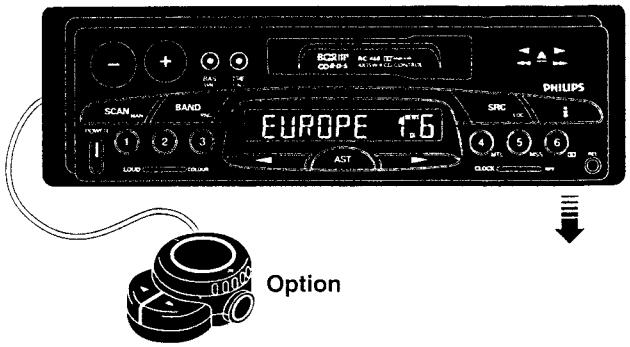
Cassette Car Radio 90RC448/0030
90RC468/00

Service
Service
Service



Option

Service Manual

12 V

RC448
For repair information of the Cassette deck see Service Manual No 4822 725 xxxxx of Auto Cassette Deck LCA*5.2.

RC468
For repair information of the Cassette deck see Service Manual No 4822 725 xxxxx of Auto Cassette Deck LCA*5.4.

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4822 725 23456

PCS 77 619

PHILIPS

Technical Specifications

General

Power Supply	:	10.8 - 15.6V
Quiescent Current (at 12.6V)	:	< 4.5mA
Fuse	:	10A

Radio

FM	:	87.5 - 108MHz
LW	:	144 - 288kHz
MW	:	531 - 1629kHz
SW	:	5.850 - 6.250MHz
IF-FM (1/2)	:	10.7MHz/72.2MHz
IF-AM(1/2)	:	10.7MHz/450kHz
α - 3dB	:	5 ± 3µV
FM sensitivity for 26dB S/N	:	≤ 4.4µV
MW sensitivity for 26dB S/N	:	≤ 25µV
LW sensitivity for 26dB S/N	:	≤ 30µV
SW sensitivity for 26dB S/N	:	≤ 19µV

Cassette Deck LCA5.2*) and LCA5.4*)

Number of tracks	:	2 X 2
Tapespeed	:	4.76 cm/second +3% - 1%
Wow and Flutter	:	0.3%
Cross talk	:	>48dB

Amplifier

Output Power (D=10%)	:	4x20W ± 1dB/4Ω
Loudness	:	9 ± 2dB at 60Hz
Bass	:	12 ± 2dB at 60Hz
Treble	:	10 ± 2dB at 10kHz
Balance	:	> 12dB
Max. line out current *)	:	400mA
Max. line out voltage *)	:	1V

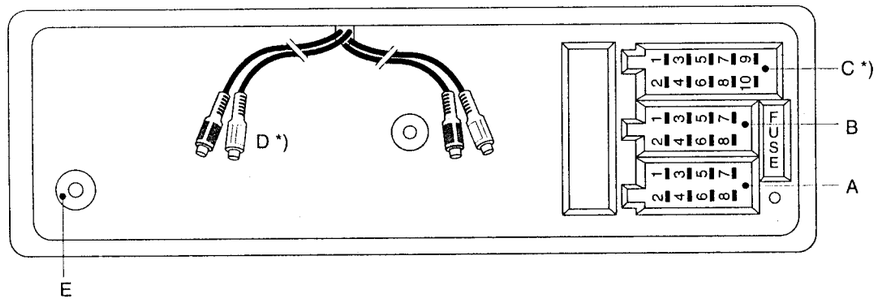
Tuner range table

Area	Bands	Frequency	Grids Manual/Search
Europe	FM	87.5 - 108MHz	50kHz/100kHz
	LW	144 - 288kHz	1kHz
	MW	531 - 1629kHz	1kHz/9kHz
	SW	5.850 - 6.250MHz	1kHz
USA	FM	87.5 - 108MHz	50kHz/100kHz
	AM	530 - 1710kHz	1kHz/10kHz

***) See Reference Table**

Reference Table

Function / Version	NEWS	AUTOREVERSE	DOLBY B	MSS Music Search System	MeCr Metal Chrome	BASS/TREBLE	4 CHANNEL LINE-OUT	2 CHANNEL LINE-OUT	CDCC CD CHANGER CONTROL	Remote
RC468/00	✓	LCA5.4	✓	✓	✓	✓	✓		✓	Optional
RC448/00	✓	LCA5.2								Optional
RC448/30	✓	LCA5.2						✓	✓	Optional



Connections

A1	:	Telephone Mute	B1	:	Rear Right +	C1	:	D²B GND	D *)	:	2 channel Line out
A2	:	Remote control ground	B2	:	Rear Right Return -	C2	:	D²B+			4 Channel Line out
A3	:	Remote input	B3	:	Front Right +	C3	:	D²B-			
A4	:	Permanent Plus	B4	:	Front Right Return -	C4	:	N.C.	E	:	Aerial Connection
A5	:	Auto Antenna	B5	:	Front Left +	C5	:	CDCC Supply			
A6	:	External Illumination Plus	B6	:	Front Left Return -	C6	:	GND			
A7	:	Ignition on-off	B7	:	Rear Left +	C7	:	Switched +			
A8	:	Power GND	B8	:	Rear Left Return -	C8	:	Line-In Right			
						C9	:	Line-in Left			
						C10	:	Line-in Gnd			

***) See Reference Table**

Service Hints

Tuner reception check (test mode)
Press Preset 2 and Preset 4 for more than 1 second to activate the test mode. The display shows :
F P M F F F F

F - Field strength
range 0 ..... F hexadecimal
(corresponds to Poor signal strength ..... Good signal strength)

P - Pause
range 0 ... F hexadecimal
(corresponds to No Pause indicator ..... Pause indicator present)

M - Multipath
range 0 ... F hexadecimal
(corresponds to No multipath signal ..... Multipath signal present)

F F F F - 4 figures of tuned frequency
range 87.5 - 108.0

Start up condition of RC388/RC348/RC328
It is very important that the uP is reset every time when the set is first connected or during power up.

1. **First time when the permanent supply A4 is connected :**
   i) Item 7921 HEF4044BT generate a low pulse (width 1 second) on pin 13.
   ii) Item 7913 BC857B which act as an inverter convert the low pulse into a high pulse (width 1 second) to pin 30 (RESET) of the main uP CE559.
   iii) uP will be reset and the set enter into the Standby mode, which means that the set is ready to be power up by the Power key.

   Pulse width (τ) is determined by item 3930 (100k) and 2920 (10uF) :
   $\tau = R * C$
   $\tau = 100k * 10u = 1$ second

   Note : Set will go into standby mode only when the above condition (i & ii) are fulfilled.

   During standby mode :
   A4 = 14.4V
   A4_SENSE = 4V
   A7_SENSE = 4.2V
   STABIC_ON/OFF = 5V

2. **When the set is power up by the power button :**
   i) Item 7921 HEF4044BT generate a low pulse (width 1.5m second) on pin 13.
   ii) Item 7913 BC857B which act as an inverter convert the low pulse into a high pulse (width 1.5m second) to pin 30 (RESET) of the main uP CE559.
   iii) uP will be reset and the set will turn on.

   Pulse width (τ) is determined by item 3929 (470k) and 2921 (3.3nF) :
   $\tau = R * C$
   $\tau = 470k * 3.3nF = 1.5m$ second

   Note : Set will turn on only when the above condition (i & ii) are fulfilled.

   During Power up :
   A4 = 14.4V
   A4_SENSE = 4V
   A7_SENSE = 4.2V
   STABIC_ON/OFF = 0V

Additional Function Check:

Item	Input	Output
Telephone Mute	Init Mode : Phone 'LO' Tune set to FM mode Connect A1 (T188) to GND	Set displays "CALL" Set speaker is muted.
Telephone Mute	Init Mode : Phone 'HI' Tune set to FM mode Connect A1 (T188) to +5V	Set displays "CALL" Set speaker is muted.
Auto Antenna Switch + Remote +	Switch on set. Connect a resistor of 470Ω from A5 to GND.	Measure at one end of the 470Ω a voltage of +12V.
CDCC+	Apply supply (A4 & A7 to the set) Switch off the set.	Measure at C5 (T119) a voltage of +12V
Line-out	Tuner set to FM mode, 97MHz Inject 97Mhz, 22.5kHz dev. E=1mV, 1kHz mod. Set volume setting at 1Vrms at speaker output.	Measure at pin D4 (T140) to D7 (T143) a 1kHz AF signal of 50mVrms.

ON/OFF LOGIC CHECK :

Steps	Permanent (A7)	Ignition (A4)	Action	Observation
1	ON	OFF	Turn set ON with power key.	Set is turn on.
2	ON	ON	With set in the ON mode.	Set remains on.
3	ON	OFF	Switch off ignition.	Set will be off, follow by two beeps.

Detachable Front Unit

The Detachable front unit is part of the Car Radio. Hence it is necessary that the customer always bring the complete set (with detachable unit) when service is needed. This statement was also printed in the Instruction For Use.

RC388/RC348/RC328 Software Release Status

Item	7700 CE559
SW Release	R1.0
Description	P83CE559EFB/017
Checksum	5749
Service Code	4822 209 12905

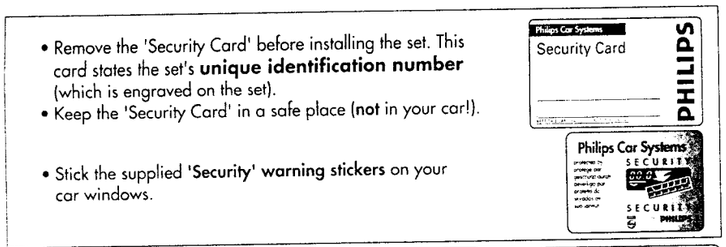
To read the 'checksum' of microprocessor

Power on the set, press simultaneously the preset 1 and preset 6 keys. 4 digit number (checksum of the main microprocessor) appear on the display.
Set will go back to the last mode of operation after about 5 seconds or after Power reset.

ESD

WARNING

All IC's and many semiconductors are susceptible to electronic discharges (ESD). Careless handling during repair can reduce life drastically.
When repairing, make sure that you care connected to the same potential as the mass of the set via a wrist wrap with resistance. Keep components and tools also at this potential.



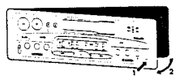
- Remove the 'Security Card' before installing the set. This card states the set's **unique identification number** (which is engraved on the set).
- Keep the 'Security Card' in a safe place (**not** in your car!).
- Stick the supplied **'Security' warning stickers** on your car windows.

DETACHABLE FRONT

- Always take the detachable front with you when leaving the car. Keep it in its protective case.
- For safety reasons, always replace the detachable keyboard before starting to drive.

■ **Removing Front**

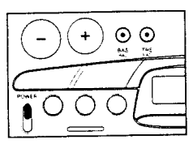
1 Press the release key.
2 Remove the front.



■ **Replacing Front**

1 Insert front starting with the left-hand side of the set.
2 Push the front until it clicks into the position.

Cleaning connectors for detachable front : To ensure good connection between the set and the detachable part, it is advisable to clean the connectors with a cotton swab from time to time.

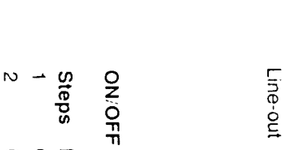


■ **ON-OFF**: Press the POWER key.
■ **VOLUME**: Press the – key or + key to adjust the volume.
■ **BASS (low notes)/TREBLE (high notes)/BALANCE (left/right)/FADER (front/rear)**

Bass Briefly press the BAS/BAL key. Adjust the setting with the – or + key (Min –7 Max +7)
Treble Briefly press the TRE/FAD key. Adjust the setting with the – or + key (Min –7 Max +7)
Balance Press the BAS/BAL key for at least 2 seconds (until you hear a beep).
Adjust the setting with the – or + key (Max. Left 7--, Mid-0-, Max. Right --7).
Fader Press the TRE/FAD key for at least 2 seconds (until you hear a beep).
Adjust the setting with the – or + key (Max. Rear 7--, Mid -0-, Max. Front --7).

Note: The bass and treble settings can be stored independently for the FM band, AM band, Traffic Announcements/News Bulletins, Cassette and CD* changer.

*only for certain versions.



(a) **Information concerning function :** Radio, Cassette, CD*, Audio setting or initialisation.
(b) **NEWS :** Radio is in News mode to give priority to News bulletins.
(c) **1 to 6 :** Preset station (radio), or disc number (CD* changer).
(d) **TA :** Radio is in TA mode to give priority to Traffic Announcements.

■ **ILLUMINATION COLOUR**

The illumination colour for the set's display can be changed to either green or orange.

Changing the colour

- Press the COLOUR key for at least 2 seconds (until you hear a beep).

■ **CLOCK**

This set incorporates a clock. (You can choose between 12 hour or 24 hour format. See 'INITIALISATION', option 'TIME')

Displaying the time

- Press the CLOCK key.
  - The display shows the time e.g. 'PM 12:00'.

Setting the correct time

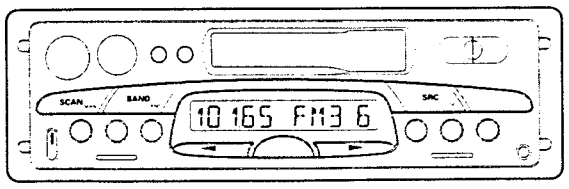
1 Press the CLOCK key and at the same time press ► key (until you hear a beep).
2 Press the ◄ or ► key to adjust the time. (Keeping the key pressed changes the time quickly).
  - You will hear a beep after 10 seconds and the set will return to the last mode of operation.
  - The clock starts operating from the selected time.

■ **LOUDNESS**

If desired you can switch on loudness to increase the high and low notes at low volume settings.

- Briefly press the LOUD key to switch loudness on or off.
  - The display briefly shows 'LOUD ON' or 'LOUD OFF'.

*only for certain versions.



TUNING TO A STATION

1. Briefly press the BAND key to select the desired waveband:
   FM1, FM2, FM3, MW1, MW2, LW, SW
2. Tune to a radio station using:
   Search tuning; Manual tuning; Recalling a preset station; or Auto-Store (on FM3 and MW2 only).

SEARCH TUNING (to quickly search for a station)

1. Briefly press the ◄ key (lower frequency) or ► key (higher frequency).
   - You will receive a station after a short time.
2. To search for another station, press the same key again.

Note: If the TA mode is switched on, search tuning only selects stations which enable the reception of Traffic Announcements.

■ **LOCAL / DISTANT (influences search tuning on FM)**

- Press the LOC key for at least 2 seconds (until you hear a beep) to switch between LOCAL and DISTANT mode. (The display briefly shows 'LOCAL' or 'DISTANT' respectively).
  - In LOCAL mode the radio will first search for strong stations and then weaker stations.
  - In DISTANT mode the radio will search for any receivable signal (useful in areas with weaker FM signals).

MANUAL TUNING (if you know the frequency of the required station)

1. Press the MAN key for at least 2 seconds (until you hear a beep) to switch from search tuning to manual tuning.
2. Tune to the desired frequency with the ◄ or ► key (keeping the key pressed changes the frequency quickly).

Note: The radio **automatically** switches back to search tuning (with a beep) after about 1 minute.

STORING STATIONS ON PRESET KEYS

This radio has storage locations for:

18 FM stations	6 x FM1, 6 x FM2, 6 x FM3	(FM3 also used for Auto-store)
12 MW stations	6 x MW1, 6 x MW2	(MW2 also used for Auto-store)
6 LW stations	6 x LW	
6 SW stations	6 x SW	

RDS

RDS is a system in which inaudible digital information is transmitted in addition to the normal FM radio broadcast. This car radio uses the RDS information to offer you many advantages, including:

- **Display of station-name:** The set displays the name of the station instead of its frequency.
- **Automatic retuning:** When the AF function is activated, the set maintains the best possible reception. The set continuously checks a list of Alternative Frequencies (AF) for the tuned radio station and automatically selects the best frequency for you.
- **Traffic information:** When the TA function is activated, the radio tunes to a station which may broadcast traffic information (TP = Traffic Programme) and receives Traffic Announcements (TA) when broadcast. You can receive Traffic Announcements even when listening to cassette or CD* or during audio mute.
- **News bulletins:** When the NEWS function is activated, you can receive News bulletins , even when listening to cassette or CD* or during audio mute.
- **Information from related radio stations:** Enhanced Other Networks (EON) is an RDS service where the broadcaster links some stations together. If you are tuned to a station which is linked to others by EON, the set is capable of receiving Traffic Announcements and/or News bulletins from both the tuned station and related stations.
- **Automatic tracking of regional programmes:** This radio ensures that when listening to a regional programme, the radio will stay tuned to the same regional programme as long as possible.
- **Emergency announcements (PTY Alarm):** This set automatically receives emergency announcements made by the broadcaster using the RDS PTY alarm service. (During the message the display shows 'ALARM' and the station-name alternately).

When an RDS transmission is received, the display shows the station name.

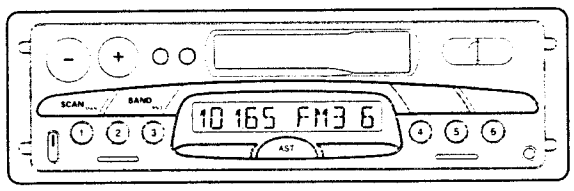
Switching off automatic retuning

- If you want to prevent the radio from retuning to Alternative Frequencies, select 'AF OFF' in Initialisation mode.
  - The display shows 'AF OFF' and the radio stops checking Alternative Frequencies.
- To switch on automatic retuning again, select 'AF ON' in Initialisation mode.
  - The display shows 'AF ON'.

Notes

- Automatic retuning is activated again if you tune to another station (or if you switch the set **off** and then **on** again).
- 'AF ON' or 'AF OFF' is stored on each preset. If you store a station on a preset when AF is switched off, the radio will **not** check Alternative Frequencies whenever you select this preset.

*only for certain versions.



PRESET STATIONS

■ **Storing a station (on the desired waveband)**

1. Tune in the desired station (See 'SEARCH TUNING' or 'MANUAL TUNING').
2. Press the desired preset key (1 – 6) **for at least 2 seconds** (until you hear a beep). The display shows the preset number on which the station has been stored.

Note: When storing on FM station, the AF mode (on or off) is stored on the preset.

■ **Recalling a station (on the desired waveband)**

1. Briefly press the desired preset key (1 – 6).
   - The display shows the frequency of the selected station. For RDS stations this is followed by the station-name.

■ **Frequency SCAN (quick impression of next available station for 10 seconds each)**

1. Briefly press the SCAN key.
   - The display shows : 'SCAN' and the current waveband (for example 'FM3'). The set starts to search for next available station on current waveband and then the display shows : the new station name (or frequency) and the waveband.
   - After 10 seconds, the set searches for the next available station.
2. To stop the scan, briefly press the SCAN key again when you hear a station you like.

AUTO-STORE (to automatically store 6 stations on FM3 or MW2)

This function is useful when travelling through different reception areas.

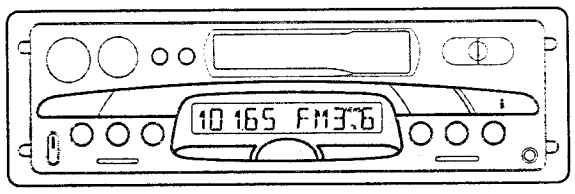
*When you use Auto-Store, the new stations **replace** any stations previously stored on the FM3 band (for FM) or the MW2 band (for MW).*

■ **Automatically storing stations (on FM3 or MW2 only)**

1. Briefly press the AST key. The set gives a beep and then mutes.
   - The display shows 'AST'. The radio starts searching from the current frequency and stores 6 stations on the FM3 or MW2 band. When it has finished you hear a beep.
   - You then hear the Auto-store station on preset 1.

■ **Interrupting Auto-Store:** If Auto-store has been accidentally activated, the Auto-store can be aborted before the set completes the AST function. Switch the set **off** and then **on** again.

Note: Sometimes it may not be possible to find six stations. In this case, the remaining presets (for example 5 and 6) are programmed with '000'.



■ **Switching on TA mode (to receive traffic announcements when broadcast)**

1. Briefly press the i key. **The display shows 'TA'.**
   - If the display shows 'NO TA': The radio was **not** already tuned to a station enabling the reception of Traffic Announcements. The radio automatically searches until it finds another station.
   - You will now hear Traffic Announcements when broadcast.
   - When the set receives a Traffic Announcement from another station (linked by EON), the display temporarily shows the name of that station.
   - If you play a cassette/CD*, or mute the set, while the TA mode is switched on, you will still hear Traffic Announcements when broadcast.

■ **Switching off TA mode**

- Briefly press the i key. **'TA' disappears from the display.**

Note: If the tuned station becomes too weak to enable the set to provide the RDS traffic service, you will hear **beeps repeated at intervals**. Use search tuning to find another station.

If the radio **continuously searches**, you are in an area where no Traffic Announcements are broadcast using the RDS system. Briefly press the i key to switch off the TA mode.

■ **Switching on NEWS mode (to receive News bulletins when broadcast)**

1. Press the i key for at least 2 seconds (until you hear a beep). **The display shows 'NEWS'.**
2. Tune to a station which broadcasts PTY NEWS (or a station linked by EON to a station which broadcasts PTY NEWS).
   - You will now hear news bulletins when broadcast.
   - When the set receives a news bulletins from another station (linked by EON), the display temporarily shows the name of that station.
   - If you play a cassette/CD*, or mute the set, while the NEWS mode is switched on you will still hear news bulletins when broadcast.

■ **Switching off NEWS mode**

- Press the i key for at least 2 seconds (until you hear a beep). **'NEWS' disappears from the display.**

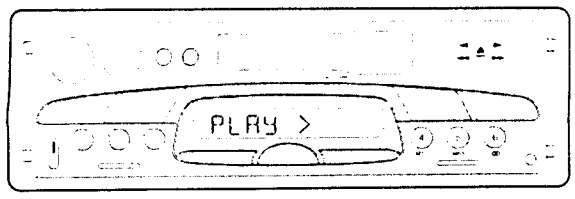
To check if a station (stored on a preset) broadcasts PTY NEWS: Briefly press the preset key during a news bulletin. If 'NEWS' is displayed, this station broadcasts PTY NEWS.

■ Interrupting a Traffic Announcement or a News bulletin: If you do not wish to continue listening to a particular announcement, you can interrupt it without switching off the TA or NEWS mode.

- Press the i key briefly **during the announcement.**

Note: **TA mode has priority over NEWS mode:** News bulletins may be interrupted by Traffic Announcements (if the TA mode is switched on).

*only for certain versions.



■ **PLAYBACK**
Slide the cassette (with the open side to the right) into the cassette opening.
– Cassette playback starts. **The display shows '< PLAY'or 'PLAY >'.**
Autoreverse: At the end of the tape, playback automatically continues with the other side.
Dolby · B Noise Reduction*
For cassette recorded using the Dolby B NR system, press the 'DD' key for optimal reproduction. The display shows briefly 'DOLBY NR'.
To switch off the Dolby B NR system, press the DD key again. The display shows briefly 'NR OFF'.
Metal-Chrome*
Press the 'MTL' key when playing a metal-chrome cassette. The display shows briefly 'MTL ON'.
To switch off Metal-Chrome, briefly press the 'MTL' key again. The display shows briefly 'MTL OFF'.

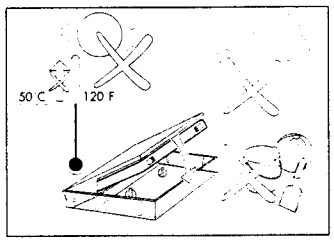
■ **CASSETTE EJECT**
Press the ▲ key (◄ and ► at the same time) fully. The cassette is ejected and the set switches to radio reception.

■ **REVERSE**
To change the direction of play before the end of the tape; press **both** the ◄◄ and ►► keys **at the same time halfway and release.**

■ **FAST FORWARD/FAST REWIND** (during fast forward/rewind you hear the radio).
- Press the ◄◄ or the ►► key into a locked position.
  – The display shows 'FAST < >' for fast forward and for fast rewind.
- To stop the fast forward/rewind before reaching the end of the tape, slightly press the key which has not been pressed (◄◄ or ►►).

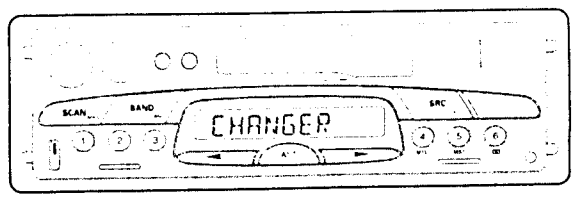
■ **MSS – MUSIC SEARCH SYSTEM*** ***(to start playback from the beginning of a silent interval between two passages on the tape)***
- Briefly press the MSS key. The display shows briefly 'MSS ON'.
- Press the ◄◄ key or ►► key to search backward or forward. The display shows 'MSS < >'.
  – The sound is muted during MSS search.
  – Playback resumes when the next or previous track is reached.
- To switch off MSS, briefly press the MSS key. The display shows briefly 'MSS OFF'.

- *Only use good quality cassettes (cassettes longer than C-90 are not recommended).*
- *Put cassettes back in their boxes immediately after use to protect them from dust and dirt and to prevent the tape from unwinding.*
- *Never expose cassettes to heat, direct sunlight or moisture.*
- ***To avoid possible tape damage always eject the cassette out of the set when not in use.***



* Dolby Noise Reduction manufactured under license from Dolby Laboratories Licensing Corporation. 'DOLBY' and the double-D symbol DD are trademarks of Dolby Laboratories Licensing Corporation.

**only for certain versions.*



A Philips CD* changer (**D²B type**) can be connected to this car radio. See your dealer for more information.

■ **CD PLAYBACK**
- Select 'CHANGER' by briefly pressing the SRC key.
- Press one of the preset keys (1–6) to select the desired disc.
  – The display shows the total number of tracks and the total playing time and the disc number (for example 'T19 67:10 4').
  – The player starts playback, beginning with track 1.
  – The display then shows: 'T', the current track number, the elapsed time and the disc number (for example 'T01 00:25 4').
  – At the end of the disc, playback automatically continues with the next disc.

■ **PLAYING A SPECIFIC TRACK (NEXT / PREVIOUS)**
- Briefly press the ◄ or ► key one or more times to select the desired track (for example 'T01 > T02').
  – Playback resumes starting from the chosen track.
- If you want to return quickly to the **first track on the current disc:**
  – Press the preset key (1–6) corresponding to the disc being played.

■ **FAST FORWARD/BACKWARD (to quickly move to another part of the disc)**
1 Press the ◄ or ► key for at least 2 seconds.
2 Release the key to resume normal playback.

■ **SCAN (to become familiarized with the disc in a convenient way)**
1 Briefly press the SCAN key.
  – The display shows 'SCAN' and the track number being scanned.
  – You hear the first 10 seconds of each track.
  – After the last track on the disc has been scanned, the set continues the scan from the first track on the same disc.
2 Briefly press the SCAN key again when you hear a track which you like.
  – Normal playback resumes.

■ **RANDOM (to play all the tracks on the disc in a random order)**
1 Press the RND key.
  – The display shows 'R', the track number and the playing time (for example 'R01 10:45 1')
  – After all the tracks on the disc have been played, Random play continue on the next disc, and so on .
2 To resume normal playback, press the RND key again.
  – The display shows 'T', the track number and the elapsed time.

■ **REPEAT TRACK (enables you to replay your favourite track)**
1 Press the RPT key for at least 2 seconds (until you hear a beep).
  – The display shows 'RPT ON', then the track number and time.
  – The track will be repeated until the function is switch off.
2 To resume normal playback, press the RPT key for at least 2 seconds (until you hear a beep).
  – The display shows 'RPT OFF', then the track number and time.

**only for certain versions.*

INITIALISATION (to modify the set's initial settings to your preferences)

■ **Selecting personal settings**
1 Press the BAND key **for at least 2 seconds** (until you hear a beep) to enter the 'INIT' mode. The display shows 'INIT' and then the setting to be changed.
2 Press the ◄ or ► one or more times until the **option** you want to modify is displayed (see list of 'INIT' options).
3 Briefly press the AST key one or more times to adjust the **choice**.
  – The choice shown on the display will be memorized by the set when you select another option or leave the 'INIT' mode.
4 Press the BAND key **for at least 2 seconds** (until you hear a beep) to leave the 'INIT' mode.

Note: The set automatically leaves the 'INIT' mode (with a beep) about 1 minute after your last operation.

'INIT' options
Initial settings (when set leaves factory) are shown in **bold**. If you are unsure of the best choice, choose the factory setting.

