

MARANTZ CD-63 KI UPGRADES 2005-2008

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- * **21X** LOW NOISE REGULATORS
- * **9X** TOROID TRANSFORMERS
- * **104VA** TOTAL VA
- * **10.16Kg** TOTAL WEIGHT
- * **44.6 C** AMBIENT TEMP
- * **38.5 C** AMBIENT TEMP

[17X SPOWER](#)

PLAY
STOP



[<--- CLICK FOR LARGER IMAGE](#)

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MISC

TX INFO

AUDIO OUTPUT
DRIVER ICs
CLOCK 1 16.934Mhz
CLOCK 2 8.467Mhz
DAC
DECODER
SERVO
HF & RF
DISPLAY

30VA 18V TO DISCRETE
30VA 12V LASER & MOTOR DRIVE
7VA 18V DAC
7VA 18V SERVO
15VA 9V ANALOGUE & DIGITAL
7VA 9V ANALOGUE & DIGITAL
3.2VA 9V ANALOGUE & DIGITAL
3.2VA 9V
1.6VA 12V

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OUTPUT SECTION

NUVOTEM 30VA 2X18V TOROIDAL

D801 D802 D803 D804

C803 C804

CUSTOM DISCRETE PCB

2X S POWER +15V LOW NOISE REGS

2X S POWER -15V LOW NOISE REGS

4X CAPACITORS

26V +/- DC - REPLACES KI TX

HEXFRED HFA08TB60

4X 35V 2200uF BLACK GATE FK (4400uF per rail)

