Service Manual

Portable Stereo CD System

Radio Cassette

RX-DS101

Colour

(K) . . . . . Black Type

Area

Suffix for Model No.	Area	Colour
(E)	Continental Europe	(K)
(EB)	Great Britain	
(EG)	F.R.Germany & Italy	
(GN)	Oceania	

Tape section: SG-20W MECHANISM SERIES
CD section: RX-DT55 Traverse deck series (S0DD110)

■ SPECIFICATIONS

General:

Power Requirement:	AC; 230V~240V, 50Hz Battery; 15V (10 "D" size, R20/LR20 size batteries)
Power Consumption:	45W (AC only)
Power Output:	45W (22.5 W x 2)...PMPO
Speaker:	Woofer; 10 cm (4") x 2 (2.7Ω)
Input:	MIC; 5mV (600Ω)
Outputs:	HEADPHONES; 32Ω, Ø 3.5
Dimensions:	610(W) x 184(H) x 266(D) mm (24" x 7¼" x 10½")
Weight:	5.4 kg (11 lbs. 14 oz) without batteries.

Disc Player Section:

Sampling Frequency:	44.1 kHz
D-A Conversion:	MASH (1 Bit DAC)
Beam Source:	Semiconductor laser (wavelength 780 nm)
No. of Channels:	2 channels, stereo
Frequency Range:	20~20,000 Hz (+0/–2 dB)
S/N Ratio:	75 dB (1 kHz)
Wow and Flutter:	Unmeasurable

Radio Section:

Frequency Range:	FM; 87.5 ~ 108 MHz MW; 520 ~ 1610 kHz LW; 148.5 ~ 285kHz
Intermediate Frequency:	FM; 10.7MHz AM; 459 kHz
Sensitivity:	FM; 12 dB/50mW output (–3 dB Limit Sens.) MW; 52 dB/m/50mW output LW; 54 dB/m/50mW output

Tape Deck Section:

Frequency Range:	40~14,000 Hz (with normal tape)
Recording System:	AC bias, AC erase
Tape Speed:	4.8cm/s (1⅞ ips)
Monitor System:	Variable sound monitor
Track System:	4-track 2-channel stereo recording and playback.

***MASH**

- MASH (Multi-Stage Noise Shaping) is an effective oversampling D/A conversion technique which realizes a high S/N ratio and needs no highly complex manufacturing processes such as a laser trimming.
- MASH is a trademark of NTT (Nippon Telegraph and Telephone Corporation).

Notes:

1. Weights and dimensions shown are approximate.
2. Design and specifications are subject to change without notice.

Panasonic

■ SCHEMATIC DIAGRAM • CD CIRCUIT

: CD Signal Line : +B

D CD CIRCUIT

OPTICAL PICKUP CIRCUIT

TRACKING COIL

FOCUS COIL

Q701
2SB709STW
LASER POWER DRIVE

IC701
AN8800SCE2
SERVO AMP

IC702
TCA0372DM2R
SPINDLE MOTOR DRIVE

IC703
AN8377N
TRAVERSE MOTOR DRIVE / COIL DRIVE

IC706
MN6626
DIGITAL SIGNAL PROCESSOR

TEST CONNECTOR

SPINDLE MOTOR

TRAVERSE MOTOR

S701 (REST)

