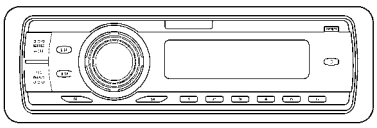
Pioneer sound.vision.soul

Service Manual



DEH-P770MP/XN/UC

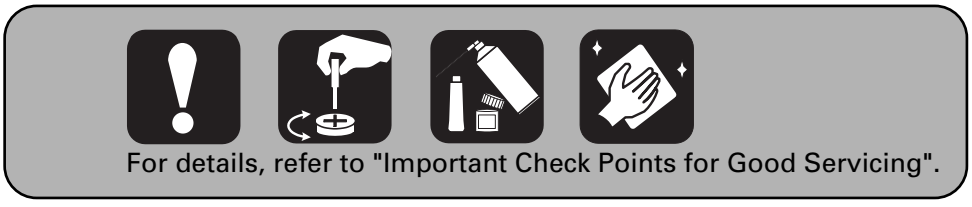
ORDER NO.
CRT3333

MULTI-CD CONTROL HIGH POWER CD/MP3/WMA PLAYER WITH FM/AM TUNER

DEH-P770MP/XN/UC
DEH-P7700MP/XN/UC
DEH-P7750MP/XN/ES

This service manual should be used together with the following manual(s):

Model No.	Order No.	Mech.Module	Remarks
CX-3158	CRT3394	S10.1AAC	CD Mech. Module:Circuit Description, Mech. Description, Disassembly

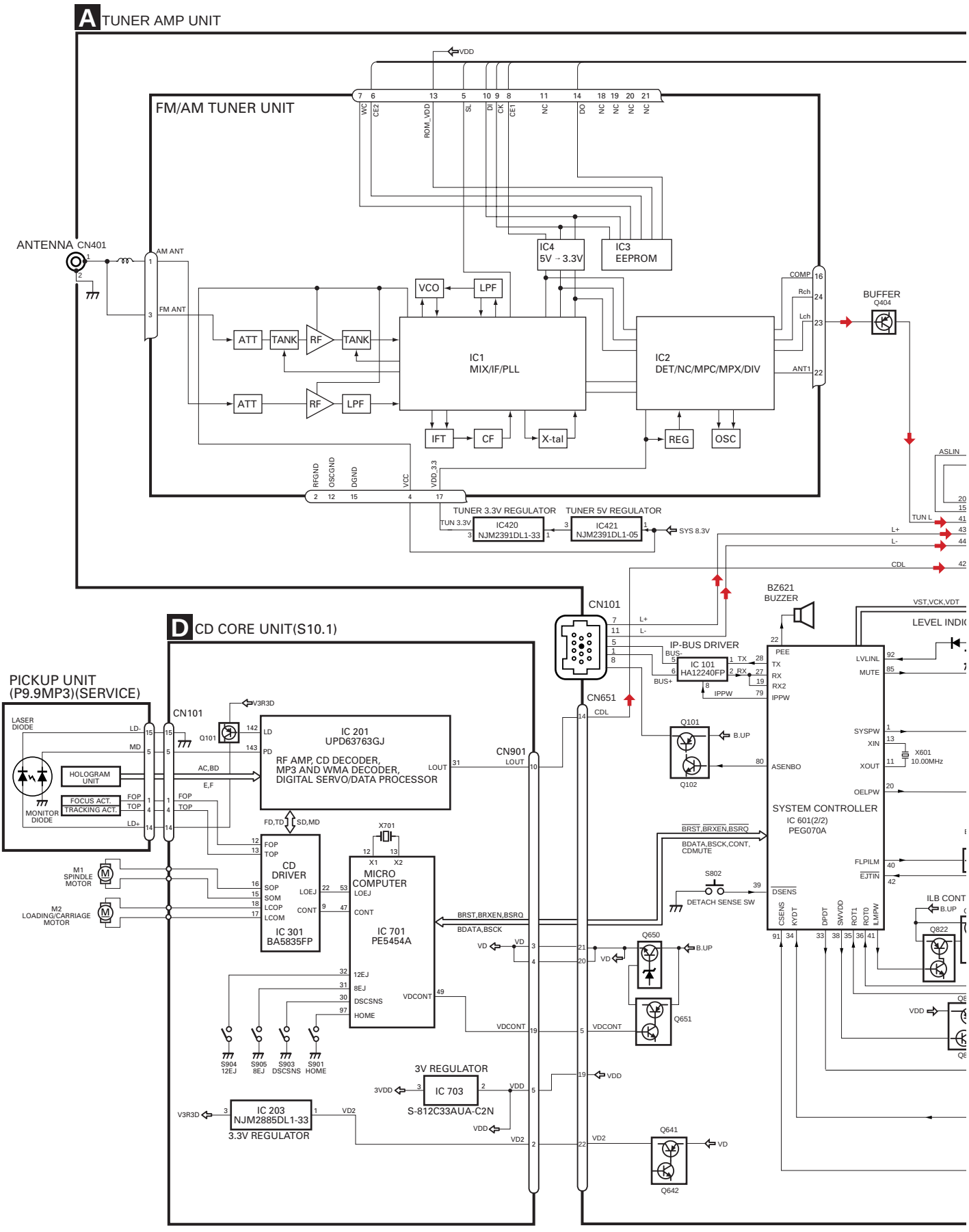


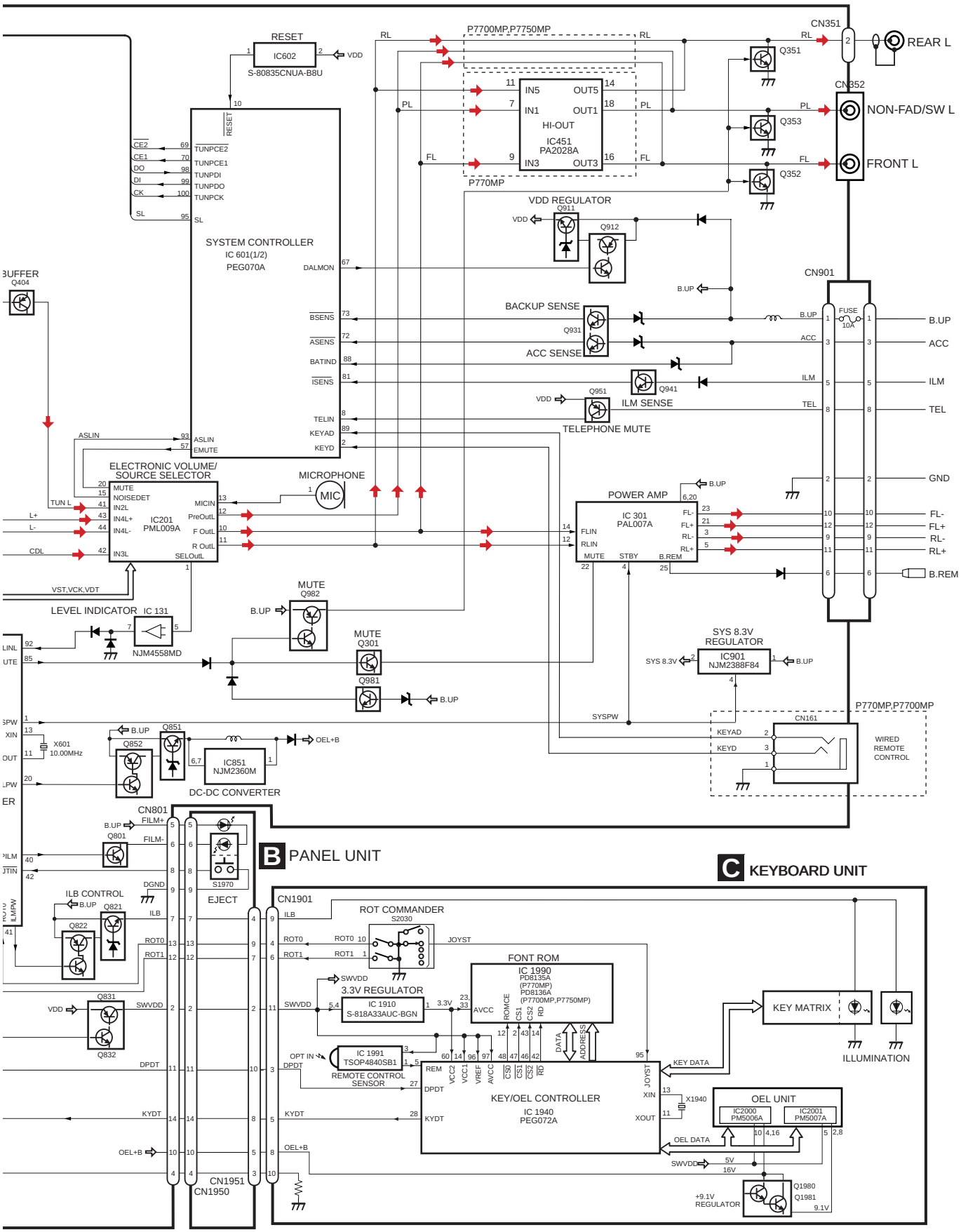
PIONEER CORPORATION 4-1, Meguro 1-chome, Meguro-ku, Tokyo 153-8654, Japan
PIONEER ELECTRONICS (USA) INC. P.O. Box 1760, Long Beach, CA 90801-1760, U.S.A.
PIONEER EUROPE NV Haven 1087, Keetberglaan 1, 9120 Melsele, Belgium
PIONEER ELECTRONICS ASIACENTRE PTE. LTD. 253 Alexandra Road, #04-01, Singapore 159936

