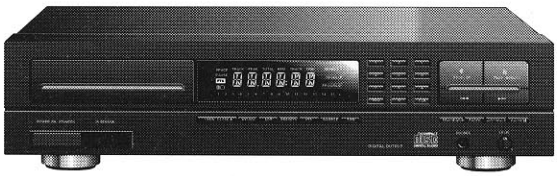
Compact disc player CD750

00B/01B/05B/06B

Service
Service
Service



Service Manual

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Published by Consumer Electronics Printed in The Netherlands 4822 725 24057

PHILIPS

PHILIPS

PCS 60 700

TECHNICAL SPECIFICATIONS

General

1.Mains voltage	/00B	: 230V (+6 -10%)
	/05B	: 240V (±10%)
	/06B	: 110V (±10%)
2.Mains frequency		: 50-60 Hz
3.Mains voltage selection only /01B		: 110-127/220-240V
4.Power consumption mains, standby		: < 3W

Remote Control

Internal: RC5

Line output

1.Number of channels	: 2
2.Output voltage	: 2 Vrms ± 1.5 dB
3.Unbalance left-right	: max. 0.6 dB
4.Output resistance	: 200 Ω
5.Amplitude linearity	: max. ± 0.2 dB from 20 Hz to 20 kHz
6.Phase non-linearity	: max 2.0° from 20 Hz to 20 kHz
7.Signal to noise ratio	: min. 95 dB from 20 Hz to 20 kHz
8.Dynamic range (-60 dB)	: min. 90 dB from 20 Hz to 20 kHz
9.Total harmonic distortion + noise	: min. 88 dB from 20 Hz to 20 kHz
10.Intermodulation distortion	: min. 88 dB from 20 Hz to 20 kHz
11.Out-band attenuation	: min. 55 dB (above 24.2 kHz)
12.Channel separation	: min. 90 dB from 20 Hz to 20 kHz
13.Automatic switched deemphasis with time constant 15/50 μs	
14.Non linearity at -90 dB	: ± 2 dB
	: typ. 0 dB

Variable headphone

1.Output voltage	: max. 5 Vrms ± 2dB
2.Unbalance left-right	: max. ± 0.6 dB
3.Output resistance	: 120 Ω
4.Load impedance range	: 32 Ω to 600 Ω
5.Output power	: 0 to 34 mW into 32 Ω load
	: 0 to 52 mW into 120 Ω load
	: 0 to 29 mW into 600 Ω load

Audio specs in case of 600 Ω load at 4 Vrms voltage output

6.Signal to noise ratio	: min. 80 dB
7.Dynamic range	: min. 75 dB (20 Hz -20 kHz)
8.Total harmonic distortion	: min. 70 dB (20 Hz - 20 kHz)
9.Intermodulation distortion	: min. 67 dB (20 Hz - 20 kHz)
10.Channel separation	: min. 70 dB (1 kHz)
	: min. 65 dB (31.5 Hz - 16 kHz)

Dimensions and weight

1.Apparatus tray closed	: WxDxH 435 x 300 x 90/106 mm
2.Apparatus tray open	: WxDxH 435 x 445 x 90/106 mm
3.Weight	: 4 kg

Optical read-out system

1.Laser type	: Semiconductor AlGaAs
2.Wavelength	: 780 nm ± 20 nm
3.Light output (c.w.)	: max. 0.5 mW

CONTENTS

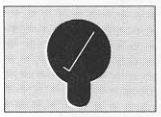
INSTALLATION

ACCESSORIES

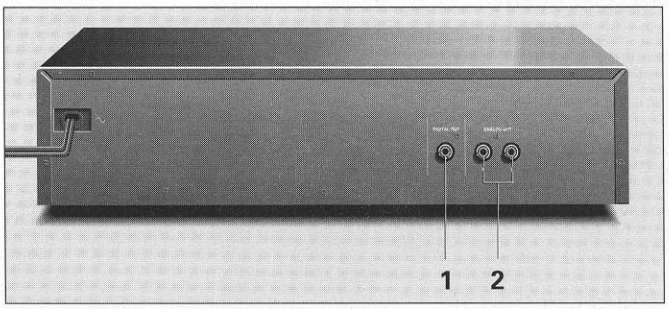
With this player are supplied:
- a connection cable;
- a remote control;
- batteries for the remote control.

POWER SUPPLY SETTING

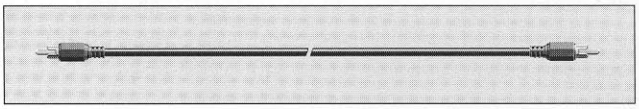
- Check that the type plate on the rear of your player indicates the correct supply voltage.
- If your mains supply voltage is different, consult your dealer or our Service Organisation.
- *Certain versions of this player are equipped with a voltage selector at the bottom of the player which enables you to set the player to the correct mains voltage yourself:*
  position 120 V – for all mains voltages between 110V and 127 V;
  position 230 V – for all mains voltages between 220V and 240 V.



CONNECTIONS

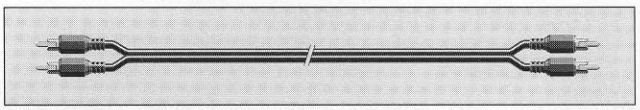


1 DIGITAL OUT
This output supplies a digital signal and can therefore only be connected to an input which is suitable for this signal. Use here a lead with one cinch plug on either end.



Never connect this socket to a non-digital input of an amplifier, such as AUX, CD, TAPE, PHONO, etc!

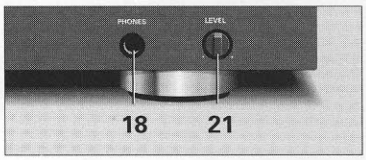
2 ANALOG OUT
For the connecting cable to the amplifier.



- Insert a red plug into the 'R' socket and the other plug into the 'L' socket.
- Insert the two other plugs into the corresponding sockets of the CD or AUX input of your amplifier.
  You can also use the TUNER or TAPE IN connection, but ***never*** the PHONO input!

CONNECTING HEADPHONES

- Connect headphones with a 6.3 mm jack plug to the PHONES socket ***18***.
- The sound level is adjusted with the LEVEL control ***21***.



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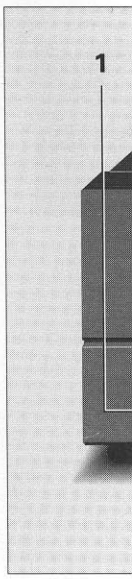

FRONT C

1 POWE

2 I(nfra) **F**
remote

3 Displa

4 PRG (p
– Openin
progra
– Storing

5 1-0 dig
– Selecti
– Selecti
– Selecti
– Enterin

6 CLR (c
– Erasing
– Erasing
– Erasing

7 STOP/
– Stoppi
– Erasing

8 PLAY/
– Startin
– Return

9 ⏮ a
– Selecti
– Selecti
– Fast se
– Selecti
record
– Selecti
record

10 OPEN/
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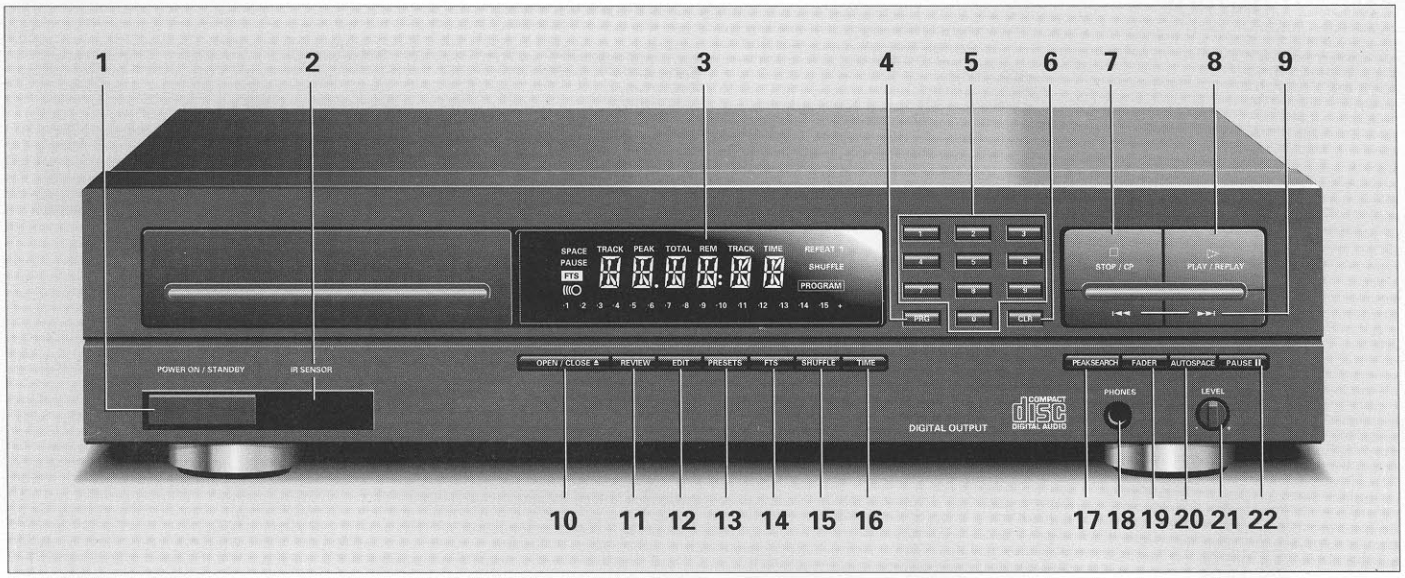
briefly.

11 REVIE

12 EDIT –
record

13 PRESE

FUNCTIONAL OVERVIEW



FRONT OF PLAYER

1 **POWER ON/STANDBY** – Switching on and off.

2 **I**(nfra) **R**(ed) **SENSOR** – Receives the signals from the remote control.

3 **Display** – Informs you about the functioning of the player.

4 **PRG** (programme)
- Opening and closing the memory when compiling a programme.
- Storing a programme in the FTS memory.

5 **1-0 digit keys**
- Selecting another track during play.
- Selecting a track to start play with.
- Selecting tracks when compiling a programme.
- Entering the recording time when making a tape recording.

6 **CLR** (clear)
- Erasing a programme.
- Erasing track numbers from a programme.
- Erasing favourite track selections from the FTS memory.

7 **STOP/CP**
- Stopping play.
- Erasing a programme (CP = Clear Programme).

8 **PLAY/REPLAY**
- Starting play.
- Returning to the beginning of a track.

9 **|◄◄** and **►►|**
- Selecting another track during play.
- Selecting a track to start play with.
- Fast search to a particular passage during play.
- Selecting the recording mode when making a tape recording.
- Selecting the recording time when making a tape recording.

10 **OPEN/CLOSE** – Opening and closing the CD compartment. The compartment also closes when the front is pressed briefly.

11 **REVIEW** – Checking a programme.

12 **EDIT** – Activating the EDIT function when making a tape recording.

13 **PRESETS** – Entering personal preferred settings.

14 **FTS** – Activating the FTS memory (FTS = Favourite Track Selection).

15 **SHUFFLE** – Playing in random order.

16 **TIME** – Selecting the time information you want to see.

17 **PEAK SEARCH** – Searching the loudest passage (peak) on a CD or in a programme when making a tape recording.

18 **PHONES** – Connecting headphones.

19 **FADER** – Fading in and out during play.

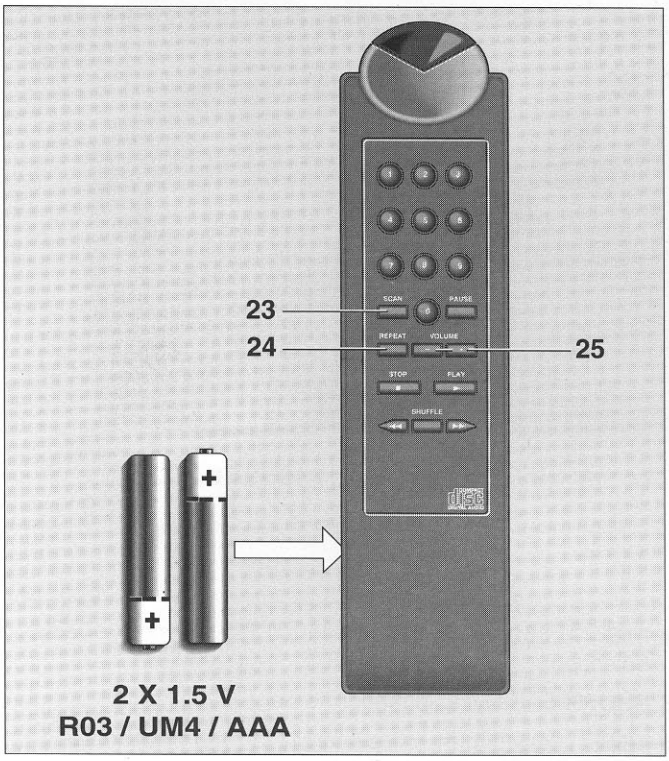
20 **AUTO SPACE** – Automatic insertion of an extra pause between tracks.

21 **LEVEL** – Adjusting the volume when listening with headphones.

22 **PAUSE** – Interrupting play.

FUNCTIONAL OVERVIEW

REMOTE CONTROL

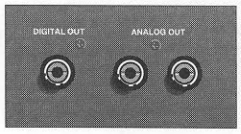


- The life of the batteries of the remote control is around one year. For replacement only use batteries of the type RO3, UM4 or AAA.
- The buttons on the remote control have the same functions as the corresponding ones on the player.
- Extra buttons:

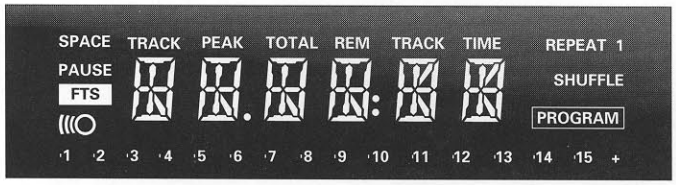
23 SCAN – Automatically playing the beginning of each track.

24 REPEAT – Repeating play.

25 – VOLUME + – Adjusting the sound level when the player is connected via the ANALOG OUT output or the DIGITAL OUT output to an amplifier or HiFi system *without* its own control.

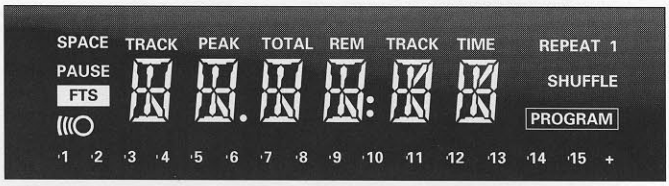


DISPLAY



SPACE – Lights up when an extra pause is inserted between the various tracks.
PAUSE – Lights up when play is interrupted.
FTS
- Flashes after the FTS key has been pressed.
- Lights up when an FTS programme is played.
- Lights up when a CD is loaded for which an FTS programme has been stored.

(((– Lights up when the player receives a command from the remote control.
TRACK – Indicates:
- what track is being played;
- the number of tracks on the CD or in a programme.



PEAK
- Flashes when the loudest passage (peak) on a CD or in a programme is being searched.
- Lights up when the loudest passage (peak) has been found.

TRACK TIME – Indicates the elapsed playing time of the track being played.
REM(aining) **TRACK TIME** – Indicates the remaining playing time of the track being played.
TOTAL REM(aining) **TIME** – Indicates the remaining playing time of the CD or a programme.
TOTAL TIME – Indicates the total playing time of the CD or a programme.
REPEAT – Lights up when you repeat a CD or a programme.
REPEAT 1 – Lights up when you repeat a track.
SHUFFLE – Lights up when the tracks are played in random order.
PROGRAM – Flashes when a programme is being compiled.
1-15 track number indicator – Shows the number of tracks on the CD.
+ – Lights up when there are more than 15 tracks on the CD.

Display messages

READ

- Lights up when the CD's contents list is being scanned.

noDISC

- Lights up when there is no CD in the CD compartment.

NO AUDIO DISC

- Lights up when insert a non audio CD (CD-ROM, CD-I or CDV).Lights up when you try to start play while there is no CD in the compartment.

WRONG TRACK

- Lights up if you select a non-existent track number.

GO TO PLAY

- Lights up if you try to activate a function for which you must first start play.

GO TO STOP

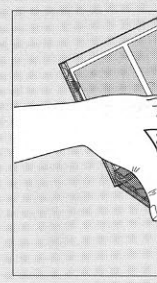
- Lights up if you try to activate a function for which you must first stop play.

PLAYBACK

NORMAL PL

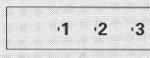
NOTE! *Use on*

- Press POWE
- Open the CD
- *OPEN* lights
- Insert an auc



- *CLOSE* light

- Press PLAY/
  You can also
  You can also
- The number



- The track be

- Play will stop
- Press POWE

You can interru
first press PAU
You can also re
If you press PL
You can stop p

SELECTING A

- Key in the desi
  must be keyed i
- The music stop
  begins to play.

You can also selec
(less than 0.5 sec

SEARCHING FO

- Hold ⏮ *9* do
- Hold ⏭ *9* do

The searching sp
pressed:
- the first 2 seco
- then at the ma

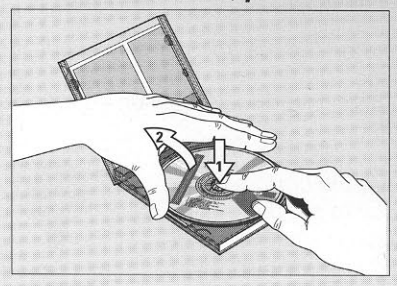
If you reach the e
resume a few se

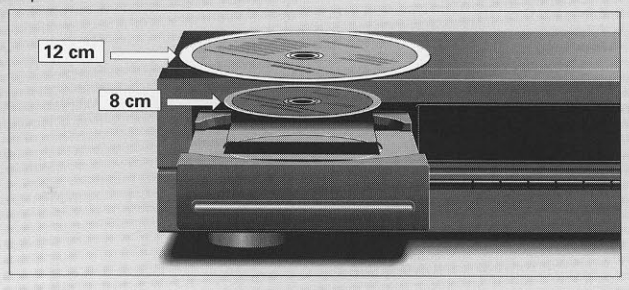
PLAYBACK

NORMAL PLAYBACK (PLAY/REPLAY)

NOTE! *Use only audio CDs; no CD-ROM, CD- I or CDV.*

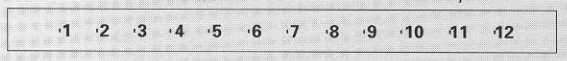
- Press POWER ON/STANDBY ***1*** to switch the player on.
- Open the CD compartment by pressing OPEN/CLOSE ***10***.
- *OPEN* lights up.
- Insert an audio CD, ***printed side up***, and close the compartment

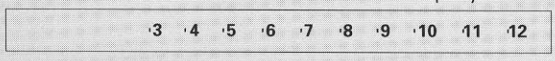




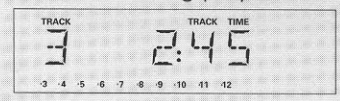
- *CLOSE* lights up, followed by *READ*. The number of tracks and the playing time of the CD are shown on the display.

- Press PLAY/REPLAY ***8*** to start play.
  You can also press PLAY/REPLAY immediately after inserting the CD; the compartment then closes automatically.
  You can also close the CD compartment by pressing its front; playback will then start automatically.
- The number indicator shows how many tracks are on the CD; when a track has been played its number disappears.





- The track being played is always shown under TRACK and its elapsed playing time is shown under TRACK TIME.



- Play will stop after the last track.
- Press POWER ON/STANDBY ***1*** to switch the player off.

You can interrupt playback by pressing PAUSE ***22*** ; PAUSE then lights up. Press PLAY/REPLAY ***8*** to restart; if you *first* press PAUSE again and *then* PLAY/REPLAY, the current track starts again from the beginning.
You can also restart play by pressing SCAN ***23*** *(on the remote control)*, SHUFFLE ***15*** or the 1-0 digit keys ***5***.
If you press PLAY/REPLAY *during play*, the current track starts again from the beginning.
You can stop playback by pressing STOP/CP ***7*** or OPEN/CLOSE ***10***.

SELECTING ANOTHER TRACK DURING PLAY (1-0)

- Key in the desired number (numbers consisting of two figures must be keyed in ***within 2 seconds***).
- The music stops and a moment later the selected track begins to play.

You can also select the number by pressing ►►I or I◄◄ ***9*** briefly (less than 0.5 seconds).

SEARCHING FOR A PASSAGE DURING PLAY (I◄◄ ►►I)

- Hold I◄◄ ***9*** down to search backwards to the beginning.
- Hold ►►I ***9*** down to search forwards to the end.

The searching speed is determined by how long a key is pressed:
- the first 2 seconds fairly slowly, with sound;
- then at the maximum speed, with no sound.

If you reach the end of the last track and release ►►I, play will resume a few seconds before the end of the CD.

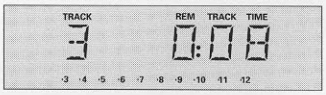
STARTING WITH A PARTICULAR TRACK (1-0)

- Press STOP/CP ***7***.
- Key in the required number (numbers consisting of two figures must be keyed in ***within 2 seconds***).
- Play starts from the selected track.

You can also select the number by pressing ►►I or I◄◄ ***9*** briefly (less than 0.5 seconds) and then pressing PLAY/REPLAY ***8***.

SCANNING A CD (SCAN)

- Press SCAN ***23*** *(on the remote control)* before or during play.
- If the CD compartment was open, it will now close.
- *SCAN* lights up for 2 seconds and the first 10 seconds of each track are played in turn. 10 seconds are counted down each time under REM TRACK TIME.



- When the player reaches a track which you wish to hear in full, press SCAN ***23*** again or PLAY/REPLAY ***8***.

Other scan times can be entered in the PRESETS mode. For this refer to 'PERSONAL PRESETS' on page 11.

PLAYBACK

PLAYING THE CD IN RANDOM ORDER (SHUFFLE)

- Press SHUFFLE ***15*** before or during play.
- If the CD compartment was open, it will now close.
- SHUFFLE lights up and all the tracks are now played in a random order.

- Press SHUFFLE again if you wish to return to normal play.

If you press ⏮ ***9***, you will return to a track which has already been played. If you press ⏭ ***9***, you will select any one of the following tracks.
If you press REPEAT ***24*** *(remote control), twice* the tracks will be repeated in a different order each time, although the first track played will always be the same.

REPEATING A PLAY (REPEAT)

Repeating a track:
- Press REPEAT ***24*** *(remote control)* before or during play.
- REPEAT 1 lights up; the track will now be repeated continuously.

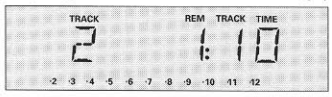
- Press REPEAT *twice* to stop the track being repeated.

Repeating the CD:
- Press REPEAT ***24*** *(remote control) twice* before or during play.
- REPEAT lights up; the CD will now be repeated continuously.

- Press REPEAT again to stop the CD being repeated.

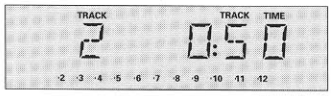
CALLING UP OTHER TIME INFORMATION (TIME)

- Press TIME ***16*** whenever you want to know the remaining playing time of the track being played (REM TRACK TIME).



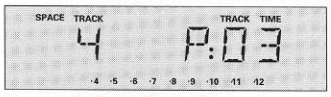
- Press TIME again if you wish to know the remaining playing time of the entire CD (TOTAL REM TIME).

- Press TIME again if you wish to return to the elapsed playing time indication of the current track (TRACK TIME).



INSERTING AN EXTRA PAUSE (AUTO SPACE)

- Press AUTO SPACE ***20***.
- SPACE lights up; during play an extra pause of 4 seconds will be inserted between the various tracks.

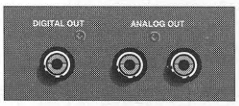


- Press AUTO SPACE again to delete the extra pause.

Other pause times can be entered in the PRESETS mode.For this refer to 'PERSONAL PRESETS' on page 11.

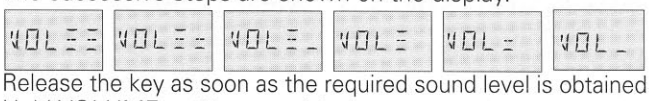
ADJUSTING THE SOUND LEVEL (– VOLUME +)

NOTE!

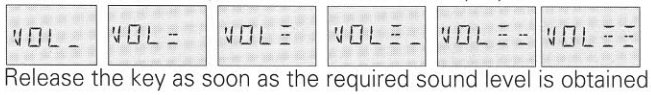


- Use the – VOLUME + keys *(on the remote control)* only if the player is connected via the ANALOG OUT output or the DIGITAL OUT output to an amplifier or HiFi system *without* its own control.
- The setting chosen with – VOLUME + will be cancelled when the player is switched off.

- Hold – VOLUME ***25*** pressed down.
- *VOLUME* lights up; the output signal from the player will now decrease gradually.
- The successive steps are shown on the display.



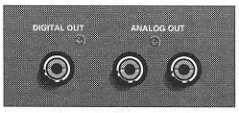
- Release the key as soon as the required sound level is obtained.
- Hold VOLUME + ***25*** pressed down.
- *VOLUME* lights up; the output signal will now increase again gradually to the maximum level.
- The successive steps are shown on the display.



- Release the key as soon as the required sound level is obtained.

SETTING THE FADE- IN AND FADE-OUT TIME (FADER)

NOTE!



The FADER function can be used if the player is connected to the amplifier or the system via the ANALOG OUT output or the DIGITAL OUT output.

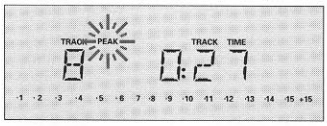
- During play press FADER ***19***.
- The sound level will now gradually decrease (FADE OUT), after which the player will go into the PAUSE mode.

- Press FADER again.
- Play continues and the sound level will increase again to the originally set level (FADE IN).

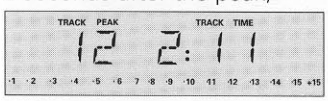
Other fade times can be entered in the PRESETS mode. For this refer to 'PERSONAL PRESETS' on page 11.

SEARCHING THE LOUDEST PASSAGE (PEAK SEARCH)

- In STOP mode, press PEAK SEARCH ***17***.
- PEAK starts flashing and the CD or the programme will now be scanned for the loudest passage (the peak).



- The display shows the track being scanned and its elapsed playing time.
- When the loudest passage has been found it will be repeated continuously (from 2 seconds before the peak until 2 seconds after the peak)



- You can now adjust your recording device.
- You can stop the scan by pressing STOP/CP ***7*** or OPEN/CLOSE ***10***; if you press PLAY/REPLAY ***8***, the CD or the programme will be played from the beginning.

PROGR

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PROGRAMMING

STORING A PROGRAMME (PRG and 1-0)

You can store 30 tracks from each CD in any required sequence in a programme.
FULL lights up if you exceed the maximum of 30 tracks.

- In STOP mode, press PRG (programme) ***4*** to open the memory.
- *PROGR* lights up and PROGRAM starts flashing.
- Key in the required numbers; every number you key in will be directly included in the programme.
- Each time you key in (= store) a track number, the number of tracks and the playing time of your programme will be shown under TRACK and TOTAL TIME.

- The track number indicator always shows which numbers have been stored.
- Press PRG (programme) to quit the PROGRAMME mode.
- Press PLAY/REPLAY ***8*** to play the programme.

USE O - 9 lights up if you press ⏮ or ⏭ ***9*** while programming.

CHECKING THE PROGRAMME (REVIEW)

- Press REVIEW ***11*** prior to, during or after programmed play.
- *REVIEW* lights up.
- All the numbers appear in the programmed sequence under TRACK.
- Under TRACK TIME you will see the playing time of each track.

NO PROGRAM lights up if no track numbers have yet been stored.
With REVIEW you can proceed more rapidly to the next block of information.

PLAYING THE PROGRAMME (PLAY/REPLAY)

- Press PLAY/REPLAY***8***.
- Playback starts with the first number of the programme.

All keys (except EDIT ***12***, PRG(programme) ***4***, CLR(clear) ***6***, PRESETS ***13***, FTS ***14*** and PEAK SEARCH ***17***) can be used during programmed play.
Search for a particular passage is only possible within the track being played.

ERASING A PROGRAMME (STOP/CP, CLR or OPEN/CLOSE)

In PLAY mode:
- Press OPEN/CLOSE ***10*** or STOP/CP ***7*** *(twice)*.

In STOP mode:
- Press OPEN/CLOSE ***10***, CLR(clear) ***6*** or STOP/CP ***7***.

- The programme has now been erased.

ERASING A TRACK FROM THE PROGRAMME (CLR)

- Press REVIEW ***11*** before or after programmed play (STOP mode).
- *REVIEW* lights up.
- All the numbers appear in the programmed sequence under TRACK.
- Press CLR(clear) ***6*** as soon as the number you wish to erase appears.
- The number disappears from the number indicator; it has now been erased.
- The display shows the remaining tracks and programme time for a few seconds.

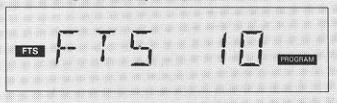
NO PROGRAM lights up if no track numbers have yet been stored.

FAVOURITE TRACK SELECTIONS

A programme can also be stored in the player's permanent (FTS) memory. Your favourite track selection of a given CD can then be called up and played whenever you wish.
The selection will remain stored in the FTS memory even if you play the entire CD or compile a different programme from it.
The number of CDs which can be stored in the FTS memory depends on the number of tracks in each programme.

STORING A FAVOURITE SELECTION (FTS and PRG)

- Press FTS ***14***.
- – FTS starts flashing.
- – *FTS PROGRAM-PLAY-SHUFFLE-CANCEL* appears on the display.
- Press PRG(programme) ***4*** to open the memory.
- Compile your programme as described in the 'PROGRAMMING' section.
- Press PRG(programme) again.
- – *FTS* lights up, with next to it the ranking number of this programme.



- – The selection is now stored in the FTS memory under this number.