Option	Choice	Usage
SRC*	[**CDC**, AUX]	Source connected to connector C of the car radio: – Select 'CDC' if connecting a Philips CD* changer (D²B type). – Select 'AUX' if connecting a portable audio player.
LOUD	[**HI**, MID, LOW]	Select desired volume level during LOUD ON.
TAPE CDC* AUX* TA	[-2, -1, **O**, +1, +2] [-2, -1, **O**, +1, +2] [-2, -1, **O**, +1, +2] [**0**, +1, +2, +3, +4]	Volume level of cassette relative to tuner. Volume level of CD* Changer relative to tuner. Volume level of AUX input relative to tuner. Volume level of Traffic Announcements and News bulletins relative to tuner
AF	[**ON**, OFF]	Select 'ON' if you want Alternate Frequency.
MW	[**ON**, OFF]	Select 'OFF' to suppress MW band if it is not used.
LW	[**ON**, OFF]	Select 'OFF' to suppress LW band if it is not used.
SW	[**ON**, OFF]	Select 'OFF' to suppress the SW band if it is not used.
TUNER	[**EUROPE**, USA]	Select desired AM Tuner range.
TIME	[12H, **24H**]	Select desired clock format.
BLEEP	[**0**, +1, +2, +3, +4]	Select volume level of confirmation beeps (useful if external amplifier is connected).
PHONE	[**NO**, LO, HI]	Select 'LO' or 'HI' according to phone ('LO' in most cases). Select 'NO' if no phone connected.
RMT *	[**PHIL**, OPEL, FIAT]	Select desired types of wired remote control.
LOGI	[**OFF**, ON]	Select 'ON' if you want to be able to use the set even when the car ignition is switched off. The 'On/off logic' feature enables use of the set (for one hour) even when you have removed the car ignition key (See 'MOUNTING INSTRUCTIONS'.)

Note : (REF) Reference volume can be preset by using the volume up or down keys during the 'INIT' mode.

**only for certain versions.*

CHECKS BEFORE REQUESTING SERVICE

There may be times when you suspect that your car radio is not functioning as you expect it to. Before calling for service please read the operating / mounting instructions and check the following list. You may find that an apparent malfunction can easily be rectified.

Symptoms	Possible Cause / Remedy
General	
Set does not function, No Display.	Check fuse (set and car) and connections.
Set functions but with no or poor sound.	• Adjust volume of set. • Check fader and balance settings. • If car phone is connected, check setting for 'PHONE' option in 'INIT' mode.
Set mutes when you drive the car.	• Set 'PHONE' option to 'NO' in 'INIT' mode.
Detachable keyboard of set feels warm.	Some heat is always generated by the set.
Display shows 'TOO HOT' and the sound from the speakers is reduced.	A bulit-in safety circuit prevents the temperature in the set from exceeding a certain level. • Wait until 'TOO HOT' disappears from the display before increasing the volume.
Radio	
Poor radio reception.	• Check that the aerial is fully extended and properly connected.
Display shows 'SEARCH' and station name alternately.	Set is searching for the Station. This happens when broadcast is too weak. • Wait until set completes its search.
Display shows frequency (not station name).	Set is tuned to non-RDS station.
Display shows 'ALARM'.	Emergency announcements (PTY Alarm) is being broadcast.
Unable to tune to desired station with Search tuning.	– The desired station is too weak. • Repeat Search tuning with local search mode (LOC) OFF. • Tune to desired station using Manual Search. – Set is in TA mode: only stations with Traffic Announcements can be tuned in. • If necessary switch OFF TA mode. • Check that the aerial is fully extended.
Displays shows 'NO TA' and set bleeps.	Set is in TA mode but the selected station does not broadcast Traffic Announcements (TA). • Switch OFF TA mode or tune to another station.
Cassette	
Cassette playback lacks high-notes or loss of one channel.	• Clean cassette player tape head.
Cassette mechanism changes direction of play before end of tape.	Rewind cassette to the end of the tape.
CD*	
Display shows 'NO DISC' or 'CD ERROR', or you hear a beep.	No CD inserted or CD inserted upside-down or damaged or dirty or of the wrong type.
Distorted sound during playback.	Player unable to read disc. CD damaged or dirty.

If you still have to send your set for service, always send the complete set (with detachable keyboard). Do not try to open the set to service it yourself.

PREVENTIVE MAINTENANCE

Cleaning connectors for detachable keyboard.
To ensure good connection between the set and the detachable part, it is advisable to clean the connectors with a cotton swab from time to time.

Cleaning cassette player tape head (and tape path).
Dust, contamination or grime can accumulate on the tape head after extended use of the cassette player.This results in diminishing high-note reproduction. In the case of severe contamination, reproduction of one or both channels may totally fail.
- Clean the tape head (once or twice a month) using **only wet-type cleaning cassette.**

**only for certain versions.*

Aerial: Good reception is only possible with a good aerial. Position the aerial as far as possible from the ignition assembly. The aerial earthing bar or strap must contact clean metal. Protect this contact against corrosion with silicone grease or another rust preventer.

Adaptor cables: Specific adaptor cables (which simplify connection of the set) are available for many cars. Refer to the table at the end of this booklet. Contact your dealer for further information.

1 POWER SUPPLY

Voltage and polarity: The set must be connected to a 12 V car battery with negative terminal to earth (car chassis).

- Use the same earthing point for the radio and all other audio equipment (to minimize interference).

Note: **Permanent** 12V supply must be connected to ensure that CD* changer functions correctly.

⚠ **WARNING: To prevent short-circuiting, disconnect the negative car battery terminal until the set has been mounted and connected.**

PREPARING CONNECTOR A

1.1 Recommended power supply connections

1 **BROWN** lead [A8]: Connect to an earthing point on the car body.
2 **RED** lead [A7]: Connect to a **switched** 12 V supply.
3 **YELLOW/RED** lead [A4]: Connect to a **permanent** 12 V supply.

1.2 Alternative power supply connections (for 'ON/OFF LOGIC')

*The 'ON/OFF LOGIC' feature in this set functions only if the **permanent** 12V supply and **switch** 12V supply are connected as below. Consult your car service manual or check with your dealer to confirm this. See illustration for correct connection.*

1 **BROWN** lead [A8]: Connect to an earthing point on the car body.
2 **RED** lead [A7]: Connect to a **permanent** 12 V supply.
3 **YELLOW/RED** lead [A4]: Connect to a **switched** 12 V supply.
4 See 'INITIALISATION', option 'LOGI' to activate this feature.

OPTIONAL CONNECTIONS

1.3 Electronic/motor aerial: Connect the **supply for an electronic aerial** or the **control lead for the relay of an automatic motor aerial** to pin [A5]. Use the small contact supplied.
Do not use this connection point for direct supply of the aerial motor!

1.4 Pilot light: When the car headlamps are switched on, the on/off control of the radio is illuminated (even when the radio is switched off). Connect pin [A6] to the dashboard illumination wiring of your car. Use the small contact supplied.

1.5 Telephone mute: If your car telephone provides a mute signal, it can be used to automatically interrupt the set's audio output. Connect the telephone mute wire to connector [A1]. Use the small contact supplied. Choose required settings from INITIALISATION mode.

PREPARING CONNECTOR B (FOR LOUDSPEAKERS)

- **Only use loudspeakers which have an impedance of 4 ohms.**
- **Ensure that the loudspeakers are connected in phase by using marked speaker terminals for the phase (+) connections.**
- **Do not connect any of the loudspeaker leads to earth!**
- **Do not connect a booster/amplifier directly to the loudspeaker outputs!**
- **Do not connect loudspeakers via an external fader!**

MOUNTING INSTRUCTIONS (continued)

2.1 Connecting 4 loudspeakers (see illustration) **4 x**

1 = Rear Right phase (RR +) 2 = Rear Right return (RR –)
3 = Front Right phase (FR +) 4 = Front Right return (FR –)
5 = Front Left phase (FL +) 6 = Front Left return (FL –)
7 = Rear Left phase (RL +) 8 = Rear Left return (RL –)

PREPARING CONNECTOR C

2.2 CD CHANGER: You can connect a CD* changer **(D²B type)** to this set (see the mounting instructions for the CD* changer).

2.3 PORTABLE PLAYER: To increase your listening possibilities you can connect a portable DCC, CD or cassette player to this set (in place of a CD* changer). Use the cable mentioned in the illustration. The cable must be connected to an output of 750 mV (in most cases the headphone output of the portable player is suitable).

1 Select option 'SRC' and set the choice to 'AUX' as described under 'INITIALISATION'. This indicates to the set that a portable player is connected instead of a CD* changer.
2 Increase the volume of the portable player to desired level.

3. INSTALLING METAL SLEEVE

1 Insert metal sleeve into the opening of the car dashboard or console.
2 Fix metal sleeve into place by pressing the metal tags outwards using a screwdriver.

4. CONNECTING RADIO

4.1 Fit antenna adaptor if needed.
4.2 Insert aerial plug into aerial adaptor/socket.
4.3 Screw rubber buffer onto fixing stud at rear of set.
4.4 Insert power supply plug **A** into socket **A'**.
4.5 Insert loudspeaker plug **B** into socket **B'**.
4.6 (where applicable)* Remove the plastic cover from socket **C'** and insert the rectangular plug from the CD* changer or Portable player.
4.7 (where applicable)* **Line output (2 or 4-channel):** You can connect a power amplifier (with additional loudspeakers) to this set using the RCA cable **D**. (see illustration 4)
Note : Remote ON/OFF wire from the power amplifier should be connected to A5 of connector A.

5. MOUNTING RADIO

- Slide the radio into the metal sleeve until the springs at either side of the radio snap into the openings of the sleeve.
- **Reconnect** the negative car battery terminal.
  – Installation is now complete.

6. REMOVING RADIO (using the two U-brackets supplied) (see illustration 6)

Insert both U-brackets [x] into the holes [y] until they lock. Pull out the radio.

REPLACING FUSE (see illustration 4)

Replace with a blade-type fuse of the correct rating.

INTERFERENCE SUPPRESSION

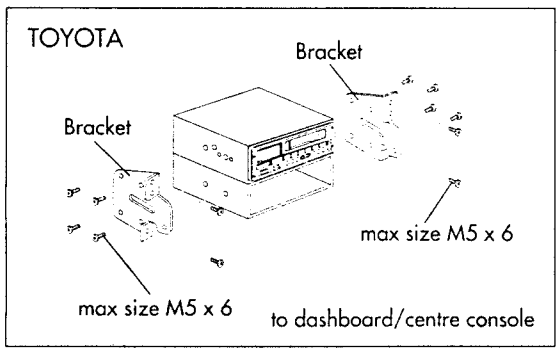
Most modern cars have sufficient interference suppression. If you experience interference generated by the car, consult your garage.

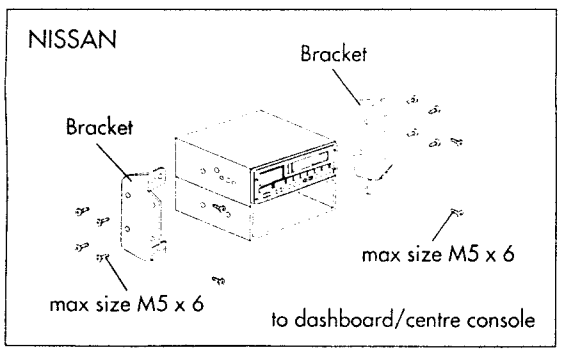
**only for certain versions.*

Mounting Set in Japanese Car

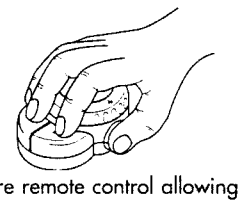
This set may not be installed in some makes of car.
Contact your dealer for further information.

1 Install the set according to the example illustration below.
(Use only existing parts supplied to your car)

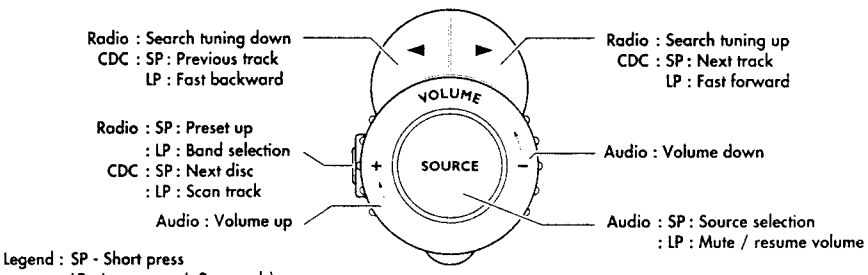




**only for certain versions.*



This set can be equipped with a wire remote control allowing you to carry out some of the main functions of the set. Thanks to the large buttons and ergonomic design, you can easily control the set without the need to take your eyes off the road while driving. This gives you increased security.
• The following functions are available :



■ **INSTALLING REMOTE CONTROL**

Fixing remote control (Fig. 7)

The remote control has to be fitted in a position which is easily accessible by a natural movement, either on the dashboard or between the two seats.

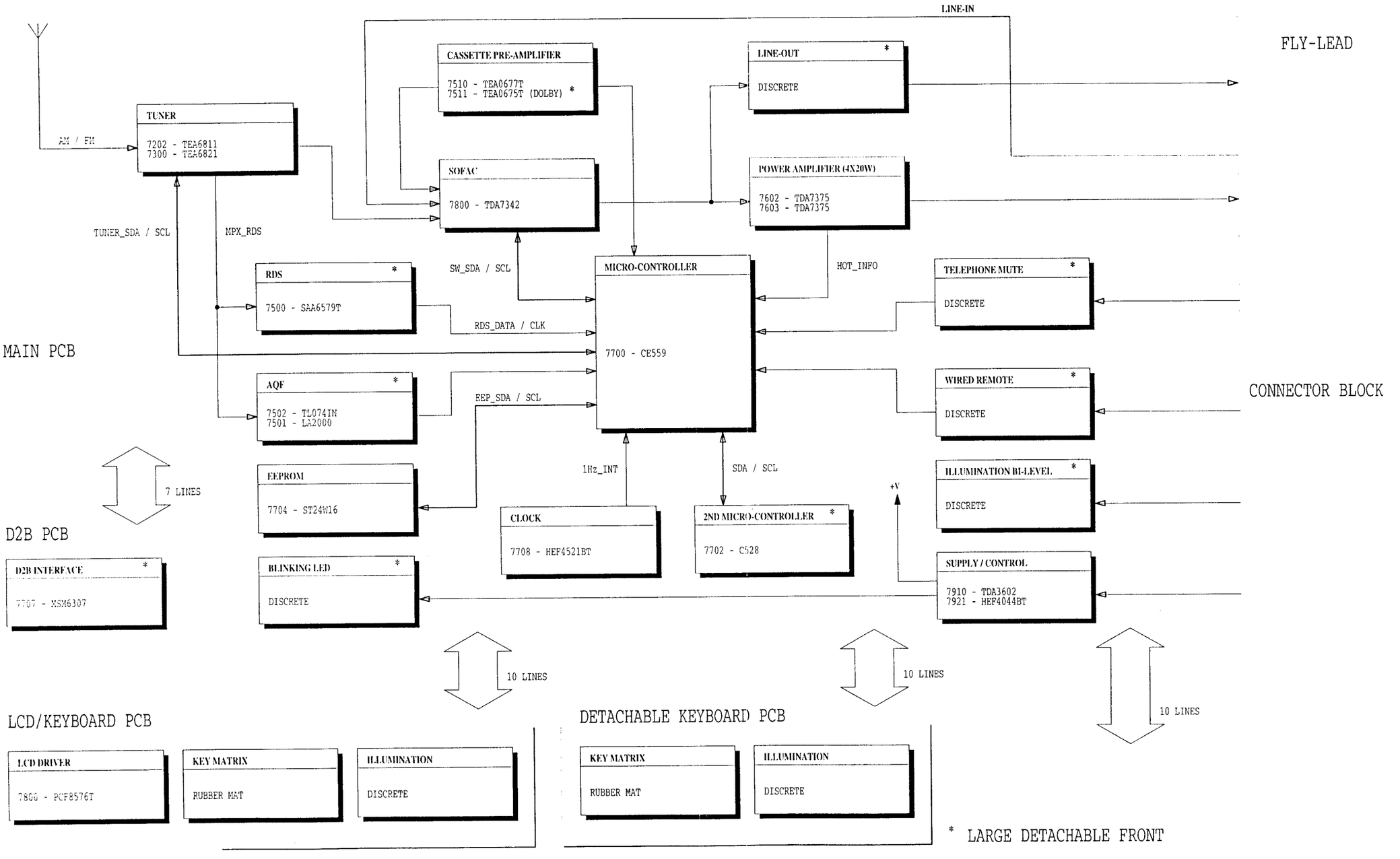
⚠ **The remote control, or its cable, must in no way interfere with normal use of the steering wheel! Never mount the remote control on the steering wheel itself!**

- First fix the support temporarily using the adhesive tape. You can then check for ease of use in that position.
- After you have determined the ideal position, fix the remote control as follows:
  - **Fix the metallic support using the supplied screws.** Then slide the remote control into its support. **For security reasons always leave the remote control fitted in its support!**

Connecting remote control (Fig. 8)

- Determine the best way to pass the cable through or below the console. This depends on the location of the remote control and the configuration of your car.
- If you need to drill a hole, the required diameter is 8 mm. Be careful not to drill into any existing wiring! Protect the remote control cable from sharp edges. Use a rubber grommet if necessary.
- Insert the 2 mini-connectors into positions [A2] and [A3] of connector **A**.
  If you later want to disconnect the remote control, do this by disconnecting the intermediate connector **G**.
- Fix the remote control cable with adhesive tape underneath the carpet.
  Run the cable in such a way that you cannot tread on it and that it does not get in the way when driving!

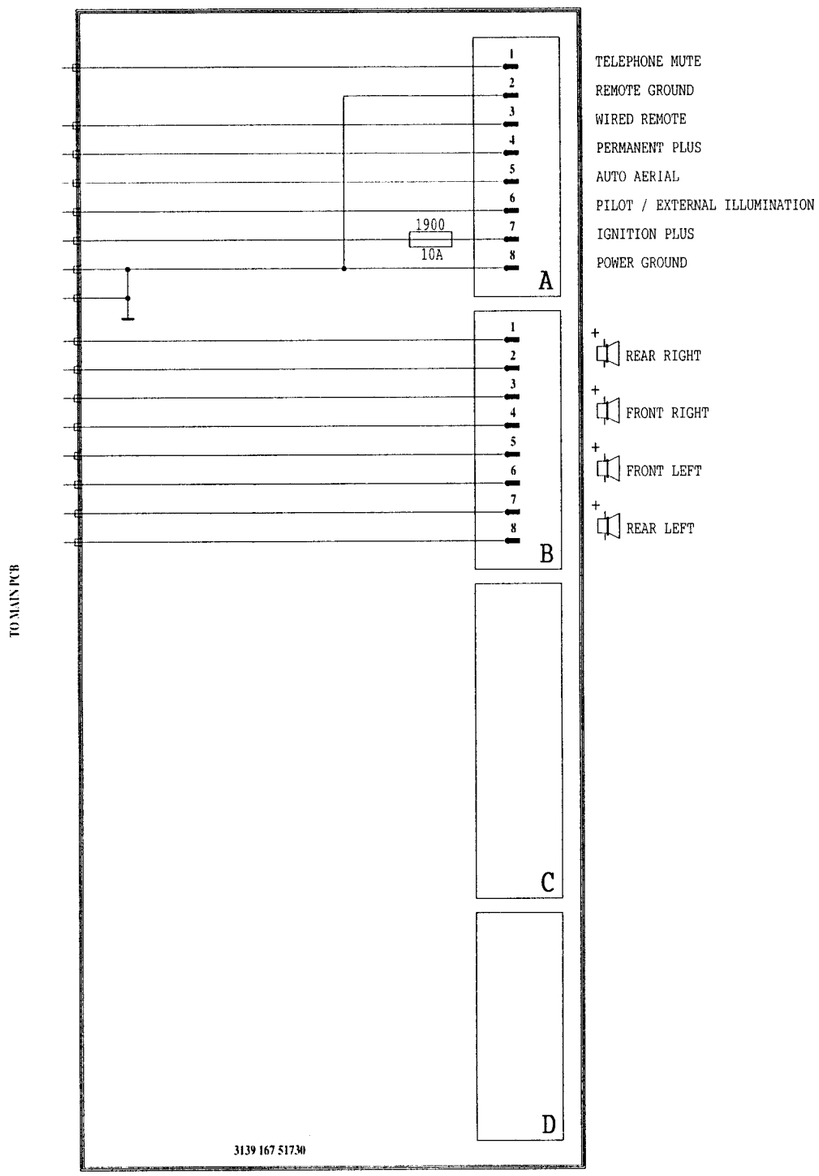
PART A : ELECTRICAL ARCHITECTURE



* = OPTION

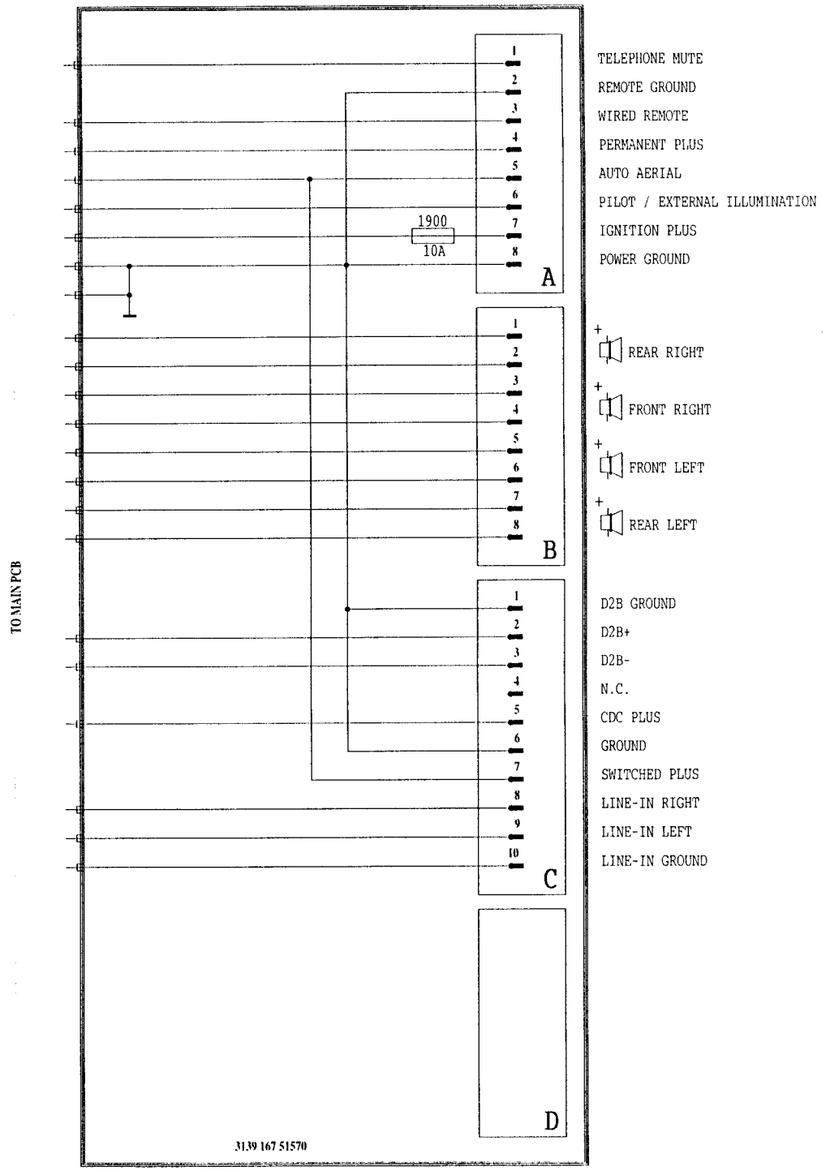
PART C : CONNECTOR BLOCK

4X20W CONNECTOR BLOCK



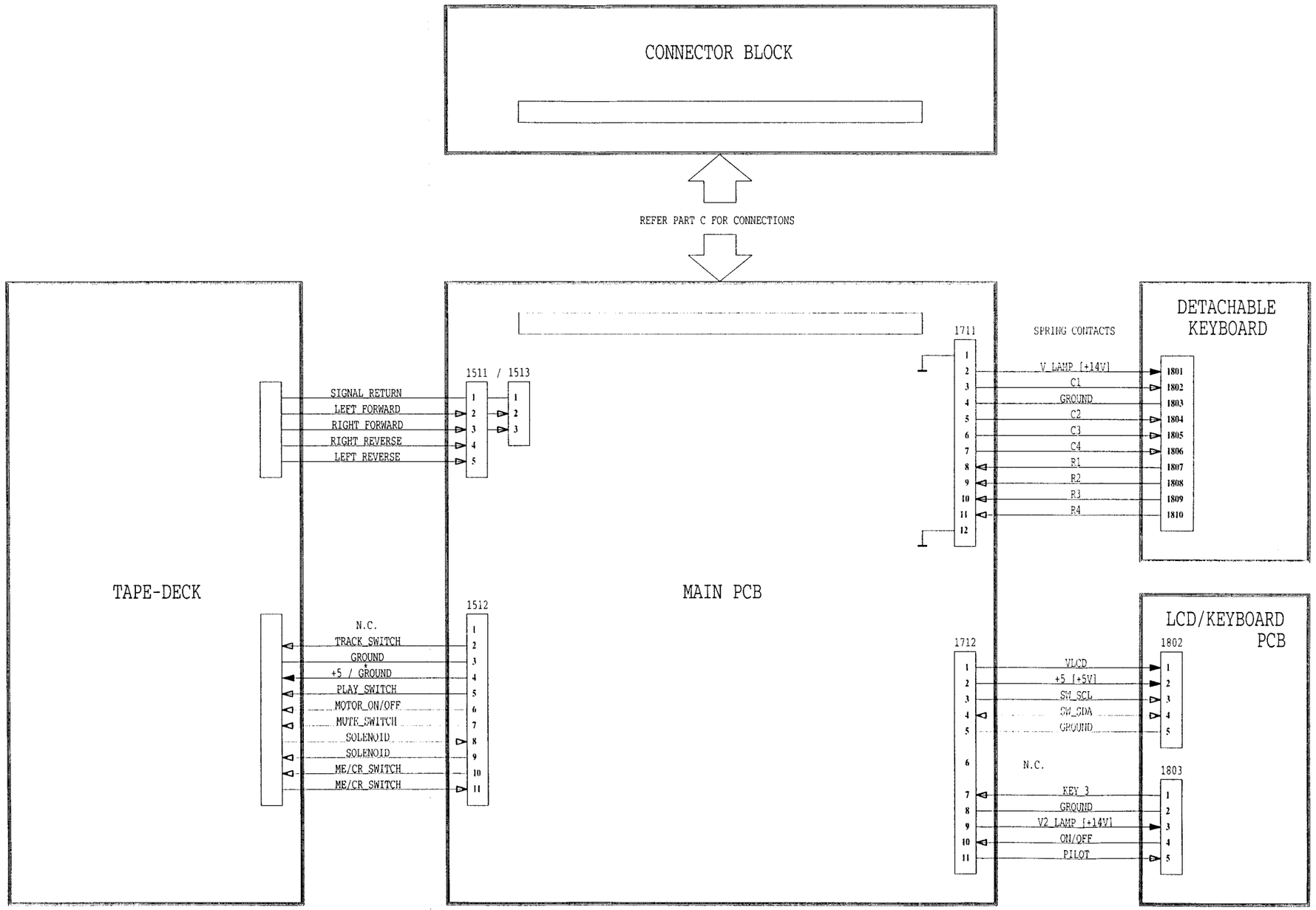
FOR RC328/00, RC448/00

4X20W CONNECTOR BLOCK



FOR RC348/00, RC348/30, RC348/97, RC388/00, RC448/30, RC468/00

PART B : WIRING DIAGRAM



MAIN PCB ASSEMBLY

Voltage measured in FM mode with
A4 = 14.4V
A7 = 14.4V
unless otherwise stated.

