Service Manual

Portable Stereo CD System

Radio Cassette

RX-DS303

COMPACT disc DIGITAL AUDIO

Colour

(K)	Black Type

Areas

Suffix for Model No.	Area	Colour
(EB)	Great Britain	(K)
(EG)	Europe	

TAPE DECK: RX-FD55 MECHANISM SERIES (AR300)
TRAVERSE DECK: RX-DT55 MECHANISM SERIES (S0DD110)

■ SPECIFICATIONS

General:

Power Requirement:	AC; 230~240 V, 50 Hz Battery; 15 V (10 R20/LR20, UM-1 batteries) Memory Back-up for Computer/ Clock; 6 V (4 R6/LR6, UM-3 batteries)
Power Consumption:	43 W
Power Output:	45 W...PMPO
Speaker:	10 cm PM Dynamic speaker 2.7Ω
Input:	MIX MIC; 5 mV/200~600Ω ∅3.5
Output:	HEADPHONES; 32Ω, ∅3.5
Dimensions:	398 (W)×223 (H)×218 (D) mm
Weight:	5.0 kg without batteries

Disc Player Section:

Sampling Frequency:	44.1 kHz
D-A Conversion:	16-bit linear
Beam Source:	Semiconductor laser (wavelength 780 nm)
No. of Channels:	2 channels, stereo
Frequency Range:	20~20,000 Hz (+1/−2 dB)
Wow and Flutter:	Less than possible measurement data
D/A Converter:	MASH (1 BIT)

Radio Section:

Frequency Range:	FM; 87.5~108 MHz LW; 144~288 kHz MW; 522~1611 kHz
Intermediate Frequency:	FM; 10.7 MHz AM (LW/MW); 459 kHz
Sensitivity:	FM; 9 dBμ/50 mW output MW; 37 dB/m/50 mW output LW; 39 dB/m/50 mW output

Tape Deck Section:

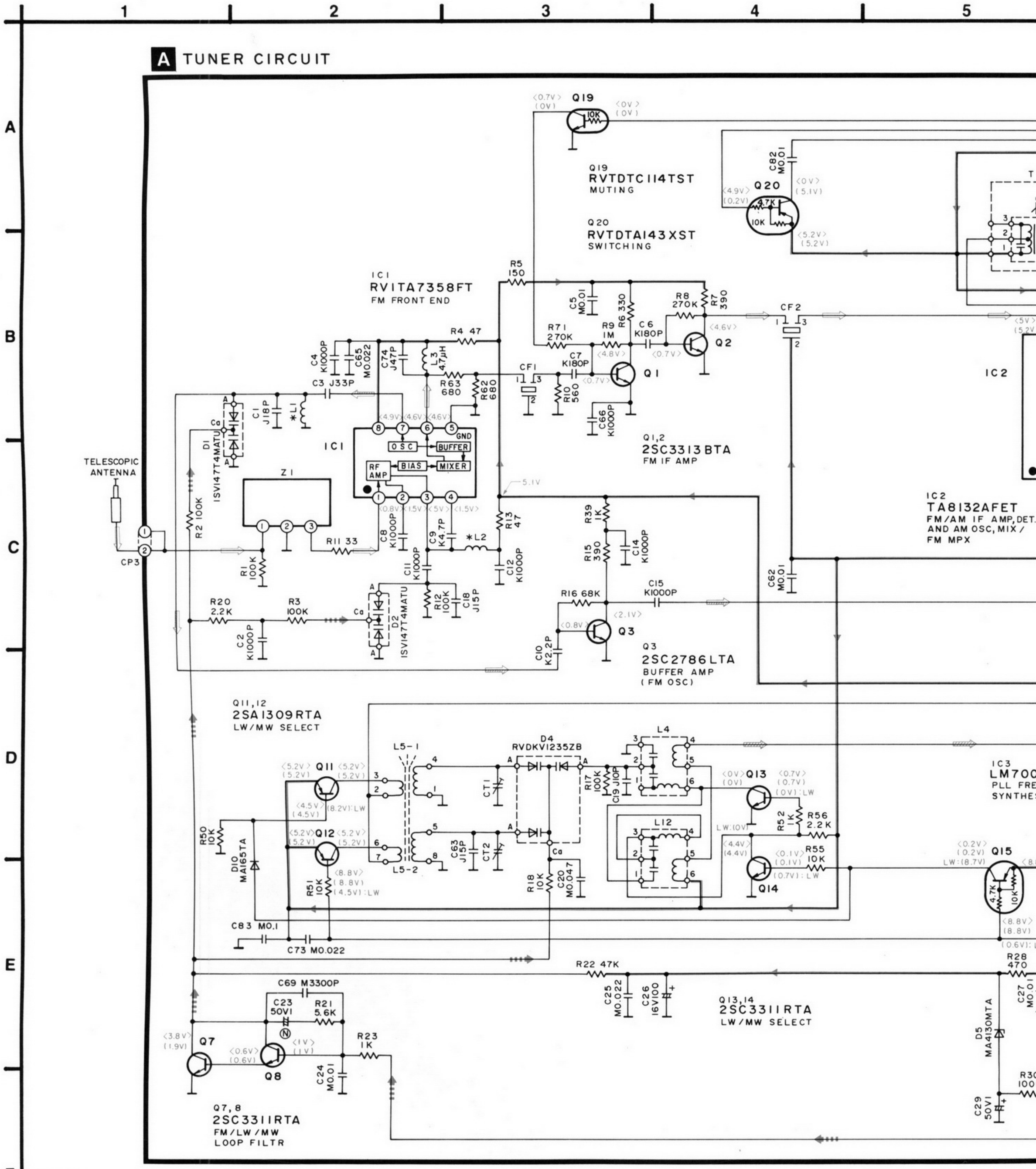
Frequency Range:	60~16,000 Hz (with normal tape)
Recording System:	AC bias, AC erase
Tape Speed:	4.8 cm/s
Monitor System:	Variable sound monitor
Track System:	4-track 2-channel stereo recording and playback

