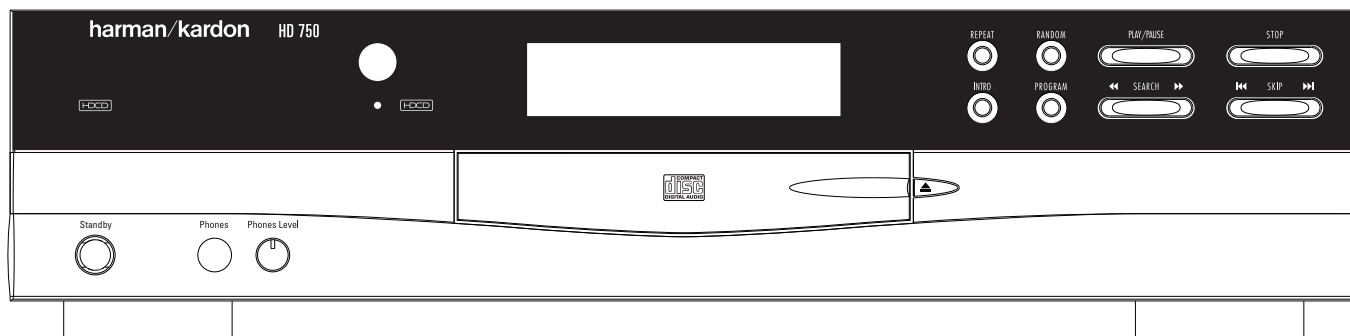


The Harman Kardon Model HD755 silver

COMPACT DISC PLAYER

Technical Manual



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* *Harman/ kardon continually strives to improve its products. The HD750 Compact Disc Player design and specifications are subject to change and may differ from the published specifications and descriptions, but will always equal or exceed the original specifications unless otherwise stated.*

DANGER: Invisible laser radiation when open and interlock failed or defeated.
AVOID DIRECT EXPOSURE TO BEAM.

harman/kardon

Parts and Service Office
250 Crossways Park Dr., Woodbury, N.Y. 11797
1112-FL8350 P9603 1200 Printed in Hong Kong

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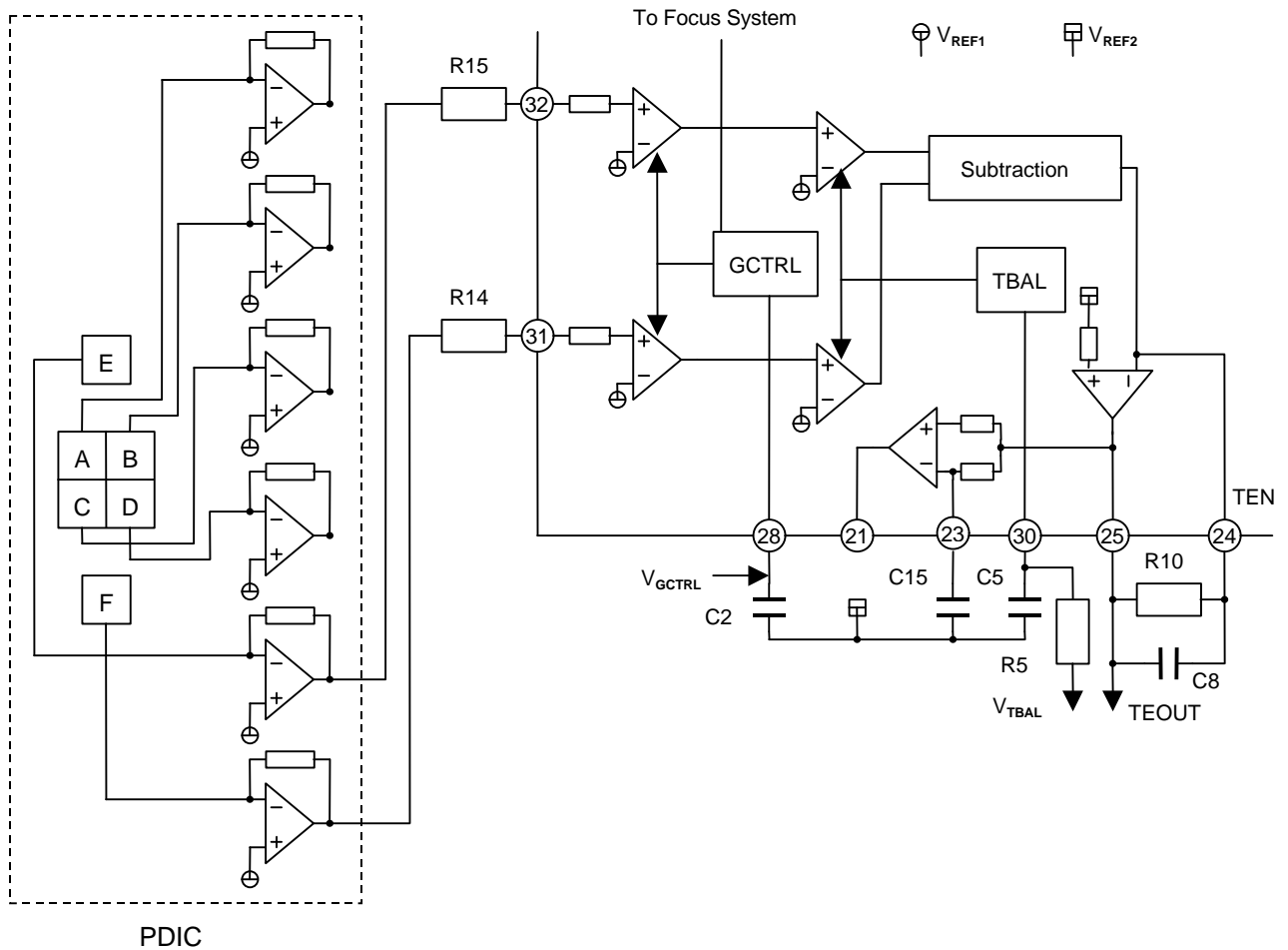