(off) = Power off
(on) = Power on

+1	+14V
+2	+14.4V
+3a, +3b	8.5V
+4	+5V
+5, +5a,+5b	+5V
+7	+5V
+CDCC	14V
Vref	5V
V_LAMP	14V

7100 BF999

G	0.4V
D	8V
S	0V

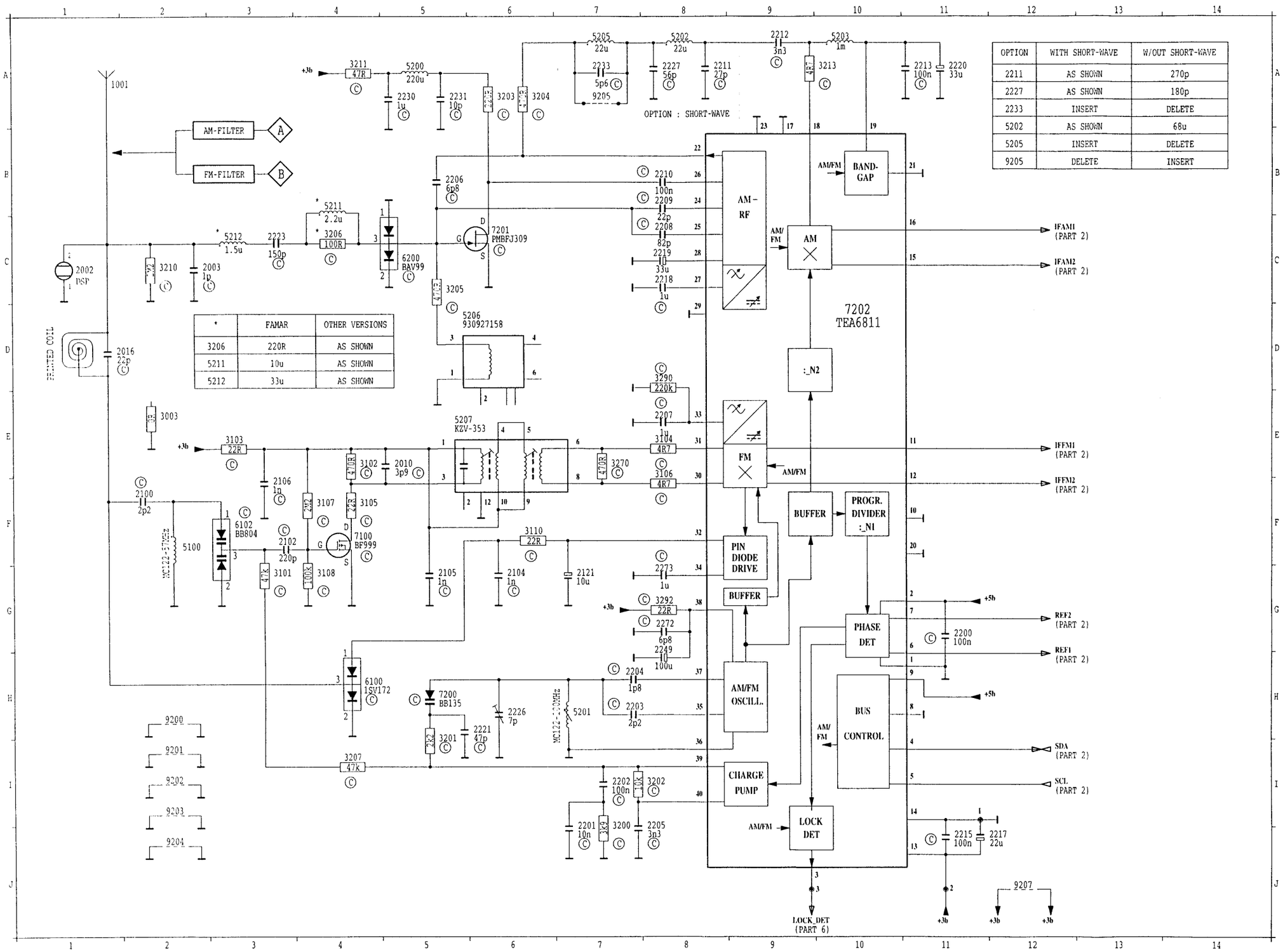
7201 PMBF J309

G	5V
D	8V
S	0V

7202 TEA6811

1	0V
2	5V
3	5V
4	5V
5	5V
6	Pulse waveform 0.24v p-p 5V dc
7	Pulse waveform 0.24v p-p 5V dc
8	0V
9	5V
10	0V
11	8.5V
12	8.5V
13	8.5V
14	0V
15	8.5V
16	8.5V
17	0V
18	0V
19	0V
20	0V
21	0V
22	0V
23	0V
24	0V
25	0V
26	0V
27	0V
28	0V
29	0V
30	3.1V
31	3.1V
32	0V
33	4.3V
34	4.2V
35	2.6V
36	0V
37	6.1V
38	8.2V
39	3.6V
40	3.6V

PART 1 : TUNER IC91 (MAIN PCB)

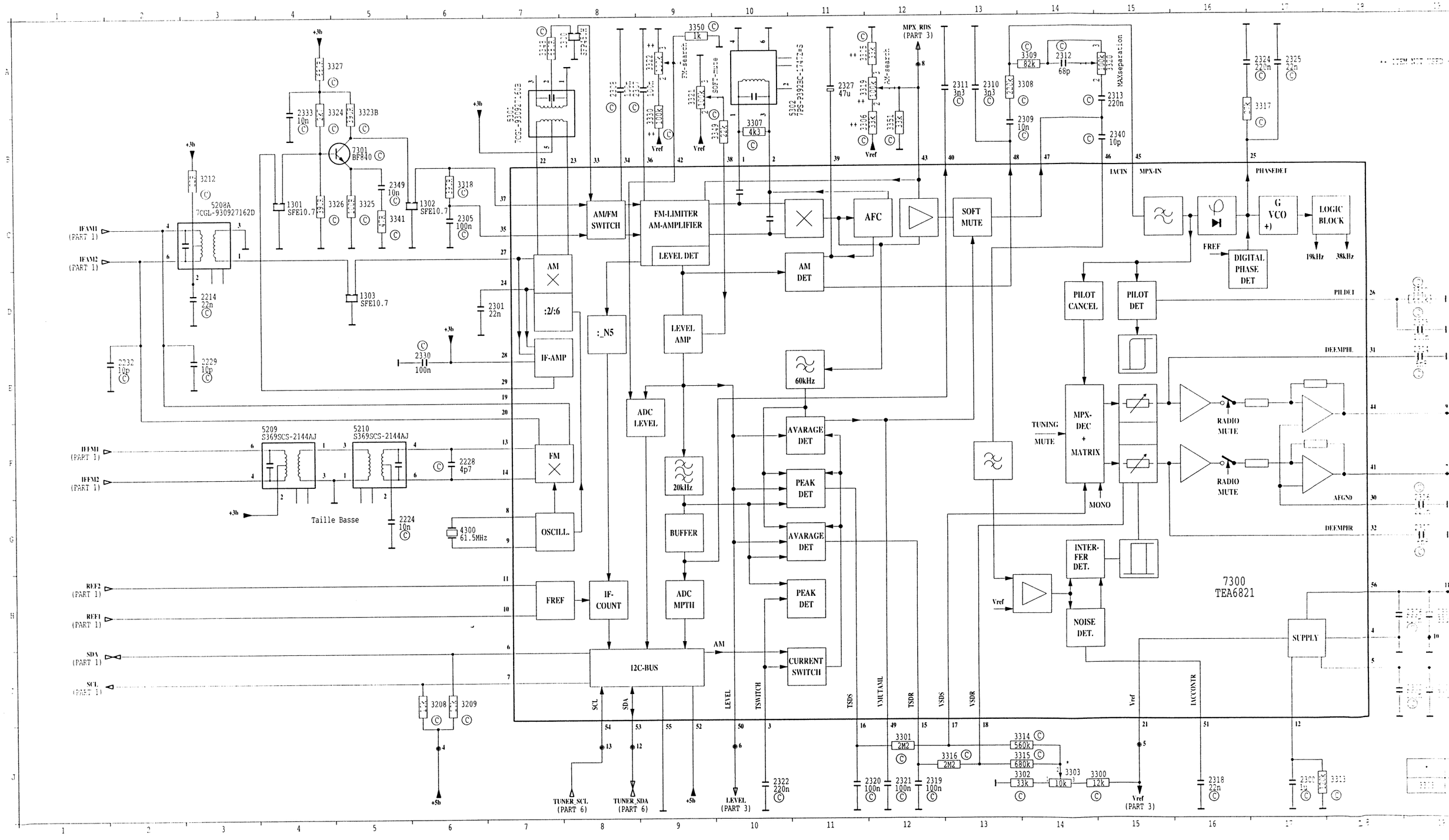


OPTION	WITH SHORT-WAVE	W/OUT SHORT-WAVE
2211	AS SHOWN	270p
2227	AS SHOWN	180p
2233	INSERT	DELETE
5202	AS SHOWN	68u
5205	INSERT	DELETE
9205	DELETE	INSERT

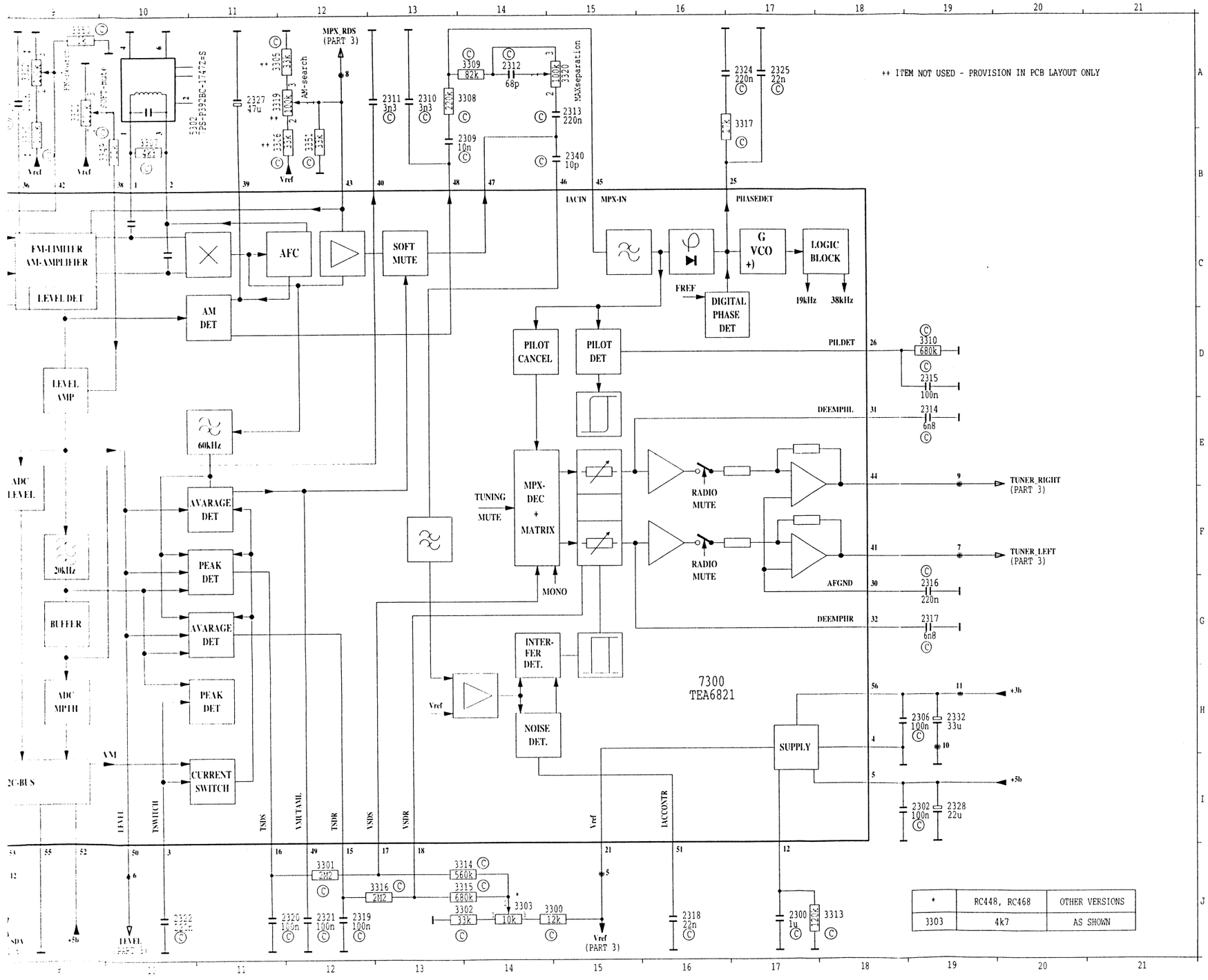
*	FAMAR	OTHER VERSIONS
3206	220R	AS SHOWN
5211	10u	AS SHOWN
5212	33u	AS SHOWN

+3b	J11/A4/E2/G7	IFAM2	C12	LOCK_DET	J9	SCL	I12
+5b	G12/H6	IFFM1	E12	REF1	H12	SDA	I12
IFAM1	C12	IFFM2	F12	REF2	G12		

PART 2 : TUNER IC91 (MAIN PCB)



+3b	H20/G3/D6/B3/A4/A6	IFFM1	F1	REF1	H1	TUNER_LEFT	F20
+5b	I20/J9/J6	IFFM2	F1	REF2	H1	TUNER_RIGHT	E20
IFAM1	C1	LEVEL	J10	SCL	I1	TUNER_SCL	J8
IFAM2	C1	MPX_RDS	A12	SDA	I1	TUNER_SDA	J8
						Vref	J15/B9/B12



*	RC448, RC468	OTHER VERSIONS
3303	4k7	AS SHOWN

TUNER_LEFT	F20
TUNER_RIGHT	E20
TUNER_SCL	J8
TUNER_SDA	J8
Vref	J15/B9/B12

Voltage measured in FM mode with
A4 = 14.4V
A7 = 14.4V
unless otherwise stated.

(off) = Power off
(on) = Power on

+1	+14V
+2	+14.4V
+3a, +3b	8.5V
+4	+5V
+5, +5a,+5b	+5V
+7	+5V
+CDCC	14V
Vref	5V
V_LAMP	14V

7300 TEA6821

1	4V
2	4V
3	1V
4	0V
5	5V
6	5V
7	5V
8	4V
9	4V
10	Pulse waveform 0.24V p-p 5V dc
11	Pulse waveform 0.24V p-p 5V dc
12	5V
13	2.2V
14	2.2V
15	4.5V
16	4.5V
17	2.5V
18	2.5V
19	8.5V
20	8.5V
21	5V
22	8.5V
23	8.5V

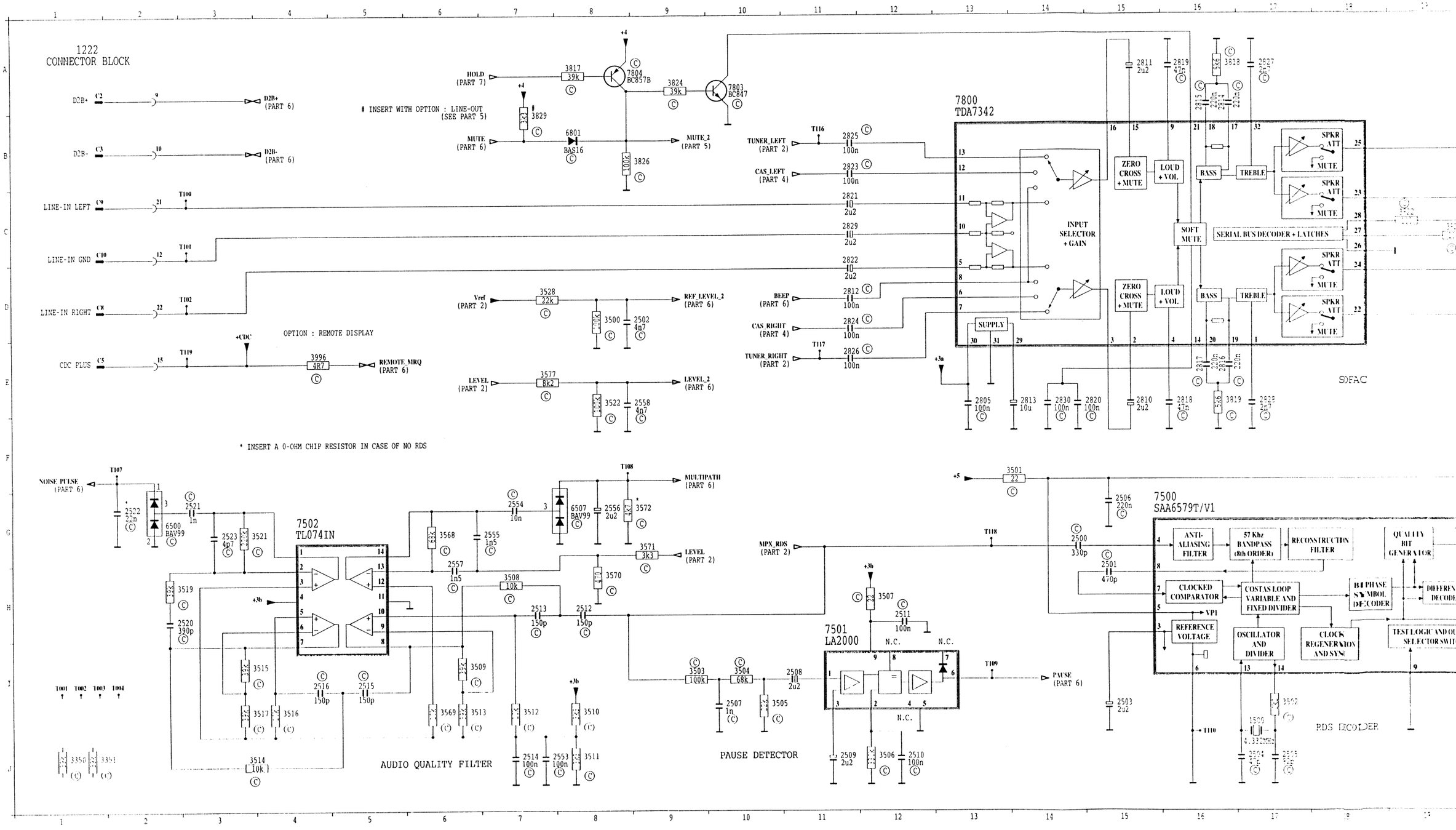
7300 TEA6821 (continue.....)

24	3V
25	5V
26	3.6V
27	3V
28	8.5V
29	6V
30	1.8V
31	2.3V
32	2.3V
33	0.7V
34	1V
35	2.8V
36	2.8V
37	2.8V
38	2.6V
39	3.2V
40	0.6V
41	Radio Left
42	0V
43	MPX_RDS
44	Radio Right
45	2.9V
46	0V
47	Audio signal
48	5V
49	5V
50	4.5V
51	6V
52	5V
53	Data
54	Data
55	0V
56	8.5V

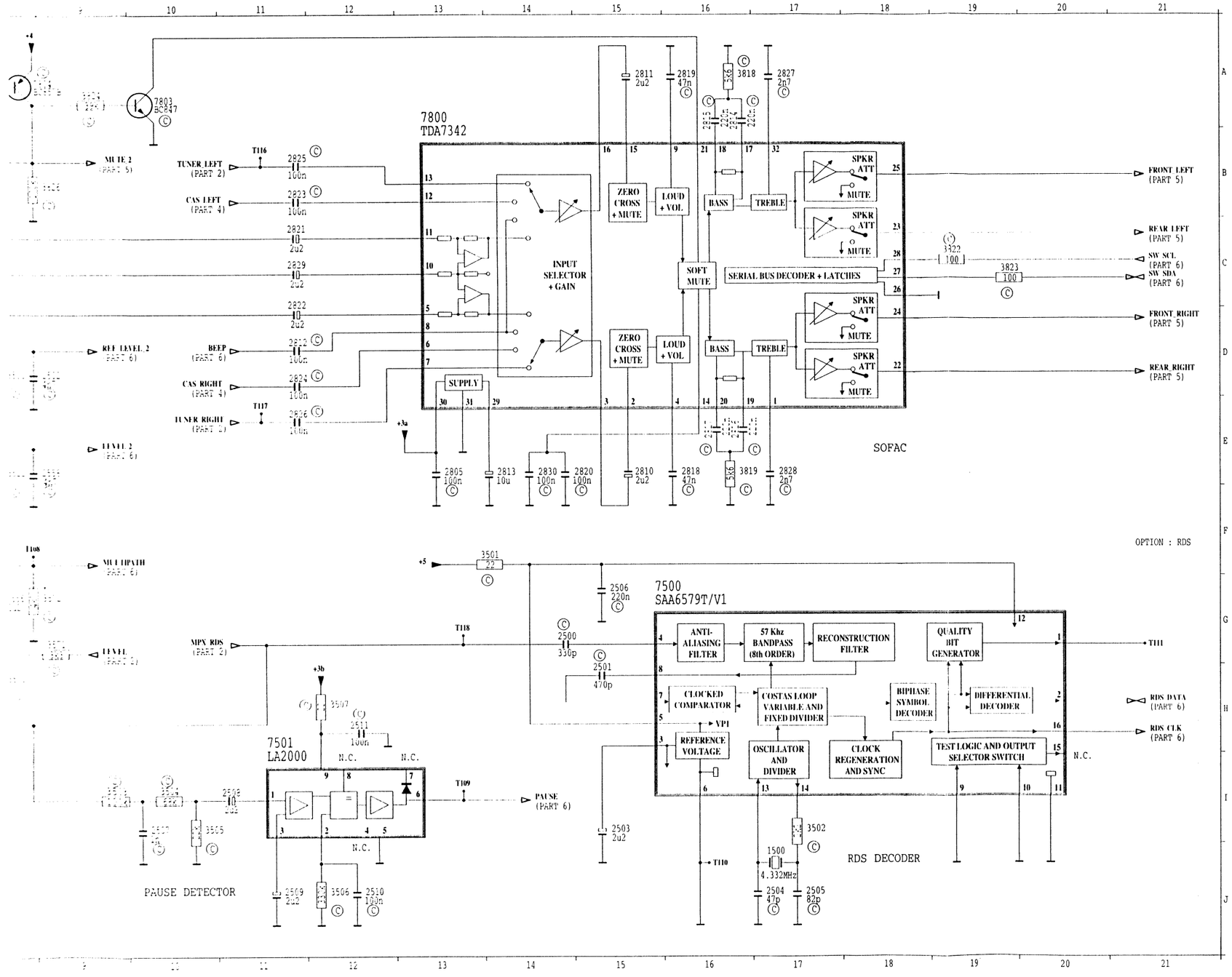
7301 BF940

C	6.4V
B	1V
E	0.2V

PART 3 : RDS & SOFAC (MAIN PCB)



+3a	E13	BEEP	D11	FRONT_LEFT	B21	MPX_RDS	G10	PAUSE	I14	REF_LEVEL	D9	TUNER_RIGHT	E11
+3b	I8	CAS_LEFT	B11	FRONT_RIGHT	D21	MULTIPATH	F9	RDS_CLK	H21	REMOTE_MRQ	E5	Vref	D7
+4	A8	CAS_RIGHT	D11	HOLD	A7	MUTE	B7	RDS_DATA	H21	SW_SCL	C21		
+5	F13	D2B+	A3	LEVEL	E7/G9	MUTE_2	B9	REAR_LEFT	C21	SW_SDA	C21		
+CDC	E3	D2B-	B3	LEVEL2	E9	NOISE_PULSE	F1	REAR_RIGHT	D21	TUNER_LEFT	B11		



MPX_RDS	G10	PAUSE	I14	REF_LEVEL	D9	TUNER_RIGHT	E11
MULTIPATH	F9	RDS_CLK	H21	REMOTE_MRQ	E5	Vref	D7
MUTE	B7	RDS_DATA	H21	SW_SCL	C21		
MUTE_2	B9	REAR_LEFT	C21	SW_SDA	C21		
NOISE_PULSE	F1	REAR_RIGHT	D21	TUNER_LEFT	B11		

Voltage measured in FM mode with
A4 = 14.4V
A7 = 14.4V
unless otherwise stated.

(off) = Power off
(on) = Power on
+3b 8V
Vref 5V
+5b 5V

6500 BAV99

1	0V
2	0V
3	4.2V

6507 BAV99

1	0V
2	0V
3	4.2V

7500 SAA6579T/V1

1	Square wave 5Vp-p
2	Square wave 5Vp-p
3	2.5V
4	Audio signal
5	5V
6	<0.5V
7	Audio signal
8	Audio signal
9	0V
10	0V
11	0V
12	5V
13	Sine wave 0.6Vp-p
14	Sine wave 3.2Vp-p
15	N.C.
16	Square wave 5Vp-p

7501 LA2000

1	0.2V
2	5V
3	0.2V
4,5	N.C.
6	5V
7,8	N.C.
9	8.5V

7502 TL0741N

1	4.1V
2	4.1V
3	4.1V
4	8.2V
5	4.1V
6	4.1V
7	4.1V
8	4.1V

7502 TL0741N (continue.....)

9	4.1VDC, 2.2V p-p Sawtooth waveform
10	4.1V
11	0V
12	4.1V
13	4.1V
14	4.1V

7800 TDA7342

1	4.4V
2	4.4V
3	4.4V
4	4.4V
5	4V
6	4.4V
7	4V
8	4V
9	4.1V
10	4.4V
11	4.4V
12	4V
13	4V
14	1V
15	4.4V
16	4.4V
17	4.4V
18	4.4V
19	4.4V
20	4.4V
21	4.4V
22	3.7V
23	3.7V
24	3.7V
25	3.7V
27	5V
28	5V
29	4.2V
30	8.5V
31	0V
32	4.4V