NOTE!

- – You can also compile your programme *first* and then store it in the FTS memory by pressing FTS ***14*** and then PRG ***4***.
- – If a selection of a particular CD has already been stored, then it is automatically erased and the new selection is stored under the old ranking number.
- – If *MEMORY FULL* appears, then the FTS memory is full: you must erase one or more old FTS programmes to make room to store the new programme.

FTS PROGRAMMED PLAY (FTS and PLAY/REPLAY)

- Press FTS ***14***.
- – FTS starts flashing and *FTS PROGRAM-PLAY-SHUFFLE-CANCEL* lights up.
- Press PLAY/REPLAY ***8***.
- – The chosen selection will now be played .
- Press STOP/CP ***7*** twice if you wish to revert to normal play.

You can also start play by pressing SHUFFLE ***15***. The FTS programme will then be played in random order.
If *NO FTS PROGAM* appears, no favourite selection has been stored.
The PRG ***4***, CLR ***6*** and FTS ***14*** buttons *cannot* be used during FTS programmed play; search for a passage is only possible in the track which is being played.

ERASING A FAVOURITE TRACK SELECTION (FTS and CLR)

- Press FTS ***14***.
- – FTS starts flashing and *FTS PROGRAM-PLAY-SHUFFLE-CANCEL* lights up.
- Press CLR (clear) ***6***.
- – *CLR 000* lights up.
- Select the ranking number of the selection you wish to erase, by using ►►I or I◄◄ ***9***.
- Press CLR (clear) again.
- – *FTS CANCELLED* lights up.
- – The selection has now been erased.

If you do not know the ranking number:

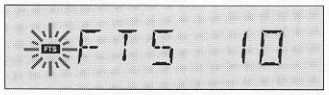
- Load the CD and close the CD compartment.
- Press FTS.
- – FTS starts flashing and *FTS PROGRAM-PLAY-SHUFFLE-CANCEL* lights up.
- Press CLR (clear) ***6***.
- – *CLR* lights up with next to it the ranking number of this selection.

- Press CLR (clear) again.
- – *FTS CANCELLED* lights up.
- – The selection has now been erased.

If *NO FTS PROGAM* appears, no favourite selection has been stored.

ERASING THE ENTIRE FTS MEMORY (FTS and CLR)

- Press FTS ***14***.
- – FTS starts flashing and *FTS PROGRAM-PLAY-SHUFFLE-CANCEL* lights up.
- Press CLR (clear) ***6***.
- – The display shows the FTS ranking number of the CD in the CD compartment.



If no favourite selection has been stored for this CD or if the CD compartment is empty, the display shows ranking number 1.

- Press ►►I or I◄◄ ***9*** until *CLEAR ALL* appears.
- Press CLR (clear) again.
- – *CANCEL* lights up.
- – The entire FTS memory has been erased as soon as *ALL FTS CANCELLED* appears.

If *NO FTS PROGAM* appears, no favourite selection has been stored.
FTS ACTIVE will light up if you press a 'wrong' key while erasing.

PERSONAL P

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- – *PRESETS FA*
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- – *FADE* lights u

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- – The fade-in/fad
- Select the nex
to go back to S

EXTRA PAUSE

- Press AUTO S
- – *SPC* lights up

- Select the req
minimum 0 se
- – The pause tim
- Select the nex
to go back to S

SCAN TIME (SC

- Press SCAN ***2***
- – *SCAN* lights u

- Select the req
minimum 10 s
- – The scan time
- Select the nex
to go back to S

PERSONAL PRESETS

In the PRESETS mode you can store your preferred settings for a number of functions in the player's memory. All settings will remain stored in the memory, even if you switch it off.
PRESETS ACTIVE lights up if you press a 'wrong' key while setting.

OPENING THE PRESETS MEMORY (PRESETS)

- Press PRESETS ***13***.
- – *PRESETS FADER-SPACE-SCAN-PLAY* appears on the display.
- You can now set the following functions in any required order:

FADE-IN AND FADE-OUT TIME (FADER)

- Press FADER ***19***.
- – *FADE* lights up with next to it the set fade-in/fade-out time.

FADE 10

- Select the required fade-in/fade-out time using ►►I or I◄◄ ***9***; minimum 2 seconds and maximum 10 seconds.
- – The fade-in/fade-out time has now been set.
- Select the next setting or press STOP/CP ***7*** or PRESETS ***13*** to go back to STOP mode.

EXTRA PAUSE (AUTO SPACE)

- Press AUTO SPACE ***20***.
- – *SPC* lights up with next to it the set pause time.

SPC 5

- Select the required pause time using ►►I or I◄◄ ***9***; minimum 0 seconds and maximum 9 seconds.
- – The pause time has now been set.
- Select the next setting or press STOP/CP ***7*** or PRESETS ***13*** to go back to STOP mode.

SCAN TIME (SCAN)

- Press SCAN ***23*** *(on the remote control)*.
- – *SCAN* lights up with next to it the set scan time.

SCAN 12

- Select the required scan time using ►►I or I◄◄ ***9***; minimum 10 seconds and maximum 19 seconds.
- – The scan time has now been set.
- Select the next setting or press STOP/CP ***7*** or PRESETS ***13*** to go back to STOP mode.

PLAY MODE (PLAY/REPLAY)

Depending on what play mode you select, after switching on the player or closing the CD compartment by hand, play will automatically begin with:
- the whole CD (PLAY);
- the tracks of the CD in a random order (SHUF);
- the FTS programme of the CD (FTS P);
- the FTS programme in a random order (FTS S);

If you select STOP, then you must start play yourself with PLAY/REPLAY ***8***, SHUFFLE ***15*** or SCAN ***23*** *(remote control)*.

- Press PLAY/REPLAY ***8***.
- – The display shows the last selected play mode.

PLAY

- Select the required play mode using ►►I or I◄◄ ***9***; PLAY, SHUF(fle), FTS P(lay) or FTS S(huffle).
- – The play mode has now been set.
- Select the next setting or press STOP/CP ***7*** or PRESETS ***13*** to go back to STOP mode.

EDIT

The EDIT function has two recording modes in which you can store the recording time of the tape in the player memory.

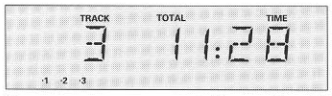
EDIT NORMAL – The player will determine which tracks fit on each side of the tape and will stop after the last track. The tracks will be recorded in the order in which they appear on the CD.
EDIT OPTIMAL – The player now calculates the combination of tracks that will optimize the use of available recording time.

NOTE!

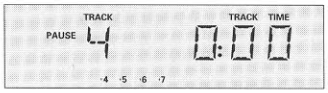
- The EDIT function ***cannot*** be used for CDs containing more than 30 tracks.
- The – VOLUME + keys *(on the remote control)* may ***not*** be used during recording as they affect the strength of the signal from the player.

RECORDING IN THE EDIT MODE

- If required you can *first* search the loudest passage on the CD or in the programme and adjust your recording device. This can also be done *after* selecting the recording mode and the recording time.
  For this see 'SEARCHING THE LOUDEST PASSAGE (PEAK SEARCH)' on page 8.
- In STOP mode, press EDIT ***12*** to activate the EDIT mode.
- The display shows *NORMAL*(default setting).
- If required you can insert an extra pause between the various tracks by pressing AUTO SPACE ***20***.
- SPACE then lights up.
- With |◀◀ ▶▶| ***9*** you can now select OPT(imal), CANCEL or NORMAL again.
- The display shows *OPT(imal)*, *CANCEL*, or *NORMAL* again.
- Press EDIT ***12*** to store the required recording mode (NORMAL or OPTIMAL).
  If you select CANCEL, the EDIT mode will be cancelled and the player will go back to STOP mode.
- As soon as you have stored the recording mode the display shows *C90* (default setting).
- With |◀◀ ▶▶| ***9*** you can now select the required recording time:
  C100, C105, C120, C30, C45, C60, C75 or *C90.*
  Other recording times can be selected using the 1-0 digit keys ***5***; in EDIT NORMAL mode the recording time must be at least equal to the playing time of the first track on the CD or in the programme.
  In EDIT OPTIMAL mode the recording time must be at least equal to the playing time of the shortest track on the CD or in the programme.
  WRONG TIME lights up if you select a wrong time.
- Press EDIT ***12*** to store the required recording time.
- The CD player will now go back to STOP mode
- The track number indicator shows which tracks fit onto side A of the tape.
  The number of tracks and their playing time will be shown under TRACK and TOTAL TIME.



- You can now record the entire CD or a programme from it.
- Press PLAY/REPLAY ***8***.
- The numbers for side A of the tape will be played one after the other.
- If AUTO SPACE has been selected, an extra pause of 4 seconds (or the pause time set in the 'PRESETS' mode) will be inserted after each track.
- After the last track that fits on side A of the tape, the CD player will go into PAUSE mode.
- PAUSE lights up.
- The track number indicator shows which tracks fit onto side B of the tape.
  Under TRACK you will see the number of the first track to be recorded.



- Turn the tape over or select the tape travel direction for side B.
- Press PLAY/REPLAY ***8***.
- The remaining tracks will now be played.
- After the last track play will stop; *EDIT CANCELLED* lights up.

NOTE!

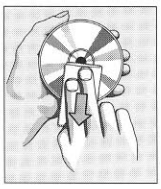
- As soon as you press PLAY/REPLAY ***8*** the other player functions will temporarily be switched off to prevent the recording being interfered with; *EDIT ACTIVE* lights up if you press one of the other buttons during recording.
- You can quit the EDIT mode by pressing STOP/CP ***7*** or OPEN/CLOSE ***10***; *EDIT CANCELLED* then lights up.
- *EDIT NOT POSSIBLE* lights up if you try to record a CD containing more than 30 tracks.

ADDITIONAL INFORMATION

MAINTENANCE

The CDs

- Never write on the printed side of a CD.
- Do not attach any stickers to the CD.
- Keep the shiny surface of the disc clean. Use a soft lint-free cloth and always wipe the disc in a straight line from centre to edge.
- Never use cleaning agents for conventional records.
- Detergents or abrasive cleaning agents should not be used either.



The player

- A chamois leather slightly moistened with water is sufficient for cleaning the player.
- Do not use cleaning agents containing alcohol, spirits, ammonia or abrasives.

RECYCLING

Please observe the local regulations regarding the disposal of packing materials, exhausted batteries and old equipment.

1. All redundant packaging material has been omitted. We have done our utmost to make the packaging easy separable into three mono-materials: cardboard (box), expandable polystyrene (buffer) and polyethylene (bags, protective foam sheet).
2. Your set consists of materials which can be recycled if dis-assembled by a specialized company.
3. Do not dispose of exhausted batteries with your household waste.

TECHNICAL DATA

Typical Audio Performance

Frequency range: .....2 Hz - 20 kHz
Amplitude linearity: .....0.03 dB (20 Hz - 20 kHz)
Phase linearity: .....1° (20 Hz - 20 kHz)
Dynamic range: .....95 dB (1kHz)
Signal-to-noise ratio: .....105 dB (1 kHz)
Channel separation: .....105 dB (1kHz)
Total harmonic distortion: 0.002% (1kHz)
D/A conversion: .....Bitstream conversion
Audio output level: .....2 Vrms
Impedance PHONES socket: .....30 - 600 ohms

Power supply

Mains voltage and frequency:
see the type plate on the rear of the player
Power consumption: .....10 W approx.
Safety requirements: .....IEC 65

Cabinet

Material/finish: .....metal and polystyrene
Dimensions (w x h x d): .....435 x 106 x 300 mm
Weight: .....4 kg approx.

Subject to modification
This Compact Disc player complies with radio interference requirements as laid down in EC regulations.

TROUBLESHOOTING

If a fault occurs, run through the points listed below before taking your player for repair.
If the fault remains, try to clear it by ***switching the player off and on again***. If this also fails to help, consult your dealer.
Under no circumstances should you repair the player yourself as this will invalidate the guarantee!

SYMPTOM	POSSIBLE CAUSE	REMEDY
– Playback of the CD does not start or interruption of playback.	– The CD has been loaded upside down. – No CD inserted. – The CD is badly scratched or dirty. – Moisture condensation on the lens.	• Reload the CD, label side up. • Insert a CD, label side up. • Clean the CD with a soft, lint-free cloth. • Leave the CD player in a warm environment until the moisture evaporates.
– Sound skips (at the same part).	– The CD is dirty.	• Clean the CD with a soft, lint-free cloth.
– The CD skips tracks.	– The CD is damaged or dirty.	• Replace or clean the CD.
– Playback does not start from the first track.	– PRG (programme) or SHUFFLE activated.	• Switch off REPEAT or clear programme.
– No sound or bad sound.	– Loose or wrong connections. – Strong magnetic fields near the CD player.	• Check connections. • Find another place for the unit or change connections.
– Volume is too low.	– Sound level has been adjusted too low with the –VOLUME + keys on the remote control.	• Adjust sound level.
– No sound or bad sound on headphones.	– Level control set to – position. – Headphones plug is dirty.	• Set level control • Clean plug.
– Remote control does not function.	– Batteries are empty.	• Replace the batteries.
– Remote control commands are not properly received.	– The distance between remote control and CD player is larger than 10 metres.	• Use remote control receiver EM 2200/2201. • Reduce the distance between remote control and CD player.

ESD

(GB) WARNING

All ICs and many other semi-conductors are susceptible to electrostatic discharges (ESD). Careless handling during repair can reduce life drastically.
When repairing, make sure that you are connected with the same potential as the mass of the set via a wrist wrap with resistance.
Keep components and tools also at this potential.

(NL) WAARSCHUWING

Alle IC's en vele andere halfgeleiders zijn gevoelig voor electrostatische ontladingen (ESD).
Onzorgvuldig behandelen tijdens reparatie kan de levensduur drastisch doen verminderen.
Zorg ervoor dat u tijdens reparatie via een polsband met weerstand verbonden bent met hetzelfde potentiaal als de massa van het apparaat.
Houd componenten en hulpmiddelen ook op ditzelfde potentiaal.

(F) ATTENTION

Tous les IC et beaucoup d'autres semi-conducteurs sont sensibles aux décharges statiques (ESD).
Leur longévité pourrait être considérablement écourtée par le fait qu'aucune précaution n'est prise à leur manipulation.
Lors de réparations, s'assurer de bien être relié au même potentiel que la masse de l'appareil et enfiler le bracelet serti d'une résistance de sécurité.
Veiller à ce que les composants ainsi que les outils que l'on utilise soient également à ce potentiel.

(D) WARNUNG

Alle ICs und viele andere Halbleiter sind empfindlich gegen elektrostatische Entladungen (ESD).
Unsorgfältige Behandlung bei der Reparatur kann die Lebensdauer drastisch vermindern.
Sorgen sie dafür, dass Sie im Reparaturfall über ein Pulsarmband mit Widerstand mit dem Massepotential des Gerätes verbunden sind.
halten Sie Bauteile und Hilfsmittel ebenfalls auf diesem Potential.

(I) AVVERTIMENTO

Tutti IC e parecchi semi-conduttori sono sensibili alle scariche statiche (ESD).
La loro longevità potrebbe essere fortemente ridatta in caso di non osservazione della più grande cauzione alla loro manipolazione.
Durante le riparazioni occorre quindi essere collegato allo stesso potenziale che quello della massa dell'apparecchio tramite un braccialetto a resistenza.
Assicurarsi che i componenti e anche gli utensili con quali si lavora siano anche a questo potenziale.

(GB)
Safety regulations require that the set be restored to its original condition and that parts which are identical with those specified be used.

(D)
Bei jeder Reparatur sind die geltenden Sicherheitsvorschriften zu beachten. Der Originalzustand des Geräts darf nicht verändert werden für Reparaturen sind Original-Ersatzteile zu verwenden.

(NL)
Veiligheidsbepalingen vereisen, dat het apparaat in zijn oorspronkelijke toestand wordt teruggebracht en dat onderdelen, identiek aan de gespecificeerde worden toegepast.

(I)
Le norme di sicurezza esigono che l'apparecchio venga rimesso nelle condizioni originali e che siano utilizzati pezzi di ricambiago identici a quelli specificati.

(F)
Les normes de sécurité exigent que l'appareil soit remis à l'état d'origine et que soient utilisées les pièces de rechange identiques à celles spécifiées.

CLASS 3B
LASER PRODUCT

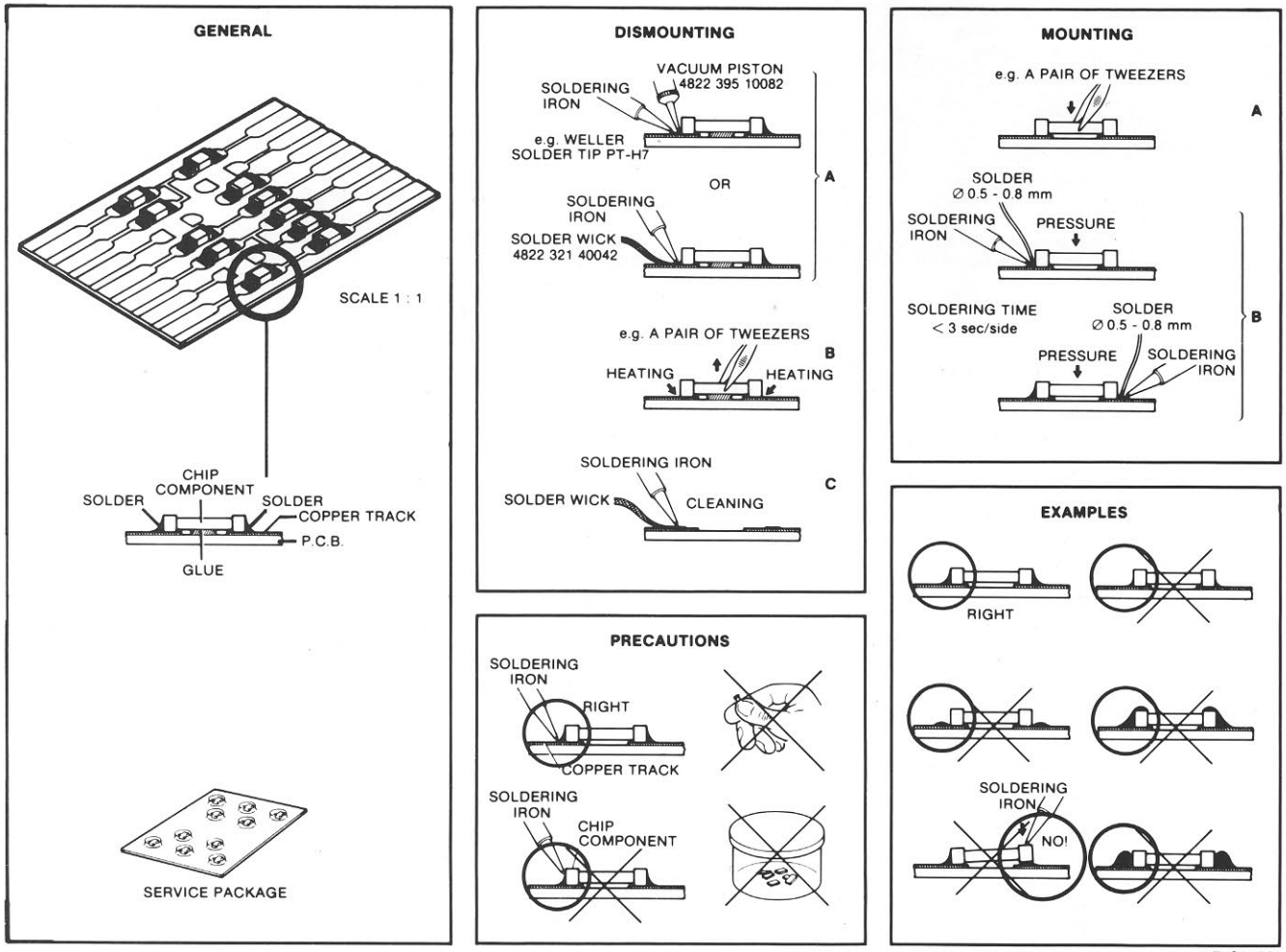
CAUTION	INVISIBLE LASER RADIATION WHEN OPEN AVOID EXPOSURE TO BEAM
VARO!	AVATTAESSA OLET ALTTIINA NÄKYMÄTTÖMÄLLE LASER SÄTTEILYLLE ÄLÄ KATSO SÄTEESEN
VARNING	OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD BETRAKTA EJ STRÅLEN
ADVERSEL	USYNLIG LASERSTRÅLING VED ÅBNING. UNDGÅ UNSAETTELSE FOR STRÅLING
DANGER	INVISIBLE LASER RADIATION WHEN OPEN AVOID DIRECT EXPOSURE TO BEAM
VORSICHT	UNSICHTBARE LASERSTRAHLUNG WENN ABDECKUNG GEÖFFNET NICHT DEM STRAHL AUSSETSEN

"Pour votre sécurité, ces documents doivent être utilisés par des spécialistes agréés, seuls habilités à réparer votre appareil en panne"

CLASS 1
LASER PRODUCT
3122 110 03420

SERVICING HINTS

In the set chip components have been applied. For disassembly and assembly of chip components see the figure below.

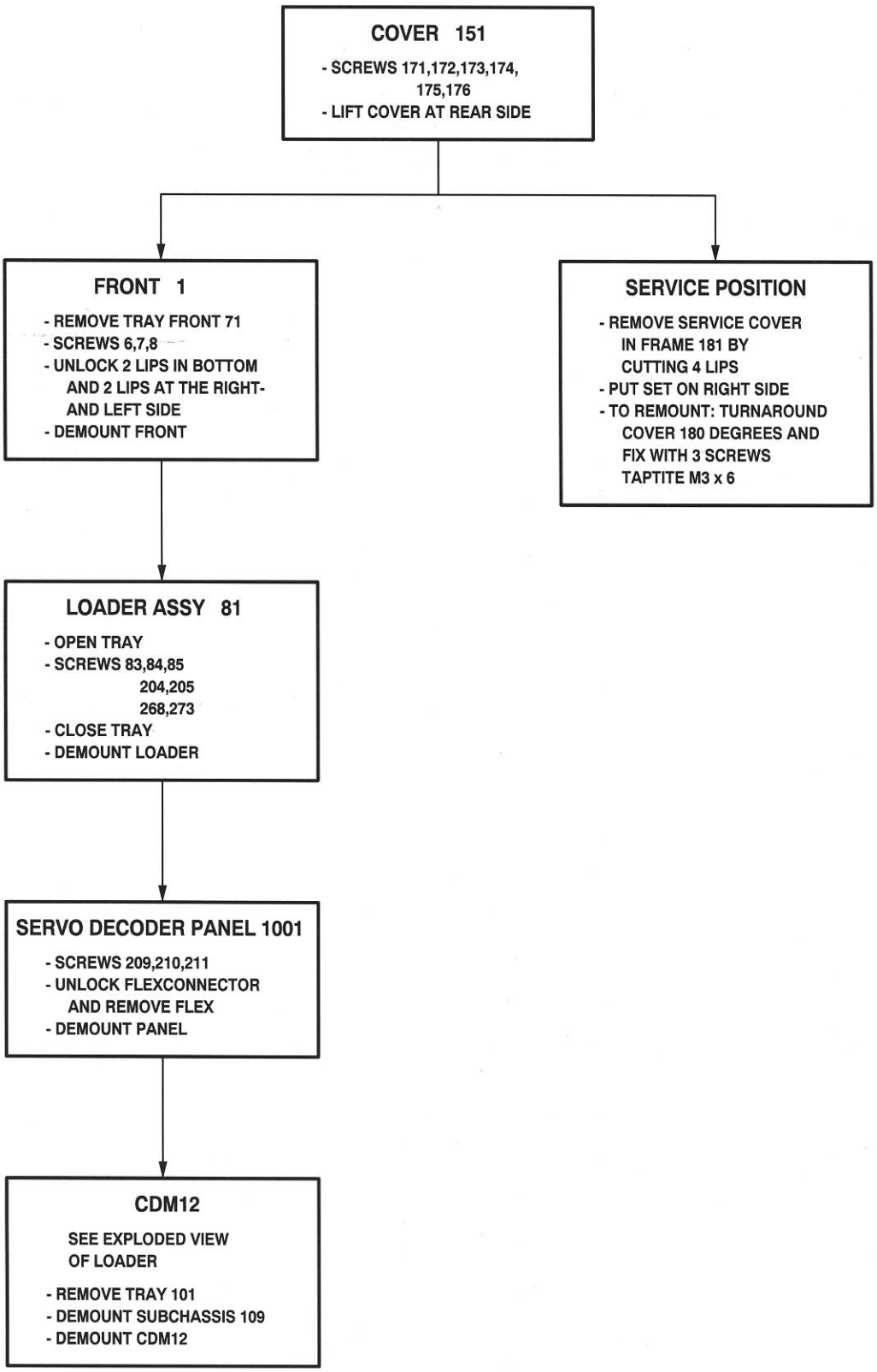


SERVICE TOOLS

Audio signal disc	4822 397 30184
Disc without errors (test disc 5) + disc with DO errors, black spots and fingerprints (test disc 5A	4822 397 30096
Disc (65 min 1kHz)without pause	4822 397 30155
Max. diameter disc (58.0 mm)	4822 397 60141
Torx screwdrivers	
Set (straight)	4822 395 50145
Set (square)	4822 395 50132
13th order filter	4822 395 30204

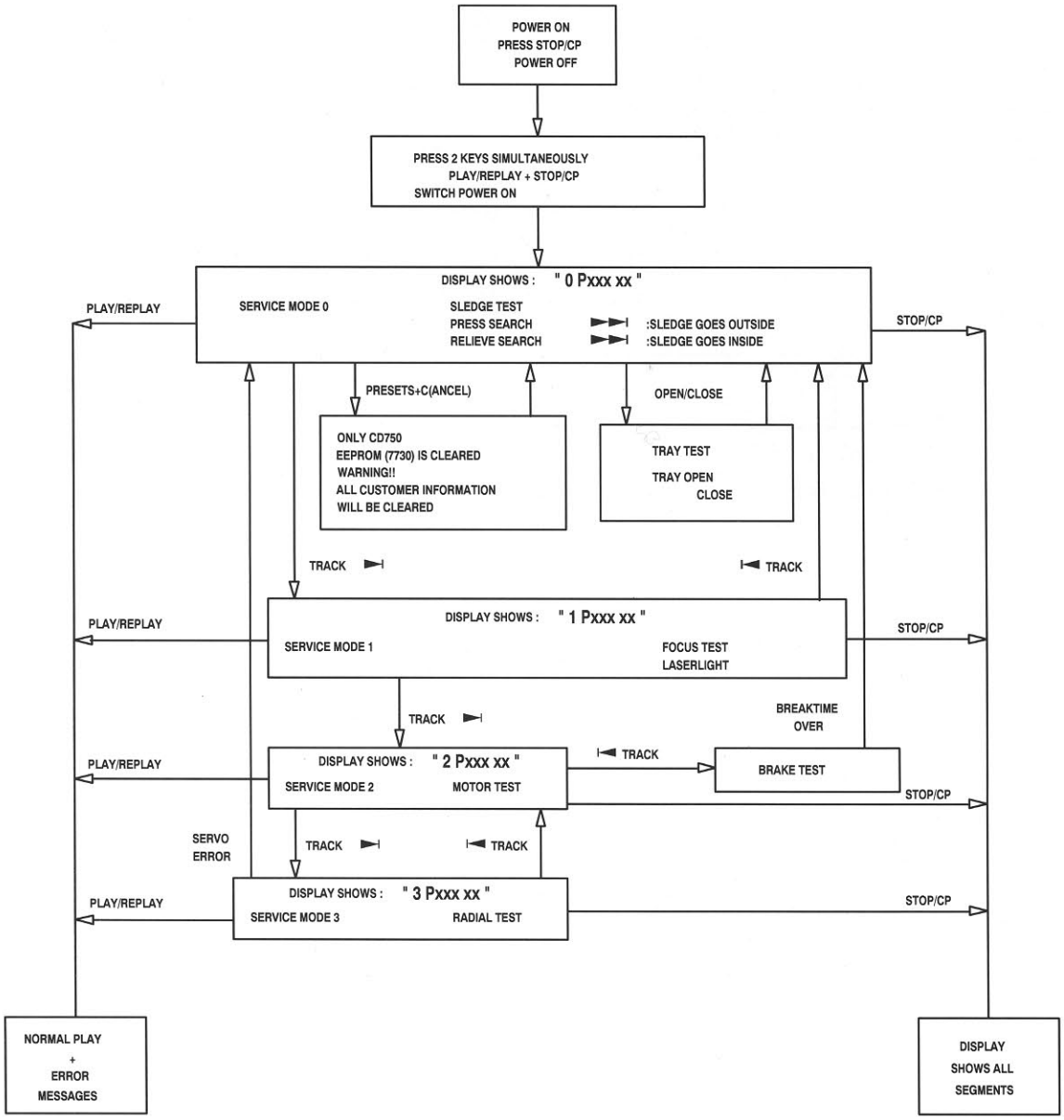
DISMANTLING INSTRUCTIONS

OPEN EXPLODED VIEW ON PAGE 33



HAS1125
9345

SERVICE TEST PROGRAM



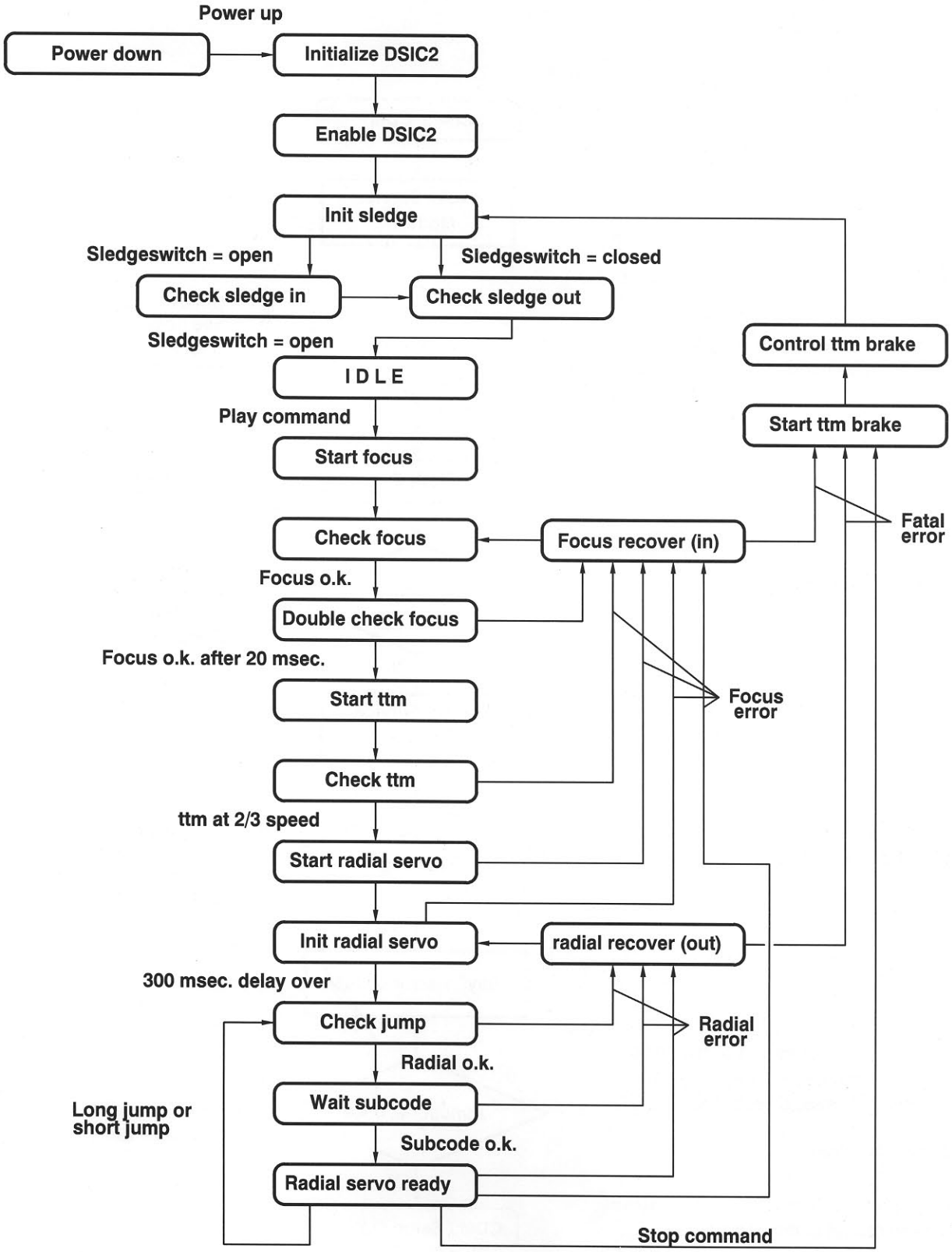
ERROR MESSAGES

- "SLEDGE ERROR"
- "FOCUS ERROR"
- "RADIAL ERROR"
- "MOTOR ERROR"
- "EEP ER"
- "EEP OK"

