



SERVICE MANUAL

SLT201CH/DH



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SAFETY PRECAUTION

● Important Safety Notice

Many electrical and mechanical parts in this chassis have special safety-related characteristics. These parts are identified by in the Schematic Diagram and Replacement Parts List. It is essential that these special safety parts should be replaced with same components as Recommended in this manual to prevent Shock, or Fire, or other Hazards. Do not modify the original design without permission of manufacturer.

● Leakage Current Hot Check (See Below Figure)

Plug the AC cord directly into the AC outlet.

Do not use a line Isolation Transformer during this check.

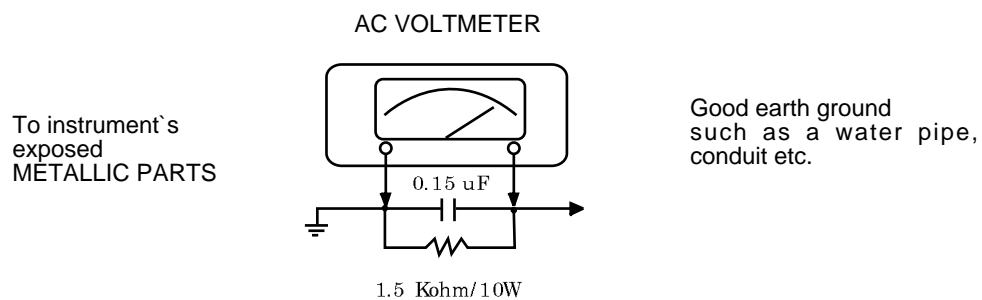
Connect 1.5k/10 watt resistor in parallel with a 0.15 μ F capacitor between a known good earth ground (Water pipe, Conduit, etc) and the exposed metallic parts.

Measure the AC voltage across the resistor using AC voltmeter with 1000 ohms/volt or more sensitivity.

Reverse plug of the AC cord into the AC outlet and repeat AC voltage measurements for each exposed metallic part. Any voltage measured must not exceed 0.75 volt RMS, which is, corresponds to 0.5mA.

In case any measurement is out of the limits specified, there is possibility of shock hazard and the set must be checked repaired before it is returned to the customer.

Leak Current Hot Check circuit

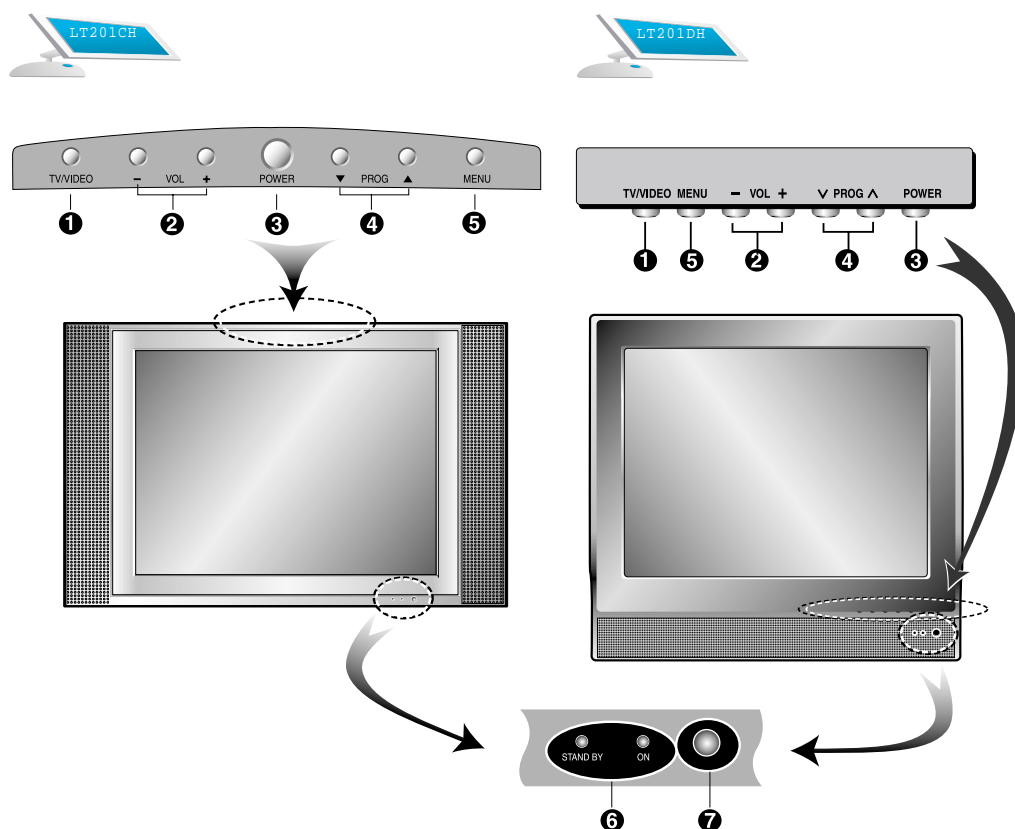


SPECIFICATIONS

		20.1"
Panel	Panel Type	20.1" (51cm) TFT Colour LCD
	Display Area	408.0mm x 306.0mm
	Display Colour	16.7million
	Pixel Pitch	0.6375mm x 0.6375mm
	Contrast Ratio	400:1 (Typical)
	Brightness	450cd/m ²
	Viewing Angle	H:170° V:170°
In/Out	Video	Composite Input S-Video Input
	Audio	Head-phone Out
TV Signal	Euro A/V	Scart
	Antenna	75ohm Coaxial cable
	Colour System	PAL / SECAM
	Sound System	B/G, D/K, I, L
	Stereo Type	NICAM, A2
	Text	TELETEXT
Others	Certifications	CE(LVD+EMCD)
	Power Consumption	55W
	Speaker	3watts x 2
	Screen Control	On Screen Display Menu
	Weight	LT201C1H: Net 8.2Kg / Gross 11Kg
		LT201DH : Net 9Kg / Gross 11Kg
	Power Supply	DC 15 volts
	Dimension	LT201C1H: 612mm(W) x 452mm(H) x 180mm(D)
		LT201DH : 496mm(W) x 514.5mm(H) x 220mm(D)

LOCATION AND FUNCTION OF CONTROLS

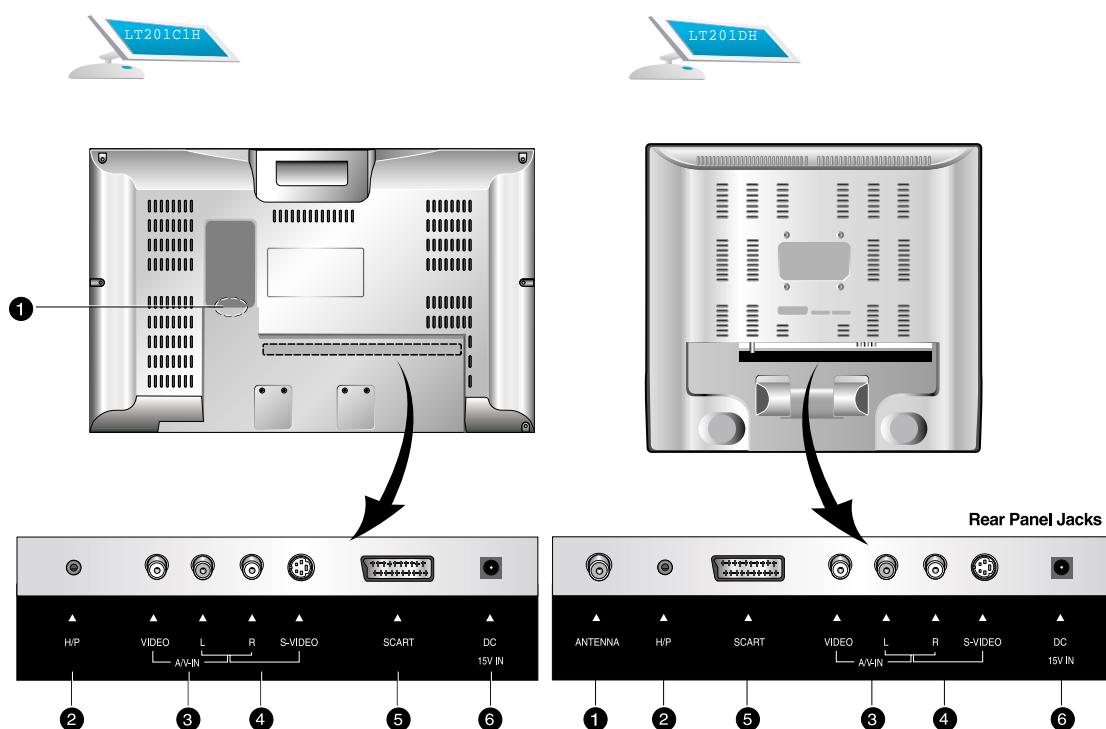
Front Panel



- | | |
|-----------------------------|--|
| 1 TV/VIDEO | Displays a menu of the available input sources.
(TV, Monitor) |
| 2 - VOL + | Press the increase or decrease the volume. Also used to increase or reduce the value of a menu option. |
| 3 POWER | Turns ON/OFF the LCD TV/Monitor. |
| 4 ▼PROG ▲ | Press PROG ▼ or PROG ▲ to change channels. Also used to highlight selections on the on-screen menus. |
| 5 MENU | Display the main on-screen menu. Exit from sub-menu. |
| 6 LED | OFF : the color of LED is changed into RED.
ON : the color of LED is changed into GREEN. |
| 7 Remote Control LED | |

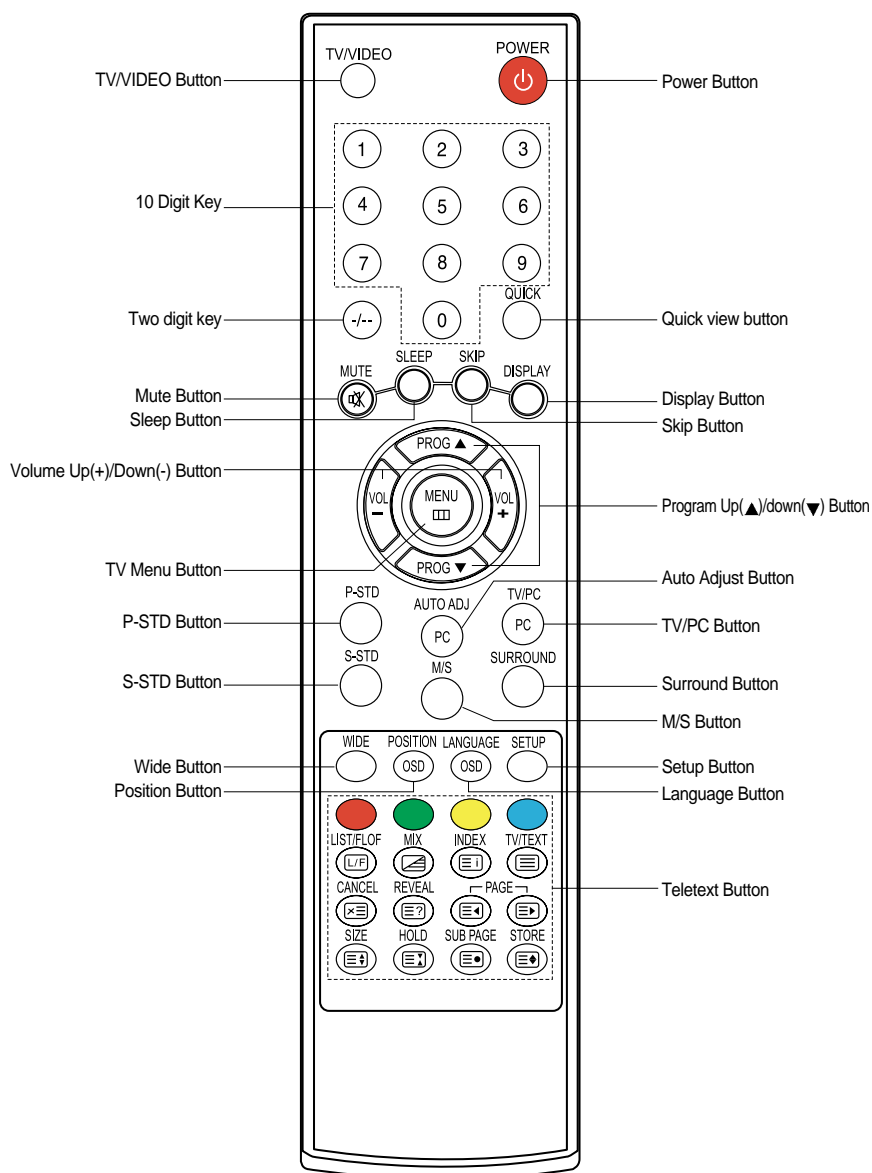
LOCATION AND FUNCTION OF CONTROLS

Rear Panel



- | | |
|-------------------------------|---|
| 1 VHF/UHF ANTENNA JACK | Connect to an antenna or a cable TV system. |
| 2 HEAD PHONE JACK | |
| 3 A/V IN | Video & Audio signals from VCR or similar device. |
| 4 S-VIDEO | S-Video signal from an S-VHS VCR or Laserdisc player. |
| 5 SCART | Scart Audio/Video Connector |
| 6 DC 15V IN | To input DC power from power outlet. |

REMOTE CONTROL UNIT



BATTERY INSTALLATION

- ❖ Replace two batteries in the battery compartment at the same time.
- ❖ Insert "AAA" batteries, observing the polarity (+ or -) marked on the unit.

Batteries should last about a year under normal use. If the operation is unstable (either channel or volume does not change), replace the batteries. When the hand unit is not used for a long, or when the batteries are used up, take out the batteries to prevent possible leakage. To avoid any malfunction of the remote control, press only one button at a time.

Procedure for the factory mode

In the POWER-ON mode, the factory(Service) mode is activated by pressing the DISPLAY+1+1+TV/VIDEO button in sequecne on the remote controller.

The menu of the factory mode will be displayed.

The factory mode consists of 8 componets:

1. W.BAL : You do not need to select it.
2. SERVICE 1 : You do not need to select it.
3. SERVICE2 : You do not need to select it.
4. Volume TEST : You do not need to select it.
5. Device Check: You do not need to select it.
6. Option: You do not need to select it.
7. EEPROM Reset : You do not neet to select it.
8. UOC Control : You do not need to select it.



IC501 : TDA9567

Philips Semiconductors

Tentative Device Specification

TV signal processor-Teletext decoder with embedded μ -Controller

TDA955X/6X/8X H/N1 series

GENERAL DESCRIPTION

The various versions of the TDA955X/6X/8X H/N1 series combine the functions of a video processor together with a μ -Controller and US Closed Caption decoder. Most versions have a Teletext decoder on board. The Teletext decoder has an internal RAM memory for 1 or 10 page text. The ICs are intended to be used in economy television receivers with 90° and 110° picture tubes.

The ICs have supply voltages of 8 V and 3.3 V and they are mounted in a QFP 80 envelope.

The features are given in the following feature list. The differences between the various ICs are given in the table on page 4.

FEATURES

TV-signal processor

- Multi-standard vision IF circuit with alignment-free PLL demodulator
- Internal (switchable) time-constant for the IF-AGC circuit
- The QSS and mono FM functionality are both available so that an FM/AM TV receiver can be built without the use of additional ICs
- The mono intercarrier sound circuit has a selective FM-PLL demodulator which can be switched to the different FM sound frequencies (4.5/5.5/6.0/6.5 MHz). The quality of this system is such that the external band-pass filters can be omitted.
- The FM-PLL demodulator can be set to centre frequencies of 4.74/5.74 MHz so that a second sound channel can be demodulated. In such an application it is necessary that an external bandpass filter is inserted.
- The vision IF and mono intercarrier sound circuit can be used for the demodulation of FM radio signals
- Video switch with 2 external CVBS inputs and a CVBS output. One of the CVBS inputs can be used as Y/C input.
- 2 external audio inputs. The selection of the various inputs is coupled to the selection of the CVBS signals
- Integrated chrominance trap circuit
- Integrated luminance delay line with adjustable delay time
- Switchable group delay correction in the CVBS path
- Picture improvement features with peaking (with switchable centre frequency, depeaking, variable positive/negative overshoot ratio and video dependent coring), dynamic skin tone control and blue-, black- and white stretching

- Integrated chroma band-pass filter with switchable centre frequency
- Switchable DC transfer ratio for the luminance signal
- Only one reference (12 MHz) crystal required for the μ -Controller, Teletext- and the colour decoder
- PAL/NTSC or multi-standard colour decoder with automatic search system
- Internal base-band delay line
- Indication of the Signal-to-Noise ratio of the incoming CVBS signal
- A linear RGB/YUV/YP_BP_R input with fast blanking for external RGB/YUV sources. The synchronisation circuit can be connected to the incoming Y signal. The Text/OSD signals are internally supplied from the μ -Controller/Teletext decoder.
- RGB control circuit with 'Continuous Cathode Calibration', white point and black level off-set adjustment so that the colour temperature of the dark and the light parts of the screen can be chosen independently.
- Contrast reduction possibility during mixed-mode of OSD and Text signals
- Adjustable 'wide blanking' of the RGB outputs
- Horizontal synchronization with two control loops and alignment-free horizontal oscillator
- Vertical count-down circuit
- Vertical driver optimized for DC-coupled vertical output stages
- Horizontal and vertical geometry processing
- Horizontal and vertical zoom function for 16 : 9 applications
- Horizontal parallelogram and bow correction for large screen picture tubes
- Low-power start-up of the horizontal drive circuit



TV signal processor-Teletext decoder with embedded μ -Controller

TDA955X/6X/8X H/N1 series

μ -Controller

- 80C51 μ -controller core standard instruction set and timing
- 1 μ s machine cycle
- 32 - 128Kx8-bit late programmed ROM
- 3 - 12Kx8-bit Auxiliary RAM (shared with Display)
- Interrupt controller for individual enable/disable with two level priority
- Two 16-bit Timer/Counter registers
- One 16-bit Timer with 8-bit Pre-scaler
- WatchDog timer
- Auxiliary RAM page pointer
- 16-bit Data pointer
- Stand-by, Idle and Power Down modes
- 14 bits PWM for Voltage Synthesis Tuning
- 8-bit A/D converter with 4 multiplexed inputs
- 5 PWM (6-bits) outputs for control of TV analogue signals

Data Capture

- Text memory for 1 or 10 pages
- In the 10 page versions inventory of transmitted Teletext pages stored in the Transmitted Page Table (TPT) and Subtitle Page Table (SPT)
- Data Capture for US Closed Caption
- Data Capture for 525/625 line WST, VPS (PDC system A) and Wide Screen Signalling (WSS) bit decoding
- Automatic selection between 525 WST/625 WST
- Automatic selection between 625 WST/VPS on line 16 of VBI
- Real-time capture and decoding for WST Teletext in Hardware, to enable optimized μ -processor throughput
- Automatic detection of FASTEXT transmission
- Real-time packet 26 engine in Hardware for processing accented, G2 and G3 characters
- Signal quality detector for video and WST/VPS data types
- Comprehensive teletext language coverage
- Full Field and Vertical Blanking Interval (VBI) data capture of WST data

