

XR-1853MK2

SERVICE MANUAL

East European Model



Model Name Using Similar Mechanism	XR-1853
Tape Transport Mechanism Type	MG-36SHJ-32

SPECIFICATIONS

Cassette player section

Tape track	4-track 2-channel stereo
Wow and flutter	0.2 % (WRMS)
Frequency response	50 – 15,000 Hz
Signal-to-noise ratio	50 dB

Tuner section

FM

Tuning range	FM1: 65 – 74 MHz FM2: 87.5 – 108 MHz
Antenna terminal	External antenna connector
Intermediate frequency	10.7 MHz
Usable sensitivity	12 dBf
Selectivity	65 dB at 400 kHz
Signal-to-noise ratio	55 dB (stereo), 60 dB (mono)
Harmonic distortion at 1 kHz	1.5 % (stereo), 1.0 % (mono)
Separation	25 dB at 1 kHz
Frequency response	30 – 15,000 Hz
Capture ratio	9 dB

MW/LW

Tuning range	MW: 522 – 1,611 kHz LW: 153 – 281 kHz
Antenna terminal	External antenna connector
Intermediate frequency	450 kHz
Sensitivity	MW: 35 µV LW: 40 µV

Power amplifier section

Outputs	Speaker outputs (sure seal connectors)
Speaker impedance	4 – 8 ohms
Maximum power output	20 W × 4 (at 4 ohms)

General

Output lead	Power antenna relay control lead
Tone controls	12 dB at 10 kHz
Power requirements	12 V DC car battery (negative ground)
Dimensions	Approx. 188 × 58 × 170 mm (w/h/d) not incl. projecting parts and controls
Mounting dimension	Approx. 182 × 53 × 165 mm (w/h/d) not incl. projecting parts and controls
Mass	Approx. 1.5 kg
Supplied accessories	Mounting hardware (1 set)

Design and specifications are subject to change without notice.

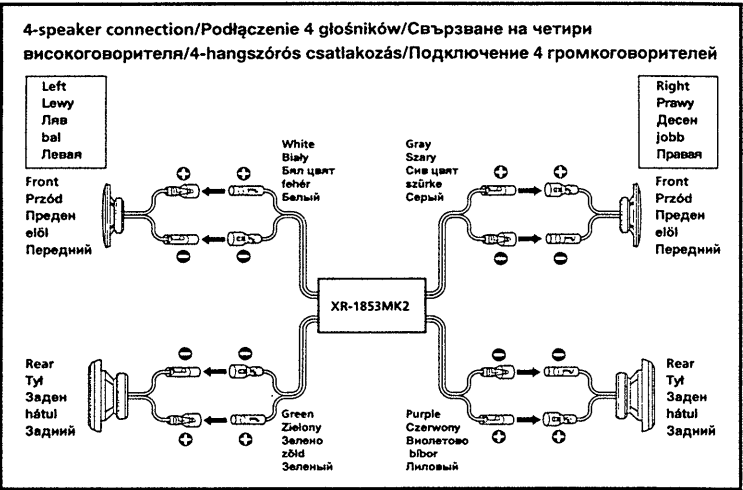
FM/MW/LW CASSETTE CAR STEREO
SONY®

Connections

Caution

- This unit is designed for negative ground 12V DC operation only.
- Before making connections, disconnect the ground terminal of the car battery to avoid short circuits.
- Connect the red power input lead only after all other leads are connected. Be sure to connect it to the positive 12V power terminal which is energized when the ignition key is turned to the accessory position.
- Run all ground wires to a common ground point.

Speaker Connections/Подłączenie głośników/Свързване на високоговорителите/Hangszóró csatlakozások/Подключение громкоговорителей



Notes on speaker connections

- Use speakers with an impedance of 4 to 8 ohms, and with adequate power handling capacities. Otherwise, the speakers may be damaged.
- Do not connect the terminals of the speaker system to the car chassis, and do not connect the terminals of the right speaker with those of the left speaker.
- Do not connect the speakers in parallel.
- Do not connect any active speakers (with built-in amplifiers) to the speaker terminals of the unit. Doing so may damage the active speakers. Therefore, be sure to connect passive speakers to these terminals.

Notes on the control leads

- The power antenna control lead (blue) supplies 12 V DC when you turn on the unit.
- A power antenna without relay box cannot be used with this unit.

Podłączenia

Uwaga

- Urządzenie to przeznaczone jest do pracy przy uziemieniu ujemnym 12V DC.
- Przed podłączeniem należy odłączyć uziemienie akumulatora samochodowego, aby zapobiec powstaniu zwarcia.
- Przewód czerwony podłączyć dopiero po podłączeniu wszystkich innych przewodów. Podłącza się go wyłącznie do zacisku o napięciu dodatnim 12V, który zasilany jest po przekręceniu kluczyka w stacyjce do pierwszego położenia (zasilanie wyposażenia).
- Wszystkie przewody uziemiające poprowadzić do wspólnego miejsca uziemienia.

Uwagi odnośnie podłączenia głośników

- Stosować głośniki o impedancji 4 do 8 omów i o odpowiedniej obciążalności mocy, gdyż w innym przypadku może dojść do ich uszkodzenia.
- Nie podłączać przewodów układu głośników do podwozia samochodu, a przyłączyć głośnika prawego nie łączyć z przyłączami głośnika lewego.
- Nie podłączać głośników równolegle.
- Nie podłączać do urządzenia głośników aktywnych (z wbudowanymi wzmacniaczami), może to bowiem doprowadzić do ich uszkodzenia. Podłączać wyłącznie głośniki pasywne.

Uwagi odnośnie przewodów kontrolnych anteny

- Przewód kontrolny anteny automatycznej (niebieski) dostarcza prąd o napięciu 12 V DC po włączeniu urządzenia.
- Do niniejszego urządzenia nie można używać anteny automatycznej bez skrzynki przekaznikowej.

Свързване

Внимание

- Уредът е конструиран за включване само към източник на прав ток с 12 волта напрежение и заземяване към отрицателната клемма на акумулаторната батерия.
- Преди да направите свързванията, откачете отрицателната клемма на акумулатора, за да избегнете късо съединение.
- Червеният захранващ проводник свържете след като вече сте свързали всички останали. Убедете се, че той е свързан към положителната клемма с напрежение от 12 волта, която се захранва с ток, когато ключа за запалване е в положение за включване на спомагателните уреди.
- Свържете всички заземяващи проводници към една обща точка.

Забележки по свързването на високоговорителите

- Използвайте само високоговорители със съпротивление от 4 ома до 8 ома и с подходяща мощност. В противен случай, високоговорителите могат да се повредят.
- Никога не свързвайте изводите за високоговорителите към шасито на автомобила, както и извода за на дясната тон-колона към този на лявата тон-колона.
- Не свързвайте високоговорителите успоредно.
- Не свързвайте активни високоговорители (с вградени усилватели) към изводите за високоговорители на апарата. Такова действие може да повреди активните високоговорители. Затова към изводите свързвайте само пасивни високоговорители.

Забележки по проводниците за управление

- Проводникът за управление на ел. задвижвана антена подава постоянен ток с напрежение 12 V при включване на уреда.
- С този апарат не може да се използва ел. задвижвана антена без кутия с реле.