HAS1120
9342

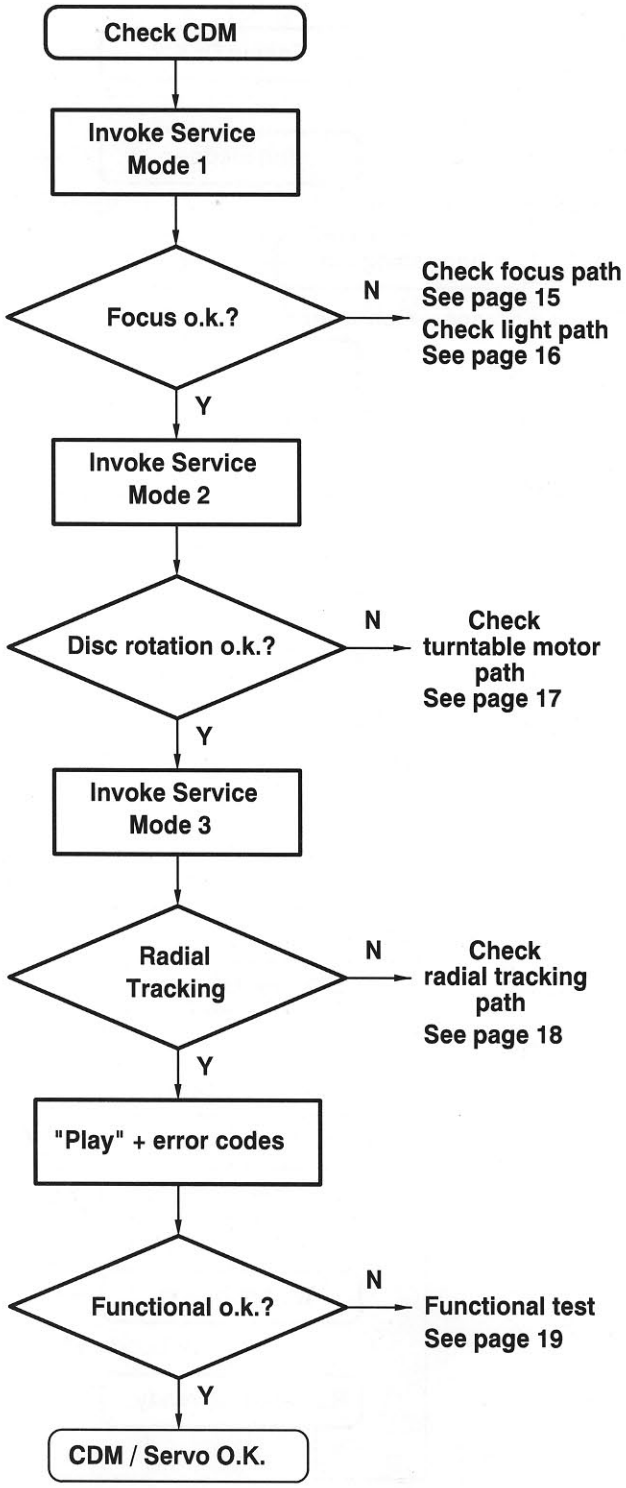
Pxxx = PROGRAM OF MICROPROCESSOR
xx = VERSION OF PROGRAM

CDM 12.1 start up diagram.



FAULT FINDING GUIDE CDM 12.1

Main Fault Finding Guide CDM 12.1
System



Listen to kind of "scratching sound" while slowly turning the disc by hand.

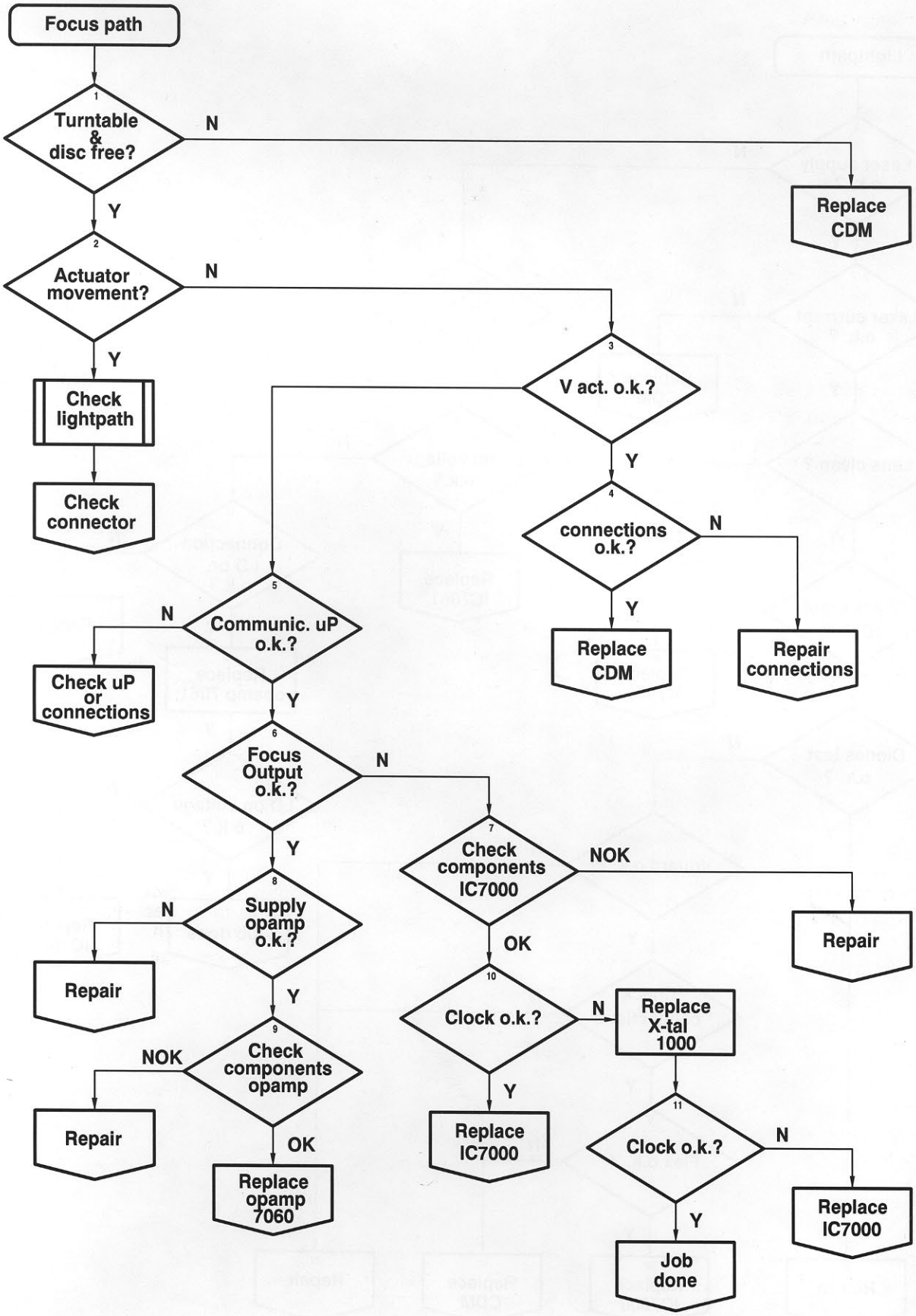
Disc is turning clock wise at normal speed.

Activity on RAD+
(pin 4 connector 1052)

*After "play" starts at track 1 at time 0:00.
*Go to outer track and start again at time 0:00 after max. 6 seconds.

*Try search function.

*When going from "Pauze" to "play" music has to restart at the same place.


Focus path
1
Turntable & disc free?
N
Replace CDM
Y
2
Actuator movement?
N
Y
Check lightpath
Check connector
3
V act. o.k.?
Y
4
connections o.k.?
N
Y
Replace CDM
Repair connections
5
Communic. uP o.k.?
N
Check uP or connections
Y
6
Focus Output o.k.?
N
Y
7
Check components IC7000
NOK
Repair
OK
8
Supply opamp o.k.?
N
Repair
Y
9
Check components opamp
NOK
Repair
OK
Replace opamp 7060
10
Clock o.k.?
N
Replace X-tal 1000
Y
Replace IC7000
11
Clock o.k.?
N
Replace IC7000
Y
Job done

1)-Turntable and disc free?
Audible and visible control.

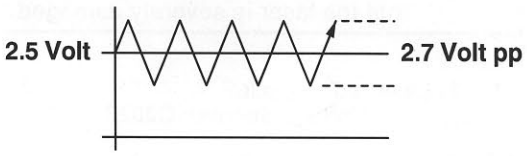
2)-Actuator movement?
Visual control.

3)-Signals on actuator o.k.?
Triangle wave without disc.
See fig 1.

4)-Connections to actuator o.k.?
Check flex connector pin 2 and 3.

5)-Communication uP <-> IC7000.
SIDA activity (pin 27 of IC7000).

6)-Focus output o.k.?
See fig 2.
Measure with an 10k/3n3 low-pass filter.



7)-Components o.k.?
Check components R3010,R3011
C2012,C2013
X-tal 1000

8)-Power supply for opamp o.k.?
Check components R3006,R3007
C2008,C2009,C2071,C2074

9)-Check components o.k.?
Check components R3074,R3075,R3076,R3077
R3078,R3079
C2075,C2076

10) & 11)-Pin 17 of IC7000: a frequency of 8.46MHz?

WARNING ! ! ! LASER DAMAGE ! ! !

For measurements on the laser (flexconnector pin 1052-6), certain conditions are absolutely necessary for precaution of laser damage.

The instruction and sequence for measuring laser current is as follows:

-turn off mains power.
-wait for > 1 second
-connect a multimeter (high input impedance, not grounded accross resistor 3022. (*)
-turn on mains power and go to play mode.
-reading of measurement value (current = reading/4R7) (**)
-go to stop and turn off mains power.
-disconnect the multimeter.

*** In case of a laser voltage measurement, connect the multimeter accross elcap 2025, using the same procedure as mentioned above.**

*** * If current is > 95 mA, you can be sure that the laser is defect; If the current is increasing during reading (within +/- 10 seconds), you can be sure that the laser is severely damaged.**

*** 1)-Laser supply o.k.?**
Voltage accross C2025: 4...5V

*** * 2)-Laser current o.k.?**
Voltage accross R3022: 150...450mV

3)-Lens clean?
Visual control. Check for dust,grease.
Take attention for the blue coating.

4)-Check inputs.
Switch back to service mode 0.
Connect a 2.4 MOhm resistor from
1052 - 9 to 5V: Voltage on pin 5 of IC7000 < 50mV.
1052 - 10 to 5V: Voltage on pin 6 of IC7000 < 50mV.
1052 - 12 to 5V: Voltage on pin 7 of IC7000 < 50mV.
1052 - 11 to 5V: Voltage on pin 10 of IC7000 < 50mV.
1052 - 8 to 5V: Voltage on pin 11 of IC7000 < 50mV.

5)-Diodes o.k.?
Use IR LED of remote control.
A half sine wave must be measured on the diodes (on pin 8,9,10,11,12 of conn. 1052) in the 10mV range.

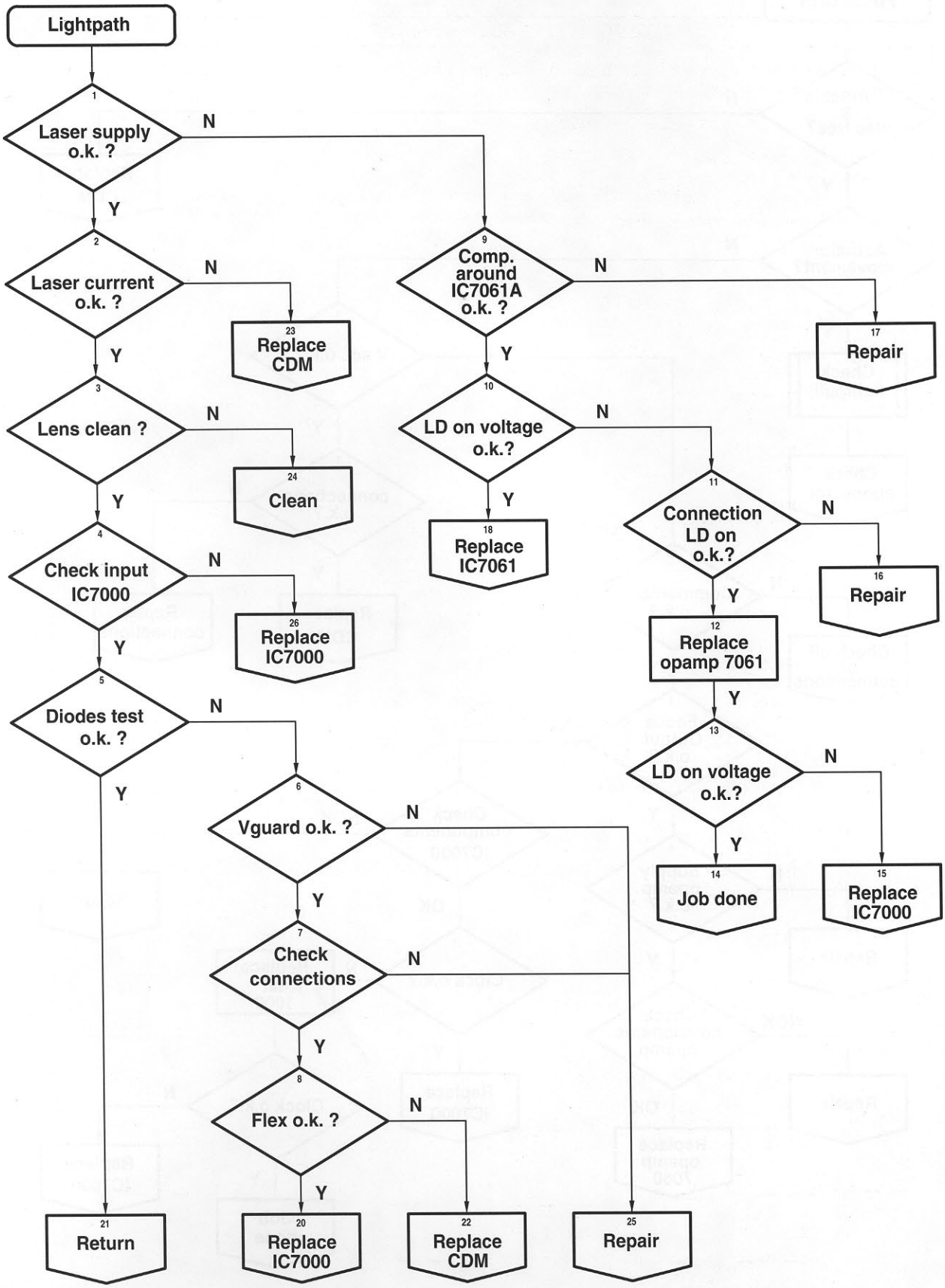
*** 6)-V guard o.k.?**
Voltage accross C2025: 4...5V

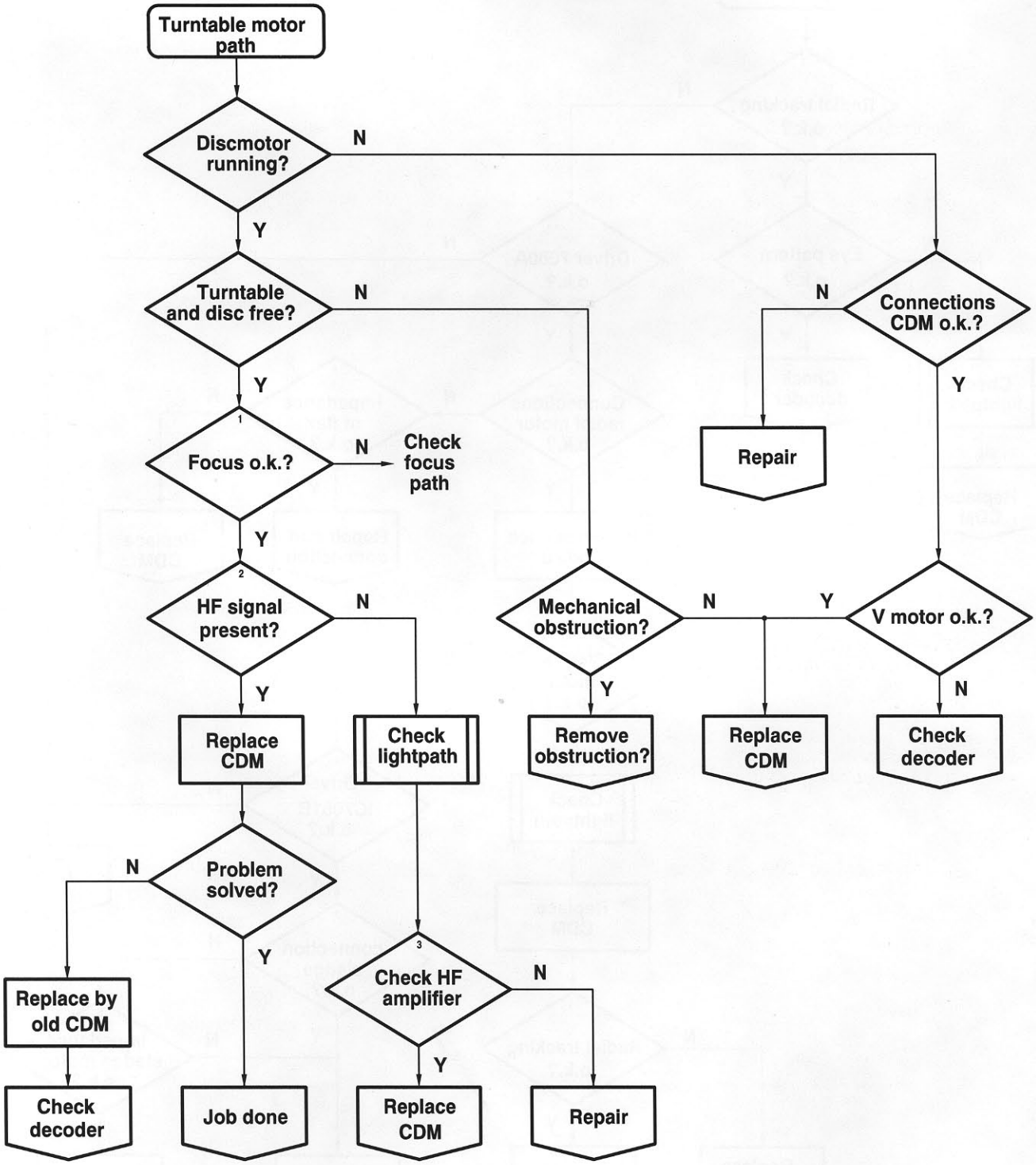
7)-Check connections between main PCB and CDM

8)-Flex o.k.?
Measure diode functions on CDM-flex

9)-Check components around IC7061
R3022,R3021,R3020
C2025,C2060,C2064

10)-LD ON voltage o.k.?
Measure on pin 2 of IC7000:4...5V.


Lightpath
1
Laser supply o.k. ?
N
Y
2
Laser currrent o.k. ?
N
23
Replace CDM
Y
3
Lens clean ?
N
24
Clean
Y
4
Check input IC7000
N
26
Replace IC7000
Y
5
Diodes test o.k. ?
N
Y
6
Vguard o.k. ?
N
Y
7
Check connections
N
Y
8
Flex o.k. ?
N
Y
21
Return
20
Replace IC7000
22
Replace CDM
25
Repair
9
Comp. around IC7061A o.k. ?
N
17
Repair
Y
10
LD on voltage o.k.?
N
Y
18
Replace IC7061
11
Connection LD on o.k.?
N
16
Repair
Y
12
Replace opamp 7061
Y
13
LD on voltage o.k.?
N
Y
14
Job done
15
Replace IC7000


Turntable motor path
Discmotor running?
N
Y
Turntable and disc free?
N
Y
Connections CDM o.k.?
N
Y
Repair
1
Focus o.k.?
N
Check focus path
Y
2
HF signal present?
N
Y
Mechanical obstruction?
N
Y
V motor o.k.?
Y
N
Replace CDM
Check lightpath
Remove obstruction?
Replace CDM
Check decoder
Problem solved?
N
Y
Replace by old CDM
3
Check HF amplifier
N
Y
Check decoder
Job done
Replace CDM
Repair

1)

2)

3)

4)

1)-Still in focus (focus o.k.?).
Voltage at pin 9 of connector 1052 > 15mV.

2)-HF-signal present.
VHFI (R3048) > 900mV pp. (testpoint 65).

3)-Check HF-amplifier.

*** Sypply 5V?**

*** Testpoint 17=1.4...1.9V DC?**

*** VHFI DC =2.9...3.6V?**

4)-V motor o.k.?

V motor < 2V: replace CDM.
V motor > 2V: check decoder part.

1)-Radial tracking o.k.?
No OTD (testpoint 67) activity.

2)-Check driver 7060A.
Supply: C2071,C2074.
Components: C2067,C2068,C2069,R3068,R3069,R3070,R3071,R3072,R3073.

3)-Check connections radial actuator.
Switch power off.
Measure impedance of 18 Ohm(+/-20%) between pin 1 and pin 4 of connector 1052.

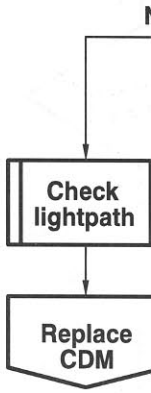
4)-Check impedance on flex.
Power off.
Disconnect CDM-flex.
Measure impedance of 18 Ohm(+/-20%) between pin 1 and pin 4 of connector 1052.

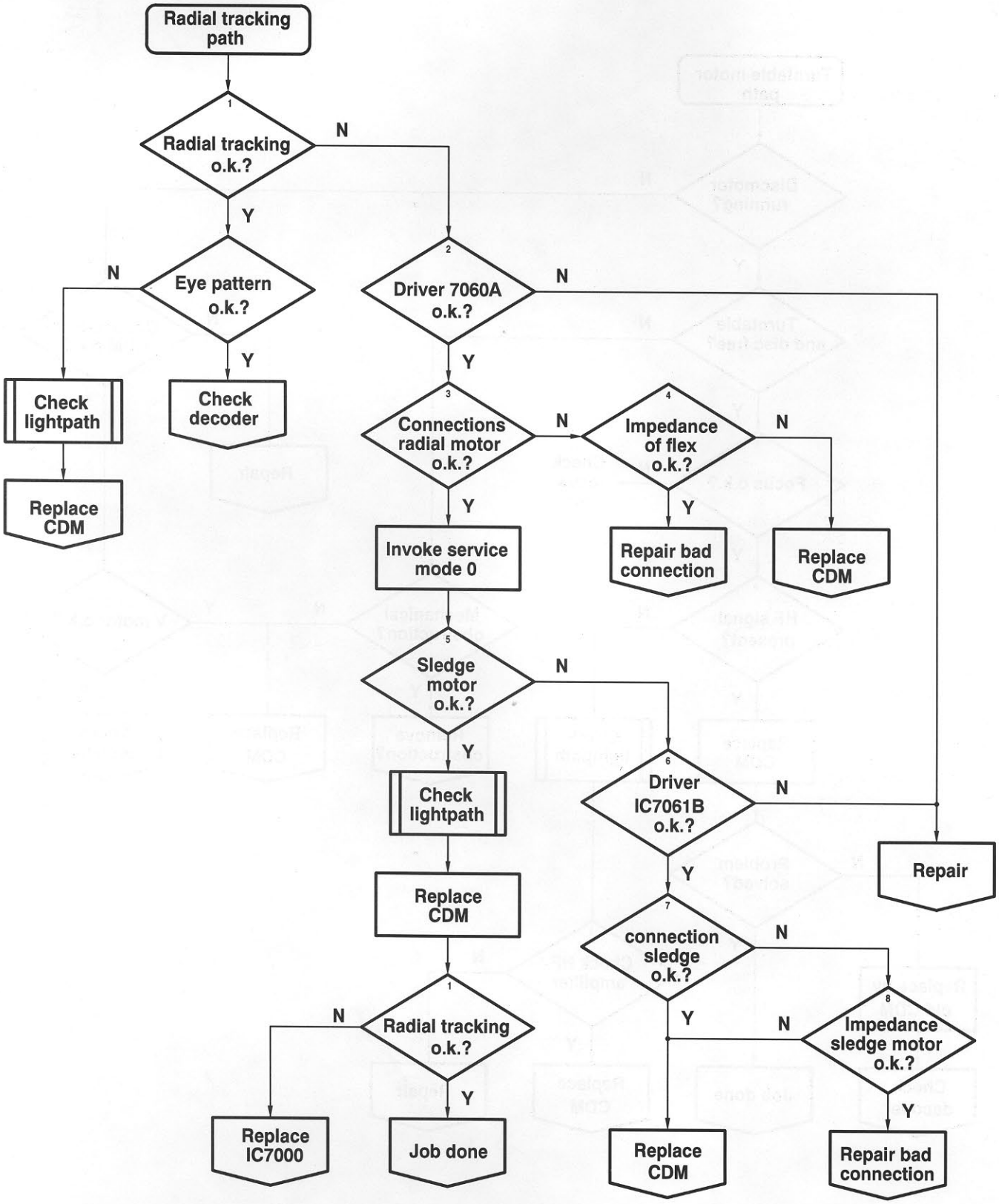
5)-Test sledge.
Power on.
Invoke service mode 0.
Move sledge out (whith search forward key).
Sledge moves to init position after releasing key.
Not o.k. if sledge doesn't move,doesn't reach the outer position or makes a ratling noise at the inner side.

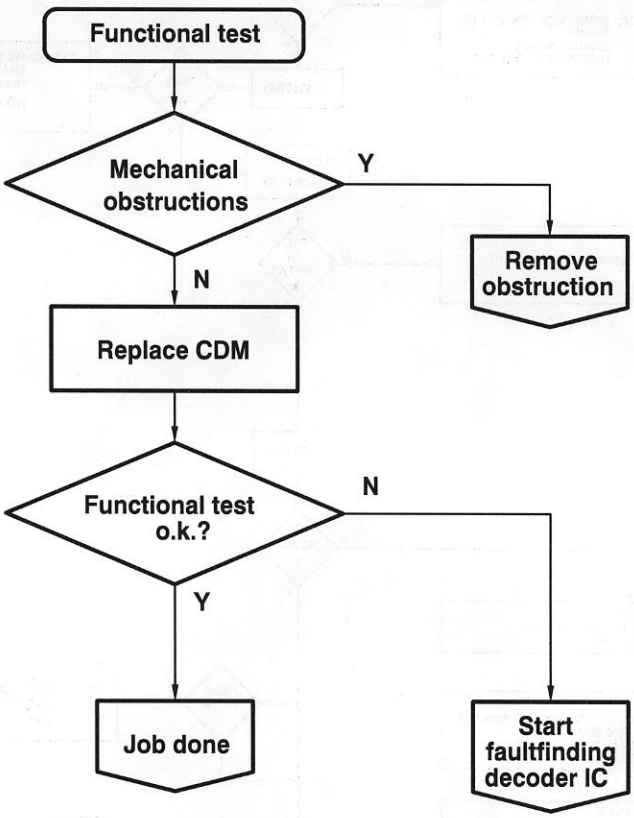
6)-Check driver 7061B.
Supply: C2060,C2064.
Components: C2062,C2063,C2066,R3060,R3062,R3064,R3065,R3066,R3067.

