

# XR-CA400/CA410

## SERVICE MANUAL

Ver 1.2 2002.07

AEP Model  
UK Model



Photo: XR-CA400

Model Name Using Similar Mechanism	NEW
Tape Transport Mechanism Type	MG-25L-136

### SPECIFICATIONS

#### Cassette player section

Tape track	4-track 2-channel stereo
Wow and flutter	0.08 % (WRMS)
Frequency response	30 – 18,000 Hz
Signal-to-noise ratio	

#### Cassette type

TYPE II, IV	61 dB
TYPE I	58 dB

#### Tuner section

<b>FM</b>	
Tuning range	87.5 – 108.0 MHz
Aerial terminal	External aerial connector
Intermediate frequency	10.7 MHz/450 kHz
Usable sensitivity	8 dBf
Selectivity	75 dB at 400 kHz
Signal-to-noise ratio	66 dB (stereo), 72 dB (mono)
Harmonic distortion at 1 kHz	0.6 % (stereo), 0.3 % (mono)
Separation	35 dB at 1 kHz
Frequency response	30 – 15,000 Hz

#### MW/LW

Tuning range	MW: 531 – 1,602 kHz LW: 153 – 279 kHz
Aerial terminal	External aerial connector
Intermediate frequency	10.7 MHz/450 kHz
Sensitivity	MW: 30 $\mu$ V LW: 40 $\mu$ V

#### Power amplifier section

Outputs	Speaker outputs (sure seal connectors)
Speaker impedance	4 – 8 ohms
Maximum power output	50 W $\times$ 4 (at 4 ohms)

#### General

Outputs	Audio output Power aerial relay control lead Power amplifier control lead Telephone ATT control lead
Input	Telephone ATT control lead
Tone controls	Bass $\pm$ 9 dB at 100 Hz Treble $\pm$ 9 dB at 10 kHz
Power requirements	12 V DC car battery (negative earth)
Dimensions	Approx. 178 $\times$ 50 $\times$ 176 mm (w/h/d)
Mounting dimensions	Approx. 182 $\times$ 53 $\times$ 161 mm (w/h/d)
Mass	Approx. 1.2 kg
Supplied accessories	Parts for installation and connections (1 set) Front panel case (1)

*Design and specifications are subject to change without notice.*

## FM/MW/LW CASSETTE CAR STEREO

9-870-235-13  
2002G0500-1  
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**Sony Corporation**  
e Vehicle Company  
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**Notes on chip component replacement**

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

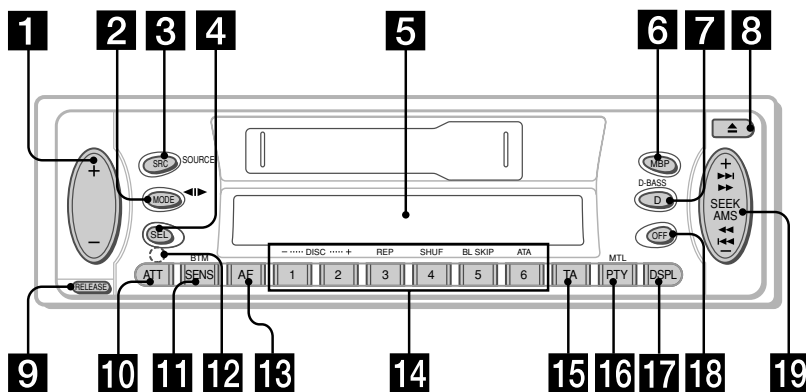
**Flexible Circuit Board Repairing**

- Keep the temperature of the soldering iron around 270 °C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

# SECTION 1 GENERAL

This section is extracted from instruction manual.

## Location of controls



Refer to the pages listed for details.

- 1** Volume +/- button 7, 13, 17
- 2** MODE (◀▶) button  
During tape playback:  
Playback direction change 7, 8  
During radio reception:  
BAND select 9  
During CD/MD playback:  
CD/MD unit select 19
- 3** SRC (SOURCE) (TUNER/TAPE/CD/MD) button 7, 9, 19
- 4** SEL (select) button 7, 15, 17, 18, 19, 20
- 5** Display window
- 6** MBP (My Best sound Position) button 19
- 7** D (D-BASS) button 18
- 8** ▲ (eject) button 7
- 9** RELEASE (front panel release) button 6, 22
- 10** ATT (attenuate) button 17
- 11** SENS/BTM button 9, 10, 13
- 12** RESET button (located on the front side of the unit behind the front panel) 6
- 13** AF button 11, 13
- 14** Number buttons 8, 9, 12, 15, 18, 20, 21  
During radio reception:  
Preset number select 9, 12  
During tape playback:  
③ REP 8  
⑤ BL SKIP 8  
⑥ ATA 8  
During CD/MD playback:  
① DISC - 20  
② DISC + 20  
③ REP 21  
④ SHUF 21
- 15** TA button 12, 13
- 16** PTY/MTL (programme type/Metal) button 8, 14
- 17** DSPL (display mode change) button 7, 10, 19, 20
- 18** OFF button\* 6, 7
- 19** SEEK/AMS +/- button 8, 9, 10, 11, 14, 20  
Seek 9  
Automatic Music Sensor 8, 20  
Manual search 10, 20

\* **Warning when installing in a car without ACC (accessory) position on the ignition key switch**  
Be sure to press (OFF) on the unit for two seconds to turn off the clock display after turning off the engine.  
When you press (OFF) momentarily, the clock display does not turn off and this causes battery wear.

## Setting the clock

The clock uses a 24-hour digital indication.

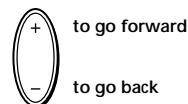
Example: To set the clock to 10:08

**1** Press (DSPL) for two seconds.



The hour indication flashes.

**1** Press either side of the volume button to set the hour.

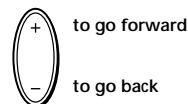


**2** Press (SEL).



The minute indication flashes.

**3** Press either side of the volume button to set the minute.

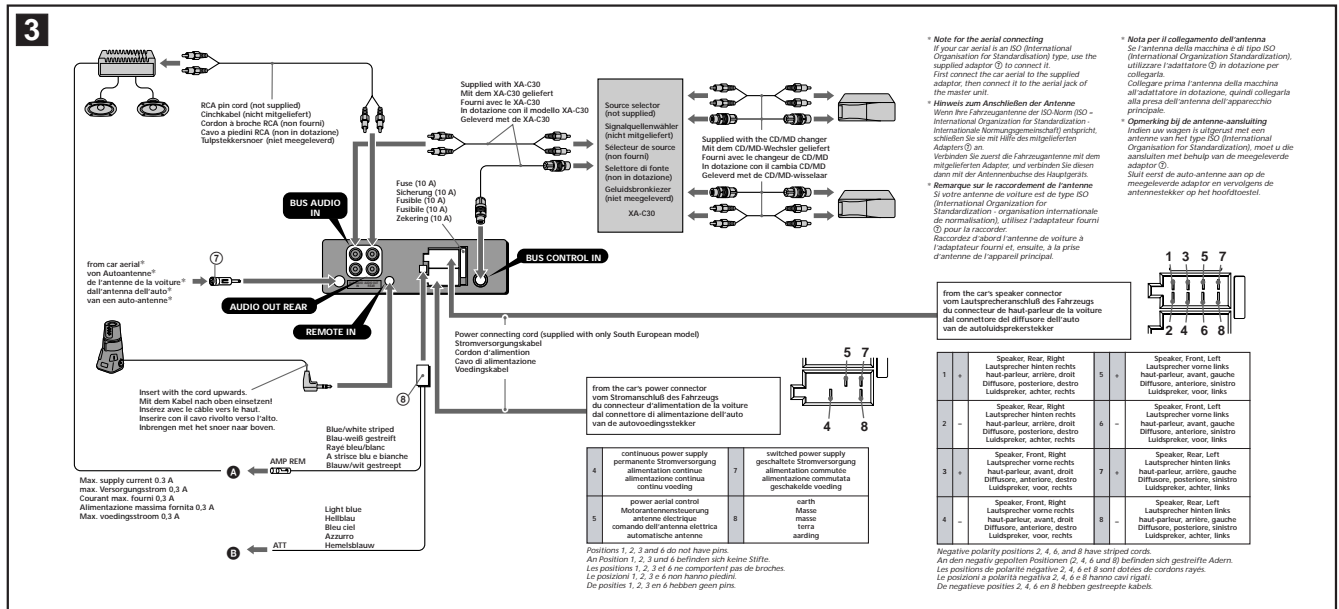
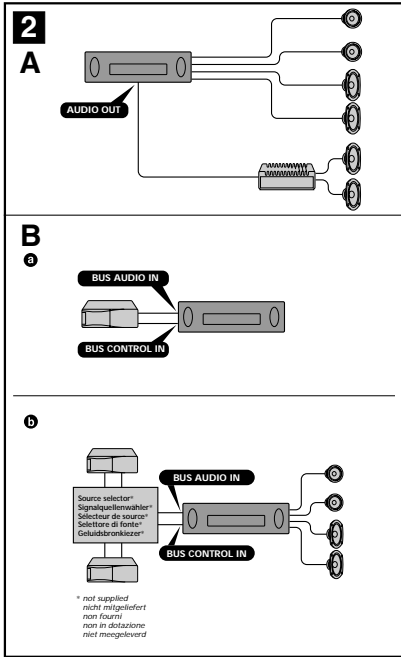


**2** Press (DSPL).



The clock starts.

After the clock setting is complete, the display returns to normal playback mode.

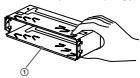


## Parts list (1)

The numbers in the list are keyed to those in the instructions.

### Caution

Handle the bracket (1) carefully to avoid injuring your fingers.



### Cautions

- This unit is designed for negative earth 12 V DC operation only.
- Do not get the wires under a screw, or caught in moving parts (e.g. seat railing).
- Before making connections, turn the car ignition off to avoid short circuits.
- Connect the power connecting cord (not supplied) to the unit and speakers before connecting it to the auxiliary power connector.
- Run all earth wires to a common earth point.
- Be sure to insulate any loose unconnected wires with electrical tape for safety.

### Notes on the power supply cord (yellow)

- When connecting this unit in combination with other stereo components, the connected car circuit's rating must be higher than the sum of each component's fuse.
- When no car fuses are rated high enough, connect the unit directly to the battery.

### Power connection

Power connectors may vary depending on the car. Check your car's power connector diagram to make sure the connections match correctly. There are two basic types. You may need to switch the positions of the jump connector. Before connecting the unit to the car's power supply, be sure to match the position of the jump connector to the car's pin order. If the power connector of your car does not match the connector on the unit, use the connector (not supplied). If you have any questions or problems concerning your unit that are not covered in this manual, please consult the car dealer.

### WARNING

Shifting the fuse Check the pin position of the power connector of the car with the table on the below. If positions 4 and 7 are reversed, remove the fuse and shift it to the lower position as shown in the illustration.



### Connection example (2)

- Be sure to connect the earth cord before connecting the amplifier.
- If you connect an optional power amplifier and do not use the built-in amplifier, the treps sound will be distorted.

Tip (2-8-0) For connecting two or more changers, the source selector XA-C30 (optional) is necessary.

### Connection diagram (3)

- To AMP REMOTE IN of an optional power amplifier. This connection is only for amplifiers. Connecting any other system may damage the unit.
- To the interface cable of a car telephone.

### Warning

If you have a power aerial without a relay box, connecting this unit with the power connecting cord (not supplied) may damage the aerial.

### Notes on the control leads

- The power aerial control lead (blue) supplies +12 V DC when you turn on the tuner or when you activate the AF (Alternative Frequency) TA (Traffic Announcement) function.
- When your car has built-in FM/AM/WLW aerial in the rear side glass, connect the power aerial control lead (blue) or the accessory power input lead (red) to the power terminal of the existing aerial booster. For details, consult your dealer.
- A power aerial without a relay box cannot be used with this unit.

### Memory hold connection

When the yellow power input lead is connected, power will always be supplied to the memory circuit even when the ignition switch is turned off.

### Notes on speaker connection

- Before connecting the speakers, turn the unit off.
- Use speakers with an impedance of 4 to 8 ohms, and with adequate power handling capacities to avoid its damage.
- Do not connect the speaker terminals to the car chassis, or connect the terminals of the right speakers with those of the left speakers.
- Do not attempt to connect the speakers in parallel.
- Connect only passive speakers. Connecting active speakers (with built-in amplifiers) to the speaker terminals may damage the unit.

### Hintweise zum Lautsprecheranschluß

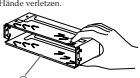
- Schalten Sie das Gerät aus, bevor Sie die Lautsprecher anschließen.
- Verwenden Sie Lautsprecher mit einer Impedanz zwischen 4 und 8 Ohm und ausreichender Belastbarkeit. Ansonsten können die Lautsprecher beschädigt werden.
- Verbinden Sie die Lautsprecheranschlüsse nicht mit dem Fahrzeugchassis, und verbinden Sie auch nicht die Anschlüsse des rechten mit denen des linken Lautspechers.
- Verbinden Sie nicht Lautsprecher parallel angeschlossen.
- An die Lautsprecheranschlüsse dieses Geräts dürfen nur Passivlautsprecher angeschlossen werden. Schließen Sie keine Aktivlautsprecher (Lautsprecher mit eingebauten Verstärkern) an, da diese sonst beschädigt werden können.

## Teilseite (1)

Die Nummern in der Liste sind diesbezüglichen in der Erläuterung.

### Sicherheitshinweis

Seien Sie beim Umgang mit der Halterung (1) vorsichtig, damit Sie sich nicht die Hände verletzen.



### Vorsicht

- Dieses Gerät ist ausschließlich für den Betrieb bei 12 V Gleichstrom (negative Erdung) bestimmt.
- Achten Sie darauf, daß die Kabel nicht unter einer Schraube oder zwischen beweglichen Teilen wie z. B. einer Sitzschiene eingeklemmt werden.
- Schalten Sie, bevor Sie irgendwelche Anschlüsse vornehmen, die Zündung des Fahrzeuges aus, um Kurzschlüsse zu vermeiden.
- Verbinden Sie das Stromversorgungskabel (nicht mitgeliefert) mit dem Gerät und den Lautsprechern, bevor Sie es mit dem Hilfstromanschluß verbinden.
- Schließen Sie alle Erdungskabel an einen gemeinsamen Massepunkt an.
- Aus Sicherheitsgründen müssen alle Lötlöt, nicht angegeschlossen Drähte mit Isolierband absolut werden.

### Hintweise zum Stromversorgungskabel (gelb)

- Wenn Sie dieses Gerät zusammen mit anderen Stereokomponenten anschließen, muß der Autostromkreis, an den die Geräte angeschlossen sind, eine höhere Leistung aufweisen als die Summe der Sicherungen der einzelnen Komponenten.
- Wenn kein Autostromkreis eine so hohe Leistung aufweist, schließen Sie das Gerät direkt an die Batterie an.

### Stromanschluß

Die Stromanschlüsse verschiedener Fahrzeuge können sich voneinander unterscheiden. Überprüfen Sie anhand des Stromanschluß-Schaltplans des Fahrzeuges, ob die Anschlüsse übereinstimmen. Es gibt zwei Grundtypen. Sie müssen möglicherweise die Position des Überbrückungsschalters umschalten. Bevor Sie das Gerät an die Stromversorgung des Fahrzeuges anschließen, stellen Sie sicher, daß die Position des Überbrückungsschalters mit der Stellung des Fahrzeuges übereinstimmt. Wenn der Stromanschluß des Fahrzeuges nicht mit dem Anschluß an Gerät übereinstimmt, verwenden Sie Anschluss (nicht mitgeliefert). Sollten beim Anschließen des Geräts Fragen oder Probleme auftreten, auf die in dieser Anleitung nicht eingegangen wird, wenden Sie sich bitte an Ihren Autohändler.

### ACHTUNG

Verzerrten der Sicherung Vergleichen Sie die Stiftposition des Stromanschlusses im Fahrzeug mit der folgenden Tabelle. Sind die Stiftpositionen 4 und 7 umgekehrt, entfernen Sie die Sicherung und bringen sie, wie in der Abbildung gezeigt, statt dessen unten an.



## Liste des composants (1)

Les numéros de l'illustration correspondent à ceux des instructions.

### Avertissement

Manipulez précautionneusement le support (1) pour éviter de vous blesser aux doigts.



### Précautions

- Cet appareil est conçu pour fonctionner sur courant continu de 12 V avec masse négative.
- Évitez de fuser des vis sur les câbles ou de coincer ceux-ci dans des pièces mobiles (par exemple, armature de siège).
- Avant d'effectuer des raccordements, éteignez le moteur pour éviter les courts-circuits.
- Branchez le cordon d'alimentation (non fourni) sur l'appareil et les haut-parleurs avant de le brancher sur le connecteur d'alimentation auxiliaire.
- Rassemblez tous les fils de terre en un point de masse commun.
- Veillez à isoler tout fil ou câble non connecté avec du ruban adhésif approprié.

### Notes sur le cordon d'alimentation (jaune)

- Lorsque cet appareil est raccordé à d'autres éléments stéréo, la valeur nominale des circuits de la voiture raccorde doit être supérieure à la somme des fusibles de chaque élément.
- Si aucun circuit de la voiture n'est assez puissant, raccordez directement l'appareil à la batterie.

### Raccordement de l'alimentation de l'alimentation

Les connecteurs d'alimentation peuvent varier suivant le modèle de la voiture. Vérifiez le diagramme du connecteur d'alimentation de votre voiture pour vérifier si les connexions correspondent. On distingue deux types de base. Il se peut que vous devez commutier les positions du cavalier. Avant de raccorder l'appareil à l'alimentation de la voiture, faites correspondre la position du cavalier à l'ordre des broches de la voiture. Si le connecteur d'alimentation de votre véhicule ne correspond pas au connecteur de l'appareil, utilisez le connecteur (non fourni). Si vous avez des questions ou des problèmes au sujet du raccordement de votre appareil qui ne sont pas abordés dans le présent mode d'emploi, consultez votre concessionnaire automobile.

### AVERTISSEMENT

Décalage du fusible Vérifiez la position des broches du connecteur d'alimentation de la voiture en consultant la table ci-dessous. Si les positions 4 et 7 sont inversées, retirez le fusible et décalez-le sur la position inférieure comme indiqué dans l'illustration.

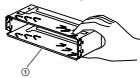


## Elenco dei componenti (1)

I numeri nella lista corrispondono a quelli riportati nelle istruzioni.

### Attenzione

Mangiare la staffa (1) con cautela per evitare di ferirsi le mani.



### Attenzione

- Questo apparecchio è stato progettato per l'uso solo a 12 V CC con massa negativa.
- Evitare che i cavi rimangano bloccati da una vite o incastrati nelle parti mobili (ad esempio nelle guide scorrevoli dei sedili).
- Prima di effettuare i collegamenti, spegnere il motore dell'automobile onde evitare di causare cortocircuiti.
- Collegare il cavo di collegamento dell'alimentazione (non in dotazione) all'apparecchio e ai diffusori prima di collegarlo al connettore di alimentazione ausiliario.
- Portare TUTTI i cavi di massa a un punto di massa comune.
- Per sicurezza, assicurarsi di isolare qualsiasi cavo non collegato mediante apposito nastro.

### Nota sul cavo di alimentazione (giallo)

- Se questo apparecchio viene collegato in combinazione con altri componenti stereo, la potenza nominale dei circuiti dell'automobile deve essere superiore a quella prodotta dalla somma dei fusibili di ciascun componente.
- Se la potenza nominale dei circuiti dell'automobile non è sufficiente, collegare l'apparecchio direttamente alla batteria.
- Se nessun circuito della vettura è abbastanza potente, collegare direttamente l'apparecchio alla batteria.

