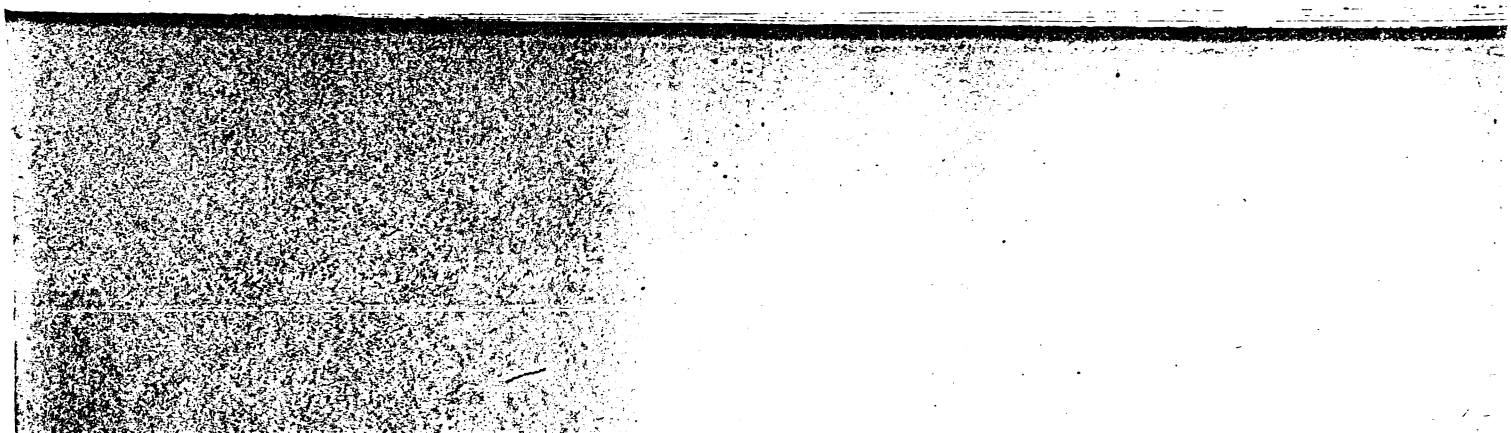
CD CARNEGIE HIDEAWAY

SERVICE MANUAL



WURLITZER

BETRIEBSANLEITUNG
OPERATING INSTRUCTIONS
INSTRUCTIONS DE SERVICE

CD JUKEBOXES

SCC 40 315

I N H A L T S V E R Z E I C H N I S .....SEITE:

T A B L E O F C O N T E N T S

C D - J U K E B O X E S

with SCC-Control Unit Type 40315

S E T - U P I N S T R U C T I O N S

I. **First installation:**
The Wurlitzer CD-jukebox comes from the factory basically ready to play. There are several tasks to perform in order to insure proper operation and best sound:

a. Unpacking:

For UNI-Pack phonograph remember:

a) Coin validator
b) Price labels
c) Price setting instructions

are packed separately. These are stored behind a taped flap at the RH top of the main packing.

b. Unlocking:

The key is stored in the coin return cup in the RH cabinet wall. One key (WUA 1) unlocks the cabinet by turning the key in clockwise. The lock is spring loaded, press lightly against the door this allows the key to turn easily. The 2 other keys with 5 digit number codes unlock the cashbox.

c. Removal of shipping guards

1. The mechanism platform is fixed to cabinet support with one bolt in front LH side and one bolt back RH side. Remove both completely using a 13 mm spanner. A suitable tool is fixed to the lid of the gear box. Removing these bolts allows the platform to float producing better sound.

2. Remove plastic holder securing CD-player chassis.

3. Remove plastic string at the pivot point of the pressure arm.

4. Remove foam and rubber band securing laser head in CD-player.

Note: Save the removed shipping bolts and CD-chassis guards. You may need them should you decide to move your machine to another location. The jukebox should never be moved, (a significant distance), without the shipping bolts and CD-player secured with foam between pressure arm and player. Discs should also be removed from the carrier while being moved.

d. Coin validator: (only UNI-Pack)

The coin validator has to be inserted into the holder at the inner RH side. At first, insert the validator with the 2 bottom locating pins so into the holder that the coin exits are located above the coin switches. Then tilt validator so that the leaf springs top left catch the corresponding pin.
When electronic validators are used insert the plug of the cable loom into the interface.

e. Verification of mains voltage: (only UNI-Pack)

Machines for USA are set to 115 V. Phonographs "UNI-Pack" are shipped in 220 V setting. This is marked on the machine label on the rear wall. Other machines with indication 100 - 240 V on the label have a transparent cover on the mains transformer so that the terminals 1 - 3 - 5 - 7 - 9 indicating mains voltage setting.
The following combinations are possible:

240 V = 1 and 3
230 V = 1 and 5
220 V = 9 and 3
210 V = 9 and 5
117 V = 1 and 7
100 V = 9 and 7

Attention: Always remove mains plug before opening plastic cover.

Attention!

Some parts of the electrical circuitary are connected to the power line (power transformer, fluorescent tube, ballast and associated wiring).

Never attempt any intervention to these parts unless qualified.