Display

- Teletext and Enhanced OSD modes
- Features of level 1.5 WST and US Close Caption
- Serial and Parallel Display Attributes
- Single/Double/Quadruple Width and Height for characters
- Scrolling of display region
- Variable flash rate controlled by software
- Enhanced display features including overlining, underlining and italics
- Soft colours using CLUT with 4096 colour palette
- Globally selectable scan lines per row (9/10/13/16) and character matrix [12x10, 12x13, 12x16 (VxH)]
- Fringing (Shadow) selectable from N-S-E-W direction
- Fringe colour selectable
- Meshing of defined area
- Contrast reduction of defined area
- Cursor
- Special Graphics Characters with two planes, allowing four colours per character
- 32 software redefinable On-Screen display characters
- 4 WST Character sets (G0/G2) in single device (e.g. Latin, Cyrillic, Greek, Arabic)
- G1 Mosaic graphics, Limited G3 Line drawing characters
- WST Character sets and Closed Caption Character set in single device

BLOCK DIAGRAM





TECHNICAL INFORMATION

PINNING

SYMBOL	PIN	DESCRIPTION
P3.1/ADC1	1	port 3.1 or ADC1 input
P3.2/ADC2	2	port 3.2 or ADC2 input
P3.3/ADC3	3	port 3.3 or ADC3 input
VSSC/P	4	digital ground for μ -Controller core and periphery
P0.5	5	port 0.5 (8 mA current sinking capability for direct drive of LEDs)
P0.6/CVBSTD	6	port 0.6 (8 mA current sinking capability for direct drive of LEDs) or Composite video input. A positive-going 1V(peak-to-peak) input is required
VSSA	7	analog ground of Teletext decoder and digital ground of TV-processor
SECPLL	8	SECAM PLL decoupling
VP2	9	2 nd supply voltage TV-processor (+8 V)
DECDIG	10	supply voltage decoupling of digital circuit of TV-processor
PH2LF	11	phase-2 filter
PH1LF	12	phase-1 filter
GND3	13	ground 3 for TV-processor
DECBG	14	bandgap decoupling
AVL/EWD ⁽¹⁾	15	Automatic Volume Levelling (90° versions) / E-W drive output (110° versions)
VDRB	16	vertical drive B output
VDRA	17	vertical drive A output
IFIN1	18	IF input 1
IFIN2	19	IF input 2
IREF	20	reference current input
VSC	21	vertical sawtooth capacitor
AGCOUT	22	tuner AGC output
SIFIN1	23	SIF input 1
SIFIN2	24	SIF input 2
GND2	25	ground 2 for TV processor
SNDPLL	26	narrow band PLL filter
AVL/REF0/SNDIF ⁽¹⁾	27	Automatic Volume Levelling / subcarrier reference output / sound IF input
AUDIO2	28	audio 2 input
AUDIO3	29	audio 3 input
HOUT	30	horizontal output
FBISO	31	flyback input/sandcastle output
DECSDEM	32	decoupling sound demodulator
QSSO/AMOUT/ AUDEEM ⁽¹⁾	33	QSS intercarrier output / AM output in stereo applications or deemphasis (front-end audio out) / AM output in mono applications
EHTO	34	EHT/overvoltage protection input
PLLIF	35	IF-PLL loop filter
SIFAGC	36	AGC sound IF
QSSO	37	QSS output
IFVO/SVO	38	IF video output / selected CVBS output
VP1	39	main supply voltage TV processor
CVBS1	40	internal CVBS input
GND	41	ground for TV processor
CVBS2	42	external CVBS2 input

TECHNICAL INFORMATION

SYMBOL	PIN	DESCRIPTION
GND	43	ground for TV-processor
CVBS3/Y	44	CVBS3/Y input
C	45	chroma input
WHSTR	46	white stretch capacitor
CVBSO	47	CVBS output
AUDOUT /AMOUT ⁽¹⁾	48	audio output /AM audio output (volume controlled)
IFVO2	49	2 nd IF video output signal (with or without group delay correction)
INSSW2	50	2 nd RGB / YUV insertion input
R2/VIN	51	2 nd R input / V (R-Y) input / P _R input
G2/YIN	52	2 nd G input / Y input
B2/UIN	53	2 nd B input / U (B-Y) input / P _B input
BCLIN	54	beam current limiter input
BLKIN	55	black current input / V-guard input
RO	56	Red output
GO	57	Green output
BO	58	Blue output
VDDA	59	analog supply of Teletext decoder and digital supply of TV-processor (3.3 V)
VPE	60	OTP Programming Voltage
VDDC	61	digital supply to core (3.3 V)
OSCGND	62	oscillator ground supply
XTALIN	63	crystal oscillator input
XTALOUT	64	crystal oscillator output
RESET	65	reset
VDDP	66	digital supply to periphery (+3.3 V)
P1.0/INT1	67	port 1.0 or external interrupt 1 input
P1.1/T0	68	port 1.1 or Counter/Timer 0 input
P1.2/INT0	69	port 1.2 or external interrupt 0 input
P1.3/T1	70	port 1.3 or Counter/Timer 1 input
P1.6/SCL	71	port 1.6 or I ² C-bus clock line
P1.7/SDA	72	port 1.7 or I ² C-bus data line
P2.0/TPWM	73	port 2.0 or Tuning PWM output
P2.1/PWM0	74	port 2.1
P2.2/PWM1	75	port 2.2
P2.3/PWM2	76	port 2.3
P2.4/PWM3	77	port 2.4
P2.5/PWM4	78	port 2.5
SYNC_FILTER	79	CVBS (i.e. P0.6/CVBS) Sync filter input: This pin should be connected to V _{SSA} via a 100uF capacitor.
P3.0/ADC0	80	port 3.0 or ADC0 input

Note

1. The function of pin 15, 27, 33 and 48 is dependent on the mode of operation (mono intercarrier mode / QSS IF amplifier and East-West output or not) and is controlled by some software control bits. The valid combinations are given in table 1.

IC502 : TDA9181

Philips Semiconductors

Objective specification

Integrated multistandard comb filter

TDA9181

FEATURES

- One-chip multistandard adaptive comb filter
- Cross luminance reduction
- Cross colour reduction
- No chroma trap, therefore sharper vertical luminance transients
- Analog discrete-time signal processing, therefore no quantization noise
- Anti-aliasing and reconstruction filters are included
- Input switch selects between two Y/CVBS inputs
- Output switch selects between combed CVBS and an external Y/C source
- f_{SC} as well as $2 \times f_{SC}$ colour subcarrier signal may be applied
- Alignment free
- Few external components
- Low power.

GENERAL DESCRIPTION

The TDA9181 is an adaptive PAL/NTSC comb filter with two internal delay lines, filters, clock control and input clamps. Video standards PAL B, G, H, D, I, M and N and NTSC M are supported.

Two CVBS input signals can be selected by means of an input switch.

The selected CVBS input signal is filtered to obtain a combed luminance output signal and a combed chrominance output signal. Switched capacitor circuit techniques are used, requiring an internal clock, locked on to the colour subcarrier frequency.

The colour subcarrier frequency as well as twice the colour subcarrier frequency may be applied to the IC.

In addition to the comb filter the circuit contains an output switch so that a selection can be made between the combed CVBS signal and an external Y/C signal.

The IC is available in a DIP16 and SO16 package. The supply voltage is 5 V.

QUICK REFERENCE DATA

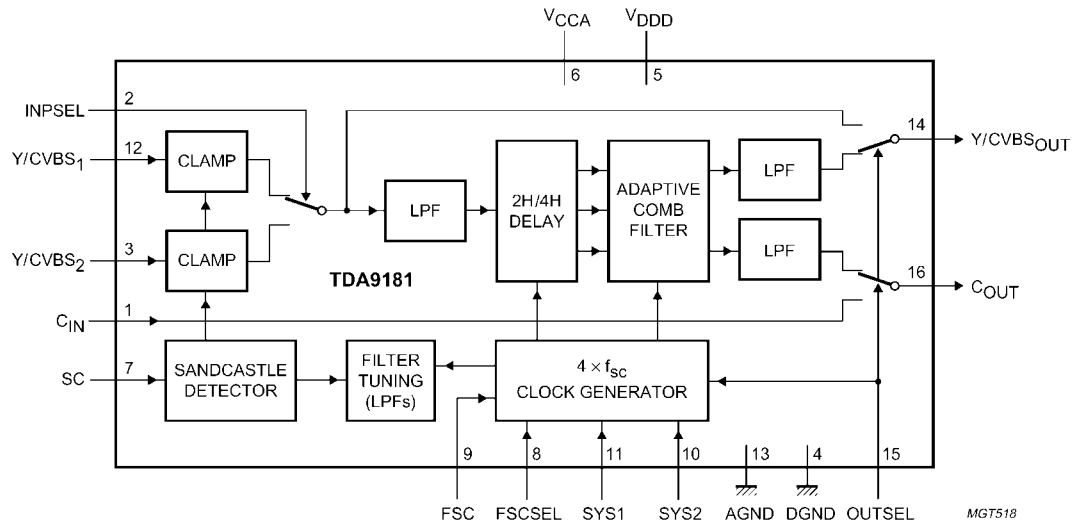
SYMBOL	PARAMETER	MIN.	TYP.	MAX.	UNIT
V_{CCA}	analog supply voltage	4.5	5.0	5.5	V
I_{CCA}	analog supply current	–	25	–	mA
V_{DDD}	digital supply voltage	4.5	5.0	5.5	V
I_{DDD}	digital supply current	–	10	–	mA
$V_{i(Y/CVBS)(p-p)}$	luminance or CVBS input signal voltage (peak-to-peak value)	0.7	1.0	1.4	V
$V_{i(CIN)(p-p)}$	chrominance input signal voltage (peak-to-peak value)	–	0.7	1.0	V
$V_{i(FSC)(p-p)}$	colour subcarrier input signal voltage (peak-to-peak value)	100	200	400	mV
$V_{o(Y/CVBS)(p-p)}$	luminance or CVBS output signal voltage (peak-to-peak value)	0.6	1.0	1.54	V
$V_{o(CIN)(p-p)}$	chrominance output signal voltage (peak-to-peak value)	–	0.7	1.1	V

ORDERING INFORMATION

TYPE NUMBER	PACKAGE		
	NAME	DESCRIPTION	VERSION
TDA9181P	DIP16	plastic dual in-line package; 16 leads (300 mil); long body	SOT38-4
TDA9181T	SO16	plastic small outline package; 16 leads; body width 7.5 mm	SOT162-1

TECHNICAL INFORMATION

BLOCK DIAGRAM



TECHNICAL INFORMATION

PINNING

SYMBOL	PIN	DESCRIPTION
C _{IN}	1	chrominance signal input
INPSEL	2	input switch select input
Y/CVBS ₂	3	luminance or CVBS signal 2 input
DGND	4	digital ground
V _{DDD}	5	digital supply voltage
V _{CCA}	6	analog supply voltage
SC	7	sandcastle signal input
FSCSEL	8	colour subcarrier select input
FSC	9	colour subcarrier input signal
SYS2	10	standard select 2 input
SYS1	11	standard select 1 input
Y/CVBS ₁	12	luminance or CVBS signal 1 input
AGND	13	analog ground (signal reference)
Y/CVBS _{OUT}	14	luminance or CVBS signal output
OUTSEL	15	output switch select input
C _{OUT}	16	chrominance signal output

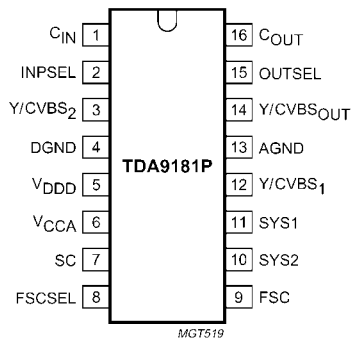


Fig.2 Pin configuration (DIP16).

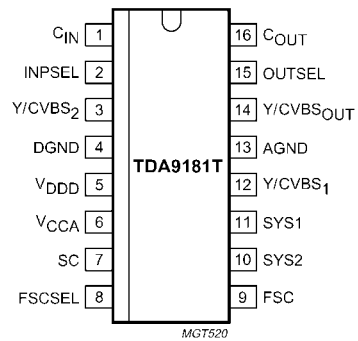


Fig.3 Pin configuration (SO16).

TECHNICAL INFORMATION

TU01 : TECC2949PG35F

1. APPLICATIONS

- 1-1. Receiving System : (CCIR Standard system)
- 1-2. Channel : VHF Low band : NZ1 (45.25MHz) ~ S6 (140.25MHz)
VHF High band : S7 (147.25MHz) ~ S36 (423.25MHz)
U H F band : S37 (431.25MHz) ~ E69 (855.25MHz)
- 1-3. Intermediate Frequency PIF : (38.90)MHz
 CIF : (34.47)MHz
 SIF : (33.40)MHz
- 1-4. Input Impedance : UHF/VHF Terminal (75) Ω , Unbalanced
 Output Impedance : (1)k Ω , Balanced
- 1-5. Band Change Over System : (PLL System)
- 1-6. Tuning System : (PLL System)

2. RATINGS AND TEST CONDITIONS

Measurement must be executed under the ambient conditions of the room temperature and humidity. (Temp. 25 $^{\circ}$ C \pm 2 $^{\circ}$ C, Humidity 65 \pm 5% RH)
 The following conditions shall be applied for the measurement of electrical characteristics.

2-1. Voltage & Current at Each Terminal and Operation Guaranteed Voltage

	SUPPLY VOLTAGE FOR OPERATION	LIMITED UNIT FOR OPERATION	CURRENT
BP	5.0V \pm 5%	5V \pm 10%	110mA Max.
AGC	4.0V Max	4.5V Max	-
BT	0.5V ~ 30V	0.5V ~ 33V	-
Permissible ripple (note #1)	-	5mV _{r-p} Max	

■ Note #1 : Ripple in the spectrum from 20Hz to 500KHz

2-2. Temperature

- . Storage Temperature : -20 $^{\circ}$ C ~ 170 $^{\circ}$ C
- . Operation Temperature : -10 $^{\circ}$ C ~ +65 $^{\circ}$ C

TECHNICAL INFORMATION

2-3. Devices

UHF Section

Parts	Std
Oscillator & Mixer IC	SN761672A
RF amplifier	BF904, BF909, BF2030
Tuning diode	HVU202, HVU202A, SD197, 1SV214, BB149

or equivalent

VHF Section

Parts	Std
Oscillator & Mixer IC	SN761672A
RF amplifier	BF904, BF909, BF2030
Tuning diode	HVU300A, SD199, BB669, BB152 HVU306A, SD198, BB154, 1SV215
Tuning correction diode	HVU202, HVU202A, SD197, 1SV214, BB149

or equivalent

TECHNICAL INFORMATION

2-4. Terminal For External Connection

NO	Terminal name	Description
1	AGC	AGC Voltage Supply
2	NC	not connected
3	SAS	Address Selection Line
4	SCL	Serial Clock Line
5	SDA	Serial Data Line
6	NC	not connected
7	BP	+B for PLL
8	NC	not connected
9	BT	Tuning Voltage Supply
10	IF2	IF Output
11	IF1	IF Output
12	ANT	VHF/UHF Signal Input

3. ELECTRICAL CHARACTERISTICS

NO.	ITEM	SPECIFICATIONS					NOTES
		CH.	MIN.	TYP.	MAX.	UNIT	
3-1	V.S.W.R	VHF	-	2.0	5	-	Measure at best point
		UHF	-	1.5	5		
3-2	NOISE FIGURE	LOW	-	4.0	9.0	dB	
		HIGH	-	5.5	9.0		
		UHF	-	5.5	9.0		

TECHNICAL INFORMATION

4. TUNING CURVE

BAND	SPECIFICATIONS					
	CH.	OSC FREQ.	MIN.	TYP.	MAX.	UNIT
VHF-LOW	NZ1	84.15 MHz	0.5	1.0		[V]
	E2	87.15 MHz		-		
	Y	115.15 MHz		-		
	S1	144.15 MHz		-		
	S6	179.15 MHz		20.5	28	
VHF-HIGH	S7	186.15 MHz	0.5	1.4		
	E5	214.15 MHz		-		
	E12	263.15 MHz		-		
	S18	319.15 MHz		-		
	S26	382.15 MHz		-		
	S36	462.15 MHz		26.0	28	
UHF	S37	470.15 MHz	0.5	1.3		
	E21	510.15MHz		-		
	E30	582.15 MHz		-		
	E40	662.15 MHz		-		
	E50	742.15 MHz		-		
	E60	822.15 MHz		-		
	F69	894.15 MHz		25.5	28	

TECHNICAL INFORMATION

5. RECEIVING CHANNEL FREQUENCY TABLE

BAND	CH.	PICTURE CARRIER FREQ. (MHz)	SOUND CARRIER FREQ. (MHz)	LOCAL OSC. FREQ. (MHz)	IMAGE FREQ. (MHz)
VHF LOW	NZ1	45.25	50.75	84.15	123.05
	E2	48.25	53.75	87.15	126.05
	E3	55.25	60.75	94.15	133.05
	E4	62.25	67.75	101.15	140.05
	X	69.25	74.75	108.15	147.05
	Y	76.25	81.75	115.15	154.05
	Z	83.25	88.75	122.15	161.05
	Z+1	90.25	95.75	129.15	168.05
	Z+2	97.25	102.75	136.15	175.05
	S1	105.25	110.75	144.15	183.05
	S2	112.25	117.75	151.15	190.05
	S3	119.25	124.75	158.15	197.05
	S4	126.25	131.75	165.15	204.05
	S5	133.25	138.75	172.15	211.05
	S6	140.25	145.75	179.15	218.05
VHF HIGH	S7	147.25	152.75	186.15	225.05
	S8	154.25	159.75	193.15	232.05
	S9	161.25	166.75	200.15	239.05
	S10	168.25	173.75	207.15	246.05
	E5	175.25	180.75	214.15	253.05
	E6	182.25	187.75	221.15	260.05
	E7	189.25	194.75	228.15	267.05
	E8	196.25	201.75	235.15	274.05
	E9	203.25	208.75	242.15	281.05
	E10	210.25	215.75	249.15	288.05
	E11	217.25	222.75	256.15	295.05
	E12	224.25	229.75	263.15	302.05
	S11	231.25	236.75	270.15	309.05
	S12	238.25	243.75	277.15	316.05
	S13	245.25	250.75	284.15	323.05
	S14	252.25	257.75	291.15	330.05
	S15	259.25	264.75	298.15	337.05
	S16	266.25	271.75	305.15	344.0
	S17	273.25	278.75	312.15	351.05
	S18	280.25	285.75	319.15	358.05
	S19	287.25	292.75	326.15	365.05

TECHNICAL INFORMATION

BAND	CH.	PICTURE CARRIER FREQ. (MHz)	SOUND CARRIER FREQ. (MHz)	LOCAL OSC. FREQ. (MHz)	IMAGE FREQ. (MHz)
VHF HIGH	S20	294.25	299.75	333.15	372.05
	S21	303.25	308.75	342.15	381.05
	S22	311.25	316.75	350.15	389.05
	S23	319.25	324.75	358.15	397.05
	S24	327.25	332.75	366.15	405.05
	S25	335.25	340.75	374.15	413.05
	S26	343.25	348.75	382.15	421.05
	S27	351.25	356.75	390.15	429.05
	S28	359.25	364.75	398.15	437.05
	S29	367.25	372.75	406.15	445.05
	S30	375.25	380.75	414.15	463.05
	S31	383.25	388.75	422.15	471.05
	S32	391.25	396.75	430.15	479.05
	S33	399.25	404.75	438.15	487.05
	S34	407.25	412.75	446.15	495.05
	S35	415.25	420.75	454.15	503.05
	S36	423.25	428.75	462.15	511.05
UHF	S37	431.25	436.75	470.15	519.05
	S38	439.25	444.75	478.15	527.05
	S39	447.25	452.75	486.15	535.05
	S40	455.25	460.75	494.15	543.05
	S41	463.25	468.75	502.15	551.05
	E21	471.25	476.75	510.15	549.05
	E22	479.25	484.75	518.15	557.05
	E23	487.25	492.75	526.15	565.05
	E24	495.25	500.75	534.15	573.05
	E25	503.25	508.75	542.15	581.05
	E26	511.25	516.75	550.15	589.05
	E27	519.25	524.75	558.15	597.05
	E28	527.25	532.75	566.15	605.05
	E29	535.25	540.75	574.15	613.05
	E30	543.25	548.75	582.15	621.05
	E31	551.25	556.75	590.15	629.05
	E32	559.25	564.75	598.15	637.05
	E33	567.25	572.75	606.15	645.05
	E34	575.25	580.75	614.15	653.05
	E35	583.25	588.75	622.15	661.05
	E36	591.25	596.75	630.15	669.05