25V 220uF BLACK GATE FK

RUSS ANDREWS 'AGSS' HYPER PURE SILVER

FROM DAC TO DISCRETE AND DISCRETE TO RCA

GROUND WIRES RUN TO STAR EARTH

TWIN RELAY MUTING CIRCUIT

A RELAY FOR EACH CHANNEL

CMC pure silver RCA socket

NOTE: OPAMPS HDAM BYPASSED

DISCRETE PCB - HERE

4X 2.2K

0.1% TOL RESISTOR

4X 2.4K

0.1% TOL RESISTOR

4X 4.7K

0.1% TOL RESISTOR

4X 820 OHM

0.1% TOL RESISTOR

2X 39K

0.1% TOL RESISTOR

2X 255 OHM

0.1% TOL RESISTOR

2X 1.8K

0.1% TOL RESISTOR

2X 470K

0.1% TOL RESISTOR

4X 10mH INDUCTOR

4X 4.7nF

PLASTIC CAP

4X 680pF

SILVER MICA CAP

4X 1N4148

DIODE

6X 2SK170GR

FET

2X 2SC2240

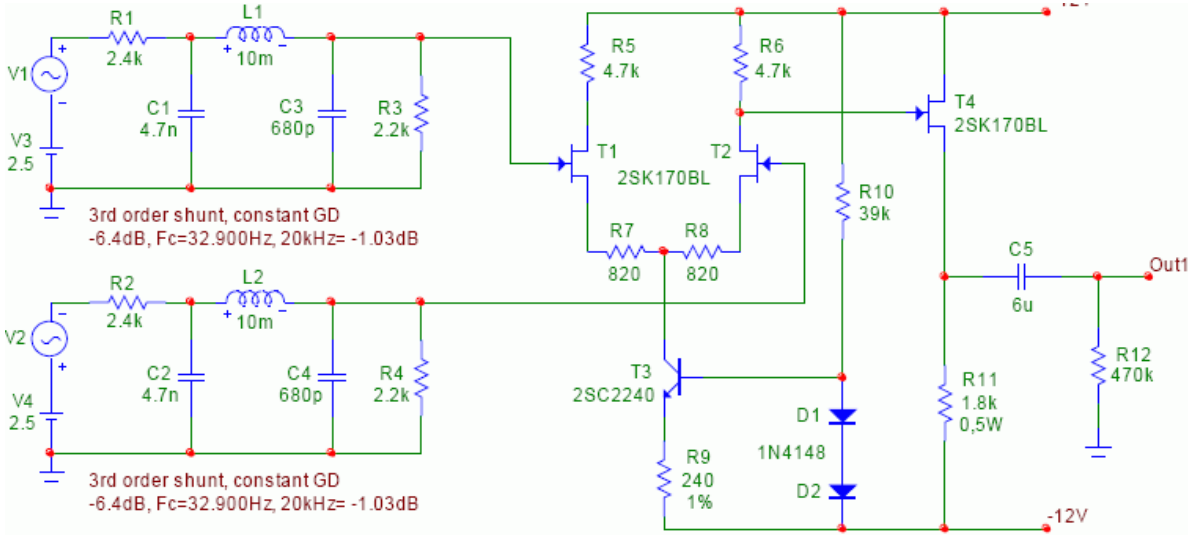
TRANSISTOR

DC BLOCKING

1200V 2.2uF MUNDORF SUPREME SILVER / GOLD

OUTPUT SOCKETS

CMC pure silver RCA socket



DAC SECTION**ANALOGUE**

1X NUVOTEM TOROIDAL TX (7VA 1X 9V AC) THIS SUPPLIES DAC 5V ON THE ANALOGUE
 4X SCHOTTKY DIODES RAILS (U199)
 1X 16V 3300uF BLACK GATE **STD**
 1X SPOWER REG +5V
 1X 16V 220uF BLACK GATE **FK**

DIGITAL

1X NUVOTEM TOROIDAL TX (7VA 1X 9V AC) THIS SUPPLIES DAC 5V ON THE DIGITAL
 4X SCHOTTKY DIODES RAILS (R511)
 1X 16V 3300uF BLACK GATE **STD**
 1X 16V 100uF BLACK GATE **FK**
 1X SPOWER REG +5V
 1X 16V 1000uF BLACK GATE CAP **STD**

DAC CLOCK V

VCC FROM RAW 16V THIS SUPPLIES THE XTAL 5V REF ON THE DAC
 1X SPOWER REG +5V PIN 27 (RD01) FROM THE 30VA 12V TX
 1x 16V 1000uF BLACK GATE **STD**

DAC CLOCK

1X NUVOTEM TOROIDAL (7VA 18V TX) EQUIVALENT TO SERCAL PSU2
 4x SCHOTTKY DIODES
 1X 40V **10000uF** AEROVOX
 1X SERCAL S POWER LOW NOISE REG +15V
 AUDIOCOM **SUPER CLOCK 3** 16.934Mhz

OTHER

FITTED 0.01uF X7R CAP ACROSS PIN 2 AND 7 OF DAC ON CLOCK REF RAIL
 REMOVED LARGE TRACK BETWEEN PIN 2 OF DAC AND CD04 - TO STOP TRACE PICKUP

GROUNDS FOR DAC

PIN2 = XVSS - USED U203 AND RUN TO STAR
 PIN15 = DVSS - CUT TRACK NEAR PIN15 + CD06 ISOLATING IT AND RUN TO STAR
 PIN19 + 24 = AVSS - U197 -198 RUN TO STAR

DECODER

DIGITAL

1X NUVOTEM TOROIDAL TX (3.5VA 1X 9V AC) THIS SUPPLIES DECODER DIGITAL
4X SCHOTTKY DIODES
1X 16V 470uF BLACK GATE **STD**
1X SERCAL SPOWER REG +5V