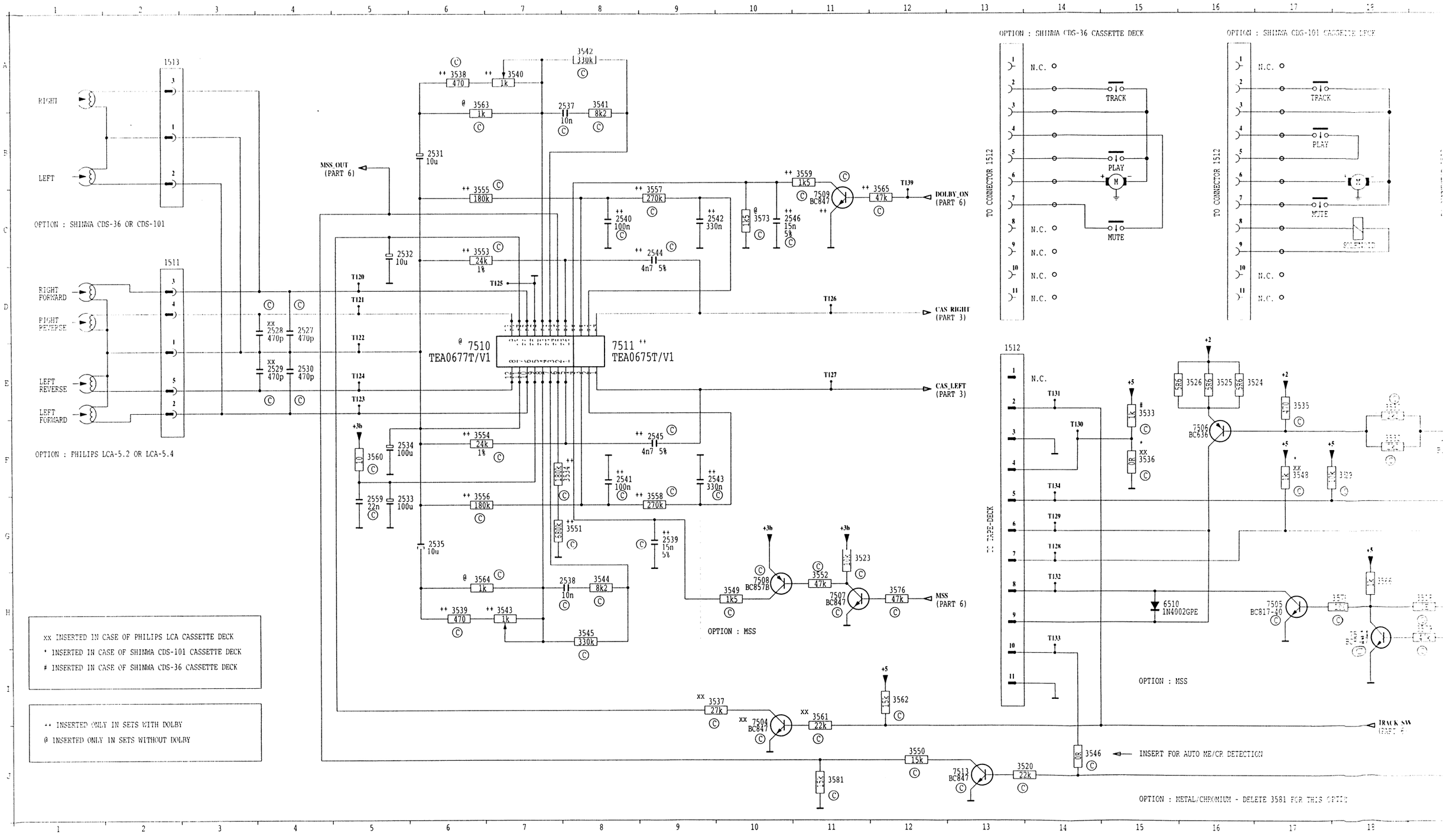
7803 BC847

C	0V (off)
	4.4V (on)
B	5V (off)
	0V (on)
E	0V

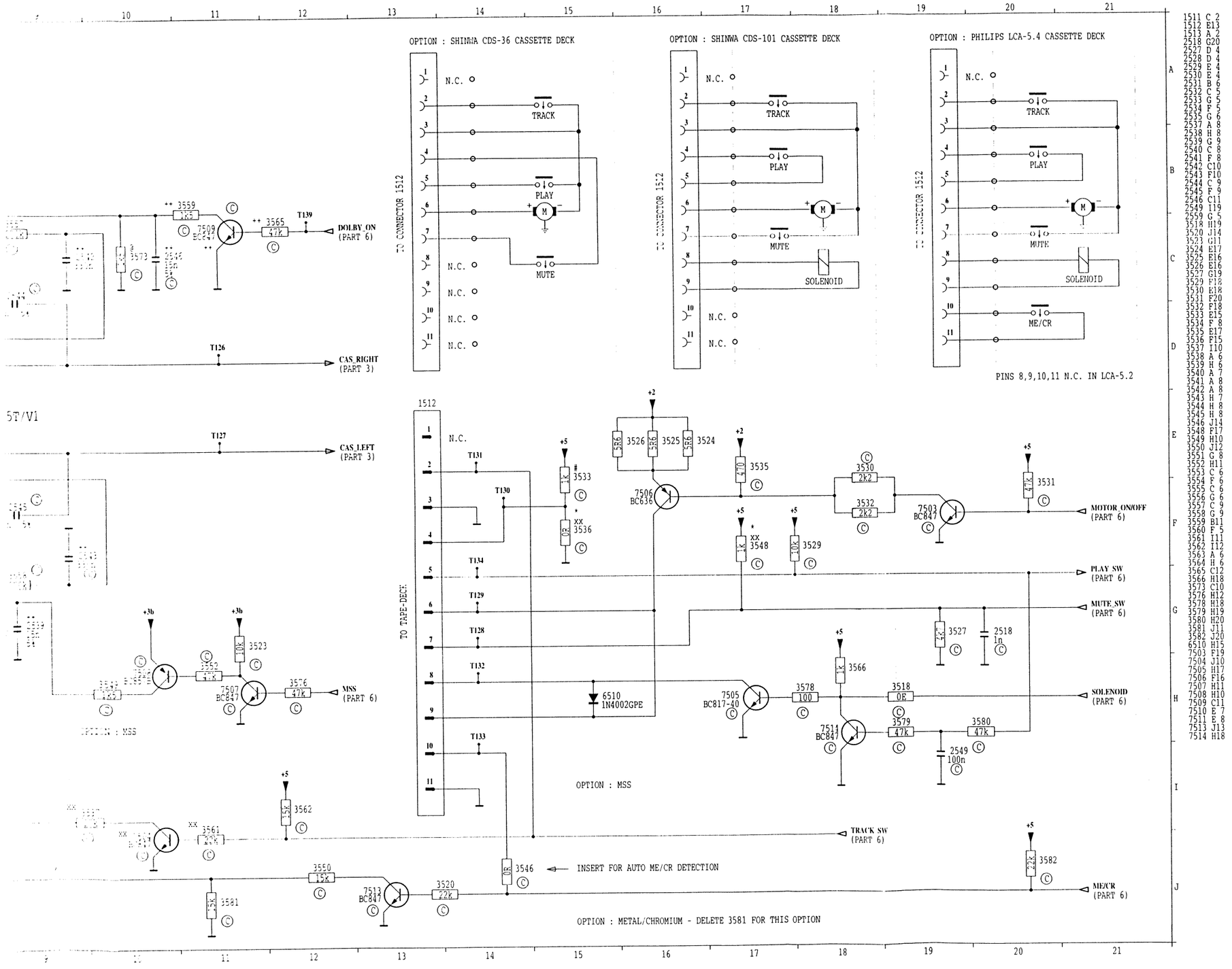
7804 BC857B

C	5V (off)
	0V (on)
B	4.4V (off)
	5V (on)
E	5V

PART 4 : CASSETTE PRE-AMPLIFIER & DOLBY (MAIN PCB)



+2	E16/E17	CAS_LEFT	E12	LEFT FWD	E1	RIGHT FWD	D1
+3a	G10	CAS_RIGHT	D12	LEFT	B1	RIGHT REV	D1
+3b	G11/F5	DOLBY_ON	C13	MSS	H12	RIGHT	A1
+5	E15/E20/F17/G18/J20/I12	LEFT REV	E1	MSS_OUT	B5		



RIGHT FWD D1
RIGHT REV D1
RIGHT A1

Voltage measured in FM mode with
A4 = 14.4V
A7 = 14.4V

(off) = Power off
(on) = Power on

+1	+14.V
+2	+14.4V
+3a, +3b	8.5V
+4	+5V
+5, +5a,+5b	+5V
+7	+5V
Vref	5V
V_LAMP	14V

7509 BC847
Voltage measured in Tape play mode.
C 4V (Dolby on)
0V (Dolby off)
B 0V (Dolby on)
0.7V (Dolby off)
E 0V

7511 TEA0675T
Voltage measured in Tape play mode.
1 Tape left
2 3.6V
3 4.2V
4 4.2V
5 Tape left
6 6.8V
7 4V
8 4V
9 8.4V
10 4.2V
11 4.2V
12 4V
13 4V
14 6.6V
15 4.2V
16 0V
17 4.2V
18 4.2V
19 4.8V (ME/CR off)
5V (ME/CR on)
20 Tape right
21 0.8V (Dolby off)
4V (Dolby on)
22 3.6V
23 3.2V
24 Tape right

7513 BC847
Voltage measured in Tape play mode.
C 5V (ME/CR on)
0V (ME/CR off)
B 0V (ME/CR on)
0.7V (ME/CR off)
E 0V

PART 5 : POWER AMPLIFIER & LINE-OUT (MAIN PCB)

*	4X7W ONLY	4X20W ONLY
2611	DELETE	INSERT
2612	DELETE	INSERT
2656	INSERT	DELETE
3614	INSERT	DELETE
3615	INSERT	DELETE
3617	DELETE	INSERT
3618	INSERT	DELETE
3619	DELETE	INSERT
3620	INSERT	DELETE
3621	DELETE	INSERT
3622	DELETE	INSERT
3629	DELETE	INSERT
3630	DELETE	INSERT
3650	DELETE	INSERT
3651	DELETE	INSERT
7603	DELETE	INSERT
7606	DELETE	INSERT
9801	DELETE	INSERT
9802	INSERT	DELETE

OPTION : BUCHEROT FILTER

@	4X7W ONLY	4X20W ONLY
2657	INSERT	INSERT
2658	INSERT	INSERT
2659	INSERT	INSERT
2660	INSERT	INSERT
2661	DELETE	INSERT
2662	DELETE	INSERT
2663	DELETE	INSERT
2664	DELETE	INSERT
3652	INSERT	INSERT
3653	INSERT	INSERT
3654	INSERT	INSERT
3655	INSERT	INSERT
3656	DELETE	INSERT
3657	DELETE	INSERT
3658	DELETE	INSERT
3659	DELETE	INSERT

OPTION : LINE-OUT

OPTION : LINE-OUT FLYLEAD

OPTION : REMOTE DISPLAY

DELETED IN CASE OF LINE-OUT WITH REAR CHANNELS ONLY OR IN REMOTE DISPLAY VERSIONS

++ ITEM NOT USED - PROVISION IN PCB LAYOUT ONLY

OPTION : 4 X 20W ONLY

1222 CONNECTOR BLOCK

1222 CONNECTOR BLOCK

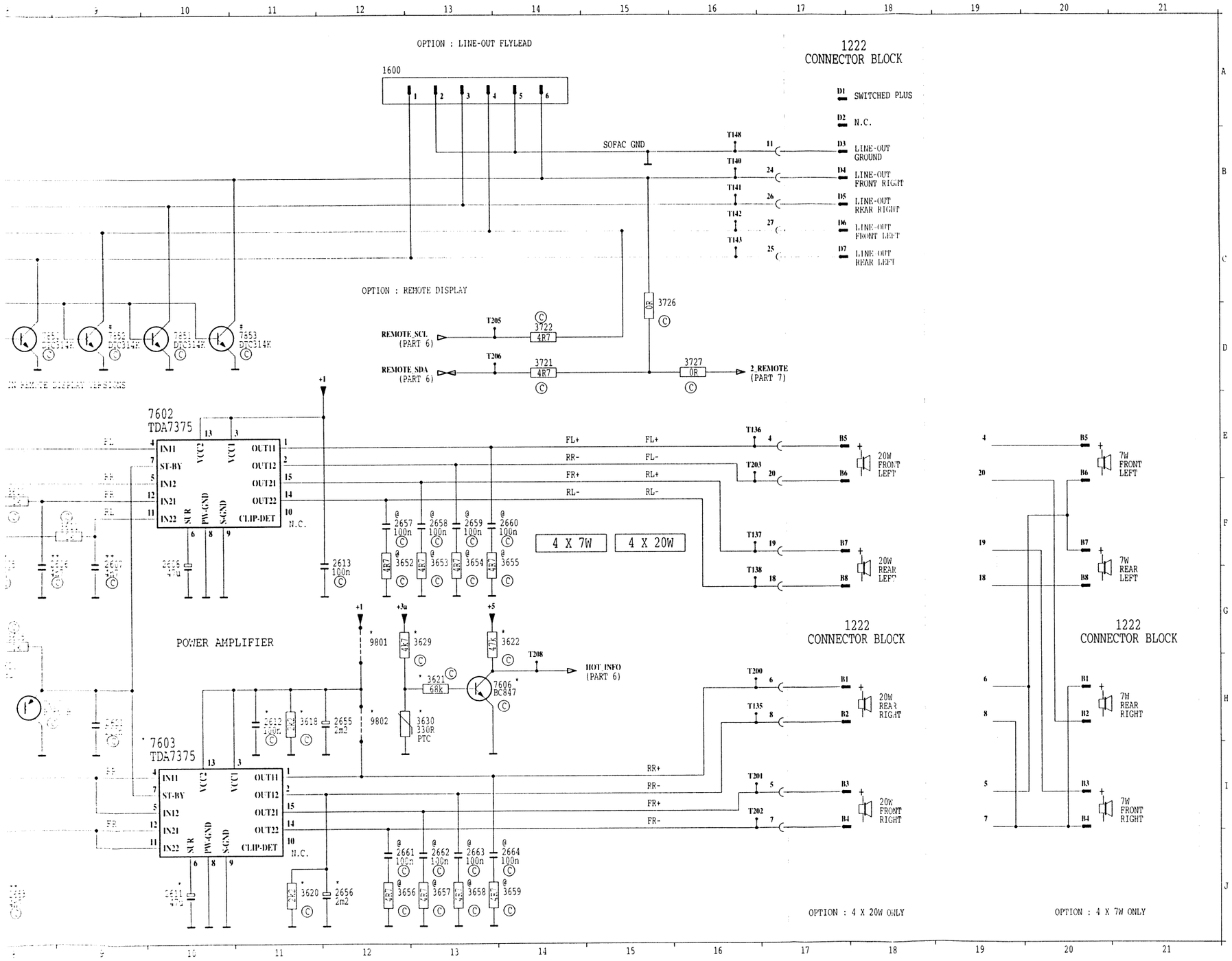
POWER AMPLIFIER

7602 TDA7375

* 7603 TDA7375

4 X 7W | 4 X 20W

+1	E11/G12
+3a	G12
+5	G13
2_REMOTE	D16
FRONT_LEFT	E3
FRONT_RIGHT	F3
HOLD	G7
HOT_INFO	H14
MUTE_2	D6
REAR_LEFT	F3
REAR_RIGHT	E3
REMOTE_SCL	D13
REMOTE_SDA	D13



1222 A17
1222 G17
1600 A12
2600 E 5
2601 E 5
2602 F 4
2603 F 5
2604 F 7
2605 F 8
2606 F 9
2607 F 9
2608 F10
2611 J10
2612 H11
2613 F12
2620 H 8
2621 H 9
2651 J 7
2653 J 8
2655 H12
2656 J12
2657 F12
2658 F13
2659 F13
2660 F14
2661 J12
2662 J13
2663 J13
2664 J14
2850 C 6
2851 C 6
2852 B 7
2853 B 7
3605 G 8
3607 G 7
3608 E 7
3609 E 7
3610 F 8
3611 F 9
3614 F 6
3615 E 6
3617 E 7
3618 H11
3619 F 7
3620 J11
3621 H13
3622 G14
3629 G13
3630 H13
3650 I 7
3651 I 8
3652 F12
3653 F13
3654 F13
3655 F14
3656 J12
3657 J13
3658 J13
3659 J14
3721 D14
3722 D14
3726 D15
3727 D16
3830 D 7
3850 C 6
3851 C 7
3852 C 8
3853 C 7
7602 E10
7603 I10
7606 H13
7607 H 8
7850 D 8
7851 D10
7852 D 9
7853 D11
9801 G12
9802 H12

Voltage measured in FM mode with
A4 = 14.4V
A7 = 14.4V
unless otherwise stated.

(off) = Power off
(on) = Power on

+1	+14.V
+2	+14.4V
+3a, +3b	8.5V
+4	+5V
+5, +5a,+5b	+5V
+7	+5V
Vref	5V
V_LAMP	14V

7602 TDA7375

1	6.4V
2	6.4V
3	14.4V
4	0.8V
5	0.8V
6	0.8V
7	4.8V
8	0V
9	0V
10	N.C.
11	0.8V
12	0.8V
13	14.4V
14	6.4V
15	6.4V

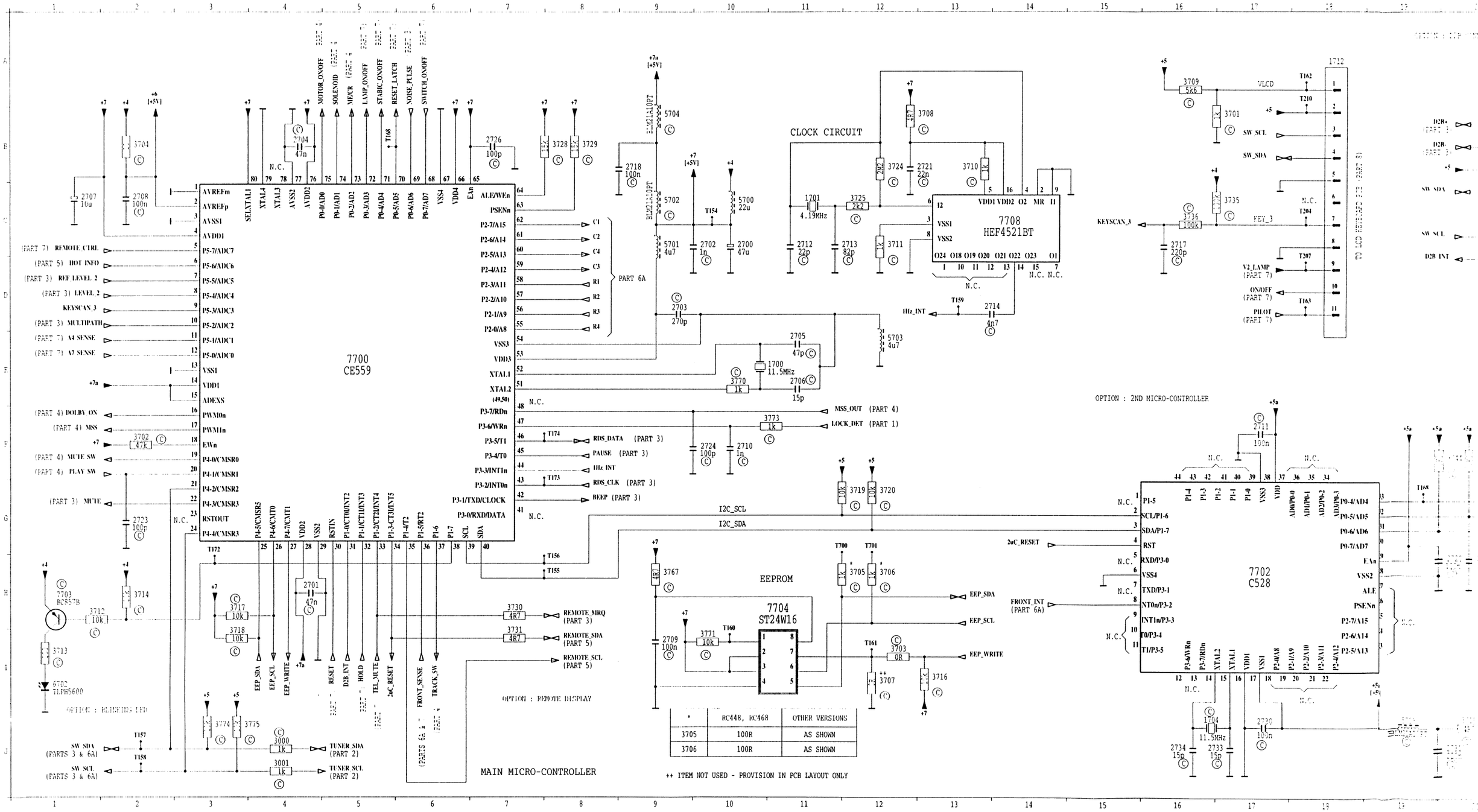
7603 TDA7375

1	6.4V
2	6.4V
3	14.4V
4	0.8V
5	0.8V
6	0.8V
7	4.8V
8	0V
9	0V
10	N.C.
11	0.8V
12	0.8V
13	14.4V
14	6.4V
15	6.4V

7606 BC847

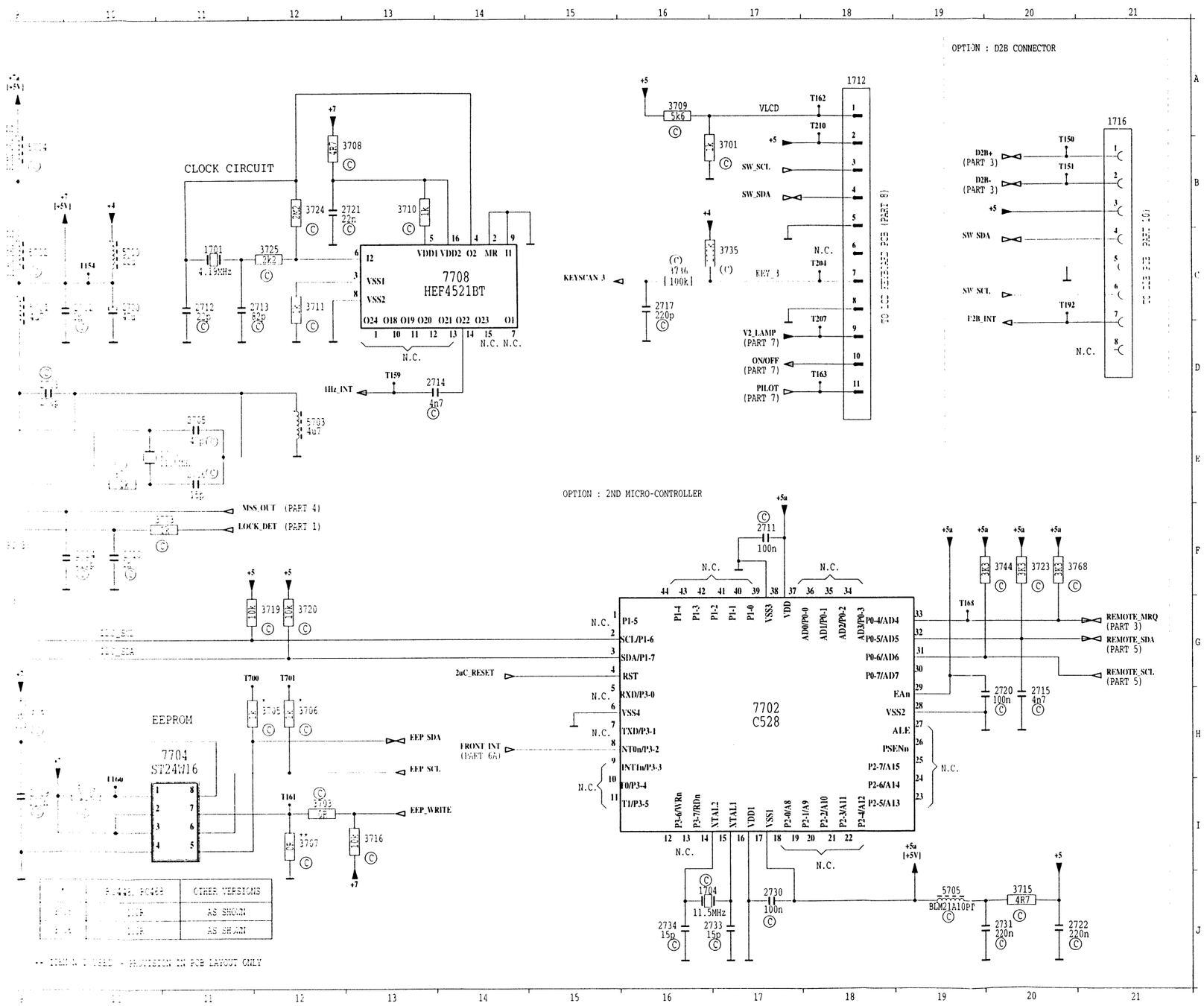
C	5V
	0V (“too hot”)
B	0V
	0.7V (“too hot”)
E	0V

PART 6 : MAIN & 2ND MICRO-CONTROLLERS, EEPROM & BLINKING LED (MAIN PCB)



	RC448, RC468	OTHER VERSIONS
3705	100R	AS SHOWN
3706	100R	AS SHOWN

+4	B2/B10/H1	BEEP	G8	FRONT_SENSE	I6	MSS	F1	R4/R3/R2/R1	D8	SOLENOID	B5
+5	A16/J20/G12/J3	C1/C2/C3/C4	D8	HOLD	I5	MSS_OUT	F11	RDS_CLK	G8	STABIC ON/OFF	B5
+5a	F19/J19	D2B+	B20	HOT_INFO	D1	MULTIPATH	D1	RDS_DATA	F8	SW_SCL	J2/B17/C20
+6	B2	D2B-	B20	KEYSCAN	D1	MUTE	G1	REF_LEVEL_2	D1	SW_SDA	J2/B17/C20
+7	B1/B3/B7/B9/A12/F1/H3/H9/J13	D2B_INT	I5/D20	KEYSCAN_3	C16	MUTE_SW	F1	REMOTE_CRTL	C1	SWITCH_ON/OFF	B6
+7a	A9/E1	DOLBY_0N	F1	LAMP_ON/OFF	B5	NOISE_PULSE	B6	REMOTE_MRQ	H8/G21	TEL_MUTE	I5
1Hz_INT	F8/D13	EEP_SCL	I4/I14	LEVEL_2	D1	ON/OFF	D17	REMOTE_SCL	I8/G21	TRACK_SW	I6
2uC_RESET	I5/G14	EEP_SDA	I4/I14	LOCK_DET	F11	PAUSE	F8	REMOTE_SDA	I8/G21	TUNER_SCL	J4
A4_SENSE	E1	EEP_WRITE	I4/I14	ME/CR	B5	PLAY_SW	F1	RESET	I5	TUNER_SDA	J4
A7_SENSE	E1	FRONT_INT	H14	MOTOR_ON/OFF	B4	PILOT	D17	RESET_LATCH	B5	V2_LAMP	D17



	F1	R4/R3/R2/R1	D8	SOLENOID	B5
OUT	F11	RDS_CLK	G8	STABIC ON/OFF	B5
IPATH	D1	RDS_DATA	F8	SW_SCL	J2/B17/C20
E	G1	REF_LEVEL_2	D1	SW_SDA	J2/B17/C20
E SW	F1	REMOTE_CRTL	C1	SWITCH_ON/OFF	B6
E PULSE	B6	REMOTE_MRQ	H8/G21	TEL_MUTE	I5
FF	D17	REMOTE_SCL	I8/G21	TRACK_SW	I6
E	F8	REMOTE_SDA	I8/G21	TUNER_SCL	J4
SW	F1	RESET	I5	TUNER_SDA	J4
T	D17	RESET_LATCH	B5	V2_LAMP	D17

1700	E11
1701	C11
1704	J16
1712	A18
1716	A21
2700	C10
2701	H 4
2702	C10
2703	D 9
2704	B 4
2705	E11
2706	E11
2707	C 1
2708	C 2
2709	I 9
2710	F10
2711	F17
2712	C11
2713	C12
2714	D14
2715	G20
2717	C16
2718	B 9
2720	G20
2721	B13
2722	J21
2723	G 2
2724	F10
2726	H 7
2730	J17
2731	J20
2733	J17
2734	J16
3000	J 4
3001	J 4
3701	B17
3702	F 2
3703	I12
3704	B 2
3705	H12
3706	H12
3707	I12
3708	B13
3709	A16
3710	B13
3711	C12
3712	H 1
3713	I 1
3714	H 2
3715	J20
3716	I13
3717	H 3
3718	I 3
3719	G12
3720	G12
3721	F20
3724	B12
3725	C12
3728	B 8
3729	B 8
3730	H 7
3731	I 7
3735	C17
3736	C16
3744	F20
3767	H 9
3768	F21
3770	E10
3771	I10
3773	F11
3774	J 3
3775	J 4
5700	C10
5701	C 9
5702	C 9
5703	E12
5704	B 9
5705	J19
6702	I 1
7700	E 5
7702	H17
7703	H 1
7704	H10
7708	C14

Voltage measured in FM mode with
A4 = 14.4V
A7 = 14.4V
unless otherwise stated.