K-ZZU.DEC. 2004 Printed in Japan

3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

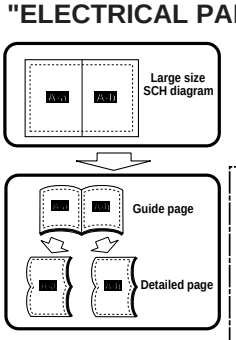
3.1 BLOCK DIAGRAM



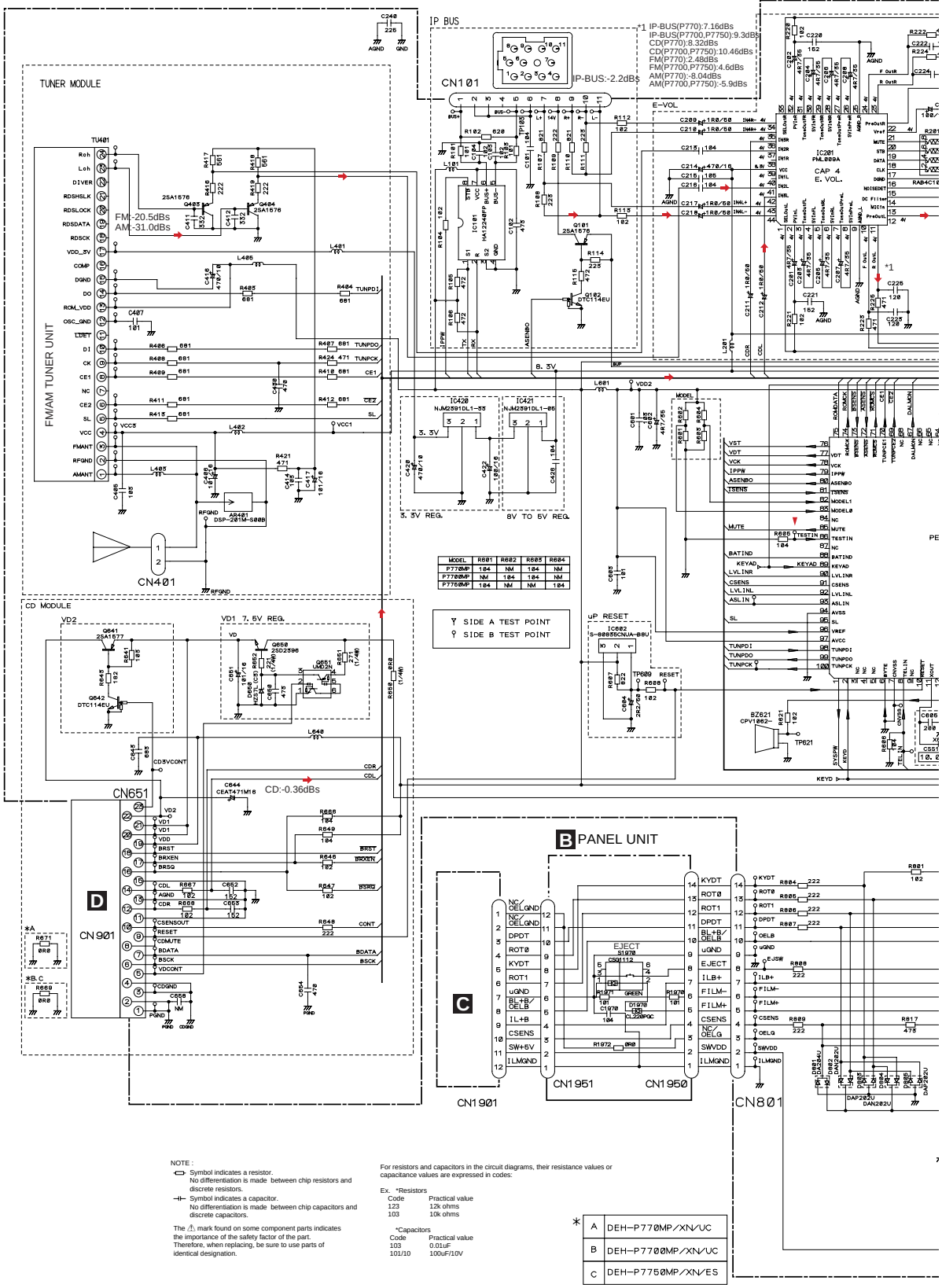

RESET
IC602
S-80835CNUA-B8U
VDD
SYSTEM CONTROLLER
IC 601(1/2)
PEG070A
P7700MP,P7750MP
P770MP
HI-OUT
IC451
PA2028A
IN5
OUT5
IN1
OUT1
IN3
OUT3
RL
PL
FL
CN351
REAR L
CN352
NON-FAD/SW L
FRONT L
Q351
Q353
Q352
VDD REGULATOR
Q911
Q912
BUFFER
Q404
BACKUP SENSE
Q931
ACC SENSE
ILM SENSE
Q951
Q941
TELEPHONE MUTE
CN901
FUSE
10A
B.UP
ACC
ILM
TEL
GND
FL-
FL+
RL-
RL+
B.REM
ELECTRONIC VOLUME/
SOURCE SELECTOR
IC201
PML009A
MUTE
NOISEDET
IN2L
IN4L+
IN4L-
IN3L
MICIN
PreOutL
F OutL
R OutL
SELOutL
TUN L
L+
L-
CDL
MICROPHONE
MIC
POWER AMP
IC 301
PAL007A
FLIN
RLIN
STBY
B.REM
LEVEL INDICATOR
IC 131
NJM4558MD
VST,VCK,VDT
MUTE
Q982
MUTE
Q301
Q981
SYS 8.3V
REGULATOR
IC901
NJM2388F84
SYS 8.3V
SYSPW
P770MP,P7700MP
CN161
KEYAD
KEYD
WIRED
REMOTE
CONTROL
X601
10.00MHz
Q851
Q852
IC851
NJM2360M
DC-DC CONVERTER
OEL+B
CN801
FILM+
FILM-
DGND
ILB
ROT0
ROT1
SWVDD
DPDT
KYDT
OEL+B
CN1951
CN1950
S1970
EJECT
ILB CONTROL
Q821
Q822
Q831
Q832
B PANEL UNIT
C KEYBOARD UNIT
CN1901
ROT COMMANDER
S2030
JOYST
FONT ROM
IC 1990
PD8135A
(P770MP)
PD8136A
(P7700MP,P7750MP)
3.3V REGULATOR
IC 1910
S-818A33AUC-BGN
IC 1991
TSOP4840SB1
REMOTE CONTROL
SENSOR
KEY/OEL CONTROLLER
IC 1940
PEG072A
KEY MATRIX
ILLUMINATION
KEY DATA
OEL DATA
OEL UNIT
IC2000
PM5006A
IC2001
PM5007A
X1940
5V
16V
+9.1V
REGULATOR
Q1980
Q1981
9.1V

3.2 OVERALL CONNECTION DIAGRAM(GUIDE PAGE)

Note: When ordering service parts, be sure to refer to " EXPLODED VIEWS AND PARTS LIST" or "ELECTRICAL PARTS LIST".



A-a



NOTE :
- Symbol indicates a resistor. No differentiation is made between chip resistors and discrete resistors.
- Symbol indicates a capacitor. No differentiation is made between chip capacitors and discrete capacitors.

The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

For resistors and capacitors in the circuit diagrams, their resistance values or capacitance values are expressed in codes:

Ex. *Resistors

Code	Practical value
123	12k ohms
103	10k ohms

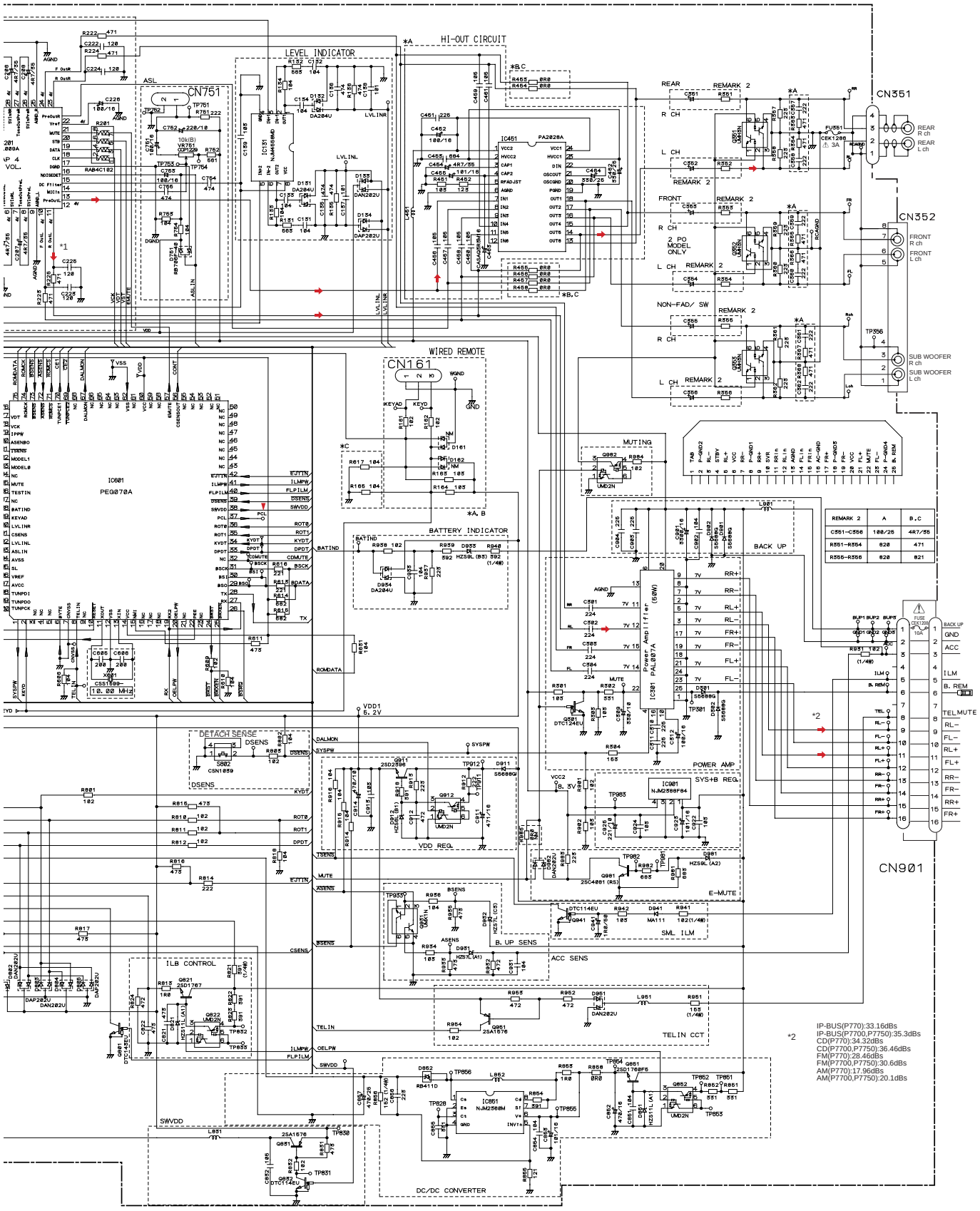
*Capacitors

Code	Practical value
103	0.01uF
101/10	100uF/10V

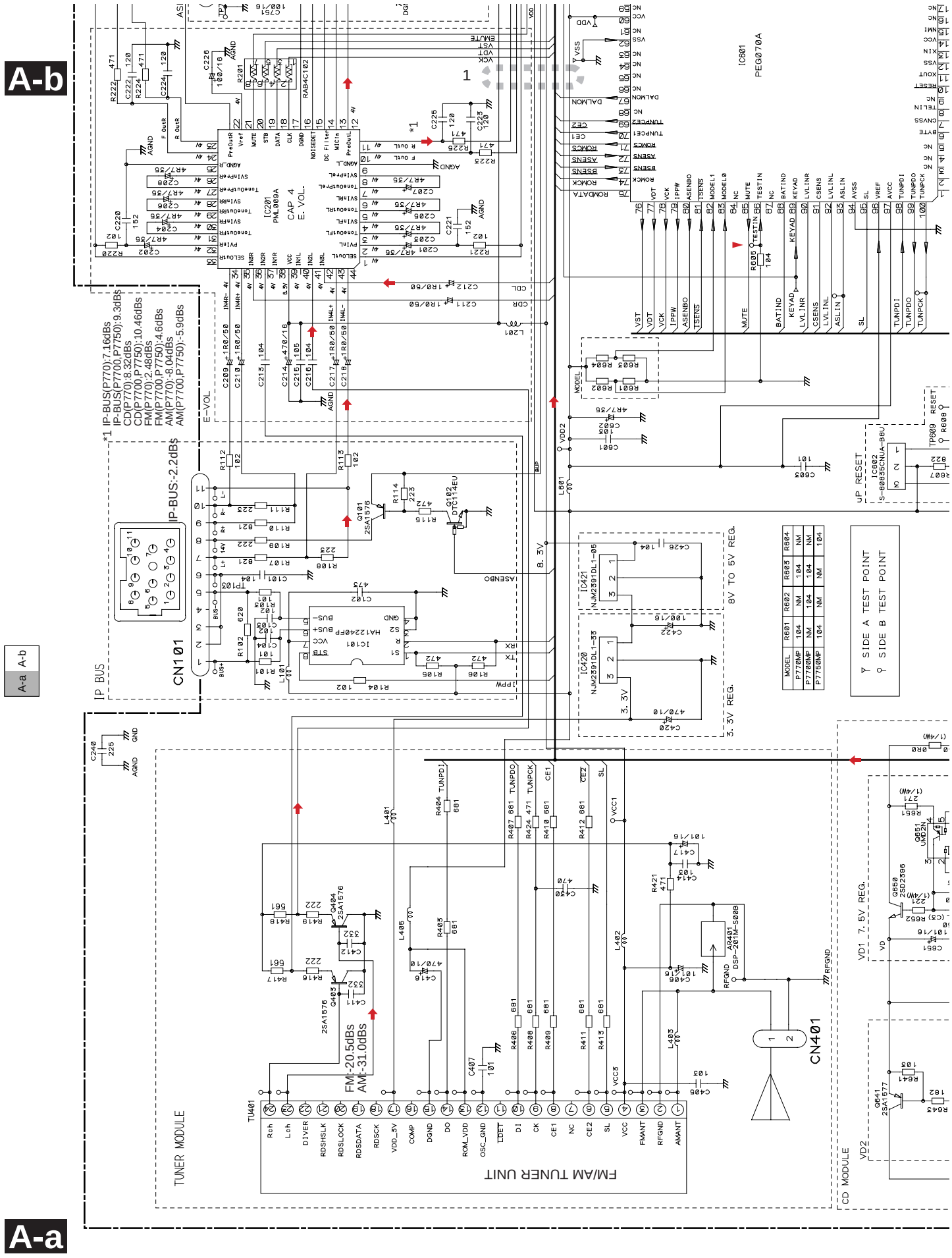
A B

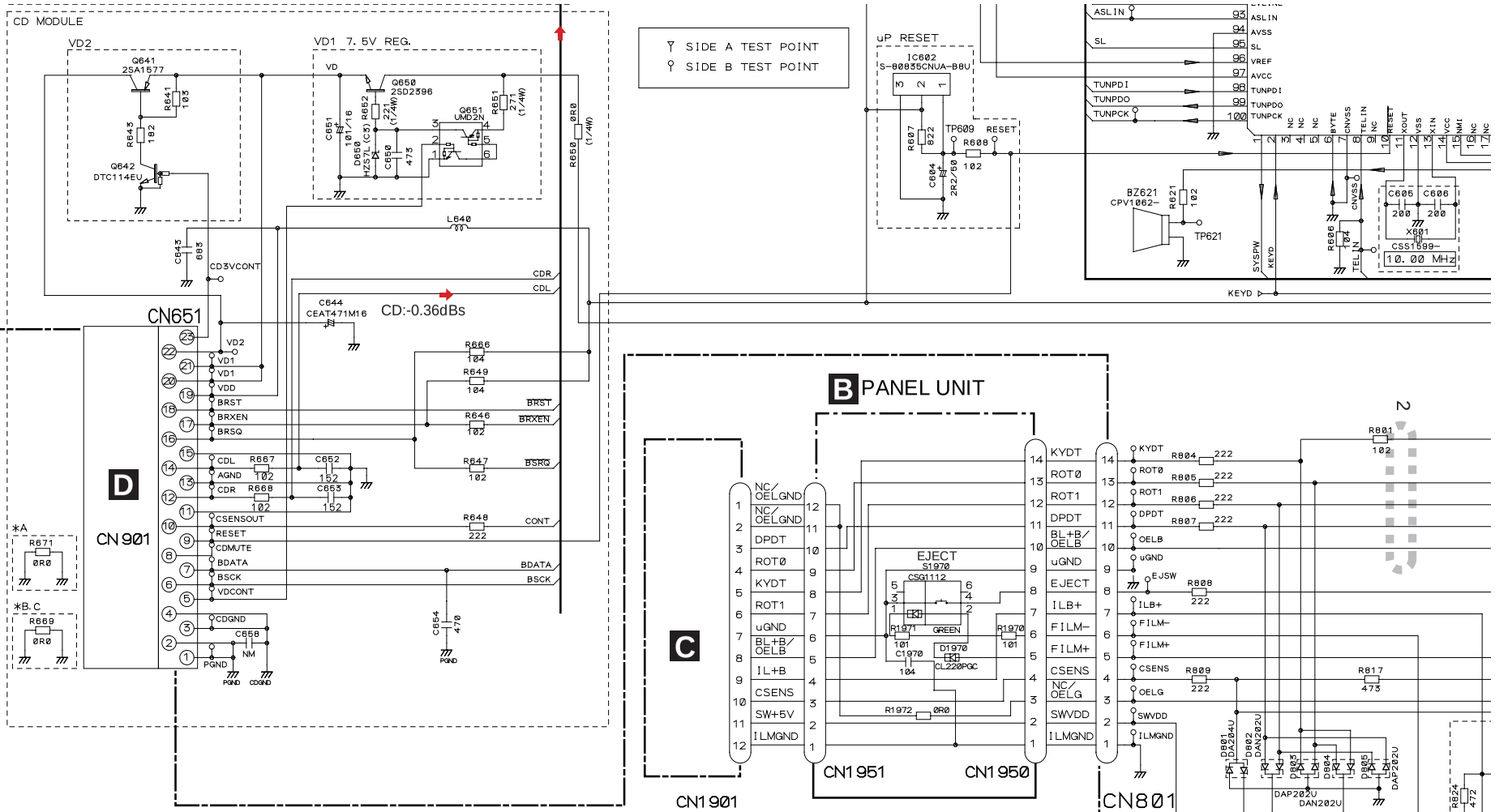
A-b

A TUNER AMP UNIT



REMARK 2	A	B,C
C551-C556	100/25	4R7/35
R551-R554	820	471
R555-R556	820	821


A-b
A-a
IC601
PEG070A
IC201
PNL808A
CAP 4
E. VOL.
E-VOL
IP-BUS(P770):7.16dBs
IP-BUS(P7700,P7750):9.3dBs
CD(P770):8.32dBs
CD(P7700,P7750):10.46dBs
FM(P770):2.48dBs
FM(P7700,P7750):4.6dBs
AM(P770):-8.04dBs
AM(P7700,P7750):-5.9dBs
IP-BUS:-2.2dBs
CN101
IP BUS
IC101
HA12240FP
IC421
NJM2391DL1-05
8V TO 5V REG.
IC420
NJM2391DL1-33
3.3V REG.
IC602
S-80835CNUA-B8U
uP RESET
MODEL
R601
R602
R603
R604
P770MP
104
NM
104
NM
P7700MP
NM
104
104
NM
P7750MP
104
NM
NM
104
SIDE A TEST POINT
SIDE B TEST POINT
TUNER MODULE
TU401
FM/AM TUNER UNIT
FM:20.5dBs
AM:31.0dBs
CN401
VD1 7.5V REG.
VD2
CD MODULE