Csatlakozások

Figyelem

- Ez a készülék csak 12 V-os negatív földelésű, egyenáramú akkumulátorról üzemeltethető.
- Egy esetleges rövidzárlat elkerülése érdekében vegye le az autó akkumulátorának csatlakozóját a készülék csatlakoztatása előtt.
- A piros színű tápvezetékét csak az összes többi vezeték bekötése után csatlakoztassa. A piros vezetékét ahhoz a +12V-os csatlakozási ponthoz csatlakoztassa, mely áramot kap, ha az indítókulcs félig van elfordítva.
- Az összes földelővezetékét közös földelőponthoz csatlakoztassa.

Tudnivalók a hangszórók csatlakoztatásáról

- 4-8 ohm impedanciájú, megfelelő teljesítményű hangszórókat használjon, ellenkező esetben ugyanis előfordulhat, hogy a hangszórók károsodnak.
- Ne csatlakoztassa a hangszórókat az autó fémszerkezetéhez és ne csatlakoztassa a jobb hangszórót a bal hangszóróhoz.
- A hangszórókat semmi esetre se csatlakoztassa párhuzamosan.
- Ne csatlakoztasson aktív (beépített erősítővel felszerelt) hangszórókat a készülékhez, ellenkező esetben ugyanis károsodhatnak az aktív hangszórók. A készülékhez csak passzív hangszórókat szabad csatlakoztatni.

Tudnivalók a vezérlővezetékekről

- A motoros antenna vezérlővezetéké (kék) 12 V egyenfeszültséget kap, ha bekapcsolja a készüléket.
- Ha a készülékhez motoros antennát csatlakoztat, úgy kizárólag relédobozsal felszerelt motoros antennát használjon.

Подключения

Предостережение

- Этот аппарат предназначен для эксплуатации только при подключении к отрицательной клемме источника постоянного тока напряжением 12 В.
- До начала установки во избежание короткого замыкания отсоедините заземление аккумуляторной батареи автомашины.
- Подключать электрошнур питания красного цвета только после подключения всех прочих проводов. Убедитесь в то что он подключен к положительной клемме источника тока напряжением +12 В, которая оказывается под током при повороте ключа зажигания в положение для подключения вспомогательных электроприборов.
- Подключите все провода заземления к одному общему контакту для заземления.

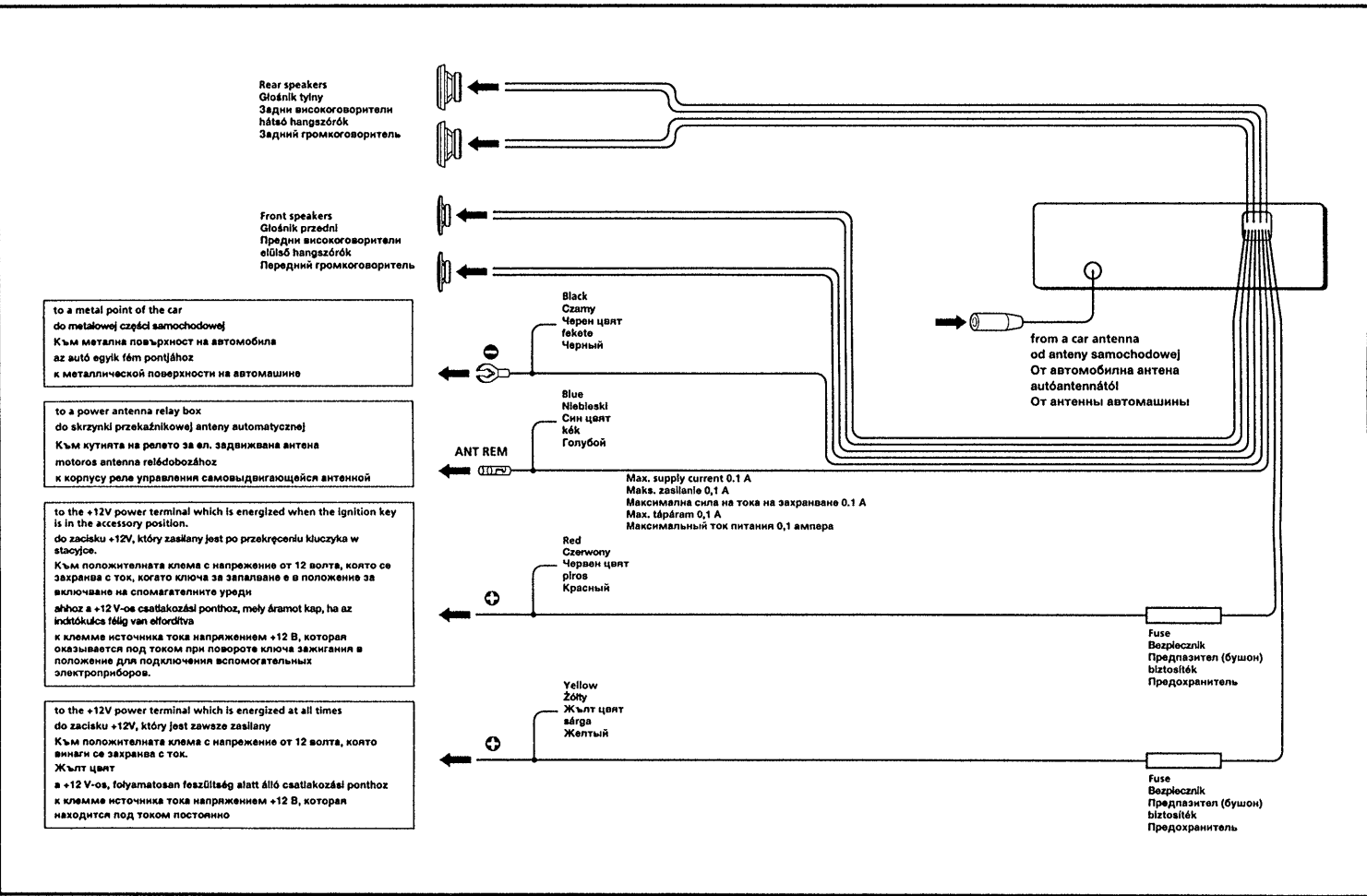
Примечания к инструкции по подключению громкоговорителей

- Используйте громкоговорители с электрическим сопротивлением 4-8 Ом, способные принимать достаточно мощные сигналы. В противном случае громкоговорители могут быть повреждены.
- Не подключайте контакты системы громкоговорителей к шасси автомашины и не подключайте контакты правого громкоговорителя к контактам левого громкоговорителя.
- Не подключайте громкоговорители параллельно.
- Не подключайте каких-либо активных громкоговорителей (т.е. со встроенными усилителями) к контактам аппарата для громкоговорителей: это может привести к повреждению активных громкоговорителей. Итак, убедитесь, что Вы подключаете к этим контактам пассивные громкоговорители.

Примечания к проводам управления

- Провод контроля питания антенны (голубой) подводит 12 В постоянного тока, если Вы включите аппарат.
- С данным аппаратом нельзя использовать самовыдвигающуюся антенны без реле управления в отдельном корпусе.

Connection Diagram/Schemat połączeń/Схема за свързване/Csatlakoztatási vázlat/Схема подключения



SECTION 3 MECHANICAL ADJUSTMENTS

PRECAUTION

- Wipe the following components with an absorbent cotton cloth moistened with alcohol before adjustment :

PB head	Pinch roller
Idler	Rubber belt
Capstan	
- Demagnetize the PB head using a head demagnetizer.
- Be careful not to use a magnetized screwdriver.
- After the adjustment is completed, lock the adjustment parts using screws.
- Unless otherwise specified, make adjustments at the specified voltage (14.4V).