Notes:

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

Panasonic

■ SCHEMATIC DIAGRAM •TUNER AND CD CIRCUIT



Notes:

<for Tuner circuit>

- No switches or VRs.

<for CD circuit>

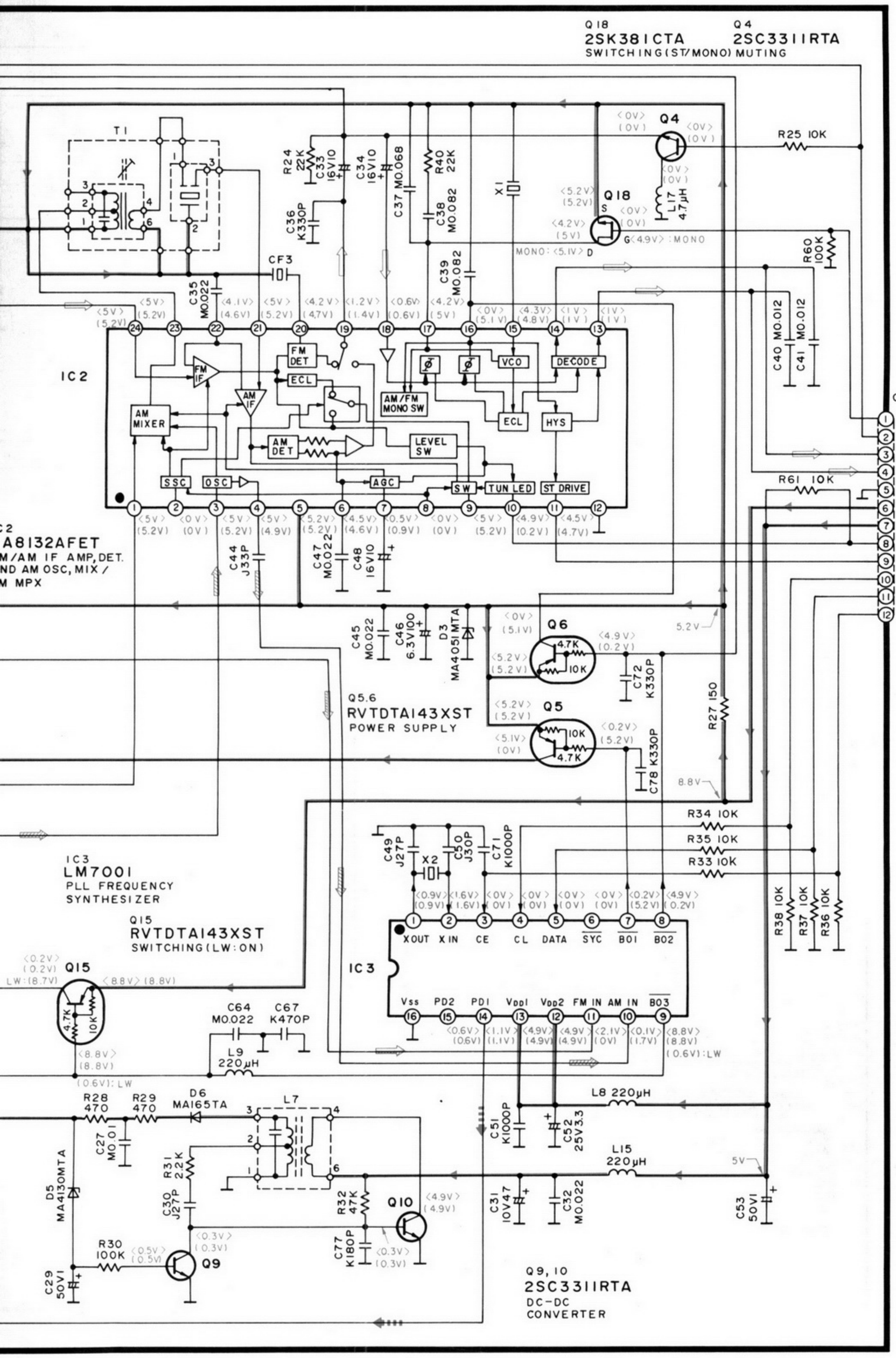
- S701 : Rest switch.
- VR701 : Best eye adjustment VR.