(off) = Power off
(on) = Power on

+1	+14.V
+2	+14.4V
+3a, +3b	8.5V
+4	+5V
+5, +5a,+5b	+5V
+7	+5V
Vref	5V
V_LAMP	14V

7700 CE559

1	0V (on)
	0V (off)
2	5V (on)
	5V (off)
3	0V (on)
	0V (off)
4	5V (on)
	5V (off)
5	5V (on)
	5V (off)
6	5V (on)
	0V (off)
7	5V (on)
	0V (off)
8	5V (on)
	0V (off)
9	5V (on)
	5V (off)
10	200mV (on)
	0V (off)
11	5V (on)
	5V (off)
12	5V (on)
	5V (off)
13	0V (on)
	0V (off)
14	5V (on)
	5V (off)
15	5V (on)
	5V (off)
16	0V (Dolby on)
	5V (Dolby off)
17	0V
18	5V (on)
	5V (off)
19	0V (on)
	0V (off)
20	5V (on)
	2.5V (off)
21	data
22	0V (on)
	5V (off)
23	0V (on)
	0V (off)
24	data
25	5V (on)
	5V (off)
26	5V (on)
	5V (off)
27	5V (on)
	5V (off)

7700 CE559 (continue...)

28	5V (on)
	5V (off)
29	0V (on)
	0V (off)
30	0V (on)
	0V (off)
31	5V (on)
	0V (off)
32	5V (on)
	0V (off)
33	0V (on)
	2.5V (off)
34	0V (on)
	0V (off)
35	5V (on)
	0V (off)
36	0V (on)
	0V (off)
37	0V (on)
	2.5V (off)
38	5V (on)
	5V (off)
39	5V (on)
	0V (off)
40	5V (on)
	0V (off)
41	0V (on)
	0V (off)
42	5V (on)
	0V (off)
43	Square wave 5Vp-p (on)
	0V (off)
44	1Hz pulse wave (on)
	1Hz pulse wave (off)
45	5V (on)
	0V (off)
46	RDS data
47	5V (on)
	0V (off)
48	5V (on)
	0V (off)
49	0V (on)
	0V (off)
50	0V (on)
	0V (off)
51	Sine wave 0.2Vp-p (on)
	0V (off)
52	Sine wave 0.16Vp-p (on)
	0V (off)
53	Sine wave 0.24Vp-p (on)
	0V (off)
54	0V (on)
	5V (off)
55	key matrix
56	key matrix
57	key matrix
58	key matrix
59	key matrix
60	key matrix
61	key matrix
62	key matrix
63	5V (on)
	5V (off)

7700 CE559 (continue...)

64	0V
65	5V (on)
	5V (off)
66	5V (on)
	5V (off)
67	0V (on)
	0V (off)
68	0V (on)
	0V (off)
69	0V (on)
	0V (off)
70	5V (on)
	5V (off)
71	0V (on)
	5V (off)
72	0V (on)
	3V (off)
73	0V (ME/CR on)
	5V (ME/CR off)
74	0V (on)
	0V (off)
75	0V (on)
	0V (off)
76	5V (on)
	5V (off)
77	0V (on)
	0V (off)
78	0V (on)
	0V (off)
79	0V (on)
	0V (off)
80	5V (on)
	5V (off)

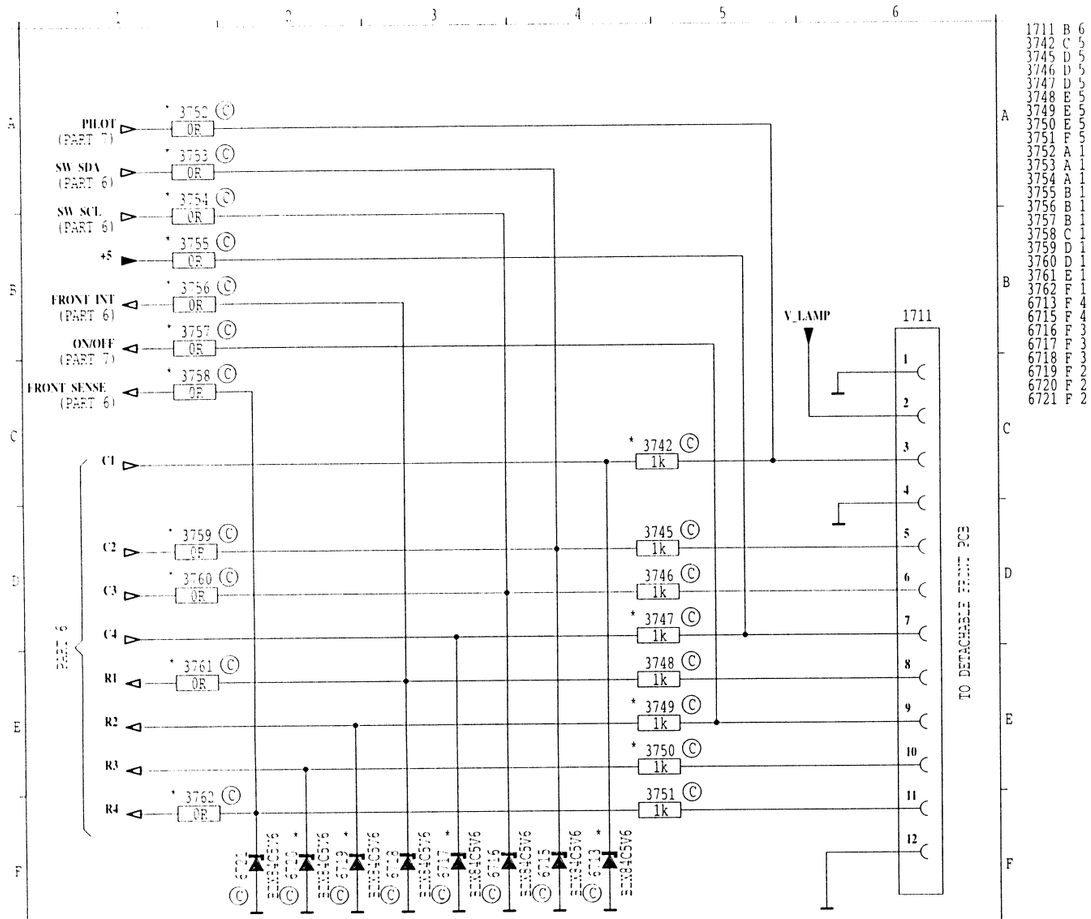
7704 ST24W16

1	5V
2	5V
3	5V
4	0V
5	5V
6	5V
7	5V
8	5V

7708 HEF4521BT

1	N.C.
2	OV
3	Sine wave
4	Sine wave
	2.6Vp-p
5	5V
6	Sine wave
	1Vp-p 1.6V dc
7	N.C.
8	0V
9	OV
10	N.C.
11	N.C.
12	1.6V
12	N.C.
13	N.C.
14	1Hz pulse wave
15	N.C.
16	5V

PART 6A : DETACHABLE FRONT CONNECTOR (MAIN PCB)

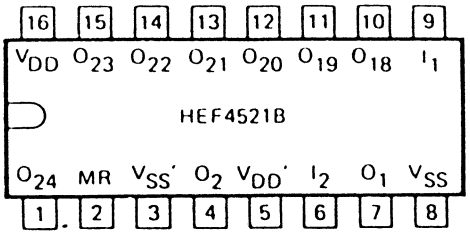


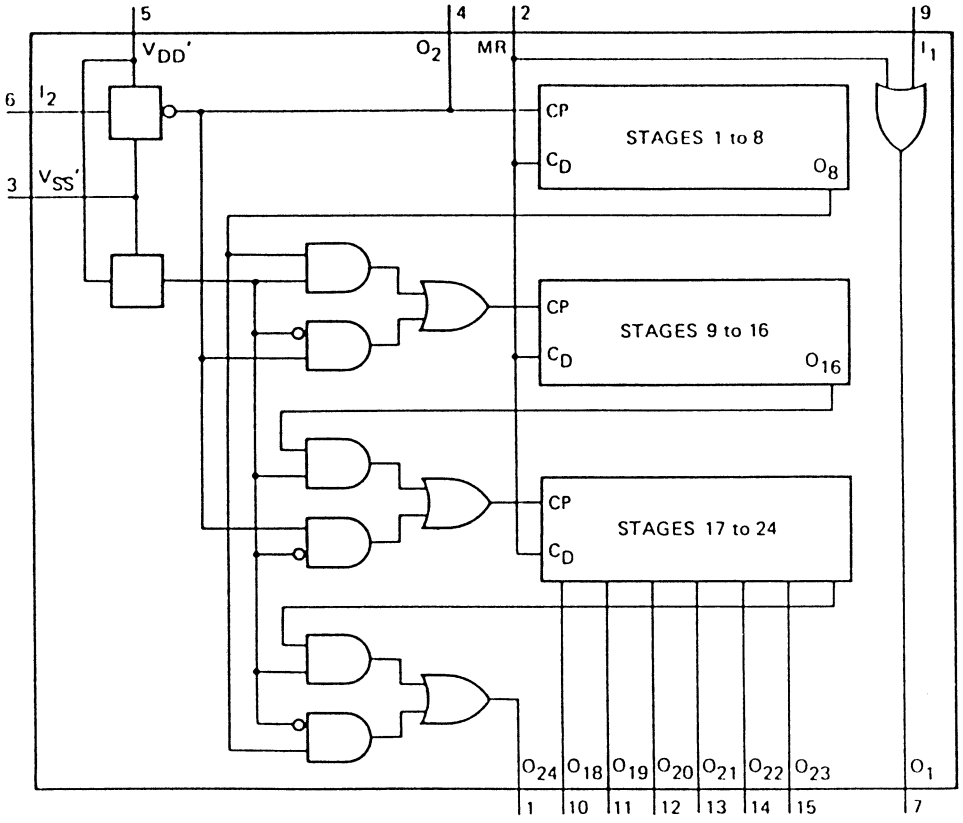
*	1-uC / SMALL DETACH UNIT	1-uC / LARGE DETACH UNIT	2-uC / SMALL DETACH UNIT	2-uC / LARGE DETACH UNIT
3742	INSERT	DELETE	INSERT	DELETE
3747	INSERT	DELETE	INSERT	DELETE
3749	INSERT	DELETE	INSERT	DELETE
3750	INSERT	DELETE	INSERT	DELETE
3752	DELETE	INSERT	DELETE	INSERT
3753	DELETE	INSERT	DELETE	INSERT
3754	DELETE	INSERT	DELETE	INSERT
3755	DELETE	INSERT	DELETE	INSERT
3756	DELETE	DELETE	DELETE	INSERT
3757	DELETE	INSERT	DELETE	INSERT
3758	DELETE	INSERT	DELETE	INSERT
3759	INSERT	DELETE	INSERT	DELETE
3760	INSERT	DELETE	INSERT	DELETE
3761	INSERT	INSERT	DELETE	DELETE
3762	INSERT	DELETE	INSERT	DELETE
6713	INSERT	DELETE	INSERT	DELETE
6717	INSERT	DELETE	INSERT	DELETE
6719	INSERT	DELETE	INSERT	DELETE
6720	INSERT	DELETE	INSERT	DELETE

Some useful tips on Micro-processor.

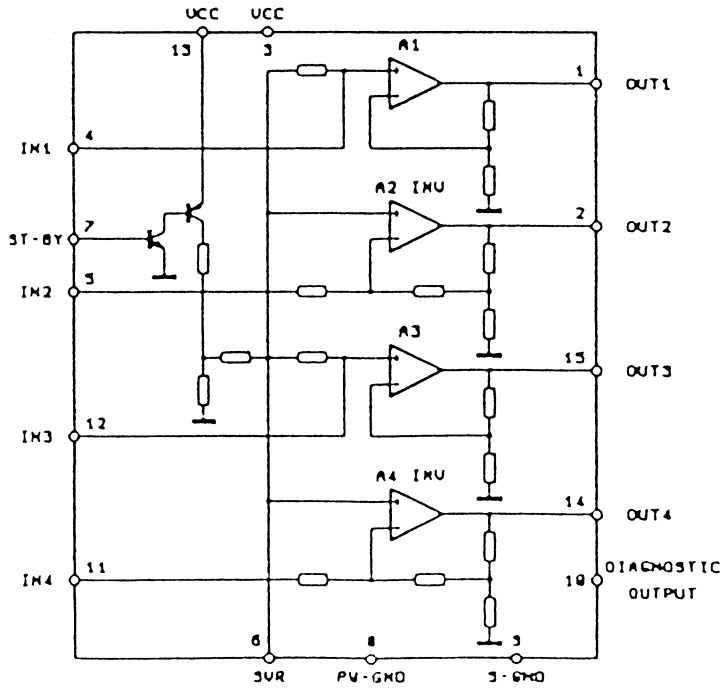
Pin No.	Name	i/o	State	Function / Description
5	REMOTE_CTRL	i	5V	Remote control is connected
			0V	No Remote control is connected
6	HOT_INFO	i	5V	Temperature of set is ok.
			0V	Temperature of set is too high. Display shows "TOO HOT". Volume will be reduce automatically.
11	A4_SENSE	i	5V	A4 (permanent plus) is connected.
			0V	A4 (permanent plus) is not connected.
12	A7_SENSE	i	5V	A7 (ignition plus) is connected.
			0V	A7 (ignition plus) is not connected.
16	DOLBY_ON	o	0V	Dolby on
			5V	Dolby off
19	MUTE_SW	o	5V	Fast forward/Fast Backward
			0V	Normal cassette play.
20	PLAY_SW	o	5V	No tape in the cassette compartment
			0V	Tape in the cassette compartment
22	MUTE	o	5V	Set is muted.
			0V	Set is not muted.
33	TEL_MUTE Init mode : Phone "LO"	i	5V	Set is muted and display shows "CALL".
			0V	Set play as normal.
33	TEL_MUTE Init mode : Phone "HI"	i	5V	Set play as normal.
			0V	Set is muted and display shows "CALL".
34	2UC_RESET	o		To reset the 2nd micro processor.
36	FRONT_SENSE	i	0V	Detach front is attached.
			5V	Detach front is remove.
37	TRACK_SW	o		Toggle between "1" and "0" when direction of tape is changed.
38	P1_7	o		Send pulses to blink LED when FRONT_SENSE is high (5V).
42	BEEP	o		Beep output.
43	RDS_CLK	i		RDS clock
44	1Hz_INT	i		1Hz signal.
51	XTAL2			Oscillator connection terminal.
52	XTAL1			Oscillator connection terminal.
71	STABIC_ON/OFF	o	0V	Set is power on.
			5V	Set is on standby mode
73	ME/CR	o	0V	ME/CR is on.
			5V	ME/CR is off.

7708 HEF4521B

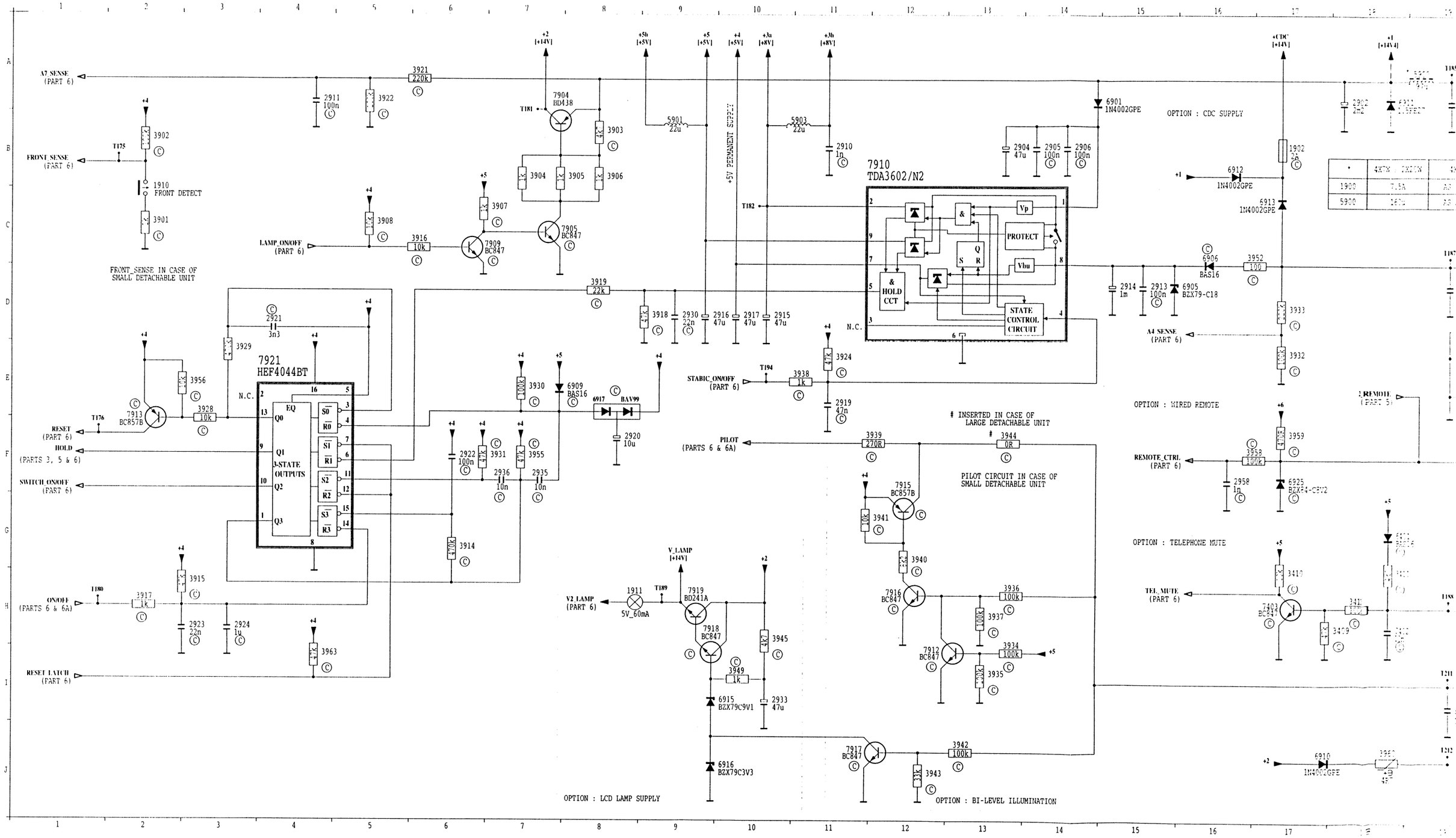




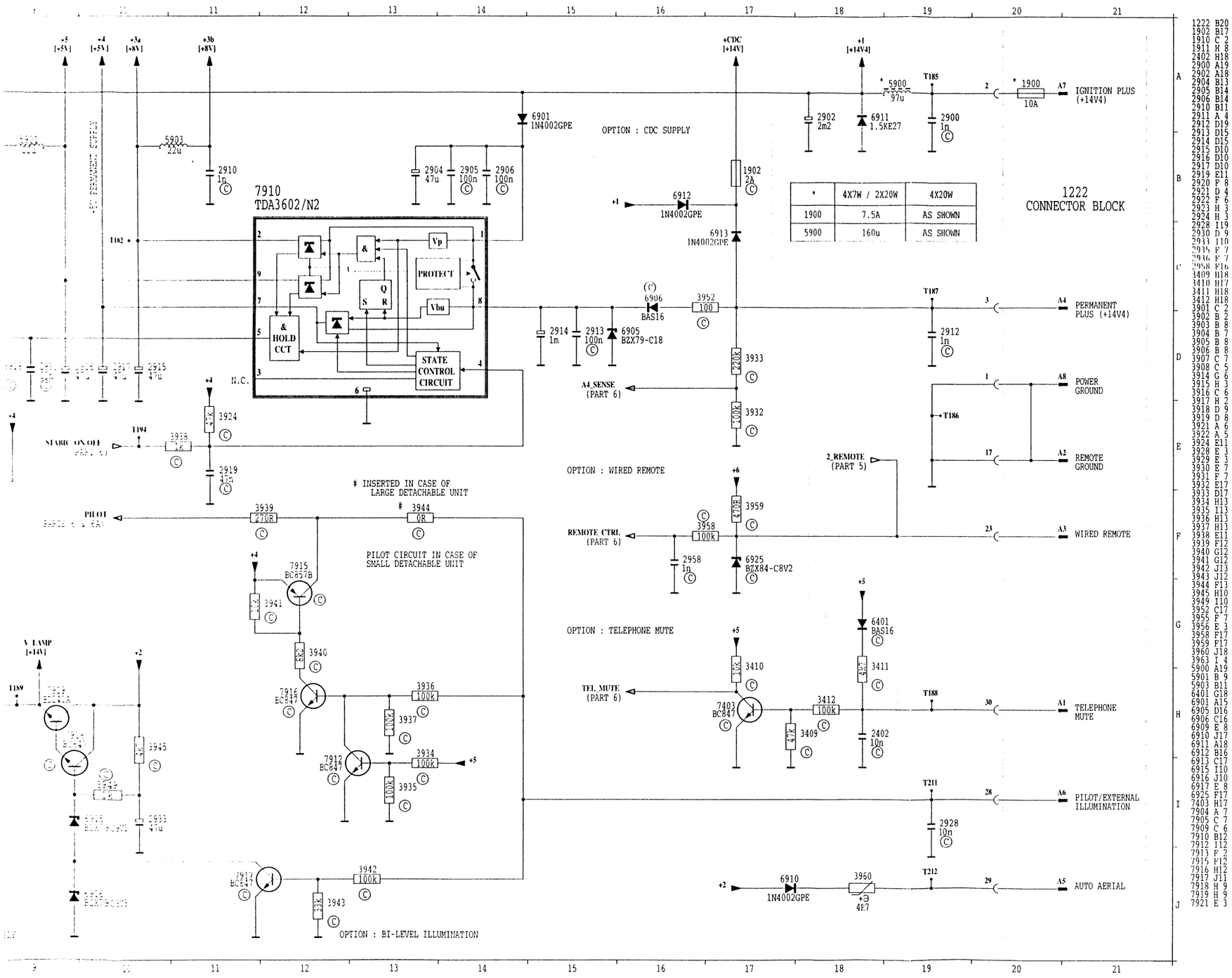
7603 TDA7375



PART 7 : SUPPLY & CONTROL (MAIN PCB)



+1	A18/B16	+5	G17/G18/I14/A9/C6/E7	A4_SENSE	D16	ON/OFF	H1	STABC_ON/OFF	E10
+2	J17/H10/A8	+5b	A9	A7_SENSE	A1	PLOT	F10	SWITCH_ON/OFF	F1
+3a	A10	+6	F17	FRONT_SENSE	B1	REMOTE_CTRL	F16	TEL_MUTE	H16
+3b	A11	+CDCC	A17	HOLD	F1	RESET	F1	V_LAMP	H9
+4	A10/C5/E7/E9/D11/F6/G2/H4/E2/A2	2_REMOTE	E18	LAMP_ON/OFF	C4	RESET_LATCH	I1	V2_LAMP	H8



*	4X7W / 2X20W	4X20W
1900	7.5A	AS SHOWN
5900	160u	AS SHOWN

4_SENSE	D16
7_SENSE	A1
FRONT_SENSE	B1
HOLD	F1
LAMP_ON/OFF	C4
ON/OFF	H1
PLOT	F10
REMOTE_CTRL	F16
RESET	F1
RESET_LATCH	I1
STABC_ON/OFF	E10
SWITCH_ON/OFF	F1
TEL_MUTE	H16
V_LAMP	H9
V2_LAMP	H8

Voltage measured in FM mode with
A4 = 14.4V
A7 = 14.4V
unless otherwise stated.

(off) = Power off
(on) = Power on

+1	+14.V
+2	+14.4V
+3a, +3b	8.5V
+4	+5V
+5, +5a,+5b	+5V
+7	+5V
Vref	5V
V_LAMP	14V

7403 BC847
C 0V
B 0.7V
E 0

7904 BD438
C 14V (on)
0V (off)
B 14.4V
E 13.2V (on)
14V (off)

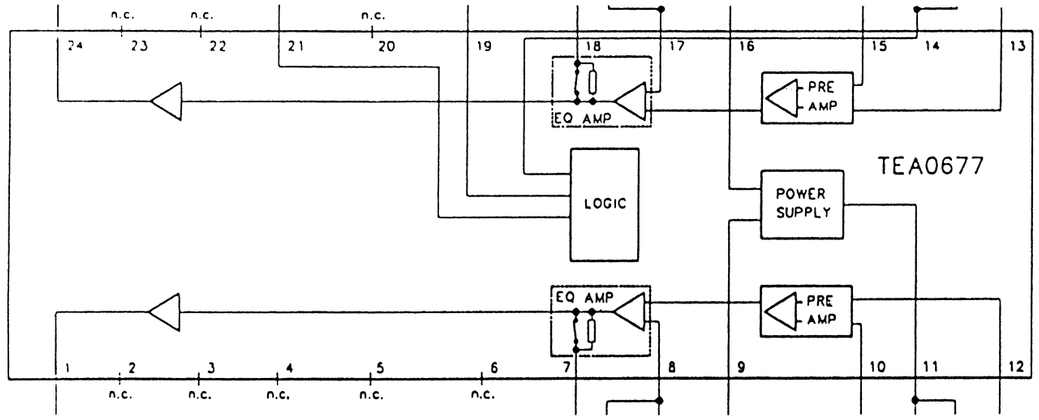
7905 BC847
C 0V (on)
14.4 (off)
B 1V (on)
0V (off)
E 0V

7909 BC847
C 1V (on)
0V (off)
B 0V (on)
0.7V (off)
E 0V

7910 TDA3602/N2
1 13V
2 8V
3 N.C.
4 0.2V (on)
5V (off)
5 5V
6 OV
7 5V
8 13V
9 5V

7921 HEF4044BT
1 5V
2 N.C.
3 1.8V
4 5V
5 5V
6 5V
7 5V
8 OV
9 5V
10 0V
11 5V
12 5V
13 5V
14 5V
15 3.4V
16 5V

7511 TEA0677



PINNING

SYMBOL	PIN	DESCRIPTION
OUTA	1	output channel A
n.c.	2	not connected
n.c.	3	not connected
n.c.	4	not connected
n.c.	5	not connected
n.c.	6	not connected
EQA	7	equalizing output channel A
EQFA	8	equalizing input channel A
V_{cc}	9	voltage supply
INA1	10	input channel A1 (forward or reverse)
V_{REF}	11	reference voltage
INA2	12	input channel A2 (reverse or forward)
INB2	13	input channel B2 (reverse or forward)
HS	14	headswitch input
INB1	15	input channel B1 (forward or reverse)
GND	16	ground
EQFB	17	equalizing input channel B
EQB	18	equalizing output channel B
EQS	19	equalizing switch input
n.c.	20	not connected
ACUR	21	auxiliary current
n.c.	22	not connected
n.c.	23	not connected
OUTB	24	output channel B

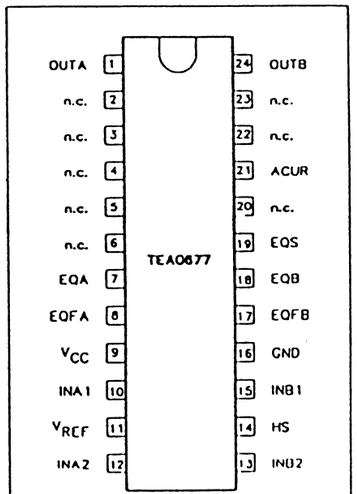
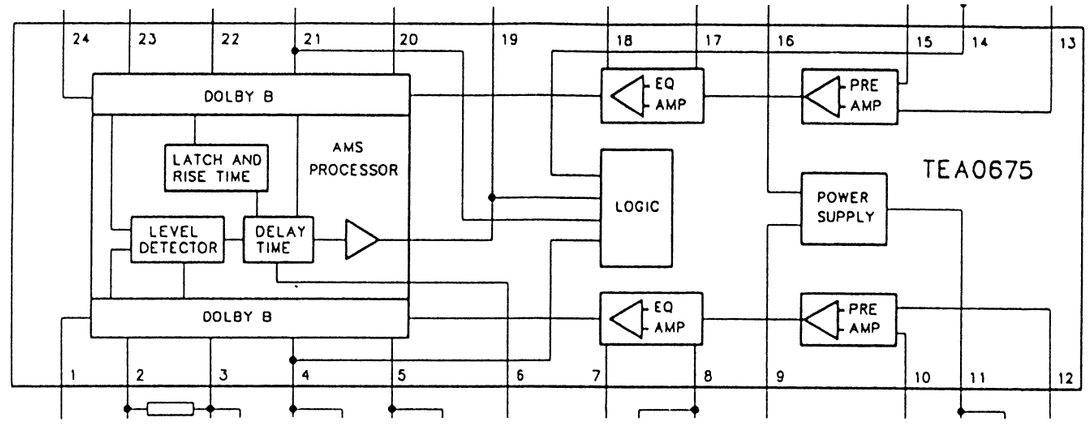


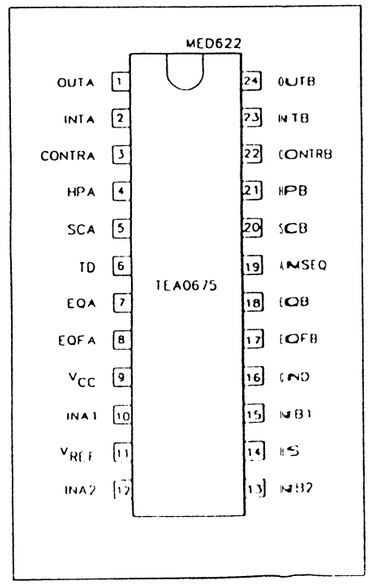
Fig.2 Pin configuration.