7)-Check connections of sledge drive.
Power off.
Measure impedance of 11 Ohm(+/-20%) between pin 5 and pin 6 of connector 1070.

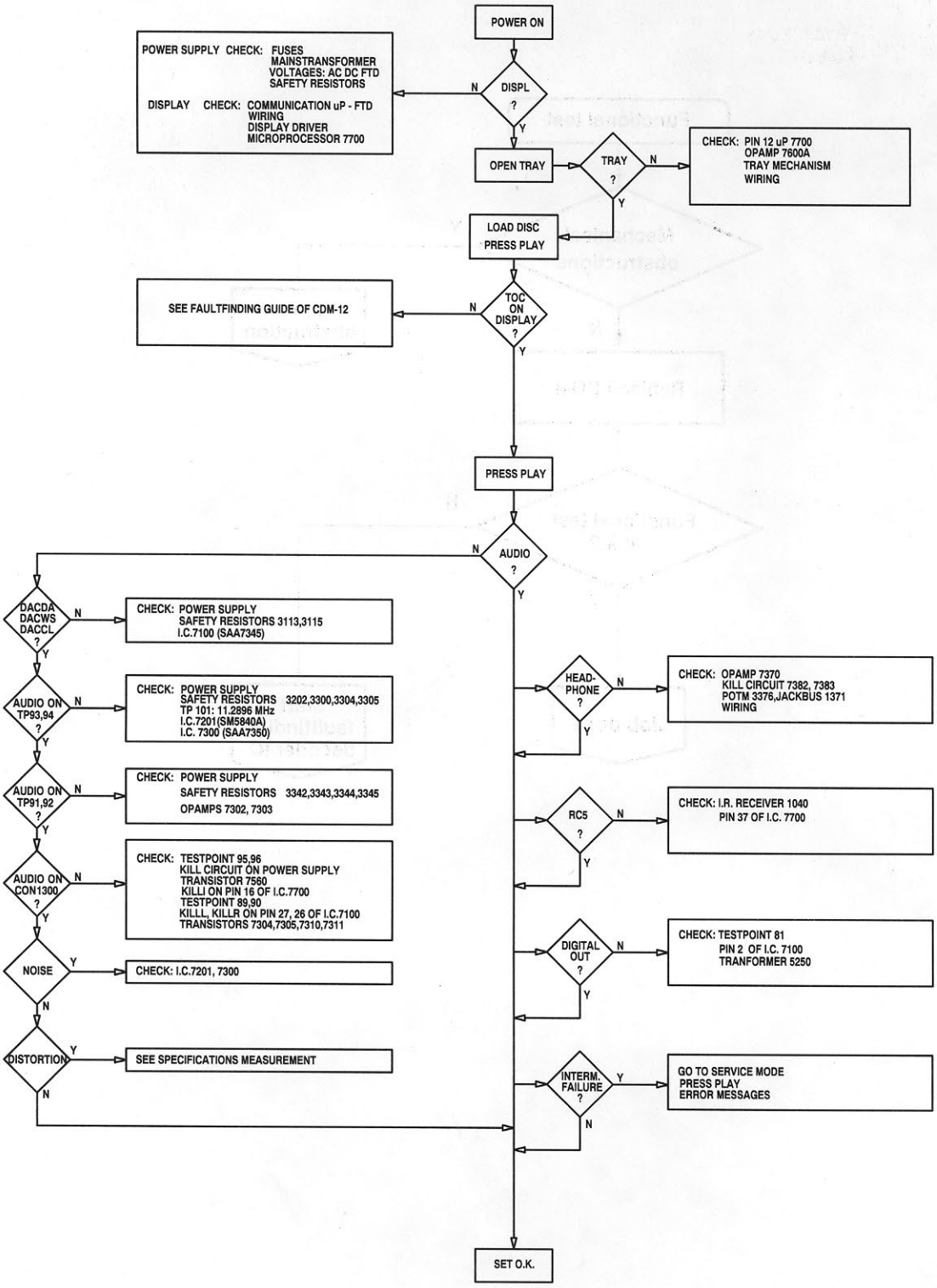
8)-Check sledge motor.
Remove CDM.
Measure impedance of 11 Ohm(+/-20%) between motor terminals.




Radial tracking path
1
Radial tracking o.k.?
N
Y
Eye pattern o.k.?
N
Y
Check lightpath
Check decoder
Replace CDM
2
Driver 7060A o.k.?
N
Y
3
Connections radial motor o.k.?
N
Y
4
Impedance of flex o.k.?
N
Y
Repair bad connection
Replace CDM
Invoke service mode 0
5
Sledge motor o.k.?
N
Y
Check lightpath
Replace CDM
6
Driver IC7061B o.k.?
N
Y
Repair
7
connection sledge o.k.?
N
Y
8
Impedance sledge motor o.k.?
N
Y
Replace CDM
Repair bad connection
1
Radial tracking o.k.?
N
Y
Replace IC7000
Job done


Functional test
Mechanical obstructions
Y
Remove obstruction
N
Replace CDM
Functional test o.k.?
N
Y
Job done
Start faultfinding decoder IC

FAULTFINDING GUIDE

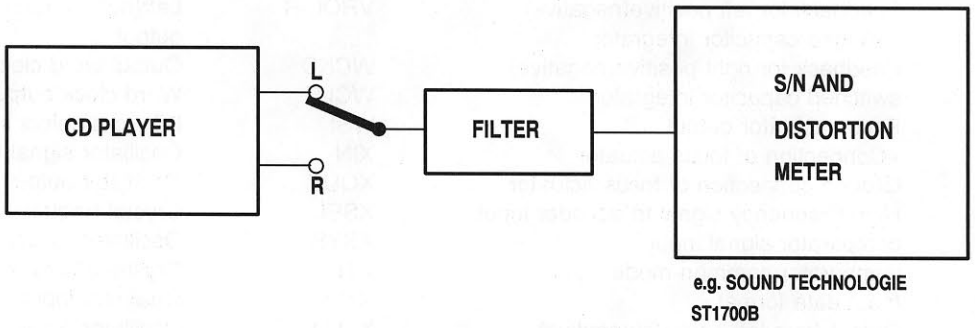


HAS1130
9402

SPECIFICATIONS MEASUREMENT

SIGNAL	AUDIO SIGNALS DISC 1	TESTPOINT	REMARKS
ANALOG OUT LEFT	TOTAL HARMONIC DISTORTION TRACKS 10 - 23	FILTER OUTPUT	SEE TECHNICAL DATA
ANALOG OUT RIGHT			SEE DRAWING
ANALOG OUT LEFT	SIGNAL-TO-NOISE RATIO TRACK 1 REFERENCE LEVEL TRACK 49	FILTER OUTPUT	SEE TECHNICAL DATA
ANALOG OUT RIGHT			SEE DRAWING

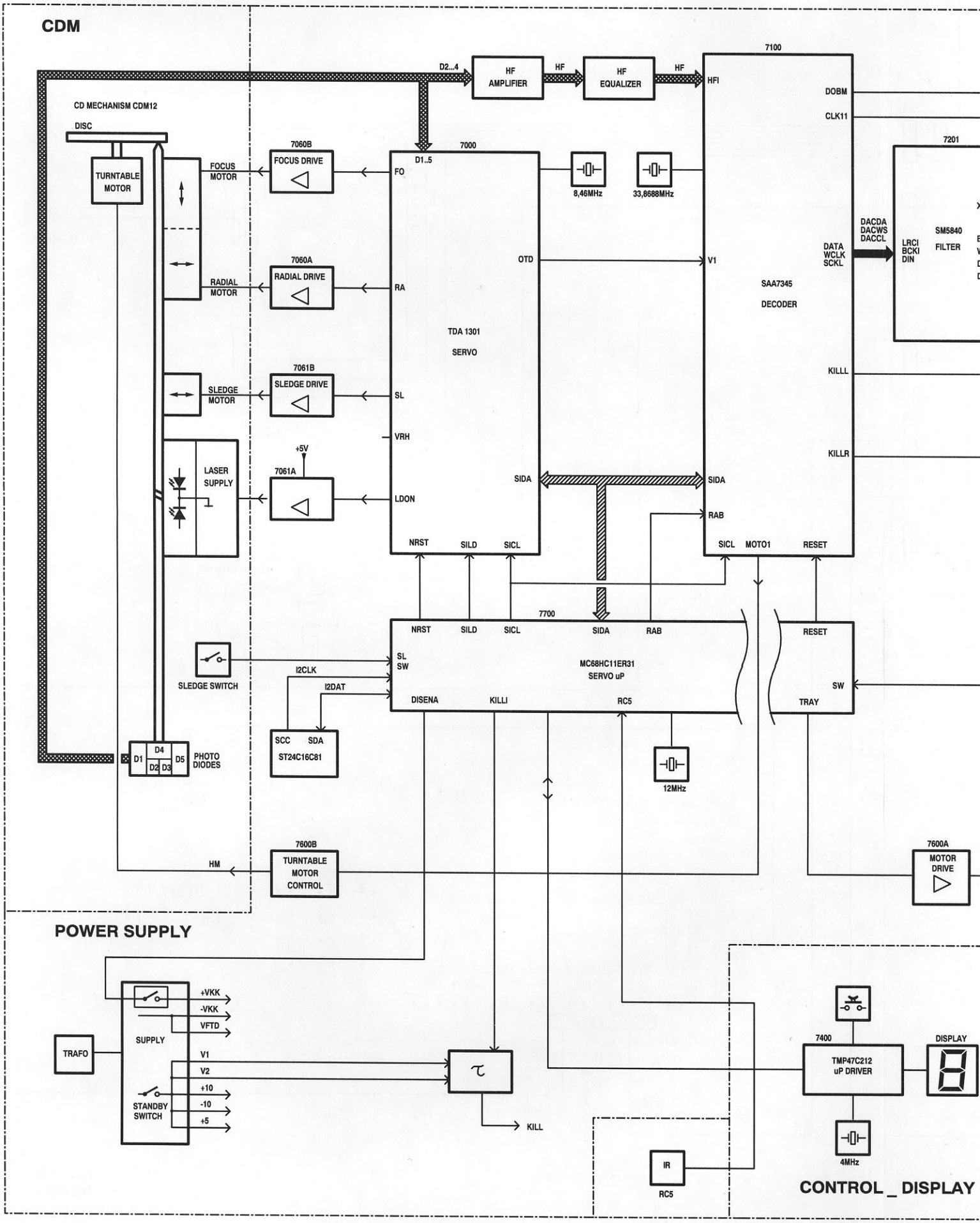
FILTER = 13TH ORDER FILTER 4822 395 30204

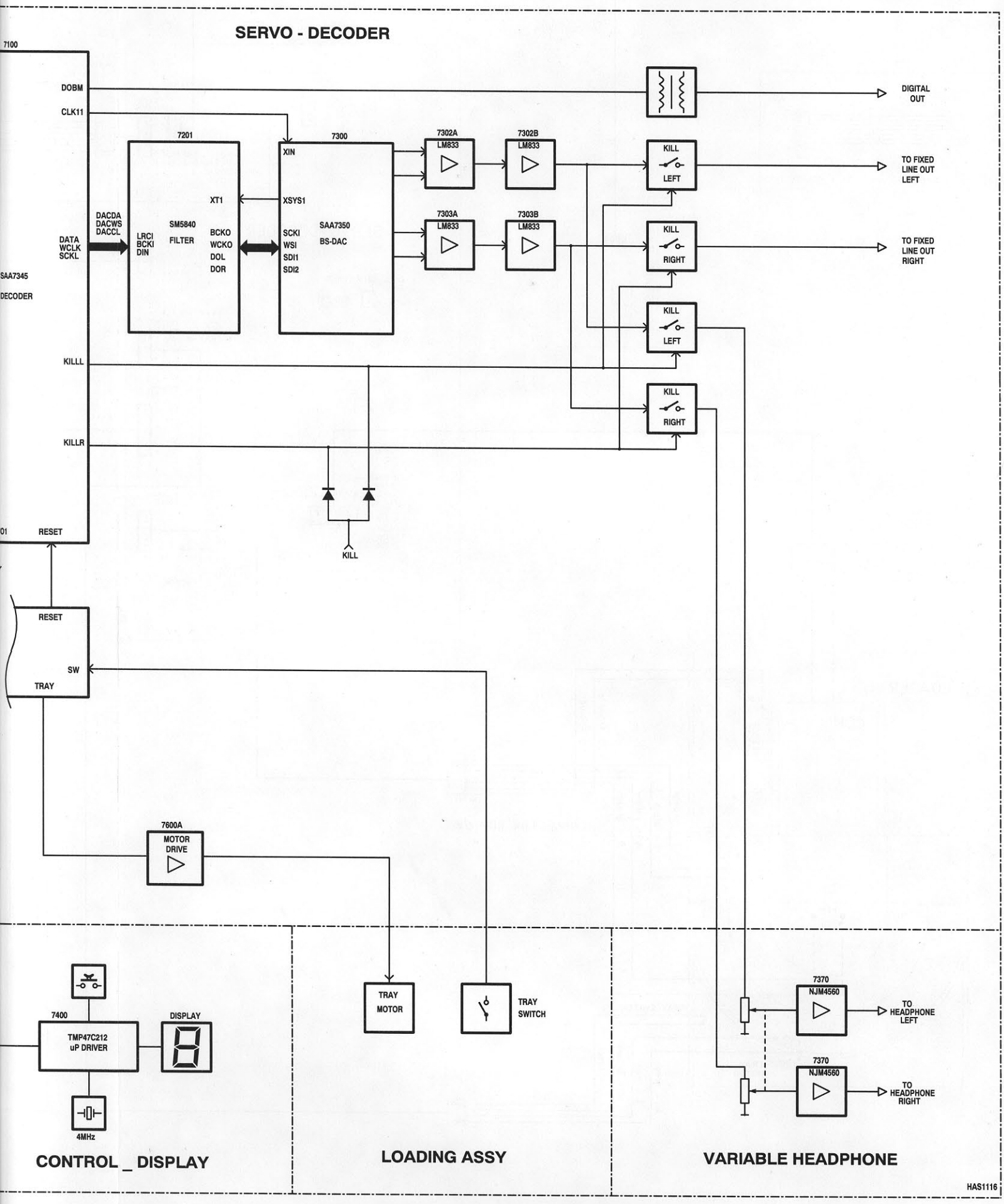


ABBREVIATIONS

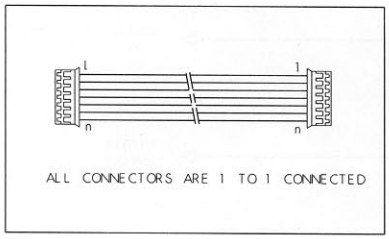
BCKI	Input data bit clock
BCKO	Output data bit clock
CFLG	correction flag output
CKO	Oscillator output clock
CKSL	Clock frequency
CL	interface clock input line
CL11	11.2896 MHz clock output
CL16	16.9344 MHz system clock output
CLA	4.2336 MHz microprocessor clock output
CLO	Clock output
CRIN	crystal/resonator input
CROUT	crystal/resonator output
D1-D4	Central diode input of TDA1301
D1-D5	Photodiode signals from CDM12 mechanism
DA	interface data I/O line
DACCL	Bit clock output of CD6 decoder SAA7345
DACDA	Data output of CD6 decoder SAA7345
DACWS	Word select output of CD6 decoder SAA7345
DIN	Input data
DOBM	biphase mark output
DOL	Left channel data output
DOR	Right channel data output
FBL+ -	Feedback for left positive(negative) switched capacitor integrator
FBR+ -	Feedback for right positive(negative) switched capacitor integrator
FO	Focus actuator output
FOC+	+Connection of focus actuator
FOC-	Ground connection of focus actuator
HF	High-Frequency signal to decoder input
HFIN	comparator signal input
HFREF	comparator common-mode input
IDF1-3	Input data format
INTL+ -	Output from left positive(negative) switched capacitor integrator
INTR+ -	Output from right positive(negative) switched capacitor integrator
IREF	Reference current output
ISLICE	current feedback from data slicer
LDON	Laser drive on
LRCI	Input data word clock
MISC	general purpose DAC output
MOTO1	motor output 1
MOTO2	motor output 2
NRST	Reset input
OALO	Operational ampl. left output
OARO	Operational ampl. right output
OTD	Off track detector
PORE	power-on reset enable input(active low)
R1-R2	Satellite diode signal input
RA	Radial actuator output
RAB	interface R/W and acknowledge input
RAD+	+Connection of radial actuator
RAD-	Ground connection of radial actuator
SCKI	Bit clock input for serial input interface
SCLK	serial bit clock output
SDI1-2	Serial data input
SICL	Serial interface clock
SIDA	Serial interface data
SILD	Serial interface load
SL OUT	+Connection of sledge motor
SL	Sledge output
TEST1	test input
TEST2	test input
TS1-TS2	Test inputs
V1-5	Versatile input pins
VDACL-R	Reference voltage supply left(right) channel DAC
VRCL-R	High impedance voltage refence for left(right) channel inputs
VROL-R	Left(right) channel voltage reference output
WCKO	Output word clock
WCLK	Word clock output
WSI	I²S word select input
XIN	Oscillator signal input
XOUT	Oscillator output
XSEL	Crystal frequency select
XSYS	Oscillator signal
XTI	Crystal oscillator input
XTLI	Oscillator input
XTLO	Oscillator output
XTLR	Oscillator reference
XTO	Crystal oscillator output

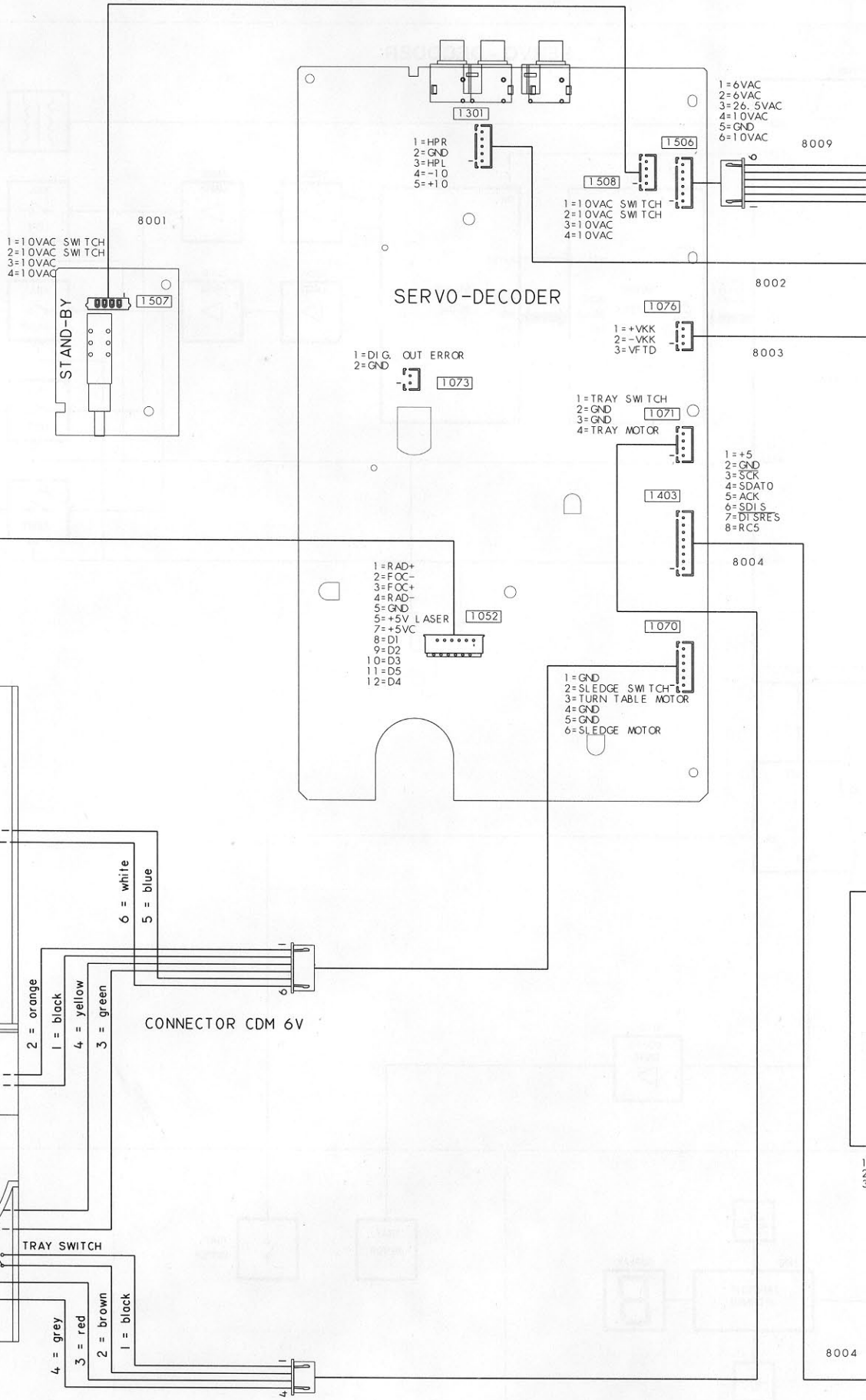
BLOCK DIAGRAM

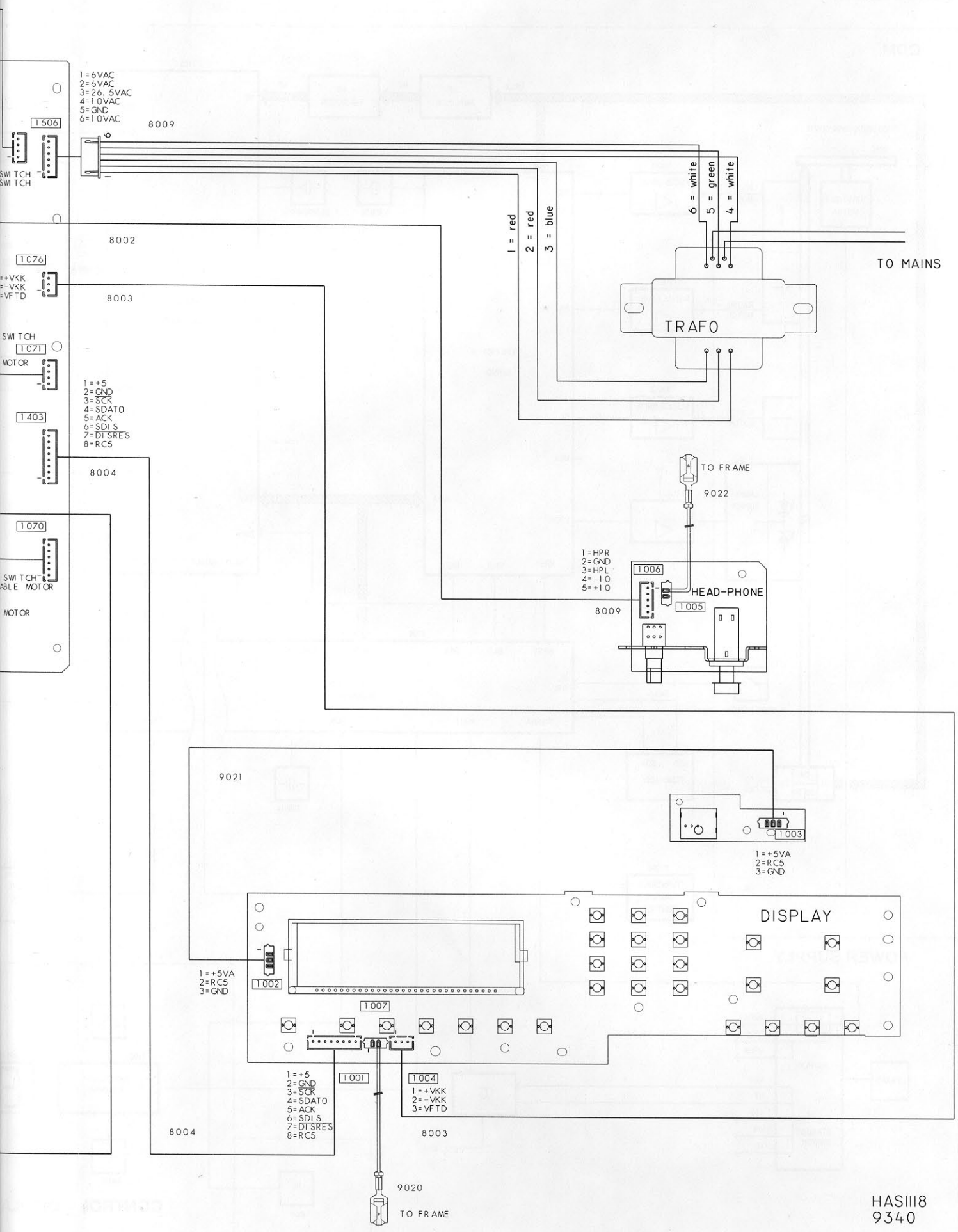



SERVO - DECODER
7100
DOBM
CLK11
DATA
WCLK
SCKL
SAA7345
DECODER
KILLL
KILLR
RESET
DACDA
DACWS
DACCL
7201
SM5840
FILTER
LRCI
BCKI
DIN
XT1
BCKO
WCKO
DOL
DOR
7300
XIN
XSYS1
SCKI
WSI
SDI1
SDI2
SAA7350
BS-DAC
7302A
LM833
7302B
LM833
7303A
LM833
7303B
LM833
KILL
LEFT
KILL
RIGHT
KILL
LEFT
KILL
RIGHT
DIGITAL
OUT
TO FIXED
LINE OUT
LEFT
TO FIXED
LINE OUT
RIGHT
KILL
RESET
SW
TRAY
7600A
MOTOR
DRIVE
7400
TMP47C212
uP DRIVER
DISPLAY
4MHz
TRAY
MOTOR
TRAY
SWITCH
7370
NJM4560
TO
HEADPHONE
LEFT
7370
NJM4560
TO
HEADPHONE
RIGHT
CONTROL _ DISPLAY
LOADING ASSY
VARIABLE HEADPHONE
HAS1116

WIRING DIAGRAM







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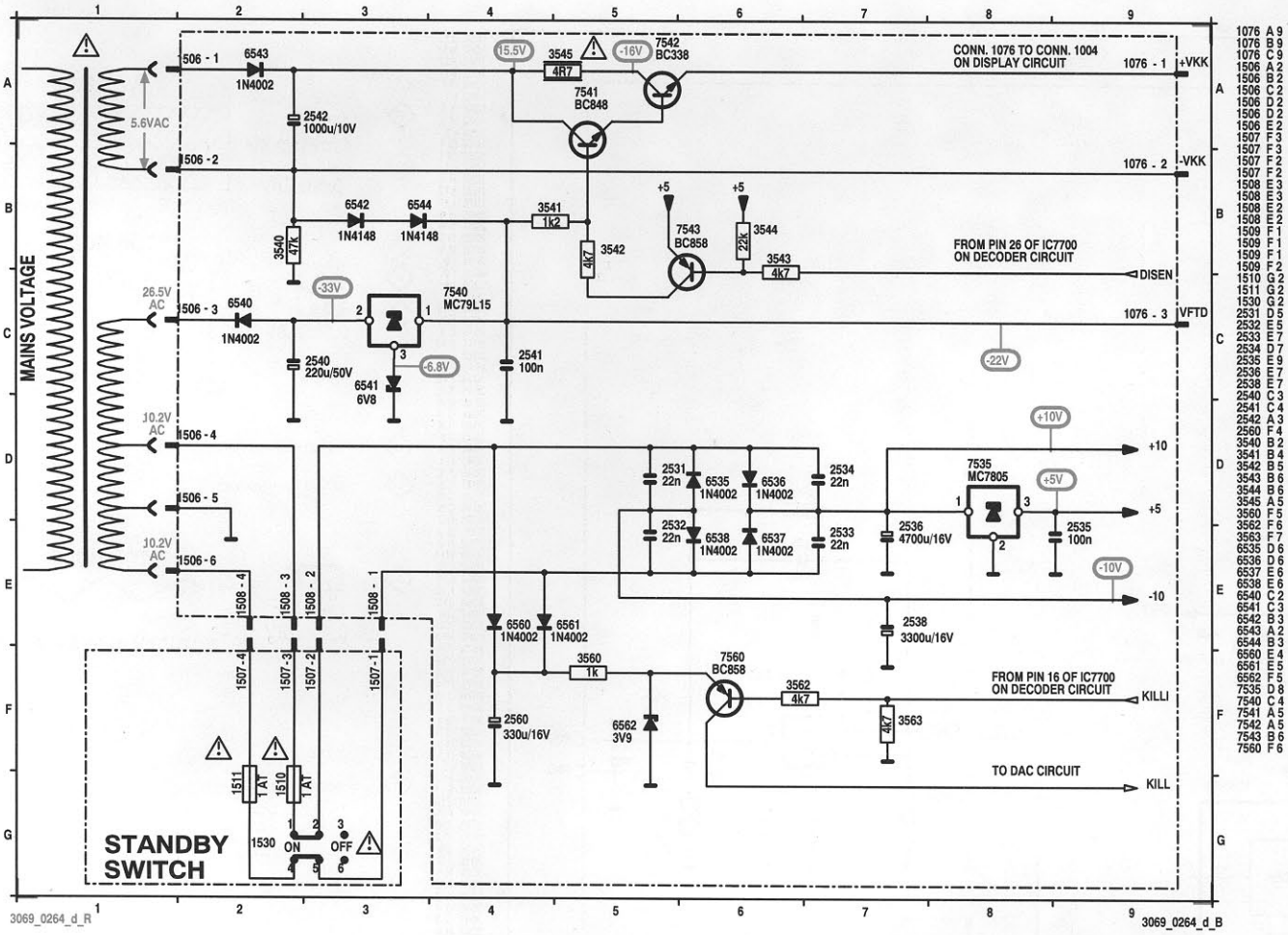
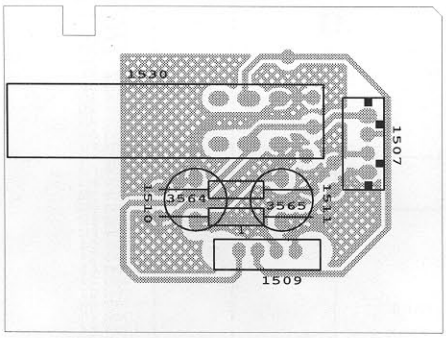
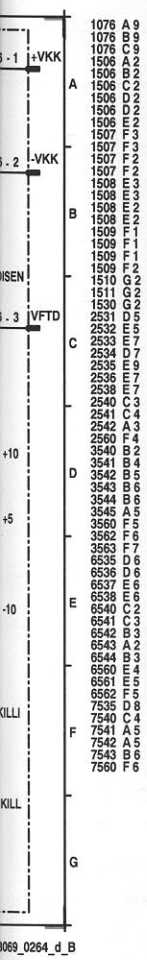
POWER SUPPLY CIRCUIT DIAGRAM