TECHNICAL INFORMATION

BAND	CH.	PICTURE CARRIER FREQ. (MHz)	SOUND CARRIER FREQ. (MHz)	LOCAL OSC. FREQ. (MHz)	IMAGE FREQ. (MHz)
UHF	E37	599.25	604.75	638.15	677.05
	E38	607.25	612.75	646.15	685.05
	E39	615.25	620.75	654.15	693.05
	E40	623.25	628.75	662.15	701.05
	E41	631.25	636.75	670.15	709.05
	E42	639.25	644.75	678.15	717.05
	E43	647.25	652.75	686.15	725.05
	E44	655.25	660.75	694.15	733.05
	E45	663.25	668.75	702.15	741.05
	E46	671.25	676.75	710.15	749.05
	E47	679.25	684.75	718.15	757.05
	E48	687.25	692.75	726.15	765.05
	E49	695.25	700.75	734.15	773.05
	E50	703.25	708.75	742.15	781.05
	E51	711.25	716.75	750.15	789.05
	E52	719.25	724.75	758.15	797.05
	E53	727.25	732.75	766.15	805.05
	E54	735.25	740.75	774.15	813.05
	E55	743.25	748.75	782.15	821.05
	E56	751.25	756.75	790.15	829.05
	E57	759.25	764.75	798.15	837.05
	E58	767.25	772.75	806.15	845.05
	E59	775.25	780.75	814.15	853.05
	E60	783.25	788.75	822.15	861.05
	E61	791.25	796.75	830.15	869.05
	E62	799.25	804.75	838.15	877.05
	E63	807.25	812.75	846.15	885.05
	E64	815.25	820.75	854.15	893.05
	E65	823.25	828.75	862.15	901.05
	E66	831.25	836.75	870.15	909.05
	E67	839.25	844.75	878.15	917.05
	E68	847.25	852.75	886.15	925.05
	E69	855.25	860.75	894.15	933.05



IC201 : MTL015

MTL015
(Rev. 0.9)

LCD TV-Monitor Controller with Embedded Timing Controller

FEATURES

General

- Auto configuration of sampling clock frequency, phase, H/V center, as well as white balance
- Auto detection of present or non-present or over range sync signals and their polarities
- Composite sync separation and odd/even field detection of interlaced video
- No external memory required
- On-chip output PLL provide clock frequency fine-tune (inverse, duty cycle and delay)
- Serial 2-wire I²C host interface
- Parallel 6-wire data transfer host interface
- Embedded OSD engine
- Embedded 8-bit resolution ADC
- Embedded 2 to1 analog switch
- Embedded programmable timing controller
- Embedded power on reset circuit
- 2.5V/3.3V power supply in 128-pin PQFP package

Input Processor

- ADC sample rate and Digital Single RGB/YPbPr (24-bit) input rates from 12MHz to 140MHz
- Support both non-interlaced and interlaced RGB graphic input signals
- Support sync-on-green input format
- YUV 4:1:1 or YUV 4:2:2 (CCIR601/CCIR656) interlaced video input
- Built-in programmable YUV/YPbPr to RGB color space converter
- Compliant with digital LVDS/PanelLink™ TMDS input interface
- PC input resolution up to SXGA 1280X1024 @ 75Hz

Video Processor

- Independent programmable Horizontal and Vertical scaling up ratios from 1 to 32
- Support scaling down ratios from 1 to 1/2
- Flexible de-interlacing unit for digital YUV video input data
- Enhance vertical de-interlace with 6 line buffers
- Embedded sync extraction for YUV/YPbPr format
- Zoom to full screen resolution of de-interlaced YUV video data stream
- Built-in programmable gain control for white balance alignments
- Built-in programmable 10-bit gamma correction table
- Built-in programmable temporal color dithering
- Built-in programmable interpolation look-up table
- Built-in programmable sharpening & smoothing filters for edge enhancement
- Support smooth panning under viewing window change

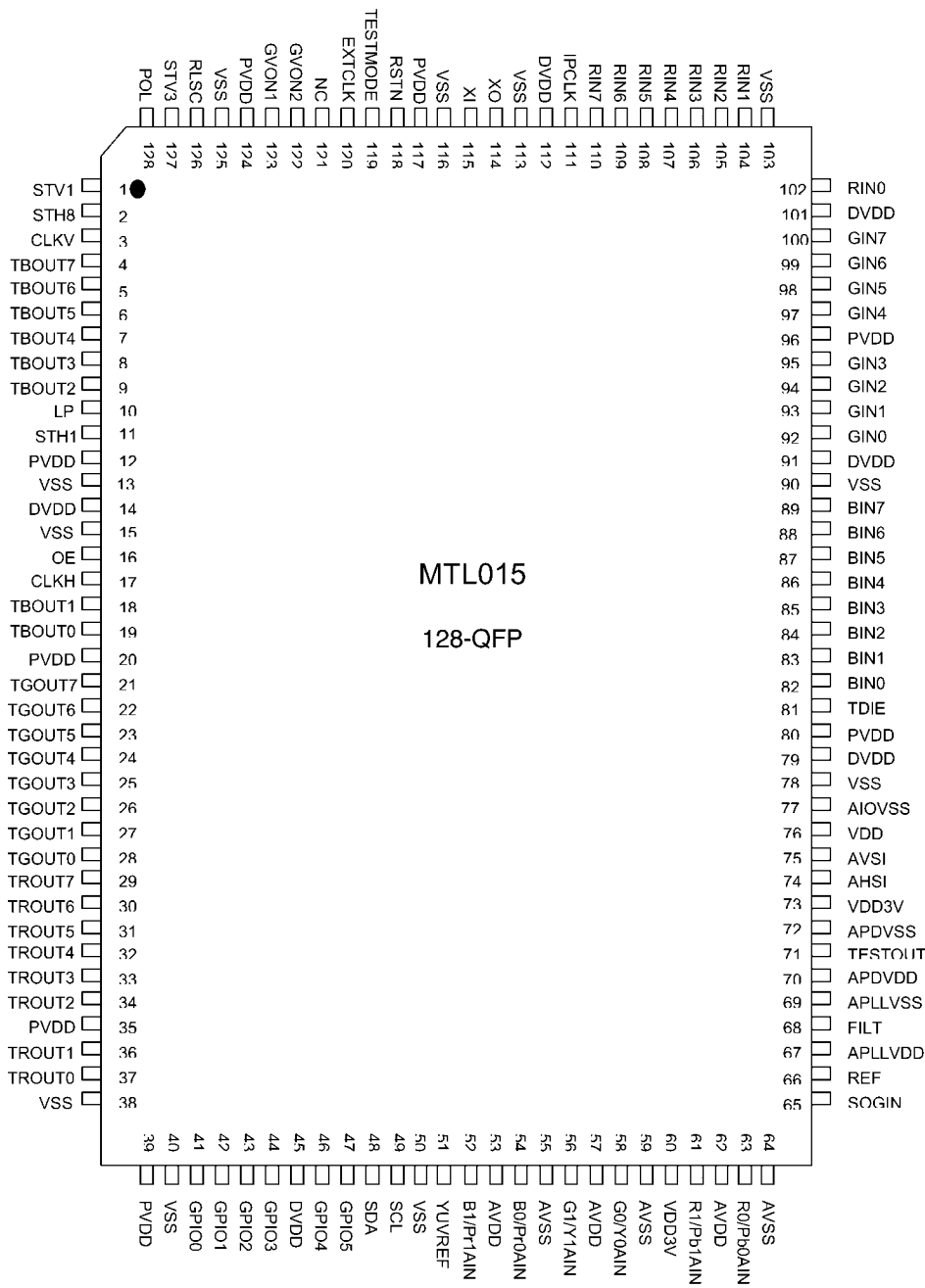
Output Processor

- Single pixel (24-bit) per clock, supporting 6/8 bits digital RGB output
- Built-in output timing generator with programmable clock and H/V sync
- Support VGA/SVGA/XGA/SXGA/WXGA display resolution
- Overlay input interface with internal OSD controller
- Double scan capability for interlaced input
- Horizontal panoramic zoom/shrink generator
- Non-linear scaling, supporting 4:3 or 16:9 display quality

TECHNICAL INFORMATION

MTL015

PIN CONFIGURATION



PIN DEFINITION

Analog Input Interface

Name	Pin Type	Pin No.	Function Description
YUVREF	O	51	YUV reference
B1/Pr1AIN	I	52	Analog input port B1 or Pr1
B0/Pr0AIN	I	54	Analog input port B0 or Pr0
G1/Y1AIN	I	56	Analog input port G1 or Y1
G0/Y0AIN	I	58	Analog input port G0 or Y0
R1/Pb1AIN	I	61	Analog input port R1 or Pb1
R0/Pb0AIN	I	63	Analog input port R0 or Pb0
SOGIN	I	65	Sync on green input
REF	O	66	Internal reference bypass for internal ADC
FILT	I	68	Connection for external filter
TESTOUT	O	71	ADC testing PAD
AHSI	I	74	Horizontal sync input
AVSI	I	75	Vertical sync input

Digital Input/Output Interface

Name	Pin Type	Pin No.	Function Description
TDIE	I	81	DVI data enable signal
BIN0 ~ BIN7	I/O	82 ~ 89	Input: Blue input signal bit0 ~ bit7 (Default) Output: ADC blue output signal bit0 ~ bit7 (Note 1)
GIN0 ~ GIN7	I/O	92 ~ 100	Input: Green input signal bit0 ~ bit7 (Default) Output: ADC green output signal bit0 ~ bit7 (Note 2)
RIN0 ~ RIN7	I/O	102 ~ 110	Input: Red input signal bit0 ~ bit7 (Default) Output: ADC red output signal bit0 ~ bit7 (Note 3)
IPCLK	I/O	111	Input: Pixel input clock (Default) Output: ADC pixel output clock (Note 4)

Note 1 ~ 4: The MTL015 can be programmed as a pure ADC (Analog to Digital Converter) by properly register settings. In ADC mode, all RGB input I/O pins will be set as output pins. Please refer to the chip setting register (80h) for the details.

Display Output Interface

Name	Pin Type	Pin No.	Function Description
STV1	O	1	Start pulse of gate driver IC (G1 □ G3)
STH8	O	2	Start pulse of source driver IC (S8 □ S1)
CLKV	O	3	Vertical clock / display horizontal sync
TBOUT7 ~ TBOUT2	O	4 ~ 9	Blue output bit 7 ~ bit 2
TBOUT1 ~ TBOUT0	O	18 ~ 19	Blue output bit 1 ~ bit 0
LP	O	10	Latch pulse of source driver IC
STH1	O	11	Start pulse of source driver IC (S1 □ S8)
OE	O	16	Output data enable
CLKH	O	17	Horizontal output clock
TGOUT7 ~ TGOUT0	O	21 ~ 28	Green output bit 7 ~ bit 0

TECHNICAL INFORMATION

TROUT7 ~ TROUT2	O	29 ~ 34	Red output bit 7 ~ bit 2
TROUT1 ~ TROUT0	O	36 ~ 37	Red output bit 1 ~ bit 0
GVON2	O	122	Gate driver output enable 2
GVON1	O	123	Gate driver output enable 1
RLSC	O	126	Right / Left Shift Control signal output for source driver IC
STV3	O	127	Start pulse of gate driver IC (G3 □ G1)
POL	O	128	Polarity signal of source driver IC

Host Interface

Name	Pin Type	Pin No.	Function Description
GPIO0	I/O	41	Parallel data transfer enable
GPIO1	I/O	42	Parallel transfer clock signal
GPIO2	I/O	43	Parallel transfer data 0
GPIO3	I/O	44	Parallel transfer data 1
GPIO4	I/O	46	Parallel transfer data 2
GPIO5	I/O	47	Parallel transfer data 3
SDA	I/O	48	I2C data
SCL	I	49	I2C clock
RSTN	I	118	Reset signal, low reset
TESTMODE	I	119	Test mode used only, normally grounded in application

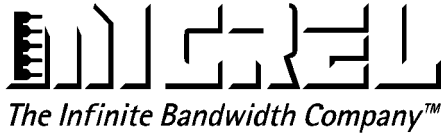
Other Interface

Name	Pin Type	Pin No.	Function Description
XO	O	114	Oscillator output , connecting an external 14.318 MHz Crystal
Xi	I	115	Oscillator input, connecting an external 14.318 MHz Crystal
EXTCLK	I	120	External input clock for test mode
NC	-	121	No connection

Power and Ground Pins

Name	Pin No.	Function Description
PVDD	12,20,35,39,80,96,117,124	Digital 3.3V I/O power PAD
DVDD	14,45,79,91,101,112	Digital 2.5V core power PAD
AVDD	53,57,62	Analog 2.5V power PAD
VDD3V	60,73	Analog 3.3V I/O power PAD
APLLVDD	67	APLL 3.3V power PAD
APDVDD	70	DPLL 3.3V power PAD
VDD	76	2.5V digital core power PAD for ADC
AVSS	55,59,64	Analog ground PAD
APLLVSS	69	APLL ground PAD
APDVSS	72	DPLL ground PAD
AIOVSS	77	Analog I/O ground PAD
VSS	13,15,38,40,50,77,78,90,103,113,116,125	Digital Ground PAD

IC801: MIC4576



MIC4576

200kHz Simple 3A Buck Regulator

Final Information

General Description

The MIC4576 is a series of easy to use fixed and adjustable BiCMOS step-down (buck) switch-mode voltage regulators. The 200kHz MIC4576 duplicates the pinout and function of the 52kHz LM2576. The higher switching frequency may allow up to a 2:1 reduction in output filter inductor size.

The MIC4576 is available in 3.3V, and 5V fixed output versions or a 1.23V to 33V adjustable output version. Both versions are capable of driving a 3A load with excellent line and load regulation.

The feedback voltage is guaranteed to $\pm 2\%$ tolerance for adjustable versions, and the output voltage is guaranteed to $\pm 3\%$ for fixed versions, within specified voltages and load conditions. The oscillator frequency is guaranteed to $\pm 10\%$.

In shutdown mode, the regulator draws less than 200 μ A standby current. The regulator performs cycle-by-cycle current limiting and thermal shutdown for protection under fault conditions.

This series of simple switch-mode regulators requires a minimum number of external components and can operate using a standard series of inductors. Frequency compensation is provided internally.

The MIC4576 is available in TO-220 (T) and TO-263 (U) packages for the industrial temperature range.

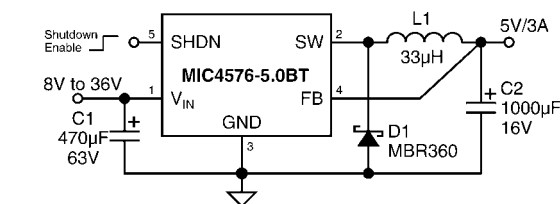
Features

- Fixed 200kHz operation
- 3.3V, 5V, and adjustable output versions
- Voltage over specified line and load conditions:
 - Fixed version: $\pm 3\%$ max. output voltage
 - Adjustable version: $\pm 2\%$ max. feedback voltage
- Guaranteed 3A switch current
- Wide 4V to 36V input voltage range
- Wide 1.23V to 33V output voltage range
- Requires minimum external components
- < 200 μ A typical shutdown mode
- 75% efficiency (adjustable version > 75% typical)
- Standard inductors are 25% of typical LM2576 values
- Thermal shutdown
- Overcurrent protection
- 100% electrical thermal limit burn-in

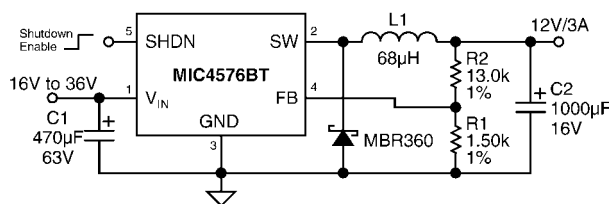
Applications

- Simple high-efficiency step-down (buck) regulator
- Efficient preregulator for linear regulators
- On-card switching regulators
- Positive-to-negative converter (inverting buck-boost)
- Battery Charger
- Negative boost converter
- Step-down to 3.3V for Intel Pentium™ and similar microprocessors

Typical Applications



Fixed Regulator



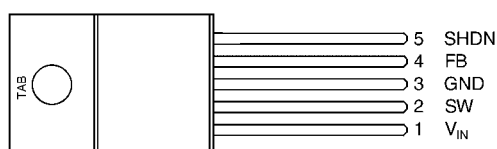
Adjustable Regulator

TECHNICAL INFORMATION

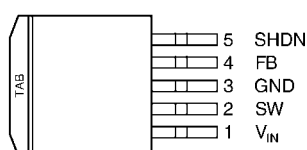
Ordering Information

Part Number	Voltage	Temperature Range	Package
MIC4576-3.3BT	3.3V	−40°C to +85°C	TO-220-5
MIC4576-5.0BT	5.0V	−40°C to +85°C	TO-220-5
MIC4576BT	Adjustable	−40°C to +85°C	TO-220-5
MIC4576-3.3BU	3.3V	−40°C to +85°C	TO-263-5
MIC4576-5.0BU	5.0V	−40°C to +85°C	TO-263-5
MIC4576BU	Adjustable	−40°C to +85°C	TO-263-5

Pin Configuration



5-Lead TO-220 (T)



5-Lead TO-263 (U)

Pin Description

Pin Number	Pin Name	Pin Function
1	V_{IN}	Supply Voltage (Input): Unregulated +4V to +36V supply voltage.
2	SW	Switch (Output): Emitter of NPN output switch. Connect to external storage inductor and Schottky diode.
3, TAB	GND	Ground
4	FB	Feedback (Input): Output voltage feedback to regulator. Connect to output of supply for fixed versions. Connect to 1.23V tap of resistive divider for adjustable versions.
5	SHDN	Shutdown (Input): Logic low enables regulator. Logic high (> 2.4V) shuts down regulator.

IC903 : IRF7314

International
Rectifier

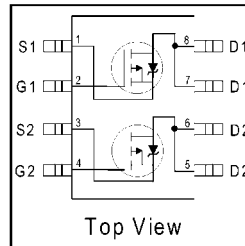
PRELIMINARY

PD - 9.1436B

IRF7314

HEXFET® Power MOSFET

- Generation V Technology
- Ultra Low On-Resistance
- Dual P-Channel MOSFET
- Surface Mount
- Fully Avalanche Rated



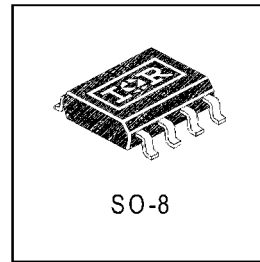
$$V_{DS} = -20V$$

$$R_{DS(on)} = 0.058\Omega$$

Description

Fifth Generation HEXFETs from International Rectifier utilize advanced processing techniques to achieve extremely low on-resistance per silicon area. This benefit, combined with the fast switching speed and ruggedized device design that HEXFET Power MOSFETs are well known for, provides the designer with an extremely efficient and reliable device for use in a wide variety of applications.