- CD voltage measurements are taken with electronics voltmeter. The negative terminal of the battery provides negative meter connection point.

( )...LW/MW < >...FM (( ))...CD

- **This schematic diagram may be modified at any time with the development of new technology.**

5 6 7 8 9 10



: FM Signal Line

: FM OSC Signal Line

: LW/MW OSC Signal Line

: FM/LW/MW Vcap Control Signal Line

: CD Signal Line

technology.

10 11 12 13 14 15

B CD CIRCUIT

OPTICAL PICKUP CIRCUIT

2.2K
20K
15
LD
0.047
CS701
GND
PD
LD
+B
RF
+B
A1
A4
A2
A3
GND
NC
TD-
TD+
FD-
FD+
0.047
820
4.7K
TRACKING COIL
FOCUS COIL
D C B A

R701 10
C701 6.3V22
(4.9V): STOP
(4.2V)
Q701
(2.7V)
(1.2V): STOP
(3.7V)
(4.4V): STOP

Q701
2SB709STW
LASER POWER DRIVE

C733 6.3V100
4.9V
R702 470
C702 6.3V47
C703 6.3V100
C710 M0.1
VR701 10K(B)
C713 16V4.7
R716 100K
C715 K4700P
C716 K0.047
R706 47K
R712 470

PLAY 0.3V P-P 2ms. 0.2/DIV.
PLAY 0.5V P-P 2ms. 0.2V/DIV.
A B C

IC701

42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22
PDAD	PDB	PDA	PDBD	GND	Vcc	FBAL1	FBAL2	FE	VDET	TBAL	TE BAL	TE	CRO SS	POT	PBO	PTI	PTO	TES	WVEL	PLAY
(2.5V)	(2.5V)	(2.5V)	(2.5V)		(4.9V)	(2.5V)	(2.5V)	(2.5V)	(0V)	(2.5V)	(2.5V)	(2.5V)	(4.9V)	(2.5V)		(2.5V)		(0V)	(0V)	(4.9)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
LDG	LDP	LD	LPD	GND	LDON	AMPI	AMPO	RFIN	RF EQ	C.AGC	ARF	C.SBDO	RFDET	BDO	Vcc	SDO	VAD+	VREF	VAD-	OFTR
(4.9V)		(3.7V)	(2.1V)		(4.9V) (0V): STOP	(2.5V)	(2.5V)	(2.5V)		(4.1V)	(2.9V)	(2.8V)	(0V) (4.8V): STOP	(0V)	(4.9V)	(0V) (4.8V): STOP	(3.9V)	(2.5V)	(1V)	(0V)

(4.4V): STOP
(4.9V): STOP
C748 50V1
PLAY 0.48V P-P 0.5μs. 0.1V/DIV.
C714 50V1
C717 K680P
C722 6.3V47
C723 M0.1
C727 6.3V47
C728 M0.1

IC701
AN8800SCE2
SERVO AMP

4.9V

TP702
TP703
CP701
TEST CONNECTOR
ARF
VREF
PLAY 1V P-P 0.5μs. 0.2V/DIV

R735 2.2K
R736 6.8K
R732 5.6K
R717 6.8K
C711 M0.01
C725 M0.01
R704 10K
R733 3.3K
R734 5.6K
R714 47K

IC702

16	15	14	13	12	11	10	9
GND	NC	-VIN1	+VIN1	+VIN2	-VIN2	NC	GND
(3.7V)	(3.7V)	(3.7V)	(3.7V)	(3.7V)	(3.7V)		