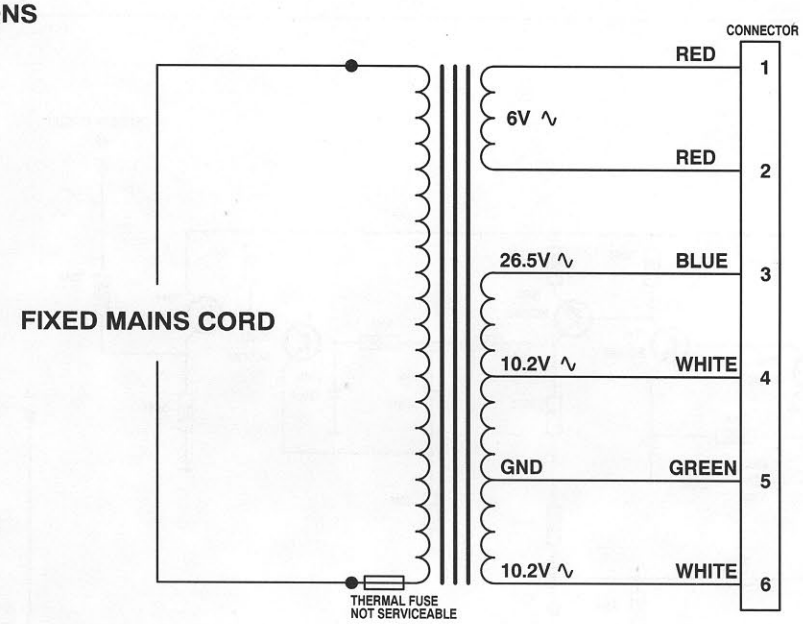
SWITCH PANEL



TRANSFORMER CONNECTIONS

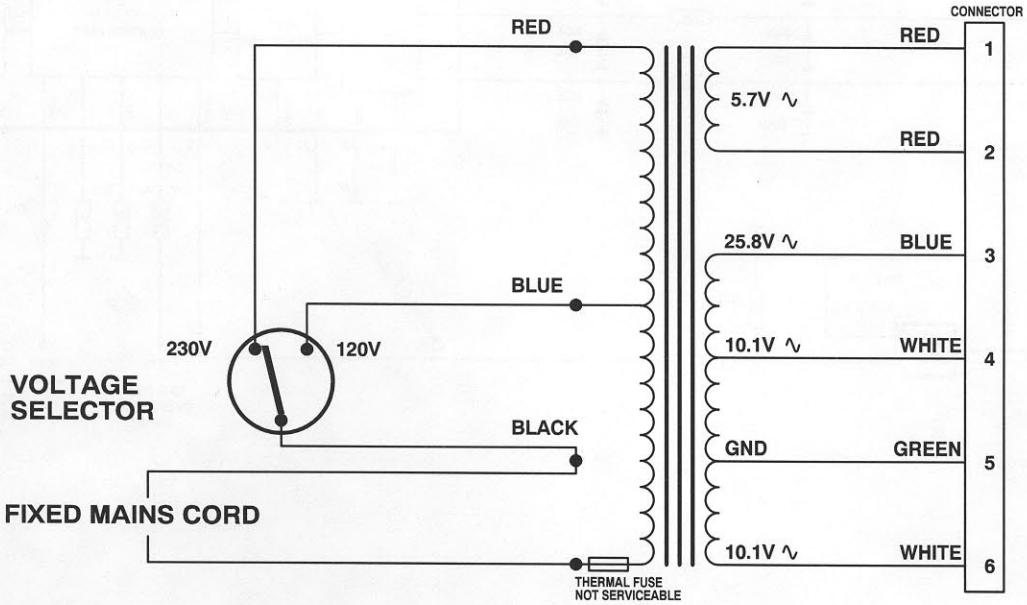


/00/05/06/17 VERSIONS



VERSION	MAINS VOLTAGE	SERVICE CODE
/00	220V-230V	4822 146 31337
/05	240V	4822 146 31339
/06	100V	4822 146 31345
/17	117V	4822 146 31341

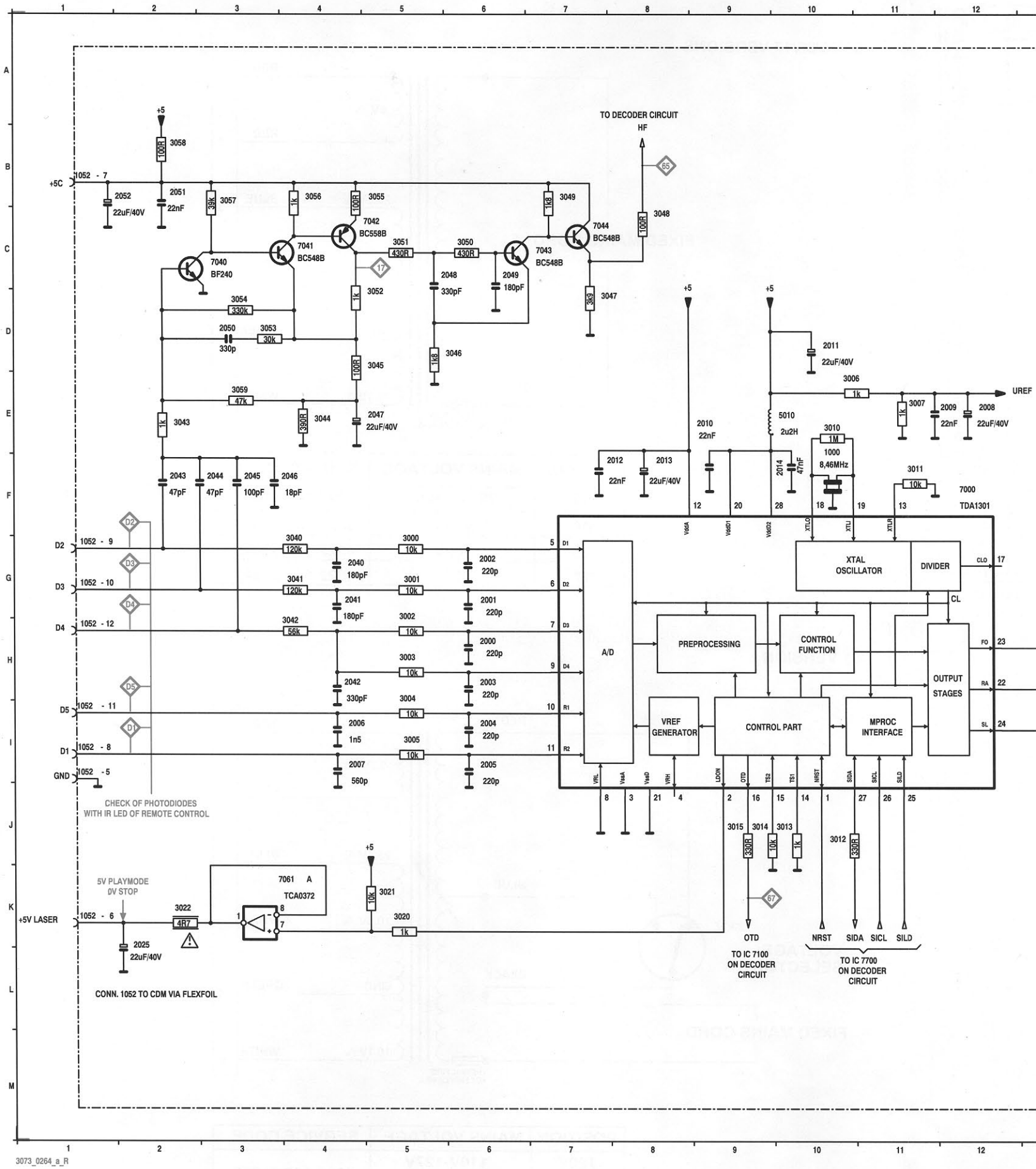
/01 VERSION

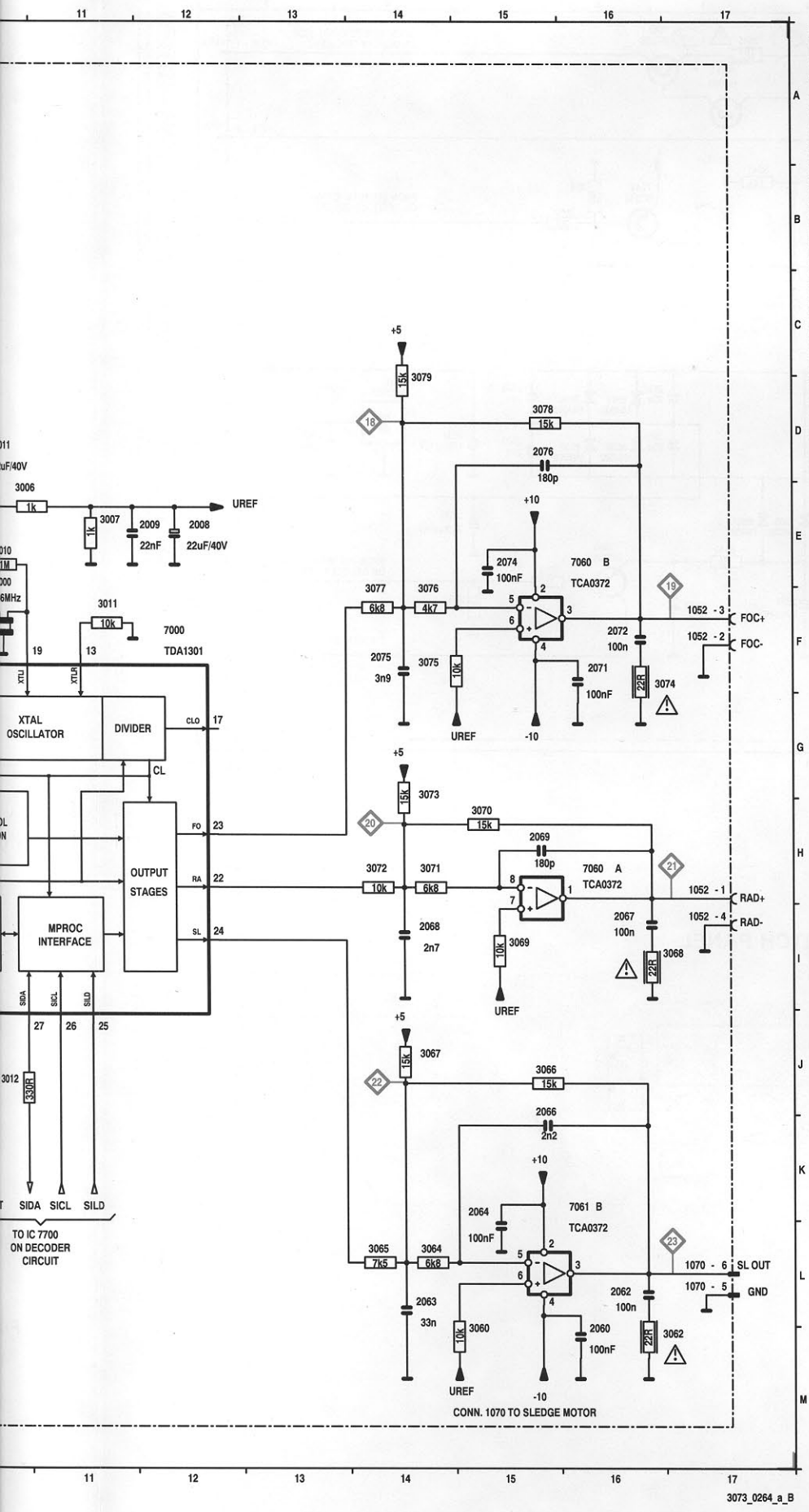


POSITION	MAINS VOLTAGE	SERVICE CODE
120V	110V-127V	4822 146 31338
230V	220V-240V	

TRANSFORMER AND VOLTAGE SELECTOR ARE ONE ASSEMBLY

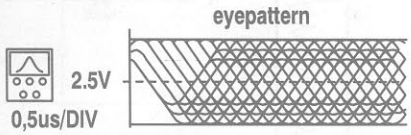
SERVO CIRCUIT DIAGRAM



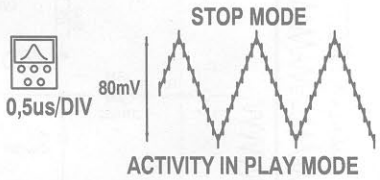


1000 E10
1052 H17
1052 F17
1052 F17
1052 I17
1052 I 1
1052 K 1
1052 B 1
1052 I 1
1052 G 1
1052 G 1
1052 I 1
1052 H 1
1070 L17
1070 L17
2000 H 6
2001 G 6
2002 G 6
2003 H 6
2004 I 6
2005 I 6
2006 I 4
2007 I 4
2008 E12
2009 E12
2010 E 9
2011 D10
2012 F 8
2013 F 8
2014 F10
2025 K 2
2040 G 4
2041 G 4
2042 H 4
2043 F 2
2044 F 3
2045 F 3
2046 F 4
2047 E 5
2048 C 6
2049 C 6
2050 D 3
2051 B 2
2052 B 2
2060 M16
2062 L16
2063 L14
2064 K15
2066 J15
2067 I16
2068 I14
2069 H15
2071 F16
2072 F16
2074 E15
2075 F14
2076 D15
3000 G 5
3001 G 5
3002 G 5
3003 H 5
3004 H 5
3005 I 5
3006 E10
3007 E11
3010 E10
3011 F11
3012 J10
3013 J10
3014 J 9
3015 J 9
3020 K 5
3021 K 5
3022 K 2
3040 G 4
3041 G 4
3042 H 4
3043 E 2
3044 E 4
3045 D 5
3046 D 6
3047 D 8
3048 C 8
3049 B 7
3050 C 6
3051 C 5
3052 D 5
3053 D 3
3054 D 3
3055 B 5
3056 B 4
3057 B 3
3058 B 2
3059 E 3
3060 M15
3062 M17
3064 L14
3065 L14
3066 J15
3067 J14
3068 I17
3069 I15
3070 H15
3071 H14
3072 H14
3073 G14
3074 F17
3075 F14
3076 F14
3077 F14
3078 D15
3079 D14
5010 E10
7000 F12
7040 C 3
7041 C 4
7042 C 5
7043 C 7
7044 C 7
7060 H16
7060 E16
7061 K 4
7061 K16

17 / 65



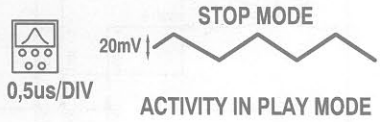
18 / 20



19 ACTIVITY DURING PLAY

21 ACTIVITY DURING PLAY

22

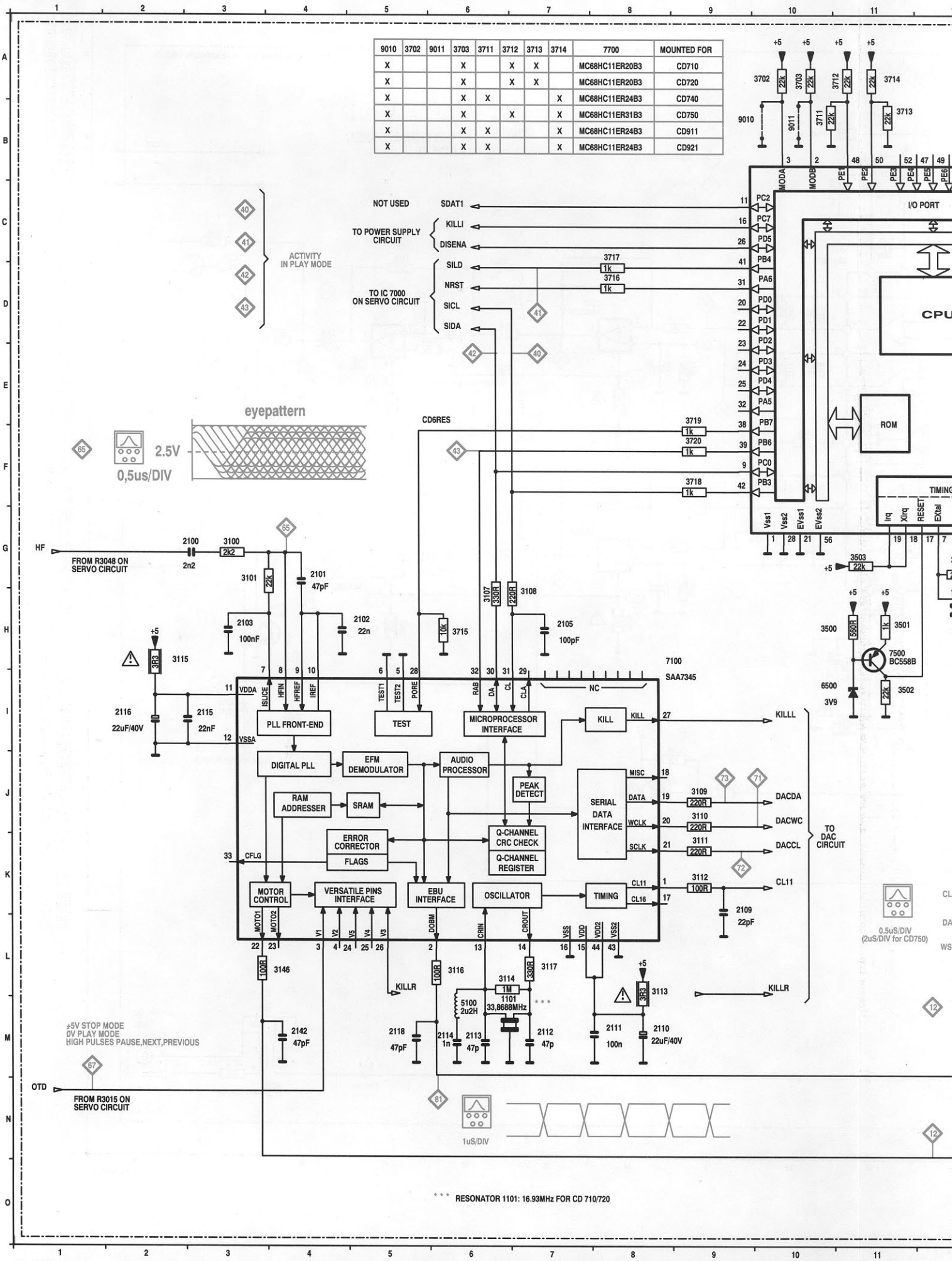


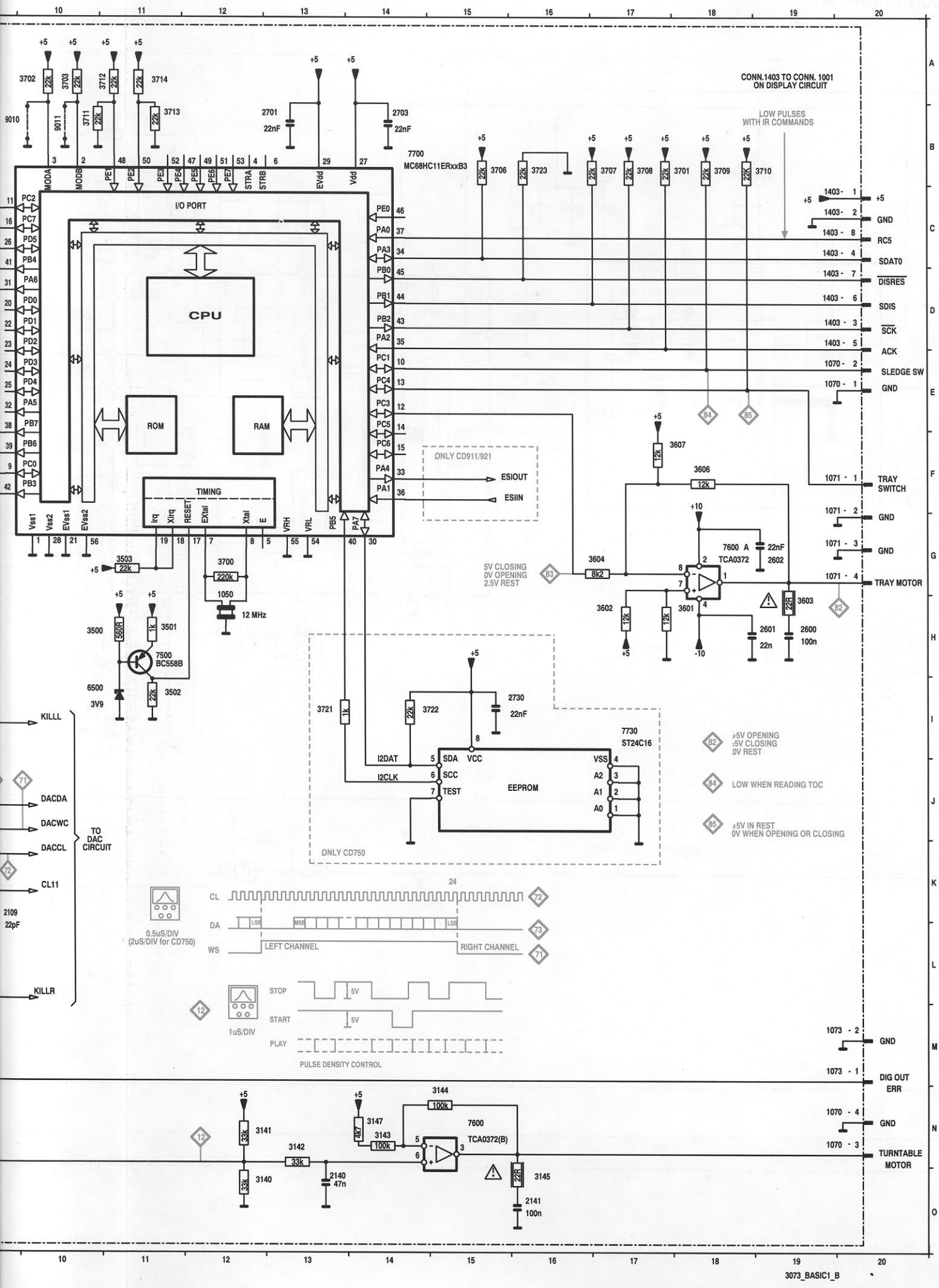
23 SERVICE MODE 0
SL OUT: -3.5V
SL IN: +3.5V

67 ±5V STOP MODE
0V PLAY MODE
HIGH PULSES PAUSE,NEXT,PREVIOUS

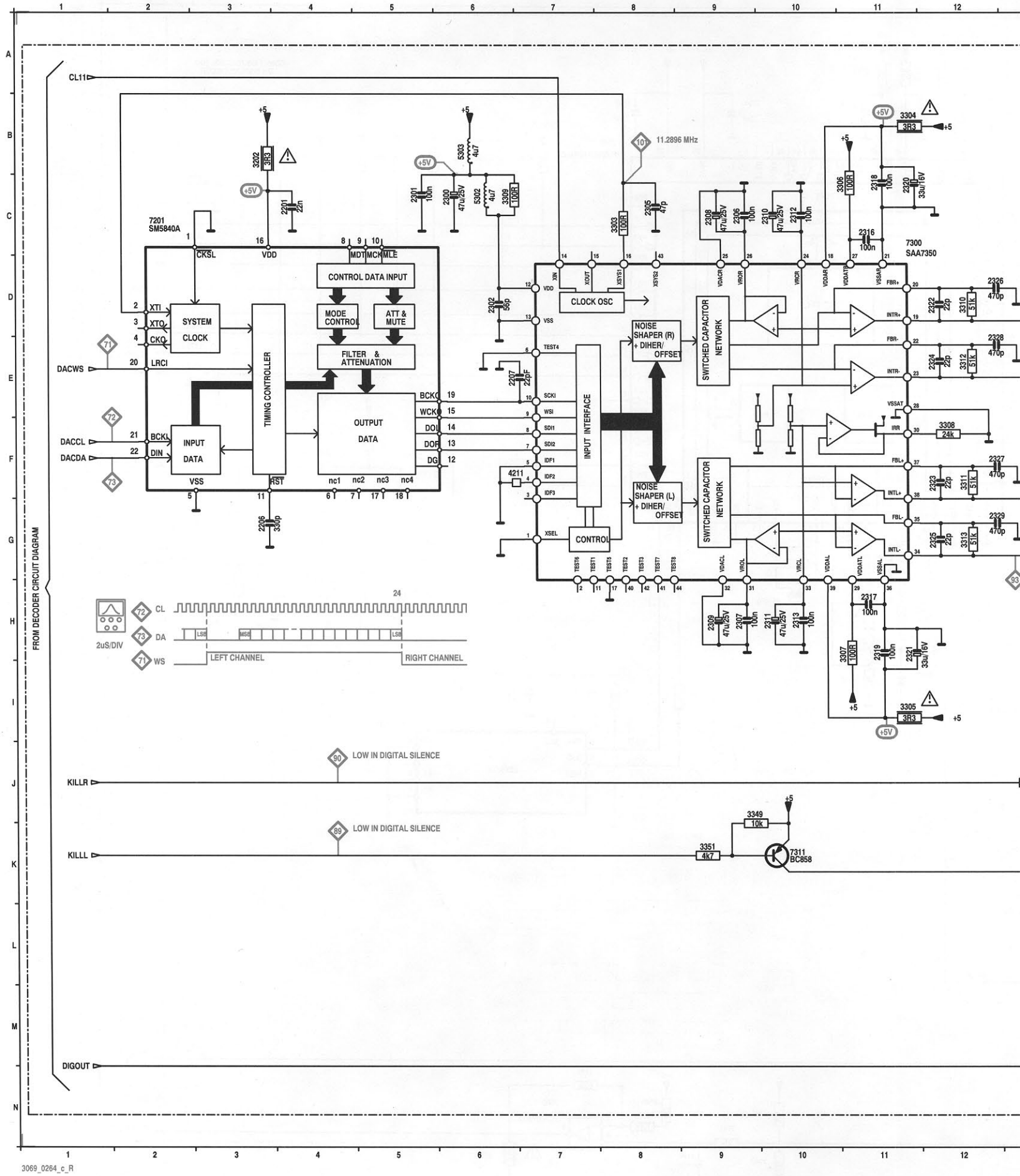
DECODER CIRCUIT DIAGRAM

9010	3702	9011	3703	3711	3712	3713	3714	7700	MOUNTED FOR
X			X		X	X		MC68HC11ER20B3	CD710
X			X		X	X		MC68HC11ER20B3	CD720
X			X	X			X	MC68HC11ER24B3	CD740
X			X		X		X	MC68HC11ER31B3	CD750
X			X	X			X	MC68HC11ER24B3	CD911
X			X	X			X	MC68HC11ER24B3	CD921