The SO-8 has been modified through a customized leadframe for enhanced thermal characteristics and multiple-die capability making it ideal in a variety of power applications. With these improvements, multiple devices can be used in an application with dramatically reduced board space. The package is designed for vapor phase, infra red, or wave soldering techniques.



Absolute Maximum Ratings ($T_A = 25^\circ\text{C}$ Unless Otherwise Noted)

	Symbol	Maximum	Units
Drain-Source Voltage	V_{DS}	-20	V
Gate-Source Voltage	V_{GS}	± 12	
Continuous Drain Current ^①	I_D	-5.3	A
		-4.3	
Pulsed Drain Current	I_{DM}	-21	
Continuous Source Current (Diode Conduction)	I_S	-2.5	W
Maximum Power Dissipation ^②	P_D	2.0	
		1.3	
Single Pulse Avalanche Energy	E_{AS}	150	mJ
Avalanche Current	I_{AR}	-2.9	A
Repetitive Avalanche Energy	E_{AR}	0.20	mJ
Peak Diode Recovery dv/dt ^③	dv/dt	-5.0	V/ ns
Junction and Storage Temperature Range	T_J, T_{STG}	-55 to + 150	$^\circ\text{C}$

IC62 : TDA7266SA

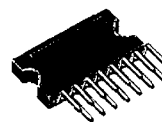


TDA7266SA

7W+7W DUAL BRIDGE AMPLIFIER

- WIDE SUPPLY VOLTAGE RANGE (3.5-18V)
- MINIMUM EXTERNAL COMPONENTS
 - NO SWR CAPACITOR
 - NO BOOTSTRAP
 - NO BOUCHEROT CELLS
 - INTERNALLY FIXED GAIN
- STAND-BY & MUTE FUNCTIONS
- SHORT CIRCUIT PROTECTION
- THERMAL OVERLOAD PROTECTION

TECHNOLOGY B120II



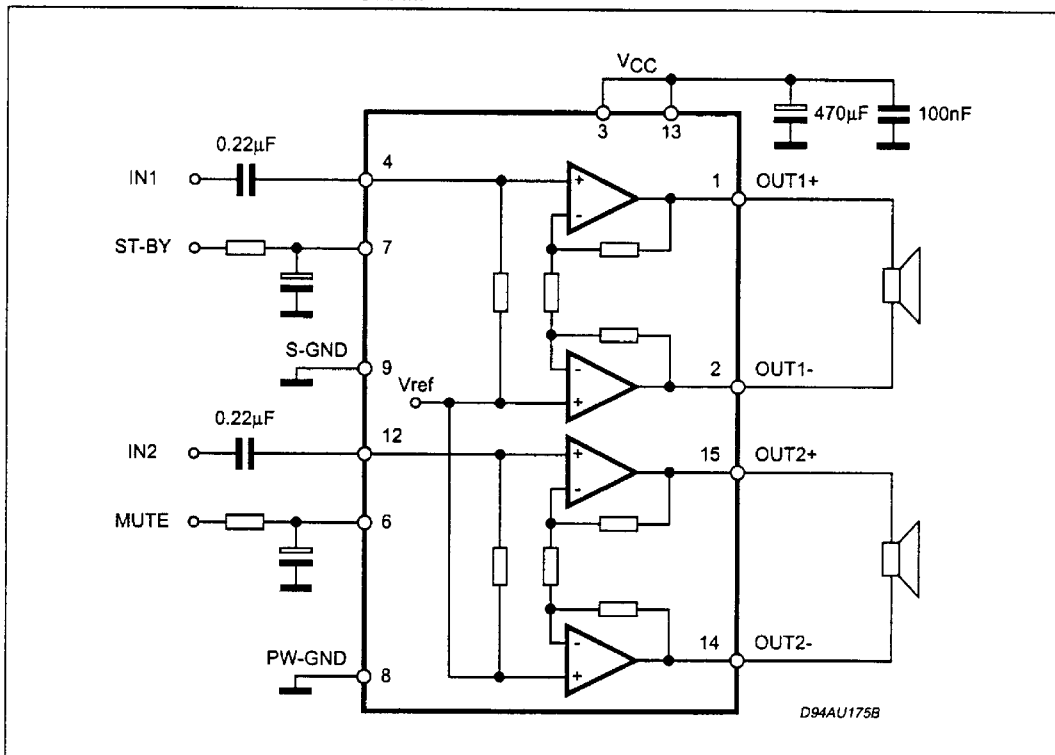
CLIPWATT15
ORDERING NUMBER: TDA7266SA

DESCRIPTION

The TDA7266SA is a dual bridge amplifier specially designed for LCD Monitor, PC Motherboard, TV and Portable Radio applications.

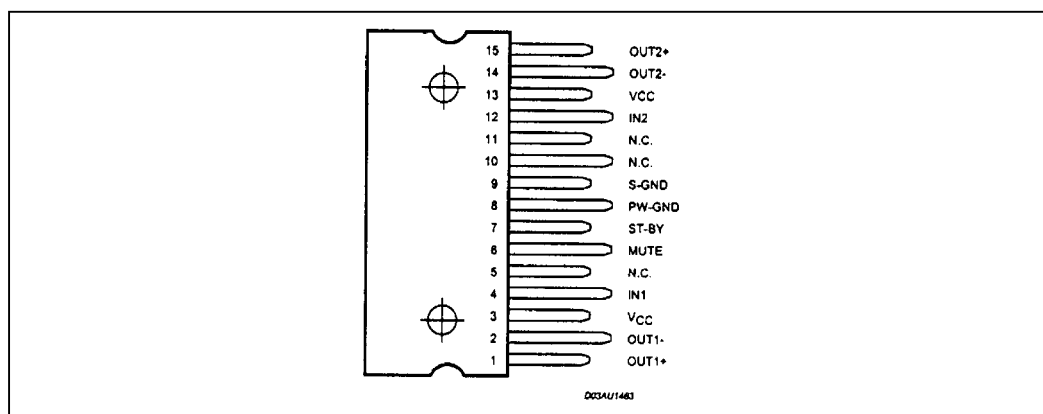
Pin to pin compatible with: TDA7266S, TDA7266, TDA7266M, TDA7266MA, TDA7266B, TDA7297SA & TDA7297.

BLOCK AND APPLICATION DIAGRAM



TECHNICAL INFORMATION

PIN CONNECTION (Top view)



IC601: MSP3410G

MSP 34x0G

Multistandard Sound Processor Family

Release Note: Revision bars indicate significant changes to the previous edition. The hardware and software description in this document is valid for the MSP 34x0G version B8 and following versions.

1. Introduction

The MSP 34x0G family of single-chip Multistandard Sound Processors covers the sound processing of all analog TV-Standards worldwide, as well as the NiCAM digital sound standards. The full TV sound processing, starting with analog sound IF signal-in, down to processed analog AF-out, is performed on a single chip. Figure 1-1 shows a simplified functional block diagram of the MSP 34x0G.

This new generation of TV sound processing ICs now includes versions for processing the multichannel television sound (MTS) signal conforming to the standard recommended by the Broadcast Television Systems Committee (BTSC). The DBX noise reduction, or alternatively, Microns Noise Reduction (MNR) is performed alignment free.

Other processed standards are the Japanese FM-FM multiplex standard (EIA-J) and the FM Stereo Radio standard.

Current ICs have to perform adjustment procedures in order to achieve good stereo separation for BTSC and EIA-J. The MSP 34x0G has optimum stereo performance without any adjustments.

All MSP 34xxG versions are pin compatible to the MSP 34xxD. Only minor modifications are necessary to adapt a MSP 34xxD controlling software to the MSP 34xxG. The MSP 34x0G further simplifies controlling software. Standard selection requires a single I²C transmission only.

The MSP 34x0G has built-in automatic functions: The IC is able to detect the actual sound standard automatically (Automatic Standard Detection). Furthermore, pilot levels and identification signals can be evaluated internally with subsequent switching between mono/stereo/bilingual; no I²C interaction is necessary (Automatic Sound Selection).

The MSP 34x0G can handle very high FM deviations even in conjunction with NiCAM processing. This is especially important for the introduction of NiCAM in China.

The ICs are produced in submicron CMOS technology. The MSP 34x0G is available in the following packages: PLCC68 (not intended for new design), PSDIP64, PSDIP52, PQFP80, and PLQFP64.

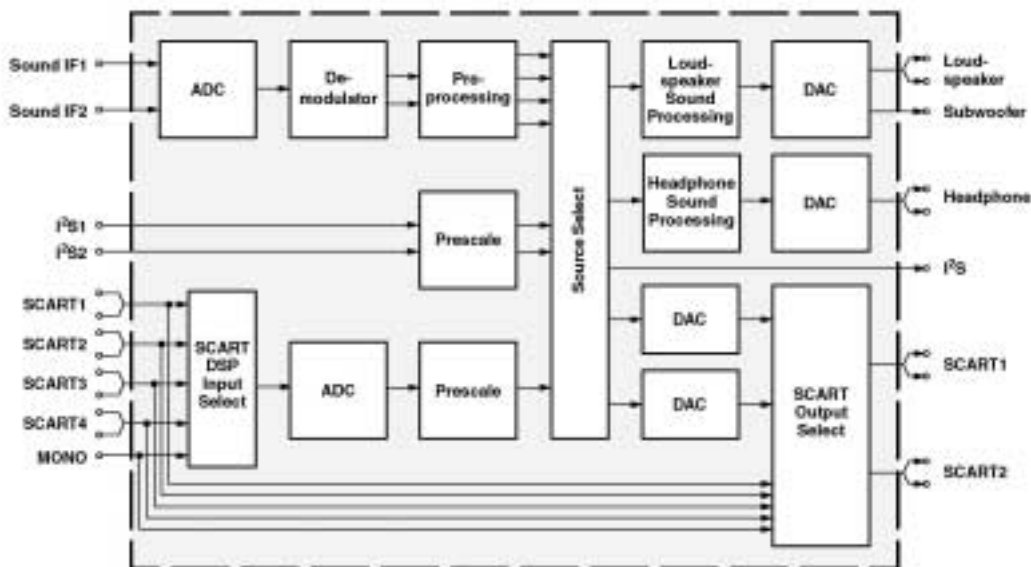


Fig. 1-1: Simplified functional block diagram of the MSP 34x0G

TECHNICAL INFORMATION

MSP 34x0G

PRELIMINARY DATA SHEET

4.2. Pin Connections and Short Descriptions

NC = not connected; leave vacant

LV = if not used, leave vacant

X = obligatory; connect as described in circuit diagram

DVSS: if not used, connect to DVSS

AHVSS: connect to AHVSS

PLCC 68-pin	Pin No.				Pin Name	Type	Connection (if not used)	Short Description
	P8DIP 64-pin	P8DIP 52-pin	PQFP 88-pin	PLQFP 64-pin				
1	16	14	9	8	ADR_WS	OUT	LV	ADR word strobe
2	—	—	—	—	NC		LV	Not connected
3	15	13	8	7	ADR_DA	OUT	LV	ADR data output
4	14	12	7	6	I2S_DA_IN1	IN	LV	I ² S1 data input
5	13	11	6	5	I2S_DA_OUT	OUT	LV	I ² S data output
6	12	10	5	4	I2S_WS	IN/OUT	LV	I ² S word strobe
7	11	9	4	3	I2S_CL	IN/OUT	LV	I ² S clock
8	10	8	3	2	I2C_DA	IN/OUT	X	I ² C data
9	9	7	2	1	I2C_CL	IN/OUT	X	I ² C clock
10	8	—	1	64	NC		LV	Not connected
11	7	6	80	63	STANDBYQ	IN	X	Stand-by (low-active)
12	6	5	79	62	ADR_SEL	IN	X	I ² C Bus address select
13	5	4	78	61	D_CTR_I/O_0	IN/OUT	LV	D_CTR_I/O_0
14	4	3	77	60	D_CTR_I/O_1	IN/OUT	LV	D_CTR_I/O_1
15	3	—	76	59	NC		LV	Not connected
16	2	—	75	58	NC		LV	Not connected
17	—	—	—	—	NC		LV	Not connected
18	1	2	74	57	AUD_CL_OUT	OUT	LV	Audio clock output (18.432 MHz)
19	64	1	73	56	TP		LV	Test pin
20	63	52	72	55	XTAL_OUT	OUT	X	Crystal oscillator
21	62	51	71	54	XTAL_IN	IN	X	Crystal oscillator
22	61	50	70	53	TESTEN	IN	X	Test pin
23	60	49	69	52	ANA_IN2+	IN	AVSS via 56 pF / LV	IF input 2 (can be left vacant, only if IF input 1 is also not in use)
24	59	48	68	51	ANA_IN-	IN	AVSS via 56 pF / LV	IF common (can be left vacant, only if IF input 1 is also not in use)

TECHNICAL INFORMATION

PRELIMINARY DATA SHEET

MSP 34x0G

PLCC 68-pin	Pin No.				Pin Name	Type	Connection (if not used)	Short Description
	PSDIP 64-pin	PSDIP 52-pin	PQFP 88-pin	PLQFP 64-pin				
25	58	47	67	50	ANA_IN1+	IN	LV	IF input 1
26	57	46	66	49	AVSUP		X	Analog power supply 5 V
–	–	–	65	–	AVSUP		X	Analog power supply 5 V
–	–	–	64	–	NC		LV	Not connected
–	–	–	63	–	NC		LV	Not connected
27	56	45	62	48	AVSS		X	Analog ground
–	–	–	61	–	AVSS		X	Analog ground
28	55	44	60	47	MONO_IN	IN	LV	Mono input
–	–	–	59	–	NC		LV	Not connected
29	54	43	58	46	VREFTOP		X	Reference voltage IF A/D converter
30	53	42	57	45	SC1_IN_R	IN	LV	SCART 1 input, right
31	52	41	56	44	SC1_IN_L	IN	LV	SCART 1 input, left
32	51	–	55	43	ASG		AHVSS	Analog Shield Ground
33	50	40	54	42	SC2_IN_R	IN	LV	SCART 2 input, right
34	49	39	53	41	SC2_IN_L	IN	LV	SCART 2 input, left
35	48	–	52	40	ASG		AHVSS	Analog Shield Ground
36	47	38	51	39	SC3_IN_R	IN	LV	SCART 3 input, right
37	46	37	50	38	SC3_IN_L	IN	LV	SCART 3 input, left
38	45	–	49	37	ASG		AHVSS	Analog Shield Ground
39	44	–	48	36	SC4_IN_R	IN	LV	SCART 4 input, right
40	43	–	47	35	SC4_IN_L	IN	LV	SCART 4 input, left
41	–	–	46	–	NC		LV or AHVSS	Not connected
42	42	36	45	34	AGNDC		X	Analog reference voltage
43	41	35	44	33	AHVSS		X	Analog ground
–	–	–	43	–	AHVSS		X	Analog ground
–	–	–	42	–	NC		LV	Not connected
–	–	–	41	–	NC		LV	Not connected
44	40	34	40	32	CAPL_M		X	Volume capacitor MAIN
45	39	33	38	31	AHVSUP		X	Analog power supply 8 V
46	38	32	38	30	CAPL_A		X	Volume capacitor AUX
47	37	31	37	29	SC1_OUT_L	OUT	LV	SCART output 1, left

TECHNICAL INFORMATION

MSP 34x0G

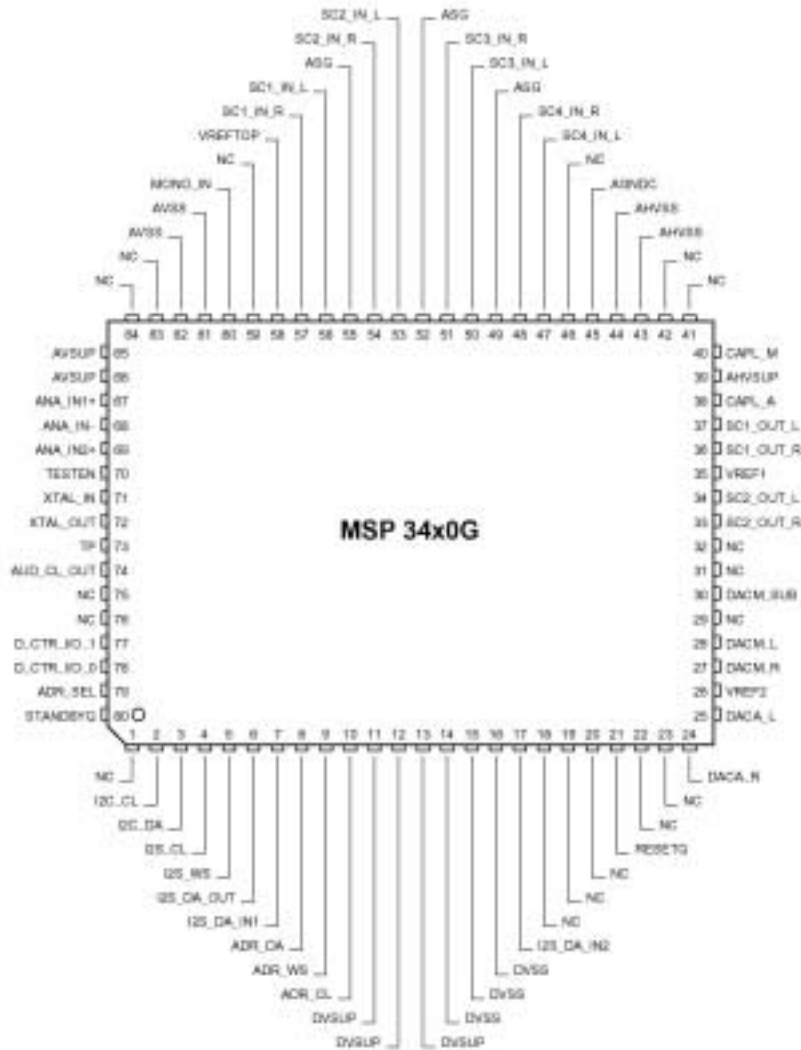
PRELIMINARY DATA SHEET

PLCC 68-pin	Pin No.				Pin Name	Type	Connection (if not used)	Short Description
	PSDIP 64-pin	PSDIP 52-pin	PQFP 80-pin	PLQFP 64-pin				
48	36	30	36	28	SC1_OUT_R	OUT	LV	SCART output 1, right
49	35	29	35	27	VREF1		X	Reference ground 1
50	34	28	34	26	SC2_OUT_L	OUT	LV	SCART output 2, left
51	33	27	33	25	SC2_OUT_R	OUT	LV	SCART output 2, right
52	—	—	32	—	NC		LV	Not connected
53	32	—	31	24	NC		LV	Not connected
54	31	26	30	23	DACM_SUB	OUT	LV	Subwoofer output
55	30	—	29	22	NC		LV	Not connected
56	29	25	28	21	DACM_L	OUT	LV	Loudspeaker out, left
57	28	24	27	20	DACM_R	OUT	LV	Loudspeaker out, right
58	27	23	26	19	VREF2		X	Reference ground 2
59	26	22	25	18	DACA_L	OUT	LV	Headphone out, left
60	25	21	24	17	DACA_R	OUT	LV	Headphone out, right
—	—	—	23	—	NC		LV	Not connected
—	—	—	22	—	NC		LV	Not connected
61	24	20	21	16	RESETQ	IN	X	Power-on-reset
62	23	—	20	15	NC		LV	Not connected
63	22	—	19	14	NC		LV	Not connected
64	21	19	18	13	NC		LV	Not connected
65	20	18	17	12	I2S_DA_IN2	IN	LV	I ² S2-data input
66	19	17	16	11	DVSS		X	Digital ground
—	—	—	15	—	DVSS		X	Digital ground
—	—	—	14	—	DVSS		X	Digital ground
67	18	16	13	10	DVSUP		X	Digital power supply 5 V
—	—	—	12	—	DVSUP		X	Digital power supply 5 V
—	—	—	11	—	DVSUP		X	Digital power supply 5 V
68	17	15	10	9	ADR_CL	OUT	LV	ADR clock

TECHNICAL INFORMATION

MSP 34x0G

PRELIMINARY DATA SHEET



80-pin PQFP package

IC001: AT24C16AN

Features

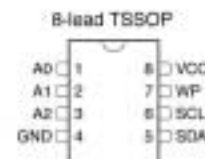
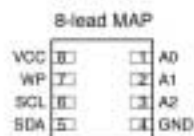
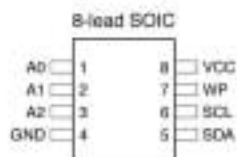
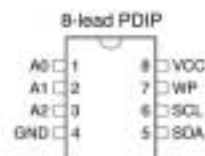
- Write Protect Pin for Hardware Data Protection
 - Utilizes Different Array Protection Compared to the AT24C02/04/08/16
- Low-voltage and Standard-voltage Operation
 - 2.7 ($V_{CC} = 2.7V$ to $5.5V$)
 - 1.8 ($V_{CC} = 1.8V$ to $5.5V$)
- Internally Organized 256 x 8 (2K), 512 x 8 (4K), 1024 x 8 (8K) or 2048 x 8 (16K)
- Two-wire Serial Interface
- Schmitt Trigger, Filtered Inputs for Noise Suppression
- Bidirectional Data Transfer Protocol
- 100 kHz (1.8V) and 400 kHz (2.5V, 2.7V, 5V) Clock Rate
- 8-byte Page (2K), 16-byte Page (4K, 8K, 16K) Write Modes
- Partial Page Writes Allowed
- Self-timed Write Cycle (5 ms Max)
- High Reliability
 - Endurance: One Million Write Cycles
 - Data Retention: 100 Years
- Automotive Grade and Lead-Free/Halogen-Free Devices Available
- 8-lead PDIP, 8-lead JEDEC SOIC, 8-lead MAP and 8-lead TSSOP Packages

Description

The AT24C02A/04A/08A/16A provides 2048/4096/8192/16384 bits of serial electrically erasable and programmable read-only memory (EEPROM) organized as 256/512/1024/2048 words of 8 bits each. The device is optimized for use in many industrial and commercial applications where low-power and low-voltage operation are essential. The AT24C02A/04A/08A/16A is available in space-saving 8-lead PDIP, 8-lead JEDEC SOIC, 8-lead MAP and 8-lead TSSOP packages and is accessed via a two-wire serial interface. In addition, the entire family is available in 2.7V (2.7V to 5.5V) and 1.8V (1.8V to 5.5V) versions.