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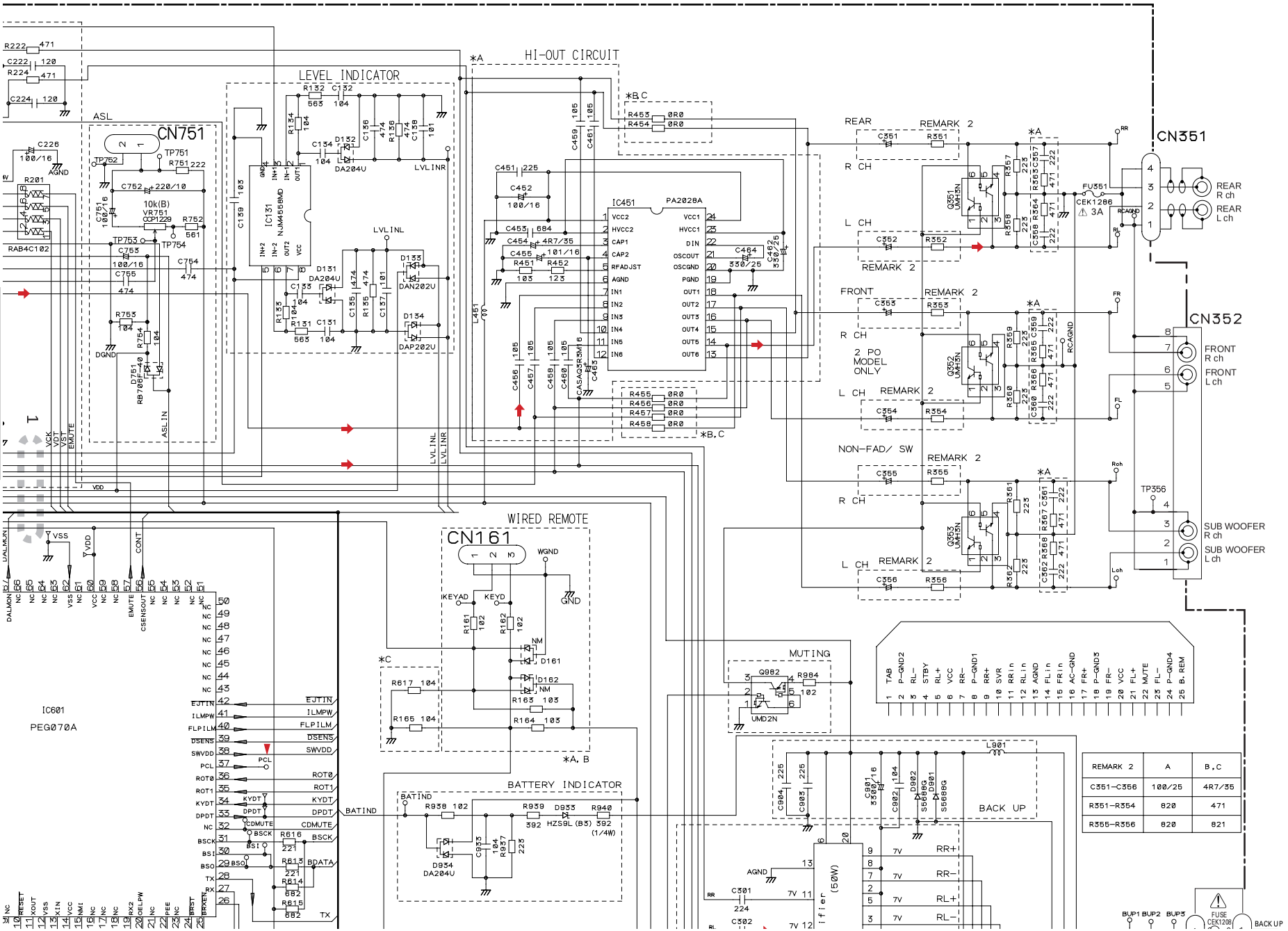
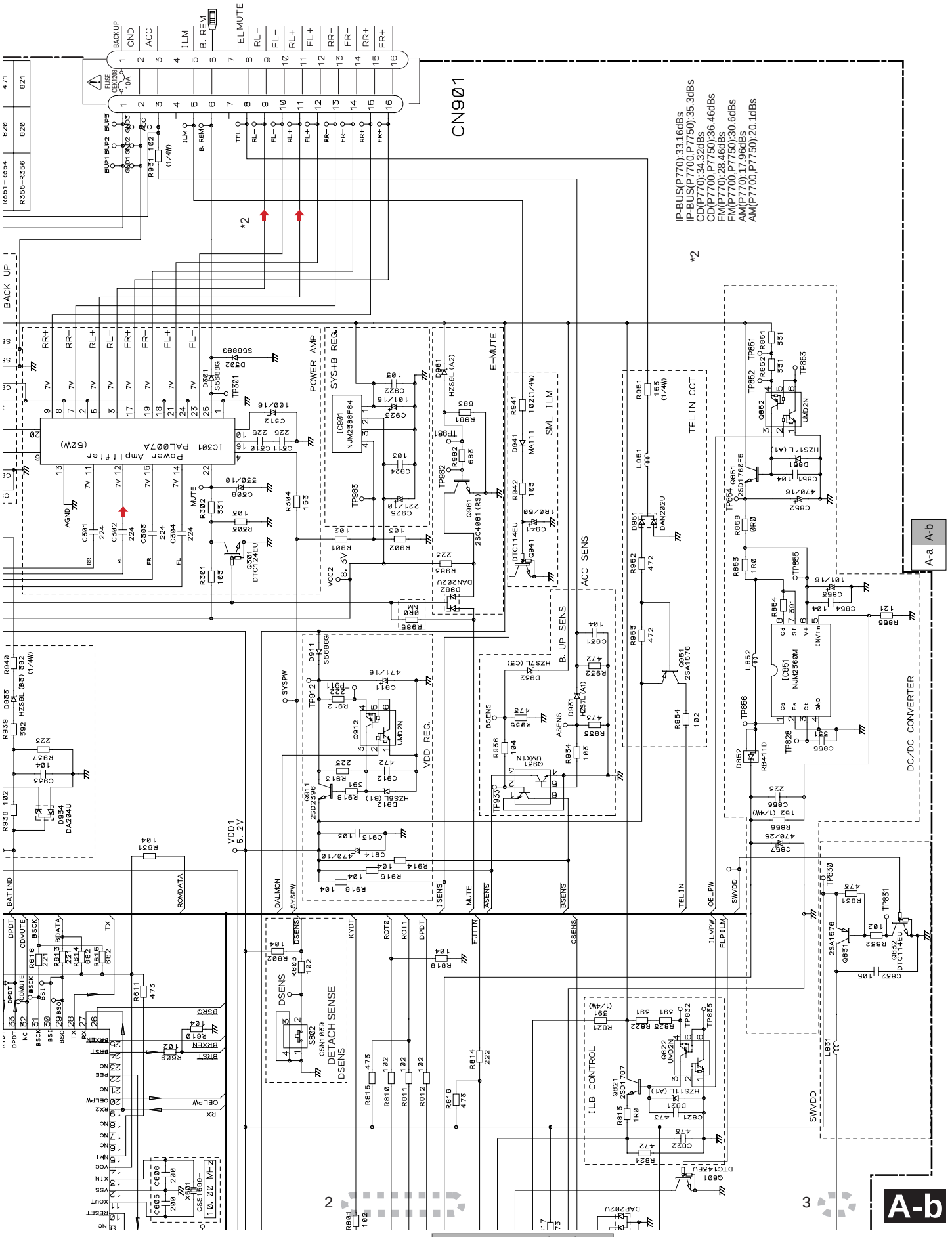
*	
A	DEH-P770MP/XN/UC
B	DEH-P7700MP/XN/UC
C	DEH-P7750MP/XN/ES