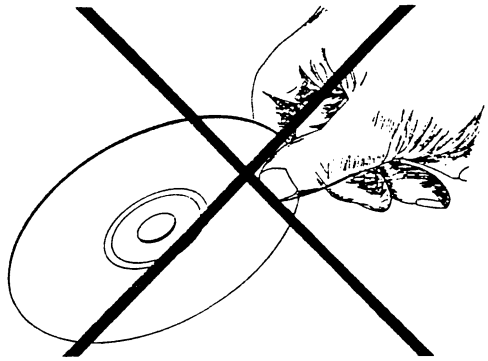
II. Set-up to play

a. Mains connection

The CD-jukebox operates on normal household power outlet. Put mains switch at rear wall of cabinet to on, the display shows short 0 0 0 0, then 0 1 0 1. If the basket turns once and stops in position 01, the size of carrier (50/100) is stored into memory of the SCC-unit.

b. Compact disc handling precautions

Dust, Fingerprints or other dirt on the disc surface can cause skipping, jumping or sticking problems. Dust can be removed with a lintfree soft cloth. If neccessary, remove heavy dirt or fingerprints with a moistened soft cloth, using a diluted neutral detergent. Never use record cleaning sprays or antistatic sprays! Furthermore, do not use other types of cleaners containing benzene, thinner or other solvents. These liquids will cause damage to the surface of discs.



N E V E R T O U C H T H E S U R F A C E O F T H E D I S C

as shown in the illustration above and strictly avoid touching their playing surfaces. Severely scratched surfaces of the discs may cause track skipping.

Do not use damaged, cracked or warped discs. As a result, the player may be damaged.

c. Loading compact discs

Insert up to 50 or 100 CDs, depending on the compartments of the carrier. "Label" must show its direction of the lower disc number. If less than 50 (100) discs are used, start with 01. The number of discs used has to be programmed using the service program (see service level 1, button 5) if less than 50 (100) discs are used. To turn the record carrier, move the lever "rotate carrier" (Korb drehen) close to its level. The record carrier can be rotated in steps to achieve the optimum position for loading.
It is recommended to insert the Compact Disc and then the title strip into the appropriate numerical slot position of the title strip holder. The holder can be removed completely from the machine to allow better access by pushing the two locking springs slightly inwards.

d. Play-price

The play price is set by links on the SCC (selection and credit computer), according to the instructions attached to the UNI-Pack accessories or to the attached excample of "play price setting" . It is important that the LT button is pressed after new play price has been set up.
It is not necessary to program fields B 1, B 2 etc. in a Hideaway version.

e. Number of discs and play stimulator

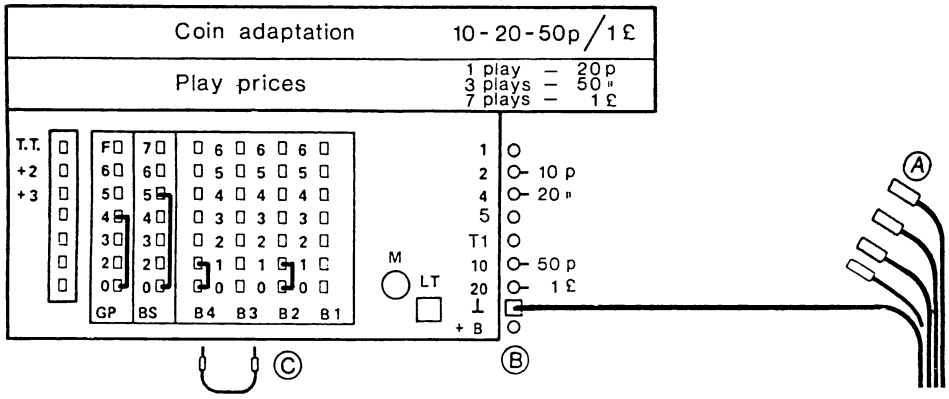
If the total number of discs used is less than 50 (100) it then has to be programmed, the play stimulator wait time can be programmed from 1 to 98 min, then a random title will be played. Programming of the number of discs and play stimulator is explained in service level 1, button 5.

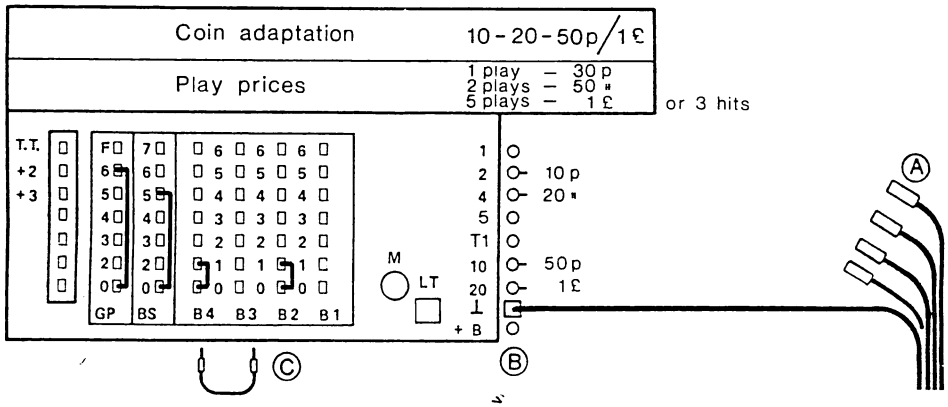
f. Free play

Connect jumper wire on "GP" between 0 and F on the SCC-computer then press the LT button. Free play is now on and allows free selection of one title. Maximum of 7 titles are pre-selectable by setting a jumper wire on "BS" between 0 and 7. Number of preselections are indicated in the display by pressing the RESET button.