7511 TEA0675

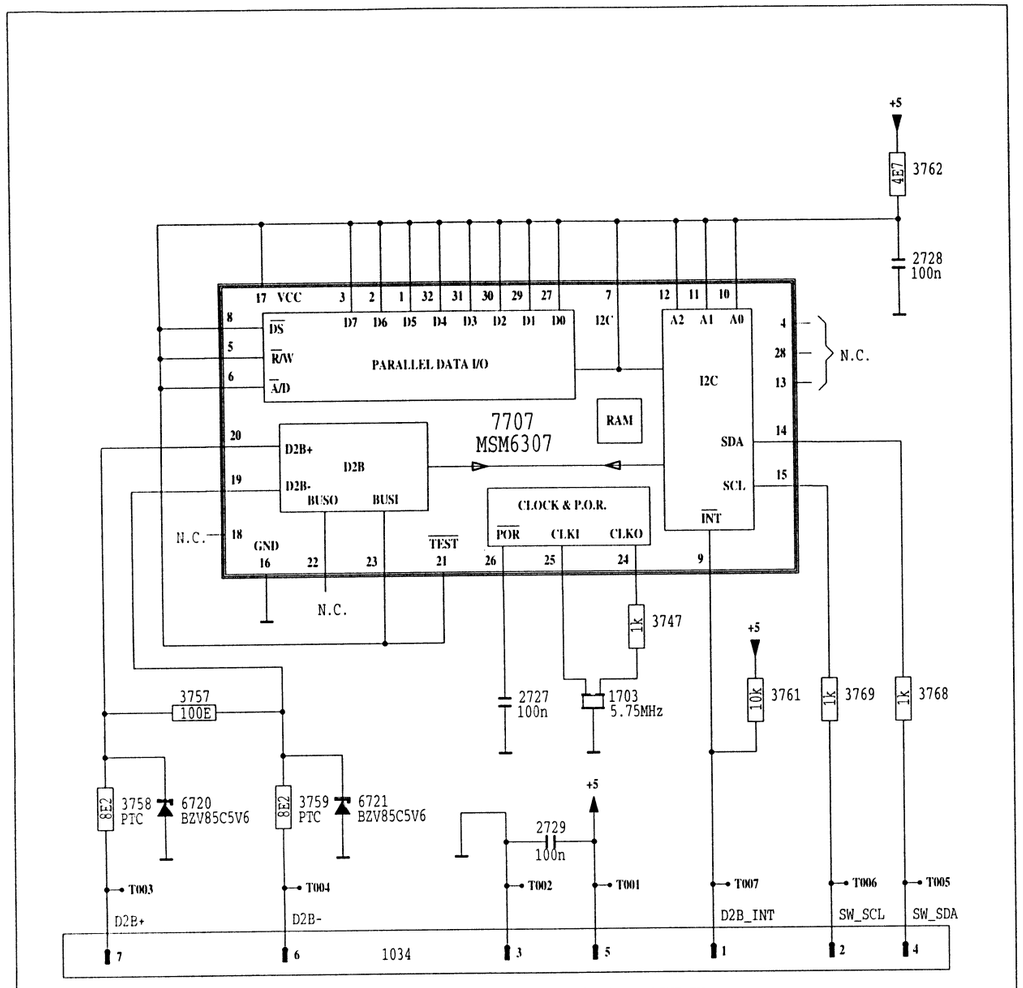


PINNING

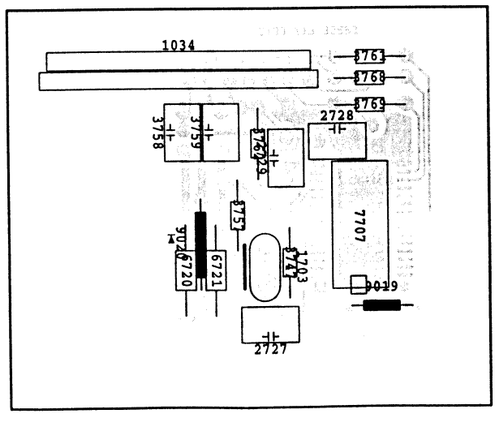
SYMBOL	PIN	DESCRIPTION
OUTA	1	output channel A
INTA	2	integrating filter channel A
CONTRA	3	control voltage channel A
HPA	4	high-pass filter channel A
SCA	5	side chain channel A
TD	6	delay time constant
EQA	7	equalizing output channel A
EQFA	8	equalizing input channel A
V_{cc}	9	voltage supply
INA1	10	input channel A1 (forward or reverse)
V_{REF}	11	reference voltage
INA2	12	input channel A2 (reverse or forward)
INB2	13	input channel B2 (reverse or forward)
HS	14	headswitch input
INB1	15	input channel B1 (forward or reverse)
GND	16	ground
EQFB	17	equalizing input channel B
EQB	18	equalizing output channel B
AMSEQ	19	AMS output and EQ-switch input
SCB	20	side chain channel B
HPB	21	high-pass filter channel B
CONTRB	22	control voltage channel B
INTB	23	integrating filter channel B
OUTB	24	output channel B



PART 10 : D2B (SUB-PCB)



TO MAIN PCB (PART 6) OPTION : D2B (WITH LINE-IN)



ALIGNMENT TABLE

For more information see general information " General alignment procedures for car radio"

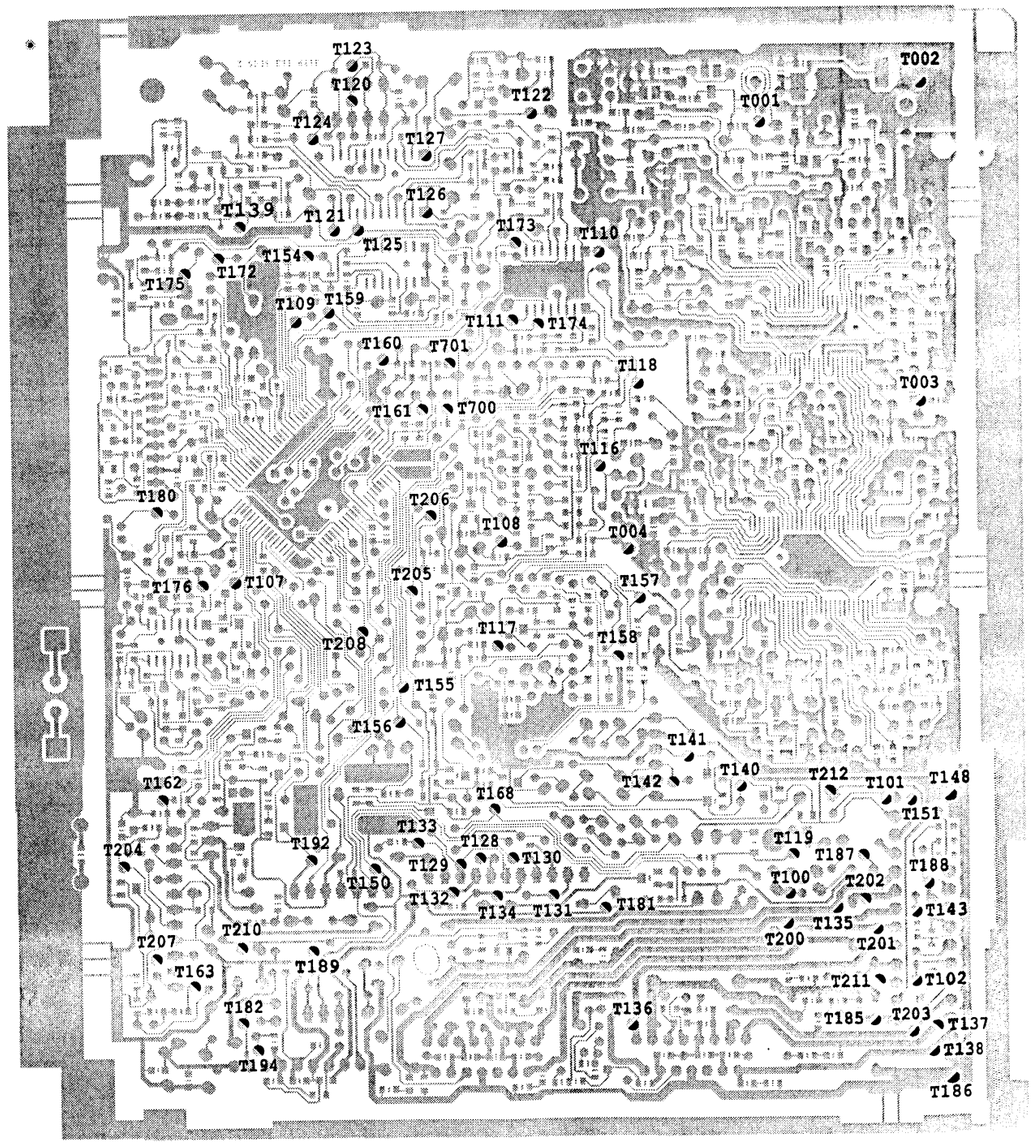
Alignment	SK					
RF Coil	FM	88MHz no signal	A		5201	On T003 1.2V±30mV DC
FM – RF	FM	88MHz, 44µV Unmodulated	A		5100	On T004 Max. V DC
RF Trimmer	FM	104MHz, 44µV Unmodulated	A		2226	On T004 Max. V DC
FM – IF	FM	98MHz, 44µV Unmodulated	A		5210 5209	On T004 Max. V DC
FM – IF	FM	98MHz, 44µV Unmodulated	A		5208	On T004 Max. V DC
AM – IF	AM	1053kHz, 44µV 1kHz, AM = 30%	B		5301	On T004 Max. V DC
SDS 10dB Crosstalk	FM	98MHz, 150µV Δf = 22.5kHz mod= 1kHz stereo - R	A		3303	L(T116) - R(T117) ≥ 10dB
Crosstalk	FM	98MHz, 1 mV Δf = 22.5kHz mod= 1kHz stereo - R	A		3320	L(T116) - R(T117) ≥ 10dB
α – 3 dB	FM	93 MHz, 1 mV Δ f = 22.5 kHz f mod. = 400 Hz	A			T116 = 0 dB
		93 MHz, 5 µV Δ f = 22.5 kHz f mod. = 400 Hz			3321	T116 - 3 dB

CHECK TABLE

Check	SK				Setting of controls	
VC – FM	FM	no signal		88MHz		1.17VDC < T003 < 1.23VDC
				108MHz		T003 > 5.0VDC
VC – AM	LW	no signal		144 kHz		T003 > 1.5VDC
	MW			1611 kHz		T003 < 7VDC
	SW			5850kHz		T003 > 1.5VDC
				6250kHz		T003 < 3VDC

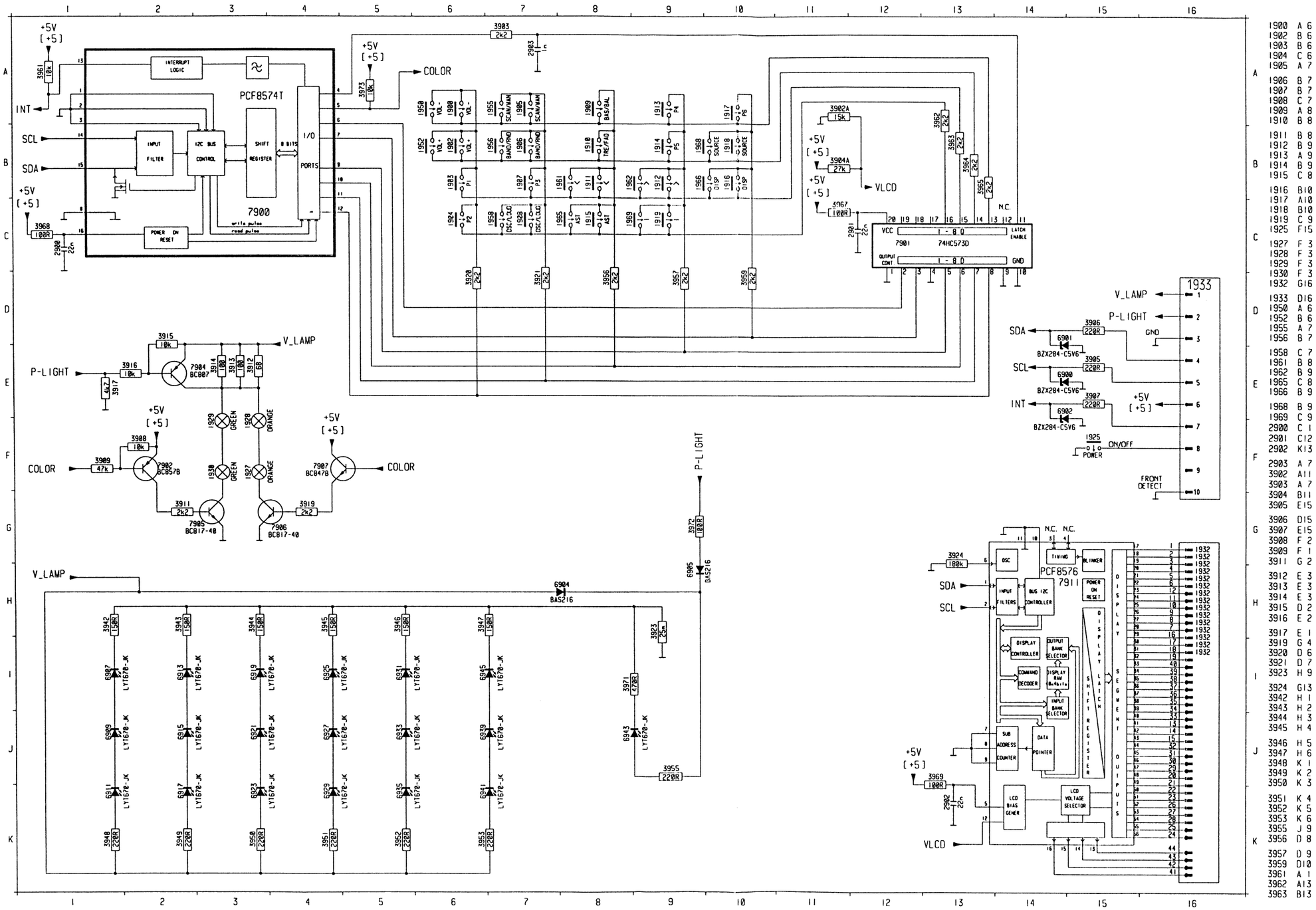
TEST PAD

TEST POINT	DESCRIPTION		TEST POINT	DESCRIPTION
T001	ANTENNA INPUT		T156	I2C_SCL
T002	ANTENNA GND		T157	SW_SDA
T003	VT (PIN 39 OF ITEM 7202)		T158	SW_SCL
004	LEVEL (PIN 50 OF ITEM 7300)		T159	1HZ
T100	LINE-IN LEFT		T160	EEPROM TEST
T101	LINE-IN GND		T161	EEPROM_WRITE
T102	LINE-IN RIGHT		T162	VLCD
T107	NOISE _PULSE		T163	PILOT
T108	MULTIPATH		T164	SW_SDA
T109	PAUSE		T168	MRQ
T110	RDS GND		T172	6W_RC_INT
T111	RDS CLK		T173	RDS_CLK
T116	RADIO_LEFT		T174	RDS_DATA
T117	RADIO_RIGHT		T175	FRONT_DETECT
T118	MPX_RDS		T176	RESET
T119	+CDCC		T180	ON/OFF
T120	TAPE IN RIGHT FORWARD		T181	+2(+14.4v)
T121	TAPE IN RIGHT REVERSE		T182	+3(+8.5V)
T122	TAPE IN COMMON		T185	IGNITION SUPPLY (A7)
T123	TAPE IN LEFT FORWARD		T186	POWER SUPPLY GND
T124	TAPE IN LEFT REVERSE		T187	PERMANENT SUPPLY(A4)
T125	TAPE GND		T188	TELEPHONE MUTE
T126	CAS_RIGHT		T192	D2B INT
T127	CAS_LEFT		T194	STABIC_ON/OFF
T128	MUTE_SW +		T200	RR+
T129	MOTOR +		T201	FR+
T130	MUTE_SW -		T202	FR-
T131	TRACK_SW		T203	FL-
T132	SOLENOID		T204	KEY_3
T133	ME_CR		T205	REM_LCD_SCL
T134	PLAY_SW		T206	REM_LCD_SDA
T135	RR-		T207	+V2_LAMP
T136	FL+		T210	+5(+5V)
T137	RL+		T211	PILOT ILLUMINATION
T138	RL-		T212	AUTO AERIAL
T140	LINE_OUT_FR		T700	SDA (EEPROM)
T141	LINE_OUT_RR		T701	SCL (EEPROM)
T142	LINE_OUT_FL			
T143	LINE_OUT_RL			
T148	LINE_OUT_GND			
T151	D2B			
T154	+7(+5V)			
T155	I2C_SDA			

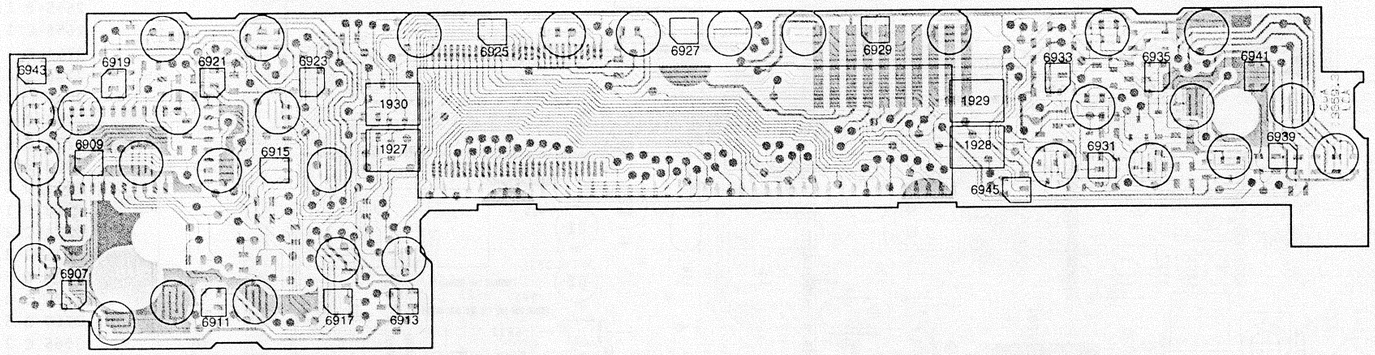


cad ref : dd240.mbjpanel-pz-9510519-1

DETACHABLE FRONT

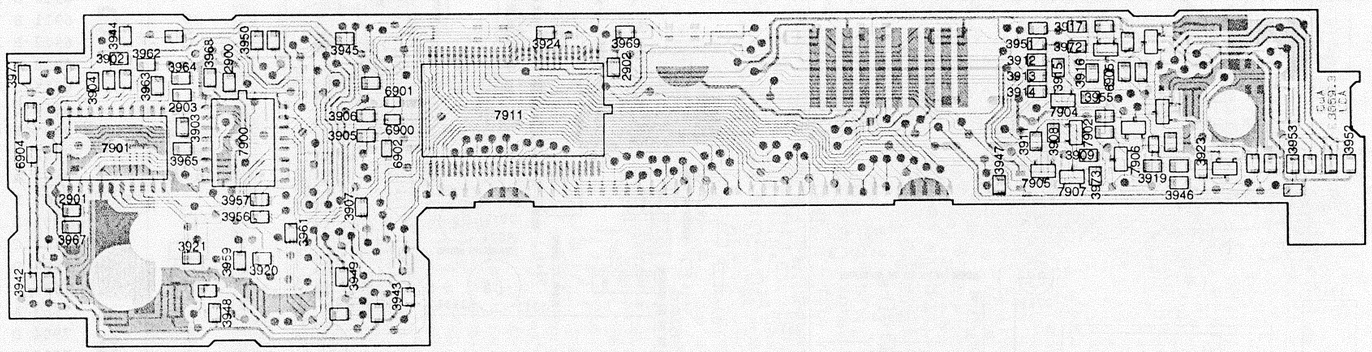


1900	A 6	3964	B13		
1902	B 6	3965	B13		
1903	B 6	3967	C11		
1904	C 6	3968	C 1		
1905	A 7	3969	J13	A	
1906	B 7	3971	I 8		
1907	B 7	3973	A 5		
1908	C 7	6900	E14		
1909	A 8	6901	D14		
1910	B 8	6902	E14		
1911	B 8	6904	H 8		
1912	B 9	6905	H 9		
1913	A 9	6907	I 1		
1914	B 9	6909	J 1	B	
1915	C 8	6911	K 1		
1916	B10	6913	I 2		
1917	A10	6915	J 2		
1918	B10	6917	K 2		
1919	C 9	6919	I 3		
1925	F15	6921	J 3	C	
1927	F 3	6923	K 3		
1928	F 3	6925	I 4		
1929	F 3	6927	J 4		
1930	F 3	6929	K 4		
1932	G16	6931	I 5		
1933	D16	6933	J 5		
1950	A 6	6935	K 5	D	
1952	B 6	6939	J 6		
1955	A 7	6941	K 6		
1956	B 7	6943	J 8		
1958	C 7	6945	I 6		
1961	B 8	7900	C 3		
1962	B 9	7901	C12		
1965	C 8	7902	F 2	E	
1966	B 9	7904	E 2		
1968	B 9	7905	G 2		
1969	C 9	7906	G 4		
2900	C 1	7907	F 4		
2901	C12	7911	H15		
2902	K13			F	
2903	A 7				
3902	A11				
3903	A 7				
3904	B11				
3905	E15				
3906	D15				
3907	E15			G	
3908	F 2				
3909	F 1				
3911	G 2				
3912	E 3				
3913	E 3				
3914	E 3				
3915	D 2			H	
3916	E 2				
3917	E 1				
3919	G 4				
3920	D 6				
3921	D 7				
3923	H 9			I	
3924	G13				
3942	H 1				
3943	H 2				
3944	H 3				
3945	H 4				
3946	H 5			J	
3947	H 6				
3948	K 1				
3949	K 2				
3950	K 3				
3951	K 4				
3952	K 5				
3953	K 6				
3955	J 9				
3956	D 8			K	
3957	D 9				
3959	D10				
3961	A 1				
3962	A13				
3963	B13				

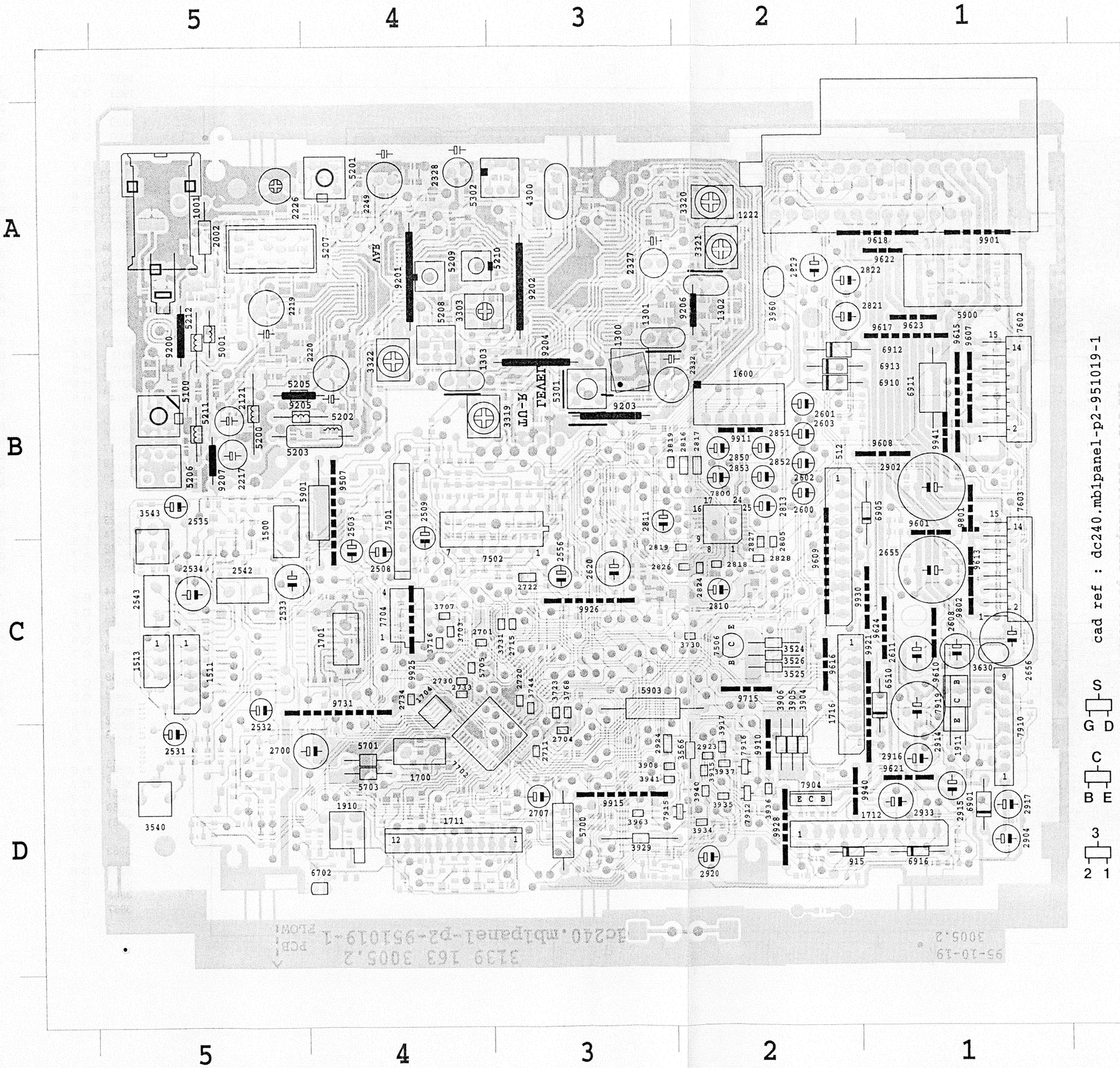


The circles represent the contact areas of the switch mat

[SOLDER SIDE]

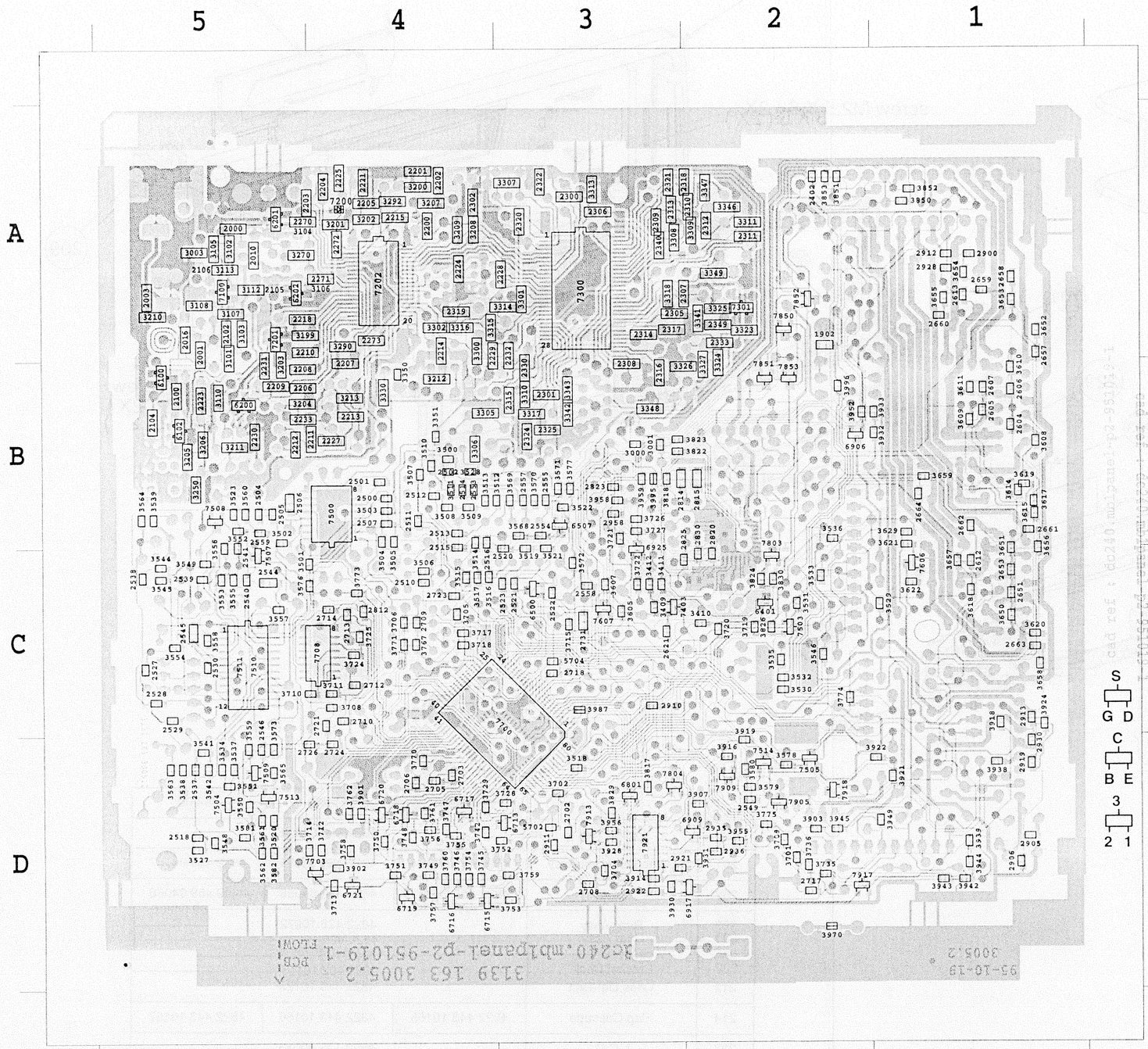


1927	D 2	3968	C 6	6935	H 1
1928	G 2	3969	E 6	6939	I 2
1929	G 1	3971	A 6	6941	I 1
1930	D 1	3972	H 6	6943	A 1
2900	C 6	3973	H 6	6945	G 2
2901	B 7	6069	A 2	7900	C 6
2902	E 6	6900	D 6	7901	B 6
2903	B 6	6901	D 6	7902	H 6
3902	B 6	6902	D 6	7904	H 6
3903	B 6	6904	A 6	7905	H 6
3904	B 6	6905	H 6	7906	H 6
3905	C 6	6907	B 3	7907	H 6
3906	C 6	6909	B 2	7911	D 6
3907	D 7	6911	C 3		
3908	H 6	6913	D 3		
3909	H 7	6915	C 2		
3911	H 6	6917	C 3		
3912	H 6	6919	B 1		
3913	H 6	6921	C 1		
3914	H 6	6923	C 1		
3915	H 6	6925	D 1		
3916	H 6	6927	E 1		
3917	H 5	6929	G 1		
3919	H 6	6931	H 2		
3920	C 7	6933	H 1		
3921	B 7				
3923	I 6				
3924	E 6				
3942	A 7				
3943	D 7				
3944	B 6				
3945	C 6				
3946	I 6				
3947	G 6				
3948	C 7				
3949	C 7				
3950	C 6				
3951	H 6				
3952	J 6				
3953	I 6				
3955	H 6				
3956	C 7				
3957	C 7				
3959	C 7				
3961	C 7				
3962	B 6				
3963	B 6				
3964	B 6				
3965	B 6				
3967	B 7				