### Collegamento con l'alimentazione

I connettori di alimentazione possono essere diversi a seconda del tipo di automobile. Controllare il diagramma relativo al connettore di alimentazione della propria auto per assicurarsi che i collegamenti corrispondano perfettamente. Esistono due principali tipi di connettore di alimentazione. Potrebbe essere necessario cambiare la posizione del connettore ponticella. Prima di collegare l'apparecchio all'alimentazione dell'auto, assicurarsi di far corrispondere la posizione del connettore ponticella all'ordine dei piedini dell'auto. Se il connettore di alimentazione dell'auto non è compatibile con quello dell'apparecchio, utilizzare il connettore (non in dotazione). In caso di domande o problemi relativi al piedino dell'auto, se il connettore di alimentazione dell'auto non è compatibile con quello dell'apparecchio, utilizzare il connettore (non in dotazione). In caso di domande o problemi relativi al piedino dell'auto, se il connettore di alimentazione dell'auto non è compatibile con quello dell'apparecchio, utilizzare il connettore (non in dotazione).

### AVVERTENZA

Controllare la posizione dei piedini del connettore di alimentazione dell'auto utilizzando la tabella in basso. Se i piedini 4 e 7 sono invertiti, rimuovere il fusibile e spostarlo nella posizione più in basso come mostrato nella figura.



## Esempi di collegamento (2)

- Assicurarsi di collegare il cavo di terra prima di collegare l'apparecchio all'amplificatore.
- Se si effettua il collegamento di un amplificatore di potenza opzionale e l'amplificatore incorporato non viene utilizzato, il segnale acustico si disattiva.

Suggerimento (2-8-0) Per collegare due o più cambi CD/M, si deve utilizzare il selettore di formato XA-C30 (opzionale) che è indispensabile.

### Schema di collegamento (3)

- To AMP REMOTE IN di un amplificatore di potenza opzionale. Questo collegamento è riservato esclusivamente agli amplificatori. Non collegare un tipo di sistema diverso onde evitare di causare danni all'apparecchio.
- Al cavo interfaccia di un telefono per auto.

### Avvertenza

Quando si collega l'apparecchio con il cavo di alimentazione (non in dotazione), si potrebbe danneggiare l'antenna elettrica se questa non dispone di scudo a rete.

### Nota sui cavi di controllo

- Il cavo (blu) di controllo dell'antenna elettrica fornisce l'alimentazione pari a 12 V CC quando si attiva il sintonizzatore o la funzione TA (Prestazioni sul traffico) AF (Frequenza alternativa).
- Se l'automobile è dotata di antenna FM/AM/WLW incorporata nel vetro posteriore laterale, collegare il cavo (blu) di controllo dell'antenna elettrica al cavo (rosso) di ingresso dell'antenna; quando al terminale di alimentazione del preamplificatore dell'antenna esistente. Per ulteriori informazioni, consultare il proprio fornitore.
- Non è possibile utilizzare un'antenna elettrica senza scatola a rete con questo apparecchio.

### Collegamento per la conservazione della memoria

Quando il cavo di ingresso alimentazione giallo è collegato, viene sempre fornita alimentazione al circuito di memoria anche quando la chiavetta di accensione è spenta.

### Nota sul collegamento dei diffusori

- Prima di collegare i diffusori spegnere l'apparecchio.
- Utilizzare diffusori di impedenza compresa tra 4 e 8 ohm e con capacità di potenza adeguata, altrimenti i diffusori potrebbero venire danneggiati.
- Non collegare i terminali del sistema diffusori al telaio dell'auto o non collegare i terminali del sistema diffusori a quelli del diffusore sinistro.
- Non collegare i diffusori in parallelo.
- Non collegare alcun diffusore attivo (con amplificatore incorporato) ai terminali dei diffusori dell'apparecchio perché si potrebbero danneggiare le incisioni. Assicurarsi di collegare i diffusori passivi a questi terminali.

## Onderdelenlijst (1)

De nummers in de afbeelding verwijzen naar die in de montage-aanwijzingen.

### Opgelst

Houd de beugel (1) voorzichtig vast zodat u uw vingers niet verwondt.



### Let op!

- Dit apparaat is ontworpen voor gebruik op gelijkstroom van een 12 Vbts auto-accu, negatief geaard.
- Zorg ervoor dat de draden niet onder een schroef of tussen bewegende onderdelen (bv. v. trietariaal) terechtkomen.
- Alvorens aansluitingen te verrichten moet het contact afzetten om kortsluiting te vermijden.
- Sluit het netstroom (niet meegeleverd) aan op het toestel en de luidsprekers voorafbaar u het op de hulpvoeding aansluiting aansluit.
- Sluit alle aarddraden op een gemeenschappelijk aardpunt aan.
- Voorzie niet aangesloten draden om veiligheidsredenen altijd van isolatietape.

### Opmerkingen bij de voedingskabel (geel)

- Wanneer dit apparaat samen met andere componenten, moet het vermogen van de aangesloten autoaantroomkring groter zijn dan de som van de de zekeringen van elke component afzonderlijk.
- Wanneer het vermogen ontoereikend is, moet u het toestel rechtstreeks aansluiten op de batterij.

### Voedingsaansluiting

Voedingsstekkers kunnen verschillen van auto tot auto. Controleer het voedingschema van uw auto om na te gaan de aansluitingen kloppen. Er zijn twee basistypen. Eventueel moeten de posities van de jumpkroonpoten overeenkomen met de pinvolgorde. Gebruik stekker (niet meegeleverd) indien de voedingsstekker van uw auto niet past op de stekker van het toestel. Voor alle vragen en problemen in verband met het toestel kunt u terecht bij uw autohändler.

### WAARSCHUWING

Vergelijken de pinposities van de voedingsstekker in de auto met de onderstaande tabel. Als de posities 4 en 7 omgekeerd zijn, moet u de zekering verwijderen en deze in de onderste positie aanbrengen zoals aangegeven in de afbeelding.



## Voorbereidingsaansluitingen (2)

- Sluit eerst de massa-kabel aan alvorens de versterker aan te sluiten.
- Wanneer u een los verkrijgbare vermogensterker aansluit en de ingebouwde versterker niet gebruikt, wordt de pieptoon uitgeschakeld.

Tip (2-8-0) Om fase van een CD/M-wisselaar aan te sluiten, hebt u de geluidskontrole XA-C30 (optioneel) nodig.

### Aansluitschema (3)

- To AMP REMOTE IN van een los verkrijgbare vermogensterker. Deze aansluiting is alleen bedoeld voor versterkers. Door een andere interface-moer te sluiten kan het toestel worden beschadigd.
- Naar het interface-moer van een auto-telefoon.

### Opgelst

Indien u beschikt over een elektrische antenne zonder relaiskast, kan de antenne worden beschadigd wanneer u dit toestel aansluit met behulp van de voedingskabel (niet meegeleverd).

### Opmerking betreffende de aansluitingen

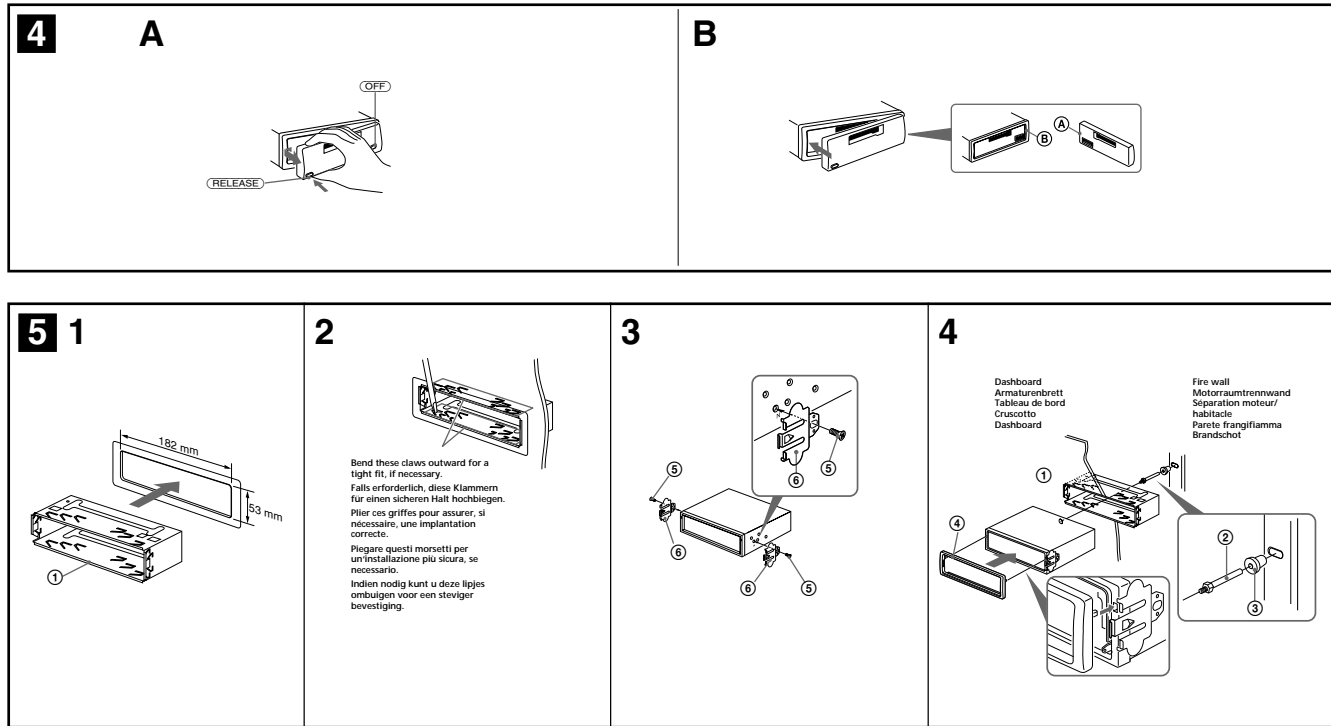
- De antennevoeding (blauw) levert +12 V gelijkstroom wanneer u de tuner aansluit of de AF (Alternative Frequency), TA (Traffic Announcement) functie activeert.
- Wanneer uw auto is uitgerust met een FM/AM/WLW antenne in de achterruit, moet u de antennevoeding (blauw) of de hulpvoeding (rood) aansluiten op de voedingsgang van de bestaande antenneversterker. Raadpleeg uw dealer voor meer details.
- Met dit apparaat is het niet mogelijk een autoantenne zonder relaiskast te gebruiken.

### Instaanhouden van het geheugen

Zolang de gele voedingskabel is aangesloten, blijft de stroomvoeding van het geheugen intact, ook wanneer het contact van de auto wordt uitgeschakeld.

### Opmerkingen betreffende het aansluiten van de luidsprekers

- Zorg dat het apparaat is uitgeschakeld, alvorens de luidsprekers aan te sluiten.
- Gebruik luidsprekers met een impedantie van 4 tot 8 Ohm en let op dat het vermogen van de versterker kunnen verwerken. Als de luidsprekers niet geschikt zijn, kunnen de luidsprekers ernstig beschadigd raken.
- Verbind in geen geval de aansluitingen van de luidsprekers met het chassis van de auto en sluit de aansluitingen van de rechter en linker luidspreker niet op elkaar aan.
- Probeer nooit de luidsprekers parallel aan te sluiten.
- Sluit geen actieve luidsprekers (met ingebouwde versterker) aan op de luidspreker-aansluiting van dit apparaat. Dit zal leiden tot beschadiging van het toestel. Sluit dus altijd uitsluitend luidsprekers zonder ingebouwde versterker aan.



## Precautions

- Choose the installation location carefully so that the unit will not interfere with normal driving operations.
- Avoid installing the unit in areas subject to dust, dirt, excessive vibration, or high temperature, such as in direct sunlight or near heater ducts.
- Use only the supplied mounting hardware for a safe and secure installation.

### Mounting angle adjustment

Adjust the mounting angle to less than 20°.

## How to detach and attach the front panel ( 4 )

Before installing the unit, detach the front panel.

- 4 A To detach**  
Before detaching the front panel, be sure to press (OFF). Press (RELEASE), then slide the front panel a little to the left, and pull it off towards you.

- 4 B To attach**  
Attach part (A) of the front panel to part (B) of the unit as illustrated and push the left side into position until it clicks.

## Mounting example ( 5 )

Installation in the dashboard

## Warning when installing in a car without ACC (accessory) position on the ignition key switch

Be sure to press (OFF) on the unit for two seconds to turn off the clock display after turning off the engine.

When you press (OFF) only momentarily, the clock display does not turn off and this causes battery wear.

## RESET button

When the installation and connections are completed, be sure to press the RESET button with a ball-point pen, etc.



## Vorsichtsnahmen

- Wählen Sie den Einbauplatz sorgfältig so aus, daß das Gerät beim Fahren nicht hinderlich ist.
- Bauen Sie das Gerät so ein, daß es keinen hohen Temperaturen (keinem direkten Sonnenlicht, keiner Warmluft von der Heizung), keinem Staub, keinem Schmutz und keinen starken Vibrationen ausgesetzt ist.
- Für eine sichere Befestigung verwenden Sie stets nur die mitgelieferten Montageteile.

### Hinweis zum Montagewinkel

Das Gerät sollte in einem Winkel von weniger als 20° montiert werden.

## Abnehmen und Anbringen der Frontplatte ( 4 )

Nehmen Sie die Frontplatte vor dem Einbau des Geräts ab.

- 4 A Abnehmen**  
Schalten Sie das Gerät vor dem Abnehmen der Frontplatte unbedingt mit (OFF) aus. Drücken Sie (RELEASE), schieben Sie anschließend die Frontplatte ein wenig nach links, und ziehen Sie sie auf sich zu heraus.

- 4 B Anbringen**  
Setzen Sie Teil (A) der Frontplatte wie in der Abbildung dargestellt an Teil (B) des Geräts an, und drücken Sie die linke Seite der Frontplatte an, bis sie mit einem Klicken einrastet.

## Montagebeispiel ( 5 )

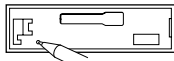
Installation im Armaturenbrett

## Warnhinweis zur Installation des Geräts in einem Auto mit Zündschloß ohne Zubehörposition ACC oder I

Drücken Sie am Gerät unbedingt zwei Sekunden lang (OFF), um die Uhrzeitanzeige auszuschalten, nachdem Sie den Motor ausgeschaltet haben. Wenn Sie (OFF) nur kurz drücken, wird die Uhrzeitanzeige nicht ausgeschaltet, und der Autobatterie wird Strom entzogen.

## Taste RESET

Nach der Installation und dem Anschluß muß die Taste RESET mit einem Kugelschreiber o. ä. gedrückt werden.



## Pr cautions

- Choisir soigneusement l'emplacement de l'installation afin que l'appareil ne gêne pas la conduite normale du véhicule.
- Éviter d'installer l'appareil dans un endroit exposé à des températures élevées, comme en plein soleil ou à proximité d'une bouche d'air chaud, ou à de la poussière, saleté ou vibrations violentes.
- Pour garantir un montage sûr, n'utiliser que le matériel fourni.

### Règle de l'angle de montage

Ajuster l'inclinaison à un angle inférieur à 20°.

## Retrait et pose de la façade ( 4 )

Avant d'installer l'appareil, déposer la façade.

- 4 A Pour la retirer**  
Avant de déposer la façade, ne pas oublier d'appuyer sur (OFF). Appuyer ensuite sur (RELEASE), puis faire glisser la façade légèrement vers la gauche et enlever la façade en tirant à soi.

- 4 B Pour la fixer**  
Fixez la partie (A) de la façade sur la partie (B) de l'appareil, comme indiqué sur l'illustration, puis appuyez sur le côté gauche jusqu'à déclick.

## Exemple de montage ( 5 )

Installation dans le tableau de bord

## Avvertimento in caso d'installazione in una vettura dove il contatto non comporta posizione ACC (accessories)

Apprezzer sulla touche (OFF) de l'appareil pendant deux secondes pour désactiver l'affichage de l'horloge après avoir coupé le moteur. Si vous n'appuyez que brièvement sur (OFF), l'affichage de l'horloge ne disparaît pas, ce qui provoque la décharge de la batterie.

## Touche RESET

Quand l'installation et les raccordements sont terminés, appuyez sur la touche RESET avec un stylo à bille, etc.



## Precauzioni

- Scegliere con attenzione la posizione per l'installazione in modo che l'apparecchio non interferisca con le operazioni di guida del conducente.
- Evitare di installare l'apparecchio dove sia soggetto ad alte temperature, come alla luce solare diretta o al getto di aria calda dell'impianto di riscaldamento, o dove possa essere soggetto a polvere, sporcizia e vibrazioni eccessive.
- Utilizzare solo il materiale di montaggio in dotazione per un'installazione stabile e sicura.

### Regolazione dell'angolo di montaggio

Regolare l'angolo di montaggio in modo che sia inferiore a 20°.

## Come rimuovere e reinserire il pannello anteriore ( 4 )

Prima di installare l'apparecchio rimuovere il pannello anteriore.

- 4 A Per rimuoverlo**  
Prima di rimuovere il pannello anteriore, premere (OFF). Premere (RELEASE), quindi far scorrere leggermente il pannello anteriore verso sinistra e tirarlo verso di sé.

- 4 B Per reinserirlo**  
Applicare la parte (A) del pannello anteriore alla parte (B) dell'apparecchio come mostrato nell'illustrazione e premere il lato sinistro fino a sentire uno scatto.

## Esempio di montaggio ( 5 )

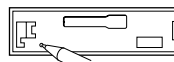
Installazione nel cruscotto

## Informazioni importanti per quando si effettua l'installazione su un'auto sprovvista della posizione ACC sul interruttore di accensione

Assicurarsi di premere (OFF) sull'apparecchio per due secondi per spegnere il display dell'orologio dopo che il motore è stato spento. Se si preme (OFF) solo per un attimo, il display dell'orologio non si spegne causando in questo modo lo scaricamento della batteria.

## Tasto RESET

Dopo avere terminato l'installazione e i collegamenti, assicurarsi di premere il tasto RESET con la punta di una penna a sfera, o simile.



## Voorzorgsmaatregelen

- Kies de installatieplaats zorgvuldig zodat het toestel de bestuurder niet hindert tijdens het rijden.
- Installeer het apparaat niet op plaatsen waar het blootgesteld wordt aan hoge temperaturen, b.v. in direct zonlicht of bij de warme luchtstroom van de autoverwarming, aan sterke trillingen, of waar het in contact komt met veel stof of vuil.
- Gebruik voor het veilig en stevig monteren van het apparaat uitsluitend de bijgeleverde montageonderdelen.

### Maximale montagehoek

Installeer het apparaat nooit onder een hoek van meer dan 20° met het horizontale vlak.

## Verwijderen en bevestigen van het afneembare voorpaneel ( 4 )

Verwijder, alvorens met het installeren te beginnen, het afneembare voorpaneel.

- 4 A Verwijderen**  
Vergeet niet, voordat u het voorpaneel verwijdert, eerst op (OFF) te drukken. Druk vervolgens op de (RELEASE) toets, schuif het voorpaneel iets naar links en trek het naar u toe.

- 4 B Bevestigen**  
Breng deel (A) van het voorpaneel aan op deel (B) van het apparaat zoals afgebeeld en druk op de linkerzijde tot deze vastklikt.

## Montagevoorbeeld ( 5 )

Montage in het dashboard

## Opgelet bij het monteren in een auto waarvan het contactslot geen ACC (accessory) stand heeft

Druk (OFF) op het toestel gedurende twee seconden in om de klokweergave uit te schakelen na het afzetten van de motor. Indien u slechts even op (OFF) drukt, verdwijnt de tijdsindicatie niet waardoor de batterij uitgeput raakt.