Torque Measurement

Mode	Torque Meter	Meter Reading
FWD	CQ-102C	40—75g•cm (0.56—1.04oz•inch)
FWD Back Tension		1—5g•cm (0.01—0.06oz•inch)
REV	CQ-102RC	40—75g•cm (0.56—1.04oz•inch)
REV Back Tension		1—5g•cm (0.01—0.06oz•inch)
FF, REW	CQ-201B	45—150g•cm (0.63—2.08oz•inch)

SECTION 4 ELECTRICAL ADJUSTMENTS

DECK SECTION 0dB=0.775V

- The adjustments should be performed in the order given in this service manual.
- The adjustments should be performed for both L-CH and R-CH.

Test Tape

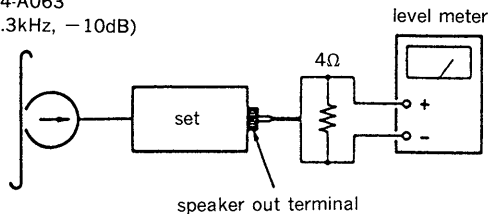
Type	Signal	Used for
P-4-A063	6.3kHz, -10dB	head azimuth adjustment
WS-48A	3kHz, 0dB	tape speed adjustment

PB Head Azimuth Adjustment

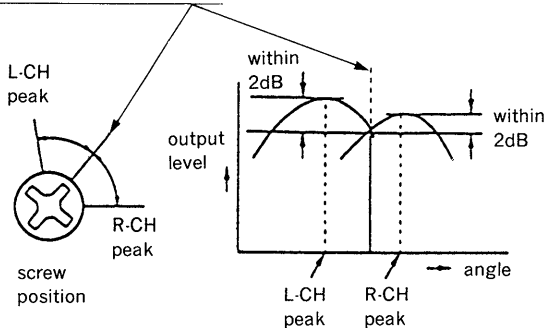
Procedure :

- Mode : FWD playback

test tape
P-4-A063
(6.3kHz, -10dB)

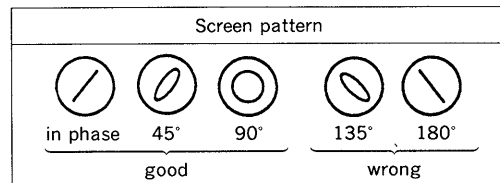
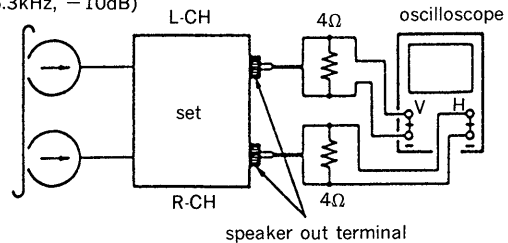


- Turn the screw and check the output peak value. Adjust the screw so that the peak value in channels L and R coincides within 2dB.



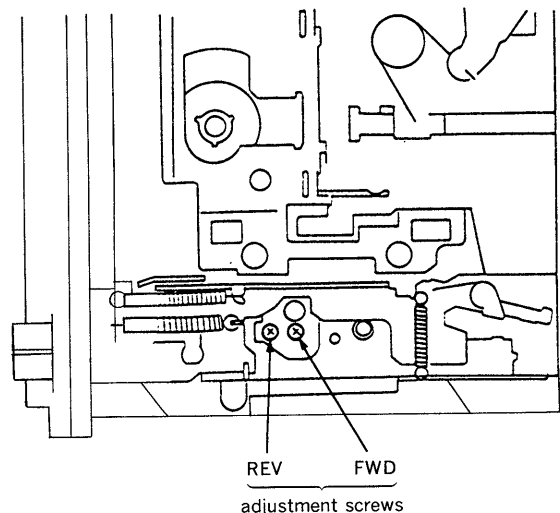
- Check the phase in the PB mode.

test tape
P-4-A063
(6.3kHz, -10dB)



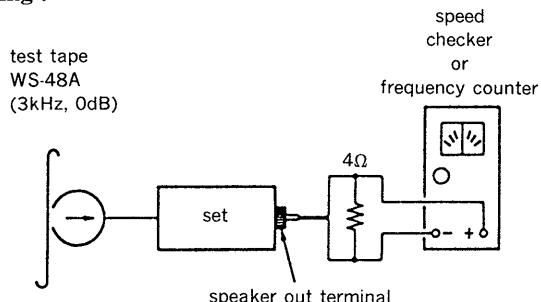
- Repeat the above adjustment for the REV PB mode.

Adjustment Location :



Tape Speed Adjustment

Setting :



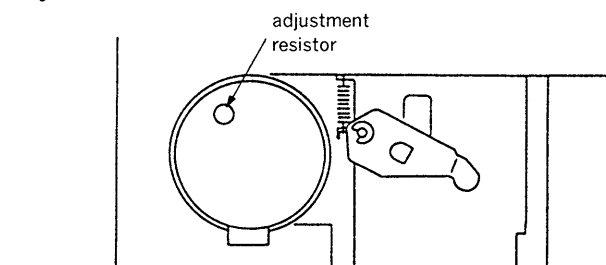
Procedure :

1. Put the set into the FWD PB mode.
2. Adjust adjustment resistor for inside capstan motor so that the reading on the speed checker or frequency counter becomes in specification.

Specification : Constant speed

Speed checker	Frequency counter
-1.5 to +2.5%	2,955 to 3,075Hz

Adjustment Location :



TUNER SECTION **0dB=1μV**

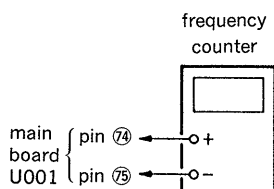
Cautions during repair

When the tuner unit is defective, replace it by a new one because its internal block is difficult to repair.

Clock Frequency Adjustment

Setting :

FM/MW/LW button : FM2



Procedure :

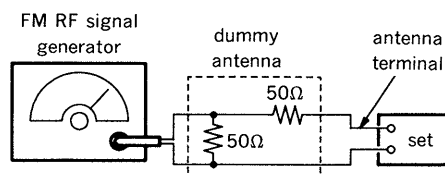
1. Connect the frequency counter between U001 pin ⑦④ and pin ⑦⑤ on the main board.
2. Adjust C051 so that the reading on the frequency counter becomes in $7.2\text{MHz} \pm 72\text{Hz}$.

Adjustment Location : See page 14.

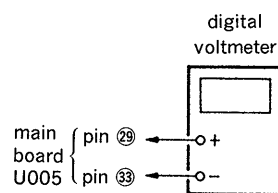
FM IF OV Adjustment

Setting :

FM/MW/LW button : FM2



Carrier frequency : 98.0MHz
Output level : 60dB (1mV)
Mode : mono
Modulation : no modulation



Procedure :

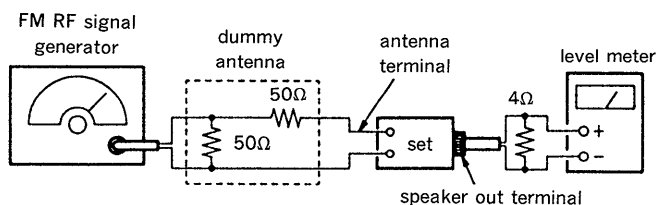
1. Connect a digital voltmeter between U005 pin ②⑨ and pin ③③ on the main board.
2. Adjust L003 so that the reading on the digital voltmeter becomes in $0 \pm 0.05\text{V}$.

Adjustment Location : See page 14.