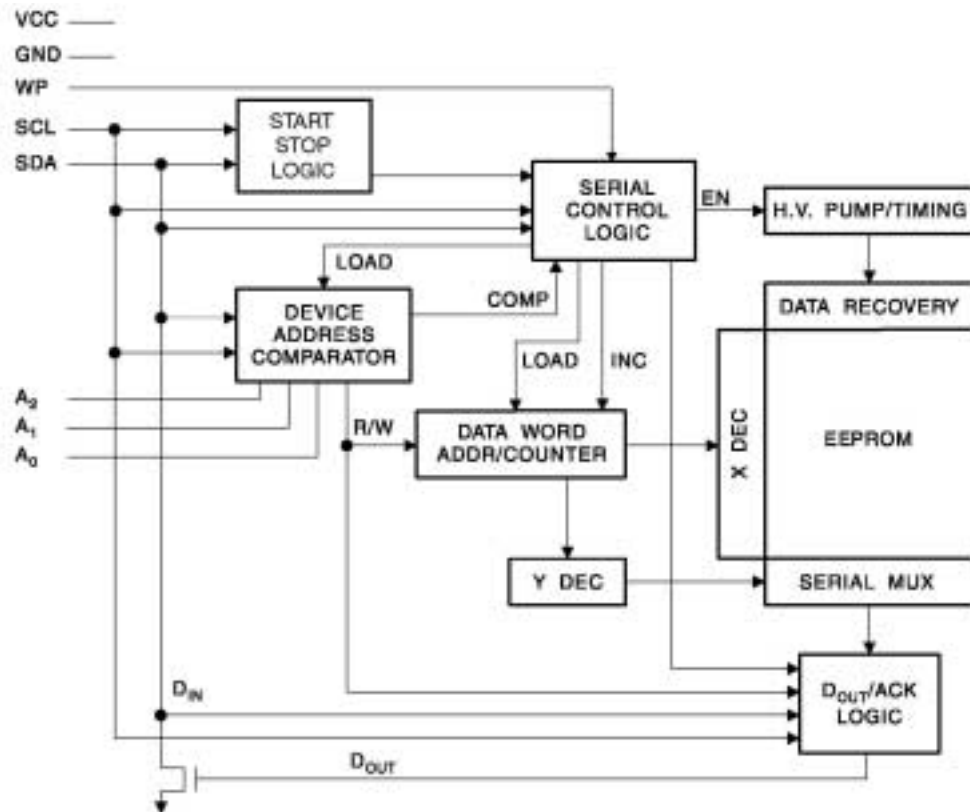
Pin Configurations

Pin Name	Function
A0–A2	Address Inputs
SDA	Serial Data
SCL	Serial Clock Input
WP	Write Protect
NC	No-connect



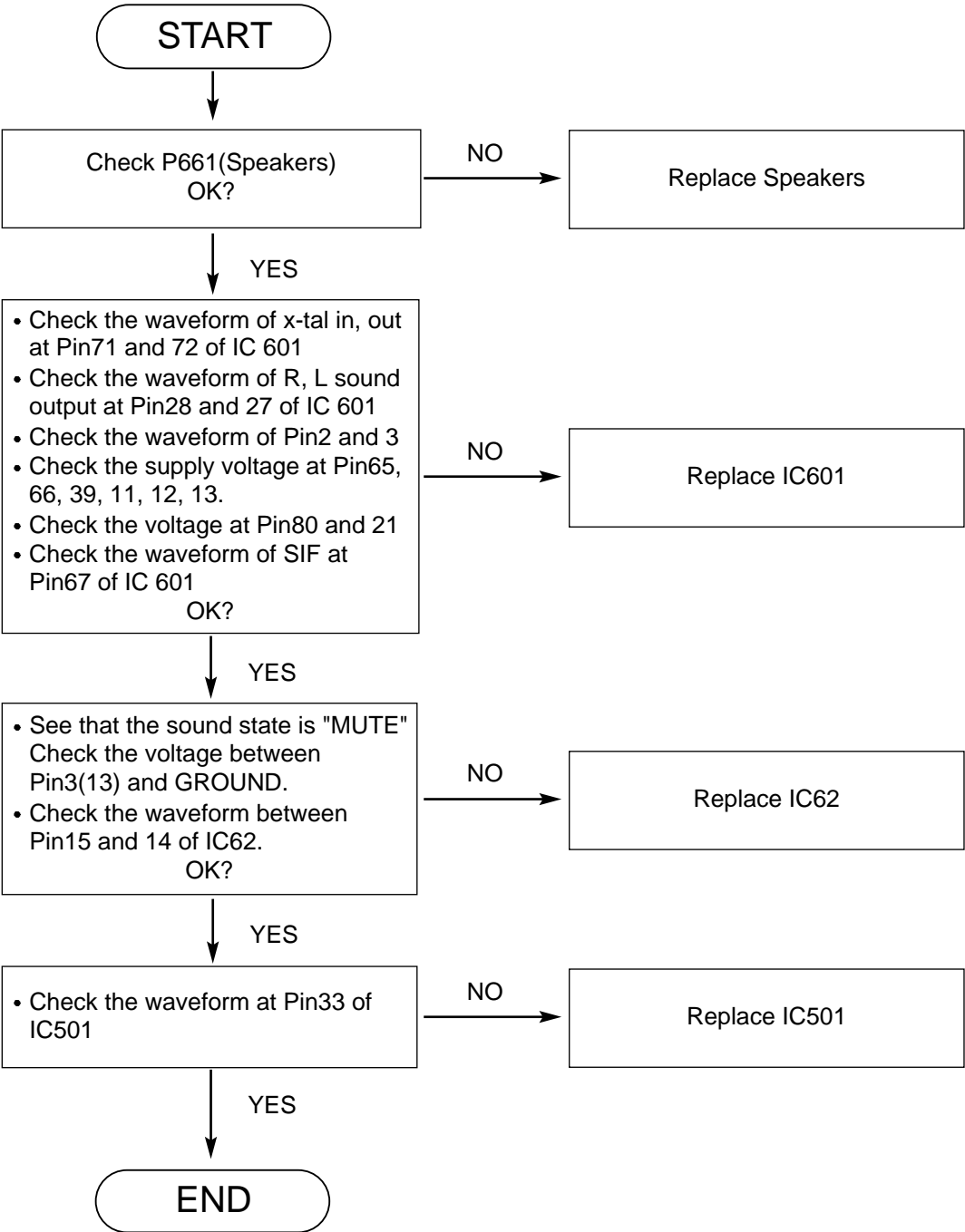
TECHNICAL INFORMATION

Block Diagram



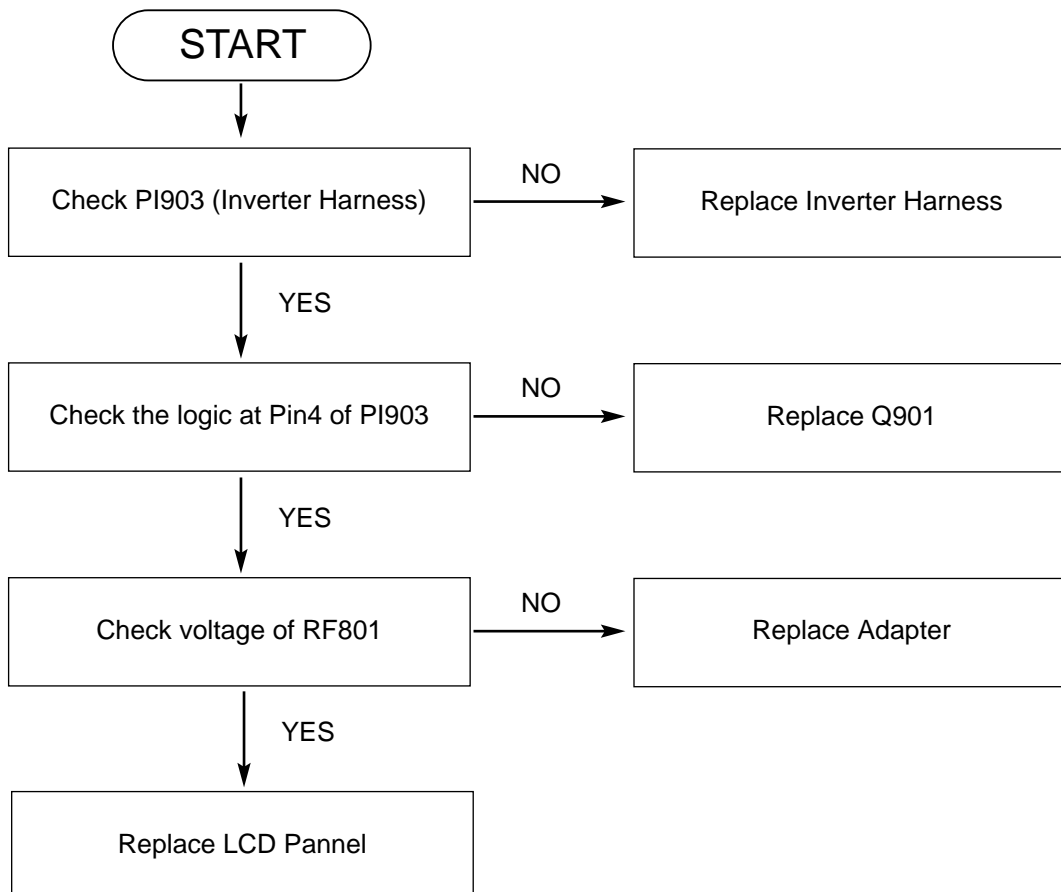
TROUBLE SHOOTING

1. NO SOUND



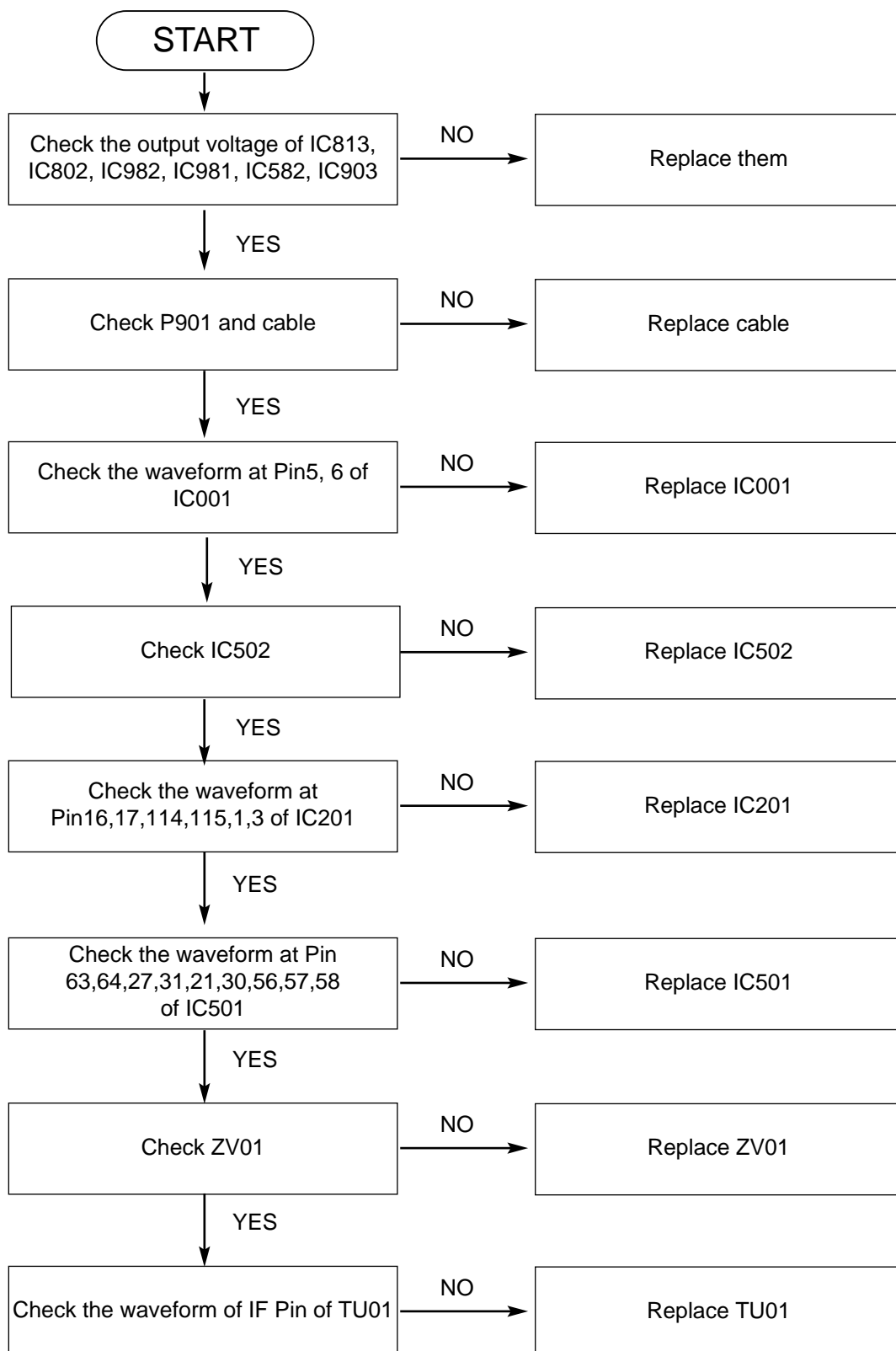
● TROUBLE SHOOTING

2. NO RASTER

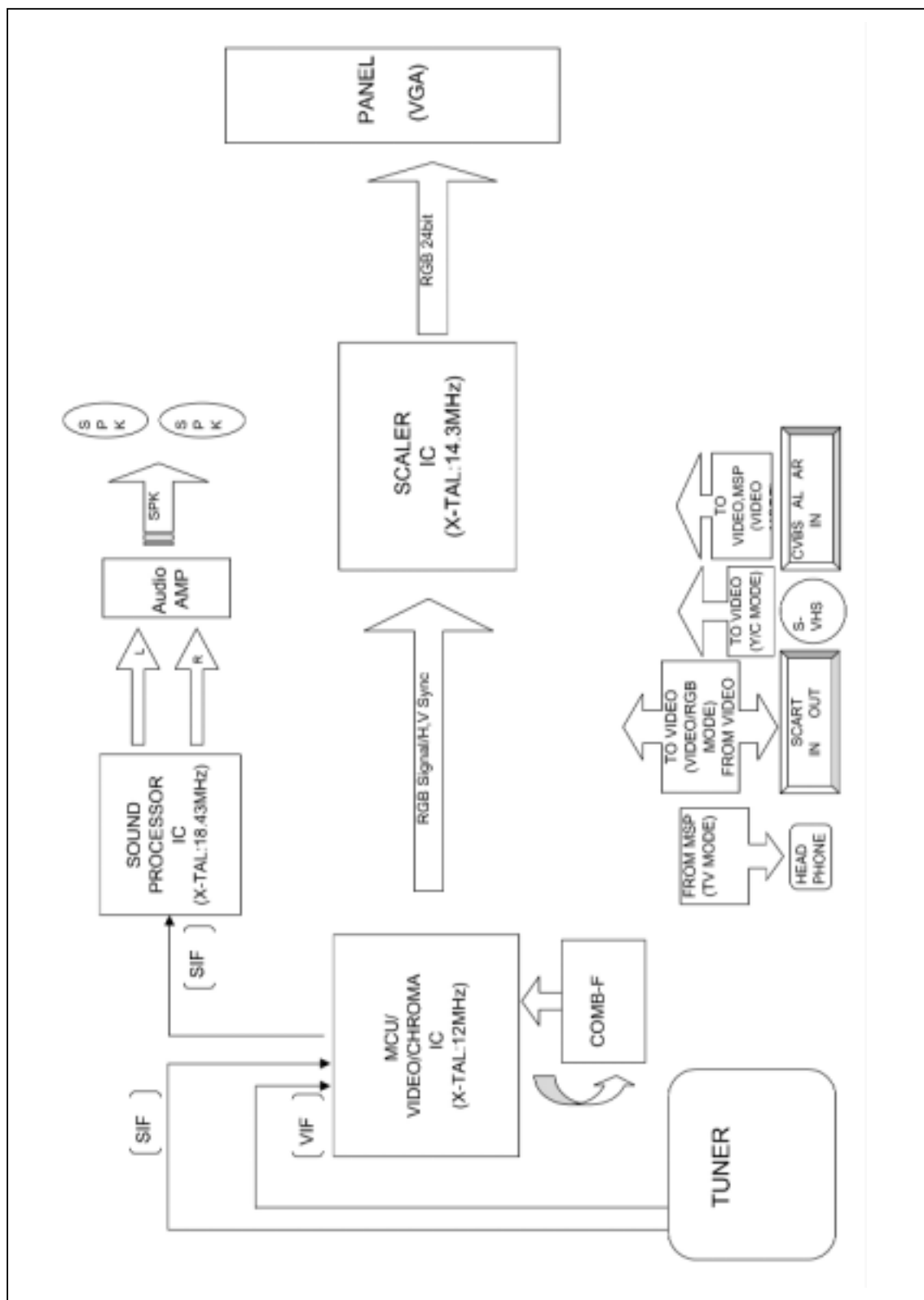


TROUBLE SHOOTING

3. NO PICTURE



BLOCK DIAGRAM(AV MONO)