: +B Line

5 6 7 8 9

IC704
MN6650
DIGITAL SERVO PROCESSOR

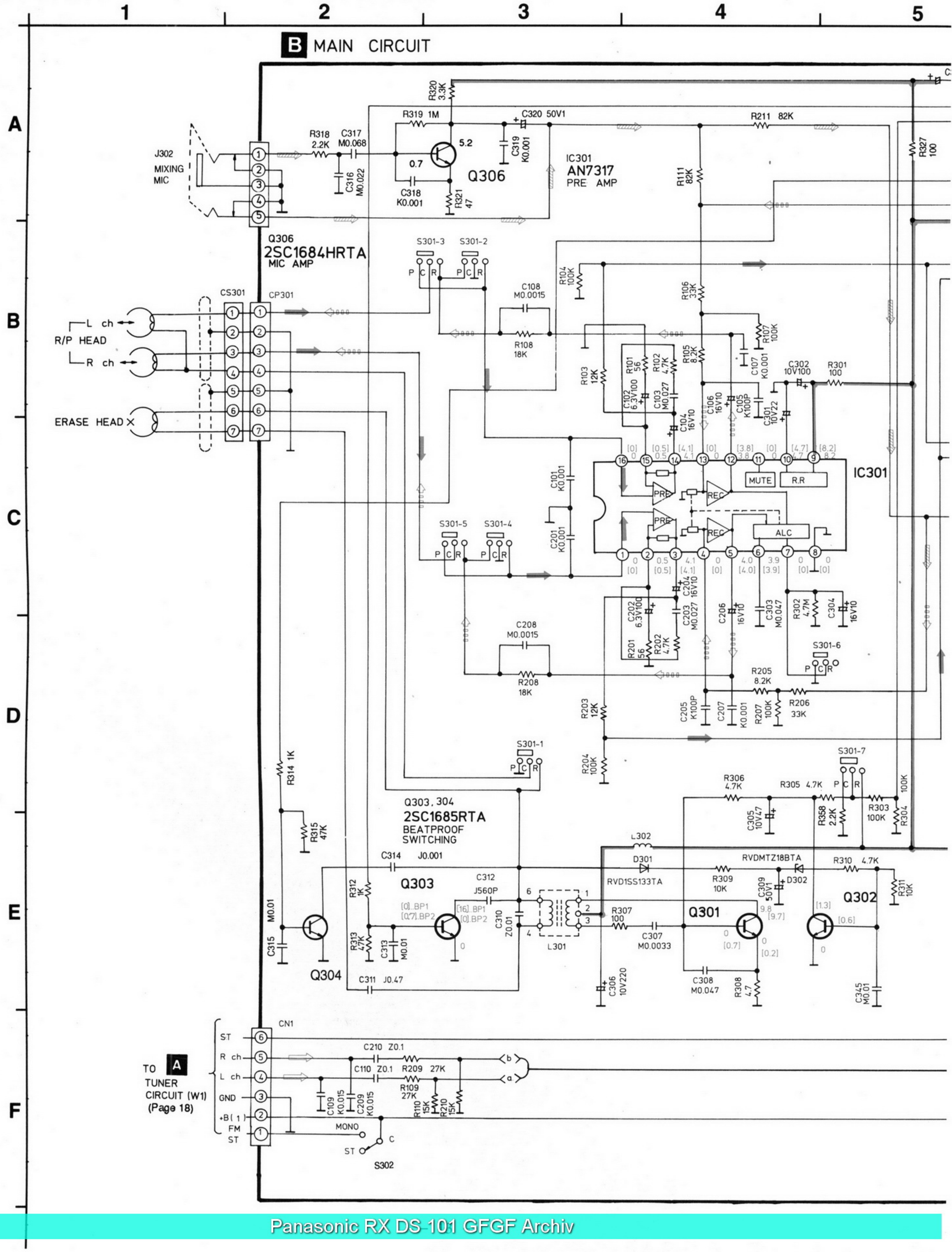
IC706
MN6626
DIGITAL SIGNAL PROCESSOR

IC705
MN6475
DIGITAL FILTER & D/A CONVERTER

CS702
1 REST SW
2 SMCK
3 /RST
4 STAT
5 D.MUTE
6 SUBQ
7 SQCK
8 BLKCK
9 /TLOCK
10 /FLOCK
11 SENSE
12 MLD
13 M DATA
14 MCLK
15 P.GND
16 +B(1)
17 TX
18 LD SW
19 D.GND
20 +B(2)
21 Rch OUT
22 A.GND
23 Lch OUT

To C SYSTEM CONTROL CIRCUIT (CS702) (Page 16)

■ SCHEMATIC DIAGRAM •MAIN CIRCUIT , POWER SUPPLY CIRCUIT



5 6 7 8 9

C323 10V220

R327 100

IC303

IC302

IC306

FIL REC

R347 47K C337 C338 25V100 16V470

C117 10V1000

ICP302

R301 100

IC301

CUE/REV..... 5.1

CUE/REV..... 4.5

4.5 ....CUE/REV

CUE/REV..... 5.1

R357 33

IC302, 303
BU4066B
INPUT SELECTOR

Q314
2SB1185E
POWER SUPPLY
(STABILIZER)

Q316
2SA564RTA
TAPE DRIVE

IC305
BA3920
POWER SUPPLY
CONTROL

D312 RVD1SS133TA

D307 RVD1SS133TA

Q316

ON... 0 OFF.. 4.5

ON... 4.9 OFF... 4.5

ON... 8 OFF... 3.9

R356 15K D306 RVDMTZ4R7BTA R355 1K C346 10V33 R332 47K R333 39K C344 50V1 C325 16V220

15V

IC305

ICP304

ICP303

R340 4.7K R337 68K R342 1.5 D309 RVDMTZ6R8TA C332 CP303 25V4.7 C333 25V4.7

C329 50V0.1

R338 15K C348 K0.001

Q314

R336 33K

S301-7

P C R

R303 100K R304 100K R358 2.2K

Q302
2SC1684STA
BIAS OSC CONTROL

Q301
2SC2001L1TA
BIAS OSC

R310 4.7K R311 10K

C345 M0.01

CP306

CS306

C326 K0.001

S304 PLAYBACK

S303 TAPE MOTOR

M

Q311
RVTDT
POWER

Q311

Q312

Q313
2SC200
REGULAT

R335 1K

L303

C339 10V100 D313 RVDMTZ6R8BTA

MECHANISM LEAF SW CIRCUIT

10 11 12 13 14

IC306
AN7134N-R
POWER AMP
(WOOFER DRIVE)