1	2	3	4	5	6	7	8
GND	NC	VOUT1	Vcc	VOUT2	NC	NC	GND
(3.7V)	(3.3V)	(7.8V)	(3.7V)				

(3.7V): STOP

SPINDLE MOTOR
CP703
TRAVERSE MOTOR

IC702
TCA0372DM2R
SPINDLE MOTOR DRIVE

R715 22K
C729 M0.1

IC703
AN8377N
TRAVERSE MOTOR DRIVE/ COIL DRIVE

IC703

16	15	14	13	12	11	10	9
PC	/RST	TVD-	TVD+	TD-	TD+	FD-	FD+
	(4.9V)	(0V)	(0V)	(0.1V)	(0.4V)	(1.6V)	(0.3V)

(0V): STOP

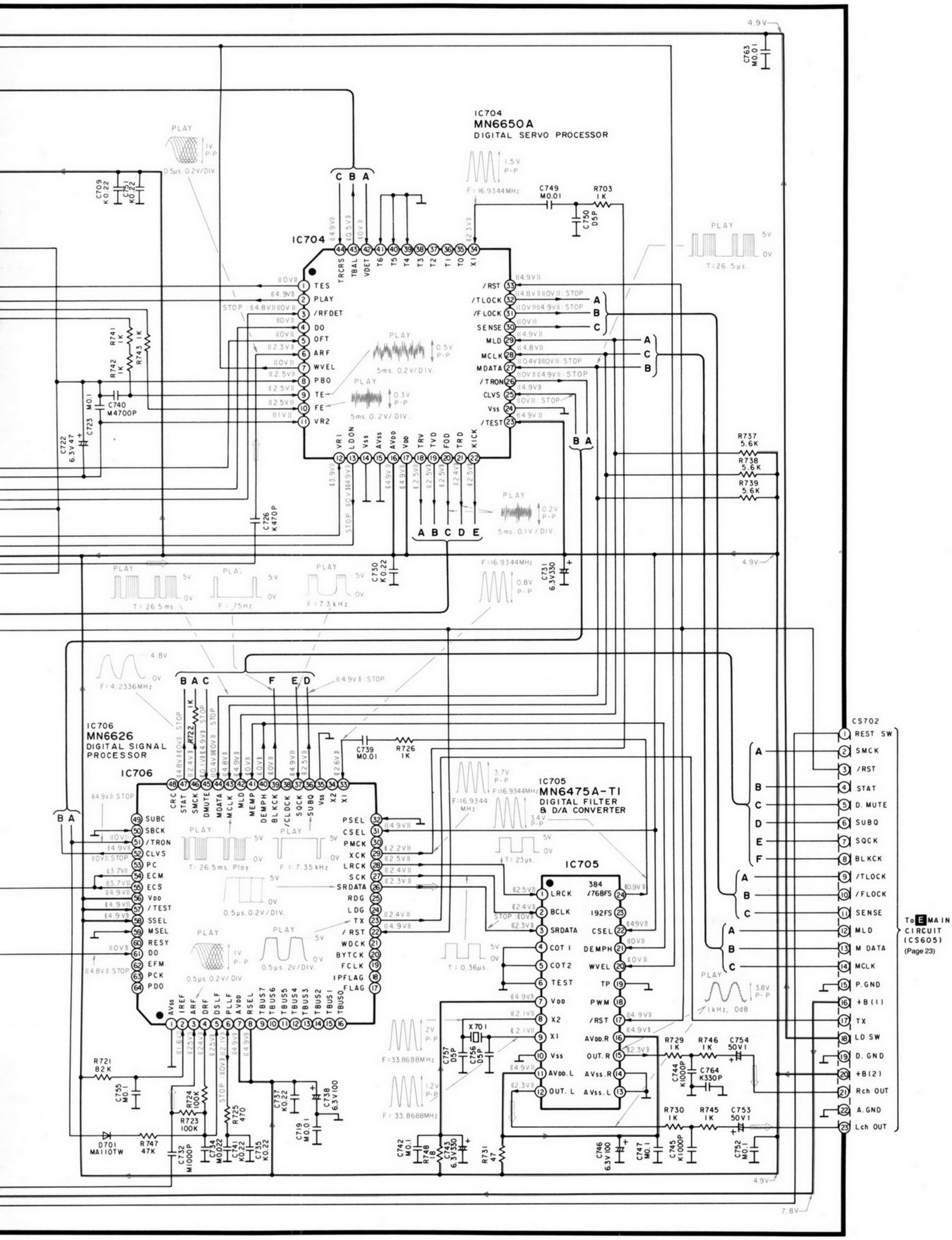
1	2	3	4	5	6	7	8
PVcc	Vcc	TB	VMON	TVDI	TDI	FDI	VREF
(7.8V)	(7.8V)		(4.9V)	(2.5V)	(2.5V)	(2.5V)	(2.5V)