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FUNCTION DESCRIPTION

Tracking System



The tracking error output of E and F is given to Pin 25 (TEOUT). C8 is required for oscillation-proof. R10 is chosen such that TEOUT of Pin 25 become 1.4Vp-p.

During alignment procedure, the DSP IC (MN662790) will adjust the tracking balance voltage V_{TBAL} from Pin 31. V_{TBAL} varies with reference to the center voltage V_{REF2} ($=1.65\text{ V}$) within $\pm 0.5\text{ V}$.

The tracking gain will change according to the type of disc. For normal disc or CDR disc, V_{GCTRL} is set to V_{REF2} ; for CDRW disc V_{GCTRL} is set to $V_{REF2} - 0.75\text{ V}$. At the same time, the focus gain is changed too.

AN8849SB

Head amplifier IC for CD-ROM drive (for 24 times speed or more)

■ Overview

The AN8849SB is a head amplifier IC for digital servo. It can configure an efficient CD-ROM system in combination with the MN662752, and allows a full-automatic adjustment of tracking balance-gain-offset and focus balance-gain-offset with fewer external parts.

Built-in functions are a variable equalizer, wide band RF amp. and AGC which meet CAV playback with 24 times speed or more.

■ Features

- Variable equalizer which meets CAV playback with 24 times speed or more CAV playback.
- Wide band RF amp. and AGC ($f_c = 20$ MHz or more (-3 dB))
- Balance adjustment function built-in
Focus error amp./tracking error amp.
- CD-RW playback compatible.

Variable gain

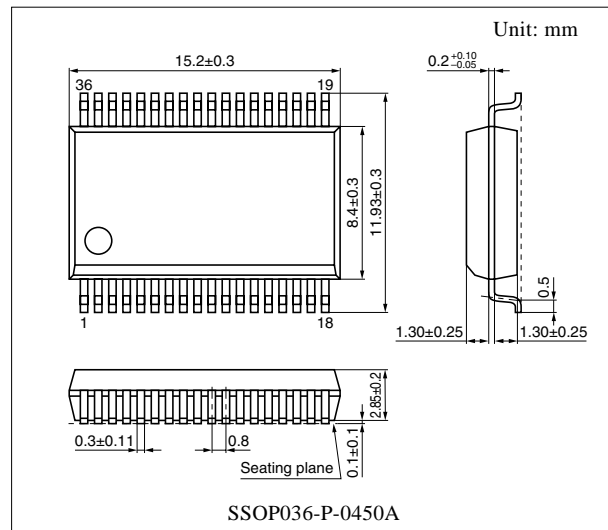
Focus error amp./tracking error amp.