W302
1 MCD OUT
2 BP1
3 BP2
4 REC H
5 TAPE H
6 CD H
7 RADIO H
8 MUTE A
9 POWER CNT
10 FUNCTION

TO C
SYSTEM CONTROL
CIRCUIT
(CN302)
(Page 16& 17)

W303
1 Vss
2 /STEREO
3 VDD (+B)(2)
4 BATT CHECK
5 CD GND
6 CD 8V
7 CD 5V
8 CD GND

TO C
SYSTEM CONTROL
CIRCUIT
(CN303)
(Page 16 & 17)

R213 82K
R113 82K
R214 8.2K
R114 8.2K
1 CD R IN
2 CD GND
3 CD L IN
4 CD GND
5 L OUT
6 GND
7 R OUT
8 R IN
9 GND
10 L IN
11 +B (6)

TO C
SYSTEM CONTROL
CIRCUIT
(CN304)
(Page 16& 17)

W304

(R ch)
PM DYNAMIC
SPEAKER
12 cm (5"), 2.7Ω
(WOOFER)

(L ch)
PM DYNAMIC
SPEAKER
12 cm (5"), 2.7Ω
(WOOFER)

CP305 CS305

J303
HEADPHONES
32Ω (Ø3.5)

R218 220K
R120 150
R220 150
R118 220K
R119 220K
R219 220K
C324 6.3V470
R348 100K

Q317

C306

FIL REC STB REC

ICP302

C337 4.7K
C338 16V470
C112 10V100
C113 6.3V100
C114 K0.001
R115 47K
C111 50V2.2
C117 10V1000
C214 K0.001
R215 47K
C211 50V2.2
C213 6.3V100
C212 10V100
C217 10V1000
C116 J0.22
R116 8.2
C216 J0.22
R216 8.2
C342 25V3300P

R350 4.7K
R351 47K
C340 10V47
D307 RVD1SS133TA

15V

ICP305

R346 47K
R345 100
C335 K470P
D310
RVDMTZ11BTA
C336 16V100

Q315
2SC2785FTA
REGULATOR

10V

15V

D311
RVD1SS133TA
R344 4.7K
R354 47K
C343 16V10

IC304
S81250PG-T
REGULATOR

C333 25V4.7
C334 K470P

Q311
RVTDTA144EST
POWER SUPPLY

Q312
RVTDTC114EST
POWER SUPPLY

5V

Q312

Q313
2SC2001L1TA
REGULATOR

Q317
2SC1684RTA
POWER AMP

ON.... 5.1
OFF.... 0

E POWER SUPPLY CIRCUIT

T501 L501 L502

D501 1N5402BM21
D502 1N5402BM21
D503 1N5402BM21
D504 1N5402BM21
C501 J0.068
C502 J0.068
C503 J0.068
C504 J0.068

CP501 W501 S501 AC DC

F501 T3.15A

W502 W503

BATTERY 10XUM-1
BATTERIES 15V

AC IN
J501
230 ~240V
50Hz

■ SCHEMATIC DIAGRAM • SYSTEM CONTROL CIRCUIT, TUNER CIRCUIT

C SYSTEM CONTROL CIRCUIT

IC401
M37410M6H220
MICRO COMPUTER

Z401 (RSL5064-L)
LCD DISPLAY

IC401

S401 (PLAY/PAUSE)
S402 (STOP/PAUSE)
S403 (▶▶)
S404 (◀◀)
S405
S406 (EDIT PAUSE)
S407 (PROG)
S408 (TAPE)
S409 (TUNER/BP)
S410 (CD)
EG C417 K100P ONLY
S411 (POWER ON/OFF)
S412 CLOSE SW