## RESET-toets

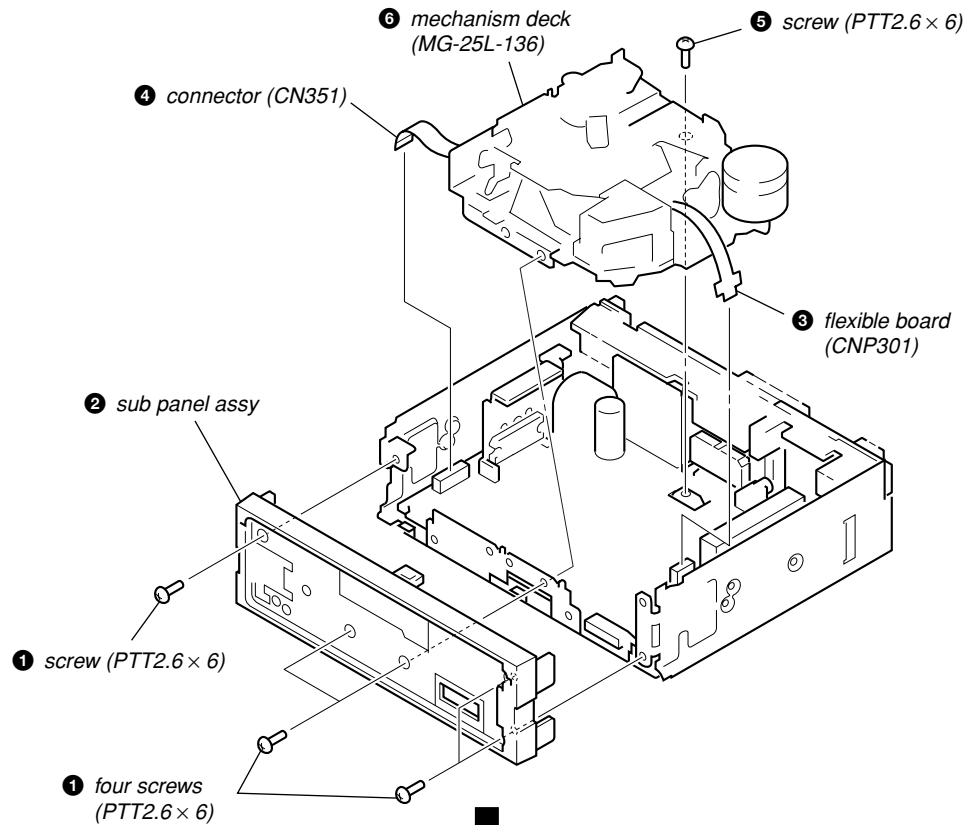
Druk, nadat u het apparaat heeft geïnstalleerd en de aansluitingen heeft gemaakt, met een balpen of een ander puntig voorwerp op de RESET-toets.



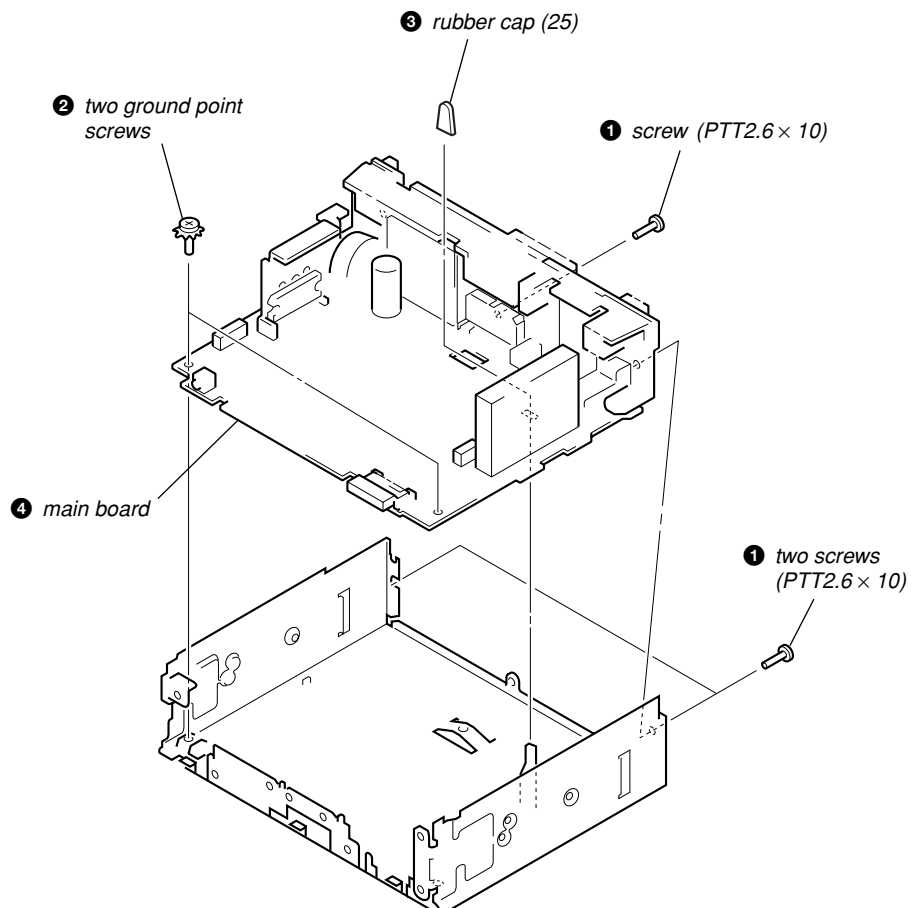
## SECTION 2 DISASSEMBLY

**Note:** Follow the disassembly procedure in the numerical order given.

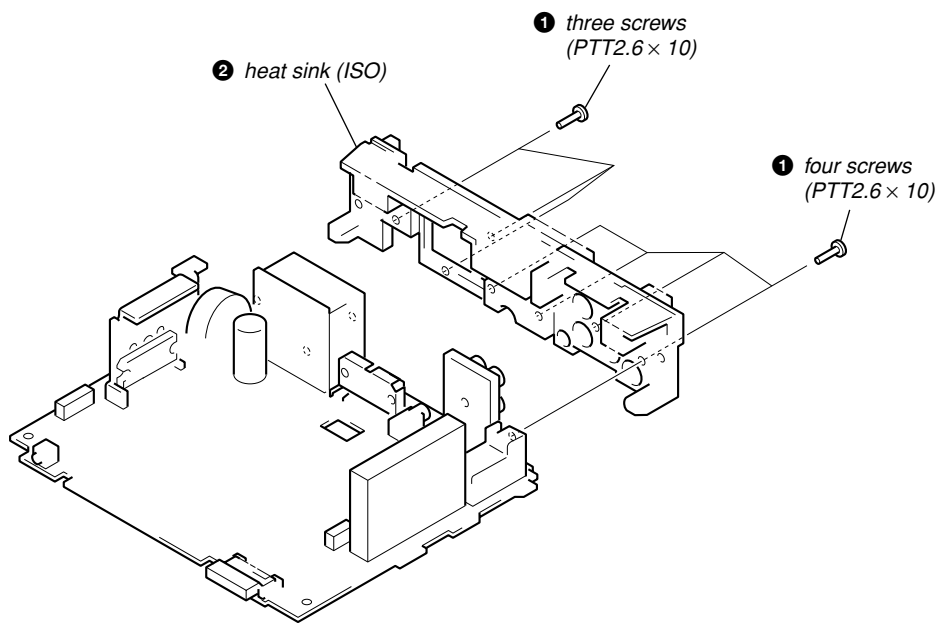
### MECHANISM DECK (MG-25L-136)



### MAIN BOARD



HEAT SINK (ISO)

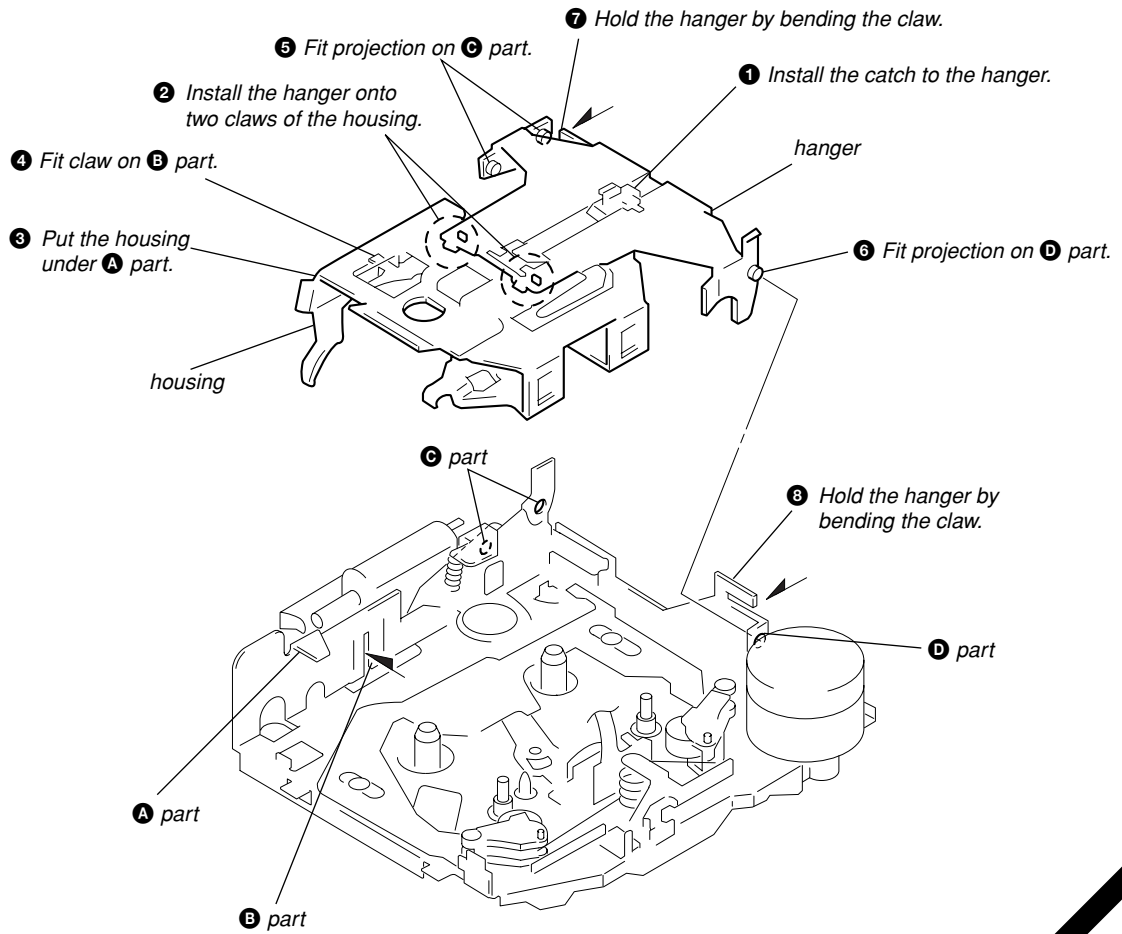




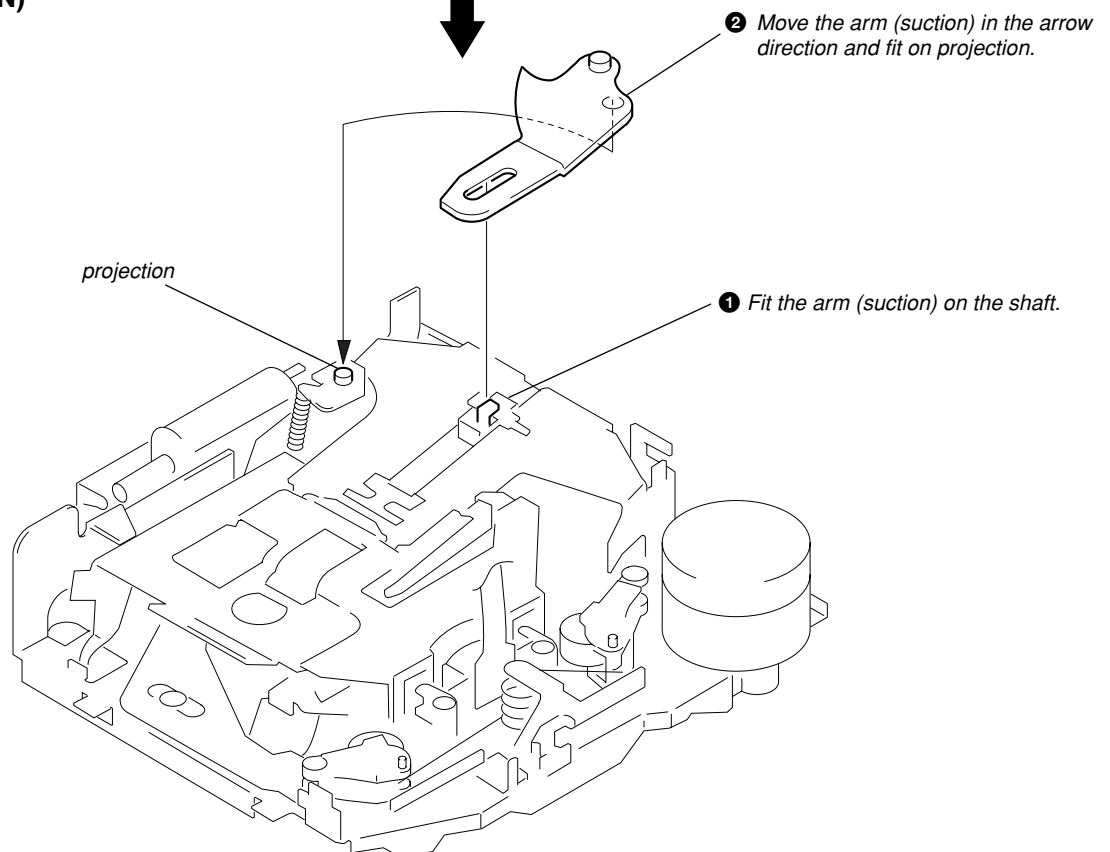
## SECTION 3 ASSEMBLY OF MECHANISM DECK

**Note:** Follow the assembly procedure in the numerical order given.

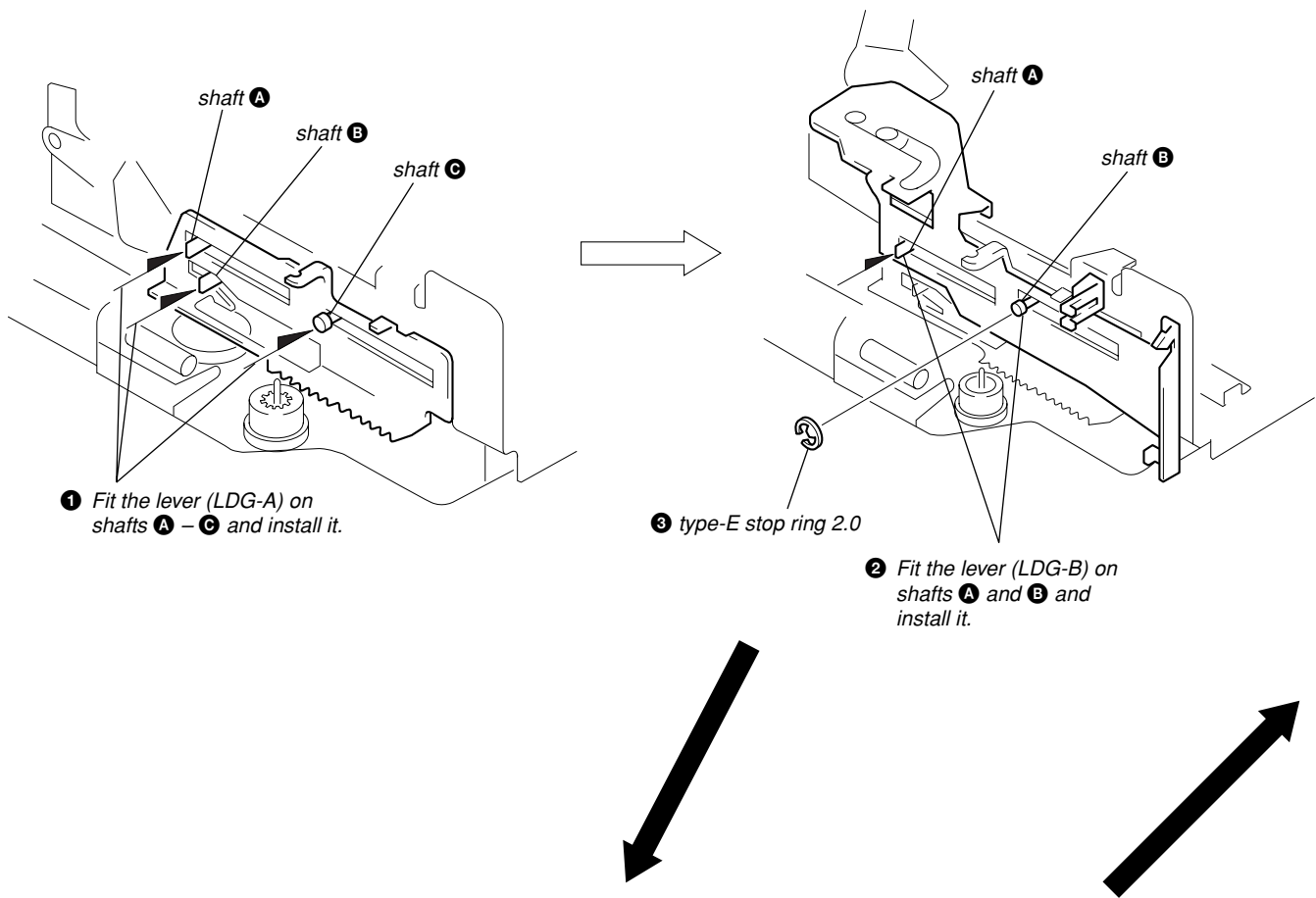
### HOUSING



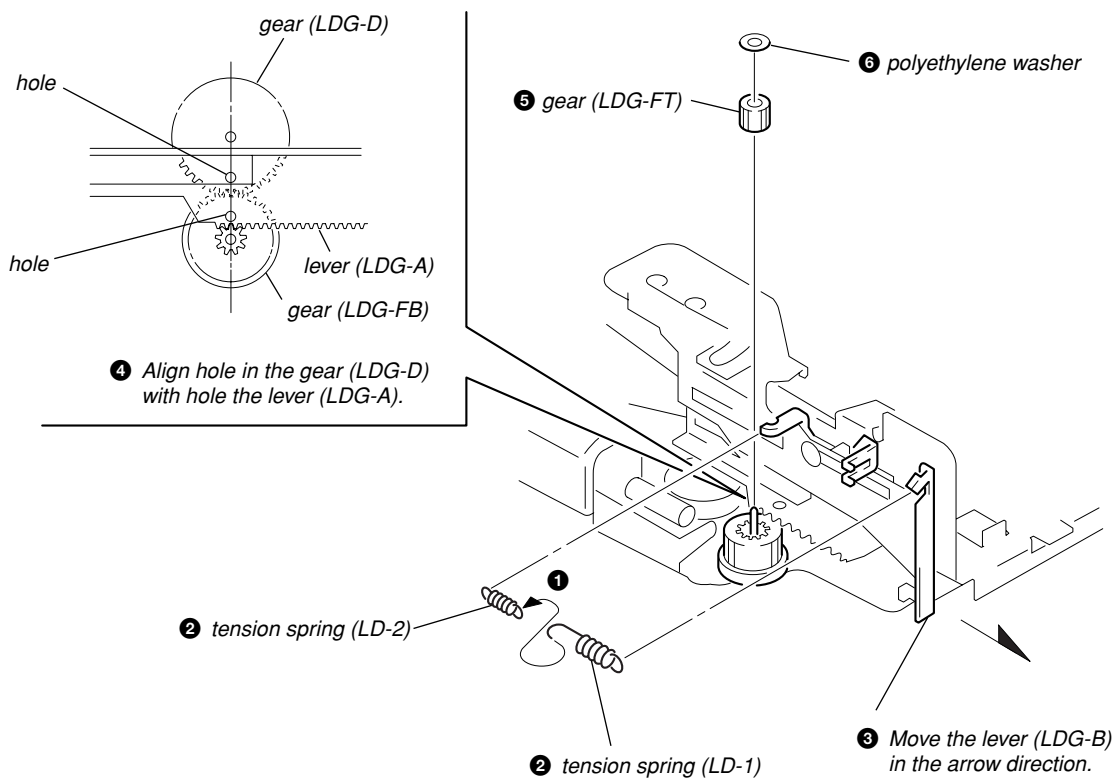
### ARM (SUCTION)