3dB Mute Limiting Sensitivity Adjustment

Setting :

FM/MW/LW button : FM2



Carrier frequency : 98.0MHz
Output level : 60dB (1mV)
Mode : mono
Modulation : 1kHz, 75kHz deviation (100%)

Procedure :

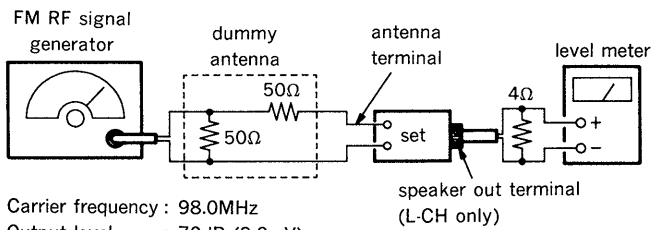
1. Tune the 98.0MHz.
2. The then output level is supposing that (A) dB.
3. Adjust RV155 so that the output level is (A) -3dB then signal generator input set to 13dB.

Adjustment Location : See page 14.

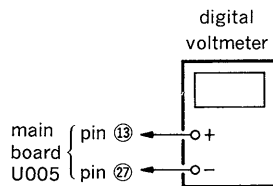
FM Stereo Separation Adjustment

Setting :

FM/MW/LW button : FM2



Carrier frequency : 98.0MHz
 Output level : 70dB (3.2mV)
 Mode : stereo
 Modulation : 1kHz, 22.5kHz deviation (30%)
 (L-CH only)



Procedure :

1. Connect the digital voltmeter between U005 pin ⑬ and pin ⑳ on the main board.
2. Set R152 so that the reading on the digital voltmeter becomes in more than 1.5V.

FM stereo signal generator output channel	Level meter connection	Level meter reading (dB)
L-CH	L-CH	Ⓐ
R-CH	L-CH	Ⓑ [Ⓐ] Adjust R154 for maximum reading.

L-CH Stereo separation : Ⓐ—Ⓑ

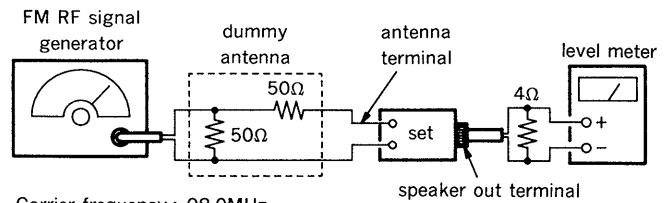
Specification : Separation more than 30dB

Adjustment Location : See page 14.

Pilot Cancel Adjustment

Setting :

FM/MW/LW button : FM2



Carrier frequency : 98.0MHz
 Output level : 60dB (1mV)
 Mode : mono
 Modulation : pilot : 7.5kHz deviation (10%)

Procedure :

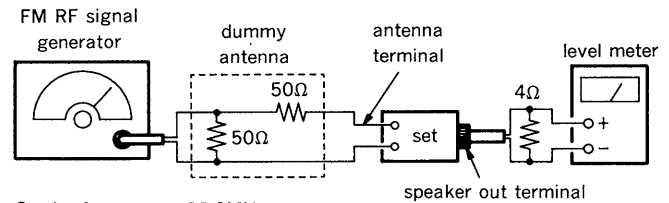
1. Adjust R153 so that the reading on the level meter becomes in minimum and same pilot residue for both L-CH and R-CH.

Adjustment Location : See page 14.

10dB Crosstalk Adjustment

Setting :

FM/MW/LW button : FM2



Carrier frequency : 98.0MHz
 Output level : 40dB (0.1mV)
 Mode : mono
 Modulation : 7.5kHz pilot : 22.5kHz deviation (30%)

Procedure :

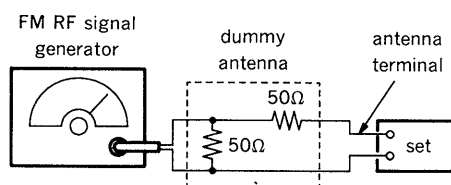
1. Adjust R152 so that the reading on the level meter becomes in 10dB separation.

Adjustment Location : See page 14.

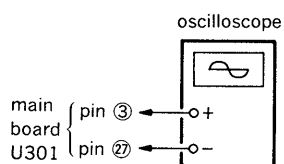
FM DX Locking Sensitivity Adjustment

Setting :

FM/MW/LW button : FM2



Carrier frequency : 98.0MHz
Output level : 22dB (12.6μV)
Mode : mono
Modulation : no modulation



Procedure :

1. Short the U005 pin ④⑦ to GND.
2. Connect a oscilloscope between U005 pin ③ and pin ⑳.
3. Short the U005 pin ④⑧ to GND.
4. Adjust R151 so that IF signal should shut off, when 2dB signal is reduce.

Adjustment Location : See page 14.