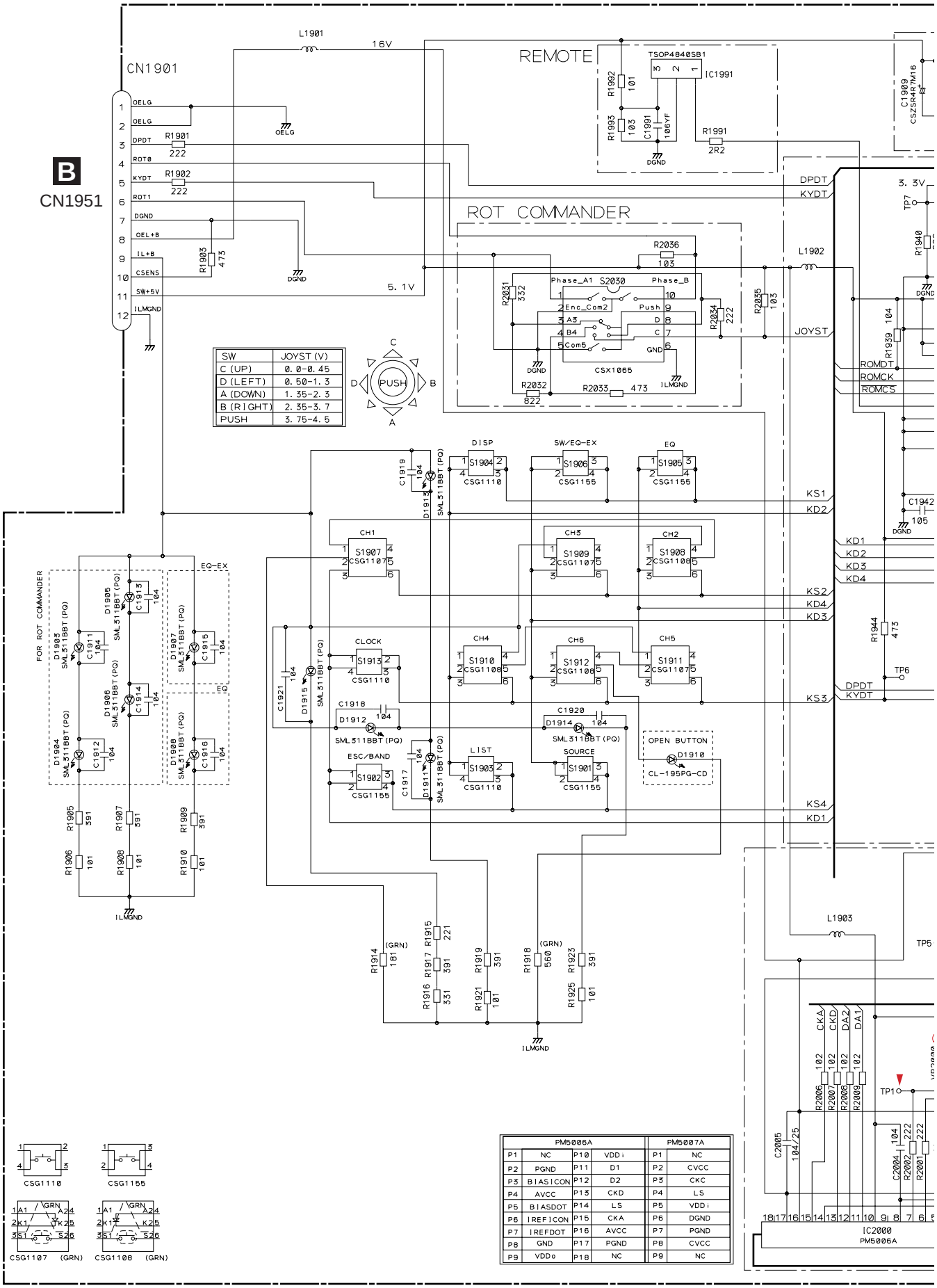
A-a | A-b



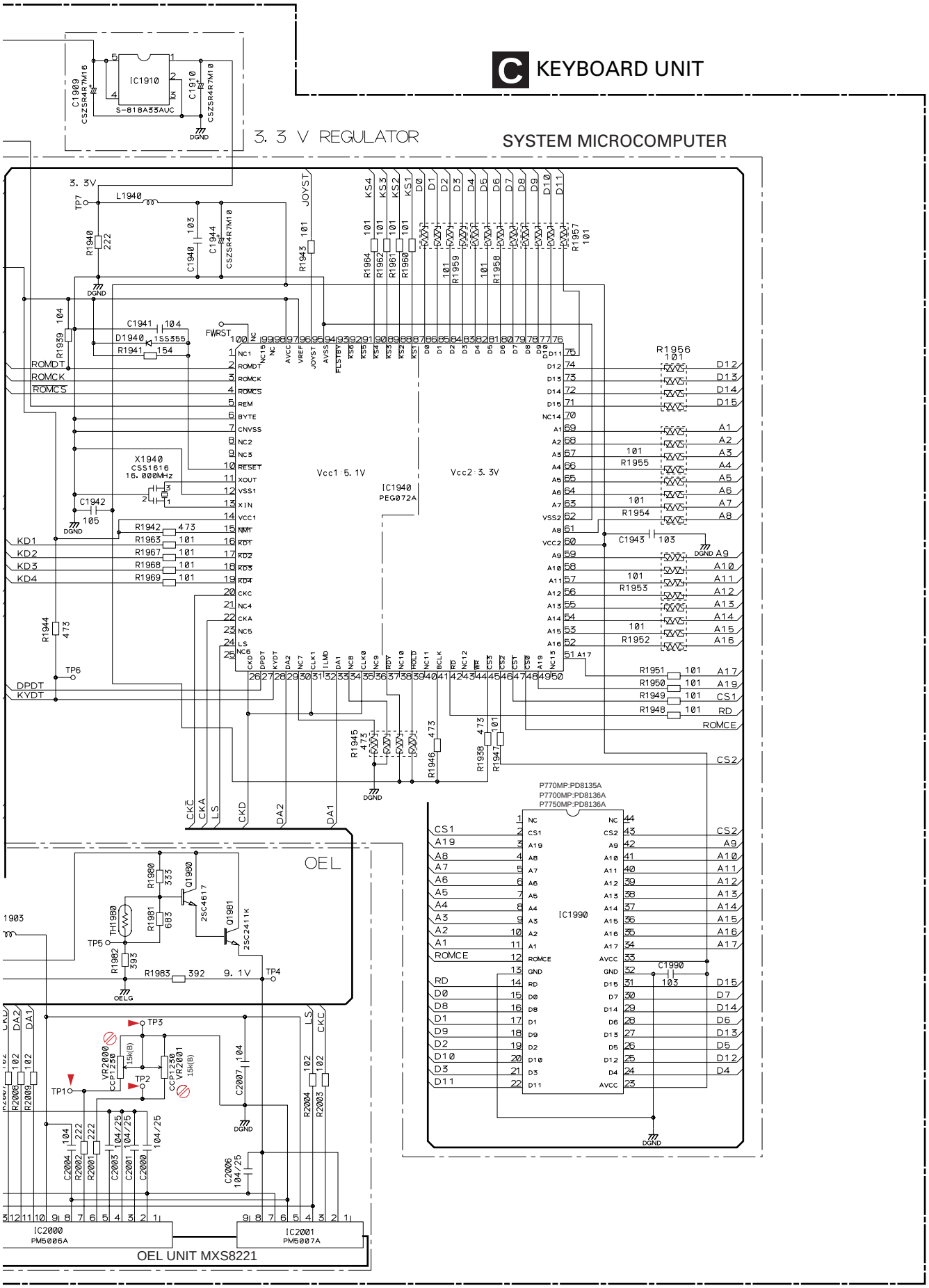
REMARK 2	A	B,C
C351–C356	100/25	4R7/35
R351–R354	820	471
R355–R356	820	821


CN901
BACK UP
POWER AMP
SYS+B REG.
E-MUTE
SML ILM
TELIN CCT
ACC SENS
B. UP SENS
VDD REG.
DC/DC CONVERTER
DETACH SENSE
ILB CONTROL
IP-BUS(P770):33.16dBs
IP-BUS(P7700,P7750):35.3dBs
CD(P770):34.32dBs
CD(P7700,P7750):36.46dBs
FM(P770):28.46dBs
FM(P7700,P7750):30.6dBs
AM(P770):17.96dBs
AM(P7700,P7750):20.1dBs
A-a
A-b
A-b
DEH-P770MP/XN/UC
23