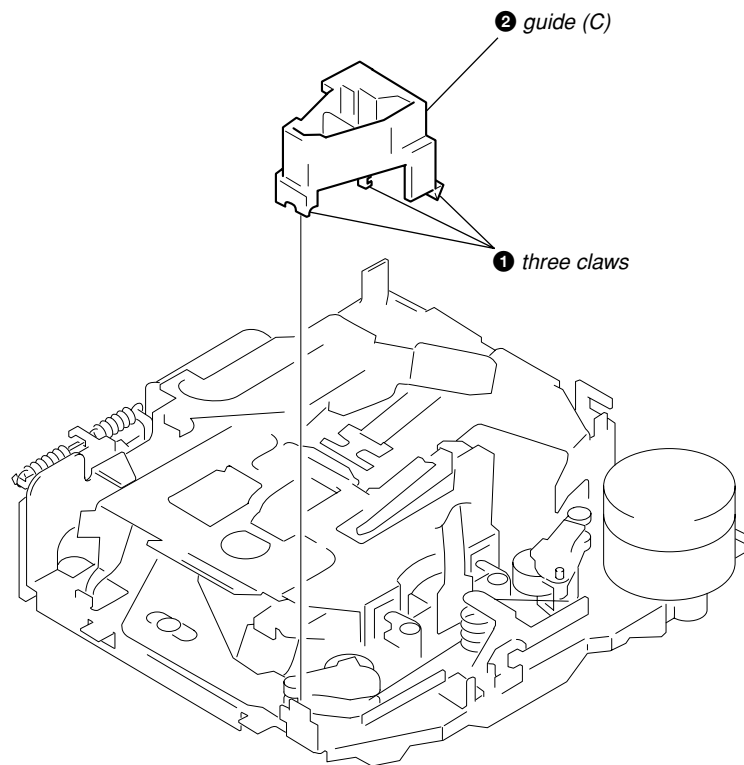
LEVER (LDG-A) / (LDG-B)



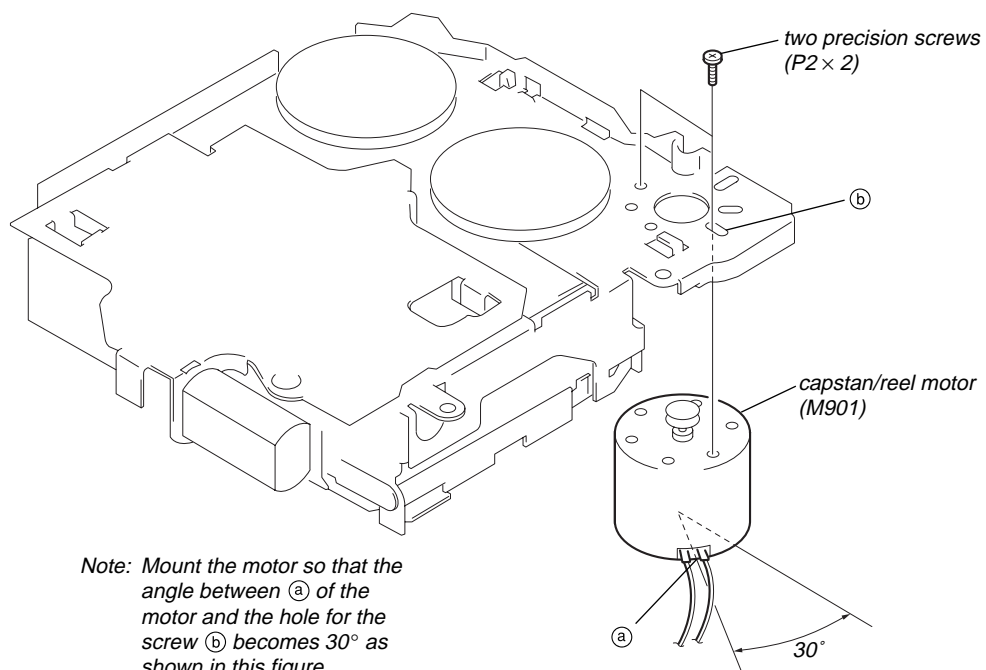
GEAR (LDG-FT)



## GUIDE (C)



## MOUNTING POSITION OF CAPSTAN/REEL MOTOR (M901)



## SECTION 4 MECHANICAL ADJUSTMENTS

1. Clean the following parts with a denatured-alcohol-moistened swab:
  - playback head      pinch roller
  - rubber belt        capstan
  - idler
2. Demagnetize the playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. The adjustments should be performed with the power supply voltage (14.4 V) unless otherwise noted.

### • Torque Measurement

Mode	Torque Meter	Meter Reading
Forward	CQ-102C	2.95 – 6.37 mN•m (30 – 65 g•cm) (0.42 – 0.90 oz•inch)
Forward Back Tension	CQ-102C	0.05 – 0.44 mN•m (0.5 – 4.5g•cm) (0.01 – 0.06 oz•inch)
Reverse	CQ-102RC	2.95 – 6.37 mN•m (30 – 65 g•cm) (0.42 – 0.90 oz•inch)
Reverse Back Tension	CQ-102RC	0.05 – 0.44 mN•m (0.5 – 4.5g•cm) (0.01 – 0.06 oz•inch)
FF, REW	CQ-201B	5.89 – 19.61 mN•m (60 – 200 g•cm) (0.83 – 2.78 oz•inch)

### • Tape Tension Measurement

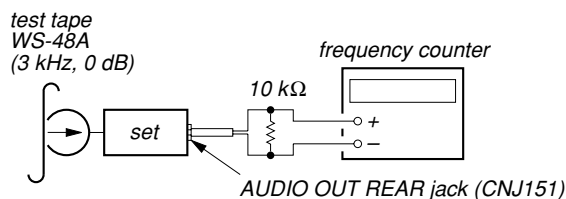
Mode	Tension Meter	Meter Reading
Forward	CQ-403A	more than 60 g (more than 2.12 oz)
Reverse	CQ-403R	more than 60 g (more than 2.12 oz)

## SECTION 5 ELECTRICAL ADJUSTMENTS

### TAPE DECK SECTION

0 dB=0.775 V

#### Tape Speed Adjustment Setting:



#### Procedure:

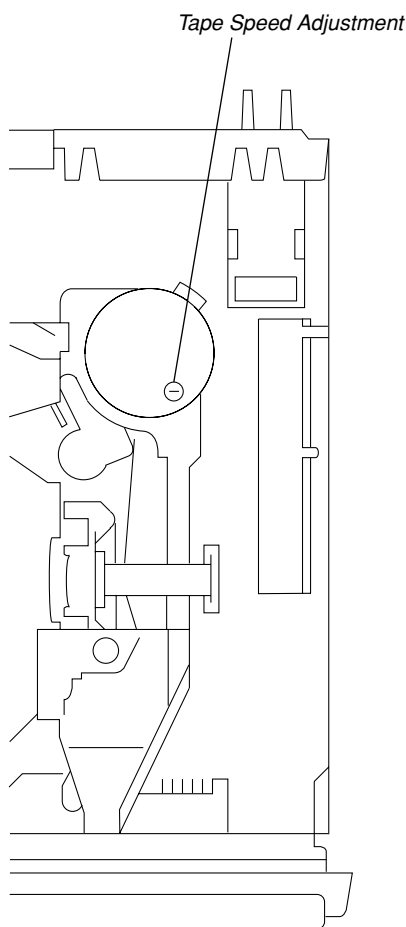
1. Put the set into the FWD PB mode.
2. Adjust adjustment resistor for inside capstan motor so that the reading on the frequency counter becomes 3,000 Hz.

#### Specification: Constant speed

Frequency counter
2,955 to 3,075 Hz

#### Adjustment Location:

– SET UPPER VIEW –



### TUNER SECTION

Tuner section adjustments are done automatically in this set.

## SECTION 6 DIAGRAMS

### 6-1. NOTE FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

**Note on Printed Wiring Board:**

- : parts extracted from the component side.
- : parts extracted from the conductor side.
- : Pattern from the side which enables seeing.  
(The other layers' patterns are not indicated.)

**Caution:**

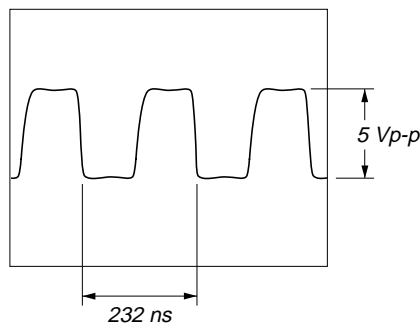
Pattern face side:	Parts on the pattern face side seen from (Conductor Side) the pattern face are indicated.
Parts face side:	Parts on the parts face side seen from (Component Side) the parts face are indicated.

**Note on Schematic Diagram:**

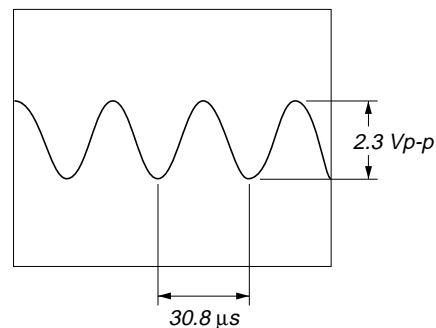
- All capacitors are in  $\mu\text{F}$  unless otherwise noted.  $\text{pF}$ :  $\mu\mu\text{F}$  50  $\text{WV}$  or less are not indicated except for electrolytics and tantalums.
- All resistors are in  $\Omega$  and  $1/4 \text{ W}$  or less unless otherwise specified.
- : panel designation.
- : B+ Line.
- Power voltage is dc 14.4V and fed with regulated dc power supply from ACC and BATT cords.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
- no mark : FM
- ( ) : MW/LW
- << >> : TAPE PLAYBACK
- \* : Impossible to measure
- Voltages are taken with a VOM (Input impedance 10  $\text{M}\Omega$ ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
- : FM
- : MW/LW
- : TAPE PLAYBACK
- : BUS AUDIO IN

• **Waveforms**  
– MAIN Board –

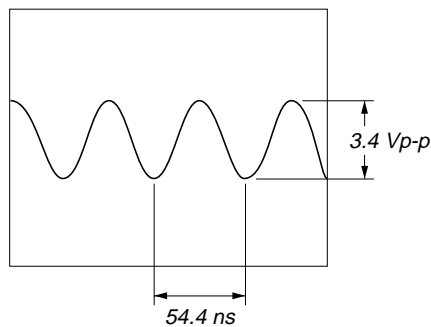
① IC51 ④ (OSCO)



③ IC501 ⑩ (XOUT)

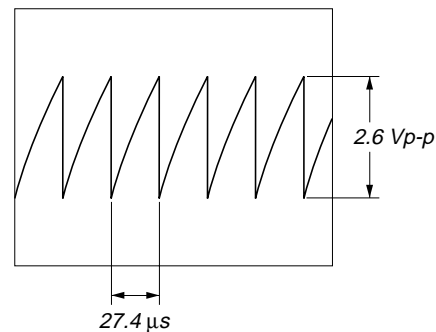


② IC501 ⑫ (OSCOUT)



– KEY Board –

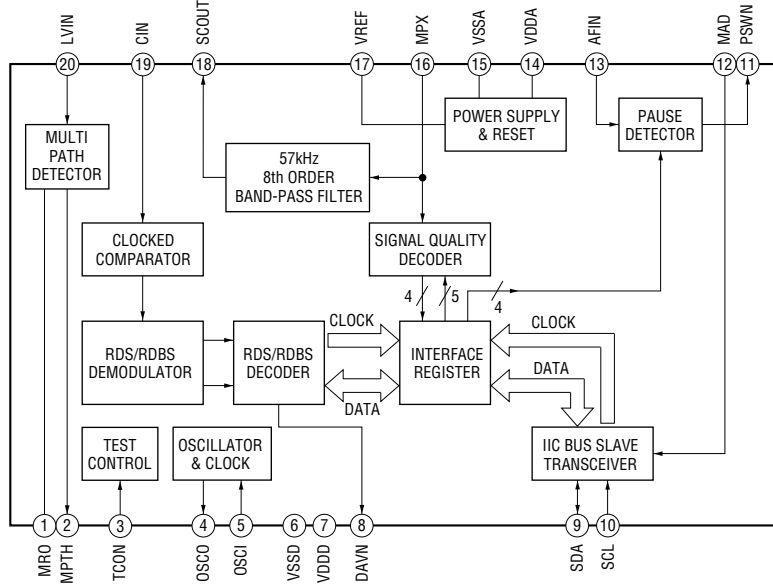
④ IC901 ⑥⑩ (OSC)