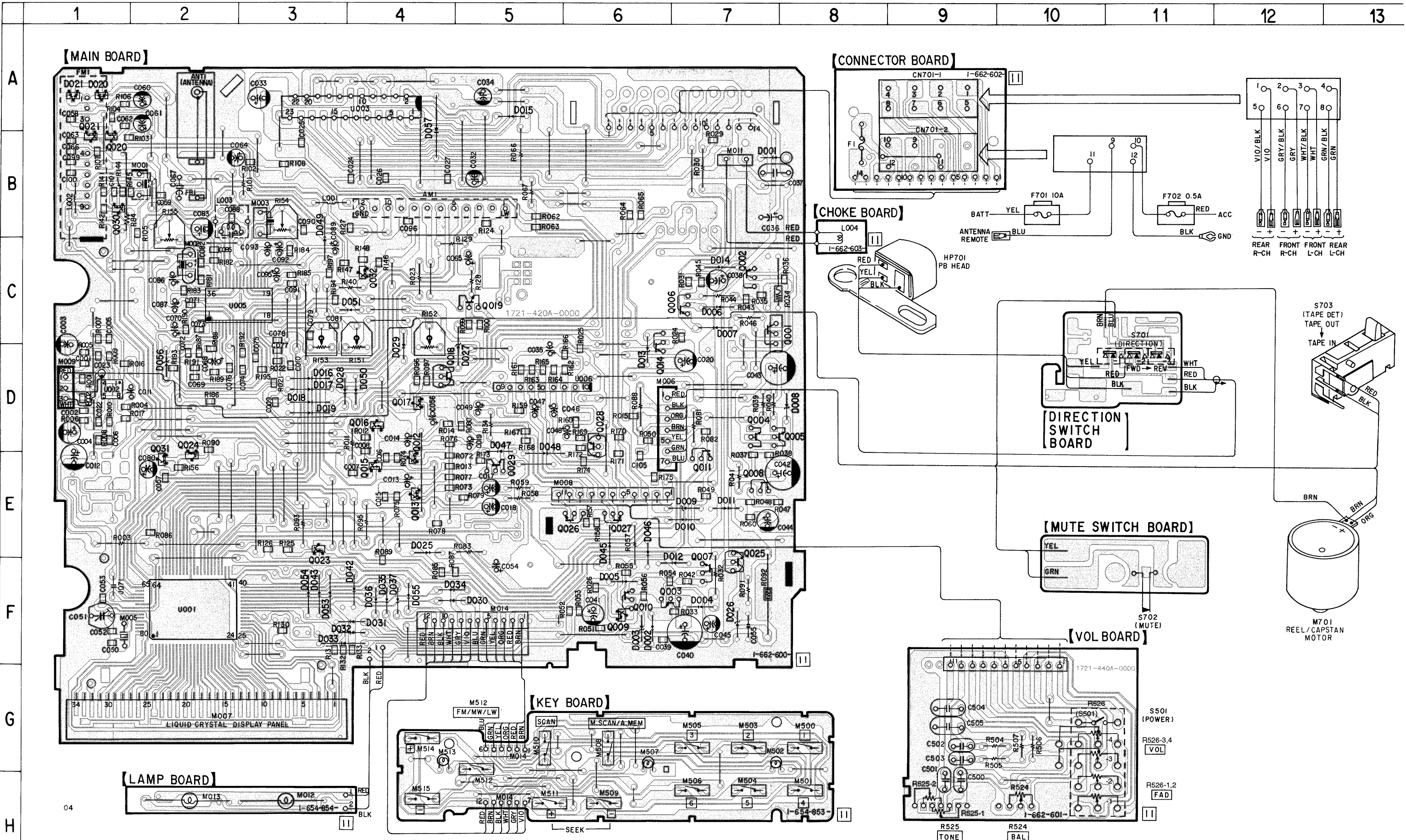
5-2. PRINTED WIRING BOARDS

● Semiconductor Location

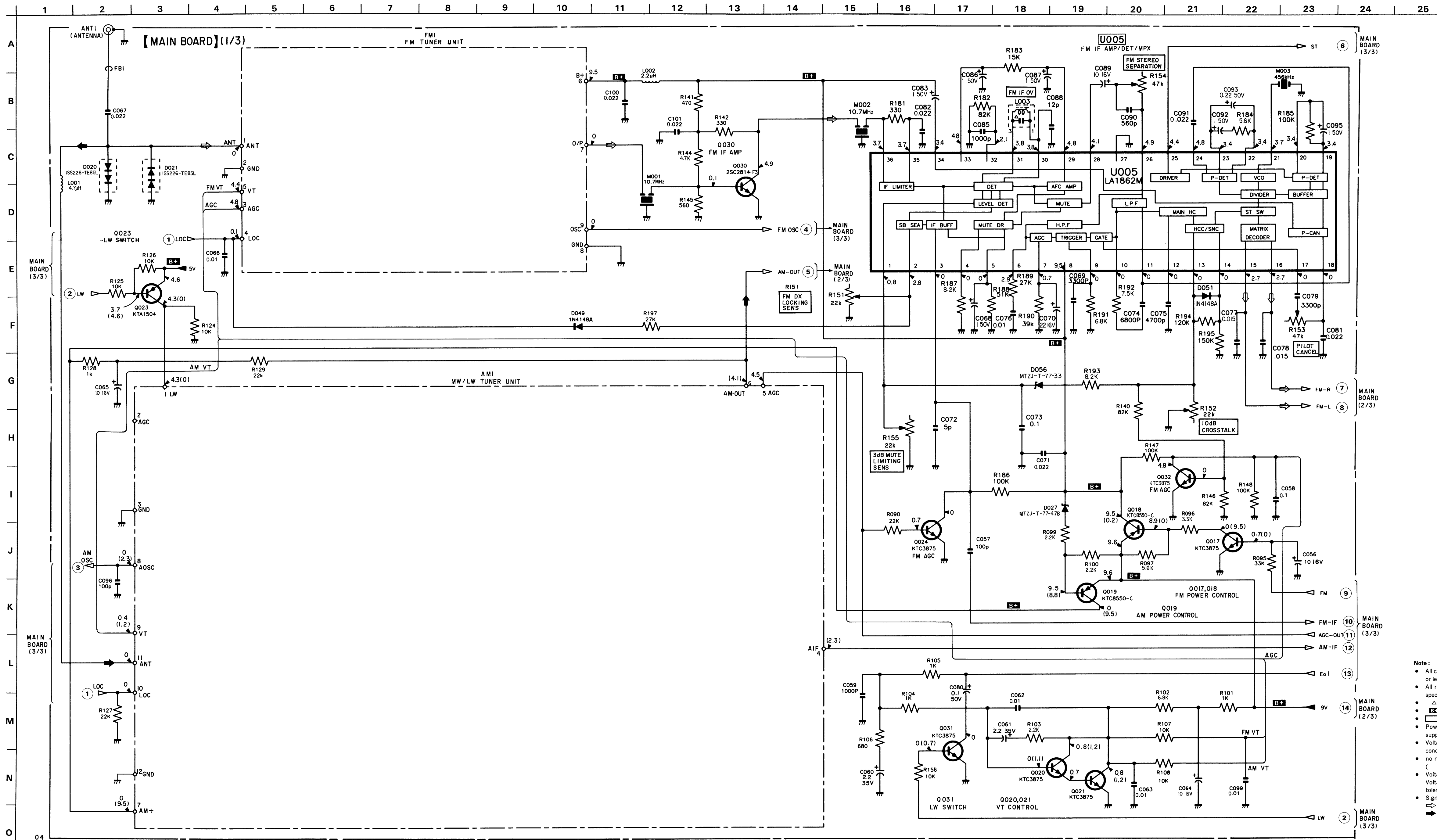
Ref. No.	Location	Ref. No.	Location
D001	B-7	D053	F-3
D002	F-6	D054	F-3
D003	F-6	D055	F-4
D004	F-7	D056	D-2
D005	F-6	D057	A-4
D006	C-7		
D007	C-7	Q001	C-7
D008	D-8	Q002	C-7
D009	E-7	Q003	F-6
D010	E-7	Q004	D-7
D011	E-7	Q005	D-7
D012	E-6	Q006	C-7
D013	D-6	Q007	F-7
D014	C-7	Q008	E-7
D015	A-5	Q009	F-6
D016	D-3	Q010	F-6
D017	D-3	Q011	E-7
D018	D-3	Q012	E-4
D019	D-3	Q013	E-4
D020	A-1	Q014	D-6
D021	A-1	Q015	E-4
D025	E-4	Q016	D-4
D026	F-7	Q017	D-4
D027	D-5	Q018	D-4
D028	D-4	Q019	C-5
D029	C-4	Q020	B-1
D030	F-5	Q021	B-1
D031	F-4	Q023	E-3
D032	F-4	Q024	E-2
D033	F-4	Q025	E-7
D034	F-5	Q026	E-6
D035	F-4	Q027	E-7
D036	F-4	Q028	D-6
D037	F-4	Q029	E-5
D042	F-4	Q030	B-1
D043	F-3	Q031	E-2
D045	E-6	Q032	C-4
D046	E-6		
D047	D-5	U001	F-2
D048	D-5	U002	D-1
D049	B-3	U003	A-4
D050	D-4	U005	C-3
D051	C-4	U006	D-5

Note :

- : parts extracted from the component side.
- : Pattern on the side which is seen.