ANALOGUE

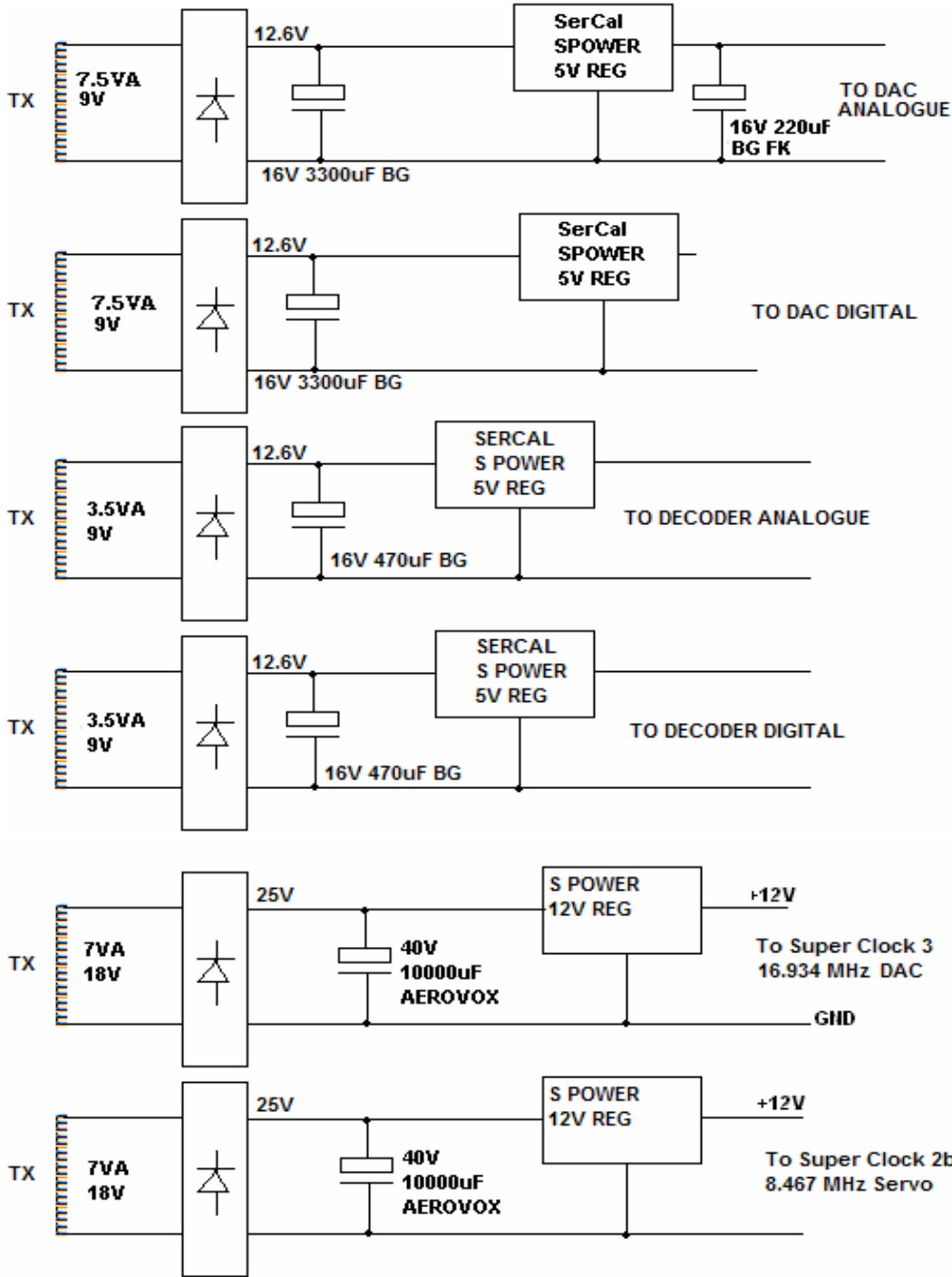
1X NUVOTEM TOROIDAL TX (3.5VA 1X 9V AC) THIS SUPPLIES DECODER ANALOGUE
4X SCHOTTKY DIODES
1X 16V 470uF BLACK GATE **STD**
1X SERCAL SPOWER REG +5V

C510-511 2X 16V 220uF BLACK GATE **STD**

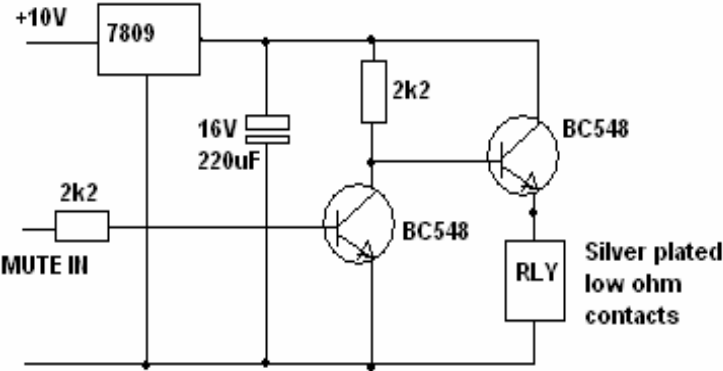
DECODER IC MOD

PIN12 = VSSA - CUT TRACK ISOLATING IT BETWEEN PIN 11 & 12, WIRE TO STAR
PIN34 - 43 + 16 = VSS/VSS2 - USE TRACK BETWEEN PIN22 + 23 FOR GND TO STAR