(to +16.9 dB)

- OFTR/BDO detection
- APC amp.

■ Applications

- CD/CD-ROM drive



BURR - BROWN®



PCM1732

For most current data sheet and other product information, visit www.burr-brown.com

SoundPLUS™ 24-Bit, 96kHz, Stereo Audio DIGITAL-TO-ANALOG CONVERTER With HDCD® Decoder

FEATURES

- ENHANCED MULTI-LEVEL $\Delta\Sigma$ DAC
- INPUT AUDIO DATA WORD: 16-, 20-, 24-Bit
- SAMPLING FREQUENCY (f_s): 16kHz - 96kHz
- SYSTEM CLOCK: 256, 384, 512, 768 f_s
- HIGH PERFORMANCE:
 - THD+N: -96dB
 - Dynamic Range: 104dB
 - SNR: 104dB
- AUDIO OUTPUT LEVEL: $0.57 \times V_{CC}$ (Vp-p)
- 8x OVERSAMPLING DIGITAL FILTER WITH HDCD DECODER:
 - Stopband Attenuation: -120dB
 - Passband Ripple: ± 0.00001 dB
 - HDCD Filter Optimized for 44.1kHz to 48kHz and 88.2kHz to 96kHz
- MULTI-FUNCTIONS:
 - Digital De-emphasis
 - Soft Mute
 - Digital Attenuation
 - Zero Detect
 - Digital Gain Scaling
 - Reversible Output Phase
- +5V SINGLE-SUPPLY OPERATION
- SMALL SO-28 PACKAGE

NOTE: An HDCD license from Pacific Microsonics, Inc. is required to purchase the PCM1732.

HDCD® is a registered trademark of Pacific Microsonics, Inc.

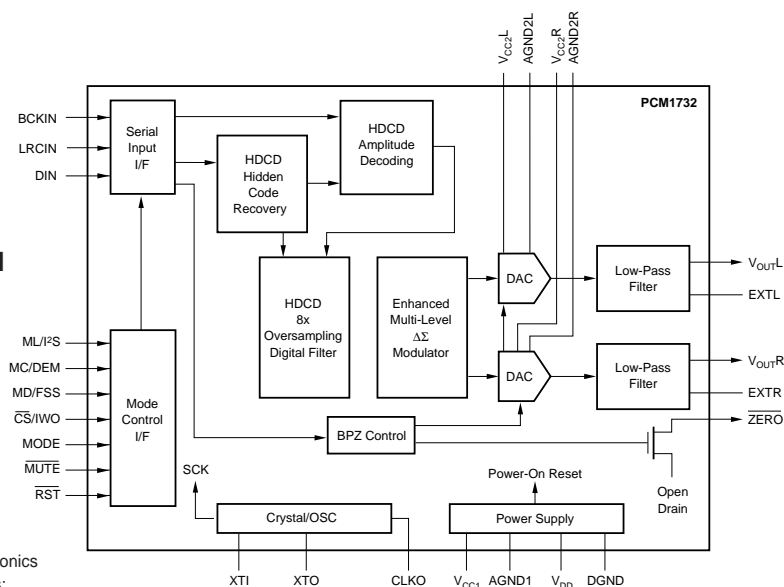
HDCD® technology is provided under license from Pacific Microsonics Inc. The PCM1732's design is covered by the following patents:
 In the USA: 45,479,168, 5,638,074, 5,640,161, 5,808,574, 5,838,274, 5,854,600, 5,864,311, 5,872,531.
 In Australia: 669,114.
 Other patents pending.

DESCRIPTION

The PCM1732 is designed for mid- to high-grade digital audio applications which achieve 96kHz sampling rates with 24-bit audio data, such as High Definition Compatible Digital (HDCD) CD players, DVD players, mini-disc players and AV receivers.