5-3. SCHEMATIC DIAGRAM—MAIN SECTION (1/3)—

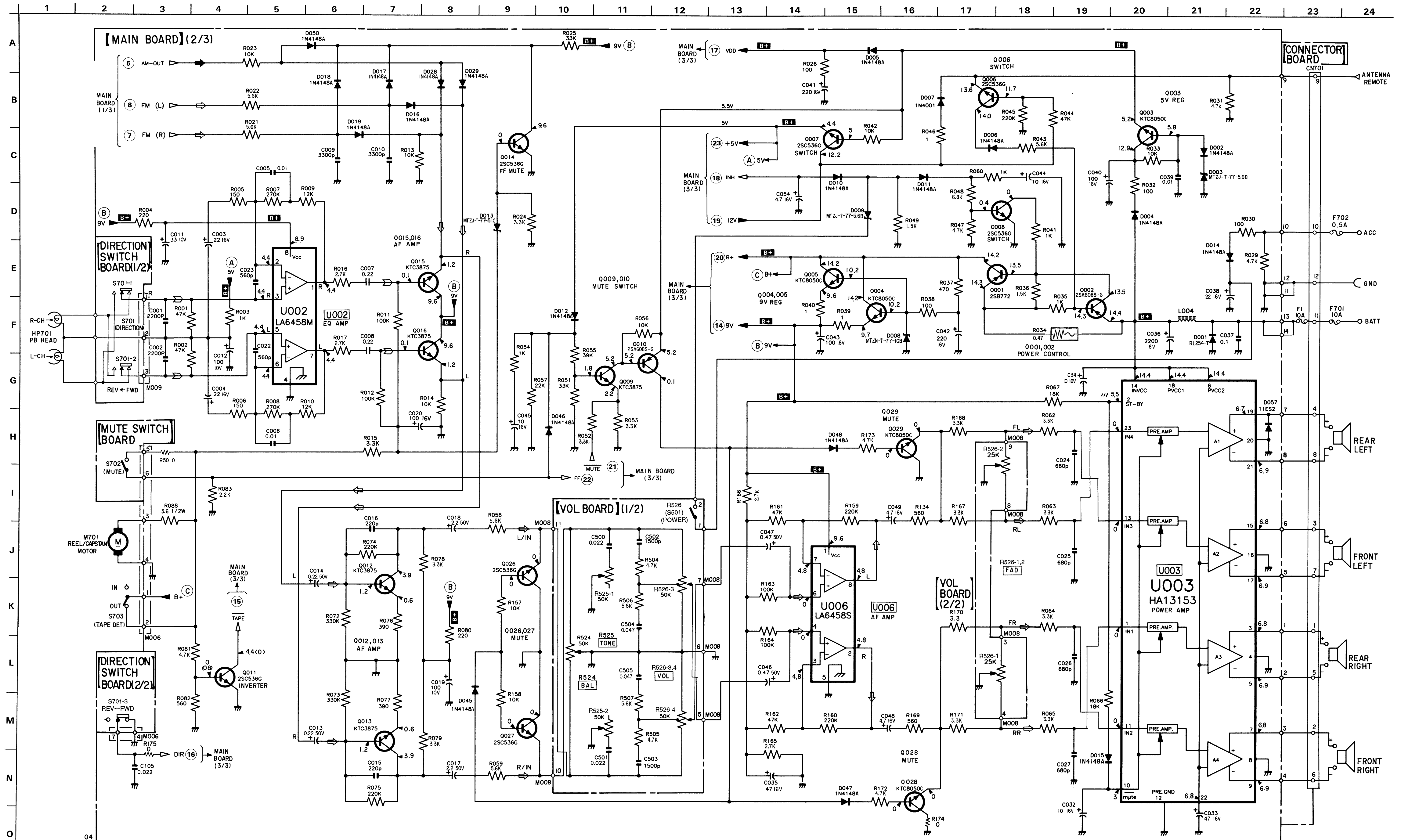


Note :

- All capacitors are in μF unless otherwise noted. $\text{pF} : \mu\text{F}$ 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- $\triangle$: internal component.
- **B+** : B + Line
-  : adjustment for repair.
- Power voltage is dc 14.4V and fed with regulated dc power supply from BATT and ACC terminals.
- Voltage is dc with respect to ground under no-signal (detuned) conditions.
- no mark : FM
- () : MW
- Voltages are taken with a VOM (Input Impedance 10M Ω). Voltage variations may be noted due to normal production tolerances.
- Signal path.
-  : FM
-  : MW

- All capacitors are in μF unless otherwise noted. $\text{pF} = \mu\text{F} \times 50\text{WV}$ or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $1/4\text{ W}$ or less unless otherwise specified.
- $\triangle$: internal component.
- **B+** : B+ Line
-  : adjustment for repair.
- Power voltage is dc 14.4V and fed with regulated dc power supply from BATT and ACC terminals.
- Voltage is dc with respect to ground under no-signal (detuned) conditions.
- no mark : FM
() : MW
- Voltages are taken with a VOM (Input Impedance 10M Ω).
- Voltage variations may be noted due to normal production tolerances.
- Signal path.
 : FM
 : MW

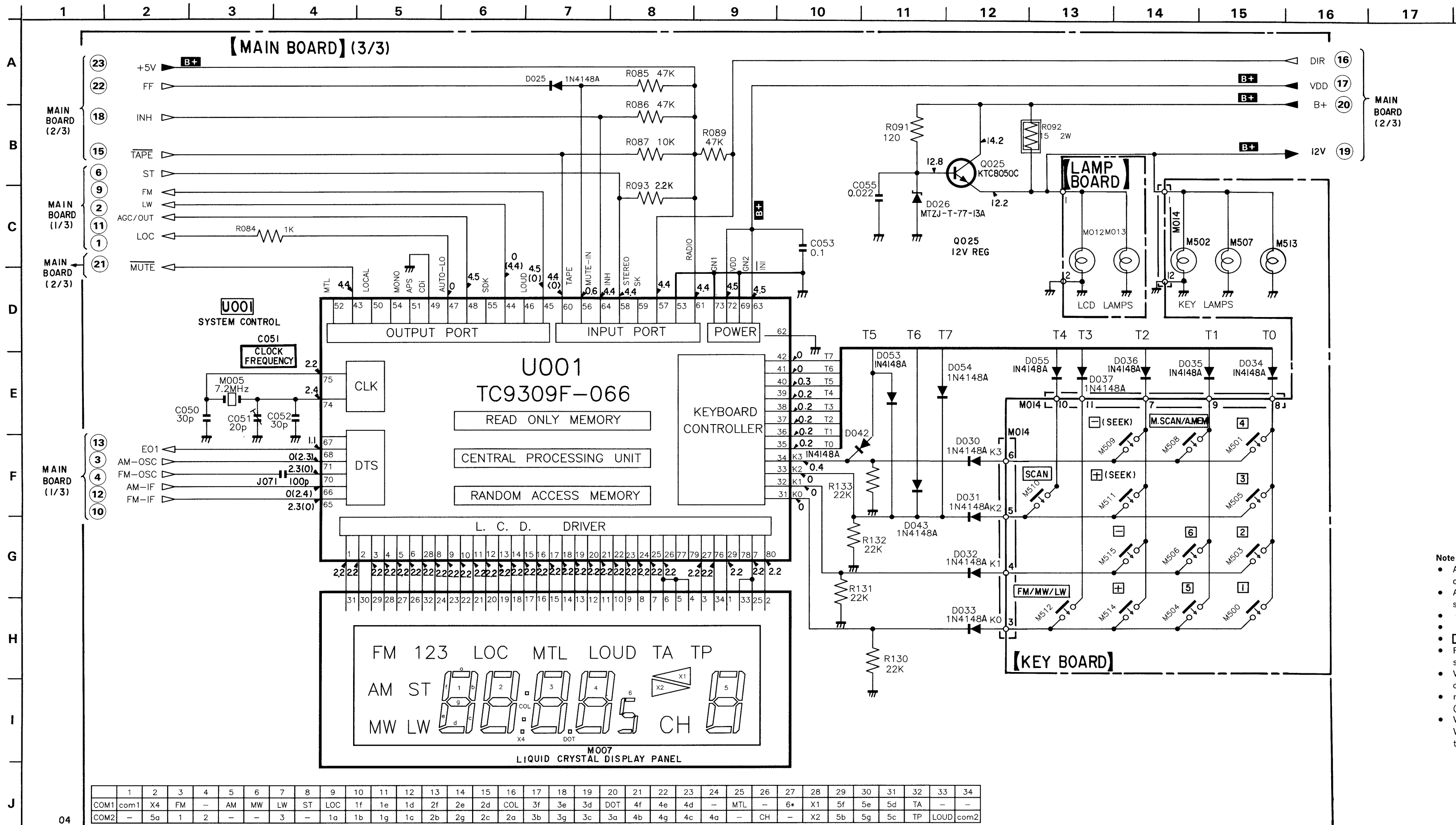
5-4. SCHEMATIC DIAGRAM—MAIN SECTION (2/3)—



