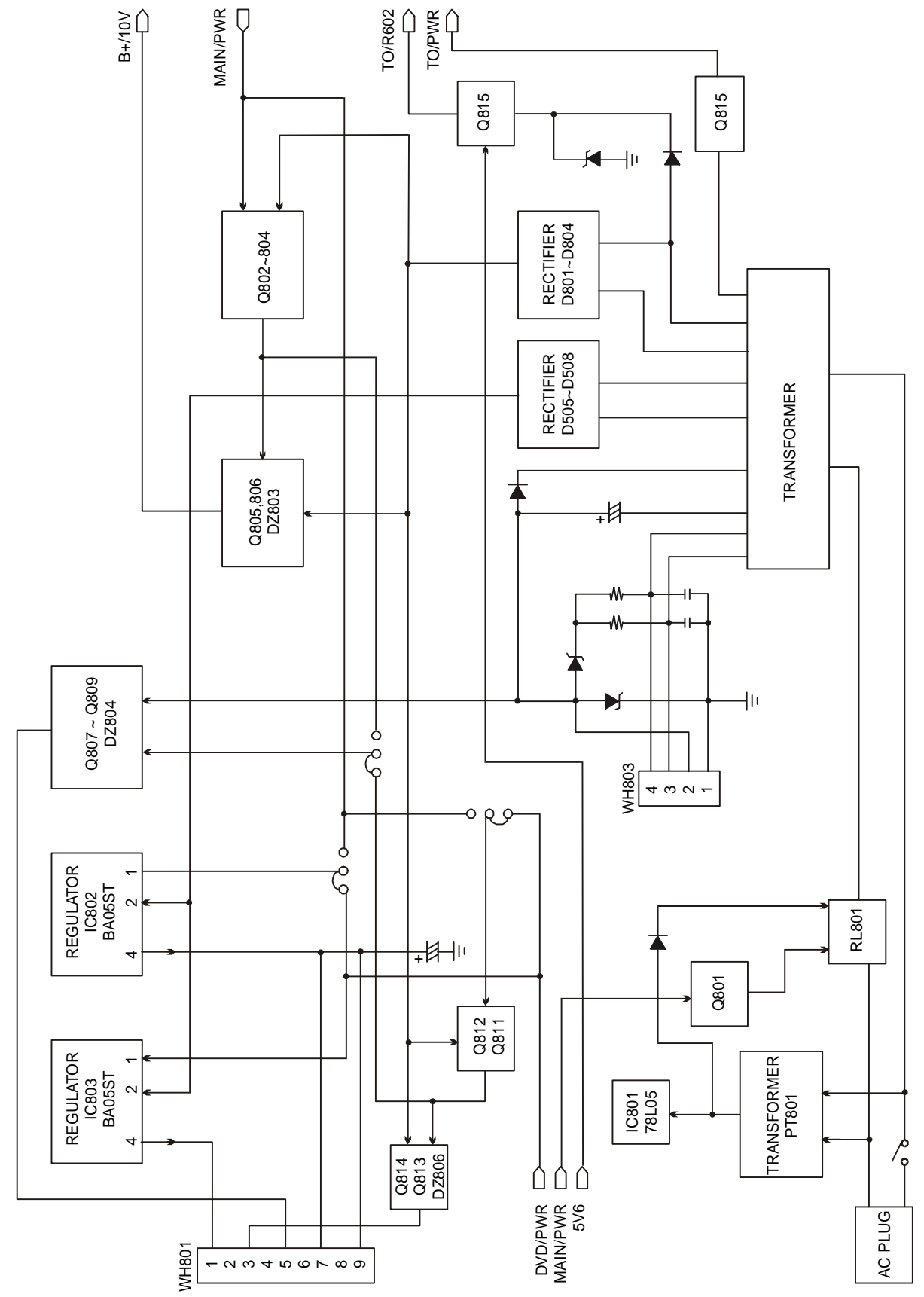
Pin No.	Pin Name	Type	Description
132	GNDP-A2		Digital ground of filtered 3.3V supply for AMCLK.
130	VDDP-A2		3.3 V filtered digital power supply for AMCLK.
14,35,73 114,144	GNDC		Digital ground of 1.8 V supply.
12,33,63 116,142	VDDC		1.8 V Digital power supply
123	GND A		Ground plane of internal PLL circuit.
121	VDDA		1.8 V Power supply for internal PLL circuit.
104	VDDDAC		3.3 V Analog power supply for the DACs.
101 107 109 110	GNDDAC_D GNDDAC_B GNDDAC_P GNDDAC_S		Grounds for the DACs 3.3V analog power supply