PCB LAYOUT(MAIN)

● PCB LAYOUT (TUNER/CONTROL)

ELECTRICAL PARTS LIST

P/No.	ITEM No.	ITEM NAME	P/No.	ITEM No.	ITEM NAME
A001	150032588	"MAIN, PAL PLHM01 LT201CH600"	C881	12752224T	"CHIP CERAMIC CAP, X7R 50V 0.22MF K"
A01S2	150701058	"MAIN, SMD/B PLHM01 LT201CH600"	C882	12752104T	"CHIP CERAMIC CAP, X7R 50V 0.1MF K"
A01S1	150801073	"MAIN, SMD/T PLHM01 LT201CH600"	C884	12724221T	"ALUM/CAP, 105C 16V 220UF (6.3X7.7)"
C015	12726479T	"ALUM/CAP, 105C 35V 4.7UF(RC.MVK)"	C885	12724221T	"ALUM/CAP, 105C 16V 220UF (6.3X7.7)"
C020	12751330T	"CHIP CERAMIC CAP, COG 50V 33PF J"	C886	12724220T	"ALUM/CAP, 105C 16V 22UF(RC.MVK)"
C030	12752332T	"CHIP CERAMIC CAP, X7R 50V 3300PF K"	C887	12752104T	"CHIP CERAMIC CAP, X7R 50V 0.1MF K"
C032	12589100T	"TANTAL-CAP, 16V 10MF M SMD 3528"	C904	12752104T	"CHIP CERAMIC CAP, X7R 50V 0.1MF K"
C036	12727229T	"ALUM/CAP, 105C 50V 2.2UF(RC.MVK)"	C905	12725101T	"ALUM/CAP, 105C 25V 100UF(RC.MVK)"
C040	12752224T	"CHIP CERAMIC CAP, X7R 50V 0.22MF K"	C906	12752104T	"CHIP CERAMIC CAP, X7R 50V 0.1MF K"
C042	12752104T	"CHIP CERAMIC CAP, X7R 50V 0.1MF K"	C911	12724221T	"ALUM/CAP, 105C 16V 220UF (6.3X7.7)"
C044	12752104T	"CHIP CERAMIC CAP, X7R 50V 0.1MF K"	C922	12725330T	"ALUM/CAP, 105C 25V 33UF(RC.MVK)"
C045	12752102T	"CHIP CERAMIC CAP, X7R 50V 1000PF K"	C982	12725100T	"ALUM/CAP, 105C 25V 10UF(RC.MVK)"
C051	12752223T	"CHIP CERAMIC CAP, X7R 50V 0.022MF K"	C985	12725100T	"ALUM/CAP, 105C 25V 10UF(RC.MVK)"
C052	12752223T	"CHIP CERAMIC CAP, X7R 50V 0.022MF K"	C987	12724221T	"ALUM/CAP, 105C 16V 220UF (6.3X7.7)"
C053	12752223T	"CHIP CERAMIC CAP, X7R 50V 0.022MF K"	C990	12752104T	"CHIP CERAMIC CAP, X7R 50V 0.1MF K"
C054	12726479T	"ALUM/CAP, 105C 35V 4.7UF(RC.MVK)"	C991	12752102T	"CHIP CERAMIC CAP, X7R 50V 1000PF K"
C063	12751330T	"CHIP CERAMIC CAP, COG 50V 33PF J"	CA016	12725100T	"ALUM/CAP, 105C 25V 10UF(RC.MVK)"
C064	12751330T	"CHIP CERAMIC CAP, COG 50V 33PF J"	CA027	12752102T	"CHIP CERAMIC CAP, X7R 50V 1000PF K"
C081	12752104T	"CHIP CERAMIC CAP, X7R 50V 0.1MF K"	CA028	12752102T	"CHIP CERAMIC CAP, X7R 50V 1000PF K"
C111	12752104T	"CHIP CERAMIC CAP, X7R 50V 0.1MF K"	CA036	12752334T	"CHIP CERAMIC CAP, X7R 50V 0.33MF K"
C181	12727479T	"CHIP ALUM/CAP, 50V 4.7MF 105C(5*5)"	CA037	12752334T	"CHIP CERAMIC CAP, X7R 50V 0.33MF K"
C182	12752224T	"CHIP CERAMIC CAP, X7R 50V 0.22MF K"	CA038	12725100T	"ALUM/CAP, 105C 25V 10UF(RC.MVK)"
C183	12752224T	"CHIP CERAMIC CAP, X7R 50V 0.22MF K"	CA039	12724220T	"ALUM/CAP, 105C 16V 22UF(RC.MVK)"
C202	12751471T	"CHIP CERAMIC CAP, COG 50V 470PF J"	CA040	12725100T	"ALUM/CAP, 105C 25V 10UF(RC.MVK)"
C206	12751471T	"CHIP CERAMIC CAP, COG 50V 470PF J"	CA045	12725100T	"ALUM/CAP, 105C 25V 10UF(RC.MVK)"
C207	12751330T	"CHIP CERAMIC CAP, COG 50V 33PF J"	CA050	12752334T	"CHIP CERAMIC CAP, X7R 50V 0.33MF K"
C219	12724220T	"ALUM/CAP, 105C 16V 22UF(RC.MVK)"	CA051	12752334T	"CHIP CERAMIC CAP, X7R 50V 0.33MF K"
C220	12752104T	"CHIP CERAMIC CAP, X7R 50V 0.1MF K"	CA053	12752334T	"CHIP CERAMIC CAP, X7R 50V 0.33MF K"
C229	12751330T	"CHIP CERAMIC CAP, COG 50V 33PF J"	CA054	12752334T	"CHIP CERAMIC CAP, X7R 50V 0.33MF K"
C230	12751101T	"CHIP CERAMIC CAP, COG 50V 100PF J"	CA058	12725100T	"ALUM/CAP, 105C 25V 10UF(RC.MVK)"
C231	12751101T	"CHIP CERAMIC CAP, COG 50V 100PF J"	CA067	12751560T	"CHIP CERAMIC CAP, COG 50V 56PF J"
C401	12724101T	"ALUM/CAP, 105C 16V 100UF(RC.MVK)"	CA111	12725100T	"ALUM/CAP, 105C 25V 10UF(RC.MVK)"
C402	12752103T	"CHIP CERAMIC CAP, X7R 50V 0.01MF K"	CA165	12725100T	"ALUM/CAP, 105C 25V 10UF(RC.MVK)"
C403	12752104T	"CHIP CERAMIC CAP, X7R 50V 0.1MF K"	CC001	12752102T	"CHIP CERAMIC CAP, X7R 50V 1000PF K"
C509	12724221T	"ALUM/CAP, 105C 16V 220UF (6.3X7.7)"	CC003	12752104T	"CHIP CERAMIC CAP, X7R 50V 0.1MF K"
C512	12564109T	"TANTAL-CAP, 16V 1MF M SMD 3216"	CC009	12752104T	"CHIP CERAMIC CAP, X7R 50V 0.1MF K"
C514	12727229T	"ALUM/CAP, 105C 50V 2.2UF(RC.MVK)"	CC012	12752104T	"CHIP CERAMIC CAP, X7R 50V 0.1MF K"
C526	12752122T	"CHIP CERAMIC CAP, X7R 50V 1200PF K"	CC081	12724220T	"ALUM/CAP, 105C 16V 22UF(RC.MVK)"
C530	12751221T	"CHIP CERAMIC CAP, COG 50V 220PF J"	CS051	12752104T	"CHIP CERAMIC CAP, X7R 50V 0.1MF K"
C539	12724221T	"ALUM/CAP, 105C 16V 220UF (6.3X7.7)"	CS054	12752473T	"CHIP CERAMIC CAP, X7R 50V 0.047MF K"
C559	12725100T	"ALUM/CAP, 105C 25V 10UF(RC.MVK)"	CS058	12752473T	"CHIP CERAMIC CAP, X7R 50V 0.047MF K"
C566	12725100T	"ALUM/CAP, 105C 25V 10UF(RC.MVK)"	CS063	12752473T	"CHIP CERAMIC CAP, X7R 50V 0.047MF K"
C581	12752334T	"CHIP CERAMIC CAP, X7R 50V 0.33MF K"	CS066	12752104T	"CHIP CERAMIC CAP, X7R 50V 0.1MF K"
C601	12752224T	"CHIP CERAMIC CAP, X7R 50V 0.22MF K"	CS068	12752683T	"CHIP CERAMIC CAP, X7R 50V 0.068UF K"
C602	12752222T	"CHIP CERAMIC CAP, X7R 50V 2200PF K"	CS069	12752682T	"CHIP CERAMIC CAP, X7R 50V 6800PF K"
C603	12752222T	"CHIP CERAMIC CAP, X7R 50V 2200PF K"	CS118	12752334T	"CHIP CERAMIC CAP, X7R 50V 0.33MF K"
C604	12752224T	"CHIP CERAMIC CAP, X7R 50V 0.22MF K"	CS801	12724220T	"ALUM/CAP, 105C 16V 22UF(RC.MVK)"
C605	12725100T	"ALUM/CAP, 105C 25V 10UF(RC.MVK)"	CS802	12724220T	"ALUM/CAP, 105C 16V 22UF(RC.MVK)"
C607	12724220T	"ALUM/CAP, 105C 16V 22UF(RC.MVK)"	CS803	12724220T	"ALUM/CAP, 105C 16V 22UF(RC.MVK)"
C622	12725100T	"ALUM/CAP, 105C 25V 10UF(RC.MVK)"	CS804	12724220T	"ALUM/CAP, 105C 16V 22UF(RC.MVK)"
C624	12725100T	"ALUM/CAP, 105C 25V 10UF(RC.MVK)"	CT982	12725330T	"ALUM/CAP, 105C 25V 33UF(RC.MVK)"
C628	12751471T	"CHIP CERAMIC CAP, COG 50V 470PF J"	CT984	12752224T	"CHIP CERAMIC CAP, X7R 50V 0.22MF K"
C664	12724470T	"ALUM/CAP, 105C 16V 47UF(RC.MVK)"	D181	11115568T	"CHIP DIODE, SWITCHING KDS-160 (UF)"
C665	12724470T	"ALUM/CAP, 105C 16V 47UF(RC.MVK)"	D601	11115568T	"CHIP DIODE, SWITCHING KDS-160 (UF)"
C666	12752102T	"CHIP CERAMIC CAP, X7R 50V 1000PF K"	D801	11115739T	"CHIP DIODE, SS33(SMD)"
C667	12752102T	"CHIP CERAMIC CAP, X7R 50V 1000PF K"	D911	11115568T	"CHIP DIODE, SWITCHING KDS-160 (UF)"
C802	12725101T	"ALUM/CAP, 105C 25V 100UF(RC.MVK)"	D912	11115568T	"CHIP DIODE, SWITCHING KDS-160 (UF)"
C805	12724221T	"ALUM/CAP, 105C 16V 220UF (6.3X7.7)"	IC001	11118576T	IC.EEPROM AT24C16AN-10SI-2.7 (SOIC)
C808	12752104T	"CHIP CERAMIC CAP, X7R 50V 0.1MF K"	IC181	11118095T	"IC.DC-DC CONVERTER BA6161F-E2 SOP8"
C821	12724101T	"ALUM/CAP, 105C 16V 100UF(RC.MVK)"	IC201	11118655T	IC. SCALER MTL015F (QFP128P)
C822	12724221T	"ALUM/CAP, 105C 16V 220UF (6.3X7.7)"	IC501	11118503AT	"IC.UOC TDA9567H/N3/5,557 (W/T OTP)"
C823	12724101T	"ALUM/CAP, 105C 16V 100UF(RC.MVK)"	IC502	11118605T	"IC. TDA9181T/N1,518 (COMB FILTER)L"
C824	12752104T	"CHIP CERAMIC CAP, X7R 50V 0.1MF K"	IC582	11118659T	IC. REGU KIA78R08F (SMD) 1A 5PIN

ELECTRICAL PARTS LIST

P/No.	ITEM No.	ITEM NAME	P/No.	ITEM No.	ITEM NAME
IC601	11118616T	IC.AUDIO MSP3410G-QA-B8-V3(QFP80)	Q601	11114464T	"CHIP TR, KTA1504S-GR-RTK (ASG) KEC"
IC681	11118115T	"IC, V/DETECTOR KIA7042AF (6P) SMD"	Q602	11114465T	"CHIP TR, KTC3875S-GR-RTK"
IC801	11118542T	"IC,REG MIC4576-5.0BU"	Q801	11114465T	"CHIP TR, KTC3875S-GR-RTK"
IC802	11118588T	IC. LDO AZ1117H-2.5 TRE1 (SOT223)	Q802	11114465T	"CHIP TR, KTC3875S-GR-RTK"
IC804	11118560T	IC. REGU KIA78R12F (SMD) 1A 5PIN	Q803	11114465T	"CHIP TR, KTC3875S-GR-RTK"
IC811	11118599T	IC. REGU KIA78D08F (SMD)	Q901	11114465T	"CHIP TR, KTC3875S-GR-RTK"
IC812	11118598T	IC. REGU KIA78D05F (SMD)	Q903	11114465T	"CHIP TR, KTC3875S-GR-RTK"
IC813	11118589T	IC. LDO AZ1117H-3.3 TRE1 (SOT223)	Q904	11114465T	"CHIP TR, KTC3875S-GR-RTK"
IC903	11114650T	TR. MOSFET IRF7314TR (SO8)	Q911	11114464T	"CHIP TR, KTA1504S-GR-RTK (ASG) KEC"
IC981	11118589T	IC. LDO AZ1117H-3.3 TRE1 (SOT223)	Q912	11114465T	"CHIP TR, KTC3875S-GR-RTK"
IC982	11118560T	IC. REGU KIA78R12F (SMD) 1A 5PIN	QC010	11114465T	"CHIP TR, KTC3875S-GR-RTK"
L009	11103086T	"FERRITE BEAD, MPZ2012S331AT"	R003	12873101T	"CHIP RES, 1/16W 100 OHM J(1608)"
L020	11103073T	"FERRITE CHIP, HB-1M1608-800JT"	R006	12873101T	"CHIP RES, 1/16W 100 OHM J(1608)"
L039	11103086T	"FERRITE BEAD, MPZ2012S331AT"	R012	12873153T	"CHIP RES, 1/16W 15K OHM J(1608)"
L059	11103074T	"FERRITE CHIP, HB-1H1608-300JT"	R022	12873681T	"CHIP RES, 1/16W 680 OHM J(1608)"
L061	11103074T	"FERRITE CHIP, HB-1H1608-300JT"	R025	12873393T	"CHIP RES, 1/16W 39K OHM J (1608)"
L066	11103074T	"FERRITE CHIP, HB-1H1608-300JT"	R026	12873392T	"CHIP RES, 1/16W 3.9K OHM J(1608)"
L081	11103074T	"FERRITE CHIP, HB-1H1608-300JT"	R030	12873101T	"CHIP RES, 1/16W 100 OHM J(1608)"
L181	11103074T	"FERRITE CHIP, HB-1H1608-300JT"	R031	12873273T	"CHIP RES, 1/16W 27K OHM J(1608)"
L182	11103086T	"FERRITE BEAD, MPZ2012S331AT"	R035	12873391T	"CHIP RES, 1/16W 390 OHM J (1608)"
L201	11103073T	"FERRITE CHIP, HB-1M1608-800JT"	R038	12873102T	"CHIP RES, 1/16W 1K OHM J(1608)"
L202	11103073T	"FERRITE CHIP, HB-1M1608-800JT"	R039	12873750T	"CHIP RES, 1/16W 75 OHM J(1608)"
L203	11103073T	"FERRITE CHIP, HB-1M1608-800JT"	R040	12873102T	"CHIP RES, 1/16W 1K OHM J(1608)"
L206	11103073T	"FERRITE CHIP, HB-1M1608-800JT"	R041	12873821T	"CHIP RES, 1/16W 820 OHM J (1608)"
L207	11103073T	"FERRITE CHIP, HB-1M1608-800JT"	R047	12873101T	"CHIP RES, 1/16W 100 OHM J(1608)"
L211	11103073T	"FERRITE CHIP, HB-1M1608-800JT"	R049	12873101T	"CHIP RES, 1/16W 100 OHM J(1608)"
L215	11103073T	"FERRITE CHIP, HB-1M1608-800JT"	R050	12873101T	"CHIP RES, 1/16W 100 OHM J(1608)"
L216	11103073T	"FERRITE CHIP, HB-1M1608-800JT"	R056	12873101T	"CHIP RES, 1/16W 100 OHM J(1608)"
L224	11103073T	"FERRITE CHIP, HB-1M1608-800JT"	R057	12873101T	"CHIP RES, 1/16W 100 OHM J(1608)"
L225	11103073T	"FERRITE CHIP, HB-1M1608-800JT"	R058	12873101T	"CHIP RES, 1/16W 100 OHM J(1608)"
L401	11103086T	"FERRITE BEAD, MPZ2012S331AT"	R060	12873222T	"CHIP RES, 1/16W 2.2K OHM J (1608)"
L581	11103086T	"FERRITE BEAD, MPZ2012S331AT"	R067	12873330T	"CHIP RES, 1/16W 33 OHM J(1608)"
L582	11103086T	"FERRITE BEAD, MPZ2012S331AT"	R068	12873330T	"CHIP RES, 1/16W 33 OHM J(1608)"
L623	11103073T	"FERRITE CHIP, HB-1M1608-800JT"	R069	12873330T	"CHIP RES, 1/16W 33 OHM J(1608)"
L624	11103073T	"FERRITE CHIP, HB-1M1608-800JT"	R070	12873101T	"CHIP RES, 1/16W 100 OHM J(1608)"
L666	11103073T	"FERRITE CHIP, HB-1M1608-800JT"	R071	12873101T	"CHIP RES, 1/16W 100 OHM J(1608)"
L667	11103073T	"FERRITE CHIP, HB-1M1608-800JT"	R072	12873101T	"CHIP RES, 1/16W 100 OHM J(1608)"
L801	11251080T	"CHIP COIL, 33UH 3A (SMD)"	R073	12873330T	"CHIP RES, 1/16W 33 OHM J(1608)"
L802	11103086T	"FERRITE BEAD, MPZ2012S331AT"	R074	12873330T	"CHIP RES, 1/16W 33 OHM J(1608)"
L902	11103086T	"FERRITE BEAD, MPZ2012S331AT"	R075	12873330T	"CHIP RES, 1/16W 33 OHM J(1608)"
L981	11103086T	"FERRITE BEAD, MPZ2012S331AT"	R076	12873330T	"CHIP RES, 1/16W 33 OHM J(1608)"
LA011	11297150T	"CHIP COIL, NL322522T-150J"	R077	12873330T	"CHIP RES, 1/16W 33 OHM J(1608)"
LA039	11103086T	"FERRITE BEAD, MPZ2012S331AT"	R078	12873330T	"CHIP RES, 1/16W 33 OHM J(1608)"
LA065	11297150T	"CHIP COIL, NL322522T-150J"	R080	12873101T	"CHIP RES, 1/16W 100 OHM J(1608)"
LC005	11103074T	"FERRITE CHIP, HB-1H1608-300JT"	R111	12873101T	"CHIP RES, 1/16W 100 OHM J(1608)"
LC006	11103074T	"FERRITE CHIP, HB-1H1608-300JT"	R112	12873101T	"CHIP RES, 1/16W 100 OHM J(1608)"
LC801	11103086T	"FERRITE BEAD, MPZ2012S331AT"	R181	12873122T	"CHIP RES, 1/16W 1.2K OHM J (1608)"
LS801	11103086T	"FERRITE BEAD, MPZ2012S331AT"	R201	12873750T	"CHIP RES, 1/16W 75 OHM J(1608)"
LS802	11103086T	"FERRITE BEAD, MPZ2012S331AT"	R203	12873750T	"CHIP RES, 1/16W 75 OHM J(1608)"
LS803	11103074T	"FERRITE CHIP, HB-1H1608-300JT"	R206	12873102T	"CHIP RES, 1/16W 1K OHM J(1608)"
LS804	11103074T	"FERRITE CHIP, HB-1H1608-300JT"	R208	12873102T	"CHIP RES, 1/16W 1K OHM J(1608)"
LT801	11103086T	"FERRITE BEAD, MPZ2012S331AT"	R209	12873102T	"CHIP RES, 1/16W 1K OHM J(1608)"
PI903	11164946T	"CONNECTOR, 12505WR-12 (SMD)"	R210	12873750T	"CHIP RES, 1/16W 75 OHM J(1608)"
Q005	11114465T	"CHIP TR, KTC3875S-GR-RTK"	R211	12873682T	"CHIP RES, 1/16W 6.8K OHM J (1608)"
Q021	11114464T	"CHIP TR, KTA1504S-GR-RTK (ASG) KEC"	R212	12873302T	"CHIP RES, 1/16W 3K OHM J (1608)"
Q030	11114465T	"CHIP TR, KTC3875S-GR-RTK"	R214	12873750T	"CHIP RES, 1/16W 75 OHM J(1608)"
Q038	11114464T	"CHIP TR, KTA1504S-GR-RTK (ASG) KEC"	R215	12873750T	"CHIP RES, 1/16W 75 OHM J(1608)"
Q040	11114464T	"CHIP TR, KTA1504S-GR-RTK (ASG) KEC"	R216	12873750T	"CHIP RES, 1/16W 75 OHM J(1608)"
Q056	11114465T	"CHIP TR, KTC3875S-GR-RTK"	R217	12873750T	"CHIP RES, 1/16W 75 OHM J(1608)"
Q057	11114465T	"CHIP TR, KTC3875S-GR-RTK"	R224	12873470T	"CHIP RES, 1/16W 47 OHM J (1608)"
Q058	11114465T	"CHIP TR, KTC3875S-GR-RTK"	R225	12873750T	"CHIP RES, 1/16W 75 OHM J(1608)"
Q201	11114465T	"CHIP TR, KTC3875S-GR-RTK"	R226	12873102T	"CHIP RES, 1/16W 1K OHM J(1608)"
Q530	11114465T	"CHIP TR, KTC3875S-GR-RTK"	R428	12873102T	"CHIP RES, 1/16W 1K OHM J(1608)"