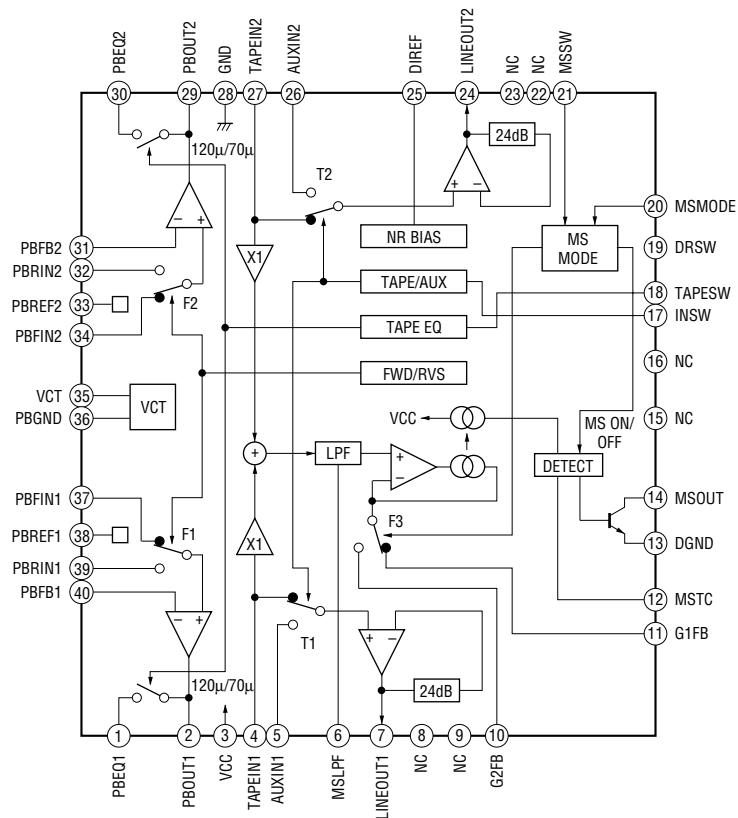
# XR-CA400/CA410

## • IC Block Diagrams – MAIN Board –

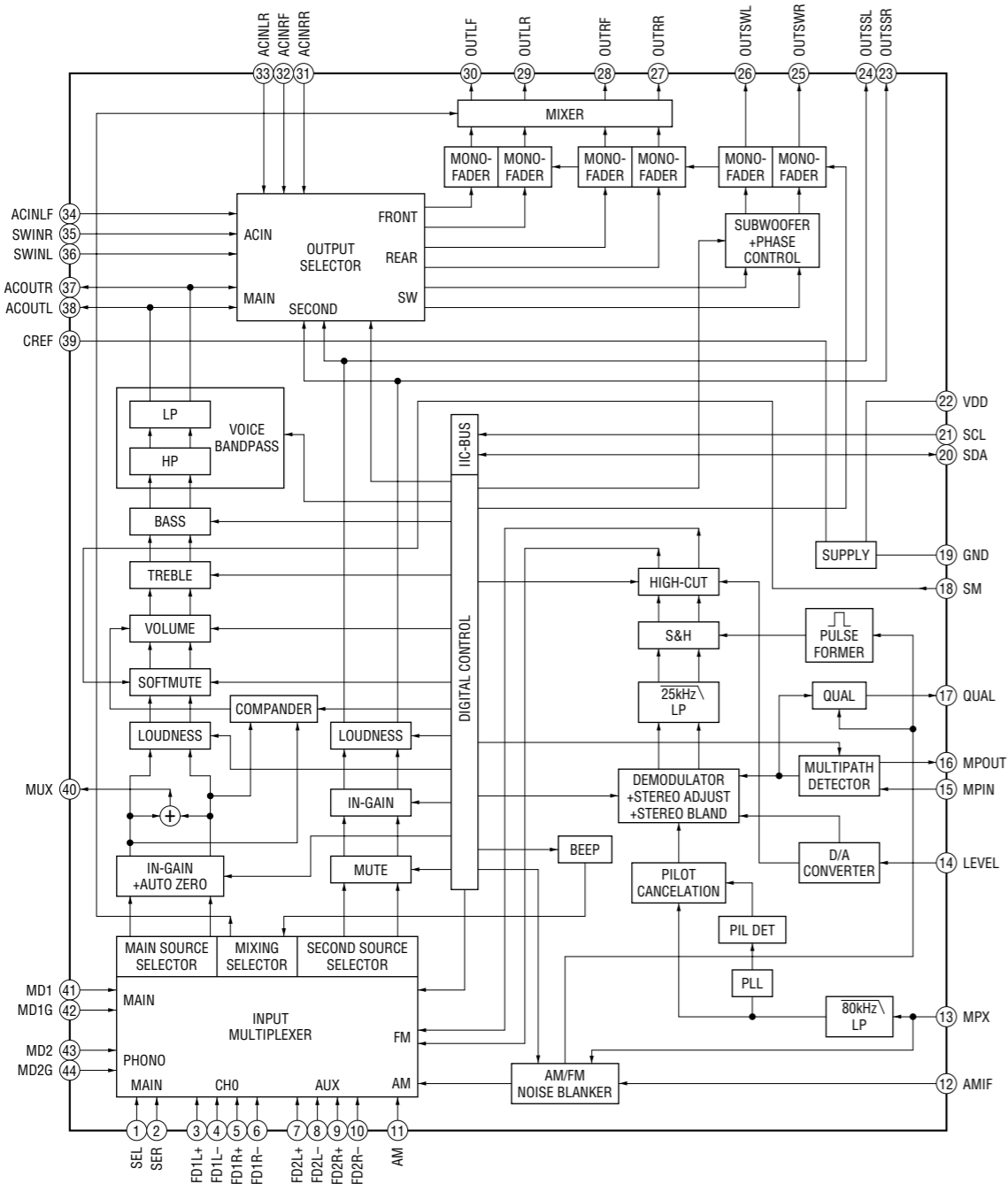
### IC51 SAA6588T-118



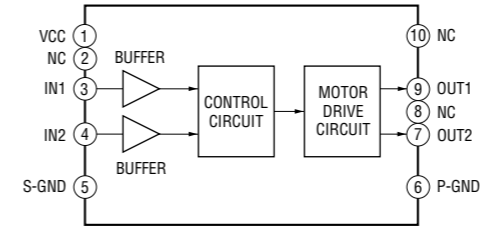
### IC301 CXA2509AQ-T4



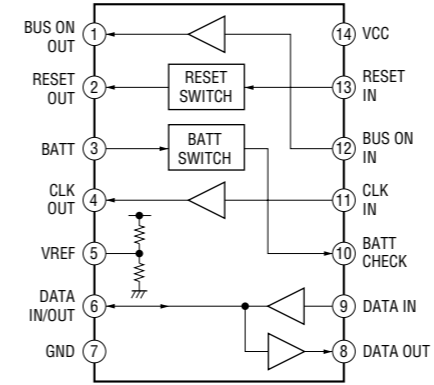
IC331 TDA7402TR



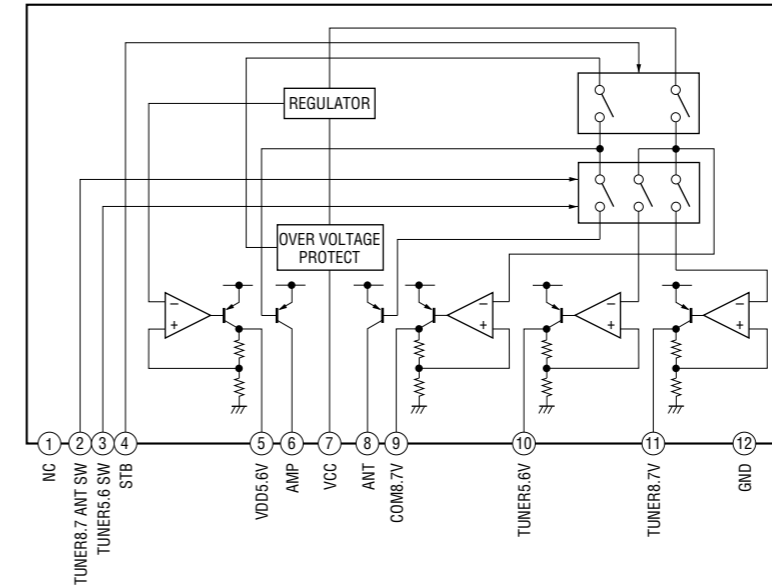
IC351 LB1930M-TLM



IC581 MM1175XFF



IC611 BA4908-V3

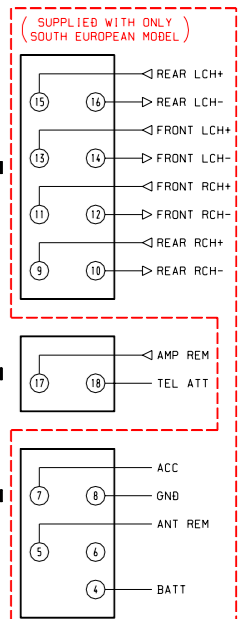
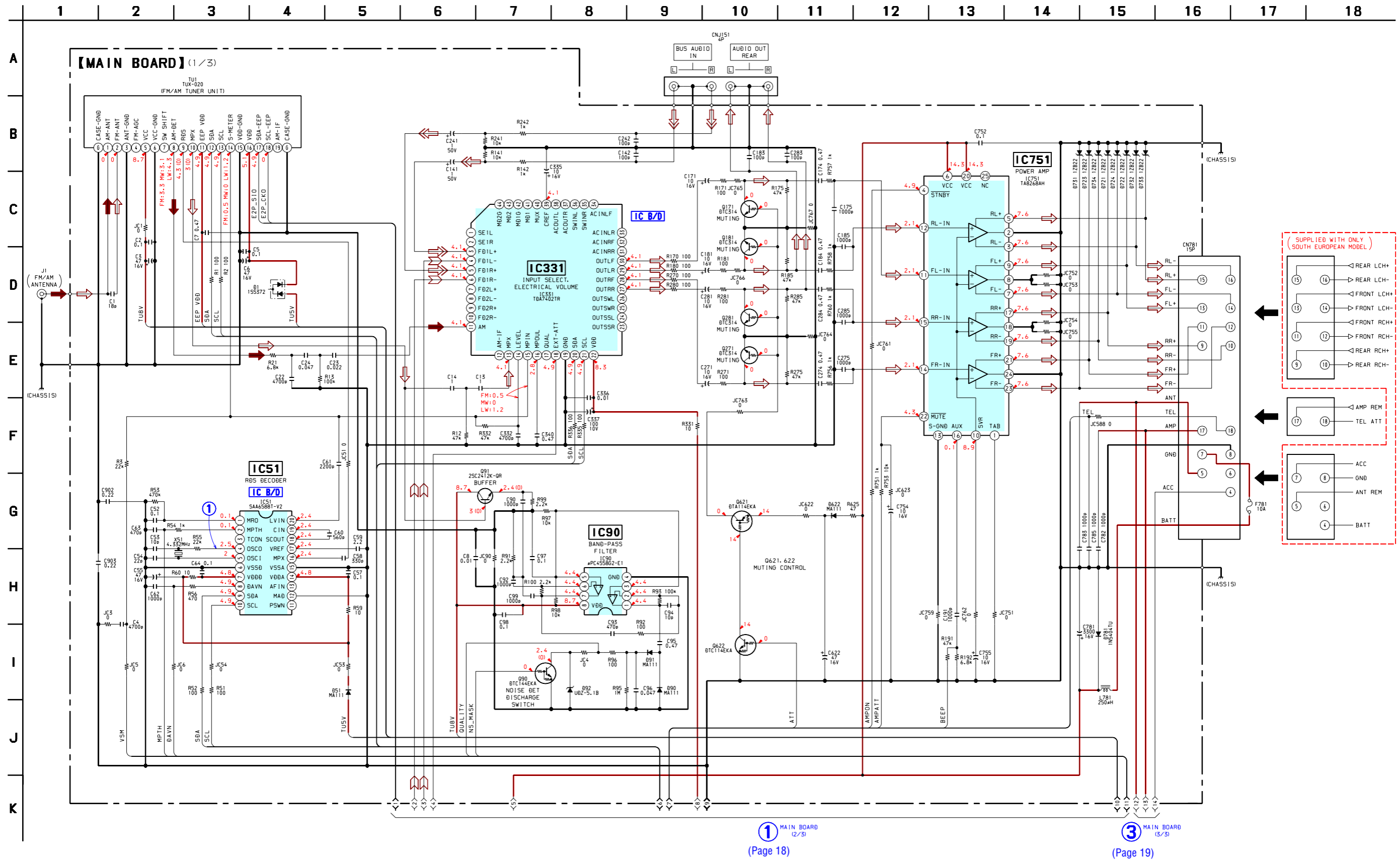




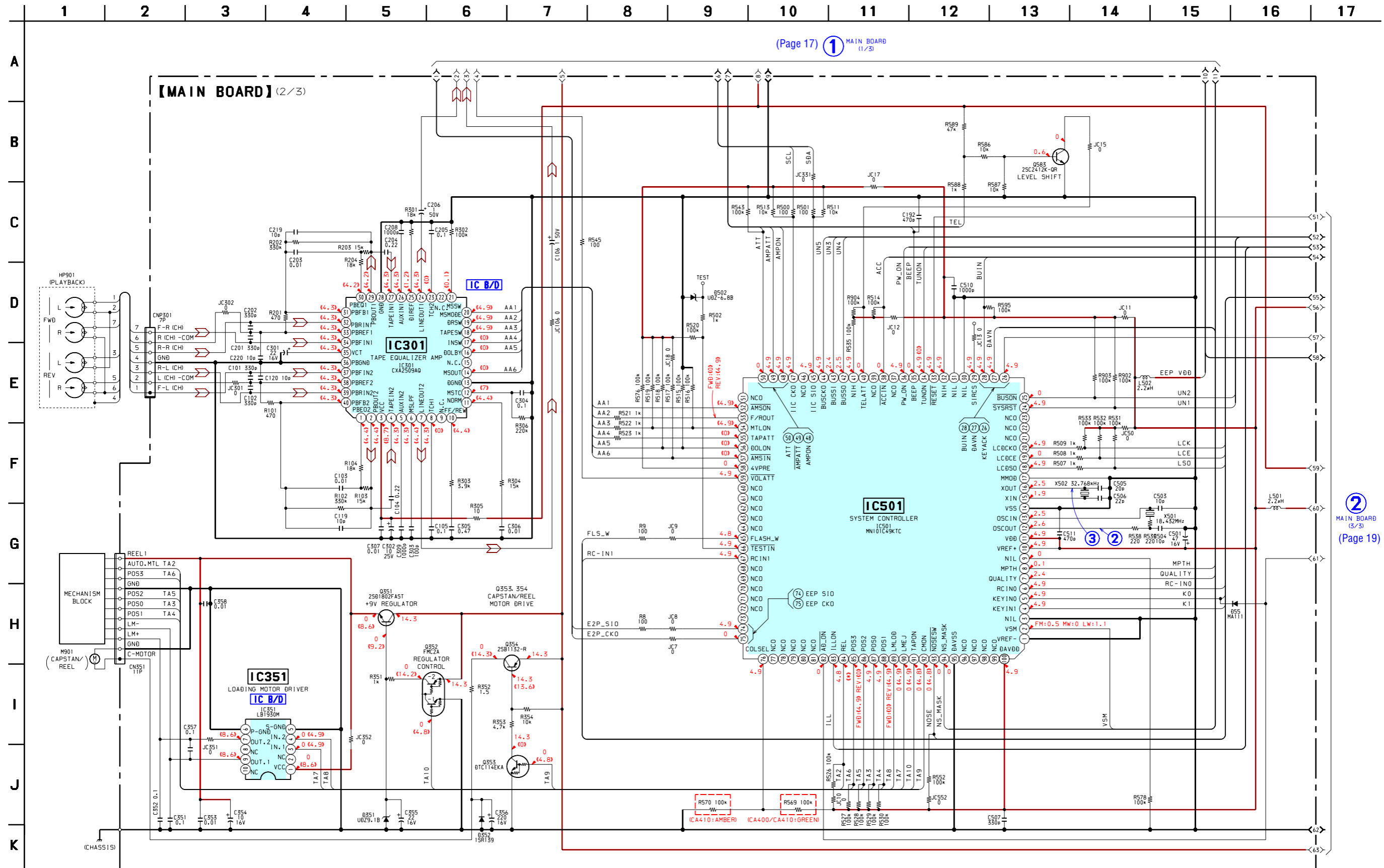




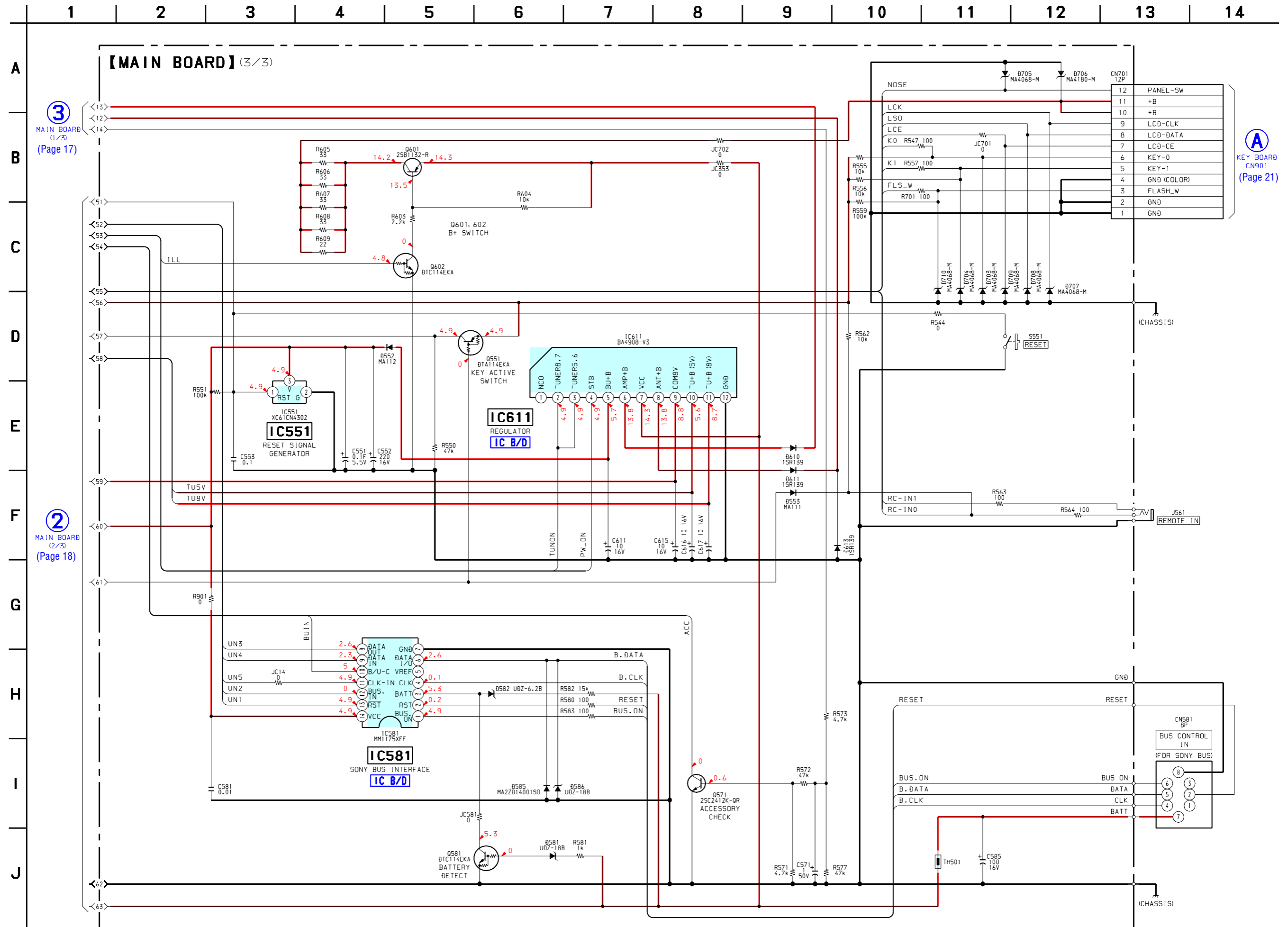
6-3. SCHEMATIC DIAGRAM – MAIN Board (1/3) – • See page 13 for Waveform. • See page 14 for IC Block Diagrams.



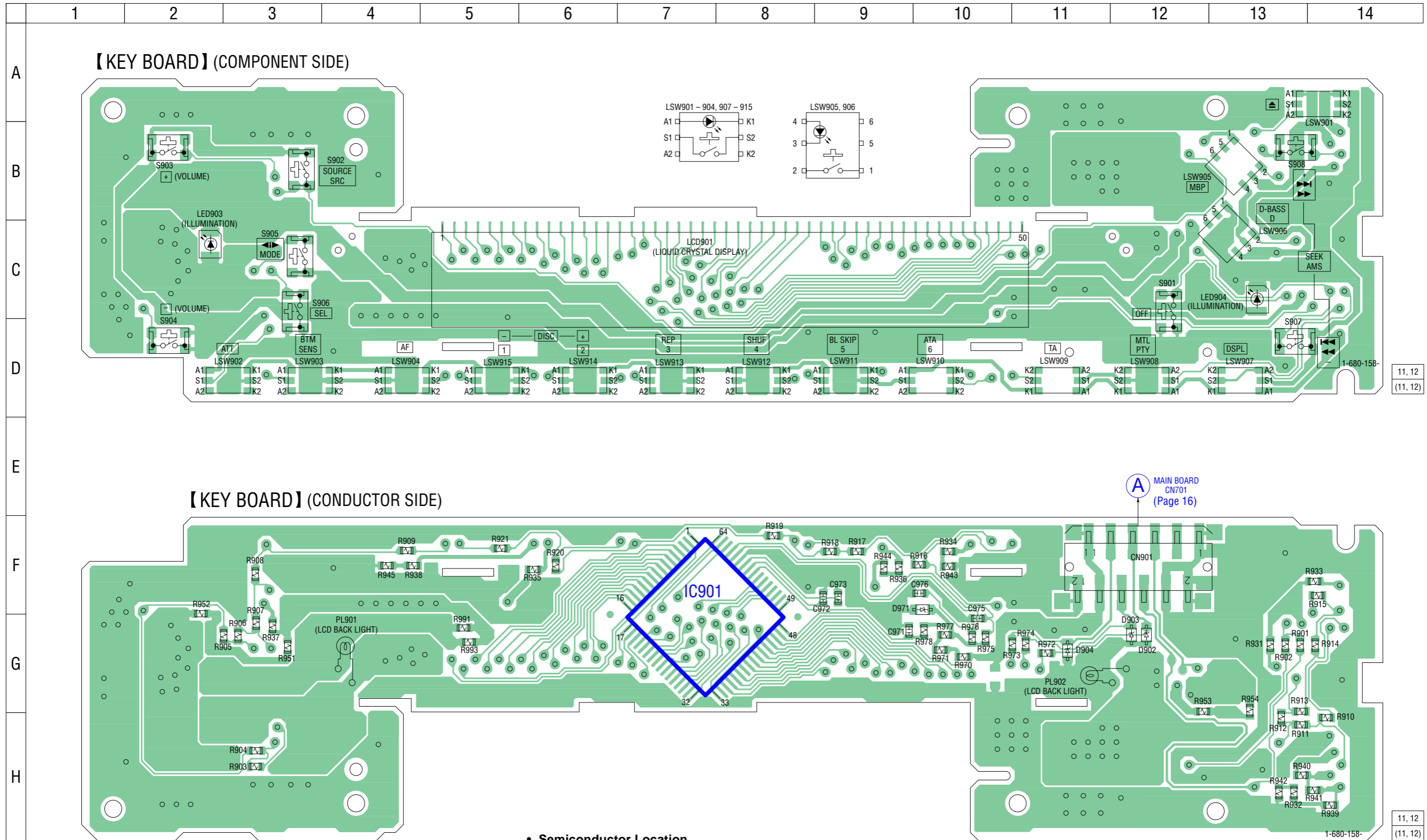
6-4. SCHEMATIC DIAGRAM – MAIN Board (2/3) – • See page 13 for Waveforms. • See page 14 for IC Block Diagrams.



6-5. SCHEMATIC DIAGRAM – MAIN Board (3/3) – • See page 14 for IC Block Diagrams.



6-6. PRINTED WIRING BOARD – KEY Board –



• Semiconductor Location

Ref. No.	Location	Ref. No.	Location
LED903	C-2	D904	G-11
LED904	C-13	D971	F-10
D902	G-12	IC901	F-7
D903	G-12		



## 6-8. IC PIN FUNCTION DESCRIPTION

## • MAIN BOARD IC501 MN101C49KTC (SYSTEM CONTROLLER)

Pin No.	Pin Name	I/O	Description
1	VREF-	I	Reference voltage (0V) input terminal (for A/D converter)
2	VSM	I	FM and AM signal meter voltage detection signal input from the FM/AM tuner unit (TU1) (A/D input)
3	NIL	I	Not used (fixed at "L")
4	KEYIN1	I	Key input terminal (A/D input) S907, S908, LSW905 to LSW915 (SEEK/AMS - ◀◀ ◀◀, SEEK/AMS + ▶▶ ▶▶, MBP, D-BASS D, DSPL, MTL PTY, TA, ATA 6, BL SKIP 5, SHUF 4, REP 3, 2 DISC +, 1 DISC- keys input)
5	KEYIN0	I	Key input terminal (A/D input) S901 to S906, LSW901 to LSW904 (OFF, SRC SOURCE, + (VOLUME), - (VOLUME), MODE ◀▶, SEL, ▲, ATF, BTM SENS, AF keys input)
6	RCIN0	I	Rotary remote commander key input terminal (A/D input)
7	QUALITY	I	Noise level detection signal input at SEEK mode (A/D input)
8	MPTH	I	Multi-path detection signal input from the RDS decoder (IC51) (A/D input)
9	NIL	I	Not used (fixed at "L")
10	VREF+	I	Reference voltage (+5V) input terminal (for A/D converter)
11	VDD	—	Power supply terminal (+5V)
12	OSCOUT	O	Main system clock output terminal (18.432 MHz)
13	OSCIN	I	Main system clock input terminal (18.432 MHz)
14	VSS	—	Ground terminal
15	XI	I	Sub system clock input terminal (32.768 kHz)
16	XO	O	Sub system clock output terminal (32.768 kHz)
17	MMOD	I	Selection signal of memory mode input terminal "L": single chip mode (fixed at "L")
18	LCDSO	O	Serial data output to the liquid crystal display driver (IC901)
19	LCDCE	O	Chip enable signal output to the liquid crystal display driver (IC901) "H" active
20	LCDCKO	O	Serial data transfer clock signal output to the liquid crystal display driver (IC901)
21 to 23	NCO	O	Not used (open)
24	SYSRST	O	Reset signal output to the SONY bus interface (IC581) "L": reset
25	BUSON	O	Bus on/off control signal output to the SONY bus interface (IC581) "L": bus on
26	KEYACK	I	Input of acknowledge signal for the key entry Acknowledge signal is input to accept function and eject keys in the power off status On at input of "H"
27	DAVN	I	Synchronized detection signal of RDS data block input from the RDS decoder (IC51) "H" active
28	BUIN	I	Battery detection signal input from the SONY bus interface (IC581) "L" is input at low voltage
29	SIRCS	I	SIRCS remote control signal input terminal Not used (open)
30, 31	NIL	I	Not used (fixed at "L")
32	NIH	I	Not used (fixed at "H")
33	RESET	I	System reset signal input from the reset signal generator (IC551) and reset switch (S551) "L": reset "L" is input for several 100 msec after power on, then it changes to "H"
34	TUNON	O	Tuner system power supply on/off control signal output "H": tuner power on
35	BEEP	O	Beep sound drive signal output to the power amplifier (IC751)
36	PW_ON	O	Main system power supply on/off control signal output "H": power on
37	NCO	I	Not used (open)
38	ACCIN	I	Accessory detection signal input "L": accessory on
39	NCO	O	Not used (open)
40	TELATT	I	Telephone attenuate signal input At input of "H", the signal is attenuated by -20 dB
41	NIH	I	Not used (fixed at "H")
42	BUSSO	O	Serial data output to the SONY bus interface (IC581)
43	BUSSI	I	Serial data input from the SONY bus interface (IC581)