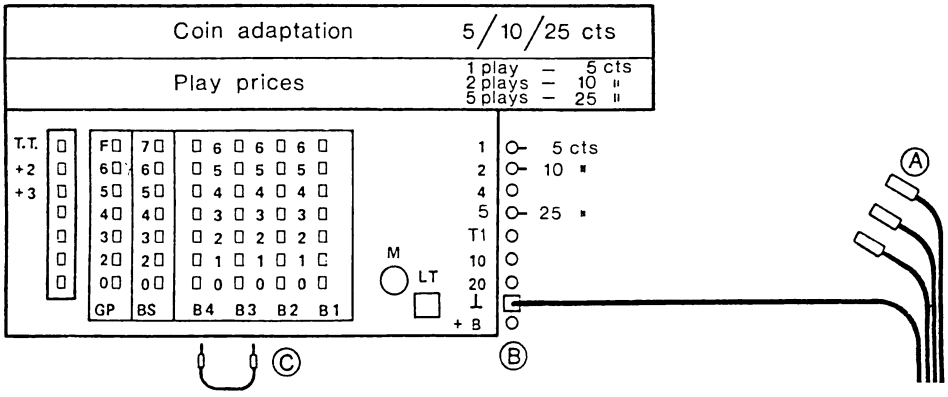
g. **Examples of play price setting**

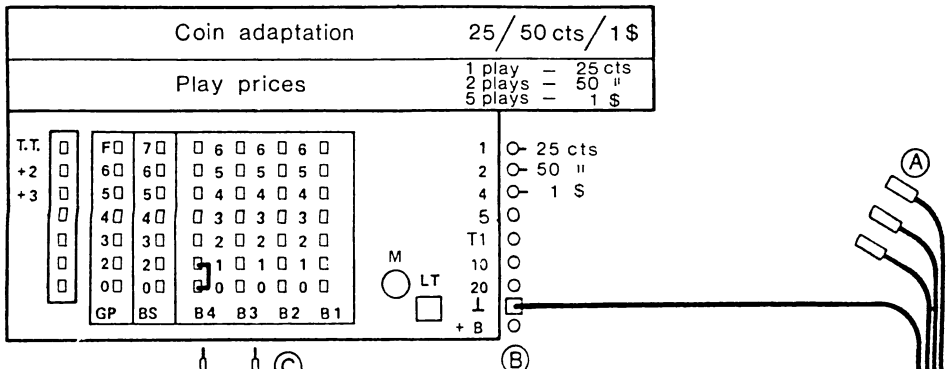
Great Britain

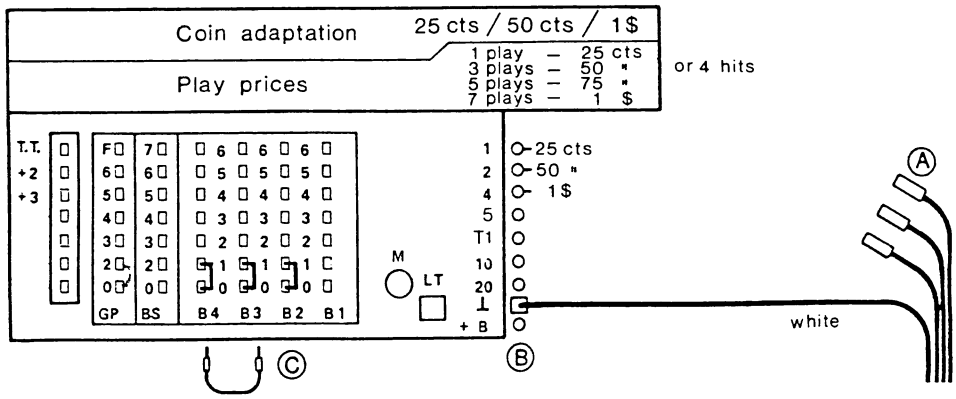


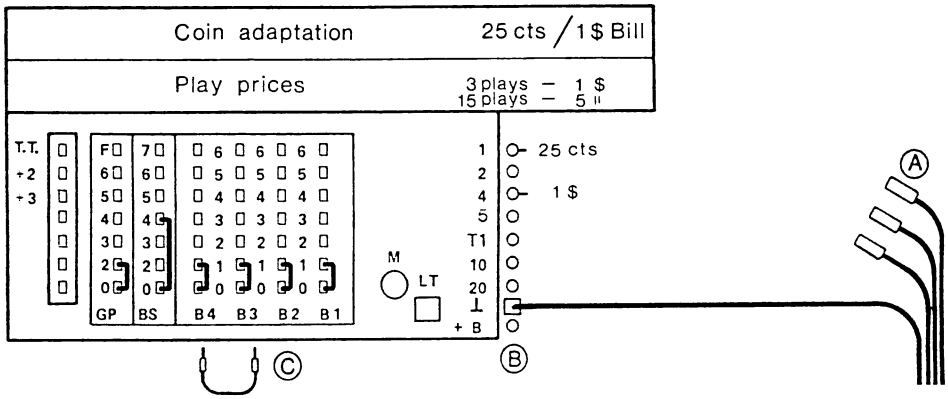


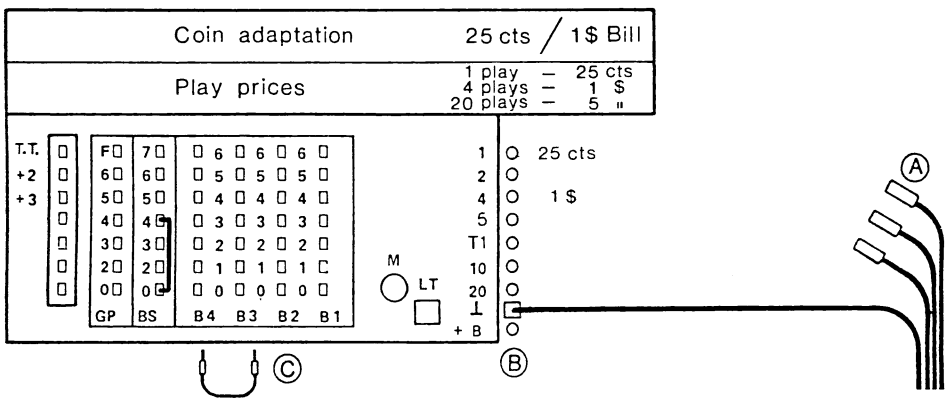
USA

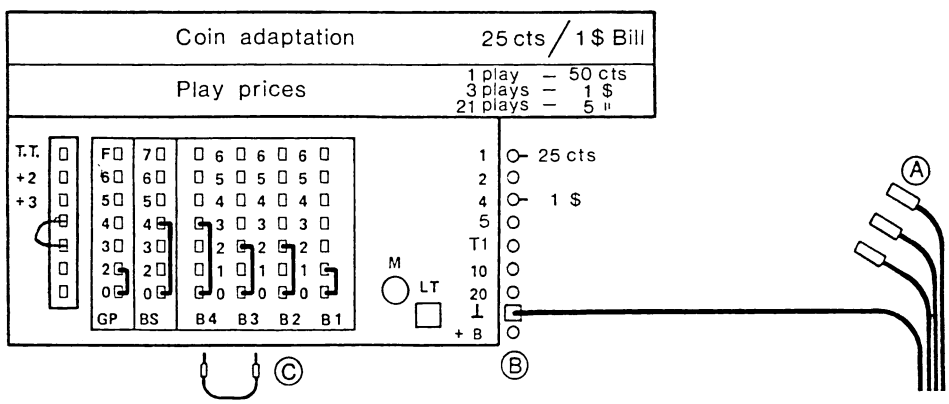


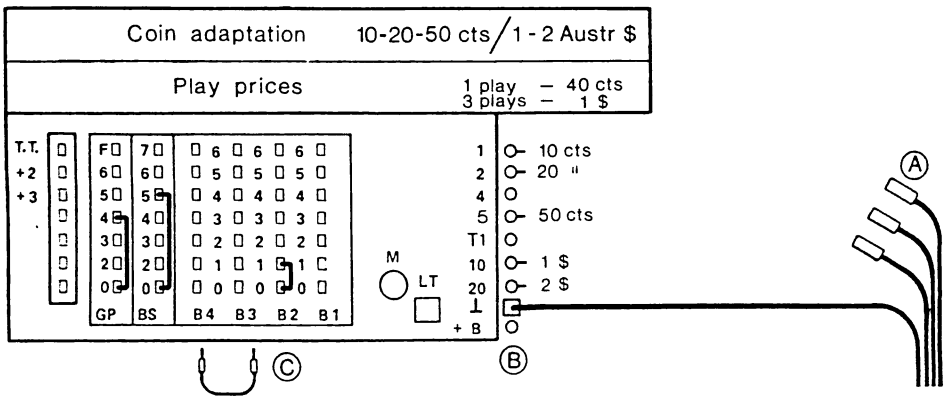


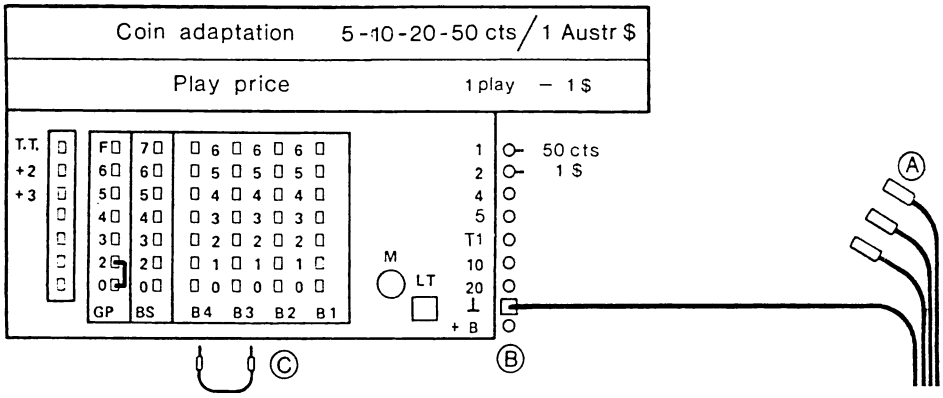

Coin adaptation
25 cts / 50 cts / 1$
Play prices
1 play – 25 cts
3 plays – 50 "
5 plays – 75 "
7 plays – 1 $
or 4 hits
T.T.
+2
+3
GP
BS
B4
B3
B2
B1
M
LT
+ B
1
2
4
5
T1
10
20
25 cts
50 "
1 $
white
A
B
C


Coin adaptation
25 cts / 1$ Bill
Play prices
3 plays – 1 $
15 plays – 5 "
T.T.
+2
+3
GP
BS
B4
B3
B2
B1
M
LT
+ B
1
2
4
5
T1
10
20
25 cts
1 $
A
B
C


Coin adaptation
25 cts / 1$ Bill
Play prices
1 play – 25 cts
4 plays – 1 $
20 plays – 5 "
T.T.
+2
+3
GP
BS
B4
B3
B2
B1
M
LT
+ B
1
2
4
5
T1
10
20
25 cts
1 $
A
B
C

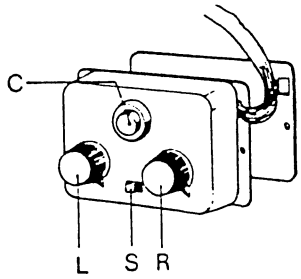

Coin adaptation
25 cts / 1$ Bill
Play prices
1 play – 50 cts
3 plays – 1 $
21 plays – 5 "
T.T.
+2
+3
GP
BS
B4
B3
B2
B1
M
LT
+ B
1
2
4
5
T1
10
20
25 cts
1 $
A
B
C