BLOCK DIAGRAMS

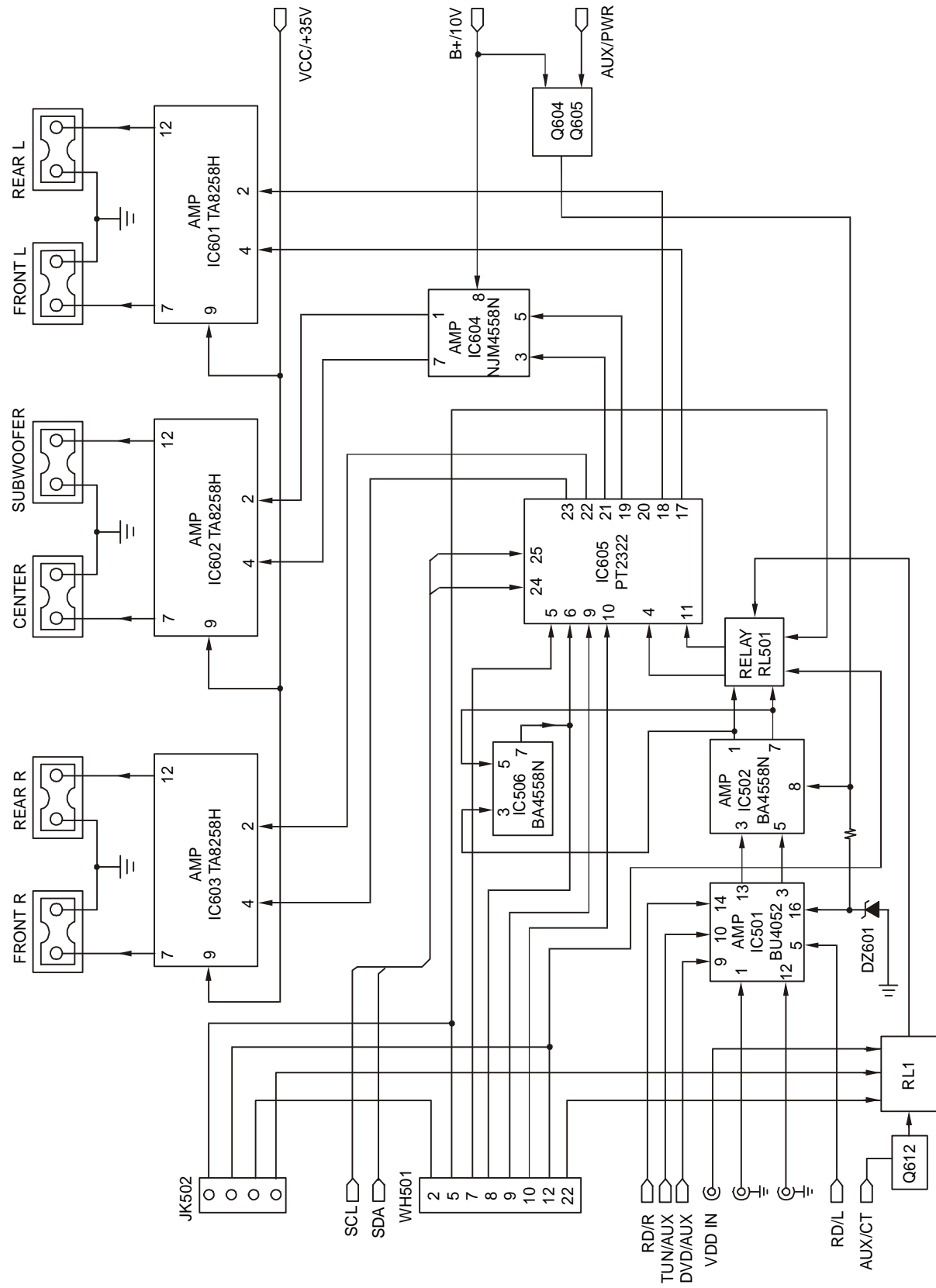
TUNER SECTION



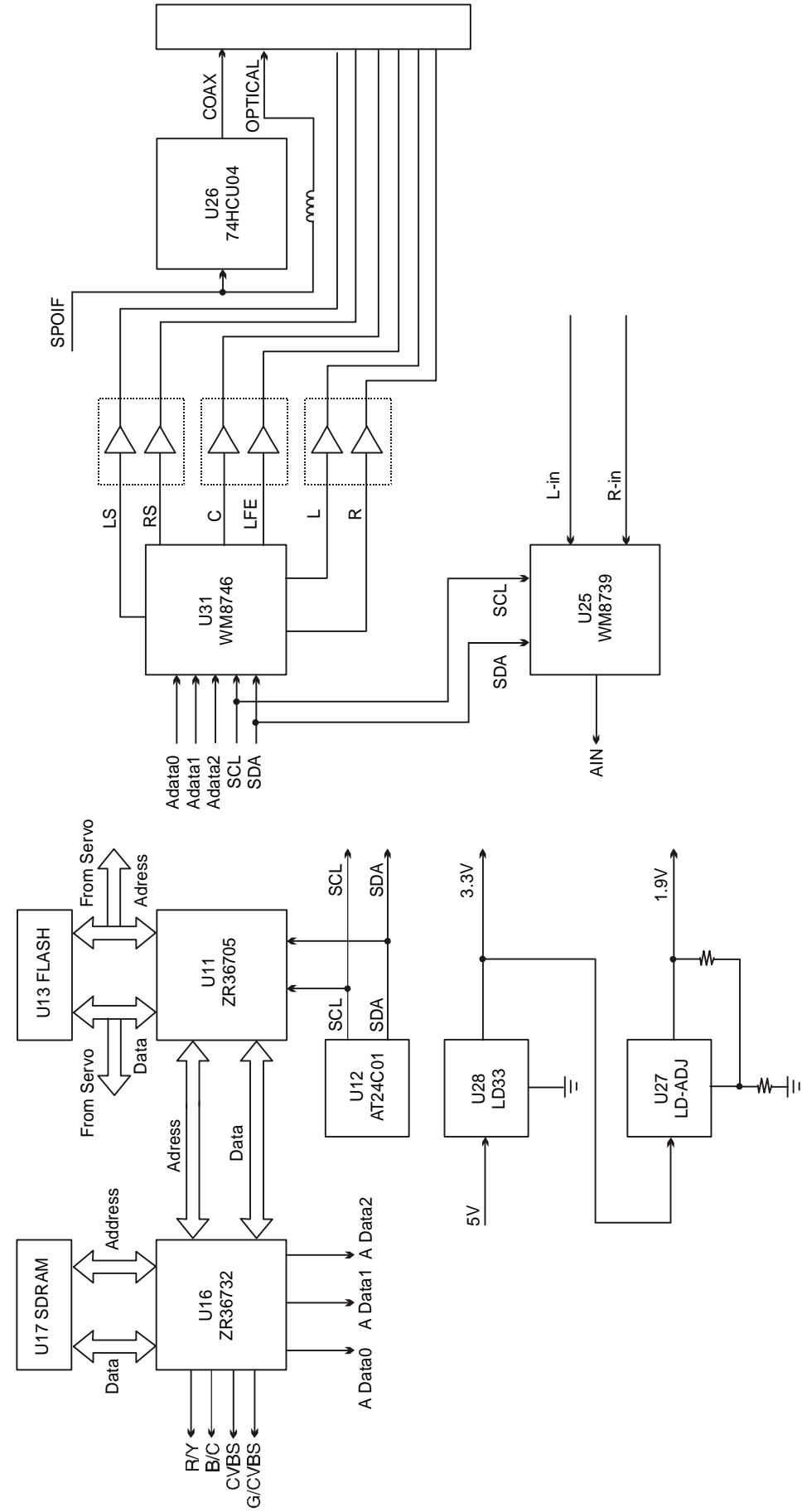
POWER SUPPLY SECTION



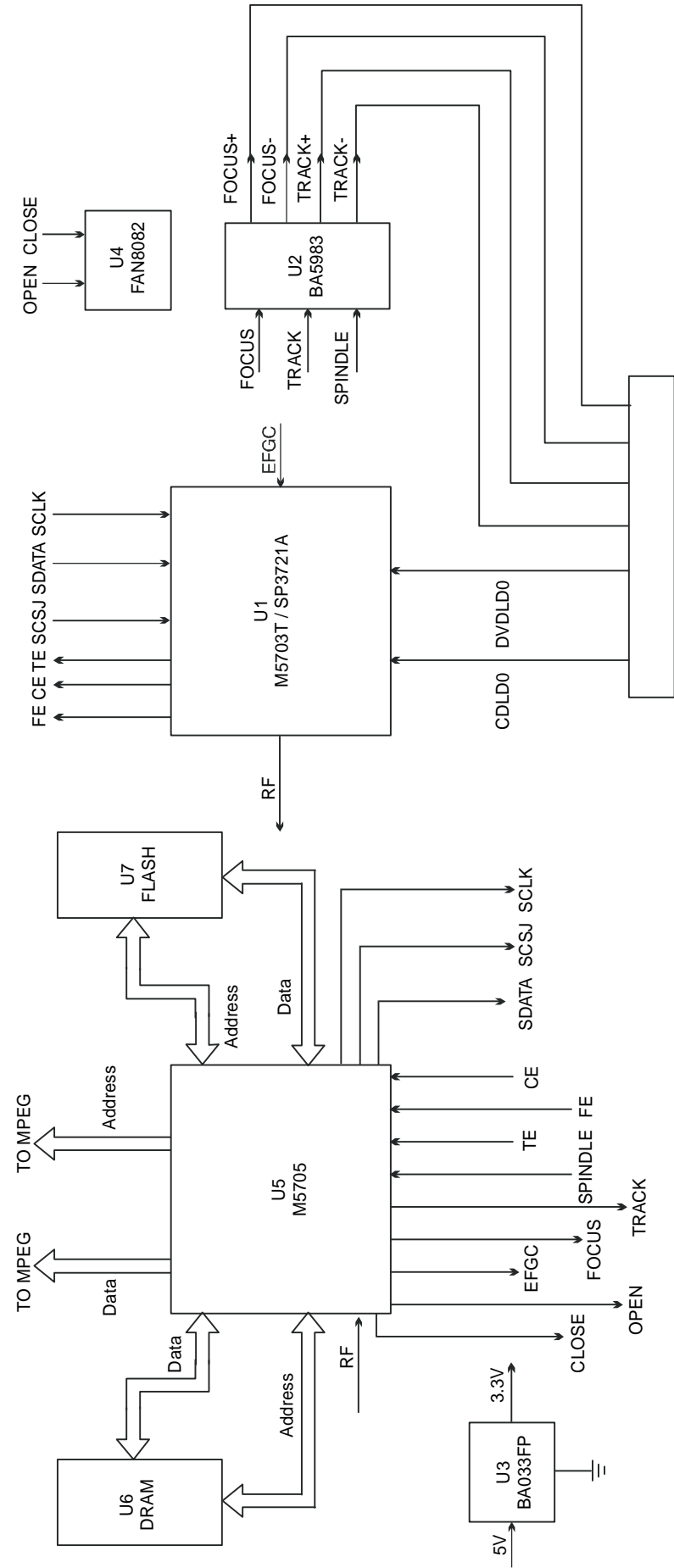
POWER AMP. SECTION



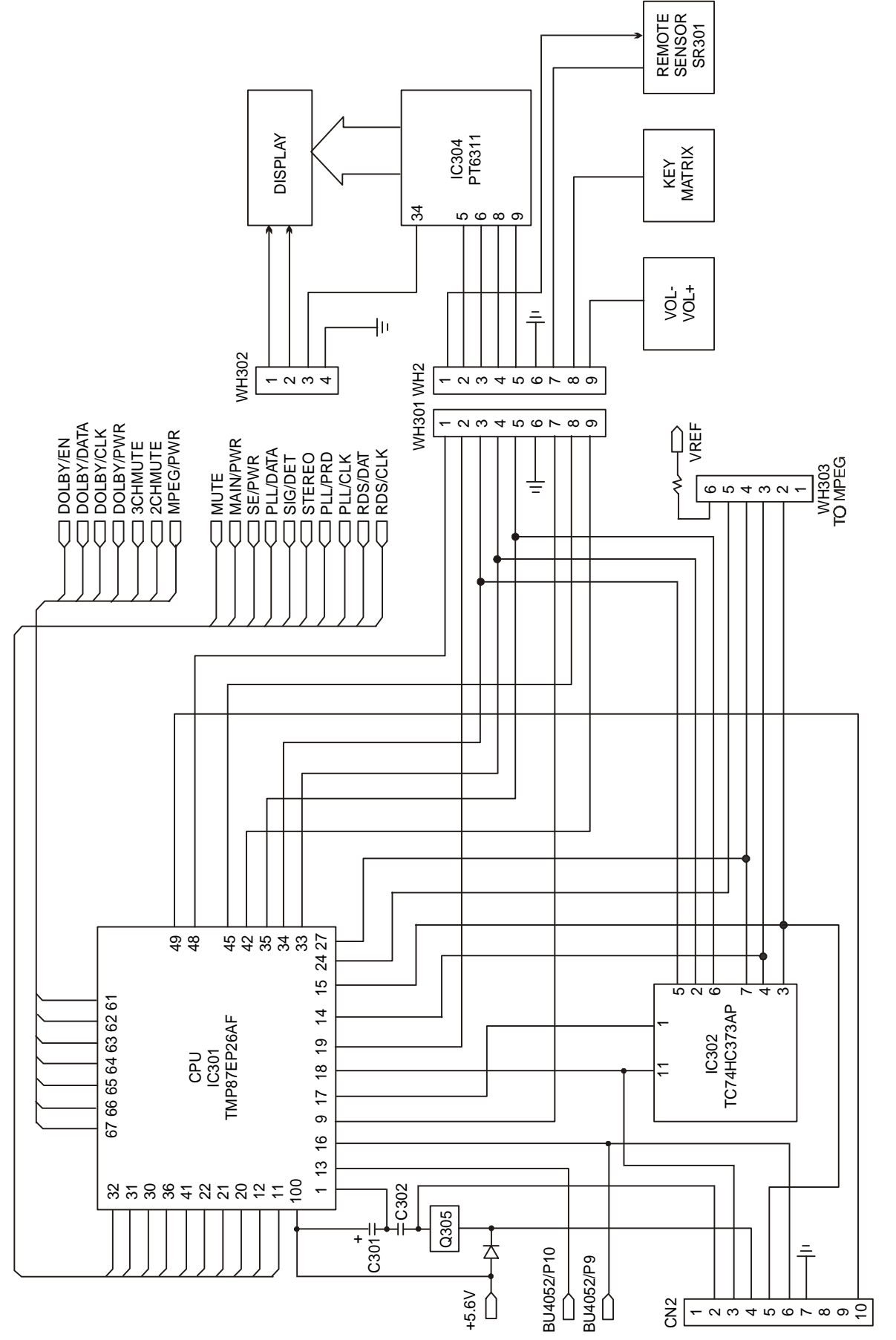
MPEG SECTION



SERVO SECTION



CPU & CONTROL SECTION



EXPLODED DRAWING PARTS LIST

Ref. No.	Description	Mfr's Part No.	Qty.
MAIN UNIT			
1	RUBBER FOOT, 10x10x2.0mm BLACK (NC RUBBER), w/SELF-ADHESIVE	2/BOTTOM CAB 2/FRONT PANEL 2/TUNING PCB 700-630141-000	6
2	DVD DOOR (MIRROR LENS), S:129x18mm, w/PNT	512-ST2807-xxx	1
3	DISPLAY LENS (MIRROR LENS), S:158.5x17.8mm, w/PNT	512-ST2806-xxx	1
4	VOLUME KNOB, MOLD CNS-0360 (ABS) CAV.1, w/SPY	510-ST2207-xxx	1
5	VOLUME KNOB BRACKET, MOLE L.GREY (CNS-0360)	505-ST2809-001	1
6	VOLUME KNOB RING, MOLD L.GREY (CNS-0360) w/SPY	500-ST2803-xxx	1
7	FRONT PANEL, MOLD CNS0360, w/SPY & PNT	500-ST2801-xxx	1
8	SPRING ARM, CAV.4 (POM)	509-ST2208-000	1
9	REMOTE LENS, MOLD TRANS.GREY(J-52858) (SAN) CAV:4	500-ST2219-000	1
10	REMOTE SENSOR BRACKET, MOLD L.GREY(CNS-0360)	505-ST2820-001	1
11	SUPPORT BRACKET, CAV.1 (ABS)	505-ST2237-000	1
12	CONTROL KNOB, MOLD C.GREY 7C (ABS) CAV.7, w/SPY	510-ST2233-xxx	7
13	CONTROL KNOB BRACKET, MOLD L.GREY(CNS-0360)	505-ST2805-001	1
14	VFD-2COL100x20.5SM-033P VACUUM FLUORESCENT DISPLAY #VFD20-1002 (ZEC)	115-001002-000	1
15	LED BRACKET, MOLDED BLACK CAV.4 (ABS)	505-ST2217-000	1
16	DISPLAY & KEY PCB STS28AAST-01-01	033-ST28A-100	1