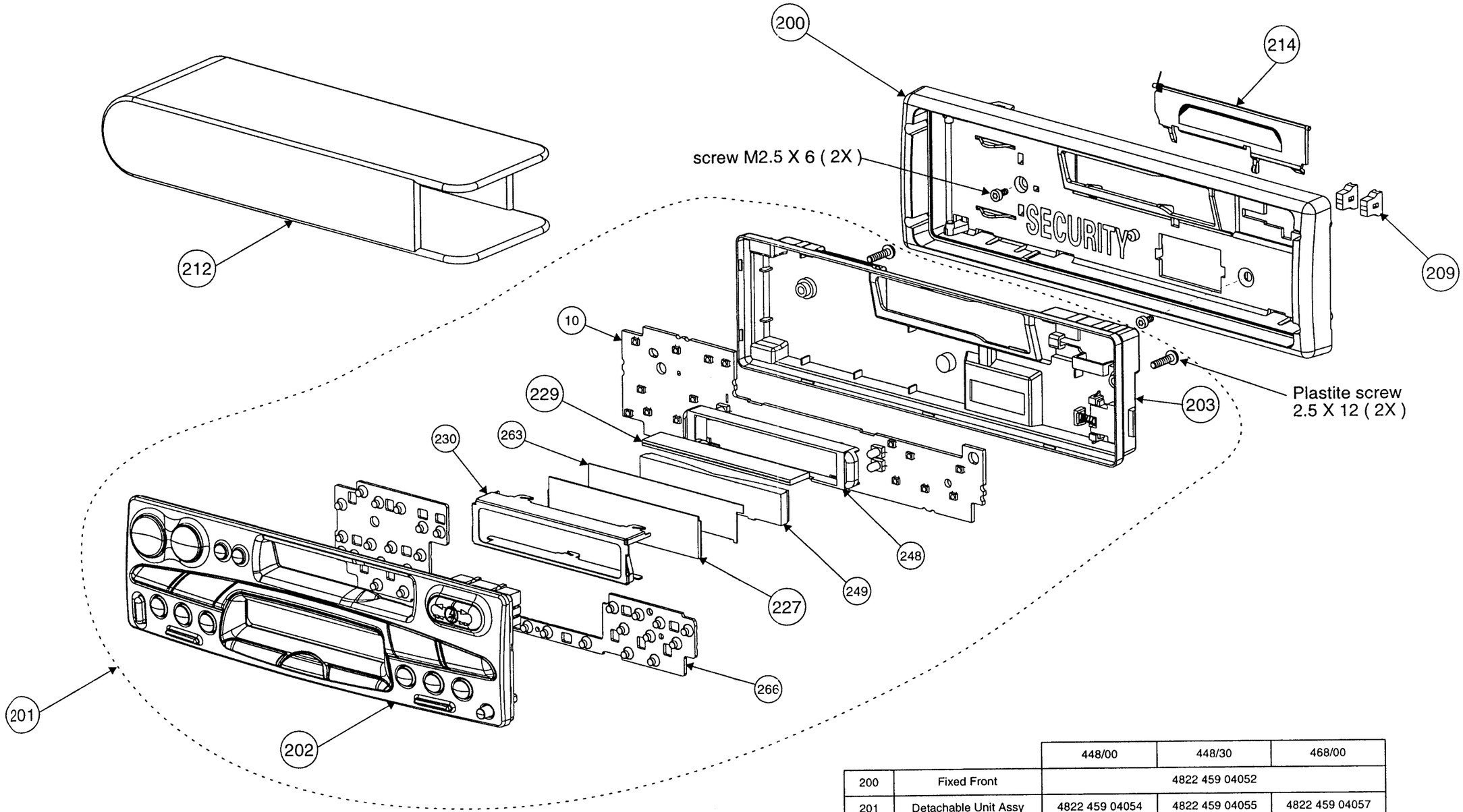
1222	A 1	9617	B 1
1511	C 5	9618	A 1
1512	C 2	9621	D 1
1704	C 4	9622	A 1
1712	D 1	9623	A 1
1716	D 2	9624	C 1
2655	B 1	9625	A 1
2656	C 1	9701	C 2
2711	D 4	9711	C 2
2720	D 4	9715	C 2
2730	C 3	9730	D 4
2733	C 4	9731	D 4
2734	C 4	9732	C 2
2902	B 1	9801	B 1
2914	C 1	9802	C 1
2918	D 1	9901	A 1
3524	C 2	9913	C 2
3526	C 2	9915	D 3
3527	D 5	9918	D 2
3536	C 2	9921	D 2
3560	B 5	9925	C 4
3566	C 2	9926	C 3
3580	C 1	9928	D 2
3904	D 1	9929	D 2
3905	D 1	----	
3906	D 1	1001	A 5
3929	D 3	1300	B 3
5700	D 3	2002	A 5
5701	C 4	2226	A 5
5703	C 4	3303	A 4
5705	C 3	5001	A 5
5900	A 1	5100	B 5
5903	C 3	5200	B 5
6506	D 5	5201	A 4
6901	D 1	5202	B 5
6905	C 1	5203	B 4
6906	C 1	5205	B 5
6907	C 1	5206	B 5
6910	B 2	5207	A 5
6911	B 1	5208	A 4
6912	B 2	5209	A 4
6913	B 2	5210	A 4
6915	D 1	5211	B 5
6916	D 1	5212	A 5
7501	B 4	5301	B 3
7502	B 3	5302	A 3
7602	A 1	9200	A 5
7603	B 1	9201	A 4
7702	D 4	9202	A 3
7704	C 4	9203	B 3
7800	B 2	9204	B 3
7851	A 2	9205	B 5
7853	A 2	9206	A 2
7904	D 1	9207	B 5
7910	C 1		
7919	D 1		
9504	D 5		
9505	C 5		
9507	B 4		
9601	B 1		
9607	A 1		
9608	B 1		
9609	C 2		
9610	B 1		
9613	B 1		
9615	A 1		

MAIN PCB



1902 B 2	2723 C 4	3520 D 5	3624 C 1	3931 D 2	2001 A 5	2340 A 3	7100 A 5
2402 A 2	2724 D 4	3521 C 3	3629 B 1	3932 B 2	2003 A 5	2349 A 2	7200 A 4
2500 B 4	2726 D 4	3522 B 3	3650 C 1	3933 B 2	2010 A 5	3003 A 5	7201 A 5
2501 B 4	2731 C 3	3523 B 5	3651 B 1	3934 B 3	2016 A 5	3101 A 5	7202 A 4
2502 B 4	2801 B 2	3525 D 5	3702 D 3	3936 B 3	2100 B 5	3102 A 5	7300 A 3
2504 B 5	2802 B 3	3528 B 4	3704 D 3	3937 D 3	2102 A 5	3103 A 5	7301 A 2
2505 B 5	2805 B 2	3529 C 2	3705 C 4	3938 C 1	2104 B 5	3104 A 5	
2506 B 5	2807 B 2	3530 C 2	3706 C 4	3939 D 4	2105 A 5	3105 A 5	
2507 B 4	2808 A 2	3531 C 2	3708 C 4	3940 B 3	2106 A 5	3106 A 4	
2510 C 4	2810 B 2	3532 C 2	3710 C 5	3942 D 1	2200 A 4	3107 A 5	
2511 B 4	2811 C 4	3533 D 5	3711 C 4	3943 D 1	2201 A 4	3108 A 5	
2512 B 4	2812 C 4	3534 D 5	3715 C 3	3945 D 1	2202 A 4	3110 B 5	
2513 B 4	2814 B 2	3535 C 2	3716 C 3	3949 D 1	2203 A 5	3112 A 5	
2514 B 4	2816 C 2	3537 D 5	3717 D 4	3952 B 2	2204 A 4	3113 A 5	
2515 B 4	2817 B 2	3538 D 5	3718 D 4	3955 D 2	2205 A 4	3199 A 5	
2516 B 4	2818 B 2	3539 B 5	3719 C 2	3956 D 3	2206 B 5	3200 A 4	
2518 D 5	2819 B 2	3541 C 5	3720 C 2	3958 B 3	2207 B 4	3201 A 4	
2520 C 3	2821 B 2	3542 C 5	3721 B 3	3959 B 3	2208 B 5	3202 A 4	
2521 C 3	2823 C 2	3544 B 5	3722 D 4	3962 D 4	2209 B 5	3203 B 5	
2522 C 3	2824 C 2	3545 C 5	3723 D 3	3984 D 4	2210 A 5	3204 B 5	
2523 C 4	2825 B 2	3546 C 5	3724 C 4	3996 B 2	2211 B 4	3205 B 5	
2527 C 5	2826 B 2	3547 C 5	3725 C 4	5702 D 3	2212 B 5	3206 B 5	
2528 C 5	2827 C 2	3548 D 5	3728 D 4	5704 D 3	2213 B 4	3207 A 4	
2529 C 5	2900 A 1	3549 B 5	3729 D 4	6401 C 2	2214 A 4	3208 A 4	
2530 C 5	2905 D 1	3550 D 5	3731 D 4	6500 C 3	2215 A 4	3209 A 4	
2537 C 5	2906 D 1	3551 D 5	3732 D 4	6507 B 3	2218 A 5	3210 A 5	
2538 B 5	2910 C 3	3552 B 5	3733 D 3	6705 D 3	2221 A 4	3211 B 5	
2539 C 5	2911 D 3	3553 C 5	3734 D 4	6706 D 4	2223 B 5	3212 B 4	
2540 D 5	2912 A 1	3554 C 5	3735 D 2	6801 D 3	2224 A 4	3213 B 4	
2541 C 5	2913 B 1	3555 D 5	3736 D 2	6904 B 3	2225 A 4	3250 B 5	
2544 C 5	2919 C 1	3556 C 5	3739 C 2	6908 D 5	2227 B 4	3270 A 5	
2545 C 5	2921 D 3	3557 D 5	3767 C 4	6909 D 2	2228 A 3	3290 A 4	
2546 D 5	2927 D 3	3558 C 5	3769 D 4	6917 D 2	2229 A 4	3292 A 4	
2549 C 2	2928 A 1	3559 D 5	3770 C 4	6918 D 2	2230 B 5	3300 A 4	
2553 B 4	2930 C 1	3561 D 5	3771 C 4	6919 D 2	2231 B 5	3301 A 3	
2554 C 3	2935 D 2	3562 D 5	3772 D 2	6925 B 3	2232 A 3	3302 A 4	
2555 B 3	2936 D 2	3563 D 5	3773 C 4	7403 C 3	2233 B 5	3305 B 4	
2557 B 3	2958 B 3	3564 B 5	3800 A 2	7500 B 4	2270 A 5	3306 B 4	
2558 C 3	3000 B 3	3565 D 5	3817 D 3	7503 C 2	2271 A 4	3307 A 3	
2559 C 5	3001 B 2	3568 B 3	3818 C 2	7504 C 5	2272 A 4	3308 A 3	
2604 A 1	3350 B 4	3569 B 3	3819 B 2	7505 C 2	2273 A 4	3309 A 2	
2605 A 1	3351 B 4	3570 B 3	3820 C 2	7507 B 5	2300 A 3	3310 B 3	
2606 A 1	3409 C 3	3571 B 3	3821 C 2	7508 B 5	2301 B 3	3313 A 3	
2607 A 1	3410 C 2	3572 C 3	3822 B 2	7509 D 5	2302 A 4	3314 A 3	
2612 B 1	3411 C 3	3573 D 5	3823 B 2	7510 C 5	2305 A 3	3315 A 4	
2613 A 1	3412 C 3	3575 D 5	3824 C 2	7511 C 5	2306 A 3	3316 A 4	
2651 B 1	3500 B 4	3576 C 5	3826 C 2	7513 D 5	2307 A 2	3317 B 3	
2653 B 1	3501 C 4	3577 B 3	3829 D 3	7514 C 2	2308 B 3	3318 A 3	
2701 C 3	3502 B 5	3578 C 2	3850 A 1	7606 B 1	2309 A 3	3323 A 2	
2702 D 3	3503 B 4	3579 C 2	3851 A 2	7607 C 3	2310 A 2	3324 B 2	
2703 C 4	3504 B 4	3581 D 5	3852 A 1	7700 D 4	2311 A 2	3325 A 2	
2704 D 4	3505 B 4	3605 C 3	3853 A 2	7703 D 3	2312 A 2	3326 B 2	
2705 C 4	3506 C 4	3607 C 3	3902 D 4	7708 C 4	2313 A 3	3327 B 2	
2706 C 4	3507 B 4	3608 B 1	3903 C 1	7801 B 2	2314 A 3	3330 B 4	
2708 D 3	3508 B 4	3609 A 1	3907 C 1	7803 B 2	2315 B 3	3341 A 2	
2709 C 4	3509 B 4	3610 A 1	3910 D 2	7804 D 3	2316 B 3	3342 B 3	
2710 C 4	3510 B 4	3611 A 1	3916 D 2	7850 A 2	2317 A 3	3343 B 3	
2712 C 4	3511 B 4	3614 B 1	3918 C 1	7852 A 2	2318 A 2	3346 A 2	
2713 C 4	3512 B 4	3615 B 1	3919 D 2	7905 D 1	2319 A 4	3347 A 2	
2714 C 5	3513 B 4	3617 B 1	3920 D 5	7909 D 2	2320 A 3	3348 B 3	
2715 D 4	3514 B 4	3618 B 1	3921 C 1	7913 D 3	2321 A 3	3349 A 2	
2716 D 4	3515 C 4	3619 B 1	3922 C 1	7917 D 1	2322 A 3	6100 B 5	
2717 D 2	3516 C 4	3620 B 1	3924 C 1	7918 D 1	2324 B 3	6102 B 5	
2718 D 3	3517 C 4	3621 B 1	3927 D 3	7921 D 3	2325 B 3	6200 B 5	
2721 C 4	3518 C 4	3622 B 1	3928 D 3	----	2330 B 4	6201 A 5	
2722 C 3	3519 B 3	3623 C 1	3930 D 3	2000 A 5	2333 A 2	6202 A 5	

DETACHABLE FRONT EXPLODED VIEW



		448/00	448/30	468/00
200	Fixed Front	4822 459 04052		
201	Detachable Unit Assy	4822 459 04054	4822 459 04055	4822 459 04057
202	Front Assy	4822 459 04067	4822 459 04068	4822 459 04066
203	Rear Assy	4822 426 10072		
209	Bracket Deck	4822 402 10116		
212	Case Det-Unit	4822 418 10123		
214	Flap Cassette	4822 443 10165	4822 443 10166	4822 443 10167
227	L.C.D.	4822 135 00013		
229	Zebra Connector	4822 267 10334		

MAIN EXPLODED VIEW

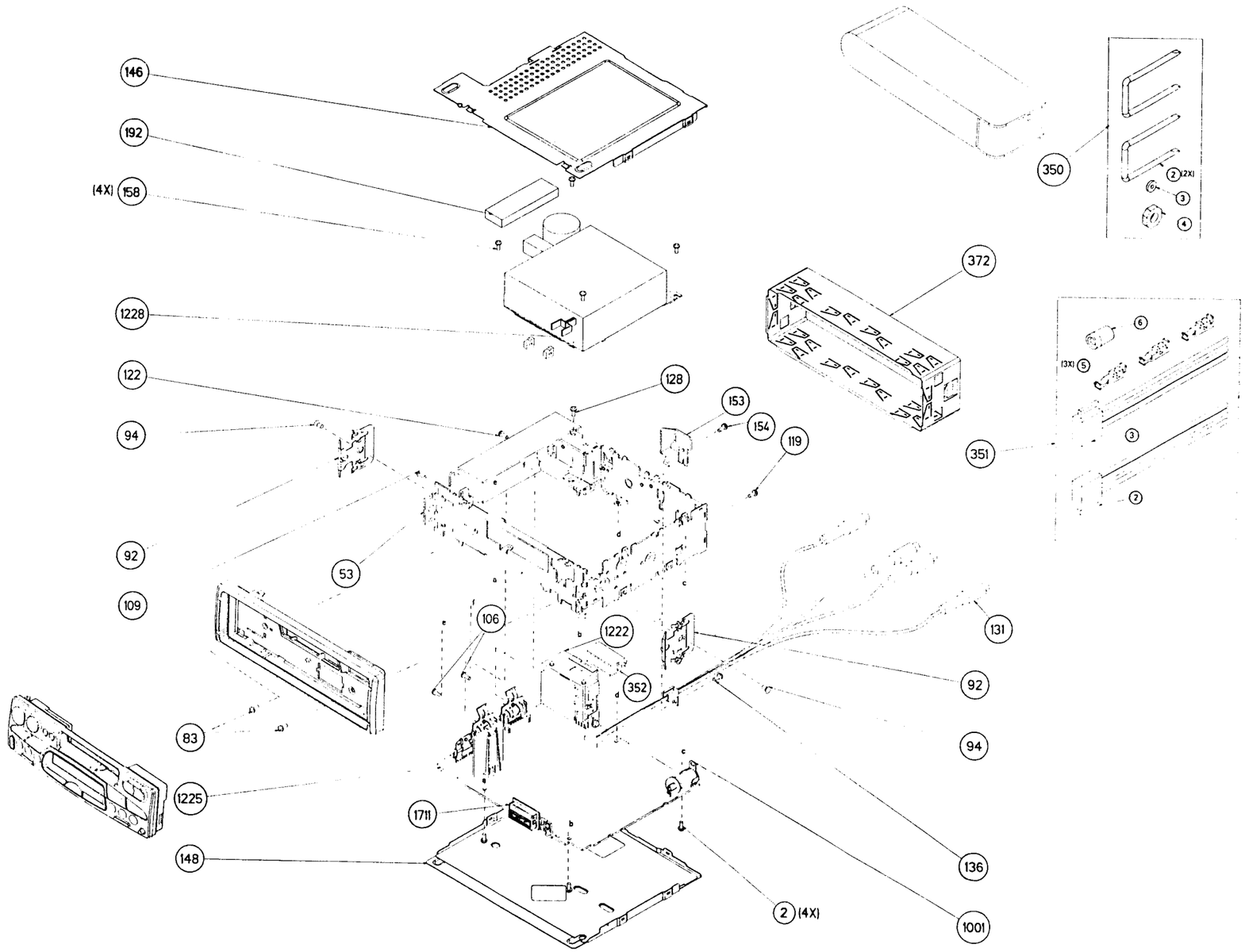
MECHANICAL PARTSLIST

Only those parts of which the item number is stated below are considered service parts.

92	4822 492 71046	SPRING MOUNTING
131	4822 320 11128	CABLE LINE-OUT - RC448
131	4822 320 11123	CABLE LINE OUT - RC468
350/2	4822 404 20437	BRACKET MOUNTING
351	4822 321 62722	MOUNTING MATERIAL
352	4822 423 41249	PROTECTION CD CHANGER
372	4822 423 90186	SLEEVE
1228	4822 691 10466	TAPEDECK LCA*5-2 - RC448
1228	4822 691 10467	TAPEDECK LCA*5.4 - RC468
	4822 736 14084	DFU - MULTI LANGUAGE

List of Screws

2	SCR PAN TAP M2.5X6
83	SCR PAN TORX TAP 2.5X6
94	SCR CSK TORX TAP M3X6
106	SCR PAN TAP M2.5X6
109	SCR PAN TAP M2.5X6
119	SCR PAN TAP M2.5X6
122	SCR PAN TAP M2.5X6
128	SCR PAN TAP M2.5X6
136	SCR PAN TAP M2.5X6
158	SCR PAN TAP M2.5X6



D²B PCB - NOT FOR RC448/00

MISCELLANEOUS

1703	4822 242 81659	CST5.75MGW-TF01

2727	5322 121 42386	100nF 5% 63V
2728	5322 121 42386	100nF 5% 63V
2729	5322 121 42386	100nF 5% 63V

3747	4822 116 83863	1k 5% 0.5W
3757	4822 116 52175	100Ω 5% 0.5W
3758	4822 116 40221	8Ω2 20%
3759	4822 116 40221	8Ω2 20%
3761	4822 116 83864	10k 5% 0.5W
3762	4822 116 52176	10Ω 5% 0.5W
3768	4822 116 83863	1k 5% 0.5W
3769	4822 116 83863	1k 5% 0.5W

6720	4822 130 32904	BZV85-C5V6
6721	4822 130 32904	BZV85-C5V6

7707	4822 209 32743	MSM6307GS-VK

FRONT PCB

MISCELLANEOUS

1927	4822 134 10014	Lamp MIN 5V 115MA ORANGE
1928	4822 134 10014	Lamp MIN 5V 115MA ORANGE
1929	4822 134 10015	Lamp MIN 5V 115MA GREEN
1930	4822 134 10015	Lamp MIN 5V 115MA GREEN

2900	5322 122 32654	22nF 10% 63V
2901	5322 122 32654	22nF 10% 63V
2902	5322 122 32654	22nF 10% 63V
2903	5322 122 34123	1nF 10% 50V

3902	4822 051 20153	15k 5% 0,1W
3903	4822 051 20222	2k2 5% 0,1W
3904	4822 051 20273	27k 5% 0,1W
3905	4822 051 20221	220Ω 5% 0,1W
3906	4822 051 20221	220Ω 5% 0,1W
3907	4822 051 20221	220Ω 5% 0,1W
3908	4822 051 20103	10k 5% 0,1W
3909	4822 051 20473	47k 5% 0,1W
3911	4822 051 20222	2k2 5% 0,1W
3912	4822 051 20689	68Ω 5% 0,1W
3913	4822 051 20101	100Ω 5% 0,1W
3914	4822 051 20101	100Ω 5% 0,1W
3915	4822 051 20103	10k 5% 0,1W
3916	4822 051 20103	10k 5% 0,1W
3917	4822 051 20472	4k7 5% 0,1W
3919	4822 051 20222	2k2 5% 0,1W
3920	4822 051 20222	2k2 5% 0,1W
3921	4822 051 20222	2k2 5% 0,1W
3923	4822 051 20008	0Ω 0 JUMP. (0805)
3924	4822 051 20184	180k 5% 0,1W
3942	4822 117 10353	150Ω 1% 0,1W
3943	4822 117 10353	150Ω 1% 0,1W
3944	4822 117 10353	150Ω 1% 0,1W
3945	4822 117 10353	150Ω 1% 0,1W
3946	4822 117 10353	150Ω 1% 0,1W
3947	4822 117 10353	150Ω 1% 0,1W
3948	4822 051 20221	220Ω 5% 0,1W
3949	4822 051 20221	220Ω 5% 0,1W
3950	4822 051 20221	220Ω 5% 0,1W
3951	4822 051 20221	220Ω 5% 0,1W
3952	4822 051 20221	220Ω 5% 0,1W
3953	4822 051 20221	220Ω 5% 0,1W
3955	4822 051 20221	220Ω 5% 0,1W
3956	4822 051 20222	2k2 5% 0,1W
3957	4822 051 20222	2k2 5% 0,1W
3959	4822 051 20222	2k2 5% 0,1W

3961	4822 051 20103	10k 5% 0,1W
3962	4822 051 20222	2k2 5% 0,1W
3963	4822 051 20222	2k2 5% 0,1W
3964	4822 051 20222	2k2 5% 0,1W
3965	4822 051 20222	2k2 5% 0,1W
3967	4822 051 20101	100Ω 5% 0,1W
3968	4822 051 20101	100Ω 5% 0,1W
3969	4822 051 20101	100Ω 5% 0,1W
3971	4822 051 20471	470Ω 5% 0,1W
3972	4822 051 20101	100Ω 5% 0,1W
3973	4822 051 20103	10k 5% 0,1W

6900	4822 130 10185	UDZ5.6B
6901	4822 130 10185	UDZ5.6B
6902	4822 130 10185	UDZ5.6B
6904	4822 130 83757	BAS216
6905	4822 130 83757	BAS216
6907	4822 130 10186	LED VS LYT670-JK-E92
6909	4822 130 10186	LED VS LYT670-JK-E92
6911	4822 130 10186	LED VS LYT670-JK-E92
6913	4822 130 10186	LED VS LYT670-JK-E92
6915	4822 130 10186	LED VS LYT670-JK-E92
6917	4822 130 10186	LED VS LYT670-JK-E92
6919	4822 130 10186	LED VS LYT670-JK-E92
6921	4822 130 10186	LED VS LYT670-JK-E92
6923	4822 130 10186	LED VS LYT670-JK-E92
6925	4822 130 10186	LED VS LYT670-JK-E92
6927	4822 130 10186	LED VS LYT670-JK-E92
6929	4822 130 10186	LED VS LYT670-JK-E92
6931	4822 130 10186	LED VS LYT670-JK-E92
6933	4822 130 10186	LED VS LYT670-JK-E92
6935	4822 130 10186	LED VS LYT670-JK-E92
6939	4822 130 10186	LED VS LYT670-JK-E92
6941	4822 130 10186	LED VS LYT670-JK-E92
6943	4822 130 10186	LED VS LYT670-JK-E92
6945	4822 130 10186	LED VS LYT670-JK-E92

7900	5322 209 11578	PCF8574T
7901	5322 209 60424	74HC573D
7902	5322 130 60508	BC857B
7904	4822 130 42132	BC807
7905	4822 130 42615	BC817-40
7906	4822 130 42615	BC817-40
7907	4822 130 60511	BC847B
7911	5322 209 11129	PCF8576T

MISCELLANEOUS

1001	4822 267 30883	ANTENNA BUSH
1222	4822 265 10314	CONNECTOR BLOCK - RC468
1222	4822 265 10318	CONNECTOR BLOCK - RC448
1300	4822 242 82063	CFUM450H
1301	4822 242 81701	SFE10 .7MS3C10K
1302	4822 242 81701	SFE10 .7MS3C10K
1303	4822 242 81701	SFE10 .7MS3C10K
1500	4822 242 72195	CRYSTAL 4.332MHz
1511	4822 267 40818	TCS83S9V1 BURNDY
1700	4822 242 81856	CSA11,5MTZ-TF1
1701	4822 242 10239	XTAL 4.194304MHZ
1705	4822 256 30483	CONNECTOR LAMP
1902	4822 253 30446	SM FUSE (2A) 32V
		- NOT FOR RC448/00
1911	4822 071 21003	FUSE BLADE (10A)
4300	4822 242 81698	CRYSTAL 61,5MHZ

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2002	4822 252 60125	SURGE PROTECTOR 200V
2003	5322 122 32447	1pF 5% 50V
2010	5322 122 31944	3,9pF 5% 50V
2016	5322 122 32658	22pF 5% 50V
2100	5322 122 33063	2,2pF 5% 50V
2102	4822 122 33575	220pF 5% 50V
2104	5322 122 34123	1nF 10% 50V
2105	5322 122 34123	1nF 10% 50V
2106	5322 122 34123	1nF 10% 50V
2121	4822 124 41017	10µF 16V
2200	4822 126 13196	100nF 10% 25V
2201	5322 122 34098	10nF 10% 63V
2202	4822 126 13196	100nF 10% 25V
2203	5322 122 33063	2,2pF 5% 50V
2204	5322 126 10343	1,8pF 5% 63V
2205	5322 122 33446	3,3nF 10% 63V
2206	5322 122 32269	6,8pF 5% 50V
2207	4822 126 11692	1µF 50V +80%-20%
2208	4822 122 33515	82pF 5% 63V
2209	5322 122 32658	22pF 5% 50V
2210	4822 126 13196	100nF 10% 25V
2211	5322 122 31946	27pF 5% 63V
2212	5322 122 33446	3,3nF 10% 63V
2213	4822 126 13196	100nF 10% 25V
2214	5322 122 32654	22nF 10% 63V
2215	4822 126 13196	100nF 10% 25V
2217	4822 124 23279	22µF 20% 16V
2218	4822 126 11692	1µF 50V +80%-20%
2219	4822 124 23281	33µF 20% 16V
2220	4822 124 23281	33µF 20% 16V
2221	5322 122 32452	47pF 5% 63V
2223	5322 122 33538	150pF 2% 63V