A B C D
C E D A B
R749 100
R719 12K
R720 27K
R718 22K
R707 2.2K
R708 68K
R710 1.8K
R711 47K
R709 1.2K
C718 10V100
C758 K0.22
C724 M0.033
R744 39K
C721 M0.01
C720 M0.015
R715 22K

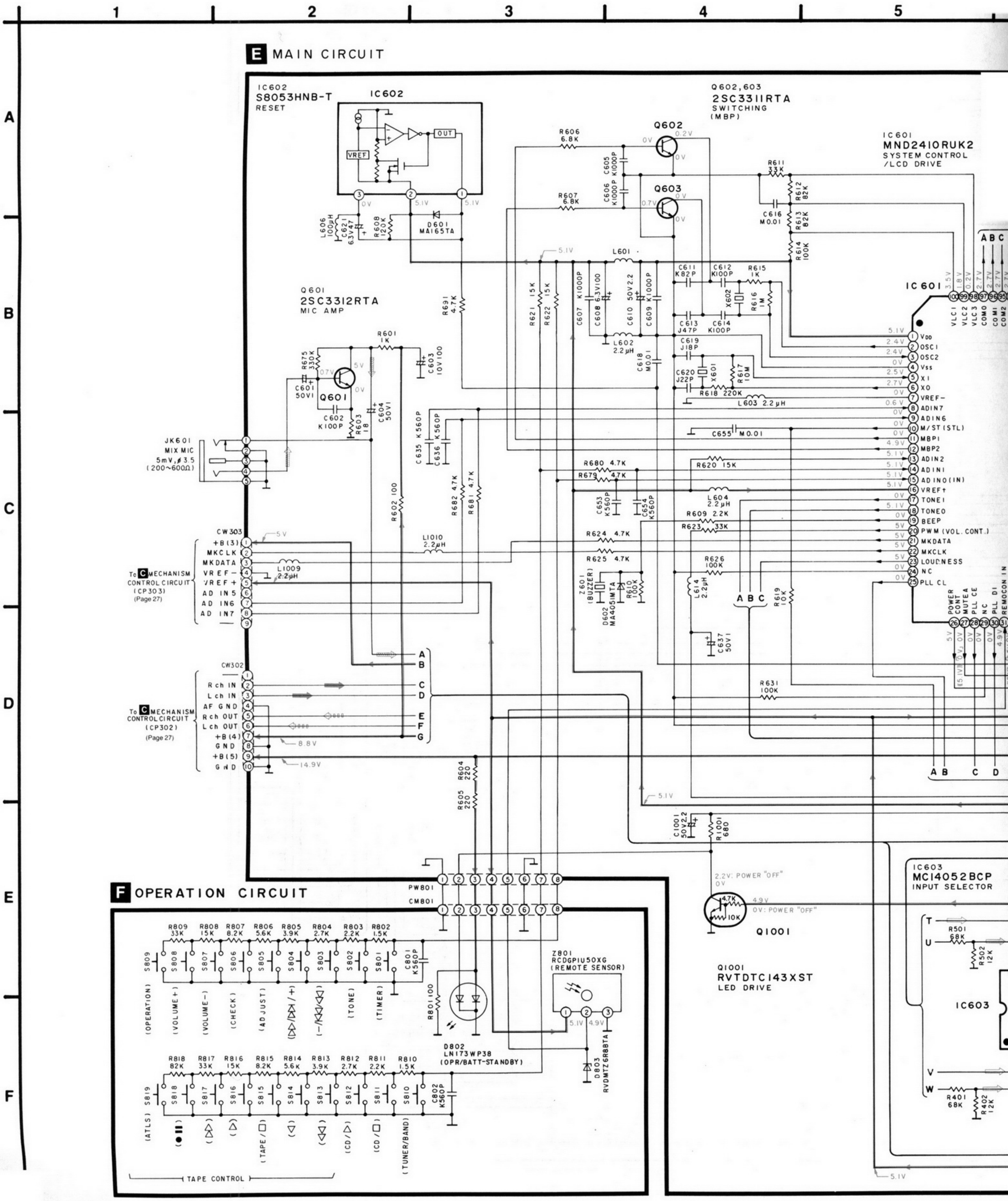
CP702
S701 (REST)

7.8V

15 16 17 18 19



■ SCHEMATIC DIAGRAM



5 6 7 8 9

Z602 (RSL5066-L)
LCD DISPLAY (CD/CLOCK/TUNER/DECK)

IC601
MND2410RUK2
SYSTEM CONTROL
/LCD DRIVE

IC604
M51132L
ATTENUATOR
(E.VOLUME)

Q403,503
2SC3311RTA
SWITCHING
(LOUDNESS)

Q402

Q404,405,504,505
2SJ40CDTA
SWITCHING
(TONE)

Q611
2SC3311RTA
POWER DOWN DET.