17	POWER KNOB, MOLD C.GREY 7C (ABS) CAV.1, w/SPY	510-ST2206-xxx	1
18	POWER KNOB BRACKET, MOLD L.GREY(CNS-0360)	505-ST2832-001	1
19	POWER KNOB ADAPTOR, 1.0mm E.G. STEEL	603-ST2218-000	1
20	POWER SWITCH BRACKET, 1.0mm E.G. STEEL	605-ST2220-000	1
21	PUSH SWITCH 2P2T PS3-22SP-W4CW-3.2, w/UL.VDE SEMKO APPROVAL (LUP FUNG)	021-032222-000	1
22	MOUNTING BRACKET, T=1.2mm E.G. STEEL	605-ST2115-000	1
23	POST, CAV.1 (ABS)	503-ST2238-000	1
24	FAN COVER, CAV.4 (ABS)	500-ST2108-000	1
25	COOLING FAN DC12V DC BRUSHLESS #MW-510H12S-3, 50x50x10mm	100-090012-003	1
26	BACK PLATE, 0.3mm BLK PVC, w/PNT	650-ST2133-xxx	1
27	MECHANISM BRACKET (A), CAV.2 (ABS)	505-ST2212-000	2
28	FUSE PCB STS21AAST-01-07	033-ST21A-106	1
29	PCB BRACKET D, CAV.2 (ABS)	505-ST2226-000	2
30	BOTTOM CABINET, T=0.8mm E.G. STEEL	600-ST2225-000	1
31	PANEL BRACKET, 1.2mm E.G. STEEL	605-ST2223-000	1
32	DVD DOOR BRACKET, MOLD BLACK	505-ST2808-000	1
33	MECHANISM BRACKET (B), CAV.2 (ABS)	505-ST2213-000	2
34	PCB BRACKET (C), CAV.1 (ABS)	505-ST2216-000	1
35	PCB BRACKET (B), CAV.4 (ABS)	505-ST2215-000	4
36	PCB BRACKET (A), CAV.4 (ABS)	505-ST2214-000	4
37	MAIN PCB STS21AAST-01-01	033-ST21A-200	1
38	MPEG+SERVO PCB STS21AAST-01-02	033-ST21A-101	1
39	(F550-266422-000) MOUNTING BRACKET, MOLDED NATURAL, CAV.8 (ABS)	505-266422-000	1
40	HEATSINK, 0.5mm TIN PLATE	613-DV3231-000	2
41	TUNER PCB STS21AAST-01-04	033-ST21A-103	1
42	THERMAL RESISTOR PRESS PLATE, 0.3mm THK PHOSPHROUS BRONZE	650-DV3238-000	1
43	BLANK PCB STS21AAST-01-08	033-ST21A-107	1