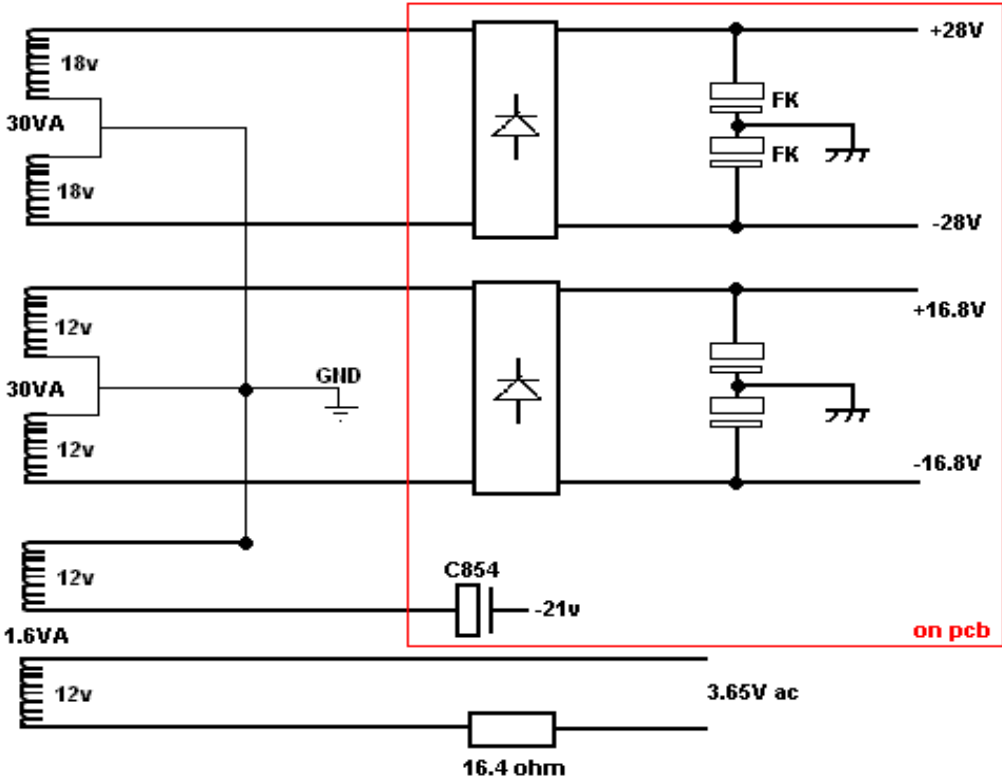
CIRCUIT DIAGRAMS



MUTING



CUSTOM TX DIAGRAM



SERVO**DIGITAL**

1X NUVOTEM TOROIDAL TX (1.6VA 1X 9V AC) THIS SUPPLIES 1X 5V TO SERVO DIGITAL
 1X AUDIOCOM **SUPER** REG +5V
 1X 220uF 16V ELNA SILMICS
 4X SCHOTTKY DIODES (1X BRIDGE)
 1X 10nF PLASTIC CAPS
 1X 100nF PLASTIC CAPS

ANALOGUE

1X NUVOTEM TOROIDAL TX (1.6VA 1X 9V AC) THIS SUPPLIES 1X 5V TO SERVO ANALOGUE
 1X AUDIOCOM **SUPER** REG +5V
 1X 220uF 16V ELNA SILMICS
 4X SCHOTTKY DIODES (1X BRIDGE)
 1X 10nF PLASTIC CAPS
 1X 100nF PLASTIC CAPS

SERVO RF

1X NUVOTEM TOROIDAL TX (1.6VA 1X 9V AC) THIS SUPPLIES 1X 5V TO SERVO RF
 1X AUDIOCOM **SUPER** REG +5V
 1X 220uF 16V ELNA SILMICS
 4X SCHOTTKY DIODES (1X BRIDGE)
 1X 10nF PLASTIC CAPS
 1X 100nF PLASTIC CAPS

SERVO HF

1X NUVOTEM TOROIDAL TX (1.6VA 1X 9V AC) THIS SUPPLIES 1X 5V TO SERVO HF
 1X AUDIOCOM **SUPER** REG +5V
 1X 220uF 16V ELNA SILMICS
 4X SCHOTTKY DIODES (1X BRIDGE)
 1X 10nF PLASTIC CAPS
 1X 100nF PLASTIC CAPS

SERVO CLOCK

1X 18V TX (7VA 1X 9V AC)
 4x SCHOTTKY DIODES
 1X 40V **10000uF** AEROVOX
 1X SERCAL **S POWER** LOW NOISE REGS +12V
 1X AUDIOCOM **SUPER CLOCK 2b** 8.467Mhz