IC603
MC14052BCP
INPUT SELECTOR

Q401,501
2SC3312RTA
BUFFER AMP

Q612
RVTDTA143XST
POWER SUPPLY

Q604
RVTDTC144EST
SWITCHING (TAPE: ON)

Q613
RVTDTC144EST
POWER SUPPLY CONT.

Q614
RVTDTC143XST
MUTING CONT.

10 11 12 13 14

H AMP CIRCUIT

IC606
AN7135
POWER AMP

IC605
BA3930
POWER SUPPLY CONTROL

Q622
2SB1357T114E
POWER SUPPLY

Q402,502
2SD1450RTA
MUTING

CS605

To B CD CIRCUIT (CS702) (Page 20)

To A TUNER CIRCUIT (CP11) (Page 18)

G SPEAKER OUTPUT CONNECTOR CIRCUIT

JK602 HEADPHONES (3.2Ω, ø3.5)

PW603 PW6031 CP604

(Lch) PM DYNAMIC SPEAKER 10cm, 2.7Ω

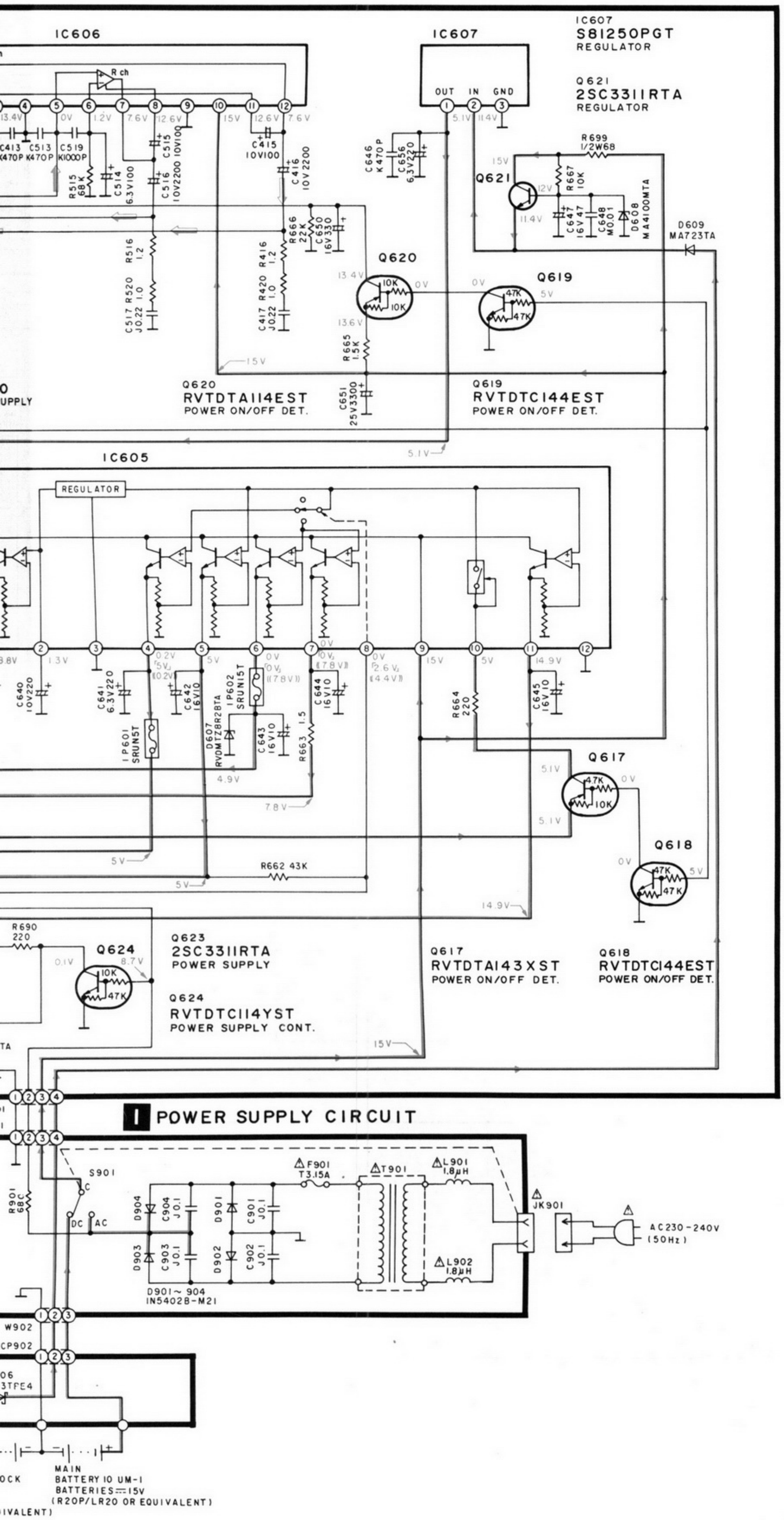
(Rch) PM DYNAMIC SPEAKER 10cm, 2.7Ω

PW602 PW6021 PW6011 PW601

PW606 LAMP601

MEMORY BACK-UP FOR COMPUTER/CLOCK
BATTERY 4 UM-3
BATTERIES 6V
(R6P/LR6 OR EQUIVA

15 16 17 18 19



Notes:

- ●S601 : CD cover open/close detect switch.
- ●S801 : Timer switch. (TIMER)
- ●S802 : Tone control switch. (TONE)
- ●S803 : CD skip/search switch. (−/ ◄◄/◄◄)
- ●S804 : CD skip/search switch. (►►/►► /+)
- ●S805 : Time adjust switch. (ADJUST)
- ●S806 : Timer check switch. (CHECK)
- ●S807 : Volume level control switch. (− VOLUME)
- ●S808 : Volume level control switch. (VOLUME +)
- ●S809 : Operation switch (OPERATION)
- ●S810 : Tuner/Band switch. (TUNER/BAND)