EXPLODED DRAWING PARTS LIST - CONTINUED

Ref. No.	Description	Mfr's Part No.	Qty.
44	TOP PANEL, T=0.6mm E.G.C. STEEL, w/SPY	600-ST2224-xxx	1
45	POWER TRANSFORMER	123-xxxxxx-xxx	1
46	HEAT SINK (FOR 15W), 2.0mm ALUMINIUM	613-DV3242-000	1
47	HS&-EXT-AL&-005W-0C FIRM VOLTAGE HEATSINK (EXTRUDE AL)	613-ST2112-000	1
48	SCART PCB STS21AAST-01-05	033-ST21A-104	1
49	RGB CONNECTOR SOCKET 21 PINS, HRC-021V-07, (KUNMING)/MRC-021V-04 (HONDA)	JK701 135-HRC021-210	1
50	POWER TRANSFORMER	123-xxxxxx-xxx	1
	SCREW 3x6mm BB T.T.S.(S TYPE) NI PLATED (TSB#9878107200)	722-080308-060	10
	METAL WASHER Ø3.2xØ8x0.5mm	2/MAIN PCB 532-203208-050	2
	METAL WASHER 3.5x10x0.5mm	1/MAIN PCB 532-203510-050	1
	FIBRE WASHER DIA:3.2x8x1	4/MAIN PCB 532-303208-100	4
	SPRING WASHER 4mm BLACK	6/TF TO BOTTOM CAB 532-404000-000	6
	REMOTE SENSOR SHIELDING PLATE, 0.1mm COPPER PLATE (SELF ADHESIVE)	650-ST2123-000	1
	SHIELDING PLATE A, 0.1mm COPPER PLATE, (SELF ADHESIVE)	1/JACK 650-ST2125-000	1
	SHIELDING PLATE B, 0.1mm COPPER PLATE, (SELF ADHESIVE)	1/JACK 650-ST2126-000	1
	SHIELDING PLATE C, 0.1mm COPPER PLATE, (SELF ADHESIVE)	1/JACK 650-ST2127-000	1
	RUBBER FOAM 16x12x10mm	2/MAIN PCB 700-000005-003	2
	RUBBER FOAM, 25x18x15mm THK w/DOUBLE SIDE TAPE	2/MAIN PCB 700-026849-000	2
	RUBBER PAD, S:7.0x4.8x2.5mm w/ADHESIVE (RUBBER)	700-079329-000	1
	*CdF RUBBER FOOT, DIA:10x1.0 PORON HH48C, WITH NITTO 500	1/MAIN PCB 700-AT6619-000	1
	RUBBER (TRANSFORMER), 10x10x5.5mm w/N500 (B), 30 MBR	4/TF 700-DV3237-000 12/MAIN PCB	16
	HEATSINK INSULATOR, 0.25mm 25x10mm	700-DV3243-000	1
	REMOTE SENSOR INVISIBLE FELT	1/REMOTE 700-SD1614-000	1
	FELT B, 50x15x0.3mm HIMERON w/SONY T-3500 2-SIDED TAPE, (T#9871858900)	700-SDC019-001	5
	FOAM CUSHION, 1.5mm EVA	700-ST2113-000	1
	FELT CLOTH, 13x10x0.5mm FELT CLOTH w/ADHESIVE	700-ST2114-000	1
	SEPARATOR, T=0.3mm PVC PLATE, w/DOUBLE-SIDE ADHESIVE	1/FFC 700-ST2124-000	1
	HEATSINK INSULATOR, 1.0mm FIBRE PAPER (94HB)	1/HEATSINK TO PCB 700-ST2129-000	1
	CONTROL PCB SHIELD PAPER FIBRE PAPER	700-ST2131-000	1
	RUBBER PAD (DISPLAY) 10x5x3.8mm (NC) RUBBER, w/SELF ADHESIVE	700-ST2522-000	2
	SCREW ST3x6mm, PB BRASS BASED	720-050300-060	1
	SCREW ST3x8mm, PB BRASS BASED	720-050300-080	11
	SCREW ST3x8mm, BB HEAD V5.9-6.3, BB BRASS BASED	3/FR PCB TO FR CAB 720-110300-080	11
	SCREW ST3x10mm BB HEAD V5.9-6.3 BRASS BASED	4/SERVO PCB TO PCB BRACKET 720-110300-100	4