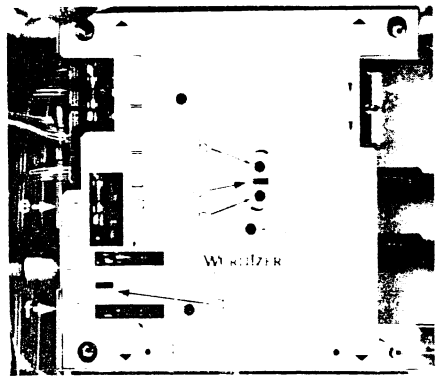
III. Amplifier

a. The Volume Control of the amplifier is a separate unit. It is screwed to the amplifier's chassis and connected by a DIN 45322 plug. Remote Control; its 5-lines ribbon cable may be extended as required with any kind of wire. The control has two volume knobs. One for the left hand channel (L) and one for the right hand channel (R).



When the slide switch (S) is in the stereo position, the left knob (L) controls both channels. When set to "2-Kanal" (2 channel) position each knob controls one channel.
The separate cancel button (C) allows to reject a playing title.

b. The Bass and the Treble Controls (a and b on picture amplifier) at the top RH-side of the amplifier may be set to any position to suit local acoustic requirements. The Mono-Stereo Switch (c) may also be set to either position, however, it must be set to - Stereo - if a stereophonic reproduction is wanted.



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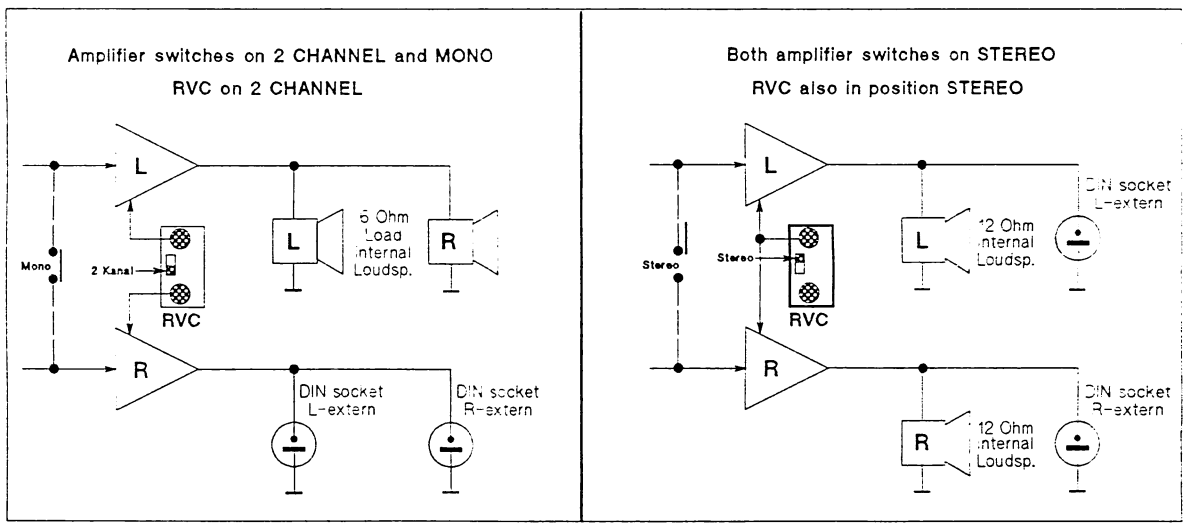
c. The Stereo/2-Channel Switch (d on picture amplifier) at the bottom LH-side of the amplifier it is set to "Stereo" for normal operation or to "2-Channel" for Dual Channel operation.
In this mode all cabinet speakers are switched to the left hand channel and both external speaker sockets (e and f) to the RH channel. The Volume Control unit with its mode switch then set to "2-Kanal" now permits an independent volume control for the external as well as for the internal speakers, with the left and with the right knob, respectively.



d. Maximum amplifier load. The amplifier may not be loaded with more than 4 Ohms per channel (less Ohms means more load!). If the amplifier is operating in 2-Channel mode, the speakers are all loaded to the left hand channel.

These figures are not very exact and do vary with the models, they are, however, good enough for practical calculations.

The output to 4 Ohms is 68 Watts sinus power at 1 % distortion, to 12 Ohms it is about 24 Watts on 12 Watts to a 24 Ohms speaker. That says, that e.g., a 12-Ohms speaker connected to the external channel at Dual Channel operation, must be a type of at least 24 Watts dissipation, otherwise the speaker is in danger of destruction at higher volumes. Speaker groups, so-called hi-fi boxes, may have, at certain frequencies, impedances much lower than there rating.

IV. Accessories

a. Wallbox

A maximum of 4 wallboxes can be connected to the CD-jukebox.

1) Hideaway
Outside of the rear wall you will find on the LH side a connector terminal block (see diagram "Wallbox connection 51 880 408 00"), the terminals "LOCK OUT" - "RECORD PLAY" - "SIGNAL" - "COMMON" and "AC" are provided for connection to a wallbox. At the terminals "AUDIO/RIGHT" and "AUDIO/LEFT" loudspeakers of 4 Ohm

impedance or higher can be connected. A separate cancel button can be cabled to the "REJECT" terminals and allows you to eject the playing title.

2) CD-Carnegie
A wallbox connection kit is available under part number 43 885 410 00 which consists of an extra transformer and a terminal connector block to adapt the wallbox.