Note :

- All capacitors are in μF unless otherwise noted. $\text{pF} = \mu\text{F} / 500\text{V}$ or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $1/4\text{ W}$ or less unless otherwise specified.
-  : fusible resistor.
-  : B+ Line
- Power voltage is dc 14.4V and fed with regulated dc power supply from BATT and ACC terminals.
- Voltage is dc with respect to ground under no-signal (detuned) conditions.
- no mark : FM
- < > : PB
- Voltages are taken with a VOM (Input Impedance 10M Ω).
- Voltage variations may be noted due to normal production tolerances.
- Signal path.
 -  : FM
 -  : MW
 -  : PB

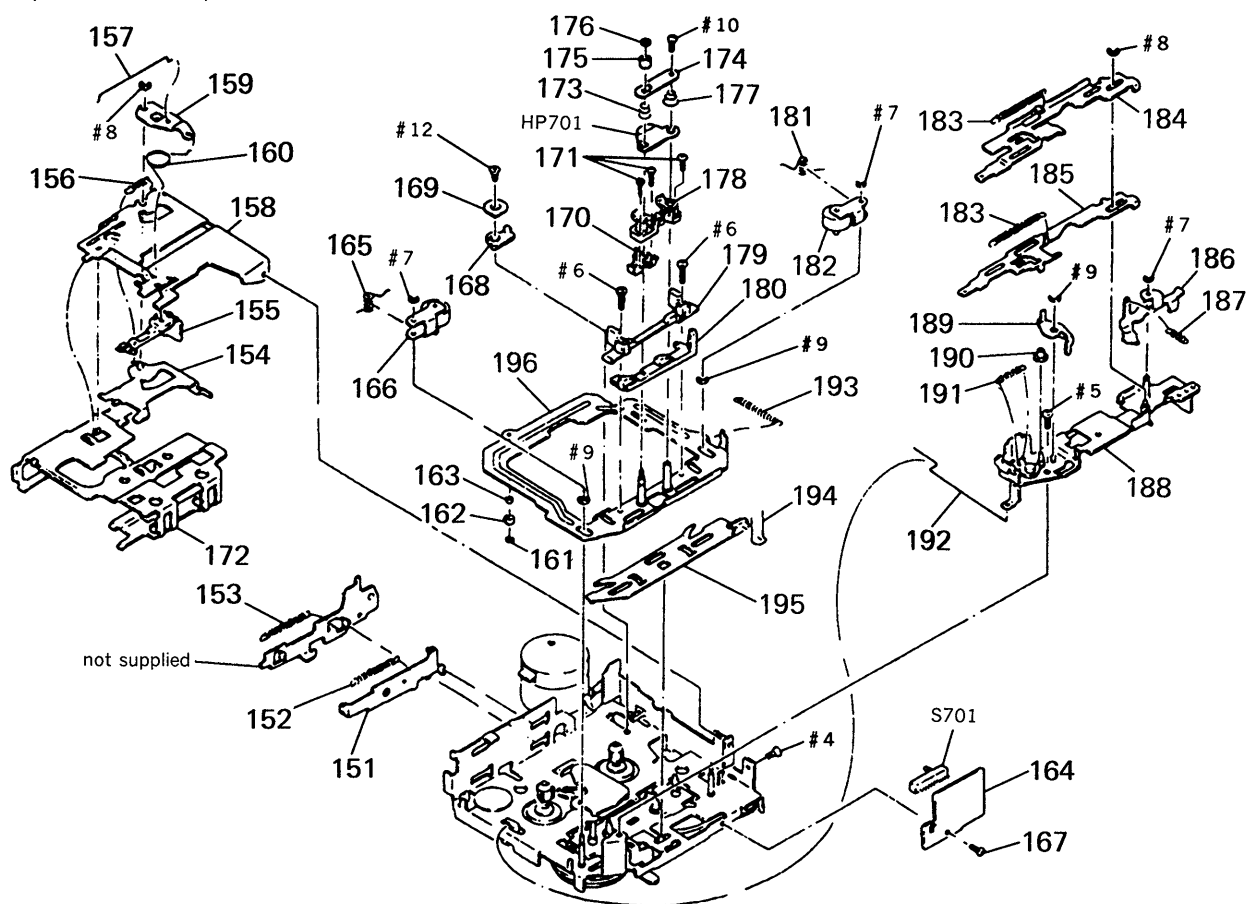
5-5. SCHEMATIC DIAGRAM—MAIN SECTION (3/3)—



Note :

- All capacitors are in μF unless otherwise noted. $pF : \mu\mu F$ 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $1/4 W$ or less unless otherwise specified.
-  : nonflammable resistor.
-  : B+ Line
-  : adjustment for repair.
- Power voltage is dc 14.4V and fed with regulated dc power supply from BATT and ACC terminals.
- Voltage is dc with respect to ground under no-signal (detuned) conditions.
- no mark : FM
() : MW
- Voltages are taken with a VOM (Input Impedance 10M Ω). Voltage variations may be noted due to normal production tolerances.

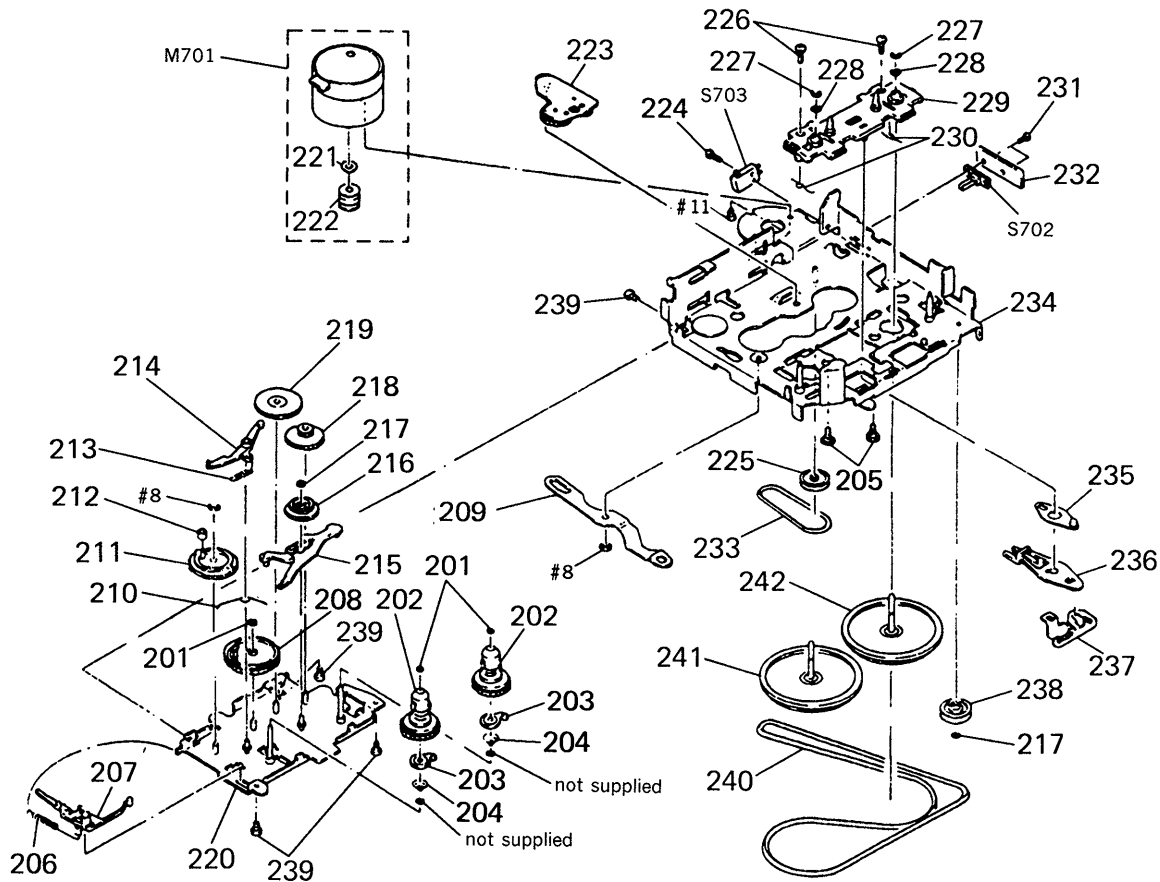
**6-4. MECHANISM DECK SECTION 1
(MG-36SHJ-32)**