R401 15K
R402 8.2K
R403 5.6K
R404 3.9K
R405 2.7K
R406 2.2K
R407 1.5K
R408 15K
R409 47K
R410 47K
R411 47K
R414 10K
R415 47K
R416 10M
R417 1M
R418 4.7K
R419 100K
R420 100K
R421 100K
R422 470K
R425 100K
R426 47K
R427 6.8K
R430 100K
R431 330K
R432 8.2K
R433 47K
R162 470K
R262 470K
R163 1K
R263 1K
C160 K330P
C260 K330P
C405 16V10
C404 50V1
C259 50V2.
C159 50V2.
C402 J22P
C403 J22P
C406 K0.001
C407 J33P
C408 N0.01
C409 N0.01
X401
X402
Q401
Q402
Q113
Q213
D402 RVD1SS133TA
D401 RVD1SS133TA

IC402
S8054HN-T
RESET SIGNAL GENERATOR

CIRCUIT

5 6 7 8 9

Q403
0...Nor 3.6
0..Nor 5.1

Q402
3.6
0.....NOR
5.1
0....NOR
5.1

Q401
[0].....BP1
[3.6]...BP2
[5.1]
[0].....BP1
[5.1]..BP2

Q401, 402
RVTDC144EST
MUTING CONTROL

Q403
RVTDTC144EST
BEAT-PROOF
SWITCHING

D404
RVD1SS133TA

C405 16V10
R433 47K
R434 1K
C415 10V22
R425 100K
R423 100K
R421 100K
R420 100K
R419 100K
R418 4.7K
5.1..BP2

L401
D403 RVDMTZ6R2BTA
C410 6.3V220
CN302
ICP401

Q111
R158 4.7K
C155 M0.1
VR303-1 (VOLUME)
C156 K0.001
R156 100K
C154 50V0.22
R154 10K
VR302-1 (XBS)
R157 6.8K
R155 390
C153 M0.01
R153 1.5K
VR301-1 (TONE)
C151 50V1
R152 10K
C152 50V1
R151 5.6K
Q110
R150 1M
C150 50V1
R160 10K
C161 K0.001
C261 K0.001
R260 10K

Q211
R258 4.7K
C255 M0.1
VR303-2 (VOLUME)
C256 K0.001
R256 100K
C254 50V0.22
R254 10K
VR302-2 (XBS)
R257 6.8K
R255 390
C253 M0.01
R253 1.5K
VR301-2 (TONE)
C251 50V1
R252 10K
C252 50V1
R251 5.6K
Q210
R250 1M
C250 50V1
R380 560
C380 10V220

D402 RVD1SS133TA

R162 470K
C157 50V2.2
C160 K330P
R262 470K
R163 1K
C257 50V2.2
C258 K0.001....E, EB,GN J68P...EG
C158 K0.001..E,EB, GN J68P...EG
C259 50V2.2
C159 50V2.2
R263 1K
C260 K330P

Q113
Q213
Q212
Q112

Q113,213
2SC1684HRTA
BUFFER AMP

Q112,212
2SC2001L1TA
VOLUME AMP

Q110,210
2SC1684HSTA
TONE AMP

Q111,211
2SC1684HSTA
XBS/BUFFER AMP

C414 10V470
C401 M0.01
C411 K0.001
C418 J68P
EG ONLY
C419 J68P
EG ONLY
R412 1K
S413
R428 22K
EG ONLY
L402
C412 K0.0011
R429 56K

CN304
L201
L304
L101
C258
C158
CS702

CN303

CN302
1 MCDOUT
2 BP1
3 BP2
4 REC H
5 TAPE H
6 CD H
7 RADIO H
8 MUTE A
9 POWER CNT
10 FUNCTION

CN303
1 Vss
2 /STEREO
3 VDD +B(2)
4 BATT CHECK
5 CD GND
6 +B(4)
7 +B(5)
8 CD GND

CN304
1 CD ROUT
2 CD GND
3 CD LOUT
4 CD GND
5 L IN
6 GND
7 R IN
8 ROUT
9 GND
10 LOUT
11 +B(5)

CS702
23 L ch IN
22 A GND
21 R ch IN
20 +B(5)
19 D GND
18 LD SW
17 TX
16 +B(4)
15 P GND
14 MCLK
13 MDATA
12 MLD
11 SENSE
10 FLOCK
9 TLOCK
8 BLKCK
7 SQCK
6 SUBQ
5 D MUTE
4 STAT
3 CD RST
2 SMCK
1 REST SW

TO B MAIN CIRCUIT (W302) (Page 13)

TO B MAIN CIRCUIT (W303) (Page 13)

TO B MAIN CIRCUIT (W304) (Page 13)

TO D CD CIRCUIT (CS702) (Page 11)

TO B MAIN CIRCUIT (CN1) (Page 14)

10 11 12 13 14

A TUNER P.C.B