3.3 KEYBOARD UNIT

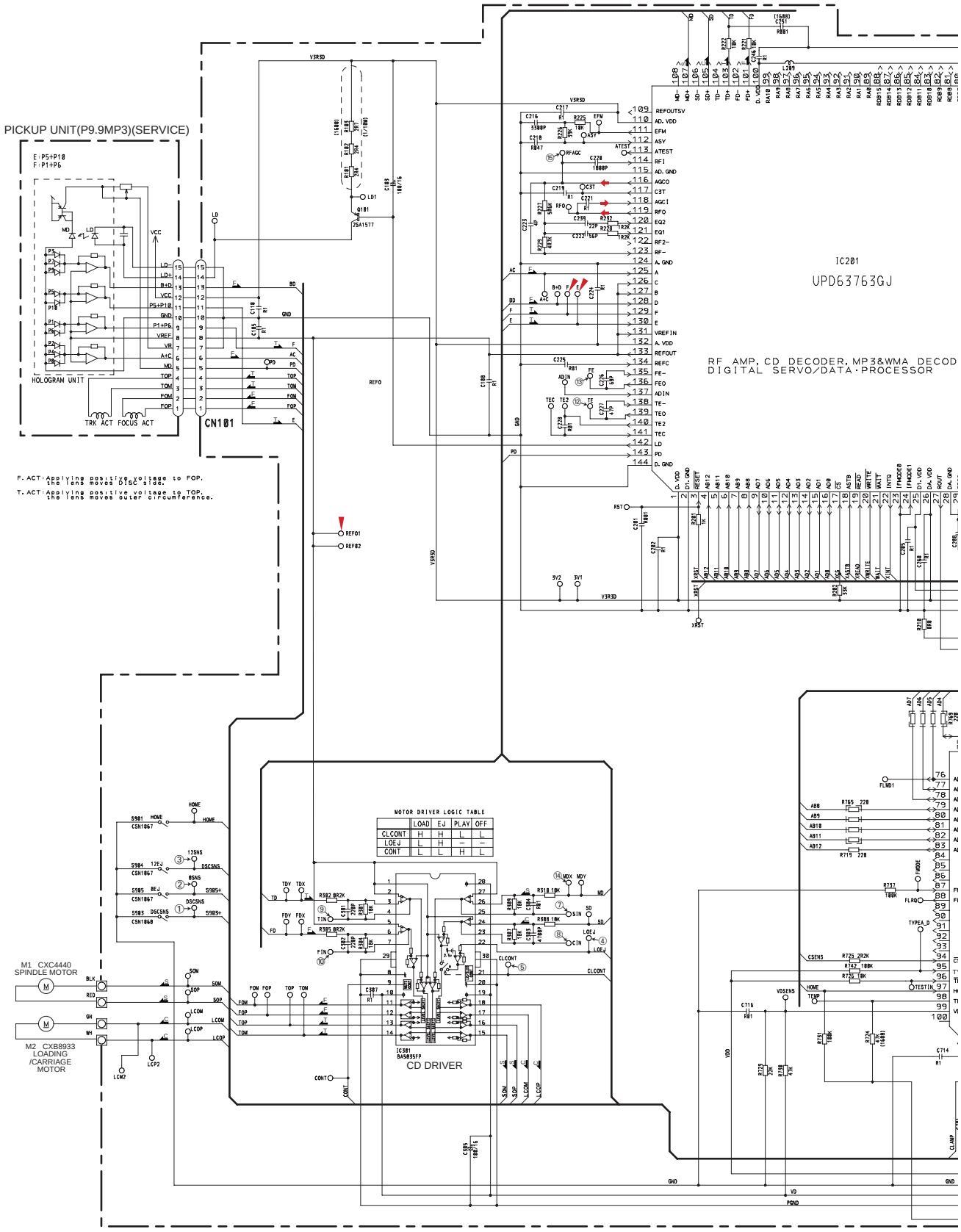


C KEYBOARD UNIT



3.4 CD MECHANISM MODULE(GUIDE PAGE)

D-a



D-b

NOTE1) GND ...CD LSI, RFAMP, CPU
PGND ...Actuator, Motor Driver
AGND ...Audio
These GND's are not connected to each other on PCB.
PGND is connected to a floating mechanism part by a screw.

Ⓑ Monitor land(ø1.2mm)
Monitor land(ø0.8mm)
Land for manual soldering

SWITCHES:
CD CORE UNIT(S10.1)
S901:HOME SWITCH.....ON-OFF
S903:DSCSNS SWITCH.....ON-OFF
S904:12EJ SWITCH.....ON-OFF
S905:8EJ SWITCH.....ON-OFF

The underlined indicates the switch position.

SIGNAL LINE
FOCUS SERVO LINE
TRACKING SERVO LINE
CARRIAGE SERVO LINE
SPINDLE SERVO LINE

D CD CORE UNIT(S10.1)