Pin No.	Pin Name	I/O	Description
44	BUSCKO	O	Serial data transfer clock signal output to the SONY bus interface (IC581)
45	IIC SIO	I/O	Two-way data IIC bus with the FM/AM tuner unit (TU1), RDS decoder (IC51) and electrical volume (IC331)
46	NCO	O	Not used (open)
47	IIC CKO	O	IIC bus clock signal output to the FM/AM tuner unit (TU1), RDS decoder (IC51) and electrical volume (IC331)
48	AMPON	O	Standby on/off control signal output to the power amplifier (IC751) "L": standby mode, "H": amplifier on
49	AMPATT	O	Muting on/off control signal output to the power amplifier (IC751) "L": muting on
50	ATT	O	Audio line muting on/off control signal output "H": muting on
51	NCO	O	Not used (open)
52	AMSON	O	Tape auto music sensor control signal output to the CXA2509AQ (IC301) "L": auto music sensor on
53	F/ROUT	O	Forward/reverse control signal output to the CXA2509AQ (IC301) "L": reverse direction, "H": forward direction
54	MTLON	O	METAL on/off control signal output to the CXA2509AQ (IC301) "H": METAL on
55	TAPATT	O	Tape muting on/off control signal output to the CXA2509AQ (IC301) "H": muting on Active at ATA, FF/REW mode
56	NCO	O	Not used (open)
57	AMSIN	I	Whether a music is present or not from CXA2509AQ (IC301) is detected at auto music sensor "L": music is present, "H": music is not present
58	NCO	O	Not used (open)
59	VOLATT	O	Pre amplifier muting on/off control signal output to the electrical volume (IC331) "L": muting on
60 to 64	NCO	O	Not used (open)
65	FLASH_W	I	Internal flash memory data write mode detection signal input terminal "L": data write mode Not used (open)
66	TESTIN	I	Setting terminal for the test mode "L": test mode, normally fixed at "H"
67	RCIN1	I	Rotary remote commander shift key input terminal "L": shift key on
68 to 73	NCO	O	Not used (open)
74	EEP SIO	I/O	Two-way data bus for tuner EEPROM with the FM/AM tuner unit (TU1)
75	EEP CKO	I/O	Two-way bus clock signal for tuner EEPROM with the FM/AM tuner unit (TU1)
76	COLSEL	I	Setting terminal for the illumination color "L": amber (XR-CA410: AMBER), "H": green (XR-CA400/CA410: GREEN)
77 to 81	NCO	O	Not used (open)
82	ADON	O	A/D converter power control signal output terminal When the KEYACK (pin 26) that controls reference voltage power for key A/D conversion input is active, "L" is output from this terminal to enable the input
83	ILLON	O	Power on/off control signal output of the illumination LED and liquid crystal display driver (IC901) "H": power on
84	REL	I	Rotation detection signal input from supply reel sensor and take-up reel sensor on the mechanism deck
85	POS3	I	Tape position (EJECT/FF/REW/REV/FWD mode) detect input from the tape operation switch on the deck mechanism POS3: "L": REV and EJECT mode, "H": others mode POS2: "L": REW mode, "H": others mode POS0: "L": EJECT mode, "H": others mode POS1: "L": FF and FWD mode, "H": others mode
86	POS2	I	
87	POS0	I	
88	POS1	I	
89	LMLOD	O	Motor drive signal output to the loading motor drive (IC351) "H" active (For the loading direction and forward side operation) *1
90	LMEJ	O	Motor drive signal output to the loading motor drive (IC351) "H" active (For the eject direction and reverse side operation) *1

Pin No.	Pin Name	I/O	Description
91	TAPEON	O	Power on/off control signal output of the loading motor drive (IC351) and capstan/reel motor (M901) "H": motor on
92	CMON	O	Capstan/reel motor (M901) drive signal output terminal "H": motor on
93	$\overline{\text{NOSESW}}$	I	Front panel block remove/attach detection signal input "L": front panel is attached, "H": front panel is removed
94	NS_MASK	O	Discharge control signal output for the noise detection circuit "H": discharge
95	DAVSS	—	Ground terminal (for D/A converter)
96 to 99	NCO	O	Not used (open)
100	DAVCC	—	Power supply terminal (+5V) (for D/A converter)

\*1 Loading motor control

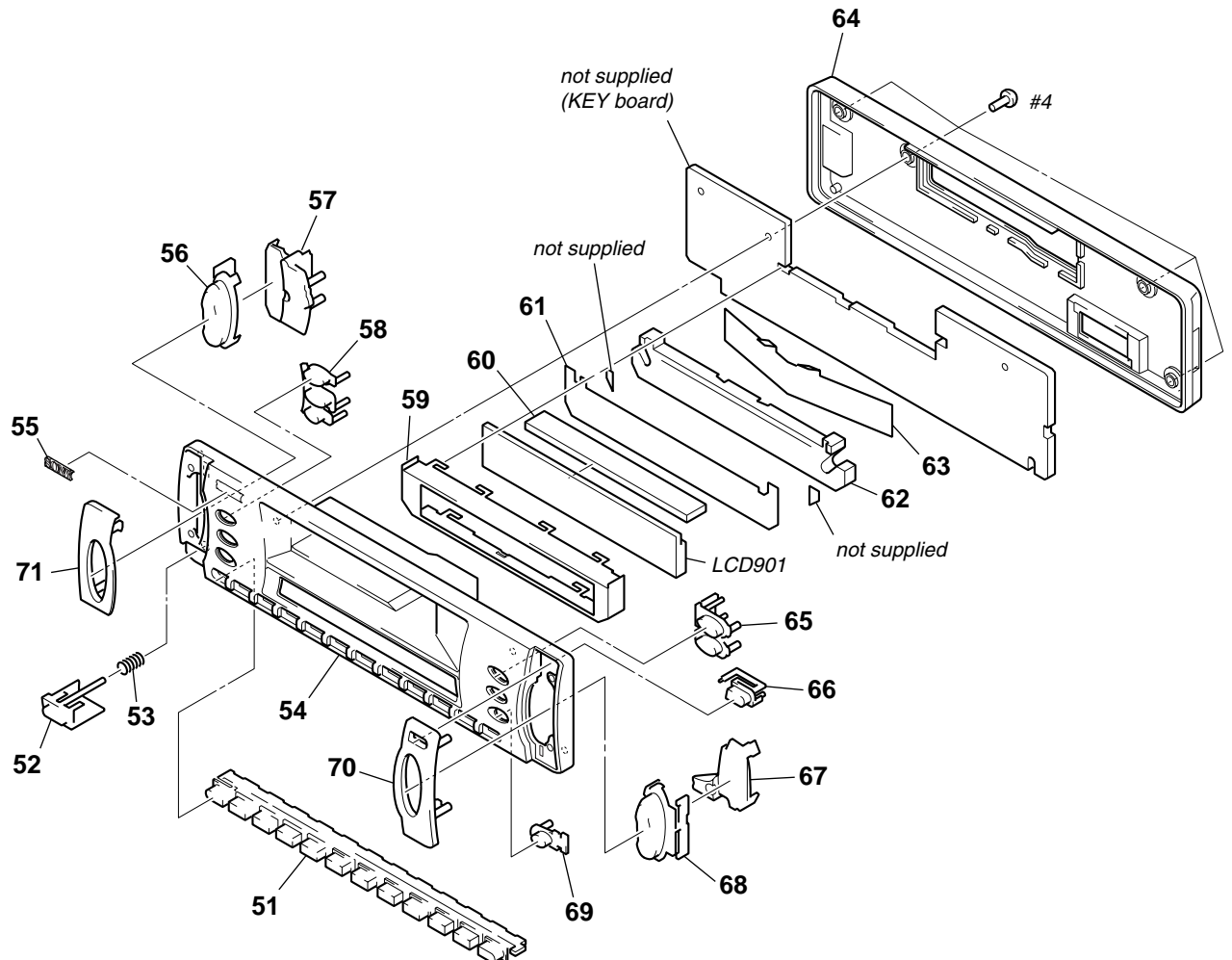
Terminal \ Mode	STOP	LOADING/ FORWARD	EJECT/ REVERSE	BRAKE
LMLOD (pin ⑧)	"L"	"H"	"L"	"H"
LMEJ (pin ⑩)	"L"	"L"	"H"	"H"





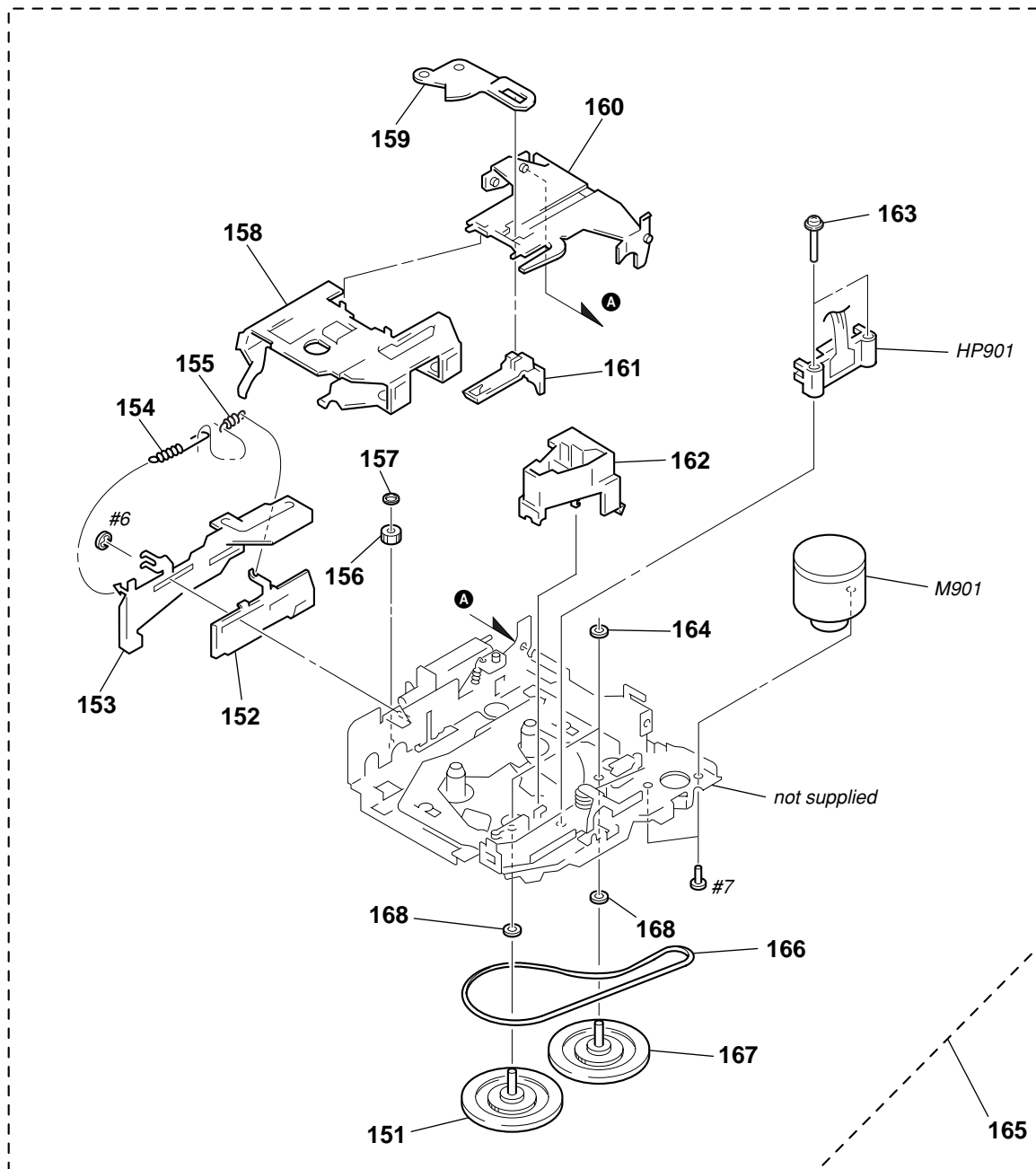


(2) FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
51	3-225-123-01	BUTTON (PRESET/CE) (ATT. SENS. AF. 1. 2. 3. 4. 5. 6. TA. PTY. DSPL)		* 61	3-224-871-11	ILLUMINATOR (LCD) (CA410)	
52	3-225-125-01	BUTTON (RELEASE/CE) (RELEASE)		* 62	3-224-870-01	PLATE (LCD), LIGHT GUIDE	
53	3-231-816-01	SPRING (RELEASE)		* 63	3-224-895-01	REFLECTOR (LCD)	
54	3-224-898-01	PANEL, FRONT (CA400)		64	3-224-861-01	PANEL, FRONT BACK	
54	3-224-898-11	PANEL, FRONT (CA410)		65	3-225-121-01	BUTTON (R/CE) (MBP. D)	
55	3-042-504-01	EMBLEM (NO.2.5), SONY		66	3-225-124-01	BUTTON (EJECT/CE) (▲)	
56	3-225-118-01	BUTTON (+/-) (CA400)		* 67	3-225-128-01	PLATE (R), LIGHT GUIDE	
56	3-225-118-11	BUTTON (+/-) (CA410)		68	3-225-119-01	BUTTON (S/A)	
* 57	3-225-127-01	PLATE (L), LIGHT GUIDE		68	3-225-119-11	BUTTON (S/A) (+ ►►► SEEK AMS. ◀◀◀ -) (CA400)	
58	3-225-120-01	BUTTON (L/CE) (SRC. MODE. SEL)		68	3-225-119-11	BUTTON (S/A) (+ ►►► SEEK AMS. ◀◀◀ -) (CA410)	
* 59	3-224-896-02	PLATE (LCD), GROUND		69	3-225-122-01	BUTTON (OFF)	
60	1-694-781-11	CONDUCTIVE BOARD, CONNECTION		70	3-225-117-01	ESCUTCHEON (R)	
* 61	3-224-871-01	ILLUMINATOR (LCD) (CA400)		71	3-225-116-01	ESCUTCHEON (L)	
				LCD901	1-804-298-11	DISPLAY PANEL, LIQUID CRYSTAL	

(3) MECHANISM DECK SECTION  
(MG-25L-136)



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
151	A-3291-667-A	CLUTCH (FR) ASSY		161	3-933-346-01	CATCHER	
* 152	3-019-130-01	LEVER (LDG-A)		162	3-933-344-01	GUIDE (C)	
* 153	3-019-131-01	LEVER (LDG-B)		163	3-014-798-01	SCREW (HEAD), SPECIAL	
154	3-020-539-01	SPRING (LD-1), TENSION		164	3-364-151-01	WASHER	
155	3-020-540-01	SPRING (LD-2), TENSION		165	A-3220-811-A	MECHANISM DECK ASSY	
156	3-020-542-01	GEAR (LOADING FT)		166	3-017-302-01	BELT (25)	
157	3-341-753-11	WASHER, POLYETHYLENE		167	3-026-636-01	FLYWHEEL (F)	
158	3-020-533-01	HOUSING		168	3-701-437-21	WASHER	
* 159	3-020-532-01	ARM (SUCTION)		HP901	1-500-157-21	HEAD, MAGNETIC (PLAYBACK)	
160	3-020-534-01	HANGER		M901	A-3291-665-A	MOTOR ASSY, MAIN (CAPSTAN/REEL)	

## SECTION 8 ELECTRICAL PARTS LIST

KEY

**NOTE:**

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS  
All resistors are in ohms.  
METAL: Metal-film resistor.  
METAL OXIDE: Metal oxide-film resistor.  
F: nonflammable

- Items marked “\*” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS  
In each case, u:  $\mu$ , for example:  
uA. . :  $\mu$ A. .      uPA. . :  $\mu$ PA. .  
uPB. . :  $\mu$ PB. .    uPC. . :  $\mu$ PC. .  
uPD. . :  $\mu$ PD. .
- CAPACITORS  
uF:  $\mu$ F
- COILS  
uH:  $\mu$ H

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
		KEY BOARD *****		LED904	8-719-084-33	LED LTT673-Q2R1R2 (ILLUMINATION) (CA410: GREEN)	
		< SWITCH >					
*	1-694-781-11	CONDUCTIVE BOARD, CONNECTION		LSW901	1-771-882-11	SWITCH, TACTILE (WITH LED) (▲) (CA410: AMBER)	
*	3-224-870-01	PLATE (LCD), LIGHT GUIDE		LSW901	1-786-106-11	SWITCH, TACTILE (WITH LED) (▲) (CA400/CA410: GREEN)	
*	3-224-871-01	ILLUMINATOR (LCD) (CA400)		LSW902	1-771-882-11	SWITCH, TACTILE (WITH LED) (ATT) (CA410: AMBER)	
*	3-224-871-11	ILLUMINATOR (LCD) (CA410)		LSW902	1-786-106-11	SWITCH, TACTILE (WITH LED) (ATT) (CA400/CA410: GREEN)	
*	3-224-895-01	REFLECTOR (LCD)		LSW903	1-771-882-11	SWITCH, TACTILE (WITH LED) (BTM, SENS) (CA410: AMBER)	
*	3-224-896-02	PLATE (LCD), GROUND		LSW903	1-786-106-11	SWITCH, TACTILE (WITH LED) (BTM, SENS) (CA400/CA410: GREEN)	
		< CAPACITOR >		LSW904	1-771-882-11	SWITCH, TACTILE (WITH LED) (AF) (CA410: AMBER)	
C971	1-164-227-11	CERAMIC CHIP 0.022uF 10% 25V		LSW904	1-786-106-11	SWITCH, TACTILE (WITH LED) (AF) (CA400/CA410: GREEN)	
C972	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V		LSW905	1-771-500-21	SWITCH, KEYBOARD (WITH LED) (MBP)	
C973	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V		LSW906	1-771-500-21	SWITCH, KEYBOARD (WITH LED) (D-BASS, D)	
C975	1-127-715-11	CERAMIC CHIP 0.22uF 10% 16V		LSW907	1-771-882-11	SWITCH, TACTILE (WITH LED) (DSPL) (CA410: AMBER)	
C976	1-162-927-11	CERAMIC CHIP 100PF 5% 50V		LSW907	1-786-106-11	SWITCH, TACTILE (WITH LED) (DSPL) (CA400/CA410: GREEN)	
		< CONNECTOR >		LSW908	1-771-882-11	SWITCH, TACTILE (WITH LED) (MTL, PTY) (CA410: AMBER)	
CN901	1-794-312-11	PIN, CONNECTOR 12P		LSW908	1-786-106-11	SWITCH, TACTILE (WITH LED) (MTL, PTY) (CA400/CA410: GREEN)	
		< DIODE >		LSW909	1-771-882-11	SWITCH, TACTILE (WITH LED) (TA) (CA410: AMBER)	
D902	8-719-056-83	DIODE UDZ-TE-17-6.8B		LSW909	1-786-106-11	SWITCH, TACTILE (WITH LED) (TA) (CA400/CA410: GREEN)	
D903	8-719-056-83	DIODE UDZ-TE-17-6.8B		LSW910	1-771-882-11	SWITCH, TACTILE (WITH LED) (ATA, 6) (CA410: AMBER)	
D904	8-719-056-83	DIODE UDZ-TE-17-6.8B		LSW910	1-786-106-11	SWITCH, TACTILE (WITH LED) (ATA, 6) (CA400/CA410: GREEN)	
D971	8-719-976-99	DIODE DTZ5.1B		LSW911	1-771-882-11	SWITCH, TACTILE (WITH LED) (BL SKIP, 5) (CA410: AMBER)	
		< IC >		LSW911	1-786-106-11	SWITCH, TACTILE (WITH LED) (BL SKIP, 5) (CA400/CA410: GREEN)	
IC901	8-759-366-34	IC LC75824E		LSW912	1-771-882-11	SWITCH, TACTILE (WITH LED) (SHUF, 4) (CA410: AMBER)	
		< LIQUID CRYSTAL DISPLAY >		LSW912	1-786-106-11	SWITCH, TACTILE (WITH LED) (SHUF, 4) (CA400/CA410: GREEN)	
LCD901	1-804-298-11	DISPLAY PANEL, LIQUID CRYSTAL					
		< LED >					
LED903	8-719-082-69	LED LBT673-M2N1N2 (ILLUMINATION) (CA400)					
LED903	8-719-082-71	LED LOT676-RS (ILLUMINATION) (CA410: AMBER)					
LED903	8-719-084-33	LED LTT673-Q2R1R2 (ILLUMINATION) (CA410: GREEN)					
LED904	8-719-082-69	LED LBT673-M2N1N2 (ILLUMINATION) (CA400)					
LED904	8-719-082-71	LED LOT676-RS (ILLUMINATION) (CA410: AMBER)					