PCM1732 uses a newly-developed "enhanced, multi-level delta-sigma modulator" architecture that improves audio dynamic performance and reduces jitter sensitivity.

The internal digital filter operates at 8x oversampling at a 96kHz sampling rate, with -120dB stopband attenuation.

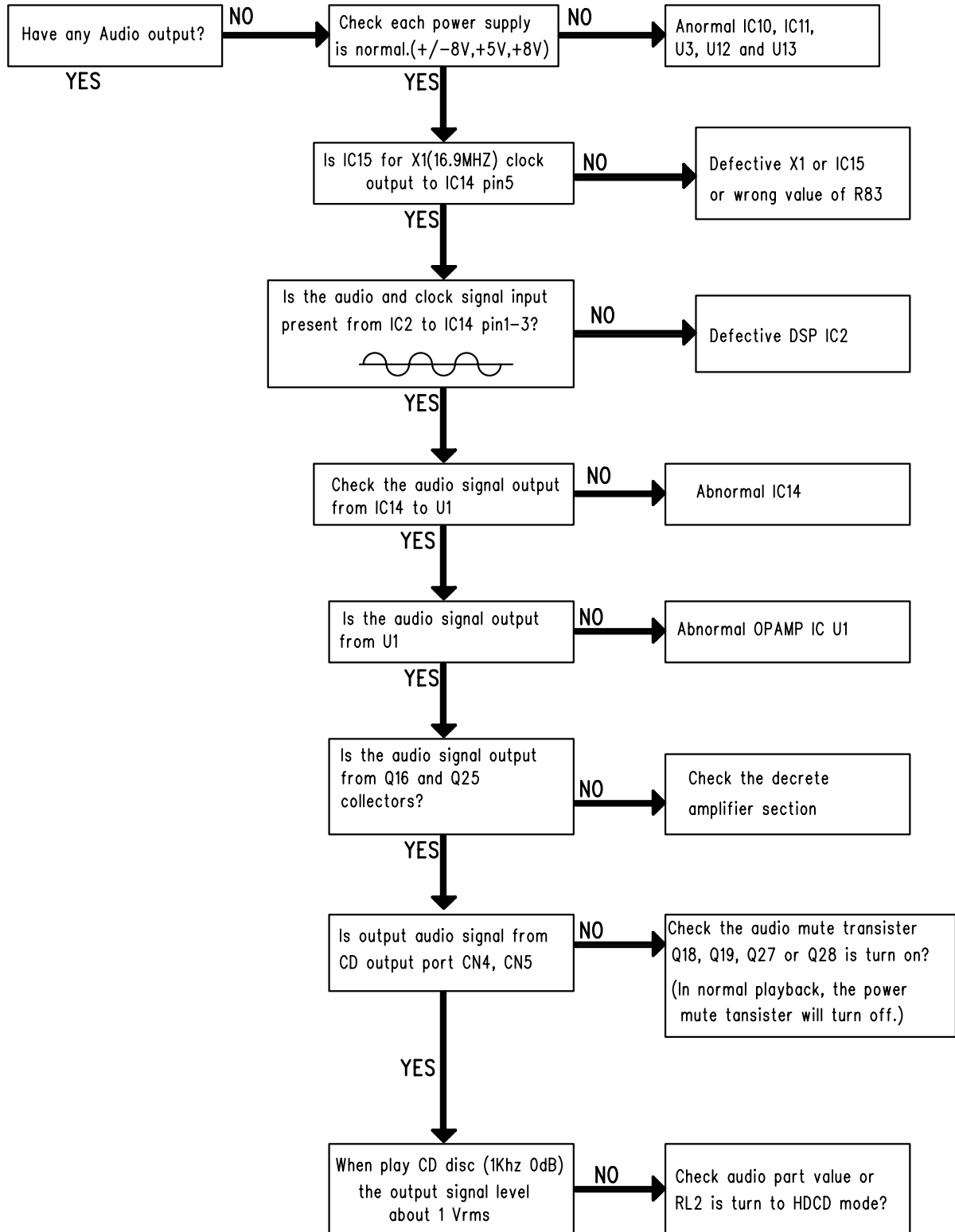


HD750 ELECTRICAL PARTLIST

MAINBOARD ASSEMBLY

<u>Reference</u>	<u>Part Number</u>	<u>Description</u>	<u>Quantity</u>
	9475-001000-011	HD750 MAIN BOARD ASSY REV A	
Resistor			
R72	1001-000314-020	CARBON FILM RESISTOR 10 OHM 1/4W +-5% AXIAL TAPE	1
R18	1001-000316-020	CARBON FILM RESISTOR 10 OHM 1/6W +-5% AXIAL TAPE	1
R41, R60, R61, R62, R76, R77, R81, R130, R159, R163, R166, R167, R168, R169	1001-001316-020	CARBON FILM RESISTOR 100 OHM 1/6W +-5% AXIAL TAPE	14
R1, R2, R4, R20, R21, R27, R74, R115, R119, R120, R121, R122, R123, R124, R125, R126, R127, R128, R133, R157, R158	1001-002316-020	CARBON FILM RESISTOR 1K OHM 1/6W +-5% TP52	21
R28, R42, R69, R71, R75, R114, R132, R155, R156	1001-003316-020	CARBON FILM RESISTOR 10K OHM 1/6W +-5% TP52	9
R6, R29	1001-004316-020	CARBON FILM RESISTOR 100K OHM 1/6W +-5% TP52	2
R82, R153	1001-005316-020	CARBON FILM RESISTOR 1M OHM 1/6W +-5% TP52	2
R31	1001-006316-020	CARBON FILM RESISTOR 10M OHM 1/6W +-5% AXIAL TAPE	1
R23	1001-200316-020	CARBON FILM RESISTOR 12 OHM 1/6W +-5% AXIAL TAPE	1
R17	1001-201316-020	CARBON FILM RESISTOR 120 OHM 1/6 W +-5% AXIAL TAPE	1
R80, R118	1001-500320-000	CARBON FILM RESISTOR 15 OHM 2W +-5%	2
R48	1001-502316-020	CARBON FILM RESISTOR 1.5K OHM 1/6W +-5% AXIAL TAPE	1
R8, R53	1001-803316-020	CARBON FILM RESISTOR 18K OHM 1/6W +-5% TP52	2
R9	1002-003316-020	CARBON FILM RESISTOR 20K OHM 1/6W +-5% AXIAL TAPE	1