- ●S811 : CD mode/stop switch. (CD/■)
- ●S812 : CD play switch. (►)
- ●S813 : Tape fast rewind switch. (◄◄)
- ●S814 : Tape reverse-side playback switch. (◄)
- ●S815 : Tape mode/stop switch. (TAPE/■)
- ●S816 : Tape forward-side playback switch. (►)
- ●S817 : Tape fast forwad switch. (►►)
- ●S818 : Rec-pause switch. (● ❚❚)
- ●S819 : Automatic tape level setting switch. (ATLS)
- ●S901 : AC/DC select switch.
- ●S1001 : Laser on/off switch. (for Mechanism control/Mechanism circuit)
- ●S971 : Mode detect switch.
- ●S972 : Cassette tape insertion detect switch.
- ●S973 : Record prevention tab detect switch. (REV)
- ●S974 : Record prevention tab detect switch. (FWD)
- ●S975 : No connect.
- ●S976 : No connect.
- ●VR301 : Tape speed adjustment VR.

: TUNER SIGNAL LINE

: CD SIGNAL LINE

: TAPE SIGNAL LINE

: MIC SIGNAL LINE

: AF SIGNAL LINE

: REC SIGNAL LINE

: +B LINE

General

●DC voltage measurements are taken with electronics voltmeter.
The negative terminal of the battery provides negative meter connection point.

No mark...TAPE PLAYBACK ⌜ ⌟...TUNER (( ))...CD [ ]...REC

●Battery current:

Vol. min	160 mA (LW/MW)	Vol. max	520 mA (LW/MW)
	162 mA (FM)		780 mA (FM)
	240 mA (TAPE)		1140 mA (TAPE)
	380 mA (CD)		1680 mA (CD)