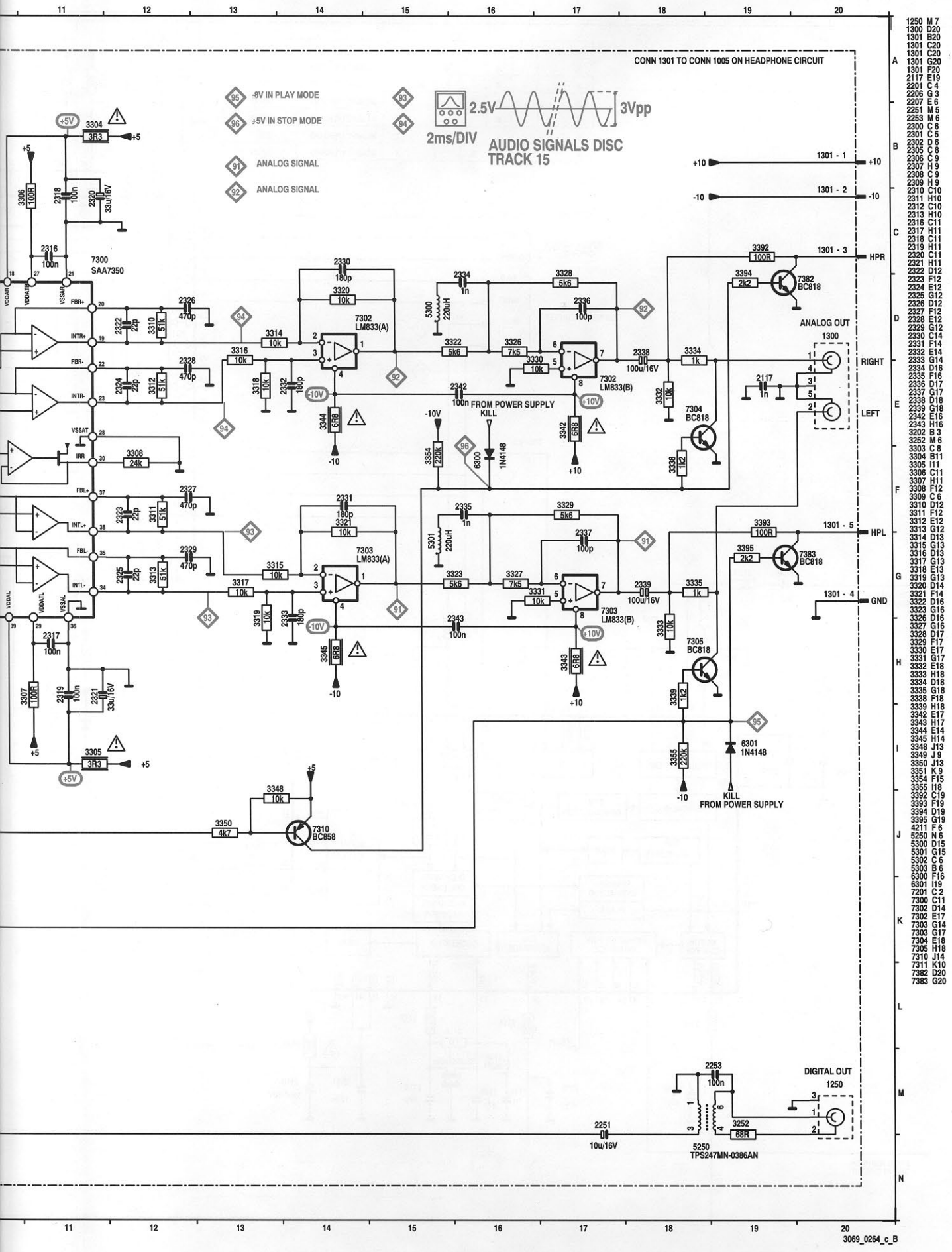



7700
MC68HC11ERxxB3
I/O PORT
CPU
ROM
RAM
TIMING
CONN.1403 TO CONN. 1001
ON DISPLAY CIRCUIT
LOW PULSES
WITH IR COMMANDS
ONLY CD911/921
ESIOUT
ESIIN
5V CLOSING
0V OPENING
2.5V REST
7600 A
TCA0372
TRAY SWITCH
TRAY MOTOR
SLEDGE SW
DIG OUT
ERR
TURNTABLE
MOTOR
12 MHz
7500
BC558B
7730
ST24C16
EEPROM
ONLY CD750
KILLL
DACDA
DACWC
DACCL
CL11
KILLR
TO
DAC
CIRCUIT
0.5uS/DIV
(2uS/DIV for CD750)
LEFT CHANNEL
RIGHT CHANNEL
1uS/DIV
PULSE DENSITY CONTROL
7600
TCA0372(B)
3073_BASIC1_B

DAC CIRCUIT DIAGRAM

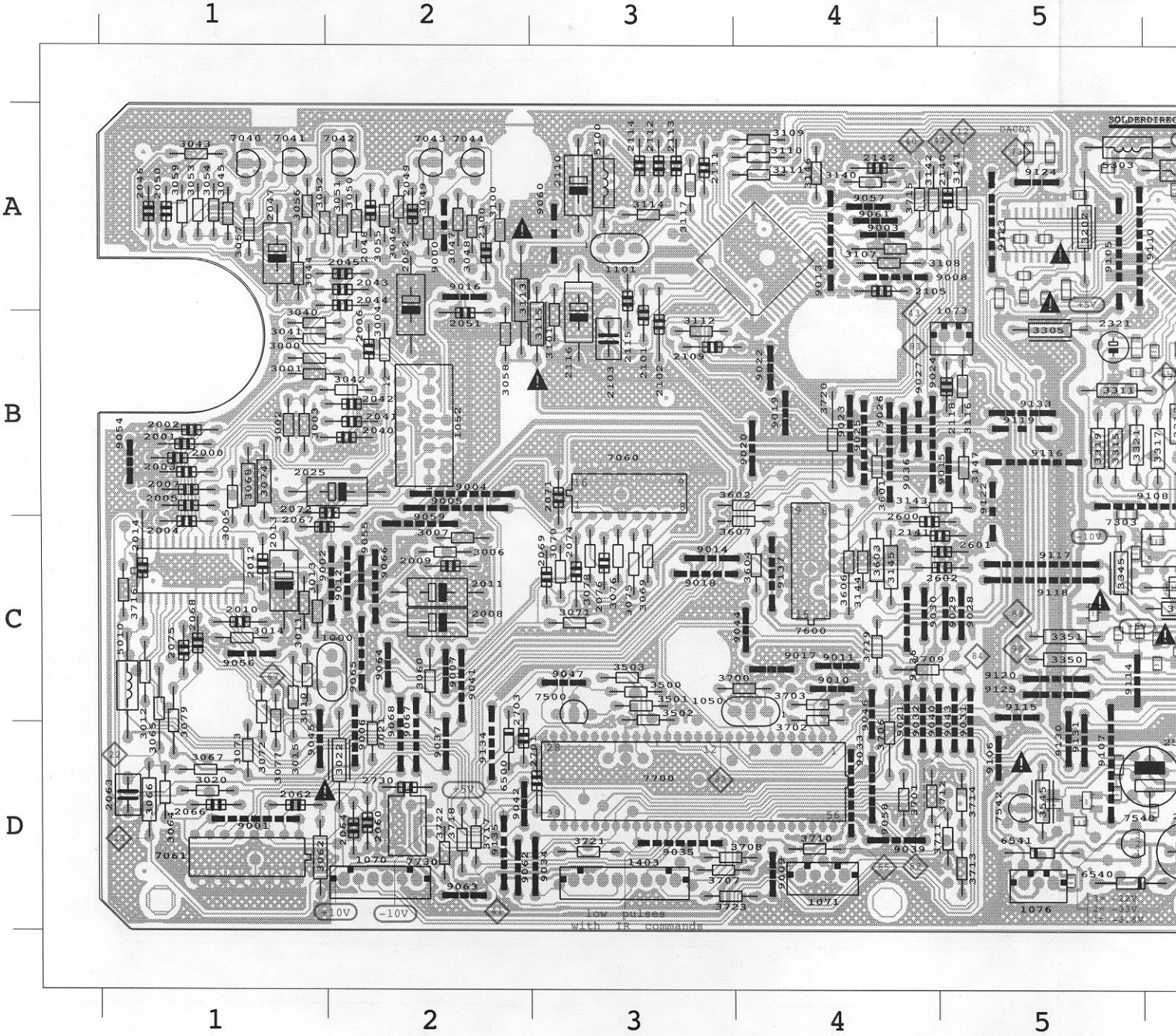


3069_0264_c_R


CONN 1301 TO CONN 1005 ON HEADPHONE CIRCUIT
95 -8V IN PLAY MODE
96 +5V IN STOP MODE
91 ANALOG SIGNAL
92 ANALOG SIGNAL
93
94
2.5V
3Vpp
2ms/DIV
AUDIO SIGNALS DISC TRACK 15
7300 SAA7350
7302 LM833(A)
7302 LM833(B)
7303 LM833(A)
7303 LM833(B)
7304 BC818
7305 BC818
7382 BC818
7383 BC818
7310 BC858
ANALOG OUT 1300
RIGHT
LEFT
HPR
HPL
GND
1301 - 1
1301 - 2
1301 - 3
1301 - 4
1301 - 5
FROM POWER SUPPLY KILL
KILL FROM POWER SUPPLY
DIGITAL OUT 1250
5250 TPS247MN-0386AN
3069_0264_c_B

MAIN PANEL COMPONENT SIDE

1076 D 5	2310 B 6	2333 C 6	2741 B 7	3321 B 5	3350 C 5	3747 A 7	5302 A 6	7304 B 7	9107 D 5	9128 C 6	2006 B 2	2051 B 2	2110 A 3	3004 B 2	3048 A 2	3071
1250 C 7	2311 B 6	2334 B 7	3202 A 5	3322 A 7	3351 C 5	3748 A 7	5303 A 5	7305 C 7	9108 B 6	9129 B 7	2007 B 1	2052 A 2	2111 A 3	3005 B 1	3049 A 2	3072
1300 B 7	2312 A 6	2335 C 6	3252 C 7	3323 C 6	3354 C 6	3749 B 6	6300 C 6	7310 C 6	9109 C 6	9130 D 5	2008 C 2	2060 D 2	2112 A 3	3006 C 2	3050 A 2	3073
1301 B 7	2313 B 6	2336 A 7	3303 A 6	3326 B 7	3355 C 5	3750 A 7	6301 C 6	7311 C 5	9110 A 5	9131 D 5	2009 C 2	2062 D 1	2113 A 3	3007 C 2	3051 A 2	3074
1506 D 6	2316 A 6	2337 C 6	3304 A 7	3327 C 6	3392 B 7	4002 A 5	6535 C 7	7382 B 7	9111 B 6	9132 D 7	2010 C 1	2063 D 1	2114 A 3	3010 C 1	3052 A 1	3075
1508 D 7	2317 B 6	2338 B 7	3305 B 5	3328 B 7	3393 C 7	4003 B 7	6536 D 7	7383 C 7	9112 B 6	9133 B 5	2011 C 2	2064 D 2	2115 A 3	3011 C 1	3053 A 1	3076
1750 A 7	2318 A 6	2339 C 6	3306 B 6	3329 C 6	3394 B 7	4004 B 5	6537 D 7	7535 D 7	9113 B 7	----	2012 C 1	2066 D 1	2116 B 3	3012 C 1	3054 A 1	3077
2117 B 7	2319 B 5	2342 A 7	3307 B 6	3330 A 7	3395 C 7	4005 A 5	6538 D 6	7540 D 5	9114 C 5	1000 C 2	2013 C 1	2067 C 1	2118 B 5	3013 C 1	3055 A 2	3078
2201 A 5	2320 A 6	2343 C 6	3308 B 6	3331 C 5	3540 D 6	4006 A 7	6540 D 5	7541 D 5	9115 C 5	1050 C 4	2014 C 1	2068 C 1	2140 A 5	3014 C 1	3056 A 1	3079
2206 A 5	2321 B 5	2531 C 7	3309 A 6	3332 B 7	3541 D 5	4007 A 5	6541 D 5	7542 D 5	9116 B 5	1052 B 2	2025 B 2	2069 C 3	2141 C 5	3015 C 1	3057 A 1	3100
2207 A 6	2322 A 6	2532 D 6	3310 A 7	3333 C 7	3542 D 5	4105 D 5	6542 D 6	7543 D 5	9117 C 5	1070 D 2	2040 B 2	2071 B 3	2142 A 4	3020 D 1	3058 B 2	3101
2251 C 7	2323 B 6	2533 D 7	3311 B 5	3334 B 7	3543 D 5	4106 A 5	6543 D 6	7560 D 6	9118 C 5	1071 D 4	2041 B 2	2072 B 2	2600 C 4	3021 D 2	3059 A 1	3107
2253 C 7	2324 A 6	2534 D 7	3312 A 7	3335 C 7	3544 D 6	4210 A 5	6544 D 6	7740 A 7	9119 B 5	1073 B 5	2042 B 2	2074 C 3	2601 C 5	3022 D 2	3060 C 2	3108
2300 A 6	2325 B 6	2535 D 7	3313 B 6	3338 B 7	3545 D 5	4211 A 5	6560 D 6	7741 A 7	9120 C 5	1101 A 3	2043 A 2	2075 C 1	2602 C 5	3040 B 1	3062 D 1	3109
2301 A 6	2326 A 6	2536 D 7	3314 A 7	3339 C 7	3560 D 6	4212 A 5	6561 D 6	7742 B 6	9121 C 7	1403 D 3	2044 A 2	2076 C 3	2701 D 3	3041 B 1	3064 D 1	3110
2302 A 6	2327 B 5	2538 D 7	3315 B 5	3342 A 7	3562 D 6	4213 A 5	6562 D 6	9101 D 6	9122 B 5	2000 B 1	2045 A 2	2100 A 2	2703 D 2	3042 B 2	3065 C 1	3111
2305 A 6	2328 A 7	2540 D 6	3316 A 7	3343 C 6	3563 D 6	4214 A 5	6740 A 7	9102 C 6	9123 A 5	2001 B 1	2046 A 1	2101 B 3	2730 D 2	3043 A 1	3066 D 1	3112
2306 A 6	2329 B 6	2541 D 6	3317 B 6	3344 A 7	3743 B 7	4300 B 7	7201 A 5	9103 B 6	9124 A 5	2002 B 1	2047 A 1	2102 B 3	3000 B 1	3044 A 1	3067 D 1	3113
2307 B 6	2330 A 7	2542 D 6	3318 A 7	3345 C 5	3744 A 7	5250 C 7	7300 A 6	9104 C 7	9125 C 5	2003 B 1	2048 A 2	2103 B 3	3001 B 1	3045 A 1	3068 B 1	3114
2308 B 6	2331 C 6	2560 D 6	3319 B 5	3348 C 6	3745 A 7	5300 B 7	7302 A 7	9105 A 5	9126 B 7	2004 C 1	2049 A 2	2105 A 4	3002 B 1	3046 A 2	3069 C 3	3115
2309 B 6	2332 A 7	2740 A 7	3320 A 7	3349 C 5	3746 A 7	5301 C 6	7303 C 6	9106 D 5	9127 C 6	2005 B 1	2050 A 1	2109 B 3	3003 B 1	3047 A 2	3070 C 3	3116



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A 2	2111 A 3	3005 B 1	3049 A 2	3072 C 1	3140 A 4	3703 C 4	6500 D 2	9007 C 2	9028 C 5	9056 C 1
D 2	2112 A 3	3006 C 2	3050 A 2	3073 D 1	3141 A 5	3706 D 4	7000 C 1	9008 A 4	9029 C 5	9057 A 4
D 1	2113 A 3	3007 C 2	3051 A 2	3074 B 1	3142 A 4	3707 D 3	7040 A 1	9009 D 4	9030 C 4	9058 D 4
D 1	2114 A 3	3010 C 1	3052 A 1	3075 C 3	3143 B 5	3708 D 3	7041 A 1	9010 C 4	9031 C 5	9059 C 2
D 2	2115 A 3	3011 C 1	3053 A 1	3076 C 3	3144 C 4	3709 C 4	7042 A 2	9011 C 4	9032 C 4	9060 A 3
D 1	2116 B 3	3012 C 1	3054 A 1	3077 C 1	3145 C 4	3710 D 4	7043 A 2	9012 C 2	9033 D 4	9061 A 4
C 1	2118 B 5	3013 C 1	3055 A 2	3078 C 3	3146 A 4	3711 D 5	7044 A 2	9013 A 4	9034 D 3	9062 D 2
C 1	2140 A 5	3014 C 1	3056 A 1	3079 C 1	3147 B 5	3712 D 4	7060 B 3	9014 C 3	9035 D 3	9063 D 2
C 3	2141 C 5	3015 C 1	3057 A 1	3100 A 2	3500 C 3	3713 D 5	7061 D 1	9015 B 5	9036 B 4	9064 C 2
B 3	2142 A 4	3020 D 1	3058 B 2	3101 B 3	3501 C 3	3714 D 5	7100 A 4	9016 A 2	9037 D 2	9065 C 2
B 2	2600 C 4	3021 D 2	3059 A 1	3107 A 4	3502 C 3	3715 A 4	7500 C 3	9017 C 4	9039 D 4	9066 C 2
C 3	2601 C 5	3022 D 2	3060 C 2	3108 A 4	3503 C 3	3716 C 1	7600 C 4	9018 C 3	9040 C 4	9067 D 2
C 1	2602 C 5	3040 B 1	3062 D 1	3109 A 4	3601 B 4	3717 D 2	7700 D 3	9019 B 4	9041 C 2	9068 D 2
C 3	2701 D 3	3041 B 1	3064 D 1	3110 A 4	3602 B 4	3718 D 2	7730 D 2	9020 B 4	9042 D 2	9134 D 2
A 2	2703 D 2	3042 B 2	3065 C 1	3111 A 4	3603 C 4	3719 C 4	9000 A 2	9021 C 4	9043 C 5	9135 D 2
B 3	2730 D 2	3043 A 1	3066 D 1	3112 B 3	3604 C 4	3720 B 4	9001 D 1	9022 B 4	9044 C 4	9136 C 4
B 3	3000 B 1	3044 A 1	3067 D 1	3113 A 2	3606 C 4	3721 D 3	9002 C 2	9023 B 4	9045 D 1	9137 C 4
B 3	3001 B 1	3045 A 1	3068 B 1	3114 A 3	3607 C 4	3722 D 2	9003 A 4	9024 B 4	9046 C 4	
A 4	3002 B 1	3046 A 2	3069 C 3	3115 B 3	3700 C 4	3723 D 3	9004 B 2	9025 B 4	9047 C 3	
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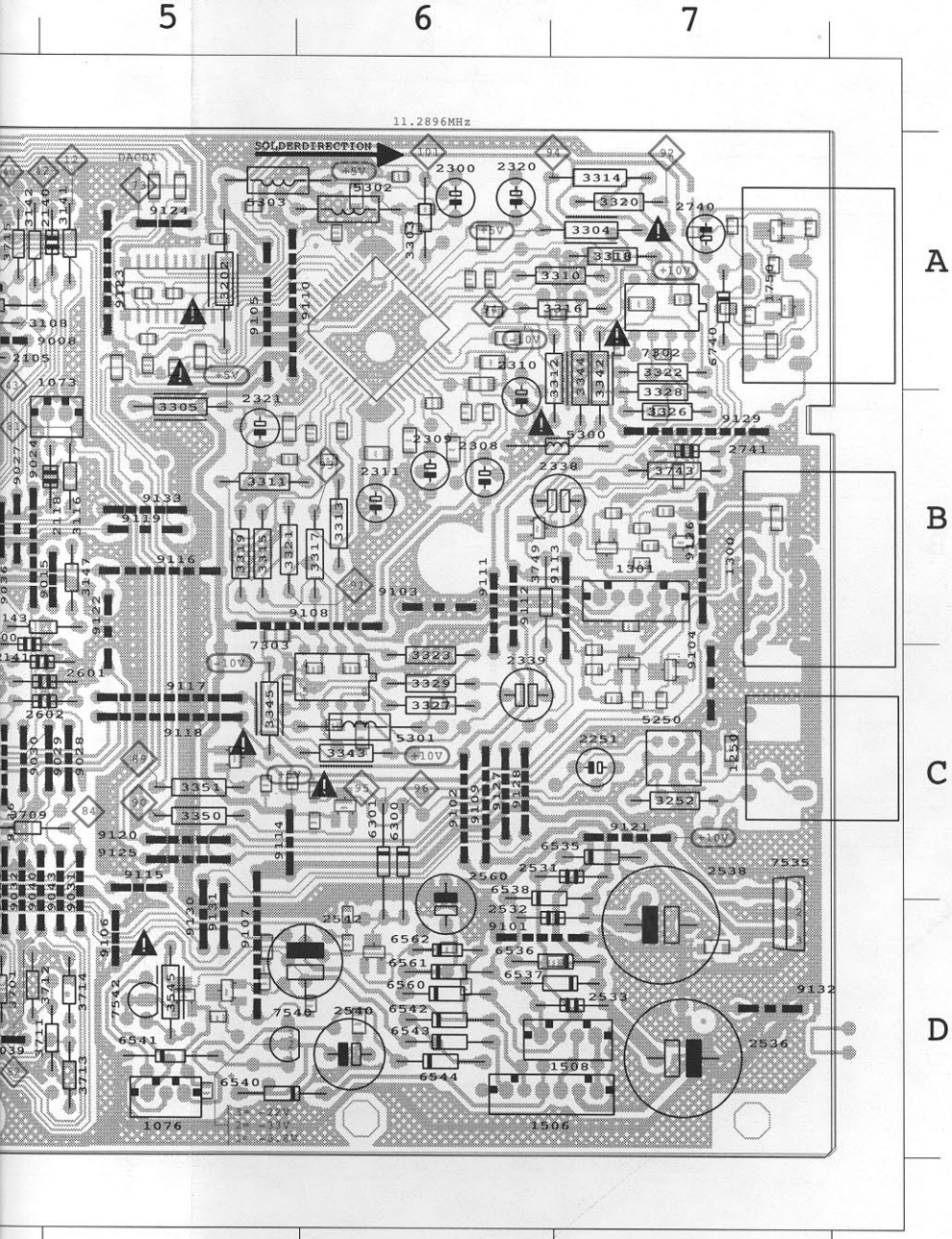

MAIN PANEL SOLDER SIDE

9055 C 2	9027 B 4	9006 D 2	5100 A 3	3702 C 4	3117 A 3	3071 C 3	3048 A 2	3004 B 2	2110 A 3	2051
9056 C 1	9028 C 5	9007 C 2	6500 D 2	3703 C 4	3140 A 4	3072 C 1	3049 A 2	3005 B 1	2111 A 3	2052
9057 A 4	9029 C 5	9008 A 4	7000 C 1	3706 D 4	3141 A 5	3073 D 1	3050 A 2	3006 C 2	2112 A 3	2060
9058 D 4	9030 C 4	9009 D 4	7040 A 1	3707 D 3	3142 A 4	3074 B 1	3051 A 2	3007 C 2	2113 A 3	2062
9059 C 2	9031 C 5	9010 C 4	7041 A 1	3708 D 3	3143 B 5	3075 C 3	3052 A 1	3010 C 1	2114 A 3	2063
9060 A 3	9032 C 4	9011 C 4	7042 A 2	3709 C 4	3144 C 4	3076 C 3	3053 A 1	3011 C 1	2115 A 3	2064
9061 A 4	9033 D 4	9012 C 2	7043 A 2	3710 D 4	3145 C 4	3077 C 1	3054 A 1	3012 C 1	2116 B 3	2066
9062 D 2	9034 D 3	9013 A 4	7044 A 2	3711 D 5	3146 A 4	3078 C 3	3055 A 2	3013 C 1	2118 B 5	2067
9063 D 2	9035 D 3	9014 C 3	7060 B 3	3712 D 4	3147 B 5	3079 C 1	3056 A 1	3014 C 1	2140 A 5	2068
9064 C 2	9036 B 4	9015 B 5	7061 D 1	3713 D 5	3500 C 3	3100 A 2	3057 A 1	3015 C 1	2141 C 5	2069
9065 C 2	9037 D 2	9016 A 2	7100 A 4	3714 D 5	3501 C 3	3101 B 3	3058 B 2	3020 D 1	2142 A 4	2071
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9068 D 2	9041 C 2	9019 B 4	7700 D 3	3717 D 2	3601 B 4	3109 A 4	3062 D 1	3040 B 1	2602 C 5	2075
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9137 C 4	9045 D 1	9023 B 4	9002 C 2	3721 D 3	3606 C 4	3113 A 2	3067 D 1	3044 A 1	3000 B 1	2102
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	9047 C 3	9025 B 4	9004 B 2	3723 D 3	3700 C 4	3115 B 3	3069 C 3	3046 A 2	3002 B 1	2105
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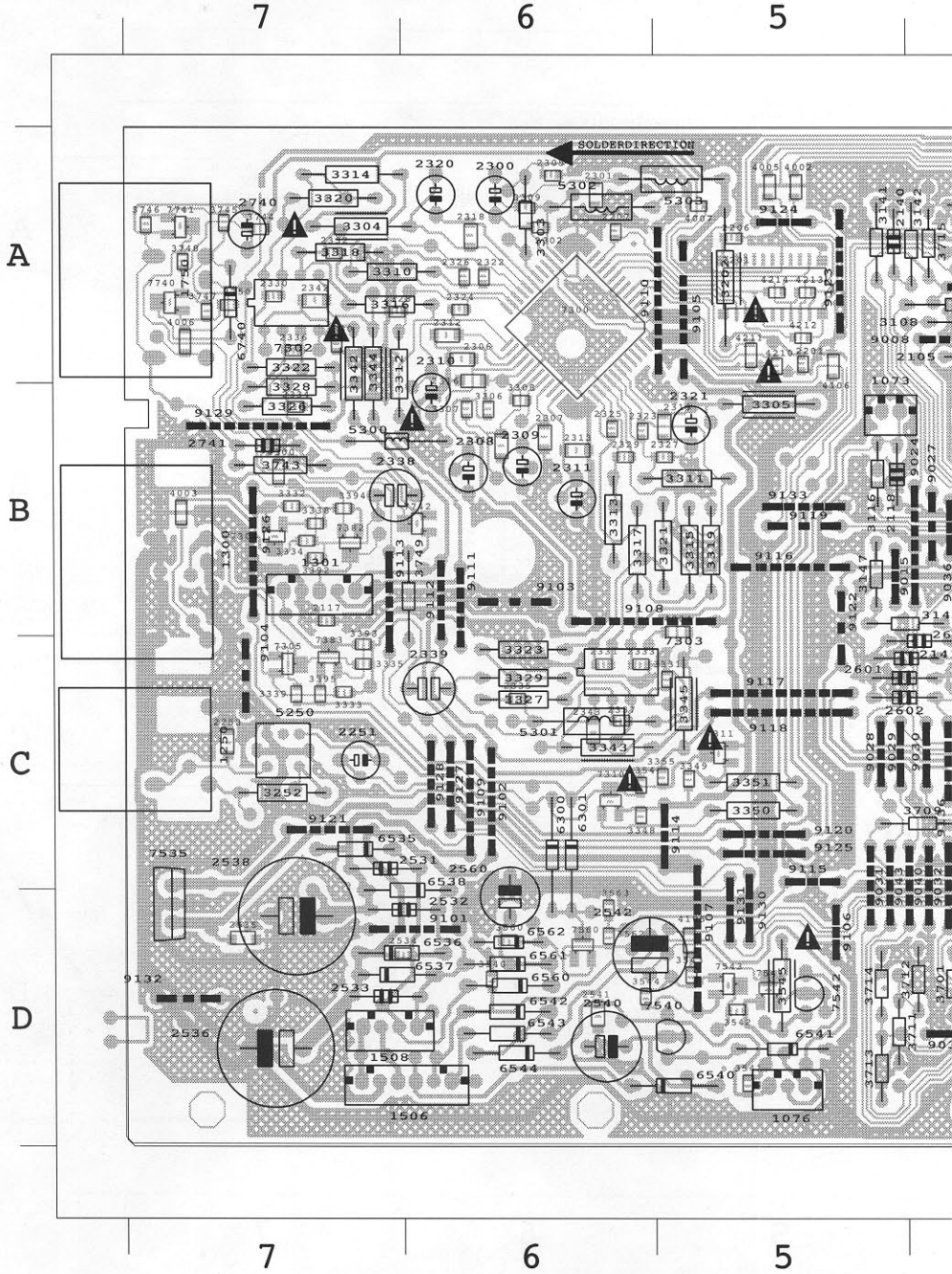