R66, R112	1002-200316-020	CARBON FILM RESISTOR 22 OHM 1/6W +-5% TP52	2
R25, R131	1002-201316-020	CARBON FILM RESISTOR 220 OHM 1/6 W +-5% AXIAL TAPE	2
R40, R52	1002-202316-020	CARBON FILM RESISTOR 2.2K OHM 1/6W +-5% TP52	2
R55	1002-203316-020	CARBON FILM RESISTOR 22K OHM 1/6W +-5% TP52	1
R35	1002-204316-020	CARBON FILM RESISTOR 220K OHM 1/6W +-5% AXIAL TAPE	1
R64, R92, R110, R139	1002-207316-020	CARBON FILM RESISTOR 2.2 OHM 1/6W +-5% AXIAL TAPE	4
R161	1002-701316-020	CARBON FILM RESISTOR 270 OHM 1/6W +-5% AXIAL TAPE	1
R14, R15, R50	1002-702316-020	CARBON FILM RESISTOR 2.7K OHM 1/6W +-5% AXIAL TAPE	3
R7	1003-003316-020	CARBON FILM RESISTOR 30K OHM 1/6W +-5% AXIAL TAPE	1
D15	1003-300310-000	CARBON FILM RESISTOR 33 OHM 1W +-5%	1
R16, R83, R93, R140	1003-300316-020	CARBON FILM RESISTOR 33 OHM 1/6W +-5% AXIAL TAPE	4
R51, R95, R98, R142, R145	1003-302316-020	CARBON FILM RESISTOR 3.3K OHM 1/6W +-5% TP52	5
R5	1003-304316-020	CARBON FILM RESISTOR 330K OHM 1/6W +-5% AXIAL TAPE	1
R99, R146, R164	1003-902316-020	CARBON FILM RESISTOR 3.9K OHM 1/6W +-5% AXIAL TAPE	3
R10	1003-903316-020	CARBON FILM RESISTOR 39K OHM 1/6W +-5% AXIAL TAPE	1
R162, R165	1004-700316-020	CARBON FILM RESISTOR 47 OHM 1/6W +-5% TP52	2
R129	1004-701316-020	CARBON FILM RESISTOR 470 OHM 1/6 W +-5% AXIAL TAPE	1
R154	1004-701316-020	CARBON FILM RESISTOR 470 OHM 1/6 W +-5% AXIAL TAPE	1
R22	1004-701316-020	CARBON FILM RESISTOR 470 OHM 1/6 W +-5% AXIAL TAPE	1
R11, R12	1004-702316-020	CARBON FILM RESISTOR 4.7K OHM 1/6W +-5% TP52	2
R32, R33, R160	1004-703316-020	CARBON FILM RESISTOR 47K OHM 1/6W +-5% TP52	3
R116	1005-100316-020	CARBON FILM RESISTOR 51 OHM 1/6W +-5% AXIAL TAPE	1