MP3&WMA DECODER
PROCESSOR

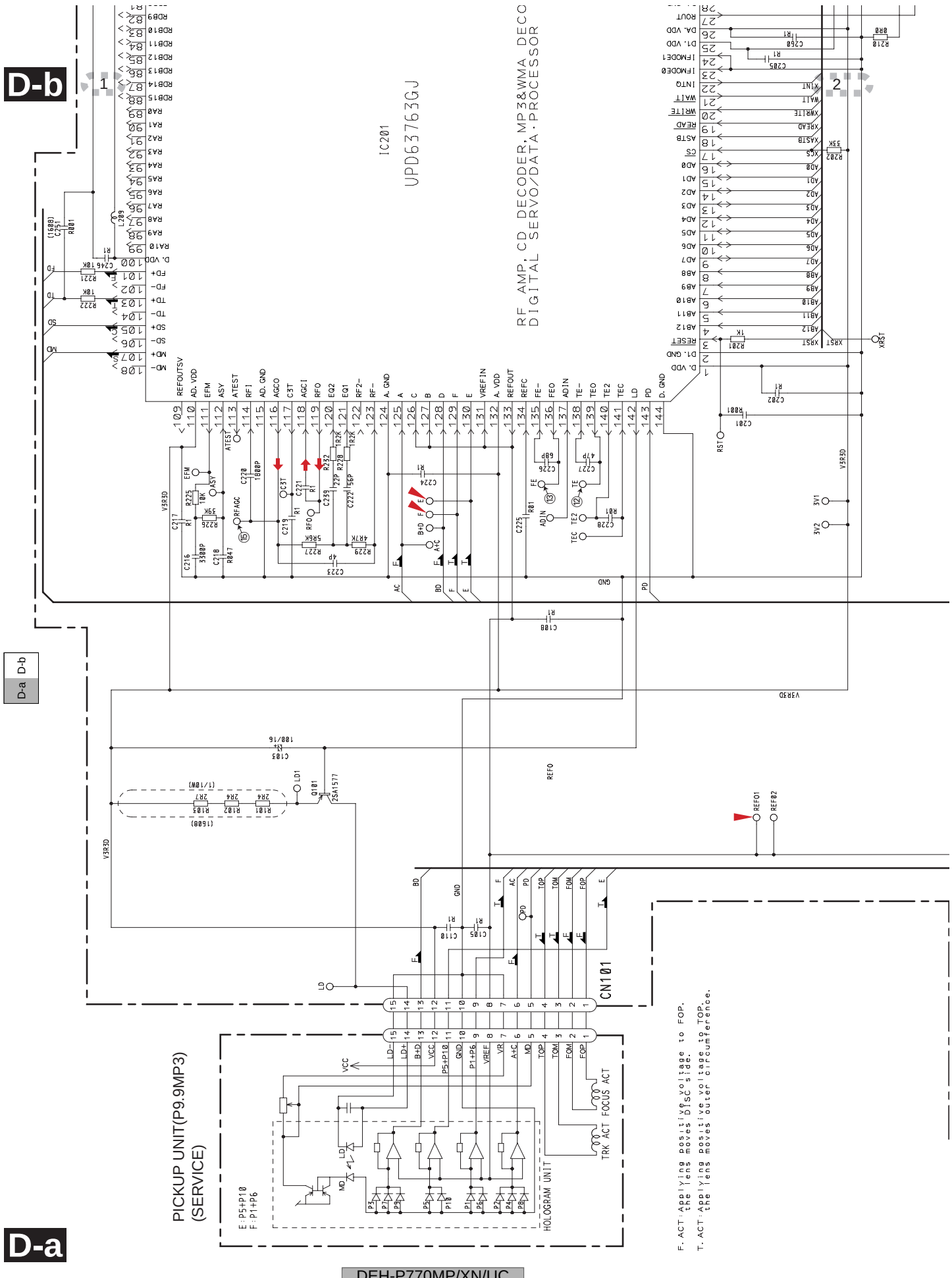
3.3V REGULATOR

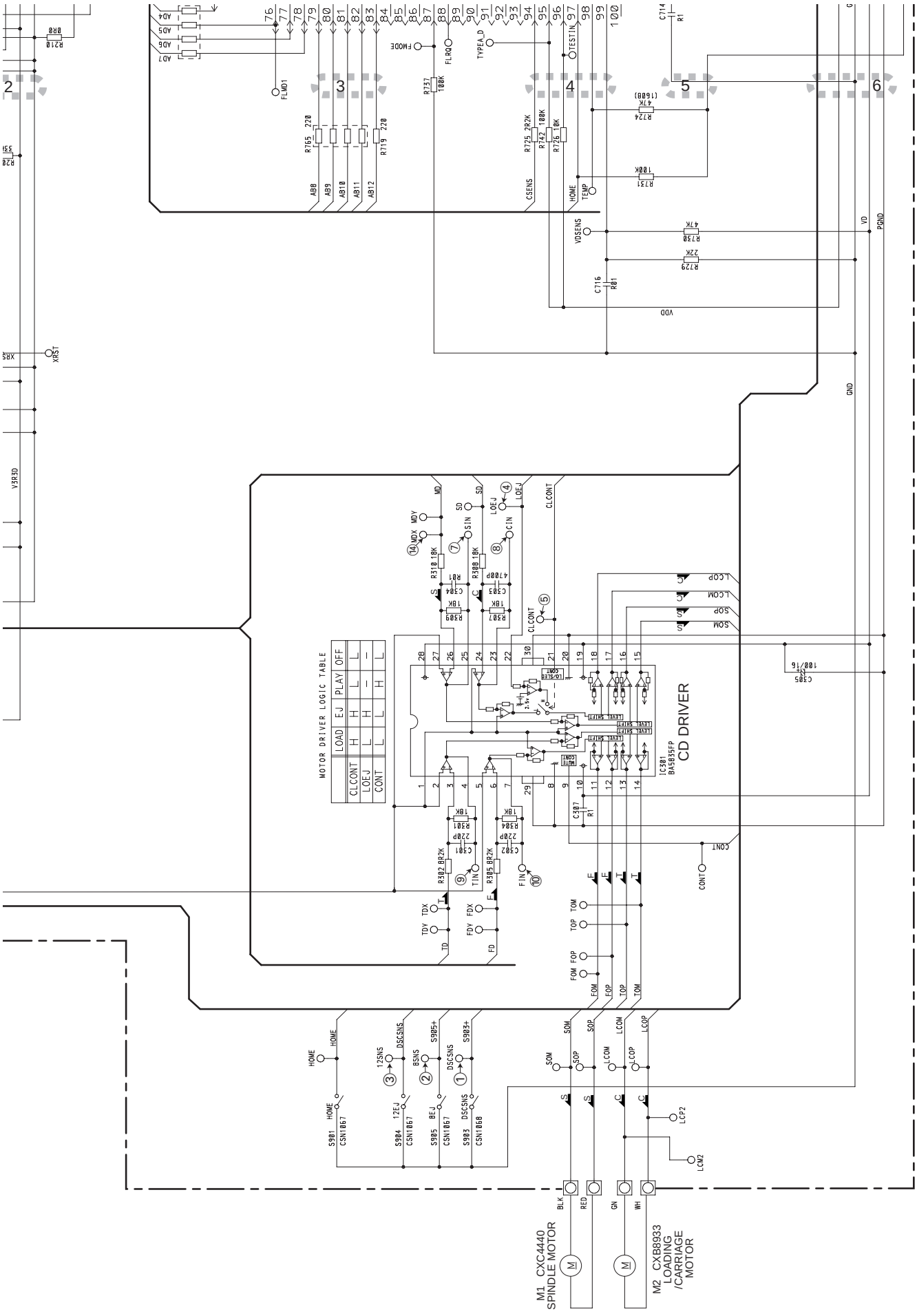
MICRO COMPUTER
IC701
PE5454A

3V REGULATOR

CN901

A CN651


D-b
D-a
IC201
UPD63763GJ
RF AMP, CD DECODER, MP3&WMA DECO
DIGITAL SERVO/DATA PROCESSOR
CN101
PICKUP UNIT(P9.9MP3)
(SERVICE)
HOLOGRAM UNIT
TRK ACT FOCUS ACT
F. ACT : Applying positive voltage to FOP.
the lens moves DISC side.
T. ACT : Applying positive voltage to TOP.
the lens moves outer circumference.


D-b
D-a
CD DRIVER
IC301
BA5835FP
MOTOR DRIVER LOGIC TABLE
LOAD
CLCONT
LOEJ
CONT
EJ
PLAY
OFF
M1 CXC4440
SPINDLE MOTOR
M2 CXB8933
LOADING
/CARRIAGE
MOTOR
HOME
TEMP
VDSENS
VD
VDD
GND
PGND
CLCONT
LOEJ
CONT
TOP
FOP
TOM
FOM
SOP
SOM
LCOP
LCOM
LCP2
LCM2
XRST
V3R3D
FLMD1
FMODE
FLRQ
TYPEA_D
TESTIN
CSENS
TIN
FIN
TDX
TDY
FDX
FDY
TD
FD
BLK
RED
GN
WH

NOTE1) GND ...CD LSI, RFAMP, CPU
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S905:8EJ SWITCH.....ON-OFF

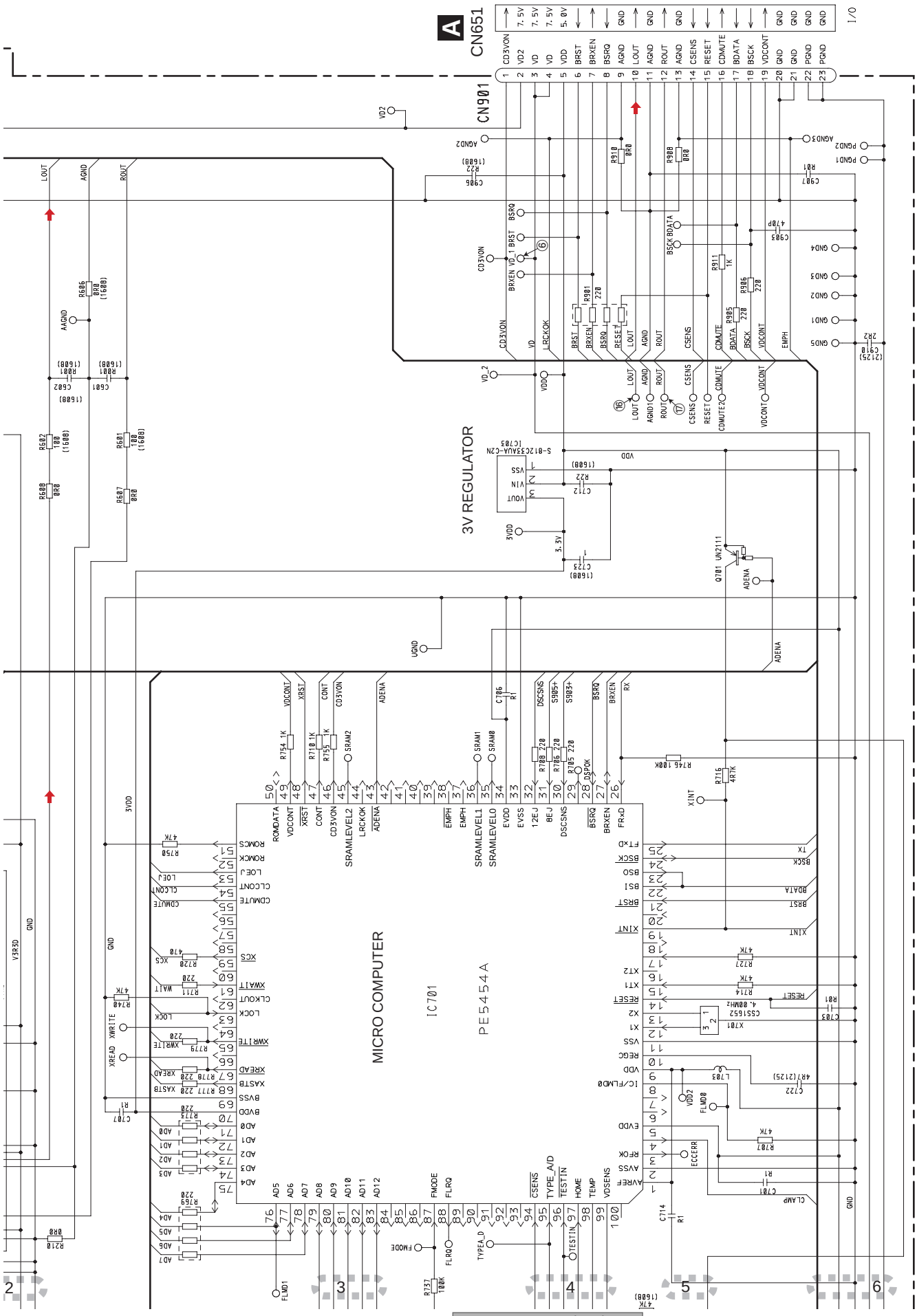
The underlined indicates the switch position.

SIGNAL LINE
FOCUS SERVO LINE
TRACKING SERVO LINE
CARRIAGE SERVO LINE
SPINDLE SERVO LINE

D CD CORE UNIT(S10.1)

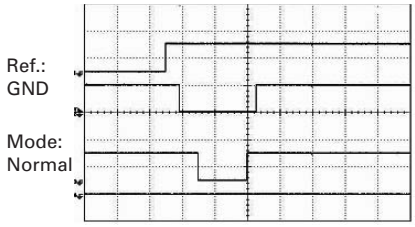
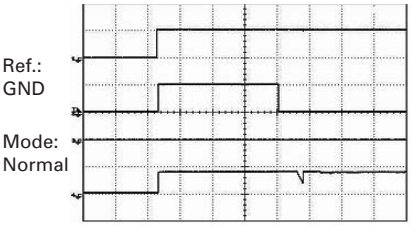
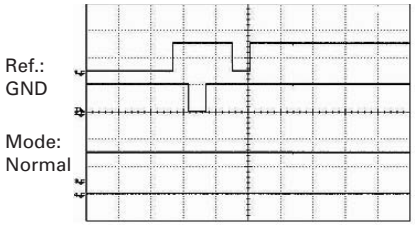
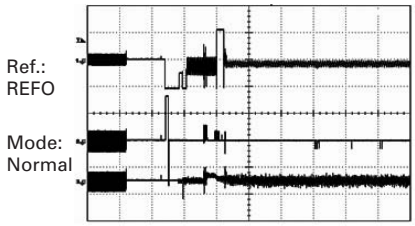
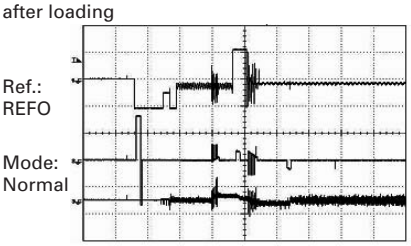
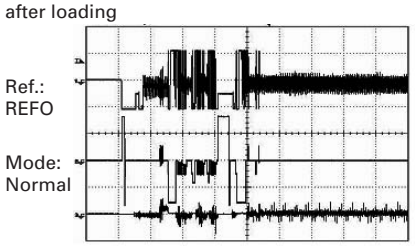
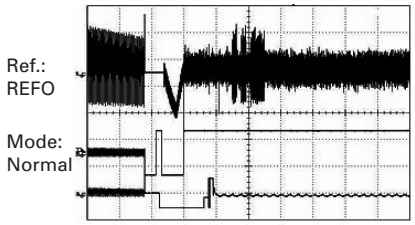
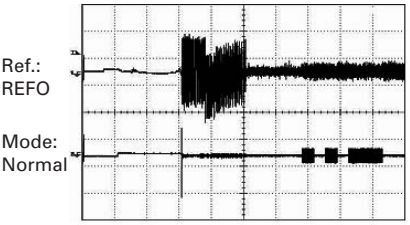
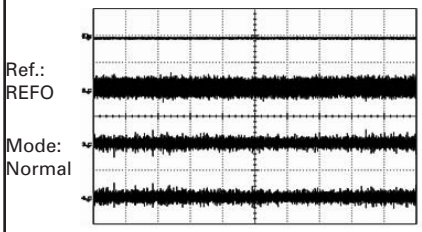
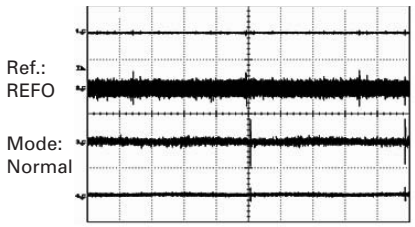
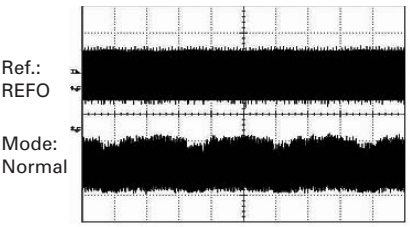
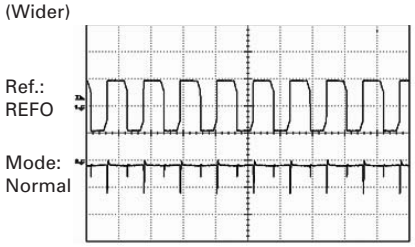
&WMA DECODER
OCESSOR