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3049 A 2	3005 B 1	2111 A 3	2052 A 2	2007 B 1	9129 B 7	9108 B 6	7305 C 7	5303 A 5	3748 A 7	3351 C 5	3322 A 7	3202 A 5	2334 B 7	2311 B 6	1250 C 7
3050 A 2	3006 C 2	2112 A 3	2060 D 2	2008 C 2	9130 D 5	9109 C 6	7310 C 6	6300 C 6	3749 B 6	3354 C 6	3323 C 6	3252 C 7	2335 C 6	2312 A 6	1300 B 7
3051 A 2	3007 C 2	2113 A 3	2062 D 1	2009 C 2	9131 D 5	9110 A 5	7311 C 5	6301 C 6	3750 A 7	3355 C 5	3326 B 7	3303 A 6	2336 A 7	2313 B 6	1301 B 7
3052 A 1	3010 C 1	2114 A 3	2063 D 1	2010 C 1	9132 D 7	9111 B 6	7382 B 7	6535 C 7	4002 A 5	3392 B 7	3327 C 6	3304 A 7	2337 C 6	2316 A 6	1506 D 6
3053 A 1	3011 C 1	2115 A 3	2064 D 2	2011 C 2	9133 B 5	9112 B 6	7383 C 7	6536 D 7	4003 B 7	3393 C 7	3328 B 7	3305 B 5	2338 B 7	2317 B 6	1508 D 7
3054 A 1	3012 C 1	2116 B 3	2066 D 1	2012 C 1	----	9113 B 7	7535 D 7	6537 D 7	4004 B 5	3394 B 7	3329 C 6	3306 B 6	2339 C 6	2318 A 6	1750 A 7
3055 A 2	3013 C 1	2118 B 5	2067 C 1	2013 C 1	1000 C 2	9114 C 5	7540 D 5	6538 D 6	4005 A 5	3395 C 7	3330 A 7	3307 B 6	2342 A 7	2319 B 5	2117 B 7
3056 A 1	3014 C 1	2140 A 5	2068 C 1	2014 C 1	1050 C 4	9115 C 5	7541 D 5	6540 D 5	4006 A 7	3540 D 6	3331 C 5	3308 B 6	2343 C 6	2320 A 6	2201 A 5
3057 A 1	3015 C 1	2141 C 5	2069 C 3	2025 B 2	1052 B 2	9116 B 5	7542 D 5	6541 D 5	4007 A 5	3541 D 5	3332 B 7	3309 A 6	2531 C 7	2321 B 5	2206 A 5
3058 B 2	3020 D 1	2142 A 4	2071 B 3	2040 B 2	1070 D 2	9117 C 5	7543 D 5	6542 D 6	4105 D 5	3542 D 5	3333 C 7	3310 A 7	2532 D 6	2322 A 6	2207 A 6
3059 A 1	3021 D 2	2600 C 4	2072 B 2	2041 B 2	1071 D 4	9118 C 5	7560 D 6	6543 D 6	4106 A 5	3543 D 5	3334 B 7	3311 B 5	2533 D 7	2323 B 6	2251 C 7
3060 C 2	3022 D 2	2601 C 5	2074 C 3	2042 B 2	1073 B 5	9119 B 5	7740 A 7	6544 D 6	4210 A 5	3544 D 6	3335 C 7	3312 A 7	2534 D 7	2324 A 6	2253 C 7
3062 D 1	3040 B 1	2602 C 5	2075 C 1	2043 A 2	1101 A 3	9120 C 5	7741 A 7	6560 D 6	4211 A 5	3545 D 5	3338 B 7	3313 B 6	2535 D 7	2325 B 6	2300 A 6
3064 D 1	3041 B 1	2701 D 3	2076 C 3	2044 A 2	1403 D 3	9121 C 7	7742 B 6	6561 D 6	4212 A 5	3560 D 6	3339 C 7	3314 A 7	2536 D 7	2326 A 6	2301 A 6
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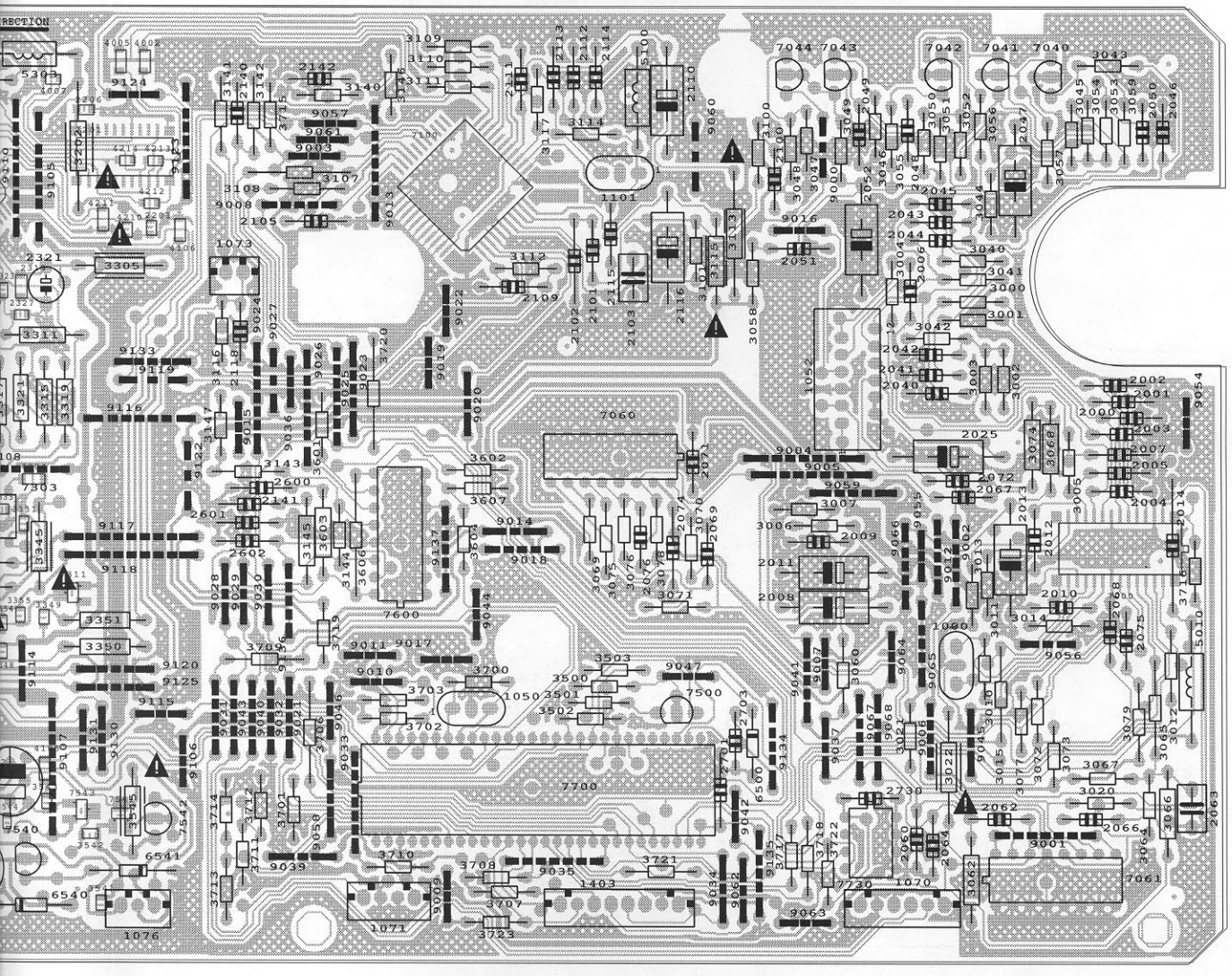
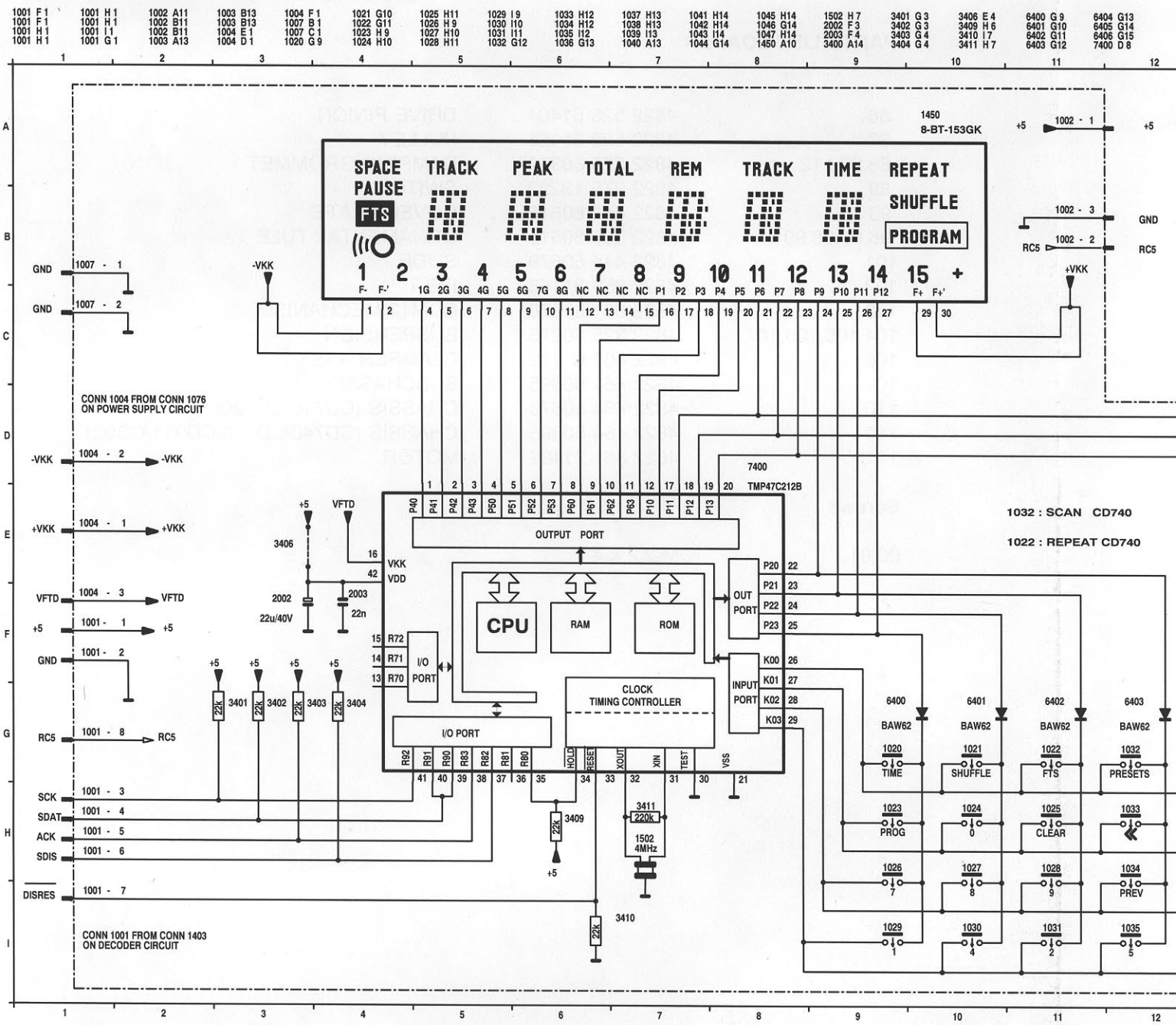
3066 D 1	3043 A 1	2730 D 2	2101 B 3	2046 A 1	2001 B 1	9123 A 5	9102 C 6	6740 A 7	4214 A 5	3563 D 6	3343 C 6	3316 A 7	2540 D 6	2328 A 7	2305 A 6
3067 D 1	3044 A 1	3000 B 1	2102 B 3	2047 A 1	2002 B 1	9124 A 5	9103 B 6	7201 A 5	4300 B 7	3743 B 7	3344 A 7	3317 B 6	2541 D 6	2329 B 6	2306 A 6
3068 B 1	3045 A 1	3001 B 1	2103 B 3	2048 A 2	2003 B 1	9125 C 5	9104 C 7	7300 A 6	5250 C 7	3744 A 7	3345 C 5	3318 A 7	2542 D 6	2330 A 7	2307 B 6
3069 C 3	3046 A 2	3002 B 1	2105 A 4	2049 A 2	2004 C 1	9126 B 7	9105 A 5	7302 A 7	5300 B 7	3745 A 7	3348 C 6	3319 B 5	2560 D 6	2331 C 6	2308 B 6
3070 C 3	3047 A 2	3003 B 1	2109 B 3	2050 A 1	2005 B 1	9127 C 6	9106 D 5	7303 C 6	5301 C 6	3746 A 7	3349 C 5	3320 A 7	2740 A 7	2332 A 7	2309 B 6

5 4 3 2 1

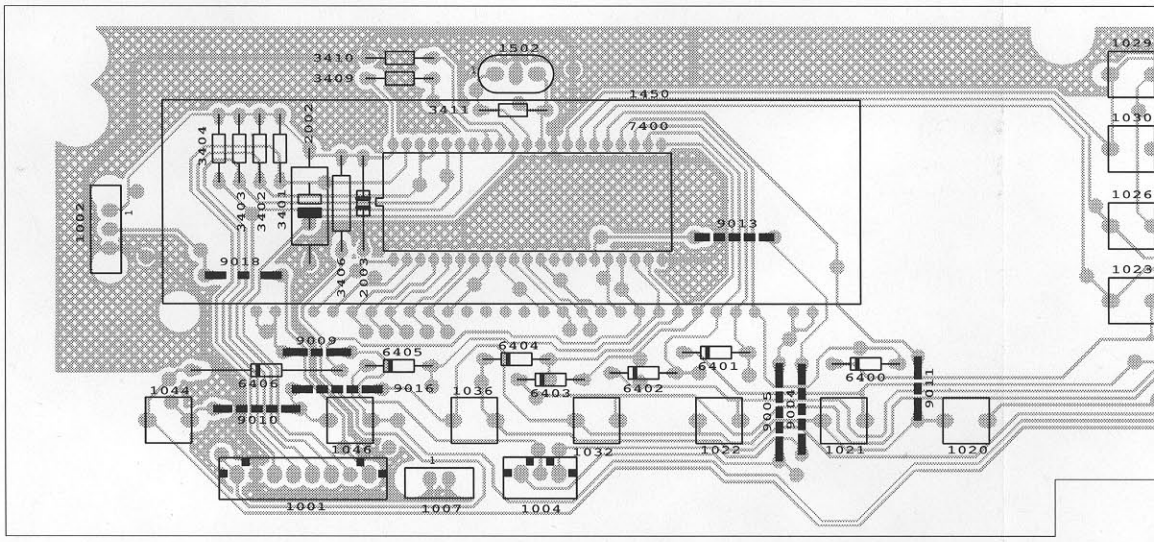


5 4 3 2 1

CONTROL & DISPLAY CIRCUIT DIAGRAM



CONTROL & DISPLAY PANEL



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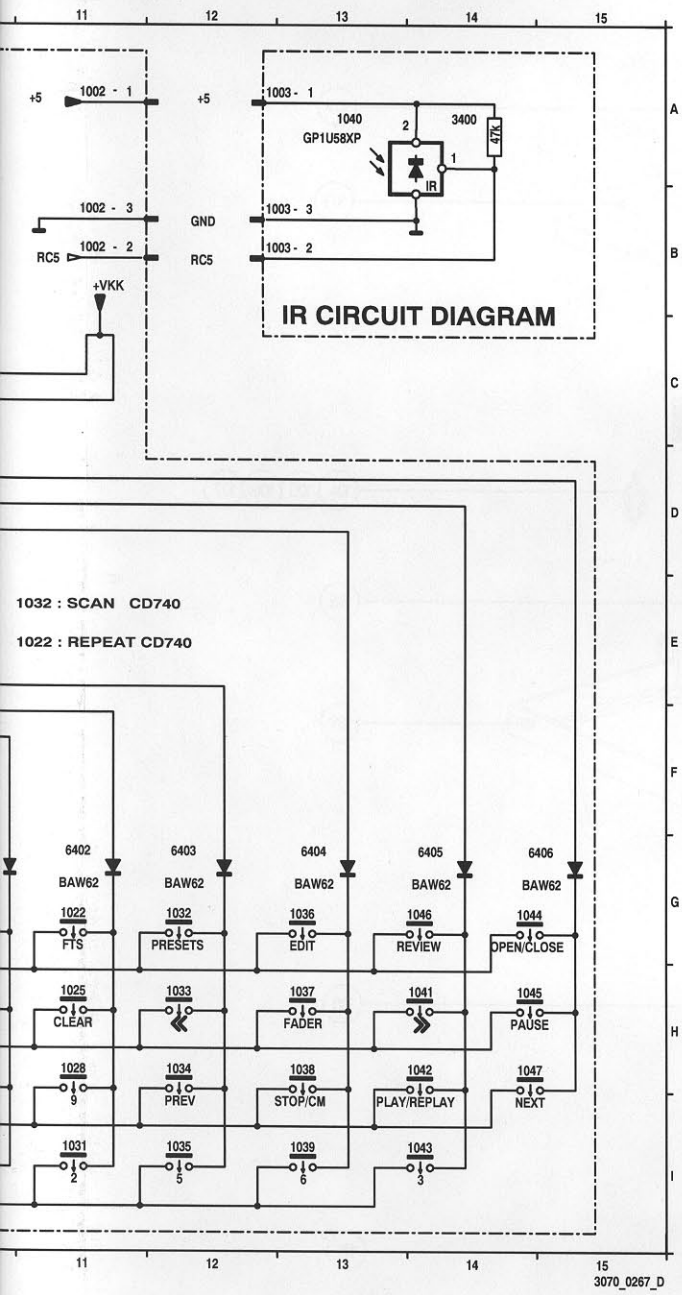
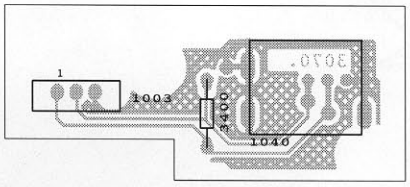
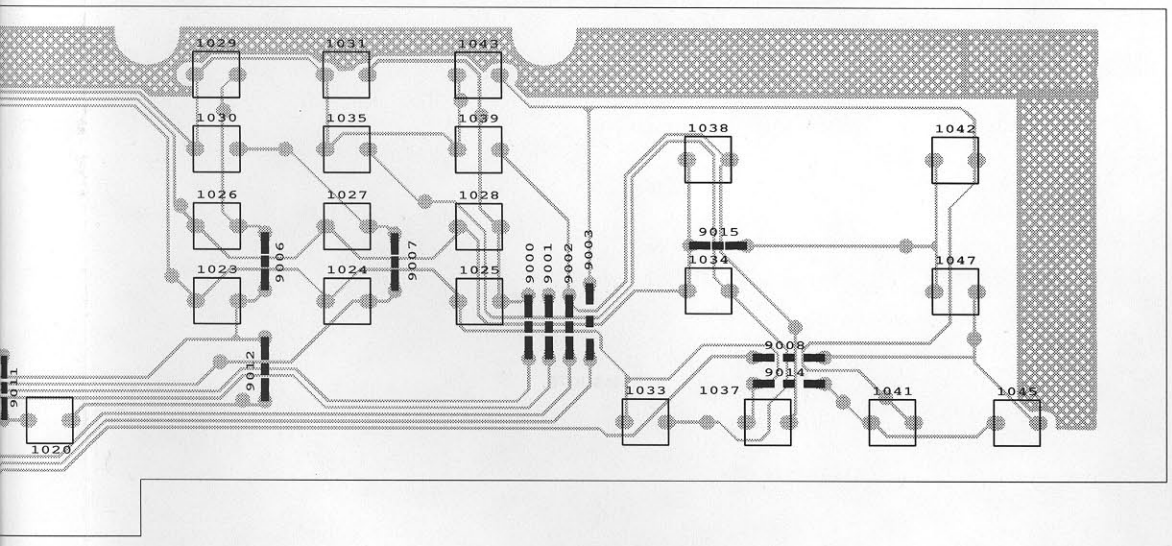
6402 G11 6406 G15
6403 G12 7400 D 8



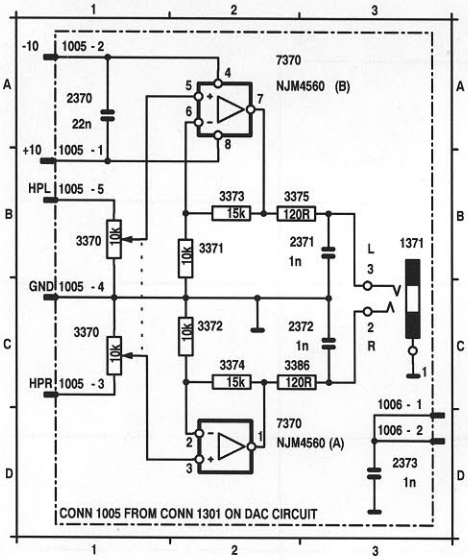
IR PANEL





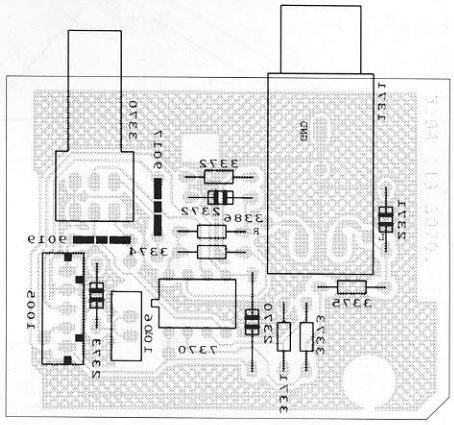
HEADPHONE CIRCUIT DIAGRAM

1005 B 1	1006 C 3	2372 C 3	3372 C 2	7370 D 2
1005 A 1	1006 D 3	2373 D 3	3373 B 2	7370 A 2
1005 C 1	1371 B 3	3370 C 1	3374 C 2	
1005 C 1	2370 A 1	3370 B 1	3375 B 2	
1005 B 1	2371 B 3	3371 B 2	3386 C 2	

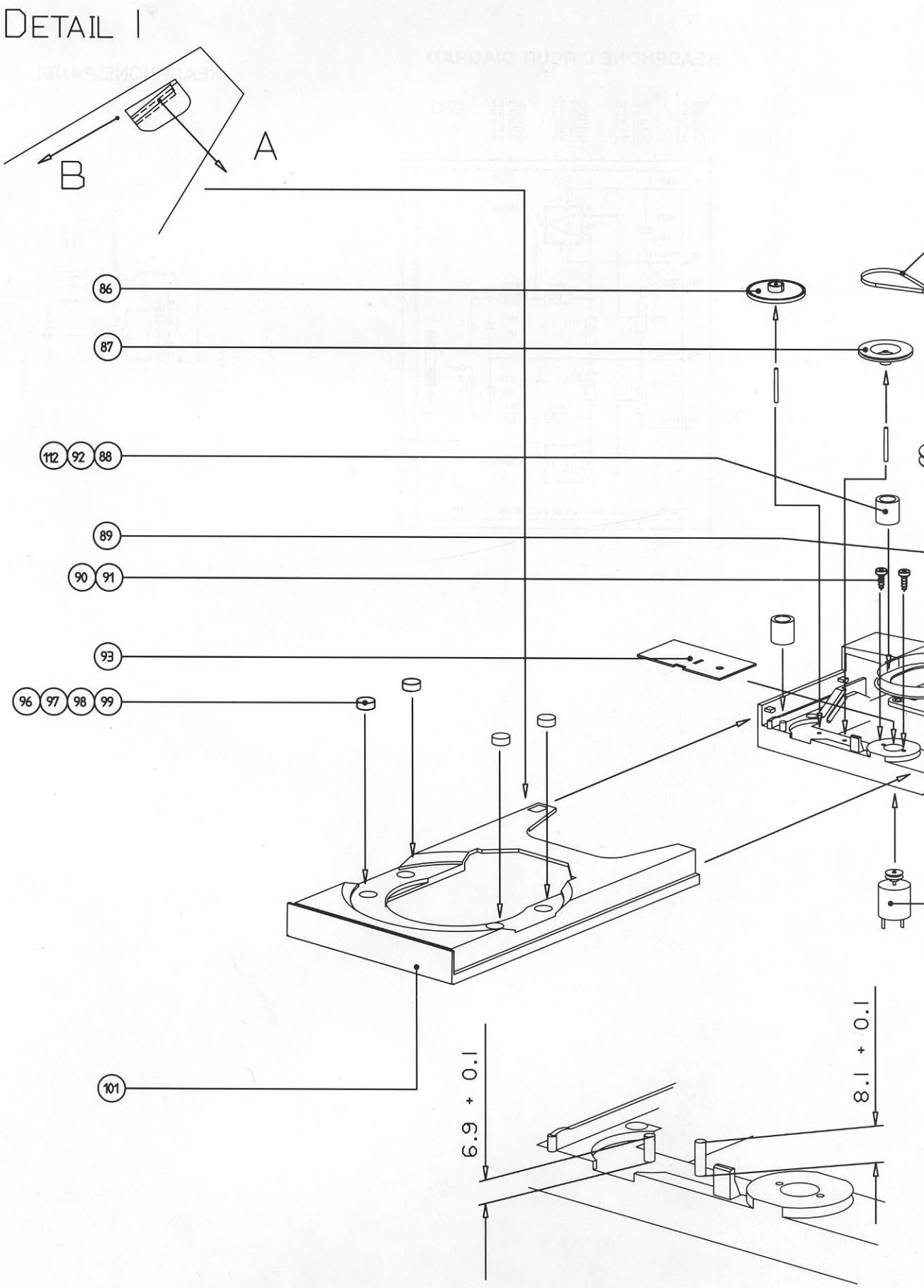


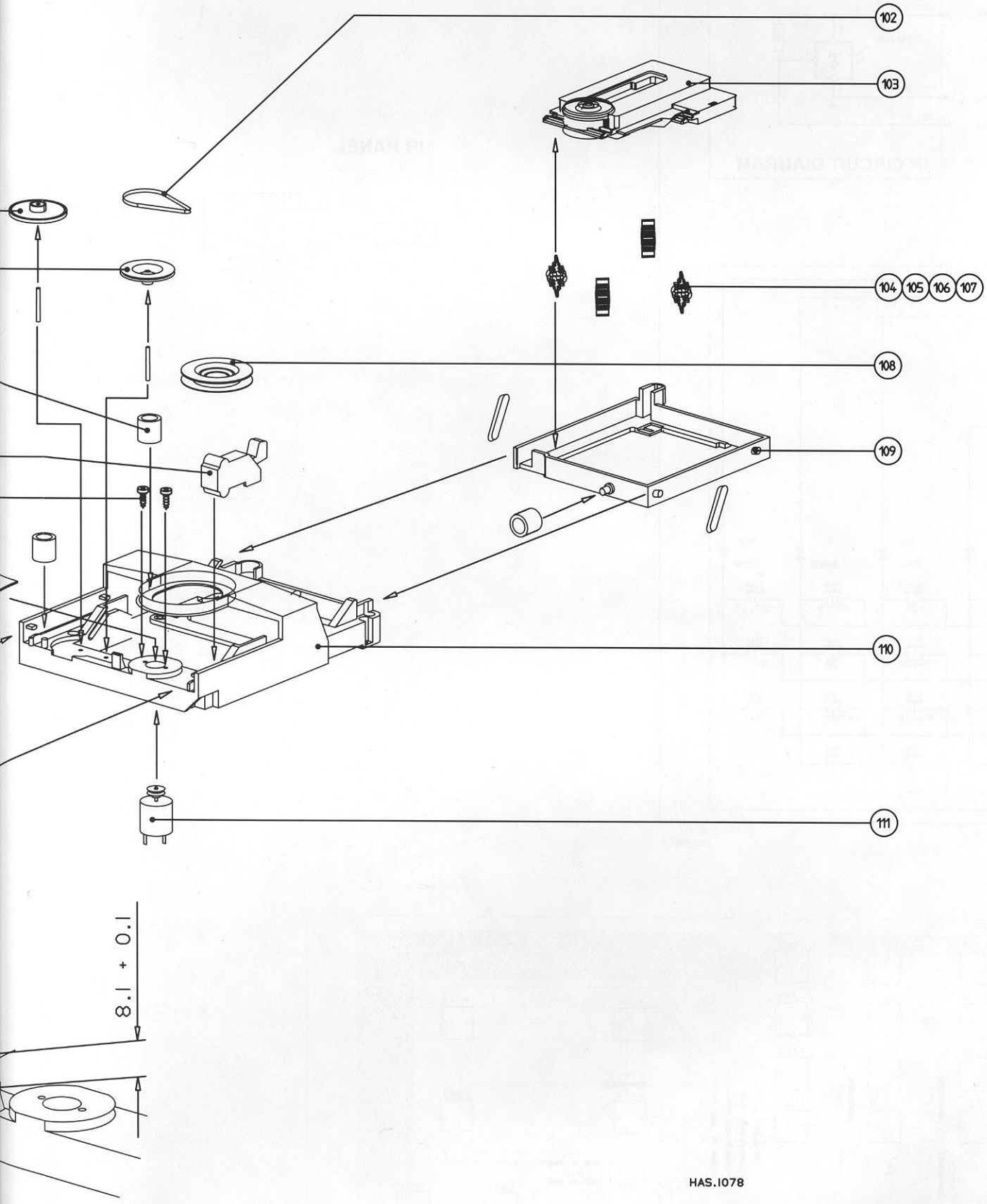
3070_0267_H

HEADPHONE PANEL



LOADER





HAS.1078

PARTS LIST LOADER

86	4822 528 81464	DRIVE PINION
87	4822 528 81465	PULLEY
88,92,112	4822 325 60379	DAMPING GROMMET
89	4822 276 13222	SWITCH
93	4822 444 60816	COVER PLATE
96,97,98,99	4822 325 80511	ORNAMENTAL TULE
101	4822 444 50679	SLIDE
102	4822 358 31168	BELT
103	4822 691 30278	CDM12 MECHANISM
104,105,106,107	4822 325 50215	SUSPENSION
108	4822 402 61412	CLAMPER ASSY
109	4822 464 50895	SUBCHASSIS
110	4822 464 50678	CHASSIS (CD710/CD720)
110	4822 464 50896	CHASSIS (CD740/CD750/CD911/CD921)
111	4822 361 21492	MOTOR

Screws

90,91	M 2.2 x 4

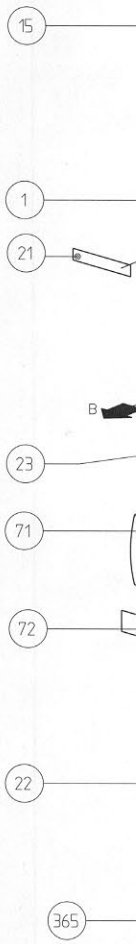
MECHANICAL PARTS LIST

1		4822 444 40718	FRONT CD750
1		4822 444 40719	FRONT CD740
15		4822 410 63094	BUTTON UNIT CD750
15		4822 410 63099	BUTTON UNIT CD740
16		4822 410 63095	BUTTON UNIT 10-KEY
17		4822 410 63096	BUTTON UNIT
21		4822 459 10887	WORDMARK
22		4822 450 61895	WINDOW
23		4822 450 61894	IR WINDOW
52		4822 535 93461	POWER ROD
53		4822 413 51468	VOLUME KNOB
54		4822 492 51374	SPRING
71		4822 444 40721	TRAY FRONT CD750
71		4822 444 40724	TRAY FRONT CD740
72		4822 454 12828	TEXT PLATE(CD750)
151		4822 444 60843	COVER
251		4822 462 41715	FOOT
252		4822 462 41715	FOOT
253		4822 462 41715	FOOT
254		4822 462 41715	FOOT
255		4822 462 41479	FELT
256		4822 462 41479	FELT
257		4822 462 41479	FELT
258		4822 462 41479	FELT
283	▲	4822 532 60948	BUSHING
308		4822 321 22832	CINCH CABLE SBC1072
340		4822 736 21986	IFU MULTILANGUAGE CD750
340		4822 736 21985	IFU MULTILANGUAGE CD740
340		4822 736 22001	IFU JA CD750
365		4822 218 10538	REM.CONTROL RD6843

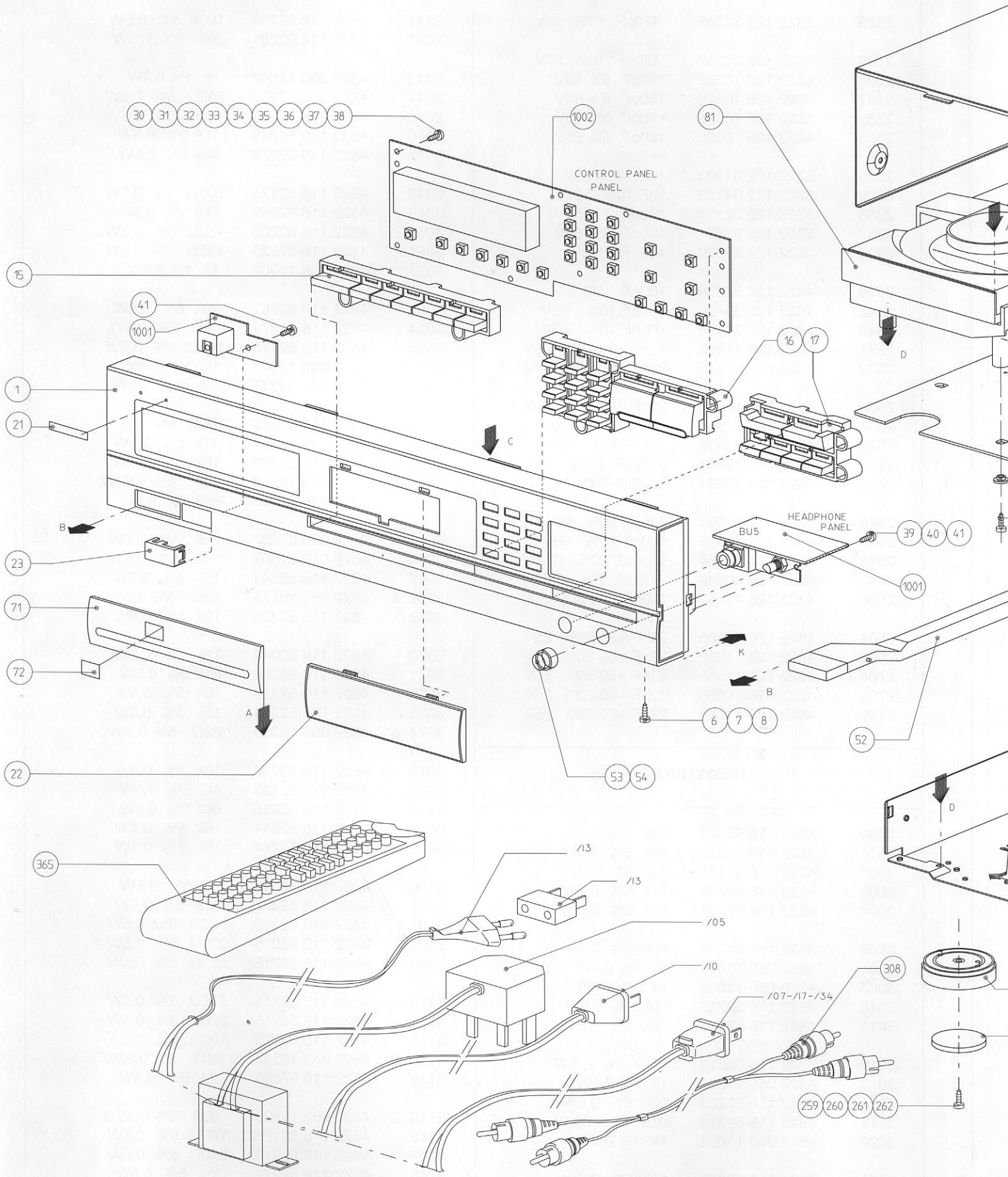
Not mentioned parts are only available during production period on special request.