Ref. No.	Part No.	Description	Remark
* 151	3-392-978-01	LEVER, EJECT	
152	3-392-950-01	SPRING	
153	3-392-951-01	SPRING	
* 154	3-392-921-01	LOCK ASSY, EJECT CAM	
155	3-392-972-01	HOOKER, TAPE	
156	3-392-953-01	SPRING	
157	3-392-969-01	LINK, RETURN	
158	3-375-383-01	HANGER (X), CASSETTE	
* 159	3-392-932-01	PLATE, CENTER	
160	3-392-961-01	SPRING (B)	
161	3-570-615-00	POLY-WASHER (DIA. 1.2)	
162	3-392-945-01	ROLLER (A), H. P	
163	3-392-942-01	ROLLER (B), H. P	
164	3-392-970-01	CHASSIS, SWITCH (DIRECTION SWITCH BOARD)	
165	3-392-958-01	SPRING (R)	
166	3-375-378-01	ARM (R) ASSY, PINCH	
* 167	4-908-792-11	SCREW (B2)	
168	3-372-244-01	ARM (N), MUTE	
* 169	3-397-427-01	COLLAR, MUTE ARM	
170	3-377-908-01	SHIM (X), ADJUSTOR	
171	3-375-379-01	SCREW, AZIMUTH	
172	3-375-384-01	HOLDER (X), CASSETTE	
173	3-392-956-01	SPRING (A)	
* 174	3-392-930-01	RETAINER, SPRING	

Ref. No.	Part No.	Description	Remark
175	3-392-943-01	ROLLER, FF	
176	3-676-387-00	POLY-SLIDER (DIA. 1.6)	
177	3-392-955-01	SPRING (A)	
* 178	3-379-142-01	ARM (B), ADJUSTOR	
179	3-392-984-02	GUIDE, TAPE	
180	3-377-909-02	LINK (X), ADJUSTOR	
181	3-392-957-01	SPRING (F)	
182	3-375-377-01	ARM (F) ASSY, PINCH	
183	3-392-948-01	SPRING	
* 184	3-392-980-01	LEVER, FF	
* 185	3-392-981-01	LEVER, REW	
* 186	3-392-935-01	ARM, LOCK	
187	3-392-917-01	SPRING	
* 188	3-372-242-01	BRACKET ASSY (D), LEVER	
* 189	3-392-933-01	LEVER (B), CHANGE	
190	3-392-994-01	ROLLER, PROGRAM	
191	3-392-954-01	SPRING	
192	3-372-243-01	LINK (B), SELECTOR	
193	3-392-952-01	SPRING	
194	3-392-962-01	SPRING	
* 195	3-392-919-01	ARM ASSY, F, R SELECTION	
* 196	3-392-975-05	PLATE ASSY (S), HEAD	
HP701	1-543-717-11	HEAD, MAGNETIC (PLAYBACK)	
S701	1-692-502-11	SWITCH, SLIDE (DIRECTION)	

**6-5. MECHANISM DECK SECTION 2
(MG-36SHJ-32)**



Ref. No.	Part No.	Description	Remark
201	3-676-387-00	POLY-SLIDER (DIA. 1.6)	
202	3-376-196-01	SPINDLE ASSY (S), REEL	
203	3-375-380-01	CAM ASSY, DETECTION	
204	3-370-619-01	SPRING, BACK TENSION	
205	3-392-918-01	SCREW, EJECT HOOK	
206	3-392-959-01	SPRING	
207	3-392-985-02	RATCHET	
208	3-392-990-01	GEAR, DETECTION	
* 209	3-392-979-01	LEVER, REVERSE	
210	3-392-960-01	SPRING	
211	3-392-987-01	GEAR, SELECTOR	
212	3-392-944-01	COLLAR (SELECTOR GEAR)	
213	3-375-131-01	SPRING, GEAR LOCK ARM	
214	3-392-989-02	ARM, GEAR LOCK	
215	3-392-986-01	ARM, SENSOR	
216	3-392-915-01	GEAR, IDLE	
217	3-570-615-00	POLY-WASHER (DIA. 1.2)	
218	3-392-936-01	GEAR (A)	
219	3-392-937-01	GEAR (B)	
* 220	3-392-976-01	BASE ASSY, REEL	
* 221	3-392-912-01	WASHER, MYLAR	
* 222	3-392-913-01	PULLEY, MOTOR	
223	3-392-916-01	ARM ASSY, TU GEAR	

Ref. No.	Part No.	Description	Remark
224	3-318-203-11	SCREW (B1. 7X6), TAPPING	
225	3-392-938-01	GEAR, PULLY	
226	3-318-204-81	SCREW (M1. 7X3), TAPPING	
227	3-590-768-00	RING (A), E	
228	3-701-437-11	POLY-SLIDER (A)	
* 229	3-375-381-01	BRACKET ASSY (X), CM	
230	3-392-963-01	SPRING (R)	
231	3-318-204-91	SCREW (M1. 7X4), TAPPING	
232	3-375-376-01	MUTE (PWB) (MUTE SWITCH BOARD)	
233	3-375-375-02	BELT (C), SUB	
* 234	3-392-974-01	CHASSIS ASSY, MAIN	
* 235	3-392-925-01	ARM (A) ASSY, F. R	
* 236	3-392-939-01	ARM, FF	
* 237	3-392-934-01	ARM (B), F. R	
238	3-392-941-01	PULLEY (A), IDLE	
* 239	4-908-792-11	SCREW (B2)	
240	3-392-967-01	BELT, MAIN	
241	3-392-995-02	FLYWHEEL ASSY (BR)	
242	3-392-926-02	FLYWHEEL ASSY (BF)	
M701	X-3365-046-1	MOTOR ASSY (REEL/CAPSTAN)	
S702	1-692-065-11	SWITCH, LEAF (MUTE)	
S703	1-554-790-21	SWITCH, POWER (TAPE DET)	