EXPLODED DRAWING PARTS LIST - CONTINUED

Ref. No.	Description	Mfr's Part No.	Qty.
	SCREW ST3x6mm, BB BRASS BASED 2/FR PCB TO FR CAB 1/SUPPORT BKT TO BOTTOM CABINET 1/FRANT PANEL BKT TO SUPPORT BKT	720-110300-060	4
	SCREW M3x6mm, PM 1/BOTTOM CABINET TO PANEL BRACKET	721-010300-060	1
	SCREW 3x8mm, PM BRASS BASED 6/AMP. IC TO HEATSINK	721-010300-080	6
	SCREW 4x8mm, PM 6/TF TO BOTTOM CAB	721-010400-080	6
	SCREW 3x24mm PB T.T.S. 4/MECHANISM TO BOTTOM CAB	722-020300-240	4
	SCREW 3x6mm FLAT HEAD B TYPE T.T.S., NI-PLATED 1/GROUNDING TO HEATSINK 1/THERMAL RESISTOR PRESS PLATE TO HEATSINK	722-060307-060	2
	SCREW 3x6mm BB T.T.S. (PTB 3x6NI) 2/FFC CABLE PCB TO HEASINK	722-080300-060	2
	SCREW ST3x8mm BB T.T.S. (B TYPE), 4/PWOER IC-HEATSINK CBTS(P)-Z CHROMATE PLATING CBTB 3x8 MC 2/HEATSINK-MAIN PCB	722-080307-082	6
	SCREW 3x6mm BB T.T.S. (S TYPE) NI PLATED (TSB#9878107200) 2/POWER SWITCH BKT TO BOTTOM CAB 2/POWER SWITCH TO POWER SWITCH BKT	722-080308-060	4
	(F722-080308-182) SCREW 3x18mm BB T.T.S. (S TYPE) 4/FAN COVER TO BOTTOM CABINET	722-080308-180	4
	SCREW 3x38mm BB T.T.S. (S TYPE) 2/SOCKET PCB TO BOTTOM CAB	722-080308-380	2
	SCREW 3x15mm BM T.T.S. (S TYPE) NI PLATED 5/PCB STS2xAASST-01-01 TO BOTTOM CABINET	722-100308-150	5
	*CdF NUT M3x0.5 PITCH Ni 6/AMP.IC TO HEATSINK	725-000030-500	6
	NUT M4 6/TF TO BOTTOM CAB	725-000040-000	6
	SPONGE, SIZE:15mmx15mmx10mm	700-0228A3-000	1
	*CdF 4" CABLE/PLASTIC TIE (SKB-1M/CV-100)	727-000100-000	4
	*CdF PVC TUBE AWG5 INNER DIA:4.72mm, (DAE CHANG/TAE IK) (UL/CSA APP.) UNIT"M"	728-000047-001	0.22
	PVC TUBE AWG1 INNER DIA. 7.35mm DC-3, (DAE CHANG) (UL/CSA APP.) TRANSPARENT UNIT"M"	728-000073-000	0.125
	*CdF PVC HEAT SHRINKABLE TUBE DIA. 3mm, (UNITUBE) (UL/CSA APP.) UNIT"M"	728-015030-001	0.05
	*CdF PVC HEAT SHRINKABLE TUBE DIA.3.5mm, (UNITUBE) (UL/CSA APP.) UNIT"M"	728-015035-000	0.11
	*CdF PVC TUBE AWG5 INNER DIA:4.72mm (DAE CHANG/TAE IK) (UL/CSA APP.) UNIT"M"	728-000047-001	0.07
	*CdF 4" CABLE/PLASTIC TIE (SKB-1M/CV-100)	727-000100-000	3
	*CdF FUSE HOLDER, HTF-015	550-790000-000	6
	METAL TIE WIRE CLAMP M3 L60 (TSB#9872700800)	727-000360-000	1
	*CdF 4" CABLE/PLASTIC TIE (SKB-1M/CV-100)	727-000100-000	1
DVD MECHANISM - STSD-010SMT			
1	DRIVE GEAR, MOLDED BLACK, CAV.2, POM M90 94HB	509-CD3205-000	1
2	LM BELT, MOLD BLK DIA:28x1.85x1.85 LOY-BELT-CR MOTOR BELT (RUBBER)	700-0CDD40-002	1
3	PULLEY GEAR, MOLDED BLACK, CAV.4, POM M90 94HB	509-CD3206-000	1
4	CHUCK YOKE, MOLDED BLACK, CAV.2 (ABS)	509-DVD302-000	1
5	SLIDER, MOLDED BLACK, CAV.2 (ABS)	509-CD3204-000	1
6	CHASSIS, MOLDED BLACK, CAV.1 (HIPS)	509-CD3202-000	1