Screws

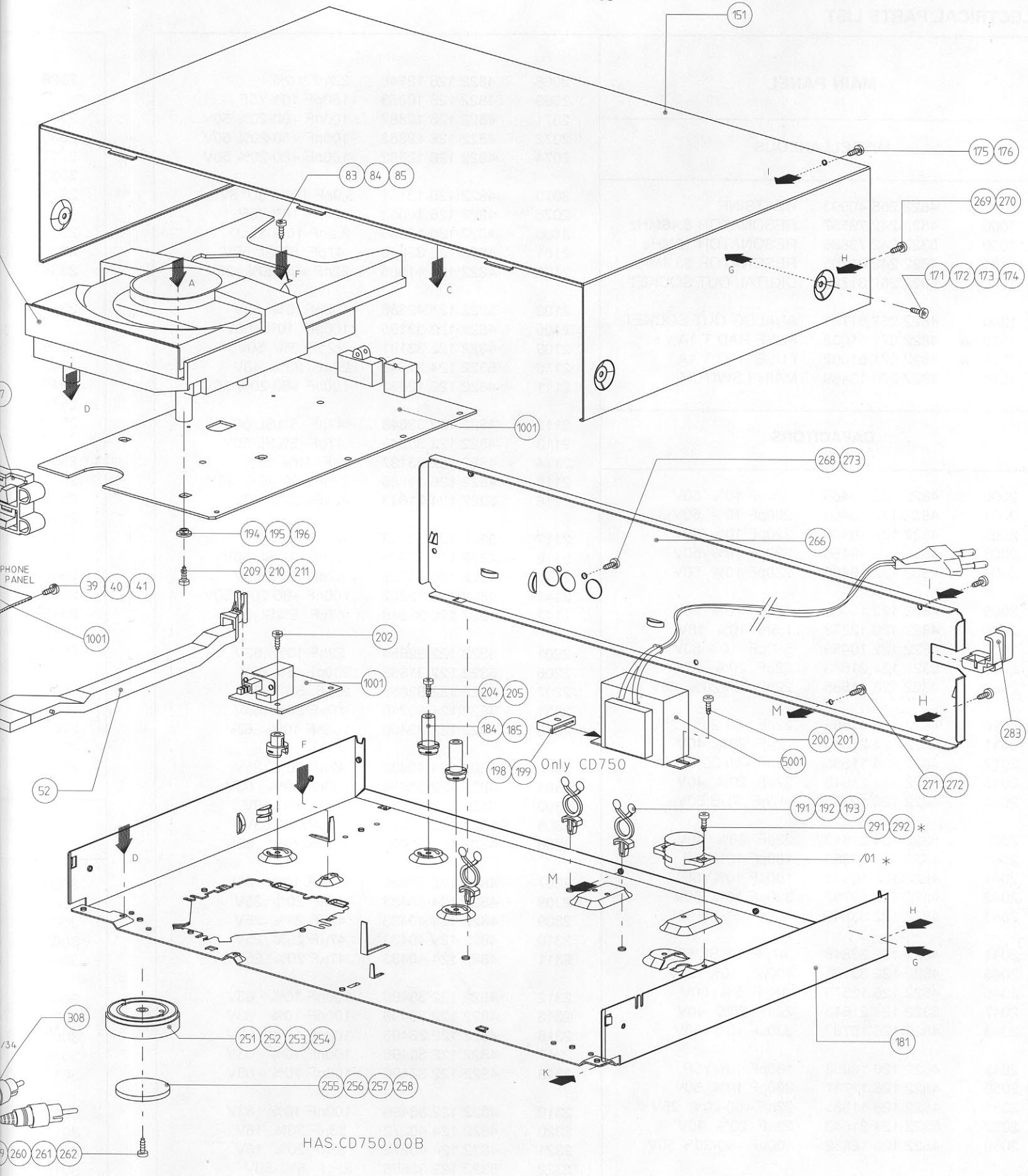
Taptite	M3x6:	6,7,8 83,84,85 171,172,173,174 175,176, 200,201 269,270 271,272
Taptite	M3x10:	291,292
Taptite	M3x16:	202 259,260,261,262
Taptite	M3x28:	204,205
Plastite	M3x10:	39,40,41 42 209,210,211
Plastite	M3x12:	30,31,32,33,34,35,36,37,38



EXPLODED VIEW



* /01-VERSION


151
175 176
83 84 85
269 270
171 172 173 174
1001
268 273
266
194 195 196
209 210 211
PHONE PANEL
39 40 41
1001
202
1001
204 205
184 185
198 199
Only CD750
200 201
5001
283
271 272
52
191 192 193
291 292 *
/01 *
308
251 252 253 254
255 256 257 258
181
260 261 262
HAS.CD750.00B

ELECTRICAL PARTS LIST

MAIN PANEL

MISCELLANEOUS

		4822 255 40993	HEATSINK
1000		4822 242 73557	RESONATOR 8.46MHz
1050		5322 242 73686	RESONATOR 12MHz
1101		4822 242 81705	RESONATOR 33.8MHz
1250		4822 267 31729	DIGITAL OUT SOCKET
1300		4822 267 31731	ANALOG OUT SOCKET
1510	▲	4822 071 51002	FUSE RAD T 1A
1511	▲	4822 071 51002	FUSE RAD T 1A
1530		4822 276 13489	MAINS SWITCH

CAPACITORS

2000		4822 122 10466	220pF 10% 50V
2001		4822 122 10466	220pF 10% 50V
2002		4822 122 10466	220pF 10% 50V
2003		4822 122 10466	220pF 10% 50V
2004		4822 122 10466	220pF 10% 50V
2005		4822 122 10466	220pF 10% 50V
2006		4822 126 12878	1,5nF 10% 16V
2007		4822 122 10459	560pF 10% 50V
2008		5322 124 21643	22µF 20% 40V
2009		4822 126 11585	22nF +80-20% 25V
2010		4822 126 11585	22nF +80-20% 25V
2011		5322 124 21643	22µF 20% 40V
2012		4822 126 11585	22nF +80-20% 25V
2013		5322 124 21643	22µF 20% 40V
2014		4822 126 12785	47nF TUB 50V
2025		5322 124 21643	22µF 20% 40V
2040		4822 126 10053	180pF 10%Y5P
2041		4822 126 10053	180pF 10%Y5P
2042		4822 126 12787	330pF 10% 50V
2043		4822 122 33848	47pF 5%SL 50V
2044		4822 122 33848	47pF 5%SL 50V
2045		4822 122 33195	100pF 10% 50V
2046		4822 126 12573	18pF 5% 50V
2047		5322 124 21643	22µF 20% 40V
2048		4822 126 12787	330pF 10% 50V
2049		4822 126 10053	180pF 10%Y5P
2050		4822 126 12787	330pF 10% 50V
2051		4822 126 11585	22nF +80-20% 25V
2052		5322 124 21643	22µF 20% 40V
2060		4822 126 12882	100nF +80-20% 50V
2062		4822 126 12882	100nF +80-20% 50V
2063		5322 121 42489	33nF 5% 250V
2064		4822 126 12882	100nF +80-20% 50V
2066		4822 126 12339	2,2nF 10% Y5Û
2067		4822 126 12882	100nF +80-20% 50V
2068		4822 126 12148	2,7nF 10%
2069		4822 126 10053	180pF 10%Y5P
2071		4822 126 12882	100nF +80-20% 50V
2072		4822 126 12882	100nF +80-20% 50V
2074		4822 126 12882	100nF +80-20% 50V
2075		4822 126 13151	3,9nF 10%Y5Û16V
2076		4822 126 10053	180pF 10%Y5P
2100		4822 126 12339	2,2nF 10% Y5Û
2101		4822 122 33848	47pF 5%SL 50V
2102		4822 126 11585	22nF +80-20% 25V
2103		5322 121 42386	100nF 5% 63V
2105		4822 122 33195	100pF 10% 50V
2109		4822 122 33191	22pF 5% 50V
2110		5322 124 21643	22µF 20% 40V
2111		4822 126 12882	100nF +80-20% 50V
2112		4822 122 33848	47pF 5%SL 50V
2113		4822 122 33848	47pF 5%SL 50V
2114		4822 122 33197	1nF 10% 50V
2115		4822 126 11585	22nF +80-20% 25V
2116		5322 124 21643	22µF 20% 40V
2117		5322 122 34123	1nF 10% 50V
2118		4822 122 33848	47pF 5%SL 50V
2140		4822 126 12785	47nF TUB 50V
2141		4822 126 12882	100nF +80-20% 50V
2142		4822 122 33848	47pF 5%SL 50V
2201		5322 122 32654	22nF 10% 63V
2206		5322 122 31863	330pF 5% 50V
2207		5322 122 32658	22pF 5% 50V
2251		4822 124 40248	10µF 20% 63V
2253		4822 122 33496	100nF 10% 63V
2300		4822 124 40433	47µF 20% 25V
2301		4822 122 33496	100nF 10% 63V
2302		5322 122 32661	56pF 5% 50V
2305		5322 122 32452	47pF 5% 63V
2306		4822 122 33496	100nF 10% 63V
2307		4822 122 33496	100nF 10% 63V
2308		4822 124 40433	47µF 20% 25V
2309		4822 124 40433	47µF 20% 25V
2310		4822 124 40433	47µF 20% 25V
2311		4822 124 40433	47µF 20% 25V
2312		4822 122 33496	100nF 10% 63V
2313		4822 122 33496	100nF 10% 63V
2316		4822 122 33496	100nF 10% 63V
2317		4822 122 33496	100nF 10% 63V
2318		4822 122 33496	100nF 10% 63V
2319		4822 122 33496	100nF 10% 63V
2320		4822 124 40272	33µF 20% 16V
2321		4822 124 40272	33µF 20% 16V
2322		5322 122 32658	22pF 5% 50V
2323		5322 122 32658	22pF 5% 50V
2324		5322 122 32658	22pF 5% 50V
2325		5322 122 32658	22pF 5% 50V
2326		5322 122 32268	470pF 10% 50V
2327		5322 122 32268	470pF 10% 50V
2328			
2329			
2330			
2331			
2332			
2333			
2334			
2335			
2336			
2337			
2338			
2339			
2342			
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2540			
2541			
2542			
2560			
2600			
2601			
2602			
2701			
2703			
2730			
3000			
3001			
3002			
3003			
3004			
3005			
3006			
3007			
3010			
3011			
3012			
3013			
3014			
3015			
3020			
3021			
3022	▲		
3040			

2328	5322 122 32268	470pF 10% 50V
2329	5322 122 32268	470pF 10% 50V
2330	4822 126 10326	180pF 5% 63V
2331	4822 126 10326	180pF 5% 63V
2332	4822 126 10326	180pF 5% 63V
2333	4822 126 10326	180pF 5% 63V
2334	5322 122 34123	1nF 10% 50V
2335	5322 122 34123	1nF 10% 50V
2336	5322 122 32531	100pF 5% 50V
2337	5322 122 32531	100pF 5% 50V
2338	4822 124 22339	100µF 16V
2339	4822 124 22339	100µF 16V
2342	4822 122 33496	100nF 10% 63V
2343	4822 122 33496	100nF 10% 63V
2531	4822 126 11585	22nF +80-20% 25V
2532	4822 126 11585	22nF +80-20% 25V
2533	4822 126 11585	22nF +80-20% 25V
2534	5322 122 32654	22nF 10% 63V
2535	4822 122 33496	100nF 10% 63V
2536	4822 124 41458	4700µF 20% 16V
2538	4822 124 80294	3300µF 20% 16V
2540	5322 124 22094	220µF 20% 50V
2541	4822 122 33496	100nF 10% 63V
2542	4822 124 40184	1000µF 20% 10V
2560	4822 124 40849	330µF 20% 16V
2600	4822 126 12882	100nF +80-20% 50V
2601	4822 126 11585	22nF +80-20% 25V
2602	4822 126 11585	22nF +80-20% 25V
2701	4822 126 11585	22nF +80-20% 25V
2703	4822 126 11585	22nF +80-20% 25V
2730	4822 126 11585	22nF +80-20% 25V

RESISTORS

3000	4822 116 52233	10k 5% 0,5W
3001	4822 116 52233	10k 5% 0,5W
3002	4822 116 52233	10k 5% 0,5W
3003	4822 116 52233	10k 5% 0,5W
3004	4822 116 52233	10k 5% 0,5W
3005	4822 116 52233	10k 5% 0,5W
3006	4822 050 11002	1k 1% 0,4W
3007	4822 050 11002	1k 1% 0,4W
3010	4822 116 52235	1M 5% 0,5W
3011	4822 116 52233	10k 5% 0,5W
3012	4822 116 52219	330Ω 5% 0,5W
3013	4822 050 11002	1k 1% 0,4W
3014	4822 116 52233	10k 5% 0,5W
3015	4822 116 52219	330Ω 5% 0,5W
3020	4822 050 11002	1k 1% 0,4W
3021	4822 116 52233	10k 5% 0,5W
3022 ▲	4822 052 10478	4Ω7 5% 0,33W
3040	4822 116 52239	120k 5% 0,5W
3041	4822 116 52239	120k 5% 0,5W
3042	4822 116 52291	56k 5% 0,5W
3043	4822 050 11002	1k 1% 0,4W
3044	4822 116 52222	390Ω 5% 0,5W
3045	4822 116 52175	100Ω 5% 0,5W
3046	4822 116 52249	1k8 5% 0,5W
3047	4822 116 52276	3k9 5% 0,5W
3048	4822 116 52175	100Ω 5% 0,5W
3049	4822 116 52249	1k8 5% 0,5W
3050	4822 116 52223	430Ω 5% 0,5W
3051	4822 116 52223	430Ω 5% 0,5W
3052	4822 050 11002	1k 1% 0,4W
3053	4822 116 52267	30k 5% 0,5W
3054	4822 116 52272	330k 5% 0,5W
3055	4822 116 52175	100Ω 5% 0,5W
3056	4822 050 11002	1k 1% 0,4W
3057	4822 116 52277	39k 5% 0,5W
3058	4822 116 52175	100Ω 5% 0,5W
3059	4822 116 52284	47k 5% 0,5W
3060	4822 116 52233	10k 5% 0,5W
3062 ▲	4822 052 10229	22Ω 5% 0,33W
3064	4822 116 52296	6k8 5% 0,5W
3065	4822 050 27502	7k5 1% 0,6W
3066	4822 050 21503	15k 1% 0,6W
3067	4822 116 52244	15k 5% 0,5W
3068 ▲	4822 052 10229	22Ω 5% 0,33W
3069	4822 116 52233	10k 5% 0,5W
3070	4822 116 52244	15k 5% 0,5W
3071	4822 116 52296	6k8 5% 0,5W
3072	4822 116 52233	10k 5% 0,5W
3073	4822 116 52244	15k 5% 0,5W
3074 ▲	4822 052 10229	22Ω 5% 0,33W
3075	4822 116 52233	10k 5% 0,5W
3076	4822 116 52283	4k7 5% 0,5W
3077	4822 116 52296	6k8 5% 0,5W
3078	4822 116 52244	15k 5% 0,5W
3079	4822 116 52244	15k 5% 0,5W
3100	4822 116 52256	2k2 5% 0,5W
3101	4822 116 52257	22k 5% 0,5W
3107	4822 116 52219	330Ω 5% 0,5W
3108	4822 116 52215	220Ω 5% 0,5W
3109	4822 116 52215	220Ω 5% 0,5W
3110	4822 116 52215	220Ω 5% 0,5W
3111	4822 116 52215	220Ω 5% 0,5W
3112	4822 116 52175	100Ω 5% 0,5W
3113 ▲	4822 052 10338	3Ω3 5% 0,33W
3114	4822 116 52235	1M 5% 0,5W
3115 ▲	4822 052 10338	3Ω3 5% 0,33W
3116	4822 116 52175	100Ω 5% 0,5W
3117	4822 116 52219	330Ω 5% 0,5W
3140	4822 116 52271	33k 5% 0,5W
3141	4822 116 52271	33k 5% 0,5W
3142	4822 116 52271	33k 5% 0,5W

3143		4822 116 52234	100k 5% 0,5W
3144		4822 116 52234	100k 5% 0,5W
3145	▲	4822 052 10229	22Ω 5% 0,33W
3146		4822 116 52175	100Ω 5% 0,5W
3147		4822 116 52283	4k7 5% 0,5W
3202	▲	4822 052 10338	3Ω3 5% 0,33W
3252		4822 116 52199	68Ω 5% 0,5W
3303		4822 116 52175	100Ω 5% 0,5W
3304	▲	4822 052 10338	3Ω3 5% 0,33W
3305	▲	4822 052 10338	3Ω3 5% 0,33W
3306		4822 051 20101	100Ω 5% 0,1W
3307		4822 051 20101	100Ω 5% 0,1W
3308		4822 117 10507	24k 1% 0.1W
3309		4822 051 20101	100Ω 5% 0,1W
3310		4822 050 25103	51k 1% 0,6W
3311		4822 050 25103	51k 1% 0,6W
3312		4822 050 25103	51k 1% 0,6W
3313		4822 050 25103	51k 1% 0,6W
3314		4822 050 21003	10k 1% 0,6W
3315		4822 050 21003	10k 1% 0,6W
3316		4822 050 21003	10k 1% 0,6W
3317		4822 050 21003	10k 1% 0,6W
3318		4822 050 21003	10k 1% 0,6W
3319		4822 050 21003	10k 1% 0,6W
3320		4822 050 21003	10k 1% 0,6W
3321		4822 050 21003	10k 1% 0,6W
3322		4822 050 25602	5k6 1% 0,6W
3323		4822 050 25602	5k6 1% 0,6W
3326		4822 050 27502	7k5 1% 0,6W
3327		4822 050 27502	7k5 1% 0,6W
3328		4822 050 25602	5k6 1% 0,6W
3329		4822 050 25602	5k6 1% 0,6W
3330		4822 117 10833	10k 1% 0,1W
3331		4822 117 10833	10k 1% 0,1W
3332		4822 117 10833	10k 1% 0,1W
3333		4822 117 10833	10k 1% 0,1W
3334		4822 051 10102	1k 2% 0,25W
3335		4822 051 10102	1k 2% 0,25W
3338		4822 051 20122	1k2 5% 0,1W
3339		4822 051 20122	1k2 5% 0,1W
3342	▲	4822 052 10688	6Ω8 5% 0,33W
3343	▲	4822 052 10688	6Ω8 5% 0,33W
3344	▲	4822 052 10688	6Ω8 5% 0,33W
3345	▲	4822 052 10688	6Ω8 5% 0,33W
3348		4822 117 10833	10k 1% 0,1W
3349		4822 117 10833	10k 1% 0,1W
3350		4822 116 52283	4k7 5% 0,5W
3351		4822 116 52283	4k7 5% 0,5W
3354		4822 051 20224	220k 5% 0,1W
3355		4822 051 20224	220k 5% 0,1W
3392		4822 051 20101	100Ω 5% 0,1W
3393		4822 051 20101	100Ω 5% 0,1W
3394		4822 051 20222	2k2 5% 0,1W
3395		4822 051 20222	2k2 5% 0,1W

3500		4822 116 52226	560Ω 5% 0,5W
3501		4822 050 11002	1k 1% 0,4W
3502		4822 116 52257	22k 5% 0,5W
3503		4822 116 52257	22k 5% 0,5W
3540		4822 117 10834	47k 1% 0,1W
3541		4822 051 20122	1k2 5% 0,1W
3542		4822 051 20472	4k7 5% 0,1W
3543		4822 051 20472	4k7 5% 0,1W
3544		4822 051 20223	22k 5% 0,1W
3545	▲	4822 052 10478	4Ω7 5% 0,33W
3560		4822 051 10102	1k 2% 0,25W
3562		4822 051 20472	4k7 5% 0,1W
3563		4822 051 20472	4k7 5% 0,1W
3601		4822 116 52238	12k 5% 0,5W
3602		4822 116 52238	12k 5% 0,5W
3603	▲	4822 052 10229	22Ω 5% 0,33W
3604		4822 116 52303	8k2 5% 0,5W
3606		4822 116 52238	12k 5% 0,5W
3607		4822 116 52238	12k 5% 0,5W
3700		4822 116 52258	220k 5% 0,5W
3701		4822 116 52257	22k 5% 0,5W
3703		4822 116 52257	22k 5% 0,5W
3706		4822 116 52257	22k 5% 0,5W
3707		4822 116 52257	22k 5% 0,5W
3708		4822 116 52257	22k 5% 0,5W
3709		4822 116 52257	22k 5% 0,5W
3710		4822 116 52257	22k 5% 0,5W
3712		4822 116 52257	22k 5% 0,5W
3714		4822 116 52257	22k 5% 0,5W
3715		4822 116 52233	10k 5% 0,5W
3716		4822 050 11002	1k 1% 0,4W
3717		4822 050 11002	1k 1% 0,4W
3718		4822 050 11002	1k 1% 0,4W
3719		4822 050 11002	1k 1% 0,4W
3720		4822 050 11002	1k 1% 0,4W
3721		4822 050 11002	1k 1% 0,4W
3722		4822 116 52257	22k 5% 0,5W
3723		4822 116 52257	22k 5% 0,5W
4002		4822 051 10008	0Ω 5% 0,25W
4003		4822 051 10008	0Ω 5% 0,25W
4004		4822 051 10008	0Ω 5% 0,25W
4005		4822 051 10008	0Ω 5% 0,25W
4105		4822 051 10008	0Ω 5% 0,25W
4106		4822 051 10008	0Ω 5% 0,25W
4211		4822 051 10008	0Ω 5% 0,25W
4300		4822 051 10008	0Ω 5% 0,25W

COILS

5010	4822 157 62552	2,2µH
5100	4822 157 62552	2,2µH
5250	4822 157 70601	DIG. OUT TRANSFO
5300	4822 157 51192	220µH
5301	4822 157 51192	220µH
5302	4822 157 53139	4,7µH
5303	4822 157 53139	4.7 µH

DIODES

6300	4822 130 30621	1N4148
6301	4822 130 30621	1N4148
6500	4822 130 31981	BZX79-C3V9
6535	5322 130 30684	1N4002GP
6536	5322 130 30684	1N4002GP
6537	5322 130 30684	1N4002GP
6538	5322 130 30684	1N4002GP
6540	5322 130 30684	1N4002GP
6541	4822 130 34278	BZX79-C6V8
6542	4822 130 30621	1N4148
6543	5322 130 30684	1N4002GP
6544	4822 130 30621	1N4148
6560	5322 130 30684	1N4002GP
6561	5322 130 30684	1N4002GP
6562	4822 130 31981	BZX79-C3V9

TRANSISTORS & IC'S

7000	4822 209 31064	TDA1301T/N1
7040	4822 130 40902	BF240
7041	4822 130 40937	BC548B
7042	4822 130 44197	BC558B
7043	4822 130 40937	BC548B
7044	4822 130 40937	BC548B
7060	4822 209 72587	TCA0372
7061	4822 209 72587	TCA0372
7100	4822 209 33166	SAA7345GP/M2A
7201	4822 209 30939	SM5840AS
7300	4822 209 31356	SAA7350AGP
7302	4822 209 83163	LM833N
7303	4822 209 83163	LM833N
7304	4822 130 42675	BC818
7305	4822 130 42675	BC818
7310	5322 130 41983	BC858B
7311	5322 130 41983	BC858B
7382	4822 130 42675	BC818
7383	4822 130 42675	BC818
7500	4822 130 44197	BC558B
7535	4822 209 80891	MC7805CT
7540	5322 209 62115	MC79L15AC
7541	5322 130 41982	BC848B
7542	4822 130 41344	BC337-40
7543	5322 130 41983	BC858B
7560	5322 130 41983	BC858B
7600	4822 209 72587	TCA0372
7700	4822 209 33248	MC68HC11ER31/P157/11
7730	4822 209 33251	ST24C16C

DISPLAY & HEADPHONE PANEL

MISCELLANEOUS

	4822 256 92151	DISPLAY HOLDER
1020	4822 276 13114	TACT SWITCH
1021	4822 276 13114	TACT SWITCH
1022	4822 276 13114	TACT SWITCH
1023	4822 276 13114	TACT SWITCH
1024	4822 276 13114	TACT SWITCH
1025	4822 276 13114	TACT SWITCH
1026	4822 276 13114	TACT SWITCH
1027	4822 276 13114	TACT SWITCH
1028	4822 276 13114	TACT SWITCH
1029	4822 276 13114	TACT SWITCH
1030	4822 276 13114	TACT SWITCH
1031	4822 276 13114	TACT SWITCH
1032	4822 276 13114	TACT SWITCH
1033	4822 276 13114	TACT SWITCH
1034	4822 276 13114	TACT SWITCH
1035	4822 276 13114	TACT SWITCH
1036	4822 276 13114	TACT SWITCH
1037	4822 276 13114	TACT SWITCH
1038	4822 276 13114	TACT SWITCH
1039	4822 276 13114	TACT SWITCH
1040	4822 214 52009	IR RECEIVER GP1U58XP
1041	4822 276 13114	TACT SWITCH
1042	4822 276 13114	TACT SWITCH
1043	4822 276 13114	TACT SWITCH
1044	4822 276 13114	TACT SWITCH
1045	4822 276 13114	TACT SWITCH
1046	4822 276 13114	TACT SWITCH
1047	4822 276 13114	TACT SWITCH
1371	4822 267 31453	HEADPHONE SOCKET
1450	4822 130 91329	DISPLAY 8-BT-153GK
1502	4822 242 72527	RESONATOR 4MHz

CAPACITORS

2002	5322 124 21643	22µF 20% 40V
2003	4822 126 11585	22nF +80-20% 25V
2370	4822 126 11585	22nF +80-20% 25V
2371	4822 122 33197	1nF 10% 50V
2372	4822 122 33197	1nF 10% 50V
2373	4822 122 33197	1nF 10% 50V

RESISTORS

3370	4822 101 21199	10kX2 20% 0,025W
3371	4822 116 52233	10k 5% 0,5W
3372	4822 116 52233	10k 5% 0,5W
3373	4822 116 52244	15k 5% 0,5W
3374	4822 116 52244	15k 5% 0,5W
3375	4822 116 52206	120Ω 5% 0,5W
3386	4822 116 52206	120Ω 5% 0,5W
3400	4822 116 52284	47k 5% 0,5W
3401	4822 116 52257	22k 5% 0,5W
3402	4822 116 52257	22k 5% 0,5W
3403	4822 116 52257	22k 5% 0,5W
3404	4822 116 52257	22k 5% 0,5W
3409	4822 116 52257	22k 5% 0,5W
3410	4822 116 52257	22k 5% 0,5W
3411	4822 116 52258	220k 5% 0,5W

DIODES, TRANSISTORS & I.C.'s

6400	4822 130 30613	BAW62
6401	4822 130 30613	BAW62
6402	4822 130 30613	BAW62
6403	4822 130 30613	BAW62
6404	4822 130 30613	BAW62
6405	4822 130 30613	BAW62
6406	4822 130 30613	BAW62
7370	4822 209 83274	NJM4560D
7400	4822 209 30249	TMP47C212AN

MAINS VOLTAGE

5001 ▲	4822 146 31337	MAINS TRANSFO /00B
5001 ▲	4822 146 31338	MAINS TRANSFO /01B
5001 ▲	4822 146 31339	MAINS TRANSFO /05B
5001 ▲	4822 146 31345	MAINS TRANSFO /06B