ELECTRICAL PARTS LIST

P / No.	ITEM No.	ITEM NAME	P / No.	ITEM No.	ITEM NAME
R429	12873393T	"CHIP RES, 1/16W 39K OHM J (1608)"	R998	12873000T	"CHIP RES, 1/16W 0 OHM J(1608)"
R430	12873103T	"CHIP RES, 1/16W 10K OHM J(1608)"	RA001	12873101T	"CHIP RES, 1/16W 100 OHM J(1608)"
R456	12873331T	"CHIP RES, 1/16W 330 OHM J(1608)"	RA002	12873101T	"CHIP RES, 1/16W 100 OHM J(1608)"
R457	12873331T	"CHIP RES, 1/16W 330 OHM J(1608)"	RA016	12873103T	"CHIP RES, 1/16W 10K OHM J(1608)"
R458	12873331T	"CHIP RES, 1/16W 330 OHM J(1608)"	RA036	12873101T	"CHIP RES, 1/16W 100 OHM J(1608)"
R501	12873332T	"CHIP RES, 1/16W 3.3K OHM J(1608)"	RA037	12873101T	"CHIP RES, 1/16W 100 OHM J(1608)"
R502	12873332T	"CHIP RES, 1/16W 3.3K OHM J(1608)"	RA050	12873471T	"CHIP RES, 1/16W 470 OHM J (1608)"
R503	12873104T	"CHIP RES, 1/16W 100K OHM J(1608)"	RA051	12873471T	"CHIP RES, 1/16W 470 OHM J (1608)"
R505	12873332T	"CHIP RES, 1/16W 3.3K OHM J(1608)"	RA053	12873471T	"CHIP RES, 1/16W 470 OHM J (1608)"
R506	12873332T	"CHIP RES, 1/16W 3.3K OHM J(1608)"	RA054	12873471T	"CHIP RES, 1/16W 470 OHM J (1608)"
R507	12873102T	"CHIP RES, 1/16W 1K OHM J(1608)"	RA071	12873105T	"CHIP RES, 1/16W 1M OHM J(1608)"
R508	12873332T	"CHIP RES, 1/16W 3.3K OHM J(1608)"	RA080	12873103T	"CHIP RES, 1/16W 10K OHM J(1608)"
R521	12873431T	"CHIP RES, 1/16W 430 OHM J (1608)"	RC010	12873103T	"CHIP RES, 1/16W 10K OHM J(1608)"
R529	12873103T	"CHIP RES, 1/16W 10K OHM J(1608)"	RC011	12873102T	"CHIP RES, 1/16W 1K OHM J(1608)"
R530	12873472T	"CHIP RES, 1/16W 4.7K OHM J(1608)"	RC012	12873681T	"CHIP RES, 1/16W 680 OHM J(1608)"
R534	12873104T	"CHIP RES, 1/16W 100K OHM J(1608)"	RC112	12873122T	"CHIP RES, 1/16W 1.2K OHM J (1608)"
R538	12873151T	"CHIP RES, 1/16W 150 OHM J (1608)"	RN901	11103087T	"CHIP FILTER ARRAY, MEA3216L25R0T"
R540	12873331T	"CHIP RES, 1/16W 330 OHM J(1608)"	RN902	11103087T	"CHIP FILTER ARRAY, MEA3216L25R0T"
R556	12873331T	"CHIP RES, 1/16W 330 OHM J(1608)"	RN903	11103087T	"CHIP FILTER ARRAY, MEA3216L25R0T"
R557	12873331T	"CHIP RES, 1/16W 330 OHM J(1608)"	RN904	11103087T	"CHIP FILTER ARRAY, MEA3216L25R0T"
R558	12873331T	"CHIP RES, 1/16W 330 OHM J(1608)"	RN905	11103087T	"CHIP FILTER ARRAY, MEA3216L25R0T"
R568	12873332T	"CHIP RES, 1/16W 3.3K OHM J(1608)"	RN906	11103087T	"CHIP FILTER ARRAY, MEA3216L25R0T"
R569	12873332T	"CHIP RES, 1/16W 3.3K OHM J(1608)"	RP004	12873000T	"CHIP RES, 1/16W 0 OHM J(1608)"
R570	12873332T	"CHIP RES, 1/16W 3.3K OHM J(1608)"	RP009	12873000T	"CHIP RES, 1/16W 0 OHM J(1608)"
R571	12873472T	"CHIP RES, 1/16W 4.7K OHM J(1608)"	RS001	12873330T	"CHIP RES, 1/16W 33 OHM J(1608)"
R572	12873472T	"CHIP RES, 1/16W 4.7K OHM J(1608)"	RS003	12873330T	"CHIP RES, 1/16W 33 OHM J(1608)"
R573	12873332T	"CHIP RES, 1/16W 3.3K OHM J(1608)"	RS016	12873330T	"CHIP RES, 1/16W 33 OHM J(1608)"
R574	12873332T	"CHIP RES, 1/16W 3.3K OHM J(1608)"	RS048	12873330T	"CHIP RES, 1/16W 33 OHM J(1608)"
R575	12873332T	"CHIP RES, 1/16W 3.3K OHM J(1608)"	RS049	12873330T	"CHIP RES, 1/16W 33 OHM J(1608)"
R576	12873332T	"CHIP RES, 1/16W 3.3K OHM J(1608)"	RS068	12873272T	"CHIP RES, 1/16W 2.7K OHM J (1608)"
R577	12873332T	"CHIP RES, 1/16W 3.3K OHM J(1608)"	RS071	12873103T	"CHIP RES, 1/16W 10K OHM J(1608)"
R578	12873332T	"CHIP RES, 1/16W 3.3K OHM J(1608)"	RS074	12873101T	"CHIP RES, 1/16W 100 OHM J(1608)"
R580	12873332T	"CHIP RES, 1/16W 3.3K OHM J(1608)"	RS075	12873101T	"CHIP RES, 1/16W 100 OHM J(1608)"
R581	12873151T	"CHIP RES, 1/16W 150 OHM J (1608)"	RS115	12873105T	"CHIP RES, 1/16W 1M OHM J(1608)"
R582	12873151T	"CHIP RES, 1/16W 150 OHM J (1608)"	RS119	12873330T	"CHIP RES, 1/16W 33 OHM J(1608)"
R583	12873151T	"CHIP RES, 1/16W 150 OHM J (1608)"	RV237	12000090T	"VARISTOR, AVR-M1608C270MTABB"
R601	12873562T	"CHIP RES, 1/16W 5.6K OHM J (1608)"	RV238	12000090T	"VARISTOR, AVR-M1608C270MTABB"
R602	12873562T	"CHIP RES, 1/16W 5.6K OHM J (1608)"	U111	11893359	"PCB, MAIN PLHM01 (LT201CH)FR4-2=1Y"
R603	12873512T	"CHIP RES, 1/16W 5.1K OHM J (1608)"	X001	11153256T	"CRYSTAL, 12MHZ 16P SX-1"
R604	12873512T	"CHIP RES, 1/16W 5.1K OHM J (1608)"	XA054	11153254T	"CRYSTAL, 18.432MHZ 16P SX-1"
R605	12873473T	"CHIP RES, 1/16W 47K OHM J(1608)"	XS115	11153249T	"X-TAL, 14.31818 MHZ 12PF SX-1 T/P"
R606	12873473T	"CHIP RES, 1/16W 47K OHM J(1608)"	C008	12752224T	"CHIP CERAMIC CAP, X7R 50V 0.22MF K"
R607	12873223T	"CHIP RES, 1/16W 22K OHM J(1608)"	C009	12752104T	"CHIP CERAMIC CAP, X7R 50V 0.1MF K"
R608	12873102T	"CHIP RES, 1/16W 1K OHM J(1608)"	C010	12752224T	"CHIP CERAMIC CAP, X7R 50V 0.22MF K"
R621	12873102T	"CHIP RES, 1/16W 1K OHM J(1608)"	C011	12752222T	"CHIP CERAMIC CAP, X7R 50V 2200PF K"
R622	12873102T	"CHIP RES, 1/16W 1K OHM J(1608)"	C012	12752222T	"CHIP CERAMIC CAP, X7R 50V 2200PF K"
R666	12880161T	"CHIP RESISTOR, 1/2W 160 OHM"	C014	12752223T	"CHIP CERAMIC CAP, X7R 50V 0.022MF K"
R667	12880161T	"CHIP RESISTOR, 1/2W 160 OHM"	C017	12751100T	"CHIP CERAMIC CAP, COG 50V 10PF J"
R668	12873105T	"CHIP RES, 1/16W 1M OHM J(1608)"	C022	12752222T	"CHIP CERAMIC CAP, X7R 50V 2200PF K"
R801	12873103T	"CHIP RES, 1/16W 10K OHM J(1608)"	C026	12751331T	"CHIP CERAMIC CAP, COG 50V 330PF J"
R802	12873103T	"CHIP RES, 1/16W 10K OHM J(1608)"	C034	12752103T	"CHIP CERAMIC CAP, X7R 50V 0.01MF K"
R803	12873102T	"CHIP RES, 1/16W 1K OHM J(1608)"	C035	12752104T	"CHIP CERAMIC CAP, X7R 50V 0.1MF K"
R804	12873103T	"CHIP RES, 1/16W 10K OHM J(1608)"	C039	12752104T	"CHIP CERAMIC CAP, X7R 50V 0.1MF K"
R806	12873103T	"CHIP RES, 1/16W 10K OHM J(1608)"	C046	12752104T	"CHIP CERAMIC CAP, X7R 50V 0.1MF K"
R901	12873102T	"CHIP RES, 1/16W 1K OHM J(1608)"	C056	12751121T	"CHIP CERAMIC CAP, COG 50V 120PF J"
R902	12873103T	"CHIP RES, 1/16W 10K OHM J(1608)"	C057	12751121T	"CHIP CERAMIC CAP, COG 50V 120PF J"
R911	12873333T	"CHIP RES, 1/16W 33K OHM J (1608)"	C058	12751121T	"CHIP CERAMIC CAP, COG 50V 120PF J"
R912	12873332T	"CHIP RES, 1/16W 3.3K OHM J(1608)"	C059	12752104T	"CHIP CERAMIC CAP, X7R 50V 0.1MF K"
R913	12873103T	"CHIP RES, 1/16W 10K OHM J(1608)"	C061	12752104T	"CHIP CERAMIC CAP, X7R 50V 0.1MF K"
R921	12873102T	"CHIP RES, 1/16W 1K OHM J(1608)"	C066	12752104T	"CHIP CERAMIC CAP, X7R 50V 0.1MF K"
R922	12873103T	"CHIP RES, 1/16W 10K OHM J(1608)"	C067	12752102T	"CHIP CERAMIC CAP, X7R 50V 1000PF K"
R923	12873103T	"CHIP RES, 1/16W 10K OHM J(1608)"	C079	12752334T	"CHIP CERAMIC CAP, X7R 50V 0.33MF K"
R924	12873103T	"CHIP RES, 1/16W 10K OHM J(1608)"	C211	12751330T	"CHIP CERAMIC CAP, COG 50V 33PF J"

ELECTRICAL PARTS LIST

P / No.	ITEM No.	ITEM NAME	P / No.	ITEM No.	ITEM NAME
C212	12751391T	"CHIP CERAMIC CAP, COG 50V 390PF J"	R002	12873101T	"CHIP RES, 1/16W 100 OHM J(1608)"
C215	12751330T	"CHIP CERAMIC CAP, COG 50V 33PF J"	R005	12873101T	"CHIP RES, 1/16W 100 OHM J(1608)"
C216	12751330T	"CHIP CERAMIC CAP, COG 50V 33PF J"	R016	12873103T	"CHIP RES, 1/16W 10K OHM J(1608)"
C228	12751330T	"CHIP CERAMIC CAP, COG 50V 33PF J"	R017	12873103T	"CHIP RES, 1/16W 10K OHM J(1608)"
C625	12752102T	"CHIP CERAMIC CAP, X7R 50V 1000PF K"	R020	12873393T	"CHIP RES, 1/16W 39K OHM J (1608)"
C626	12752102T	"CHIP CERAMIC CAP, X7R 50V 1000PF K"	R021	12873274T	"CHIP RES, 1/16W 270K OHM J (1608)"
C627	12751471T	"CHIP CERAMIC CAP, COG 50V 470PF J"	R034	12873273T	"CHIP RES, 1/16W 27K OHM J(1608)"
C682	12752224T	"CHIP CERAMIC CAP, X7R 50V 0.22MF K"	R205	12873750T	"CHIP RES, 1/16W 75 OHM J(1608)"
C754	12751121T	"CHIP CERAMIC CAP, COG 50V 120PF J"	R207	12873750T	"CHIP RES, 1/16W 75 OHM J(1608)"
C758	12751121T	"CHIP CERAMIC CAP, COG 50V 120PF J"	RA067	12873472T	"CHIP RES, 1/16W 4.7K OHM J(1608)"
C763	12751121T	"CHIP CERAMIC CAP, COG 50V 120PF J"	RS017	12873330T	"CHIP RES, 1/16W 33 OHM J(1608)"
C883	12752102T	"CHIP CERAMIC CAP, X7R 50V 1000PF K"	RS118	12873332T	"CHIP RES, 1/16W 3.3K OHM J(1608)"
C983	12752104T	"CHIP CERAMIC CAP, X7R 50V 0.1MF K"	RV001	12000090T	"VARISTOR, AVR-M1608C270MTABB"
C984	12752104T	"CHIP CERAMIC CAP, X7R 50V 0.1MF K"	RV002	12000090T	"VARISTOR, AVR-M1608C270MTABB"
C989	12752224T	"CHIP CERAMIC CAP, X7R 50V 0.22MF K"	RV066	12000090T	"VARISTOR, AVR-M1608C270MTABB"
CA011	12752104T	"CHIP CERAMIC CAP, X7R 50V 0.1MF K"	C582	12663471T	"CHEMICON, 16V 470MF KME, RG(10*12.5)"
CA060	12752334T	"CHIP CERAMIC CAP, X7R 50V 0.33MF K"	C681	12795471T	"CHEMICON, 25V 470MF 85C 10*16"
CA063	12752104T	"CHIP CERAMIC CAP, X7R 50V 0.1MF K"	C800	12795471T	"CHEMICON, 25V 470MF 85C 10*16"
CA065	12752104T	"CHIP CERAMIC CAP, X7R 50V 0.1MF K"	C801	12795471T	"CHEMICON, 25V 470MF 85C 10*16"
CA066	12752472T	"CHIP CERAMIC CAP, X7R 50V 4700PF K"	C803	12793102T	"CHEMICON, 10V 1000MF 85C 10*16"
CA068	12751560T	"CHIP CERAMIC CAP, COG 50V 56PF J"	C807	12795471T	"CHEMICON, 25V 470MF 85C 10*16"
CA069	12751560T	"CHIP CERAMIC CAP, COG 50V 56PF J"	IC62Z	150500520	"HEAT SINK, ASS'Y TDA7266SA LT201BC"
CA071	12751180T	"CHIP CERAMIC CAP, COG 50V 18PF J"	IC62	11118609	IC. AUDIO AMP TDA7266SA (7W+7W)
CA072	12751100T	"CHIP CERAMIC CAP, COG 50V 10PF J"	IC62A	11865963	"HEAT SINK, LT201CB"
CA139	12751471T	"CHIP CERAMIC CAP, COG 50V 470PF J"	IC62B	11032388	"SCREW, TTBW 3*10 SZN"
CA145	12752104T	"CHIP CERAMIC CAP, X7R 50V 0.1MF K"	IC62C	11971010	"COMPOUND SILICON, YG6260"
CA158	12752104T	"CHIP CERAMIC CAP, X7R 50V 0.1MF K"	JD81	11163079A	"JACK, DC TC18-013-12"
CA167	12751101T	"CHIP CERAMIC CAP, COG 50V 100PF J"	JV202	11163143	"JACK, S-456B-01 3P YL-WH-RD"
CA239	12752104T	"CHIP CERAMIC CAP, X7R 50V 0.1MF K"	JV203	11163084A	"SOCKET, RGB 21P(SCART JACK)"
CC002	12752103T	"CHIP CERAMIC CAP, X7R 50V 0.01MF K"	JV204	11163215	"JACK, PJ 6046B-04 (S-VHS RCA JACK)"
CC005	12752104T	"CHIP CERAMIC CAP, X7R 50V 0.1MF K"	JV601	11164554	"PHONE JACK, HSJ2000-01-010(SHQ7999-"
CC006	12752104T	"CHIP CERAMIC CAP, X7R 50V 0.1MF K"	L038	11237569T	"COIL, AXIAL LAL02TB 5.6UH K"
CO018	12752224T	"CHIP CERAMIC CAP, X7R 50V 0.22MF K"	L183	11248221T	"COIL, AXIAL LAL03TB 220UH K"
CS001	12752102T	"CHIP CERAMIC CAP, X7R 50V 1000PF K"	P661	11164875	"PLUG, SMAW200-04 4PIN"
CS003	12751331T	"CHIP CERAMIC CAP, COG 50V 330PF J"	PC01A	11164877	"PLUG, 7PIN SMAW200-07"
CS012	12752104T	"CHIP CERAMIC CAP, X7R 50V 0.1MF K"	PT01A	11164880	"PLUG, SMAW200-10 10PIN"
CS014	12752104T	"CHIP CERAMIC CAP, X7R 50V 0.1MF K"	PT02A	11164877	"PLUG, 7PIN SMAW200-07"
CS020	12752104T	"CHIP CERAMIC CAP, X7R 50V 0.1MF K"	PT901	11164962	"CONNECTOR, PIN HEADER 40PIN 2.0mm"
CS035	12752104T	"CHIP CERAMIC CAP, X7R 50V 0.1MF K"	R681	12323569S	"OXIDE RESISTOR, B 2W 5.6 OHM J"
CS039	12752104T	"CHIP CERAMIC CAP, X7R 50V 0.1MF K"	R682	12323569S	"OXIDE RESISTOR, B 2W 5.6 OHM J"
CS045	12752104T	"CHIP CERAMIC CAP, X7R 50V 0.1MF K"	R805	12323569S	"OXIDE RESISTOR, B 2W 5.6 OHM J"
CS048	12751330T	"CHIP CERAMIC CAP, COG 50V 33PF J"	RF801	11144207T	"FUSE, PICO 125V 7A U/C/P/Q"
CS049	12751330T	"CHIP CERAMIC CAP, COG 50V 33PF J"	Z038	11107232T	"C/ TRAP, TPWRD5M50B02-A0"
CS053	12752104T	"CHIP CERAMIC CAP, X7R 50V 0.1MF K"	Z040	11107071T	"C/TRAP, TPSRA6M00B00-A0(MURATA)"
CS057	12752104T	"CHIP CERAMIC CAP, X7R 50V 0.1MF K"	A002	150012757	"CONTROL, LCD PTBC01 LT201CB"
CS060	12752104T	"CHIP CERAMIC CAP, X7R 50V 0.1MF K"	A002R	150630612	"CONTROL, RHU PLCT01 LT201CC"
CS062	12752104T	"CHIP CERAMIC CAP, X7R 50V 0.1MF K"	A002U	150111256	"CONTROL, AUTO PLBC01 LT201CB"
CS067	12752104T	"CHIP CERAMIC CAP, X7R 50V 0.1MF K"	A002A	150211428	"CONTROL, AXIAL PLBC01 LT201CB"
CS070	12752104T	"CHIP CERAMIC CAP, X7R 50V 0.1MF K"	CC001	12477104T	"CERAMIC CAP, F 50V 0.1MF Z AXIAL"
CS073	12752104T	"CHIP CERAMIC CAP, X7R 50V 0.1MF K"	CC002	12497103T	"CERAMIC CAP, F 25V 0.01MF Z AXIAL"
CS076	12752104T	"CHIP CERAMIC CAP, X7R 50V 0.1MF K"	JC001	11183004	"PLATING WIRE, 0.6MM"
CS079	12752104T	"CHIP CERAMIC CAP, X7R 50V 0.1MF K"	JC002	11183004	"PLATING WIRE, 0.6MM"
CS080	12752104T	"CHIP CERAMIC CAP, X7R 50V 0.1MF K"	JC003	11183004	"PLATING WIRE, 0.6MM"
CS091	12752104T	"CHIP CERAMIC CAP, X7R 50V 0.1MF K"	JC004	11183004	"PLATING WIRE, 0.6MM"
CS096	12752104T	"CHIP CERAMIC CAP, X7R 50V 0.1MF K"	JC005	11183004	"PLATING WIRE, 0.6MM"
CS101	12752104T	"CHIP CERAMIC CAP, X7R 50V 0.1MF K"	JC006	11183004	"PLATING WIRE, 0.6MM"
CS112	12752104T	"CHIP CERAMIC CAP, X7R 50V 0.1MF K"	LC001	11237109T	"COIL, AXIAL LAL02TB 1UH K"
CS114	12751330T	"CHIP CERAMIC CAP, COG 50V 33PF J"	RC001	12368102T	"CARBON RESISTOR, SB 1/6W 1K OHM J"
CS115	12751330T	"CHIP CERAMIC CAP, COG 50V 33PF J"	RC002	12368202T	"CARBON RESISTOR, SB 1/6W 2K OHM J"
CS117	12752104T	"CHIP CERAMIC CAP, X7R 50V 0.1MF K"	RC003	12368472T	"CARBON RESISTOR, SB 1/6W 4.7K OHM J"
CS124	12752104T	"CHIP CERAMIC CAP, X7R 50V 0.1MF K"	RC004	12368102T	"CARBON RESISTOR, SB 1/6W 1K OHM J"
LS017	11103085T	"FERRITE BEAD, MMZ1608S121A"	RC005	12368202T	"CARBON RESISTOR, SB 1/6W 2K OHM J"
R001	12873101T	"CHIP RES, 1/16W 100 OHM J(1608)"	RC007	12368431T	"CARBON RESISTOR, SB 1/6W 430 OHM J"