Note: If more than one wallbox is required, they can be connected in parallel, but it is important that each wallbox has its own cable running to it from the jukebox. It is important that the cable used is capable of carrying 3 amperes on the AC and COM lines and 0,5 amperes for the signal lines.

b. Remote Volume Control - Infra - Red

An infra red volume control unit is available as an option under part number 40 089 000 00
The control unit has four basic functions:
1. increase the volume
2. decrease the volume
3. mute the sound
4. reject the record

This unit is wireless and has an effective range of approximately 15-20m. For operation a 9-Volt-battery has to be inserted into the transmitter. Keep in mind that the receiver is facing the ceiling, hence, at some distance, it might be better to point the transmitter to the ceiling above the phonograph instead straight at using cabinet.
With the knob at the Control Unit, a 16-position switch, select the average volume the phonograph should start at every time it is switched on (mains). The result of turning of this knob becomes audible only after the phonograph has been switched off for a period of some ten seconds.

c. Microphone Kit - part number 40 090 000 00.
This unit enables the use of the phonograph as a paging system, when playing as well as during idling periods. If the paging microphone is switched on while the phonograph is playing, the music fades away for this period. This kit is to be connected at the microphone socket of the amplifier.

d. Background Music Adapter 48 861 004 00.

The adapter allows background music to be piped through the jukebox from another source such as radio or another stereo unit. If a selection is made on the jukebox, the background music stops while the record is playing and resumes when the record is finished. The hook-up for this adapter is the same as the microphone.

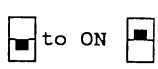
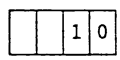
e. Background Music Adapter 51 890 200 00.

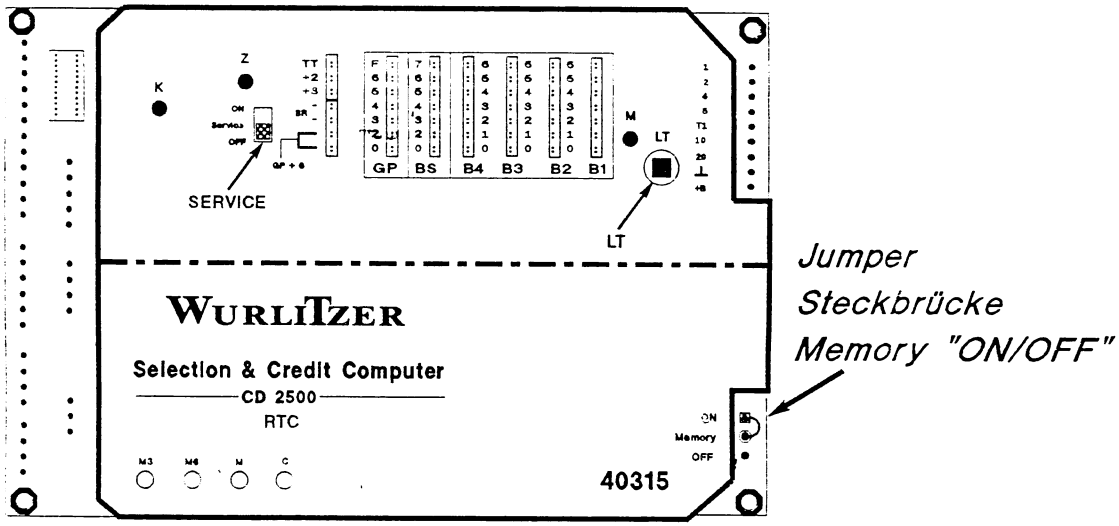
This background music adapter reduces the volume of a playing BGM-track. The volume reduction from normal sound is adjustable by two pots on this board.

V. Service program for S&CC-Computer 40315 (with Eprom 2.08 or higher)

The service program allows access to test functions and to program number of discs, the play stimulator, "Happy hour" and BGM-disc section and time.
To keep the data stored when power is turned off, the memory "ON" "OFF" plug (1) must be connected to the ON pin. With memory "off" (plug on lower pin) all programmed data in service levels are reset, when power is interrupted. With power on machine operates in standard configuration; using the play-stimulator, happy hour or BGM reprogramming is necessary.

Start of Service program

1. Set switch "Service" from OFF  to ON
2. Press the"LT" button
3. Service level 1 has now been reached, the Display will show 



SERVICE LEVEL 1

Button 0 - least popular disc (flops)

Indicates at first the less played disc followed by the number of the disc
e.g.: [0 6.ᵇ ᵇ] = Disc no.:6
[0 0.0 2] = 2 times played
Operating 0 again shows the disc with second lowest number of accumulated plays etc.

To terminate this call: press RESET.

Button 1: Top disc

Shows the disc which was played most frequently followed by its number of plays (maximum 63) e.g.: [0 3] = Disc no.:3
[0 0 3 4] = 34 times played
If one disc was played more often than 60 times, all other counters are reduced by one so that a relative maximum can always be determined. Repressing button 1 shows next popular disc etc.

To terminate this call: press RESET.

Remark: During programs 0 or 1, the display can remain dark for some time or only one digit is on. During this time, the calculations take place.

Button 2: Cash box contents

Shows the cash box contents in basic units; basic units being the value of the lowest value coin (in Hideaways with wall box, no counting takes place in the Hideaway).

To activate a printer (option) hold button 2 and press RESET.
To terminate this call: press RESET

Button 3: Total number of plays

Shows the total number of plays since last reset (maximum 9999)
To terminate this call: press RESET

Reset of the counters of button 0, 1, 2 and 3: hold button 3 and press RESET.

Button 4: Initiates a display test then
shows the program version number (0208 or higher).