R36	1005-102316-020	CARBON FILM RESISTOR 5.1K OHM 1/6W +-5% AXIAL TAPE	1
R56, R57	1005-602316-020	CARBON FILM RESISTOR 5.6K OHM 1/6W +-5% TP52	2
R73	1006-802316-020	CARBON FILM RESISTOR 6.8K OHM 1/6W +-5% AXIAL TAPE	1
R117	1007-502316-020	CARBON FILM RESISTOR 7.5K OHM 1/6W +-5% AXIAL TAPE	1
R24	1009-100316-020	CARBON FILM RESISTOR 91 OHM 1/6W +-5% AXIAL TAPE	1
R49	1009-102316-020	CARBON FILM RESISTOR 9.1K OHM 1/6W +-5% AXIAL TAPE	1
R43, R89, R94, R105, R136, R141	1011-001018-020	METAL FILM RESISTOR 100 OHM 1/8W +-1% AXIAL TAPE	6
R68, R84, R85, R88, R134, R135	1011-002018-020	METAL FILM RESISTOR 1K OHM 1/8W +-1% AXIAL TAPE	6
R45, R107, R147, R148, R149, R150, R151, R152	1011-003018-020	METAL FILM RESISTOR 10K 1/8W +-1% AXIAL TAPE	8
R30	1011-204018-020	METAL FILM RESISTOR 120K OHM 1/8W +-1% AXIAL TYPE	1
R65, R111	1011-802018-020	METAL FILM RESISTOR 1.8K OHM 1/8W +-1% AXIAL TAPE	2
R90, R137	1011-803018-020	METAL FILM RESISTOR 18K OHM 1/8W +-1% AXIAL TAPE	2
R39, R104	1011-804018-020	METAL FILM RESISTOR 180K OHM 1/8W +-1% AXIAL TAPE	2
R3, R97, R100, R144	1012-203018-020	METAL FILM RESISTOR 22K OHM 1/8W +-1% AXIAL TAPE	4
R86, R87	1013-602018-020	METAL FILM RESISTOR 3.6K OHM 1/8W +-1% AXIAL TAPE	2
R46, R91, R96, R108, R138, R143	1014-701018-020	METAL FILM RESISTOR 470 OHM 1/8W +-1% AXIAL TAPE	6
R44, R106	1014-702018-020	METAL FILM RESISTOR 4.7K OHM 1/8W +-1% AXIAL TAPE	2
R34, R102	1014-703018-020	METAL FILM RESISTOR 47K 1/8W +-1% AXIAL TAPE	2
R59, R67, R109, R113	1015-601018-020	METAL FILM RESISTOR 560 OHM 1/8W +-1% AXIAL TAPE	4
R13, R101	1016-802018-020	METAL FILM RESISTOR 6.8K 1/8W +-1% AXIAL TAPE	2

2) Audio Circuit Checking



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