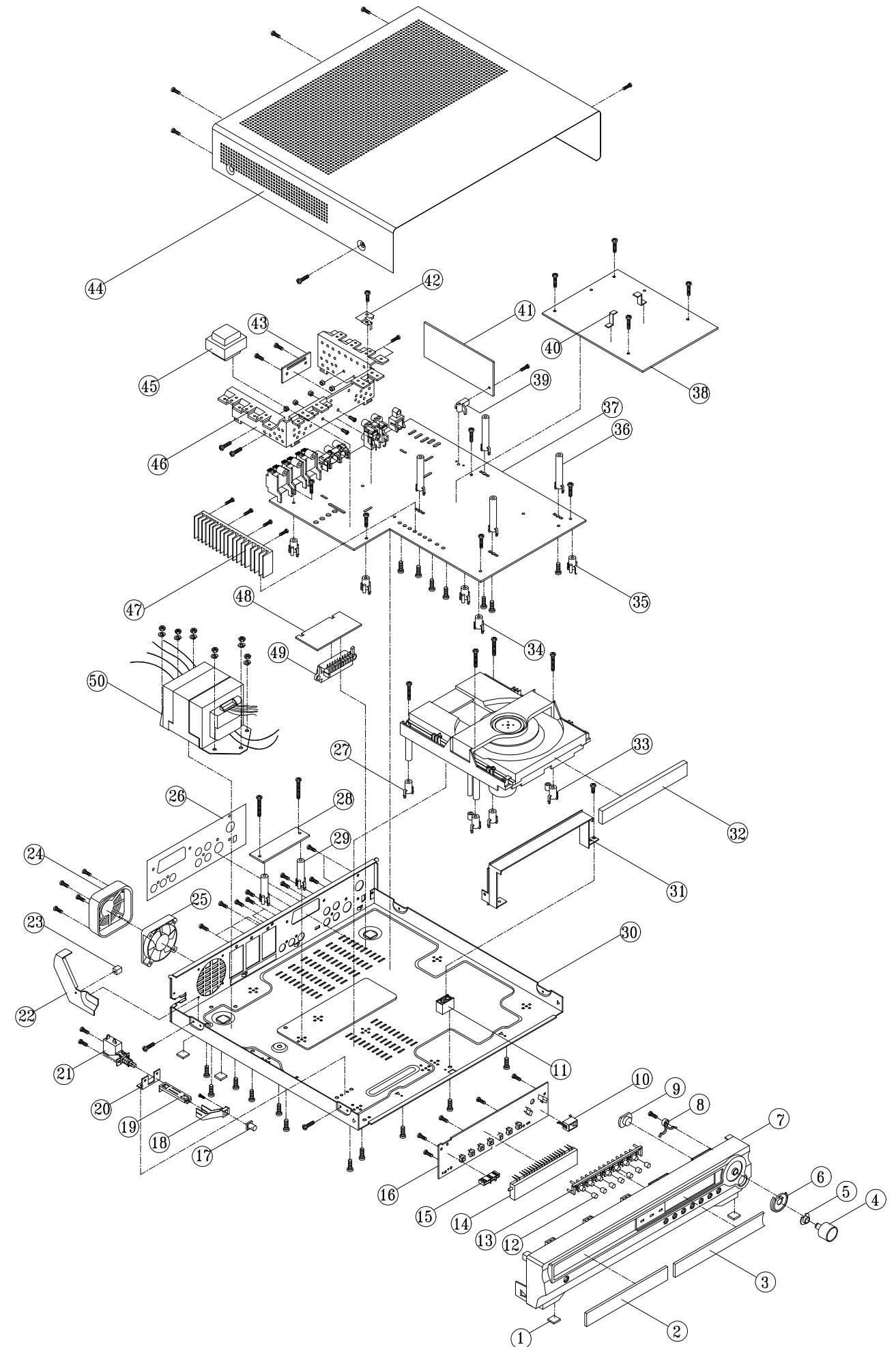
EXPLODED DRAWING PARTS LIST - CONTINUED

Ref. No.	Description	Mfr's Part No.	Qty.
7	LEAF SWITCH (LUP FUNG)	022-001210-001	1
8	TRAY, MOLDED BLACK, CAV.1 (ABS)	509-CD3201-000	1
9	(F700-0CDD18-000) MOTOR PULLEY, MOLDED BLACK, POM M90 94HB, CAV:6 (POM)	509-0CDD18-000	1
10	MOTOR-DC-006V-NORMAL 6V #RF-500TB-12560, (MABUCHI) 10gm (KSM-2101-ABM-AL)	151-061256-000	1
11	LOAD MOTOR PCB STS21AASST-01-09	033-ST521A-108	1
12	SPRING PLATE, 0.2T S.S.	650-CDD307-000	1
13	CHUCK PLATE, DIA:19.9/DIA:3.5x0.8 ELECTROLYTIC ST.PLATE	650-DVD303-000	1
14	CD MECHANISM HOLDER, MOLDED NATURAL, CAV.2 (ABS)	505-CD3203-000	1
15	CHUCK PULLEY, MOLDED BLACK, CAV.2 (ABS)	509-DVD301-000	1
16	FFC CABLE HOLDER, MOLDED BLACK, CAV.4 (ABS)	505-CD3210-000	1
17	DVD-FLC-01-SAMG-N DVD MECHANISM FOR CD-R CMS-S21MG6 (SAMSUNG)	163-000216-000	1
18	DVD CUSHION DVD3-04 CR HARDNESS 50+-2 DURO BLACK	700-DVD304-000	4
19	METAL BRACKET, 1.0 THK E.G. STEEL	605-CD3211-000	1
20	METAL BRACKET, 1.0 THK E.G. STEEL	605-CD3211-000	1
	SCREW ST2.6x10mm, BB BRASS BASED (P TYPE)	720-110260-100	2
	METAL WASHER DIA:2.8/DIA:9.5x0.5mm	532-202809-550	1
	PLANE WASHER DIA:2.8x/DIA:7x0.5mm	2/MOTOR-CHASSIS 532-202807-050	2
	METAL WASHER DIA:2.8/DIA:9.5x0.5mm	4/DVD-CHASSIS 532-202809-550	4
	PVC WASHER Ø10xØ6.05x0.1mm, K890-43	1/SET 532-510006-010	1
	FOAM RUBBER, 6x5x4.5mm (HARDNESS 60 PAD CORD)	700-0CDD48-001	1
	SHIELD CORE (MABUCHI 53-192AB)	700-0CDD50-000	1
	HEATSINK SPACER 50x6x2mm INOAC RUBBER SPONGE	1.4PCS/SET 700-D15669-000	1.4
	C-4305 (BLK) w/TAPE		
	SCREW ST2x5mm PB BRASS BASED (M2.3 HEAD)	1/LEAF SW 720-050200-050	2
		1/SPRING PLATE	
	SCREW 2.6x5mm PM w/CHROMATE-PLATING	2/MOTOR-CHASSIS 721-010260-052	2
	SCREW 2.6x10mm BB T.T.S. (P TYPE) CHROMATE PLATING (BTTB2.6x10MC)	722-080260-102	6
	*CdF 4" CABLE/PLASTIC TIE (SKB-1M/CV-100)	727-000100-000	1
CENTER SPEAKER SECTION - SSQC3			
1	SPEAKER CLOTH #FP-662-0WT (SILVER GREY) (230x160mm) WIDTH:60"-62" UNIT"YD"	662-0FP662-000	0.0252
2	SPEAKER CLOTH MESH, CAV.2 (HIPS)	509-SQC303-000	1
3	SPEAKER PANEL, MOLD CNS-0360 (HIPS) w/SPY	500-SQC301-xxx	1
4	SPK00003"008OHM0030W w/BK DOME PAPER CAP #LF77SZ4309G50C8AS16CDB	131-308030-012	1
5	HOLE COVER, MOLD CNS-0360 (HIPS) CAV:8	500-SSQ104-000	2
6	SPEAKER CABINET, MOLD GREY(CNS-0360) (HIPS) w/ENGRAVING	500-SQC102-000	1
7	PUSH TERMINAL BOARD PT-213-03 BLACK, RED, MSP-105H-03 BLACK, RED *CdF SPK. BOX FELT 80x8x0.3mm, BLACK (TSB#PM0005432010)	118-000213-000	1
		2/SPEAKER CAB 700-993856-000	2
	SPEKAER GASKET, 1.5 THK FOAM RUBBER	700-SQC204-000	1
	SCREW ST3x20mm, PAB BRASS BASED	4/CAB-SPEAKER PANEL 720-010300-200	4
	SCREW ST3x8mm, BB HEAD V5.9-6.3, BB BRASS BASED	720-110300-080	2
		2/PUSH TERMINAL BOARD-SP CAB	
	SCREW ST3x10mm BB HEAD V5.9-6.3 BRASS BASE	4/SPKR-SPK PANEL 720-110300-100	4
SUB-WOOFER SECTION - SWT1			