**KEY**

Ref. No.	Part No.	Description	Remark
LSW913	1-771-882-11	SWITCH, TACTILE (WITH LED) (REP, 3) (CA410: AMBER)	
LSW913	1-786-106-11	SWITCH, TACTILE (WITH LED) (REP, 3) (CA400/CA410: GREEN)	
LSW914	1-771-882-11	SWITCH, TACTILE (WITH LED) (2, DISC +) (CA410: AMBER)	
LSW914	1-786-106-11	SWITCH, TACTILE (WITH LED) (2, DISC +) (CA400/CA410: GREEN)	
LSW915	1-771-882-11	SWITCH, TACTILE (WITH LED) (1, DISC -) (CA410: AMBER)	
LSW915	1-786-106-11	SWITCH, TACTILE (WITH LED) (1, DISC -) (CA400/CA410: GREEN)	
< PILOT LAMP >			
PL901	1-518-743-21	LAMP, PILOT (LCD BACK LIGHT) (CA410: AMBER)	
PL901	1-518-743-31	LAMP, PILOT (LCD BACK LIGHT) (CA410: GREEN)	
PL901	1-518-743-41	LAMP, PILOT (LCD BACK LIGHT) (CA400)	
PL902	1-518-743-21	LAMP, PILOT (LCD BACK LIGHT) (CA410: AMBER)	
PL902	1-518-743-31	LAMP, PILOT (LCD BACK LIGHT) (CA410: GREEN)	
PL902	1-518-743-41	LAMP, PILOT (LCD BACK LIGHT) (CA400)	
< RESISTOR >			
R901	1-216-819-11	METAL CHIP 680	5% 1/16W
R902	1-216-819-11	METAL CHIP 680	5% 1/16W
R903	1-216-819-11	METAL CHIP 680	5% 1/16W
R904	1-216-821-11	METAL CHIP 1K	5% 1/16W
R905	1-216-823-11	METAL CHIP 1.5K	5% 1/16W
R906	1-216-823-11	METAL CHIP 1.5K	5% 1/16W
R907	1-216-825-11	METAL CHIP 2.2K	5% 1/16W
R908	1-216-827-11	METAL CHIP 3.3K	5% 1/16W
R909	1-216-829-11	METAL CHIP 4.7K	5% 1/16W
R910	1-216-819-11	METAL CHIP 680	5% 1/16W
R911	1-216-819-11	METAL CHIP 680	5% 1/16W
R912	1-216-819-11	METAL CHIP 680	5% 1/16W
R913	1-216-821-11	METAL CHIP 1K	5% 1/16W
R914	1-216-823-11	METAL CHIP 1.5K	5% 1/16W
R915	1-216-823-11	METAL CHIP 1.5K	5% 1/16W
R916	1-216-825-11	METAL CHIP 2.2K	5% 1/16W
R917	1-216-827-11	METAL CHIP 3.3K	5% 1/16W
R918	1-216-829-11	METAL CHIP 4.7K	5% 1/16W
R919	1-216-831-11	METAL CHIP 6.8K	5% 1/16W
R920	1-216-833-11	METAL CHIP 10K	5% 1/16W
R921	1-216-835-11	METAL CHIP 15K	5% 1/16W
R931	1-216-809-11	METAL CHIP 100	5% 1/16W
R932	1-216-808-11	METAL CHIP 82	5% 1/16W
R933	1-216-808-11	METAL CHIP 82	5% 1/16W
R934	1-216-808-11	METAL CHIP 82	5% 1/16W
R935	1-216-808-11	METAL CHIP 82	5% 1/16W
R936	1-216-808-11	METAL CHIP 82	5% 1/16W
R937	1-216-808-11	METAL CHIP 82	5% 1/16W
R938	1-216-808-11	METAL CHIP 82	5% 1/16W
R939	1-216-808-11	METAL CHIP 82	5% 1/16W
R940	1-216-823-11	METAL CHIP 1.5K	5% 1/16W
R941	1-216-819-11	METAL CHIP 680 (CA410: AMBER)	

Ref. No.	Part No.	Description	Remark
R942	1-216-808-11	METAL CHIP 82	5% 1/16W
R943	1-216-808-11	METAL CHIP 82	5% 1/16W
R944	1-216-808-11	METAL CHIP 82	5% 1/16W
R945	1-216-808-11	METAL CHIP 82	5% 1/16W
R951	1-216-809-11	METAL CHIP 100	5% 1/16W (CA400)
R951	1-216-812-11	METAL CHIP 180	5% 1/16W (CA410: AMBER)
R951	1-216-813-11	METAL CHIP 220	5% 1/16W (CA410: GREEN)
R952	1-216-809-11	METAL CHIP 100	5% 1/16W (CA400)
R952	1-216-812-11	METAL CHIP 180	5% 1/16W (CA410: GREEN)
R952	1-216-813-11	METAL CHIP 220	5% 1/16W (CA410: AMBER)
R953	1-216-809-11	METAL CHIP 100	5% 1/16W (CA400)
R953	1-216-812-11	METAL CHIP 180	5% 1/16W (CA410: GREEN)
R953	1-216-813-11	METAL CHIP 220	5% 1/16W (CA410: AMBER)
R954	1-216-809-11	METAL CHIP 100	5% 1/16W (CA400)
R954	1-216-812-11	METAL CHIP 180	5% 1/16W (CA410)
R970	1-216-813-11	METAL CHIP 220	5% 1/16W
R971	1-216-813-11	METAL CHIP 220	5% 1/16W
R972	1-216-821-11	METAL CHIP 1K	5% 1/16W
R973	1-216-821-11	METAL CHIP 1K	5% 1/16W
R974	1-216-821-11	METAL CHIP 1K	5% 1/16W
R975	1-216-857-11	METAL CHIP 1M	5% 1/16W
R976	1-216-851-11	METAL CHIP 330K	5% 1/16W
R977	1-216-813-11	METAL CHIP 220	5% 1/16W
R978	1-216-864-11	SHORT	0
R991	1-216-795-11	RES-CHIP	6.8 5% 1/16W
R993	1-216-795-11	RES-CHIP	6.8 5% 1/16W
< SWITCH >			
S901	1-771-884-11	SWITCH, TACTILE (OFF)	
S902	1-771-884-11	SWITCH, TACTILE (SRC, SOURCE)	
S903	1-771-884-11	SWITCH, TACTILE (+ (VOLUME))	
S904	1-771-884-11	SWITCH, TACTILE (- (VOLUME))	
S905	1-771-884-11	SWITCH, TACTILE (MODE ◀▶)	
S906	1-771-884-11	SWITCH, TACTILE (SEL)	
S907	1-771-884-11	SWITCH, TACTILE (SEEK AMS ◀◀ ◀◀ ◀◀ -)	
S908	1-771-884-11	SWITCH, TACTILE (SEEK AMS + ▶▶ ▶▶ ▶▶)	

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Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
*	A-3326-771-A	MAIN BOARD, COMPLETE (CA410: AMBER)		C181	1-124-233-11	ELECT	10uF 20% 16V
*	A-3326-772-A	MAIN BOARD, COMPLETE (CA400/CA410: GREEN)		C183	1-163-251-11	CERAMIC CHIP	100PF 5% 50V
		*****		C184	1-107-823-11	CERAMIC CHIP	0.47uF 10% 16V
				C185	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V
*	3-040-998-01	BRACKET (IC)		C191	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V
*	3-224-899-01	HEAT SINK (ISO)		C192	1-163-133-00	CERAMIC CHIP	470PF 5% 50V
*	3-224-902-01	HEAT SINK (REG)		C201	1-163-263-11	CERAMIC CHIP	330PF 5% 50V
	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S		C202	1-163-263-11	CERAMIC CHIP	330PF 5% 50V
	7-685-794-09	SCREW +PTT 2.6X10 (S)		C203	1-163-021-11	CERAMIC CHIP	0.01uF 10% 50V
		< CAPACITOR >		C204	1-164-489-11	CERAMIC CHIP	0.22uF 10% 16V
C1	1-163-233-11	CERAMIC CHIP	18PF 5% 50V	C205	1-164-004-11	CERAMIC CHIP	0.1uF 10% 25V
C2	1-164-004-11	CERAMIC CHIP	0.1uF 10% 25V	C206	1-126-160-11	ELECT	1uF 20% 50V
C3	1-104-664-11	ELECT	47uF 20% 16V	C208	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V
C4	1-163-017-00	CERAMIC CHIP	0.0047uF 5% 50V	C219	1-163-227-11	CERAMIC CHIP	10PF 0.5PF 50V
C5	1-164-004-11	CERAMIC CHIP	0.1uF 10% 25V	C220	1-163-227-11	CERAMIC CHIP	10PF 0.5PF 50V
C6	1-124-589-11	ELECT	47uF 20% 16V	C241	1-126-160-11	ELECT	1uF 20% 50V
C7	1-107-823-11	CERAMIC CHIP	0.47uF 10% 16V	C242	1-163-251-11	CERAMIC CHIP	100PF 5% 50V
C8	1-163-021-11	CERAMIC CHIP	0.001uF 10% 50V	C271	1-124-233-11	ELECT	10uF 20% 16V
C13	1-109-982-11	CERAMIC CHIP	1uF 10% 10V	C274	1-107-823-11	CERAMIC CHIP	0.47uF 10% 16V
C14	1-109-982-11	CERAMIC CHIP	1uF 10% 10V	C275	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V
C22	1-163-017-00	CERAMIC CHIP	0.0047uF 5% 50V	C281	1-124-233-11	ELECT	10uF 20% 16V
C23	1-163-037-11	CERAMIC CHIP	0.022uF 10% 25V	C283	1-163-251-11	CERAMIC CHIP	100PF 5% 50V
C24	1-163-809-11	CERAMIC CHIP	0.047uF 10% 25V	C284	1-107-823-11	CERAMIC CHIP	0.47uF 10% 16V
C52	1-164-004-11	CERAMIC CHIP	0.1uF 10% 25V	C285	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V
C53	1-163-227-11	CERAMIC CHIP	10PF 0.5PF 50V	C301	1-124-234-00	ELECT	22uF 20% 16V
C54	1-163-235-11	CERAMIC CHIP	22PF 5% 50V	C302	1-131-353-00	TANTALUM	10uF 10% 35V
C55	1-124-589-11	ELECT	47uF 20% 16V	C303	1-163-251-11	CERAMIC CHIP	100PF 5% 50V
C57	1-164-004-11	CERAMIC CHIP	0.1uF 10% 25V	C304	1-164-004-11	CERAMIC CHIP	0.1uF 10% 25V
C58	1-163-263-11	CERAMIC CHIP	330PF 5% 50V	C305	1-107-823-11	CERAMIC CHIP	0.47uF 10% 16V
C59	1-164-505-11	CERAMIC CHIP	2.2uF 16V	C306	1-163-021-11	CERAMIC CHIP	0.01uF 10% 50V
C60	1-163-135-00	CERAMIC CHIP	560PF 5% 50V	C307	1-163-021-11	CERAMIC CHIP	0.01uF 10% 50V
C61	1-164-161-11	CERAMIC CHIP	0.0022uF 10% 100V	C309	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V
C62	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V	C332	1-163-017-00	CERAMIC CHIP	0.0047uF 5% 50V
C63	1-163-133-00	CERAMIC CHIP	470PF 5% 50V	C335	1-124-233-11	ELECT	10uF 20% 16V
C64	1-164-004-11	CERAMIC CHIP	0.1uF 10% 25V	C336	1-163-021-11	CERAMIC CHIP	0.01uF 10% 50V
C90	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V	C337	1-124-584-00	ELECT	100uF 20% 10V
C92	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V	C340	1-107-823-11	CERAMIC CHIP	0.47uF 10% 16V
C93	1-163-133-00	CERAMIC CHIP	470PF 5% 50V	C351	1-165-319-11	CERAMIC CHIP	0.1uF 50V
C94	1-163-227-11	CERAMIC CHIP	10PF 0.5PF 50V	C352	1-165-319-11	CERAMIC CHIP	0.1uF 50V
C95	1-107-823-11	CERAMIC CHIP	0.47uF 10% 16V	C353	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C96	1-163-809-11	CERAMIC CHIP	0.047uF 10% 25V	C354	1-124-233-11	ELECT	10uF 20% 16V
C97	1-164-004-11	CERAMIC CHIP	0.1uF 10% 25V	C355	1-124-234-00	ELECT	22uF 20% 16V
C98	1-164-004-11	CERAMIC CHIP	0.1uF 10% 25V	C356	1-126-934-11	ELECT	220uF 20% 16V
C99	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V	C357	1-165-319-11	CERAMIC CHIP	0.1uF 50V
C101	1-163-263-11	CERAMIC CHIP	330PF 5% 50V	C358	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C102	1-163-263-11	CERAMIC CHIP	330PF 5% 50V	C501	1-124-589-11	ELECT	47uF 20% 16V
C103	1-163-021-11	CERAMIC CHIP	0.01uF 10% 50V	C503	1-163-227-11	CERAMIC CHIP	10PF 0.5PF 50V
C104	1-164-489-11	CERAMIC CHIP	0.22uF 10% 16V	C504	1-163-227-11	CERAMIC CHIP	10PF 0.5PF 50V
C105	1-164-004-11	CERAMIC CHIP	0.1uF 10% 25V	C505	1-163-234-11	CERAMIC CHIP	20PF 5% 50V
C106	1-126-160-11	ELECT	1uF 20% 50V	C506	1-163-235-11	CERAMIC CHIP	22PF 5% 50V
C119	1-163-227-11	CERAMIC CHIP	10PF 0.5PF 50V	C507	1-163-263-11	CERAMIC CHIP	330PF 5% 50V
C120	1-163-227-11	CERAMIC CHIP	10PF 0.5PF 50V	C510	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V
C141	1-126-160-11	ELECT	1uF 20% 50V	C511	1-163-133-11	CERAMIC CHIP	470PF 5% 50V
C142	1-163-251-11	CERAMIC CHIP	100PF 5% 50V	C551	1-125-710-11	DOUBLE LAYER	0.1F 5.5V
C171	1-124-233-11	ELECT	10uF 20% 16V	C552	1-126-934-11	ELECT	220uF 20% 16V
C174	1-107-823-11	CERAMIC CHIP	0.47uF 10% 16V	C553	1-164-004-11	CERAMIC CHIP	0.1uF 10% 25V
C175	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V	C571	1-126-160-11	ELECT	1uF 20% 50V
				C581	1-163-021-11	CERAMIC CHIP	0.01uF 10% 50V

MAIN

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
C585	1-126-933-11	ELECT	100uF 20% 16V	D724	8-719-079-42	DIODE 1ZB22 (TPA3)	
C611	1-126-157-11	ELECT	10uF 20% 16V	D731	8-719-079-42	DIODE 1ZB22 (TPA3)	
C615	1-126-157-11	ELECT	10uF 20% 16V	D732	8-719-079-42	DIODE 1ZB22 (TPA3)	
C616	1-126-157-11	ELECT	10uF 20% 16V	D733	8-719-079-42	DIODE 1ZB22 (TPA3)	
C617	1-126-157-11	ELECT	10uF 20% 16V	D734	8-719-079-42	DIODE 1ZB22 (TPA3)	
C622	1-124-589-11	ELECT	47uF 20% 16V	D781	8-719-049-38	DIODE 1N5404TU	
C752	1-136-165-00	FILM	0.1uF 5% 50V			< IC >	
C754	1-124-233-11	ELECT	10uF 20% 16V	IC51	8-759-492-59	IC SAA6588T-118	
C755	1-126-157-11	ELECT	10uF 20% 16V	IC90	8-759-100-96	IC uPC4558G2-E1	
C781	1-107-885-31	ELECT	3300uF 20% 16V	IC301	8-752-079-78	IC CXA2509AQ-T4	
C782	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V	IC331	8-759-653-27	IC TDA7402TR	
C783	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V	IC351	8-759-527-33	IC LB1930M-TLM	
C785	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V	IC501	8-759-828-82	IC MN101C49KTC	
C902	1-164-489-11	CERAMIC CHIP	0.22uF 10% 16V	IC551	8-759-682-69	IC XC61CN4302MR	
C903	1-164-489-11	CERAMIC CHIP	0.22uF 10% 16V	IC581	8-759-096-16	IC MM1175XFF	
		< CONNECTOR >		IC611	8-759-661-47	IC BA4908-V3	
CN301	1-785-694-11	CONNECTOR, FFC/FPC 7P		IC751	8-759-827-14	IC TA8268AH	
CN351	1-784-490-11	CONNECTOR, FFC/FPC 11P				< JACK >	
CN581	1-580-907-31	PLUG, CONNECTOR (BUS CONTROL IN)		J1	1-815-185-11	JACK (ANT) (FM/AM ANTENNA IN)	
CN701	1-794-311-21	PLUG, CONNECTOR 12P		J561	1-566-822-41	JACK (REMOTE IN)	
CN781	1-794-070-12	PIN, CONNECTOR (ISO)				< SHORT >	
		< JACK >		JC1	1-216-295-11	SHORT 0	
CNJ151	1-774-699-12	JACK, PIN 4P (BUS AUDIO IN, AUDIO OUT REAR)		JC3	1-216-295-11	SHORT 0	
		< DIODE >		JC4	1-216-296-11	SHORT 0	
D1	8-719-056-65	DIODE 1SS372-TE85L		JC5	1-216-296-11	SHORT 0	
D51	8-719-073-01	DIODE MA111- (K8).S0		JC6	1-216-296-11	SHORT 0	
D55	8-719-073-01	DIODE MA111- (K8).S0		JC7	1-216-296-11	SHORT 0	
D90	8-719-073-01	DIODE MA111- (K8).S0		JC8	1-216-296-11	SHORT 0	
D91	8-719-073-01	DIODE MA111- (K8).S0		JC9	1-216-296-11	SHORT 0	
D92	8-719-976-99	DIODE DTZ5.1B		JC10	1-216-295-11	SHORT 0	
D351	8-719-977-22	DIODE DTZ9.1		JC11	1-216-295-11	SHORT 0	
D352	8-719-970-02	DIODE 1SR139-400		JC12	1-216-296-11	SHORT 0	
D502	8-719-056-83	DIODE UDZ-TE-17-6.8B		JC13	1-216-296-11	SHORT 0	
D552	8-719-067-56	DIODE MA112-TX		JC14	1-216-296-11	SHORT 0	
D553	8-719-073-01	DIODE MA111- (K8).S0		JC15	1-216-296-11	SHORT 0	
D581	8-719-056-93	DIODE UDZ-TE-17-18B		JC17	1-216-296-11	SHORT 0	
D582	8-719-056-82	DIODE UDZ-TE-17-6.2B		JC18	1-216-295-11	SHORT 0	
D585	8-719-072-70	DIODE MA2ZD14001S0		JC50	1-216-296-11	SHORT 0	
D586	8-719-056-93	DIODE UDZ-TE-17-18B		JC51	1-216-296-11	SHORT 0	
D610	8-719-970-02	DIODE 1SR139-400		JC53	1-216-296-11	SHORT 0	
D611	8-719-970-02	DIODE 1SR139-400		JC54	1-216-295-11	SHORT 0	
D613	8-719-970-02	DIODE 1SR139-400		JC90	1-216-295-11	SHORT 0	
D622	8-719-073-01	DIODE MA111- (K8).S0		JC106	1-216-295-11	SHORT 0	
D703	8-719-109-97	DIODE RD6.8ESB2		JC301	1-216-295-11	SHORT 0	
D704	8-719-109-97	DIODE RD6.8ESB2		JC302	1-216-295-11	SHORT 0	
D705	8-719-109-97	DIODE RD6.8ESB2		JC331	1-216-295-11	SHORT 0	
D706	8-719-034-94	DIODE MA4180-M (QZ)		JC351	1-216-295-11	SHORT 0	
D707	8-719-109-97	DIODE RD6.8ESB2		JC352	1-216-295-11	SHORT 0	
D708	8-719-109-97	DIODE RD6.8ESB2		JC353	1-216-295-11	SHORT 0	
D709	8-719-109-97	DIODE RD6.8ESB2		JC552	1-216-296-11	SHORT 0	
D710	8-719-109-97	DIODE RD6.8ESB2		JC581	1-216-295-11	SHORT 0	
D721	8-719-079-42	DIODE 1ZB22 (TPA3)		JC588	1-216-295-11	SHORT 0	
D722	8-719-079-42	DIODE 1ZB22 (TPA3)		JC622	1-216-295-11	SHORT 0	
D723	8-719-079-42	DIODE 1ZB22 (TPA3)		JC623	1-216-295-11	SHORT 0	