Button 5: Programming number of discs and play stimulator

The 2 LH digits show the number of discs used (default value = 48 in Carnegie or 100 in Hideaway) and in the 2 RH digits the time between the play stimulator tracks in minutes (default value = 00 = play stimulator switched off).

4 8 0 0
Play stimulator (00=default)
Number of discs in carrier (48 discs)

Play stimulator may be programmed so that after 1 to 98 minutes after the last tune was played, a randomly selected title will be played.
Programming: hold button 5 and press RESET; the display goes off; now enter a 4 digit number corresponding to the desired setting e.g.

4 0 1 0
- 1 0 — Play stimulator set to 10 minutes
- 4 0 — 40 discs in carrier

Then press RESET. Check the new programming by pressing button 5 again.
N.B.:This function is only available after programming of play stimulator active-time in service level 2, button 8.

Note: Continuous play (from eprom version 2.08 or higher)
Program of 99 minutes for interval between plays will produce continuous play. Coin insertion will cancel this feature.

Button 6: CD player motor check

a) Relay M 6 pulls in and CD drive motor turns briefly, player reads the "table of contents" (TOC). This test can only be carried out when gripper arm is in play position. Push button 7 to achieve this condition.

b) When gripper arm is in home position, pressing button 6 the display shows in the two left hand digits the last the unplayed discs as a result of being unable to read the "table of contents" (TOC). The two right hand digits shows the total number of times the player was not able to read the directory.
e.g. 1 0 0 2
- 0 2 — 2 times the player was not able to read directory
- 1 0 — last disc was no.:10

Reset of this counter: hold button 6 and press RESET.

Button 7: Control unit and gripper arm motor check

Relay M operates and a disc at the gripper arm position will be transferred to the CD player. If button 7 is pressed during play, the disc is returned after one second into the carrier. This check controls also the function of micro switch K7: Display shows 00 in play position (micro switch K7 is open)
and 10 in carrier position (micro switch K7 is closed)

Button 8: Record carrier control check

Relay M 3 pulls in and record carrier turns provided the gripper arm is in carrier position.

Button 9: Identification number and CD-player check.

a) An identification number (8 figures) can be programmed as a customer or individual machine number if gripper arm is in basket position. To program press button 9, - hold - then press "Reset" simultaniously, and enter 8 numbers.
The identification number can be checked by pressing button 9 again, a "1" is flashing, and the display shows the four highest digits, pressing 9 again a "2" is flashing and then the four lower digits are shown.

b) CD player check
1. A disc must be on the player (press button 7)
2. Press button 9, first track of disc is played.
During disc play successive chapters can be accessed by operating button 9.

Clock setting, number of tracks played successively, disabling of tracks, access to 3. service level.

To reach this level, press button 4 and then RESET whilst holding button 4. (Display goes dark)

The following functions are now available:

Button 0: Shows current time (H H M M; 24 hours format)
- M M — Minutes
- H H — Hours

To program press buttons 0 + RESET: Display goes dark. Current time can now be entered in HH MM format using the keyboard.

Button 1: Shows current date (D D M M)

- D D — Day
- M M — Month

To program press buttons 1 + RESET: Display goes dark, enter new date.

Button 2: Shows year and day of week (Y Y 0 D)

- Y Y — Year
- D — Day of week

To program press buttons 2 + RESET: Display goes dark, now enter 2 digits for year, then 0 and day of week as follows:

0 = Sunday
1 = Monday
2 = Tuesday
3 = Wednesday
4 = Thursday
5 = Friday
6 = Saturday

Button 3: Maximum number of tracks played successively on same disc if other discs have been selected. Default value 4 tracks.

Display | | | 0 | 4 |

To program press buttons 3 + RESET: Display goes dark, enter maximum number of tracks (only 2 digits).

Button 4: Selective disabling of tracks (max.25)
Each button 4 operation indicates the next disabled track

d d t t

- t t — Track
- d d — Disc number

After reaching the last disabled track, the first one is indicated again.

To program:
a) press buttons 4 + RESET: Display goes dark.
b) enter track to be disabled, format d d t t.
c) to program next track, press 4 again until Display shows 0 0 0 0 then
d) press button 4 and RESET and enter next track to be disabled.
e) continue programming with step c).

Enabling of previously disabled track:
When track indicated, operate 4 + RESET and enter
d d 0 0.

- 0 0 — enables tracks

Enable all previously disabled selections, enter: 0 0 0 0.

Button 5: Opens 3rd service level for background music (BGM)

2 BGM periods can be programmed for each day of the week, programming procedure is explained in service level 3.

Button 6: Happy Hour time
The display initially shows flashing | | | | 1 | and changes to the start time which has been set.
Pressing button 6 again shows | | | | 2 |

flashing, which then changes to the stop time which has been set.
To program press buttons 6 + RESET: enter first start and then stop time with 4 digits each.

Button 7: Happy Hour Pricing
Display indicates additional bonus plays available during Happy Hour.
Example: 1 3 5 7 indicates:

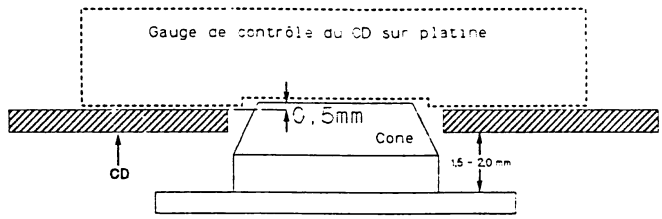
- 7 — 7 additional plays at bonus level 1 (B1)
- 5 — 5 additional plays at bonus level 2 (B2)
- 3 — 3 additional plays at bonus level 3 (B3)
- 1 — 1 additional play at bonus level 4 (B4).