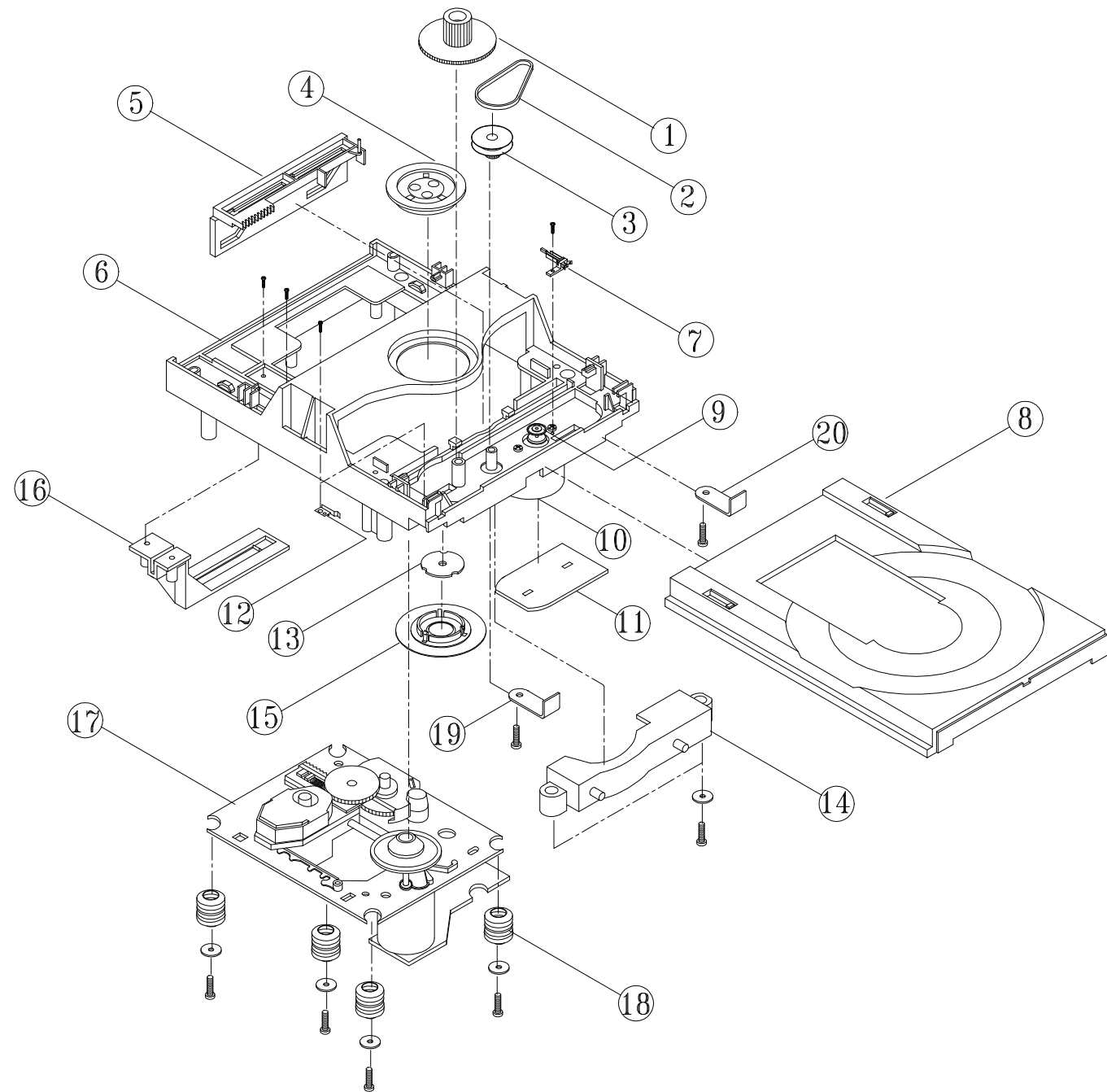
EXPLODED DRAWING PARTS LIST - CONTINUED

Ref. No.	Description	Mfr's Part No.	Qty.
1	SPEAKER CLOTH #FP-662-0WT (SILVER GREY) WIDTH:60"-62" FOR SUB-WOOFER (320x320mm) UNIT"YD"	662-0FP662-000	0.07
2	SPEAKER MESH, MOLDED BLACK, CAV.2 (HIPS) REV.1	509-299973-001	1
3	SPK006.5"006OHM0060W w/BK DOME PAPER CAP #LW165KZ5804G70F6A26PDB K0626	131-656060-011	1
4	SPEAKER BOX, S:220x380x240mm, SIL PVC w/SPY (15W)	660-SWT105-xxx	1
5	SPEAKER POST ADAPTOR, MOLDED NATURAL, CAV.8 (ABS)	503-650127-000	6
6	SUB-WOOFER TUBE, MOLD L.GREY (CNS-0360) (HIPS) CAV:4	509-SWT202-000	1
7	SUB-WOOFER PANEL, MOLD CNS0360 (HIPS) w/SPY, w/o PNT	500-SWT101-xxx	1
	SOUND TUBE GASKET, DIA:68x1.5mm EVA	700-SWT213-000	1
	WOOD SCREW ST3x10mm PWA CHIT BOARD, 4/SPEAKER	720-180300-100	4
	WOOD SCREW ST3x12mm BA CHIT BOARD, 4/TUBE	720-190300-120	10
	WOOD SCREW ST3x12mm BA CHIT BOARD, 6/SPEAKER POST ADAPTOR		
4-SPEAKER SECTION - SSQ3			
1	SPEAKER CLOTH #FP-662-0WT (SILVER GREY) WIDTH:60"-62" (200mmX160mm)X4PCS/SET UNIT"YD"	662-0FP662-000	0.0875
2	SPEAKER CLOTH MESH, CAV.4 (HIPS)	509-SSQ303-000	4
3	SPEAKER PANEL , MOLD CNS-0360 (HIPS) w/SPY	500-SSQ301-xxx	4
4	SPK00003"008OHM0030W w/BK DOME PAPER CAP #LF77SZ4309G50C8AS16CDB	131-308030-012	4
5	HOLE COVER, MOLD CNS-0360 (HIPS) CAV:8	500-SSQ104-000	4
6	SPEAKER CABINET, MOLD GREY(CNS-0360) (HIPS) w/ENGRAVING	500-SSQ102-000	4
7	PUSH TERMINAL BOARD PT-213-03 BLACK, RED, MSP-105H-03 BLACK, RED	118-000213-000	4
	FELT B, 50x15x0.3mm HIMERON w/SONY T-3500, 2-SIDED TAPE (T#9871858900) 4/SET	700-SDC019-001	4
	SCREW ST3x35mm, PAB (M3.5 HEAD) BRASS BASED 16/CAB-SPEAKER PANEL	720-010300-350	16
	SCREW ST3x8mm, BB HEAD V5.9-6.3, BB BRASS BASED	720-110300-080	8
	SCREW ST3x10mm BB HEAD V5.9-6.3 BRASS BASED 8/PUSH TER. BOARD-SPK CAB	720-110300-100	16