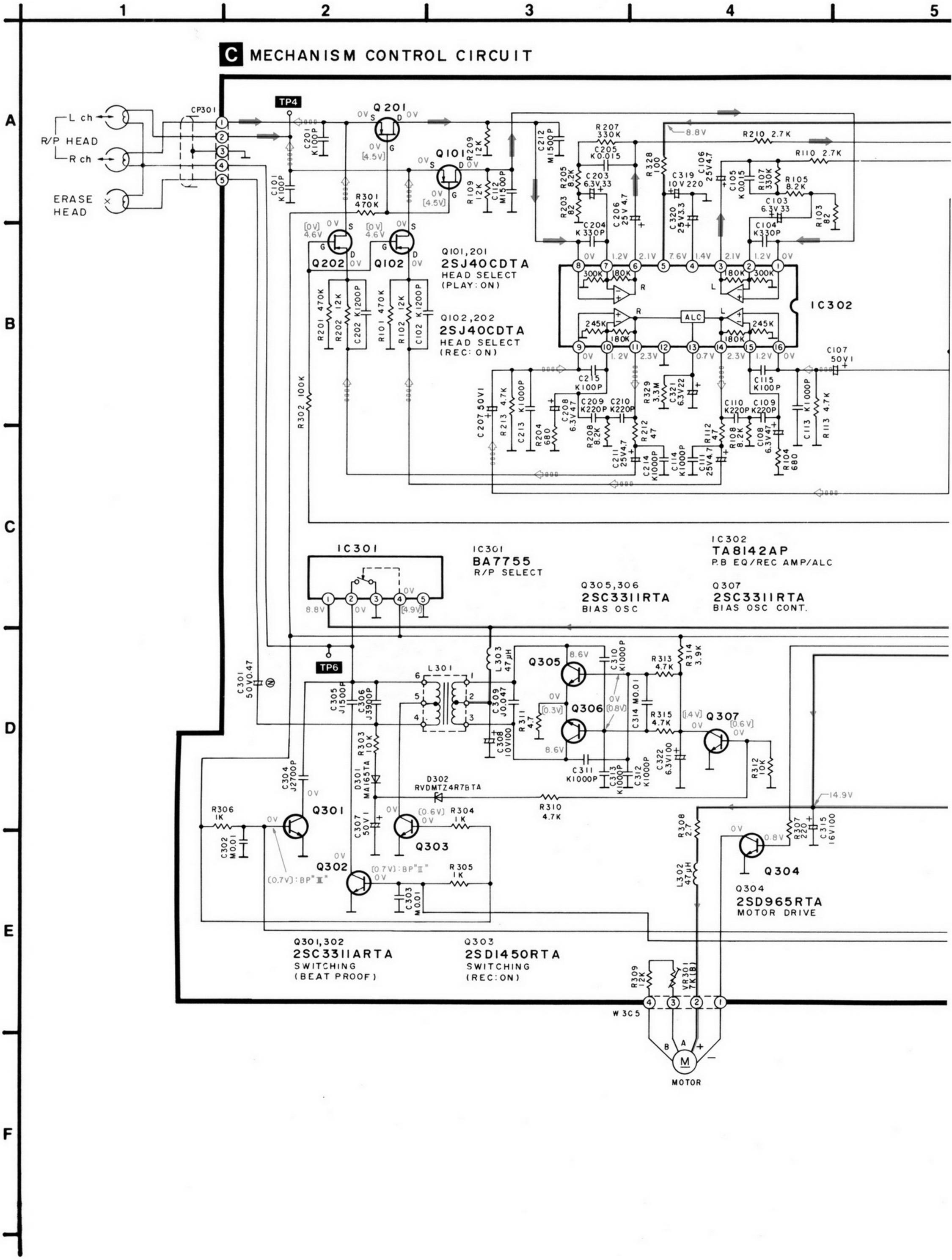
Measurement instruction

LW/MW	: 74 dB/m, 30% Mod.
FM	: 60 dB, 30% Mod.
TAPE	: 315 Hz, 0 dB
CD	: 1 kHz, 0 dB

●Important safety notice
Components identified by ⚠ mark have special characteristics impotant for safety.
When replacing any of these componets, use only manufacturer's specified parts.

●This schematic diagram may be modified at any time with the development of new technology.

■ SCHEMATIC DIAGRAM



5 6 7 8 9

Q105,205
2SD1450RTA
MUTING

Q309
UN4217TA
INTERFACE

Q308,310~312
2SC3311RTA
INTERFACE

Q104,204
2SC3311RTA
SWITCHING(PLAY:ON)

Q314
UN4216TA
SOLENOID DRIVE

Q313
2SB1030QRSTA
SOLENOID DRIVE

Q316,317
UN411FTA
SWITCHING
(R/P SELECT,
MOTOR DRIVE)

IC303
BU2040F-TI
SYSTEM CONTROL

IC971
DN6851ALB
HALL IC

CP302
1 —
2 Rch OUT
3 Lch OUT
4 AF GND
5 Rch IN
6 Lch IN
7 +B(4)
8 GND
9 +B(5)
10 GND

To E MAIN CIRCUIT (CW302) (Page 21)

CP303
9 —
8 AD IN7
7 AD IN6
6 AD IN5
5 VREF+
4 VREF−
3 MK DATA
2 MK CLK
1 +B(3)

To E MAIN CIRCUIT (CW303) (Page 21)

D MECHANISM CIRCUIT