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
JC701	1-216-295-11	SHORT	0	R60	1-216-001-00	METAL CHIP	10 5% 1/10W
JC702	1-216-295-11	SHORT	0	R91	1-216-057-00	METAL CHIP	2.2K 5% 1/10W
JC751	1-216-296-11	SHORT	0	R92	1-216-025-11	RES-CHIP	100 5% 1/10W
JC752	1-216-296-11	SHORT	0	R93	1-216-097-11	RES-CHIP	100K 5% 1/10W
JC753	1-216-295-11	SHORT	0	R95	1-216-121-11	RES-CHIP	1M 5% 1/10W
JC754	1-216-296-11	SHORT	0	R96	1-216-025-11	RES-CHIP	100 5% 1/10W
JC755	1-216-296-11	SHORT	0	R97	1-216-073-00	METAL CHIP	10K 5% 1/10W
JC759	1-216-296-11	SHORT	0	R98	1-216-073-00	METAL CHIP	10K 5% 1/10W
JC761	1-216-295-11	SHORT	0	R99	1-216-057-00	METAL CHIP	2.2K 5% 1/10W
JC762	1-216-295-11	SHORT	0	R100	1-216-057-00	METAL CHIP	2.2K 5% 1/10W
JC763	1-216-296-11	SHORT	0	R101	1-216-041-00	METAL CHIP	470 5% 1/10W
JC764	1-216-296-11	SHORT	0	R102	1-216-109-00	METAL CHIP	330K 5% 1/10W
JC765	1-216-295-11	SHORT	0	R103	1-216-077-00	RES-CHIP	15K 5% 1/10W
JC766	1-216-296-11	SHORT	0	R104	1-216-079-00	METAL CHIP	18K 5% 1/10W
JC767	1-216-295-11	SHORT	0	R141	1-216-073-00	METAL CHIP	10K 5% 1/10W
		< COIL >		R142	1-216-049-11	RES-CHIP	1K 5% 1/10W
L501	1-410-501-11	INDUCTOR	2.2uH	R170	1-216-025-11	RES-CHIP	100 5% 1/10W
L502	1-410-501-11	INDUCTOR	2.2uH	R171	1-216-025-11	RES-CHIP	100 5% 1/10W
L781	1-419-476-11	INDUCTOR	250uH	R175	1-216-089-11	RES-CHIP	47K 5% 1/10W
		< TRANSISTOR >		R180	1-216-025-11	RES-CHIP	100 5% 1/10W
Q90	8-729-027-59	TRANSISTOR	DTC144EKA-T146	R181	1-216-025-11	RES-CHIP	100 5% 1/10W
Q91	8-729-120-28	TRANSISTOR	2SC1623-L5L6	R185	1-216-089-11	RES-CHIP	47K 5% 1/10W
Q171	8-729-920-21	TRANSISTOR	DTC314TKH04	R191	1-249-437-11	CARBON	47K 5% 1/4W
Q181	8-729-920-21	TRANSISTOR	DTC314TKH04	R192	1-216-069-00	METAL CHIP	6.8K 5% 1/10W
Q271	8-729-920-21	TRANSISTOR	DTC314TKH04	R201	1-216-041-00	METAL CHIP	470 5% 1/10W
Q281	8-729-920-21	TRANSISTOR	DTC314TKH04	R202	1-216-109-00	METAL CHIP	330K 5% 1/10W
Q351	8-729-015-11	TRANSISTOR	2SD1802FAST-TL	R203	1-216-077-00	RES-CHIP	15K 5% 1/10W
Q352	8-729-047-76	TRANSISTOR	FMC2A-T148	R204	1-216-079-00	METAL CHIP	18K 5% 1/10W
Q353	8-729-900-53	TRANSISTOR	DTC114EK	R241	1-216-073-00	METAL CHIP	10K 5% 1/10W
Q354	8-729-106-60	TRANSISTOR	2SB1115A-YQ	R242	1-216-049-11	RES-CHIP	1K 5% 1/10W
Q551	8-729-027-23	TRANSISTOR	DTA114EKA-T146	R270	1-216-025-11	RES-CHIP	100 5% 1/10W
Q571	8-729-120-28	TRANSISTOR	2SC1623-L5L6	R271	1-216-025-11	RES-CHIP	100 5% 1/10W
Q581	8-729-900-53	TRANSISTOR	DTC114EK	R275	1-216-089-11	RES-CHIP	47K 5% 1/10W
Q583	8-729-120-28	TRANSISTOR	2SC1623-L5L6	R280	1-216-025-11	RES-CHIP	100 5% 1/10W
Q601	8-729-106-60	TRANSISTOR	2SB1115A-YQ	R281	1-216-025-11	RES-CHIP	100 5% 1/10W
Q602	8-729-900-53	TRANSISTOR	DTC114EK	R285	1-216-089-11	RES-CHIP	47K 5% 1/10W
Q621	8-729-027-23	TRANSISTOR	DTA114EKA-T146	R301	1-216-079-00	METAL CHIP	18K 5% 1/10W
Q622	8-729-900-53	TRANSISTOR	DTC114EK	R302	1-216-097-11	RES-CHIP	100K 5% 1/10W
		< RESISTOR >		R303	1-216-063-00	RES-CHIP	3.9K 5% 1/10W
R1	1-216-025-11	RES-CHIP	100 5% 1/10W	R304	1-216-077-00	RES-CHIP	15K 5% 1/10W
R2	1-216-025-11	RES-CHIP	100 5% 1/10W	R305	1-216-001-00	METAL CHIP	10 5% 1/10W
R3	1-216-081-00	METAL CHIP	22K 5% 1/10W	R306	1-216-105-00	RES-CHIP	220K 5% 1/10W
R8	1-216-025-11	RES-CHIP	100 5% 1/10W	R331	1-249-393-11	CARBON	10 5% 1/4W
R9	1-216-025-11	RES-CHIP	100 5% 1/10W	R332	1-216-089-11	RES-CHIP	47K 5% 1/10W
R12	1-216-089-11	RES-CHIP	47K 5% 1/10W	R335	1-216-025-11	RES-CHIP	100 5% 1/10W
R13	1-216-097-11	RES-CHIP	100K 5% 1/10W	R336	1-216-025-11	RES-CHIP	100 5% 1/10W
R21	1-216-069-00	METAL CHIP	6.8K 5% 1/10W	R351	1-216-049-11	RES-CHIP	1K 5% 1/10W
R51	1-216-025-11	RES-CHIP	100 5% 1/10W	R352	1-249-383-11	CARBON	1.5 5% 1/6W
R52	1-216-025-11	RES-CHIP	100 5% 1/10W	R353	1-216-065-00	RES-CHIP	4.7K 5% 1/10W
R53	1-216-113-00	METAL CHIP	470K 5% 1/10W	R354	1-216-073-00	METAL CHIP	10K 5% 1/10W
R54	1-216-049-11	RES-CHIP	1K 5% 1/10W	R500	1-247-807-31	CARBON	100 5% 1/4W
R55	1-216-081-00	METAL CHIP	22K 5% 1/10W	R501	1-247-807-31	CARBON	100 5% 1/4W
R56	1-216-041-00	METAL CHIP	470 5% 1/10W	R502	1-216-049-11	RES-CHIP	1K 5% 1/10W
R59	1-216-001-00	METAL CHIP	10 5% 1/10W	R507	1-216-049-11	RES-CHIP	1K 5% 1/10W
				R508	1-216-049-11	RES-CHIP	1K 5% 1/10W
				R509	1-216-049-11	RES-CHIP	1K 5% 1/10W
				R511	1-216-073-00	METAL CHIP	10K 5% 1/10W
				R513	1-216-073-00	METAL CHIP	10K 5% 1/10W

MAIN

Ref. No.	Part No.	Description	Remark
R514	1-216-097-11	RES-CHIP	100K 5% 1/10W
R515	1-216-097-11	RES-CHIP	100K 5% 1/10W
R516	1-216-097-11	RES-CHIP	100K 5% 1/10W
R517	1-216-097-11	RES-CHIP	100K 5% 1/10W
R518	1-216-097-11	RES-CHIP	100K 5% 1/10W
R519	1-216-097-11	RES-CHIP	100K 5% 1/10W
R520	1-216-097-11	RES-CHIP	100K 5% 1/10W
R521	1-216-049-11	RES-CHIP	1K 5% 1/10W
R522	1-216-049-11	RES-CHIP	1K 5% 1/10W
R523	1-216-049-11	RES-CHIP	1K 5% 1/10W
R526	1-216-097-11	RES-CHIP	100K 5% 1/10W
R527	1-216-097-11	RES-CHIP	100K 5% 1/10W
R528	1-216-097-11	RES-CHIP	100K 5% 1/10W
R529	1-216-097-11	RES-CHIP	100K 5% 1/10W
R530	1-216-097-11	RES-CHIP	100K 5% 1/10W
R531	1-216-097-11	RES-CHIP	100K 5% 1/10W
R532	1-216-097-11	RES-CHIP	100K 5% 1/10W
R533	1-216-097-11	RES-CHIP	100K 5% 1/10W
R535	1-216-097-11	RES-CHIP	100K 5% 1/10W
R538	1-216-033-00	METAL CHIP	220 5% 1/10W
R539	1-216-033-00	METAL CHIP	220 5% 1/10W
R543	1-216-097-11	RES-CHIP	100K 5% 1/10W
R544	1-216-295-11	SHORT	0
R545	1-216-025-11	RES-CHIP	100 5% 1/10W
R547	1-247-807-31	CARBON	100 5% 1/4W
R550	1-216-089-11	RES-CHIP	47K 5% 1/10W
R551	1-216-097-11	RES-CHIP	100K 5% 1/10W
R552	1-216-097-11	RES-CHIP	100K 5% 1/10W
R555	1-208-806-11	RES-CHIP	10K 0.5% 1/10W
R556	1-208-806-11	RES-CHIP	10K 0.5% 1/10W
R557	1-247-807-31	CARBON	100 5% 1/4W
R559	1-216-097-11	RES-CHIP	100K 5% 1/10W
R562	1-208-806-11	RES-CHIP	10K 0.5% 1/10W
R563	1-216-025-11	RES-CHIP	100 5% 1/10W
R564	1-216-025-11	RES-CHIP	100 5% 1/10W
R569	1-216-097-11	RES-CHIP	100K 5% 1/10W
R570	1-216-097-11	RES-CHIP	100K 5% 1/10W (CA400/CA410: GREEN) (CA410: AMBER)
R571	1-216-065-00	RES-CHIP	4.7K 5% 1/10W
R572	1-216-089-11	RES-CHIP	47K 5% 1/10W
R573	1-249-425-11	CARBON	4.7K 5% 1/4W
R576	1-216-097-11	RES-CHIP	100K 5% 1/10W
R577	1-216-089-11	RES-CHIP	47K 5% 1/10W
R578	1-216-097-11	RES-CHIP	100K 5% 1/10W
R580	1-216-025-11	RES-CHIP	100 5% 1/10W
R581	1-216-049-11	RES-CHIP	1K 5% 1/10W
R582	1-216-077-00	RES-CHIP	15K 5% 1/10W
R583	1-216-025-11	RES-CHIP	100 5% 1/10W
R586	1-216-073-00	METAL CHIP	10K 5% 1/10W
R587	1-216-073-00	METAL CHIP	10K 5% 1/10W
R588	1-216-049-11	RES-CHIP	1K 5% 1/10W
R589	1-216-089-11	RES-CHIP	47K 5% 1/10W
R595	1-216-097-11	RES-CHIP	100K 5% 1/10W
R603	1-216-057-00	METAL CHIP	2.2K 5% 1/10W
R604	1-216-073-00	METAL CHIP	10K 5% 1/10W
R605	1-249-399-11	CARBON	33 5% 1/4W
R606	1-249-399-11	CARBON	33 5% 1/4W

Ref. No.	Part No.	Description	Remark
R607	1-249-399-11	CARBON	33 5% 1/4W
R608	1-249-399-11	CARBON	33 5% 1/4W
R609	1-249-397-11	CARBON	22 5% 1/4W
R625	1-216-017-00	RES-CHIP	47 5% 1/10W
R701	1-216-025-11	RES-CHIP	100 5% 1/10W
R751	1-249-417-11	CARBON	1K 5% 1/4W
R753	1-249-429-11	CARBON	10K 5% 1/4W
R756	1-216-198-00	RES-CHIP	1K 5% 1/10W
R757	1-216-198-00	RES-CHIP	1K 5% 1/10W
R758	1-216-198-00	RES-CHIP	1K 5% 1/10W
R760	1-216-198-00	RES-CHIP	1K 5% 1/10W
R901	1-216-295-11	SHORT	0
R902	1-216-097-11	RES-CHIP	100K 5% 1/10W
R903	1-216-097-11	RES-CHIP	100K 5% 1/10W
R904	1-216-097-11	RES-CHIP	100K 5% 1/10W
< SWITCH >			
S551	1-692-431-21	SWITCH, TACTILE (RESET)	
< THERMISTOR >			
TH501	1-803-350-21	THERMISTOR, POSITIVE	
< TUNER UNIT >			
TU1	A-3220-812-A	FM/AM TUNER UNIT (TUX-020)	
< VIBRATOR >			
X51	1-579-242-41	VIBRATOR, CRYSTAL (4.332MHz)	
X501	1-781-294-21	VIBRATOR, CRYSTAL (18.432MHz)	
X502	1-567-098-41	VIBRATOR, CRYSTAL (32.768kHz)	
*****			
MISCELLANEOUS			
*****			
17	1-782-381-11	CORD (WITH CONNECTOR) (ISO P&S) (POWER) (South European)	
18	1-777-989-41	CORD (WITH CONNECTOR) (AMP REM/ATT)	
60	1-694-781-11	CONDUCTIVE BOARD, CONNECTION	
F781	1-532-877-11	FUSE (BLADE TYPE) (AUTO FUSE) (10A)	
HP901	1-500-157-21	HEAD, MAGNETIC (PLAYBACK)	
LCD901	1-804-298-11	DISPLAY PANEL, LIQUID CRYSTAL	
M901	A-3291-665-A	MOTOR ASSY, MAIN (CAPSTAN/REEL)	
TU1	A-3220-812-A	FM/AM TUNER UNIT (TUX-020)	
*****			



Ref. No.	Part No.	Description	Remark
		***** HARDWARE LIST *****	
#1	7-685-792-09	SCREW +PTT 2.6X6 (S)	
#2	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S	
#3	7-685-794-09	SCREW +PTT 2.6X10 (S)	
#4	7-685-106-19	SCREW +P 2X10 TYPE2 NON-SLIT	
#6	7-624-104-04	STOP RING 2.0, TYPE -E	
#7	7-627-553-17	PRECISION SCREW +P 2X2 TYPE 3	

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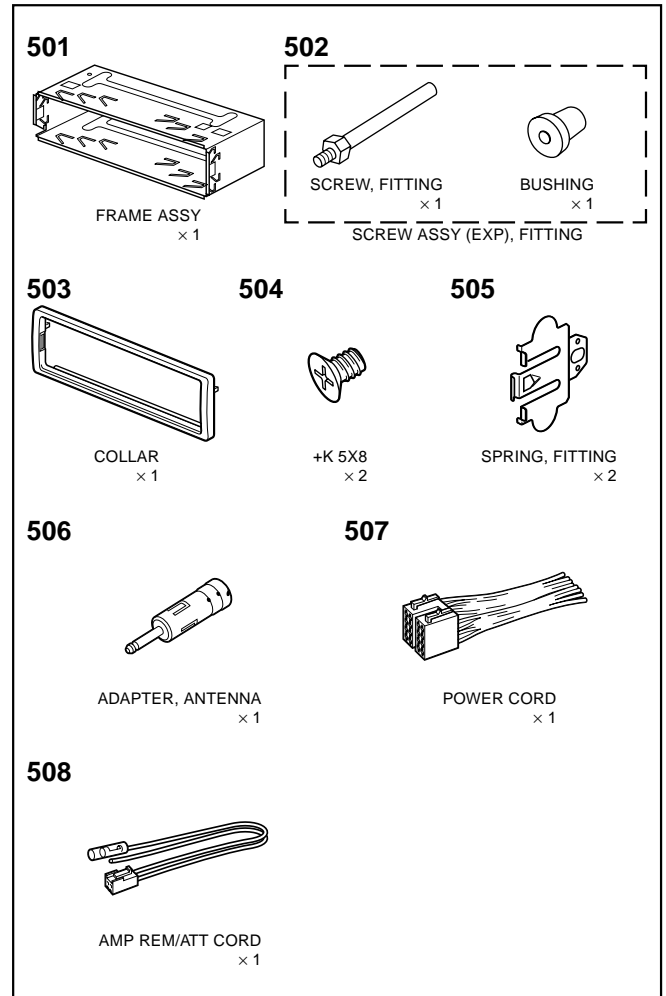
**ACCESSORIES & PACKING MATERIALS**

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3-226-701-11	MANUAL, INSTRUCTION (ENGLISH, FRENCH, GERMAN, DUTCH, ITALIAN)
3-226-701-21	MANUAL, INSTRUCTION (ENGLISH, SPANISH, SWEDISH, PORTUGUESE, GREEK)
3-226-701-31	MANUAL, INSTRUCTION (ENGLISH, POLISH, CZECH, RUSSIAN, TURKISH)
3-226-702-11	MANUAL, INSTRUCTION, INSTALL (ENGLISH, FRENCH, GERMAN, DUTCH, ITALIAN)
3-226-702-21	MANUAL, INSTRUCTION, INSTALL (ENGLISH, SPANISH, SWEDISH, PORTUGUESE, GREEK)
3-226-702-31	MANUAL, INSTRUCTION, INSTALL (ENGLISH, POLISH, CZECH, RUSSIAN, TURKISH)
X-3378-490-1	CASE (PANEL) ASSY (for FRONT PANEL)

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Ref. No.	Part No.	Description	Remark
		PARTS FOR INSTALLATION AND CONNECTIONS *****	
501	X-3373-602-1	FRAME ASSY	
502	X-3366-405-1	SCREW ASSY (EXP), FITTING	
503	3-225-732-01	COLLAR	
504	3-934-325-01	SCREW, +K (5X8) TAPPING	
505	3-041-000-01	SPRING, FITTING	
506	1-465-459-21	ADAPTER, ANTENNA	
507	1-782-381-11	CORD (WITH CONNECTOR) (ISO P&S) (POWER) (South European)	
508	1-777-989-41	CORD (WITH CONNECTOR) (AMP REM/ATT)	





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