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2224	5322 122 34098	10nF 10% 63V
2226	4822 125 60217	3P-11pF N45 100V
2227	4822 126 13693	56pF 1% 63V
2228	5322 122 32287	4,7pF 5% 50V
2229	5322 122 32448	10pF 5% 50V
2230	4822 126 11692	1µF 50V +80%-20%
2231	5322 122 32448	10pF 5% 50V
2232	5322 122 32448	10pF 5% 50V
2233	5322 122 32967	5,6pF 10% 63V
2249	4822 124 80453	100µF 20% 10V
2272	5322 122 32269	6,8pF 5% 50V
2273	4822 126 11692	1µF 50V +80%-20%
2300	4822 126 11692	1µF 50V +80%-20%
2301	5322 122 32654	22nF 10% 63V
2302	4822 126 13196	100nF 10% 25V
2305	4822 126 13196	100nF 10% 25V
2306	4822 126 13196	100nF 10% 25V
2307	4822 126 13196	100nF 10% 25V
2308	4822 126 13196	100nF 10% 25V
2309	5322 122 34098	10nF 10% 63V
2310	5322 122 33446	3,3nF 10% 63V
2311	5322 122 33446	3,3nF 10% 63V
2312	4822 122 33514	68pF 5% 50V
2313	4822 126 13057	220nF 10% 25V
2314	5322 122 31866	6,8nF 10% 63V
2315	4822 126 13196	100nF 10% 25V
2316	4822 126 13057	220nF 10% 25V
2317	5322 122 31866	6,8nF 10% 63V
2318	5322 122 32654	22nF 10% 63V
2319	4822 126 13196	100nF 10% 25V
2320	4822 126 13196	100nF 10% 25V
2321	4822 126 13196	100nF 10% 25V
2322	4822 126 13057	220nF 10% 25V
2324	4822 126 13057	220nF 10% 25V
2325	5322 122 32654	22nF 10% 63V
2327	4822 124 22646	47µF 20% 16V
2328	4822 124 23279	22µF 20% 16V
2330	4822 126 13196	100nF 10% 25V
2332	4822 124 23281	33µF 20% 16V
2333	5322 122 34098	10nF 10% 63V
2340	5322 122 32448	10pF 5% 50V
2349	5322 122 34098	10nF 10% 63V
2402	5322 122 34098	10nF 10% 63V
2500	5322 122 31863	330pF 5% 50V
2501	5322 122 32268	470pF 10% 50V
2502	5322 126 10223	4,7nF 10% 63V
2503	4822 124 23504	2.2µF 20% 50V
2504	5322 122 32452	47pF 5% 63V
2505	4822 122 33515	82pF 5% 63V
2506	4822 126 13057	220nF 10% 25V
2507	5322 122 34123	1nF 10% 50V
2508	4822 124 23504	2.2µF 20% 50V

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2509	4822 124 23504	2.2µF 20% 50V
2510	4822 126 13196	100nF 10% 25V
2511	4822 126 13196	100nF 10% 25V
2512	5322 122 33538	150pF 2% 63V
2513	5322 122 33538	150pF 2% 63V
2514	4822 126 13196	100nF 10% 25V
2515	5322 122 33538	150pF 2% 63V
2516	5322 122 33538	150pF 2% 63V
2518	5322 122 34123	1nF 10% 50V
2520	4822 122 32636	390pF 5% 50V
2521	5322 122 34123	1nF 10% 50V
2522	5322 122 32654	22nF 10% 63V
2523	5322 122 32287	4,7pF 5% 50V
2527	5322 122 32268	470pF 10% 50V
2528	5322 122 32268	470pF 10% 50V
2529	5322 122 32268	470pF 10% 50V
2530	5322 122 32268	470pF 10% 50V
2531	4822 124 41017	10µF 16V
2532	4822 124 41017	10µF 16V
2533	4822 124 80453	100µF 20% 10V
2534	4822 124 80453	100µF 20% 10V
2535	4822 124 41017	10µF 16V
2537	5322 122 34098	10nF 10% 63V
2538	5322 122 34098	10nF 10% 63V
2539	4822 126 13188	15nF 5% 63V - RC468
2540	4822 126 13196	100nF 10% 25V - RC468
2541	4822 126 13196	100nF 10% 25V - RC468
2542	5322 121 42661	330nF 5% 63V - RC468
2543	5322 121 42661	330nF 5% 63V - RC468
2544	5322 126 12698	4nF 72% - RC468
2545	5322 126 12698	4nF 72% - RC468
2546	4822 126 13188	15nF 5% 63V - RC468
2549	4822 126 13196	100nF 10% 25V - RC468
2553	4822 126 13196	100nF 10% 25V
2554	5322 122 34098	10nF 10% 63V
2555	5322 122 31865	1,5nF 10% 63V
2556	4822 124 23504	2.2µF 20% 50V
2557	5322 122 31865	1,5nF 10% 63V
2558	5322 126 10223	4,7nF 10% 63V
2559	5322 122 32654	22nF 10% 63V
2600	4822 124 23282	1µF 20% 50V
2601	4822 124 23282	1µF 20% 50V
2602	4822 124 23282	1µF 20% 50V
2603	4822 124 23282	1µF 20% 50V
2608	4822 124 80056	47µF 20% 16V
2611	4822 124 80056	47µF 20% 16V
2612	4822 126 13196	100nF 10% 25V
2613	4822 126 13196	100nF 10% 25V
2620	4822 124 23281	33µF 20% 16V
2621	4822 126 13196	100nF 10% 25V
2655	4822 124 80769	2200µF 20% 16V
2657	4822 126 13196	100nF 10% 25V

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2658	4822 126 13196	100nF 10% 25V
2659	4822 126 13196	100nF 10% 25V
2660	4822 126 13196	100nF 10% 25V
2661	4822 126 13196	100nF 10% 25V
2662	4822 126 13196	100nF 10% 25V
2663	4822 126 13196	100nF 10% 25V
2664	4822 126 13196	100nF 10% 25V
2700	4822 124 22646	47µF 20% 16V
2701	4822 126 13343	47nF 10% 25V
2702	5322 122 34123	1nF 10% 50V
2703	4822 122 33216	270pF 5% 50V
2704	4822 126 13343	47nF 10% 25V
2705	5322 122 32452	47pF 5% 63V
2706	5322 122 33869	15pF 5% 63V
2707	4822 124 41017	10µF 16V
2708	4822 126 13196	100nF 10% 25V
2709	4822 126 13196	100nF 10% 25V
2710	5322 122 34123	1nF 10% 50V
2712	5322 122 32658	22pF 5% 50V
2713	4822 122 33515	82pF 5% 63V
2714	5322 126 10223	4,7nF 10% 63V
2717	4822 122 33575	220pF 5% 50V
2718	4822 126 13196	100nF 10% 25V
2721	5322 122 32654	22nF 10% 63V
2723	5322 122 32531	100pF 5% 50V
2724	5322 122 32531	100pF 5% 50V
2726	5322 122 32531	100pF 5% 50V
2805	4822 126 13196	100nF 10% 25V
2810	4822 124 23504	2.2µF 20% 50V
2811	4822 124 23504	2.2µF 20% 50V
2812	4822 126 13196	100nF 10% 25V
2813	4822 124 41017	10µF 16V
2814	4822 126 13057	220nF 10% 25V
2815	4822 126 13057	220nF 10% 25V
2816	4822 126 13057	220nF 10% 25V
2817	4822 126 13057	220nF 10% 25V
2818	4822 126 13343	47nF 10% 25V
2819	4822 126 13343	47nF 10% 25V
2820	4822 126 13196	100nF 10% 25V
2821	4822 124 23504	2.2µF 20% 50V
2822	4822 124 23504	2.2µF 20% 50V
2823	4822 126 13196	100nF 10% 25V
2824	4822 126 13196	100nF 10% 25V
2825	4822 126 13196	100nF 10% 25V
2826	4822 126 13196	100nF 10% 25V
2827	4822 122 32627	2.7nF 10% 50V
2828	4822 122 32627	2.7nF 10% 50V
2829	4822 124 23504	2.2µF 20% 50V
2830	4822 126 13196	100nF 10% 25V
2850	4822 124 23504	2.2µF 20% 50V
2851	4822 124 23504	2.2µF 20% 50V - RC468
2852	4822 124 23504	2.2µF 20% 50V - RC468

2853	4822 124 23504	2.2µF 20% 50V
2900	5322 122 34123	1nF 10% 50V
2902	4822 124 80769	2200µF 20% 16V
2904	4822 124 80056	47µF 20% 16V
2905	4822 126 13196	100nF 10% 25V
2906	4822 126 13196	100nF 10% 25V
2910	5322 122 34123	1nF 10% 50V
2911	4822 126 13196	100nF 10% 25V
2912	5322 122 34123	1nF 10% 50V
2913	4822 126 13196	100nF 10% 25V
2914	4822 124 80766	1000µF 20% 25V
2915	4822 124 80056	47µF 20% 16V
2916	4822 124 80056	47µF 20% 16V
2917	4822 124 80056	47µF 20% 16V
2919	4822 126 13343	47nF 10% 25V
2920	4822 124 41017	10µF 16V
2921	5322 122 33446	3,3nF 10% 63V
2922	4822 126 13196	100nF 10% 25V
2923	5322 122 32654	22nF 10% 63V
2928	5322 122 34098	10nF 10% 63V
2930	5322 122 32654	22nF 10% 63V
2933	4822 124 22646	47µF 20% 16V
2935	5322 122 34098	10nF 10% 63V
2936	5322 122 34098	10nF 10% 63V
2958	5322 122 34123	1nF 10% 50V

3000	4822 051 20102	1k 5% 0,1W
3001	4822 051 20102	1k 5% 0,1W
3003	4822 051 20008	0Ω0 JUMP. (0805)
3101	4822 051 20473	47k 5% 0,1W
3102	4822 051 20471	470Ω 5% 0,1W
3103	4822 051 20229	22Ω 5% 0,1W
3104	4822 051 20008	0Ω0 JUMP. (0805)
3105	4822 051 20229	22Ω 5% 0,1W
3106	4822 051 20008	0Ω0 JUMP. (0805)
3107	4822 051 20225	2M2 5% 0,1W
3108	4822 051 20104	100k 5% 0,1W
3110	4822 051 20229	22Ω 5% 0,1W
3200	4822 051 20392	3k9 5% 0,1W
3201	4822 051 20222	2k2 5% 0,1W
3202	4822 051 20103	10k 5% 0,1W
3203	4822 051 20221	220Ω 5% 0,1W
3204	4822 051 20471	470Ω 5% 0,1W
3205	4822 051 20471	470Ω 5% 0,1W
3206	4822 051 20101	100Ω 5% 0,1W
3207	4822 051 20473	47k 5% 0,1W
3208	4822 051 20103	10k 5% 0,1W
3209	4822 051 20103	10k 5% 0,1W
3210	4822 051 20225	2M2 5% 0,1W

3211	4822 051 20479	47Ω 5% 0,1W
3212	4822 051 20229	22Ω 5% 0,1W
3213	4822 051 20478	4Ω7 5% 0,1W
3270	4822 051 20471	470Ω 5% 0,1W
3290	4822 051 20224	220k 5% 0,1W
3292	4822 051 20229	22Ω 5% 0,1W
3300	4822 117 11383	12k 1% 0,1W
3301	4822 051 20225	2M2 5% 0,1W
3302	4822 051 20333	33k 5% 0,1W
3303	4822 100 11319	4k7 30%lin 0,1W
3307	4822 051 20432	4k3 5% 0,1W
3308	4822 051 20224	220k 5% 0,1W
3309	4822 117 11149	82k 1% 0,1W
3310	4822 051 20684	680k 5% 0,1W
3313	4822 051 20124	120k 5% 0,1W
3314	4822 051 20564	560k 5% 0,1W
3315	4822 051 20684	680k 5% 0,1W
3316	4822 051 20225	2M2 5% 0,1W
3317	4822 051 20273	27k 5% 0,1W
3318	4822 051 20391	390Ω 5% 0,1W
3320	4822 100 11163	100k 30%LIN 0,1W
3321	4822 100 11163	100k 30%LIN 0,1W
3323	4822 051 20391	390Ω 5% 0,1W
3324	4822 051 20272	2k7 5% 0,1W
3325	4822 051 20101	100Ω 5% 0,1W
3326	4822 051 20391	390Ω 5% 0,1W
3327	4822 051 20681	680Ω 5% 0,1W
3341	4822 051 20479	47Ω 5% 0,1W
3348	4822 051 20681	680Ω 5% 0,1W
3349	4822 051 20223	22k 5% 0,1W
3350	4822 051 20102	1k 5% 0,1W
3351	4822 051 20333	33k 5% 0,1W
3409	4822 051 20473	47k 5% 0,1W
3410	4822 051 20103	10k 5% 0,1W
3411	4822 051 20472	4k7 5% 0,1W
3412	4822 051 20104	100k 5% 0,1W
3500	4822 051 20104	100k 5% 0,1W
3501	4822 051 20229	22Ω 5% 0,1W
3502	4822 051 20222	2k2 5% 0,1W
3503	4822 051 20104	100k 5% 0,1W
3504	4822 051 20683	68k 5% 0,1W
3505	4822 051 20223	22k 5% 0,1W
3506	4822 051 20334	330k 5% 0,1W
3507	4822 051 20229	22Ω 5% 0,1W
3508	4822 051 20103	10k 5% 0,1W
3509	4822 051 20393	39k 5% 0,1W
3510	4822 051 20332	3k3 5% 0,1W
3511	4822 051 20332	3k3 5% 0,1W
3512	4822 051 20103	10k 5% 0,1W
3513	4822 051 20393	39k 5% 0,1W
3514	4822 051 20103	10k 5% 0,1W
3515	4822 051 20393	39k 5% 0,1W

3516	4822 051 20103	10k 5% 0,1W
3517	4822 051 20393	39k 5% 0,1W
3518	4822 051 20008	0Ω0 JUMP. (0805) - RC468
3519	4822 051 20393	39k 5% 0,1W
3520	4822 051 20223	22k 5% 0,1W - RC468
3521	4822 051 20224	220k 5% 0,1W
3522	4822 051 20104	100k 5% 0,1W
3523	4822 051 20103	10k 5% 0,1W - RC468
3524	4822 116 81437	5Ω6 5% 0,5W
3525	4822 116 81437	5Ω6 5% 0,5W
3526	4822 116 81437	5Ω6 5% 0,5W
3527	4822 051 20472	4k7 5% 0,1W
3528	4822 051 20223	22k 5% 0,1W
3529	4822 051 20103	10k 5% 0,1W
3530	4822 051 20222	2k2 5% 0,1W
3531	4822 051 20473	47k 5% 0,1W
3532	4822 051 20222	2k2 5% 0,1W
3534	4822 051 20184	180k 5% 0,1W - RC468
3535	4822 051 20471	470Ω 5% 0,1W
3536	4822 051 20008	0Ω0 JUMP. (0805)
3537	4822 051 20273	27k 5% 0,1W
3538	4822 051 20471	470Ω 5% 0,1W - RC468
3539	4822 051 20471	470Ω 5% 0,1W - RC468
3540	4822 100 11681	1k 30% 0,1W - RC468
3541	4822 051 20822	8k2 5% 0,1W
3542	4822 051 20334	330k 5% 0,1W
3543	4822 100 11681	1k 30% 0,1W - RC468
3544	4822 051 20822	8k2 5% 0,1W
3545	4822 051 20334	330k 5% 0,1W
3548	4822 051 20102	1k 5% 0,1W
3549	4822 117 11139	1k5 1% 0,1W - RC468
3550	4822 051 20153	15k 5% 0,1W - RC468
3551	4822 051 20684	680k 5% 0,1W - RC468
3552	4822 051 20473	47k 5% 0,1W - RC468
3553	4822 117 10507	24k 1% 0.1W - RC468
3554	4822 117 10507	24k 1% 0.1W - RC468
3555	4822 051 20184	180k 5% 0,1W - RC468
3556	4822 051 20184	180k 5% 0,1W - RC468
3557	4822 051 20274	270k 5% 0,1W - RC468
3558	4822 051 20274	270k 5% 0,1W - RC468
3559	4822 117 11139	1k5 1% 0,1W - RC468
3560	4822 051 20109	10Ω 5% 0,1W
3561	4822 051 20223	22k 5% 0,1W
3562	4822 051 20153	15k 5% 0,1W
3563	4822 051 20102	1k 5% 0,1W - RC448
3564	4822 051 20102	1k 5% 0,1W - RC448
3565	4822 051 20473	47k 5% 0,1W - RC468
3566	4822 116 83863	1k 5% 0,5W - RC468
3568	4822 051 20683	68k 5% 0,1W
3569	4822 051 20103	10k 5% 0,1W
3570	4822 051 20471	470Ω 5% 0,1W
3571	4822 051 20332	3k3 5% 0,1W

3572	4822 051 20472	4k7 5% 0,1W
3573	4822 117 11139	1k5 1% 0,1W - RC448
3576	4822 051 20473	47k 5% 0,1W - RC468
3577	4822 051 20822	8k2 5% 0,1W
3578	4822 051 20101	100Ω 5% 0,1W - RC468
3579	4822 051 20473	47k 5% 0,1W - RC468
3580	4822 051 20473	47k 5% 0,1W - RC468
3581	4822 051 20153	15k 5% 0,1 - RC448
3582	4822 051 20223	22k 5% 0,1W - RC468
3605	4822 051 20102	1k 5% 0,1W
3607	4822 051 20223	22k 5% 0,1W
3608	4822 051 20102	1k 5% 0,1W
3609	4822 051 20102	1k 5% 0,1W
3610	4822 051 20102	1k 5% 0,1W
3611	4822 051 20102	1k 5% 0,1W
3617	4822 051 20478	4Ω7 5% 0,1W
3619	4822 051 20478	4Ω7 5% 0,1W
3621	4822 051 20683	68k 5% 0,1W
3622	4822 051 20472	4k7 5% 0,1W
3629	4822 051 20472	4k7 5% 0,1W
3630	4822 116 40254	PTC 330Ω 16V
3650	4822 051 20102	1k 5% 0,1W
3651	4822 051 20102	1k 5% 0,1W
3652	4822 051 20478	4Ω7 5% 0,1W
3653	4822 051 20478	4Ω7 5% 0,1W
3654	4822 051 20478	4Ω7 5% 0,1W
3655	4822 051 20478	4Ω7 5% 0,1W
3656	4822 051 20478	4Ω7 5% 0,1W
3657	4822 051 20478	4Ω7 5% 0,1W
3658	4822 051 20478	4Ω7 5% 0,1W
3659	4822 051 20478	4Ω7 5% 0,1W
3701	4822 051 20102	1k 5% 0,1W
3702	4822 051 20473	47k 5% 0,1W
3703	4822 051 20008	0Ω0 JUMP. (0805)
3704	4822 051 20109	10Ω 5% 0,1W
3705	4822 051 20101	100Ω 5% 0,1W
3706	4822 051 20101	100Ω 5% 0,1W
3708	4822 051 20478	4Ω7 5% 0,1W
3709	4822 051 20562	5k6 5% 0,1W
3710	4822 051 20102	1k 5% 0,1W
3711	4822 051 20102	1k 5% 0,1W
3712	4822 051 20103	10k 5% 0,1W
3713	4822 051 20101	100Ω 5% 0,1W
3714	4822 051 20103	10k 5% 0,1W
3716	4822 051 20103	10k 5% 0,1W
3717	4822 051 20103	10k 5% 0,1W
3718	4822 051 20103	10k 5% 0,1W
3719	4822 051 20103	10k 5% 0,1W
3720	4822 051 20103	10k 5% 0,1W
3724	4822 051 20225	2M2 5% 0,1W
3725	4822 051 20222	2k2 5% 0,1W
3728	4822 051 20153	15k 5% 0,1W

MAIN BOARD

3729	4822 051 20153	15k 5% 0,1W
3735	4822 051 20104	100k 5% 0,1W
3736	4822 051 20104	100k 5% 0,1W
3745	4822 051 20102	1k 5% 0,1W
3746	4822 051 20102	1k 5% 0,1W
3748	4822 051 20102	1k 5% 0,1W
3751	4822 051 20102	1k 5% 0,1W
3752	4822 051 20008	0Ω0 JUMP. (0805)
3753	4822 051 20008	0Ω0 JUMP. (0805)
3754	4822 051 20008	0Ω0 JUMP. (0805)
3755	4822 051 20008	0Ω0 JUMP. (0805)
3757	4822 051 20008	0Ω0 JUMP. (0805)
3758	4822 051 20008	0Ω0 JUMP. (0805)
3761	4822 051 20008	0Ω0 JUMP. (0805)
3767	4822 051 20478	4Ω7 5% 0,1W
3770	4822 051 20102	1k 5% 0,1W
3771	4822 051 20103	10k 5% 0,1W
3773	4822 051 20102	1k 5% 0,1W
3774	4822 051 20103	10k 5% 0,1W
3775	4822 051 20103	10k 5% 0,1W
3817	4822 051 20393	39k 5% 0,1W
3818	4822 051 20562	5k6 5% 0,1W
3819	4822 051 20562	5k6 5% 0,1W
3822	4822 051 20101	100Ω 5% 0,1W
3823	4822 051 20101	100Ω 5% 0,1W
3824	4822 051 20393	39k 5% 0,1W
3826	4822 051 20104	100k 5% 0,1W
3829	4822 051 20332	3k3 5% 0,1W
3830	4822 051 20332	3k3 5% 0,1W
3850	4822 051 20103	10k 5% 0,1W
3851	4822 051 20103	10k 5% 0,1W - RC468
3852	4822 051 20103	10k 5% 0,1W - RC468
3853	4822 051 20103	10k 5% 0,1W
3902	4822 051 20104	100k 5% 0,1W
3903	4822 051 20472	4k7 5% 0,1W
3904	4822 116 83863	1k 5% 0,5W
3905	4822 116 83863	1k 5% 0,5W
3906	4822 116 83863	1k 5% 0,5W
3907	4822 051 20102	1k 5% 0,1W
3908	4822 051 20103	10k 5% 0,1W
3914	4822 051 20474	470k 5% 0,1W
3915	4822 051 20473	47k 5% 0,1W
3916	4822 051 20103	10k 5% 0,1W
3917	4822 051 20102	1k 5% 0,1W
3918	4822 051 20473	47k 5% 0,1W
3919	4822 051 20223	22k 5% 0,1W
3921	4822 051 20224	220k 5% 0,1W
3922	4822 051 20104	100k 5% 0,1W
3924	4822 051 20473	47k 5% 0,1W
3928	4822 051 20103	10k 5% 0,1W
3929	4822 116 52285	470k 5% 0,5W
3930	4822 051 20104	100k 5% 0,1W

3931	4822 051 20473	47k 5% 0,1W
3932	4822 051 20104	100k 5% 0,1W
3933	4822 051 20224	220k 5% 0,1W
3938	4822 051 20102	1k 5% 0,1W
3939	4822 051 20271	270Ω 5% 0,1W
3944	4822 051 20008	0Ω 0 JUMP. (0805)
3945	4822 051 20472	4k7 5% 0,1W
3949	4822 051 20102	1k 5% 0,1W
3952	4822 051 20101	100Ω 5% 0,1W
3955	4822 051 20473	47k 5% 0,1W
3956	4822 051 20103	10k 5% 0,1W
3958	4822 051 20104	100k 5% 0,1W
3959	4822 051 20471	470Ω 5% 0,1W
3960	4822 116 40216	PTC 4Ω7 56V 20%
3963	4822 051 20473	47k 5% 0,1W
3987	4822 051 20008	0Ω0 JUMP. (0805)
3995	4822 051 20008	0Ω0 JUMP. (0805)

5100	4822 157 71482	IND VAR 57MHz
5200	4822 157 62593	IND FXD 220µH 1%
5201	4822 157 71059	IND VAR 100MHz
5202	4822 157 52983	IND FXD 22µH 10%
5203	4822 157 53473	IND FXD 1000µH 1%
5205	4822 157 52983	IND FXD 22µH 10%
5206	4822 157 71057	IND VAR 47000µH 6%
5207	4822 157 71058	FILTER VAR KZV-353
5208	4822 156 21722	IND VAR 10.7MHz
5209	4822 157 71055	IND VAR 72.2MHz
5210	4822 157 71055	IND VAR 72.2MHz
5211	4822 156 21721	IND LAL02 2.2µH 1%
5212	4822 156 21719	IND LAL02 1.5µH 1%
5301	4822 156 21724	IND VAR 450KHz
5302	4822 157 71061	IND VAR 10.7MHz
5700	4822 157 50961	IND LAL04 22µH 1%
5701	4822 157 60122	IND LAL02 4.7µH 1%
5702	4822 157 71206	IND FXD SM 100MHz
5703	4822 157 60122	IND LAL02 4.7µH 1%
5704	4822 157 71206	IND FXD SM 100MHZ
5900	4822 157 70935	COIL ASSY
5901	4822 157 50961	IND LAL04 22µH 1%
5903	4822 157 50961	IND LAL04 22µH 1%

6100	4822 130 81711	1SV172
6102	4822 130 81643	BB804
6200	5322 130 34337	BAV99
6401	5322 130 31928	BAS16

6500	5322 130 34337	BAV99
6507	5322 130 34337	BAV99
6510	5322 130 30684	1N4002GPE - RC468
6702	4822 130 82996	TLPH5600
6715	4822 130 80125	BZX84-C5V6
6716	4822 130 80125	BZX84-C5V6
6718	4822 130 80125	BZX84-C5V6
6721	4822 130 80125	BZX84-C5V6
6801	5322 130 31928	BAS16
6901	5322 130 30684	1N4002GPE
6905	4822 130 31024	BZX79-C18
6906	5322 130 31928	BAS16
6909	5322 130 31928	BAS16
6910	5322 130 30684	1N4002GPE
6911	4822 130 81624	1.5KE27
6912	5322 130 30684	1N4002GPE
6913	5322 130 30684	1N4002GPE
6915	4822 130 30862	BZX79-C9V1
6916	5322 130 31504	BZX79-C3V3
6917	5322 130 34337	BAV99
6925	5322 130 80255	BZX84-C8V2

7100	4822 130 63545	BF999
7200	4822 130 83614	BB135
7201	4822 130 63534	PMBFJ309
7202	4822 209 33168	TEA6811V/C2/R1
7300	4822 209 33167	TEA6821T/V2
7301	4822 130 60887	BF840
7403	4822 130 42705	BC847
7500	4822 209 31981	SAA6579T/V1
7501	4822 209 83159	LA2000
7502	4822 209 32742	TL074IN
7503	4822 130 42705	BC847
7504	4822 130 42705	BC847
7505	4822 130 42615	BC817-40 - RC468
7506	4822 130 44283	BC636
7507	4822 130 42705	BC847 - RC468
7508	5322 130 60508	BC857B - RC468
7509	4822 130 42705	BC847 - RC468
7510	4822 209 33237	TEA0677T/V1 - RC448
7511	4822 209 32744	TEA0675T/V1 - RC468
7513	4822 130 42705	BC847 - RC468
7514	4822 130 42705	BC847 - RC468
7602	4822 209 33629	TDA7375
7603	4822 209 33629	TDA7375
7606	4822 130 42705	BC847
7607	5322 130 60508	BC857B
7700	4822 209 12905	P83CE559EFB/017
7703	5322 130 60508	BC857B

7704	4822 900 10768	ST24C16CB6 - RC468/00
7704	4822 900 10767	ST24C16CB6 - RC448/30
7704	4822 900 10769	ST24C16CB6 - RC448/00
7708	5322 209 11461	HEF4521BT
7800	4822 209 12723	TDA7342
7803	4822 130 42705	BC847
7804	5322 130 60508	BC857B
7850	4822 130 63747	DTC314TK
7851	4822 130 63747	DTC314TK
7852	4822 130 63747	DTC314TK - RC468
7853	4822 130 63747	DTC314TK - RC468
7904	4822 130 40995	BD438
7905	4822 130 42705	BC847
7909	4822 130 42705	BC847
7910	4822 209 33029	TDA3602/N3
7913	5322 130 60508	BC857B
7918	4822 130 42705	BC847
7919	4822 130 63539	BD241A
7921	4822 209 12628	HEF4044BT