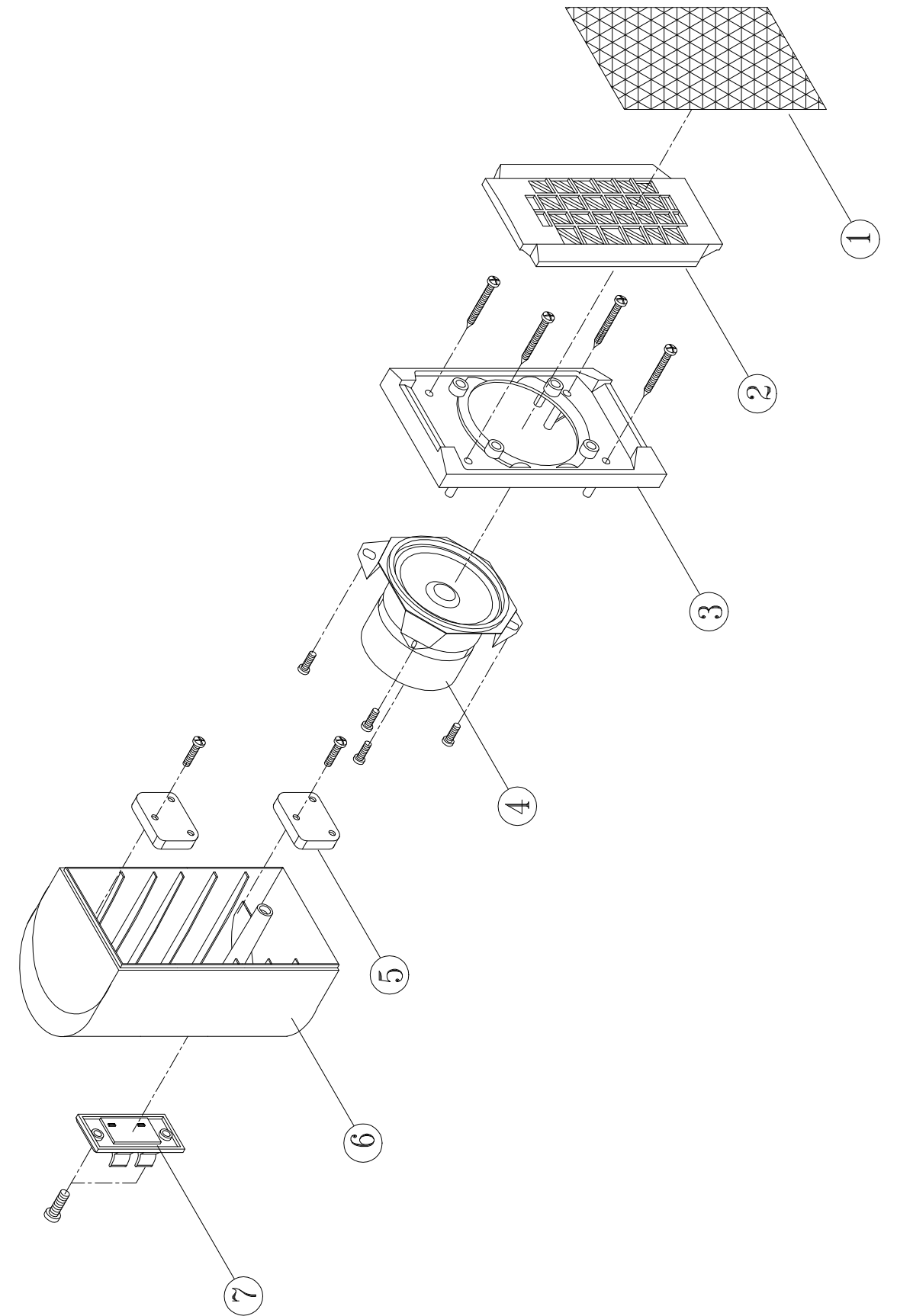
EXPLODED DRAWING - MAIN UNIT



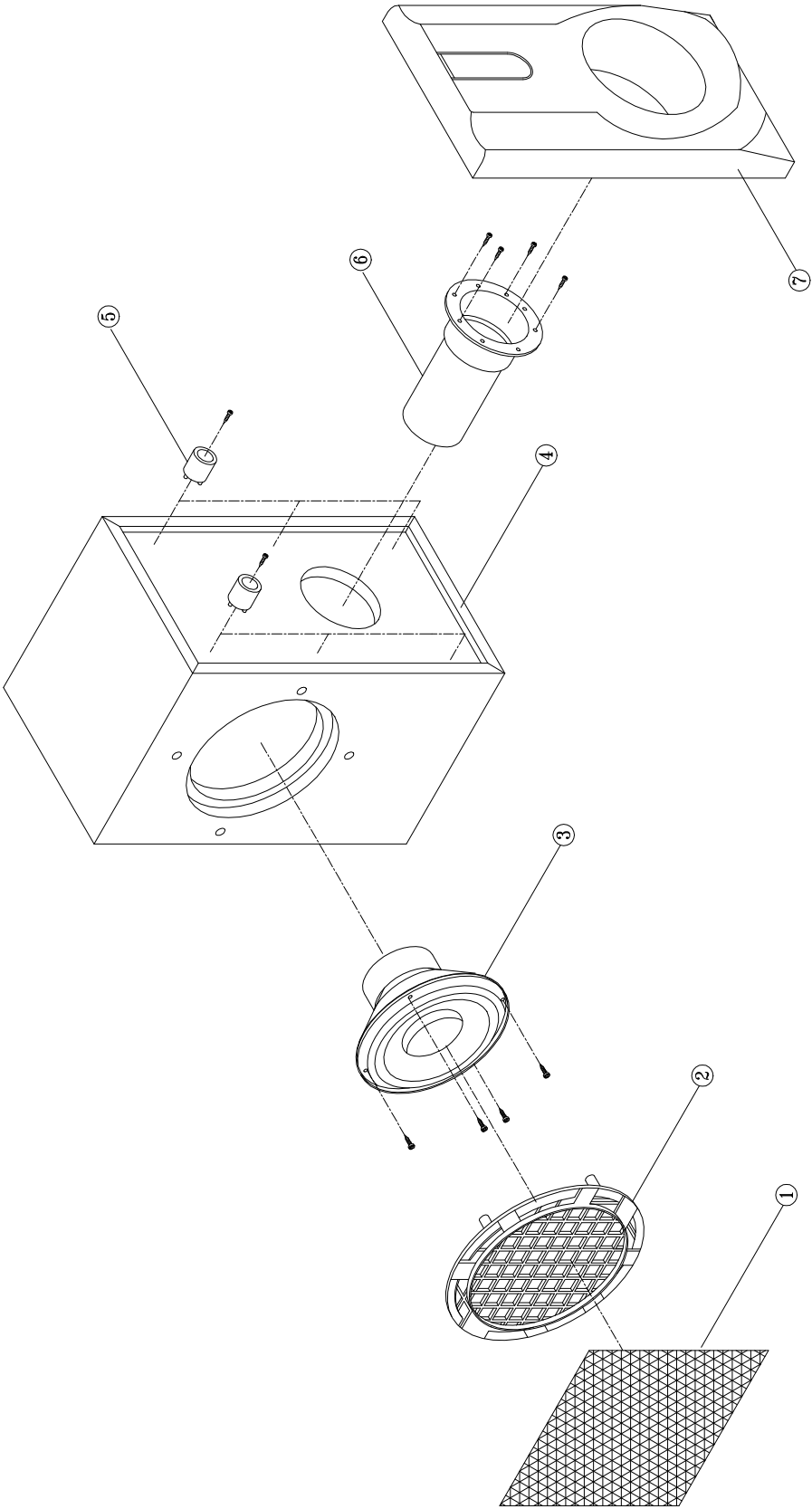
EXPLODED DRAWING - DVD MECHANISM



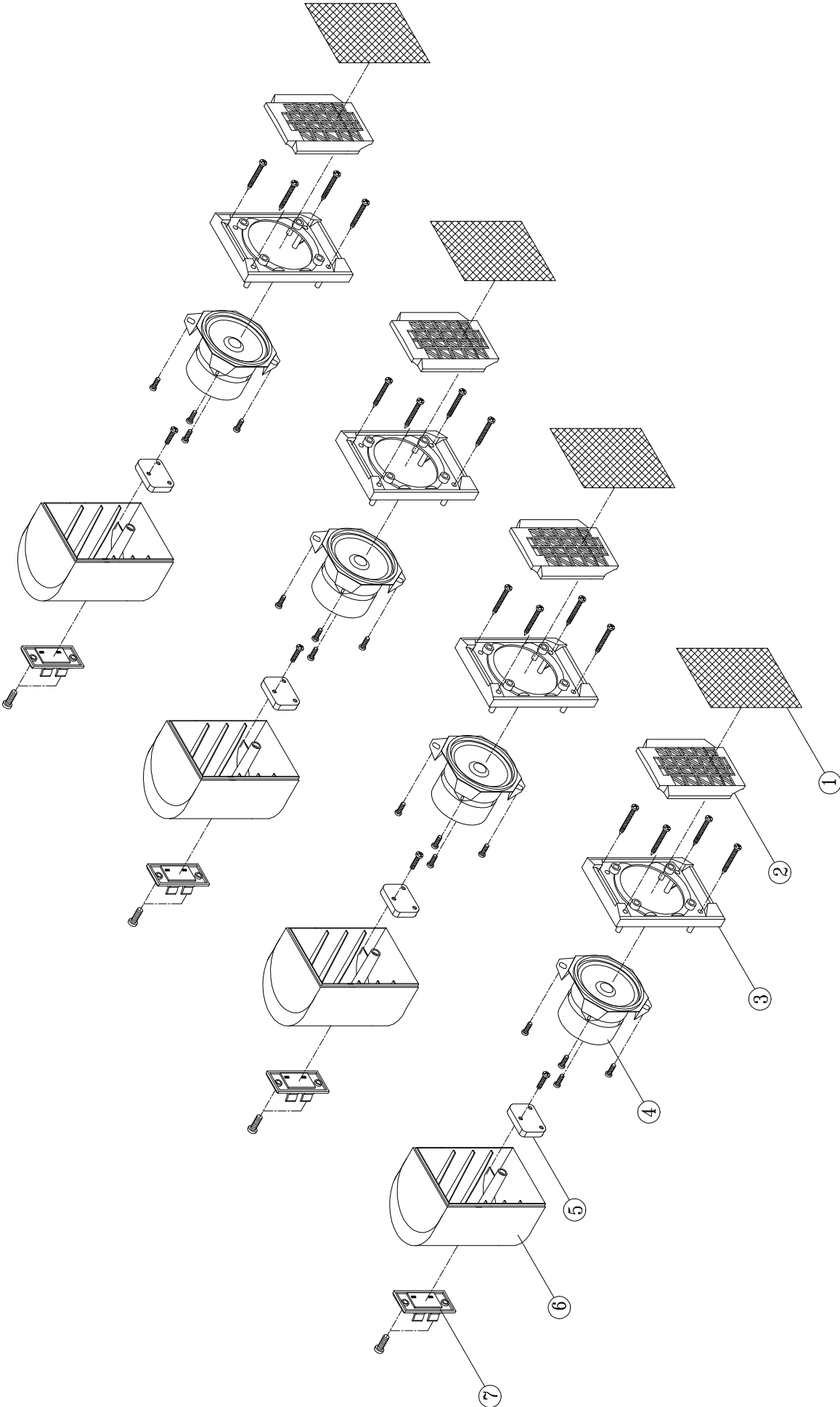
EXPLODED DRAWING - CENTER SPEAKER (SSQC3)



EXPLODED DRAWING - SUB-WOOFER (SWT1)



EXPLODED DRAWING - 4-SPEAKER (SSQ3)



NOTES

November, 2002