SERVO COMPONENTS

D811 - D814	HEXFRED HFA08TB60	
C120-122	SERVO	2X 16V 470uF BLACKGATE STD
C153-154	MOTOR DRIVER	16V 220uF SILMIC
C124	V REF	16V 10uF BLACK GATE STD
C111-116	SERVO	220pF SILVER MICA 1% TOL
C117	SERVO	1500pF SILVER MICA 1% TOL
C118	SERVO	560pF SILVER MICA 1% TOL
R114-119	SERVO	10K 0.1% PRECISION
R122-123	SERVO	REMOVED FOR REG I/P
C507	HF AMP	47pF SILVER MICA 1% TOL
C505	HF AMP	2200pF SILVER MICA 1% TOL
C502	HF AMP	390pF SILVER MICA 1% TOL
C501	HF AMP	150pF SILVER MICA 1% TOL
C504	HF AMP	16V 220uF SILMIC
R501-502	HF AMP	470 ohm 0.1% PRECISION
R504	HF AMP	1.8K 0.1% PRECISION
R506	HF AMP	2.7K 0.1% PRECISION
R507	HF AMP	3.3K 0.1% PRECISION
R509	HF AMP	2.2K 0.1% PRECISION
R503	HF AMP	8.2K 0.1% PRECISION
R505	HF AMP	REMOVED FOR REG I/P
R110	RF AMP	470ohm 0.1% PRECISION
R109	RF AMP	100ohm 0.1% PRECISION
R103	RF AMP	330K 0.1% PRECISION
R102	RF AMP	33K 0.1% PRECISION
R108	RF AMP	1K 0.1% PRECISION
R106	RF AMP	100ohm 0.1% PRECISION
R105	RF AMP	1K 0.1% PRECISION
R104	RF AMP	39K 0.1% PRECISION
R111-112	RF AMP	120K 0.1% PRECISION
R113	RF AMP	56K 0.1% PRECISION
R107	RF AMP	330ohm 0.1% PRECISION
C101	RF AMP	100pF SILVER MICA 1%
C102-103	RF AMP	47pF SILVER MICA 1% TOL
C105	RF AMP	150pF SILVER MICA 1% TOL
C108-109	RF AMP	150pF SILVER MICA 1% TOL
C104	RF AMP	18pF SILVER MICA 1% TOL
C110	RF AMP	330pF SILVER MICA 1% TOL
C106	RF AMP	10uF 50V BLACKGATE STD

R107 CONNECTED DIRECT TO REG

HARD WIRED RIBBON BETWEEN RF PCB AND MAIN PCB

LASER & MOTOR DRIVE

1X NUVOTEM TOROIDAL (30VA 2X 12V TX)
C814
C813

THIS IS TO SUPPLY THE LASER & MOTOR DRIVER REGS + CPU
NEG 16V RAIL (RAW 10V) 16V 3300uF BLACK GATE **STD**
POS 16V RAIL (RAW 10V) 16V 4700uF BLACK GATE **STD**

1X S POWER +12V LOW NOISE REG
1X S POWER -12V LOW NOISE REG
2X 470uF 16V BLACK GATE **STD**

FOR LASER DRIVE IC Q106

2X S POWER +12V LOW NOISE REG
2X S POWER -12V LOW NOISE REG
4X 16V 470uF ZLH

FOR DRIVER IC QM01 Q105

FITTED TO SPOWER

OTHER

C815
C805
C806
Q801
Q802
Q851
D852

7805 O/P	6.3V 10000uF PANA FC
12V O/P	REMOVED - NO LONGER NEEDED
12V O/P	REMOVED - NO LONGER NEEDED
12V O/P	REMOVED - NO LONGER NEEDED
12V O/P	REMOVED - NO LONGER NEEDED
7912	DIMMER DISPLAY
BYPASSED	DIMMED FURTHER

COAX MOD

REPLACED RF AND DIGITAL LINES AND REPLACED WITH COAX

KIMBER V21

KIMBER V21 USED FOR COAX



U100 CONNECTED TO R501
U193 CONNECTED TO C521
U132 CONNECTED TO U188 AND THEN U171
U131 CONNECTED TO U189 AND THEN U172

RF TO HF
DAC CLOCK OUT TO DECODER CLOCK IN
SIDA DATA
SICK DATA

GROUNDS TO STAR

ALL CUSTOM REG GROUNDS NOW GO TO A COMMON STAR GROUND NEAR IEC SOCKET
AND CONNECTED TO EARTH

MORE

TX FITTED FOR DISPLAY VOLTAGES

DUE TO REMOVAL OF KI TX

3X TRANSORB DIODES ACROSS LN LE NE

ALL RIBBONS AND ICS SHEILDED AND GROUNDED

STRUT BAR FITTED WITH DAMPING MATERIAL ON BOTH SIDES

CABINET FITTED WITH TONNES OF DAMPING MATERIAL

RUSS ANDREWS 'REFERENCE' MAINS LEAD

WITH 350i WATTGATE

BONDED BOTTOM PLATE WITH ALUMINIUM PASTE

BLUE LEDS ON MECH

BLING FACTOR

HARD WIRED HF PCB TO MAIN PCB

R160 NOW 9.64K BY ADDING 27K ACROSS 15K

QM01 OUTPUT BIASED TO -1V

R161 NOW 8.72K BY ADDING 68K ACROSS 10K

TRAY EJECTS SLOWER AND LOADS QUICKER

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