ELECTRICAL PARTS LIST

P / No.	ITEM No.	ITEM NAME	P / No.	ITEM No.	ITEM NAME
RC008	12368431T	"CARBON RESISTOR, SB 1/6W 430 OHM J"	B102	11829547	"CONTROL PANEL(PAL), BROWN"
RC009	12368102T	"CARBON RESISTOR, SB 1/6W 1K OHM J"	B103	11823114	CONTROL KNOB
RC010	12368102T	"CARBON RESISTOR, SB 1/6W 1K OHM J"	B104	11032382	"SCREW, TTB 3*10 SZN"
U112	11893289A	"PCB, CONTROL PLBC01(LT201CB)FR1=7Y"	B105	11829548	TUNER COVER(BROWN)
QC001	11114056T	"TR, KTC1815-Y (KTC3198-Y)"	B111Z	154100002	(KIT)S/PANEL ASSEMBLY SLT201AE6EGT
QC002	11114056T	"TR, KTC1815-Y (KTC3198-Y)"	MC01	300725725B	"HARNESS, 7P SMH200 250MM"
SW001	11145067T	"SWITCH, TACT KPT-1115AM(TAP)"	MC02	300525765	"HARNESS, 5P SMH200 650MM"
SW002	11145067T	"SWITCH, TACT KPT-1115AM(TAP)"	K001	152003108	"CABINET, SLT201C1H6EGT"
SW003	11145067T	"SWITCH, TACT KPT-1115AM(TAP)"	K100	152103096	"F/COVER SUB, ASS'Y SLT201C1H6EGT"
SW004	11145067T	"SWITCH, TACT KPT-1115AM(TAP)"	K101	39618258A	"F/COVER, ASS'Y SLT201C1H6EGT(S-006)"
SW005	11145067T	"SWITCH, TACT KPT-1115AM(TAP)"	K101A	11823116	"SENSOR COVER, LT201CB"
SW006	11145067T	"SWITCH, TACT KPT-1115AM(TAP)"	K101B	11847047	"SPACER, 90*20*0.5T BLK"
SW007	11145067T	"SWITCH, TACT KPT-1115AM(TAP)"	K101C	11845489	SPACER 350*10*0.5T
DL001	11113029	"LED, SLG124B GREEN*3 DIFF. ST-LESS"	K101D	152300283	"SPEAKER SYSTEM, SPK2132
DL002	11113003	"LED, SLR124 RED*3 DIFF. ST-LESS"	SLT201C1H6E"		
N201	11961026	"SOLDER WIRE, ENERGIZED 63SN 0.8MM"	M661	300425250A	"HARNESS, 4P 500MM SMH200"
N202	11961013	"SOLDER BAR, 63SN S63S"	NW01	11961024	"SOLDER WIRE, ENERGIZED 63SN 1.2MM"
N202	11961025	"SOLDER WIRE, 63SN 3.0MM"	W661	C1151215A	"SPEAKER,CSPK2132(70*40MM)8OHM
N203	11964033	"SOLVENT, IPA4520"	MAX8"		
N203	11961044	"SOLVENT, IM-1000(IPA4520)"	W662	C1151215A	"SPEAKER,CSPK2132(70*40MM)8OHM
N204	11961042	"FLUX, DF-98TV"	MAX8"		
PC01B	11164877	"PLUG, 7PIN SMAW200-07"	K101E	11037312	"SCREW, BTBW 3*12 SZN"
PC02A	11164871	"PLUG, 5PIN SMAW200-05"	K101F	11845001C	QUICK TIE(75MM)
PC02B	11164871	"PLUG, 5PIN SMAW200-05"	K104A	11847809	CUSHION FOR PCB
ZC01	11132043	"RX MODULE, ROM-N3138TC"	K105	11866123	"SHIELD PANEL, (LT201CH,PAL)"
A003	150032546	"TUNER, PAL PLCT01 LT201CE6DUT"	K105A	11034330	"SCREW, BTTSW 3*8 SNI(TOOTUED LOCK)"
A003U	150131076	"TUNER, AUTO PLCT01 LT201CE6DUT"	K105B	11037312	"SCREW, BTBW 3*12 SZN"
A003A	150231143	"TUNER, AXIAL PLCT01 LT201CC"	K105C	11177163A	"CABLE,PANEL INTER FACE 20.1""(40PIN)"
CT001	12497103T	"CERAMIC CAP, F 25V 0.01MF Z AXIAL"	K105D	23962032	HOTMELT
CT182	12477104T	"CERAMIC CAP, F 50V 0.1MF Z AXIAL"	K105E	11866043	SHIELD RCA(3P)
CT184	12477104T	"CERAMIC CAP, F 50V 0.1MF Z AXIAL"	K106	11034330	"SCREW, BTTSW 3*8 SNI(TOOTUED LOCK)"
DT001	11115024T	"SILICON DIODE, 1N4148"	K107	11865957	SHIELD PCB(LT201CB)
JT001	11183004	"PLATING WIRE, 0.6MM"	K107B	11858472	SHEET CUSHION - CR(60X20X3.0)
LT001	11237159T	"COIL, AXIAL LAL02TB 1.5UH K"	K108	11866119	"SHIELD JACK, (LT201CH,PAL)"
LT181	11103041T	"B-CORE, BF40 BTL3.5*7B-AG(0.62X63)"	K108A	11032386	"SCREW, TTBW 3*6 SZN"
LT181	C1103095T	"B-CORE, RH03506ST-B"	K109	11865958	SHIELD INVERTOR(LT201CB)
LT182	11103041T	"B-CORE, BF40 BTL3.5*7B-AG(0.62X63)"	K109A	11032386	"SCREW, TTBW 3*6 SZN"
LT182	C1103095T	"B-CORE, RH03506ST-B"	K110	11032382	"SCREW, TTB 3*10 SZN"
RT001	12368103T	"CARBON RESISTOR, SB 1/6W 10K OHM J"	K111	11965099	"TAPE, FILAMENT 3M#893 18MM*55M"
RT002	12368104T	"CARBON RESISTOR, SB 1/6W 100K OHM J"	K112	11032386	"SCREW, TTBW 3*6 SZN"
RT003	12368202T	"CARBON RESISTOR, SB 1/6W 2K OHM J"	K113	11032386	"SCREW, TTBW 3*6 SZN"
RT004	12368203T	"CARBON RESISTOR, SB 1/6W 20K OHM J"	K114	11965099	"TAPE, FILAMENT 3M#893 18MM*55M"
RT101	12368101T	"CARBON RESISTOR, SB 1/6W 100 OHM J"	MI903	301225715	"HARNESS, 12P 150MM"
RT102	12368101T	"CARBON RESISTOR, SB 1/6W 100 OHM J"	MT01	301025715A	"HARNESS,10P 150MM SMH200"
U113	11893311C	"PCB, TUNER PLCT01(LT201CC)FR1=8Y"	MT02	300725715C	"HARNESS, 7P SMH200 SHIELD"
CT002	12794470T	"CHEMICON, 16V 47MF 85C 5*11"	K200	153002833	"B/COVER SUB, ASS'Y SLT201C1H6EGT"
CT181	12683471T	"CHEMICON, 16V 470MF SHL,SD (8*11.5)"	K201	39676138A	BACK COVER BODY ASS'Y
CT183	12797470T	"CHEMICON, 50V 47MF 85C 6.3*11"	SLT201CH(BROW		
A004Z	156000009	"TUNER PCB ASSY, PLBT02(LT201CC)"	K201A	11827468	"REAR PLATE(PAL), BROWN LT201CH"
N301	11961026	"SOLDER WIRE, ENERGIZED 63SN 0.8MM"	K201B	11858473	HANDLE RUBBER
N302	11961013	"SOLDER BAR, 63SN S63S"	K201C	11962007	"BOND, RAPID CURE ADHESIVE"
N303	11964033	"SOLVENT, IPA4520"	K203	11845654	EMI GASKET
N304	11961042	"FLUX, DF-98TV"	K204	11829549	"HINGE CAP(LEFT),BROWN"
PT01B	11164880	"PLUG, SMAW200-10 10PIN"	K204A	11710008	"SCREW, PSTB 3*8"
PT02B	11164877	"PLUG, 7PIN SMAW200-07"	K205	11829551	"HINGE CAP(RIGHT),BROWN"
ZS01	11107272	"SAW FILTER, K9453M(SOUND-BG,DK,I,L)"	K205A	11710008	"SCREW, PSTB 3*8"
ZV01	11107270	"SAW FILTER, K3953M(VIDEO-BG,DK,I,L)"	K206	11710008	"SCREW, PSTB 3*8"
A004	150032488	"TUNER ASSY, PAL PLBT02 LT201CC6"	K207	11032372	"SCREW, PBTB 4*12 SNI"
TU01	11121229A	"TUNER, TECC2949PG35F IIC DIN"	K300	152103054	"TILT SUB, ASS'Y SLT201C1H6EGT"
U114	11893292	"PCB, T-MOD PLBT02 (LTW17/..)FR-4=2L"	K301	11849061B	TILT SUB ASS'Y LT201CC(S-006)
E001	151010349	"COMPLETE CHASSIS, SLT201C1H6EGT"	K301A	11865969	"HINGE ASS'Y, LT201CB"
B101	11141057	"INVERTOR ASS'Y AT-6201LGP 20.1""	K301B	11865960A	STAND SUPPORT
B101	11141070	"INVERTER ASS'Y, FIF2066-51B"	K301C	11714512	"SCREW, PS M5*0.8*12 SZN"

ELECTRICAL PARTS LIST

P / No.	ITEM No.	ITEM NAME	P / No.	ITEM No.	ITEM NAME
K301D	11962040	"LOC-TITE, SCREW LOC-TITE 271"	LT201CB(WEEE)"		
K301E	11823108	STAND FRONT(LT201CB)S-006			
K301F	11032382	"SCREW, TTB 3*10 SZN"			
K301H	11823109	STAND REAR(LT201CB)S-006			
K301I	11035412	"SCREW, BTB 4*12 SZN"			
K302	11829556A	"STAND, BOTTOM ASS'Y(S-006)(LT201C1)"			
K302A	11823140	"STAND, BOTTOM(7227S00197A)BLACK"			
K302B	11865973	"STAND, PLATE"			
K302C	11710020	"SCREW, PSTB 4*10 SBN"			
K302D	11845634A	RUBBER FOOT			
K303	11714408	"SCREW, PS 4*0.7*8 SZN"			
K304	11712410	"SCREW, PP 4*0.7*10 SZN"			
K305	11962040	"LOC-TITE, SCREW LOC-TITE 271"			
K007	154002743	"PACKING MATERIAL 1SET, SLT201C1H6EG"			
K703	11941204	POLY BAG(LAMI) (800*750) LT201AA			
K706	11965146	"TAPE, CELLO W50(3M)"			
K711	11927934	"BOX, F/P LT201CC 630*450*425(DW3)"			
K711A	11941207	POLY BAG(LAMI) (750*480) LT201AA			
K711B	11947674A	"PAD, LT201CC 625*445(SW3)"			
K711C	11947675	"PAD, LT201CC 625*410(SW3)"			
K711D	23965862	"TAPE, HARD PVC W50(YEL)"			
K711E	11928098	"PALLET, 1300X1100(Êø™ PLATE)"			
K711F	11941213	"FILM, ACE STRETCH 20MIC"			
K712	11927935A	"BOX, B/C LT201CC 620*515*405(DW3)"			
K712A	11941207	POLY BAG(LAMI) (750*480) LT201AA			
K712B	11947686A	"PAD, LT201CC 615*510(SW3)"			
K712C	11947676	"PAD, LT201CC 615*395(SW3)"			
K712D	23965862	"TAPE, HARD PVC W50(YEL)"			
K712E	11928098	"PALLET, 1300X1100(Êø™ PLATE)"			
K712F	11941213	"FILM, ACE STRETCH 20MIC"			
K716	11927939B	"BOX, S/BOTTOM 340*400*220(DW3)"			
K716A	11947684	POLY BAG(LAMI) (250*420) LT201CC			
K716B	11947680B	"PAD, LT201CC 335*395(SW3)"			
K716C	11947681	"PAD, LT201CC 335*210(SW3)"			
K716D	23965862	"TAPE, HARD PVC W50(YEL)"			
K716E	11928098	"PALLET, 1300X1100(Êø™ PLATE)"			
K717	11927940	"BOX, TILT LT201CC 440*465*125(DW3)"			
K717A	11947685	POLY BAG(LAMI) (220*200) LT201CC			
K717B	11947682	"PAD, LT201CC 435*460(SW3)"			
K717C	11947683	"PAD, LT201CC 460*120(SW3)"			
K717D	23965862	"TAPE, HARD PVC W50(YEL)"			
K717E	11928098	"PALLET, 1300X1100(Êø™ PLATE)"			
K717F	11925635	"BOX, CAP 1090*1270*150"			
K717G	11927415	EDEG BOARD 50*50*920*5T			
K717H	11965094	"BAND, P.P W17 YELLOW"			
K719	11927957	"BOX, 380*245*250(DW3)(DVB,T,CONTROL)"			
K719A	11947688	"PAD, I10MR 375*240(SW3)"			
K719B	11941128A	"PROTECTIVE SHEET, 150*600 BLUE"			
K720	11965026	"TAPE, CELLO W50"			
K721	11927159	"MAIN PAD, PCB BOX 330*247"			
K721A	11934144	"PAD, EPS 330*280*10"			
K721B	11941128A	"PROTECTIVE SHEET, 150*600 BLUE"			
K722	11928017A	"BOX-SHIELD ASS'Y, 490*390*305(DW3)"			
K722A	11947690	"PAD, SLT201AE 485*385(SW3)"			
K722B	11941211	"POLY BAG(E),(600*550*0.1T)"			
K722C	11965108	"TAPE, CELLO W75"			
Y001	154602782	"ACCESSORY 1SET, SLT201C1H6EGT"			
Y101	11906873B	"OWNER'S MANUAL, SLT201C1H6EGT"			
Y101A	11927675	"ACCESSORY BOX,(242*173*75) LT151AA"			
Y103	11101007	"DRY BATTERY, 1.5V AAAM-1.5V(3A)"			
Y201A	11176093	"CORD AC, 250V 16A VDE KKP4819R"			
Y202	11213426	"ADAPTER,LSE0219B1570LF 15V 70W 20.1"			
Y222	390110836	"REMOCON, RR3600B(PAL)"			

SLT20CH/DH

January 2006

Part No. 11906973