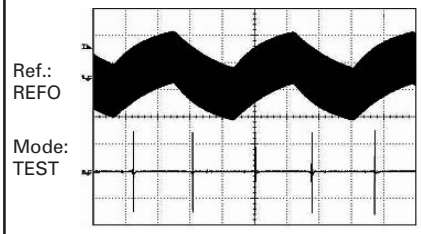
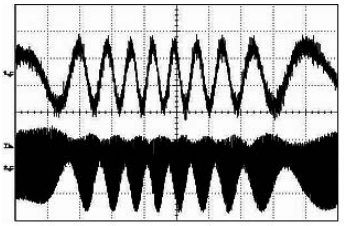
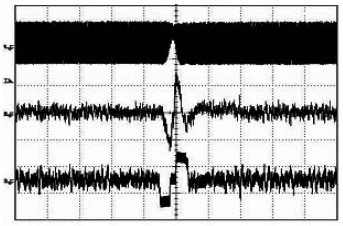
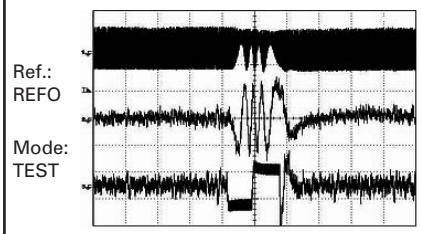
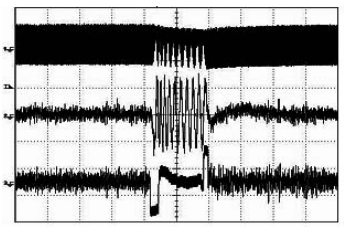
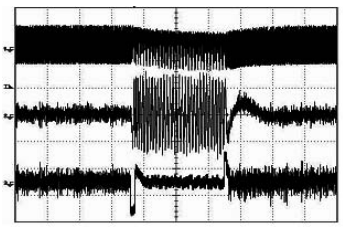
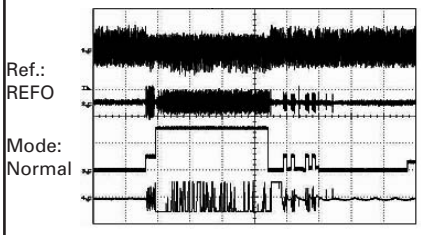
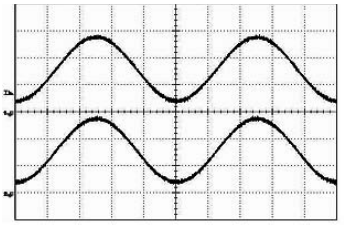
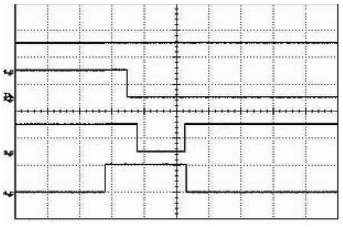
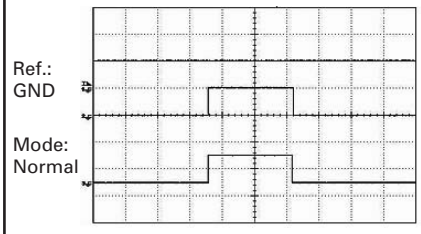
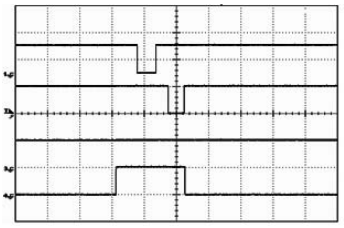
3.3V REGULATOR


CN651
CN901
3V REGULATOR
MICRO COMPUTER
IC701
PE5454A
D-a
D-b
D-b

● Waveforms

Note : 1. The encircled numbers denote measuring points in the circuit diagram.
2. Reference voltage REFO1(1.65V)

① DSCSNS 5V/div 500ms/div ② 8SNS 5V/div ③ 12SNS 5V/div ④ LOEJ 5V/div 12 cm CD Loading operation 	① DSCSNS 5V/div 500ms/div ⑤ CLCONT 5V/div ④ LOEJ 5V/div ⑥ VD 10V/div 12 cm CD Loading operation 	① DSCSNS 5V/div 500ms/div ② 8SNS 5V/div ③ 12SNS 5V/div ④ LOEJ 5V/div 8 cm CD Loading operation 
⑦ SIN 1V/div 2s/div ⑧ CIN 500mV/div ⑨ TIN 500mV/div 12 cm CD-DA setup operation after loading 	⑦ SIN 1V/div 1s/div ⑧ CIN 500mV/div ⑨ TIN 500mV/div 12 cm CD-ROM(1 session) setup operation after loading 	⑦ SIN 1V/div 2s/div ⑧ CIN 500mV/div ⑨ TIN 500mV/div 12 cm CD-ROM(3 sessions) setup operation after loading 
⑩ FIN 200mV/div 500ms/div ⑪ RFOK 2V/div ⑦ SIN 2V/div 12 cm CD-DA Source On setup operation 	⑫ TE 500mV/div 200ms/div ⑬ FE 500mV/div Source On setup operation 	⑬ FE 500mV/div 20ms/div ⑩ FIN 500mV/div ⑫ TE 500mV/div ⑨ TIN 500mV/div CD-DA Play operation 
⑬ FE 500mV/div 20ms/div ⑩ FIN 500mV/div ⑫ TE 500mV/div ⑨ TIN 500mV/div CD-ROM play operation(Regular track Jump) 	⑭ MDX 1V/div 50ms/div ⑦ SIN 200mV/div Spindle waveform during play operation 	⑭ MDX 2V/div 5µs/div ⑦ SIN 1V/div Spindle waveform during play operation (Wider) 

⑩ FIN 500mV/div 200ms/div ⑬ FE 500mV/div Focus Search waveform  	⑫ TE 500mV/div 2ms/div ⑮ RFAGC 500mV/div Track Open waveform  	⑮ RFAGC 1V/div 500µs/div ⑫ TE 500mV/div ⑨ TIN 500mV/div 1 Track Jump waveform 
⑮ RFAGC 1V/div 500µs/div ⑫ TE 500mV/div ⑨ TIN 500mV/div 4 Tracks Jump waveform  	⑮ RFAGC 1V/div 1ms/div ⑫ TE 500mV/div ⑨ TIN 500mV/div 10 Tracks Jump waveform  	⑮ RFAGC 1V/div 2ms/div ⑫ TE 500mV/div ⑨ TIN 500mV/div 32 Tracks Jump waveform 
⑮ RFAGC 1V/div 200ms/div ⑫ TE 1V/div ⑧ CIN 500mV/div ⑦ SIN 2V/div Search operation(Outter to Inner)  	⑯ LOUT 1V/div 200µs/div ⑰ ROUT 1V/div Analog audio waveform  	① DSCSNS 5V/div 500ms/div ② 8SNS 5V/div ③ 12SNS 5V/div ④ LOEJ 5V/div 12 cm CD Eject operation 
① DSCSNS 5V/div 500ms/div ⑤ CLCONT 5V/div ④ LOEJ 5V/div 12 cm CD Eject operation  	① DSCSNS 5V/div 500ms/div ② 8SNS 5V/div ③ 12SNS 5V/div ④ LOEJ 5V/div 8 cm CD Eject operation  	⑦ SIN 1V/div 500ms/div ⑧ CIN 500mV/div ⑨ TIN 500mV/div CD-DA >> CD-ROM mode change(Band key)