- dévisser les 4 vis de fixation Fig.1 pos.3
- plaçer un disque CD
- fermer le couvercle
- plaçer l'anneau de centrage sur le point de centrage Fig.4 pos.3
- avec les deux vis de réglage Fig.1 pos.5,centrer le lecteur de manière à ce que le point de centrage se déplace librement dans l'anneau de centrage.
- revisser les 4 vis Fig.1 pos.3

6. Position du bras Fig.3 pos.1 avec un disque CD et le lecteur CD Fig.3 pos.2

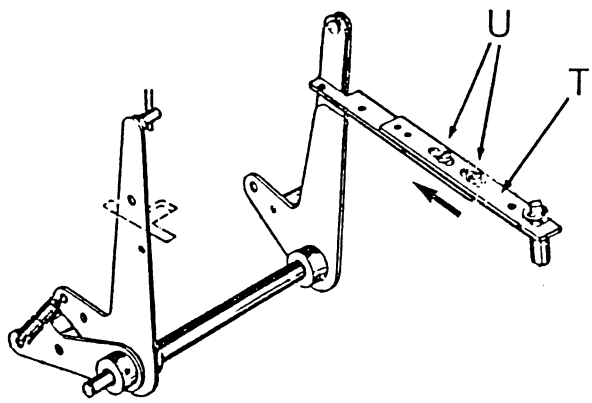
a)- sélectionner un disque CD de 119 mm de diamètre et arrêter le déplacement avec le contact de service lorsque le bras arrive en butée Fig.5 pos.5
- le trou central du disque CD doit se trouver exactement centré avec le centreur du lecteur.
Le réglage se fait par les vis Fig.3 pos.4 et les vis Fig.5 pos.1 (avant,dévisser les deux vis de bloquage Fig.3 pos.6 et les revisser après réglage)
Utiliser pour ce réglage la clé qui se trouve sur l'ensemble de cames.

b)- Aprés réglage,le disque CD doit être approximativement à 1,5-2 mm de la platine tourne disques (environ la hauteur du cône) .La face supérieure du disque doit être à environ 0-0,5 mm en dessous de la partie supèrieure du cône.
Contrôle avec "la gauge de contrôle du CD sur la platine". Réglage en modifiant la position des vis de la butée du bras Fig.5 pos.5 et Fig.3 pos.5



c)- Enlever le disque CD sans changer la position du bras. En cette position,la distance entre la pince du bras Fig.5 pos.4 et la partie supèrieure du lecteur doit être au minimum de 0,5 mm. Si ce n'est pas le cas, utiliser une lime.

7. Jeu de la platine CD
- Interrompre le cycle avec le contact des cames au moment où le lecteur CD s'est mis en position "play"
- il doit y avoir un jeu de 5-10 mm entre le bord du disque et la roulette Fig.4 pos.1 d'une part et la pince Fig.4 pos.2 d'autre part.
- réglage par la languette en T avec la vis en U du levier Fig.1 pos.7



8. Réglage de l'axe de commande Fig.4 pos.4 du couvercle Fig.5 pos.3
- En position jeu,l'axe de commande Fig.6 pos.1 doit avoir un jeu d'environ 0,2 mm par rapport à son levier Fig.6 pos.2 (mesurer avec la gauge de 0,2 mm).
- réglage par le vis Fig.4 pos.4 sur l'équerre de gauche bloquer avec le contre écrou.

Fig. 1

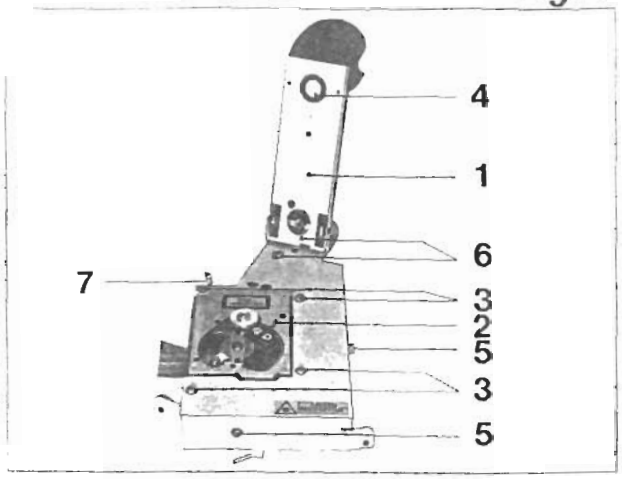


Fig. 2

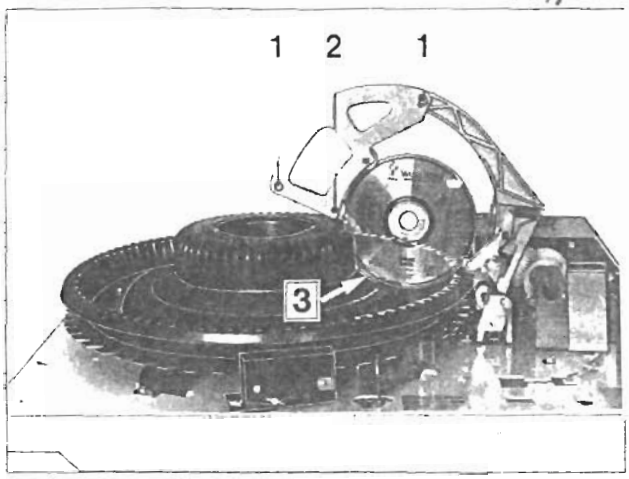


Fig. 3

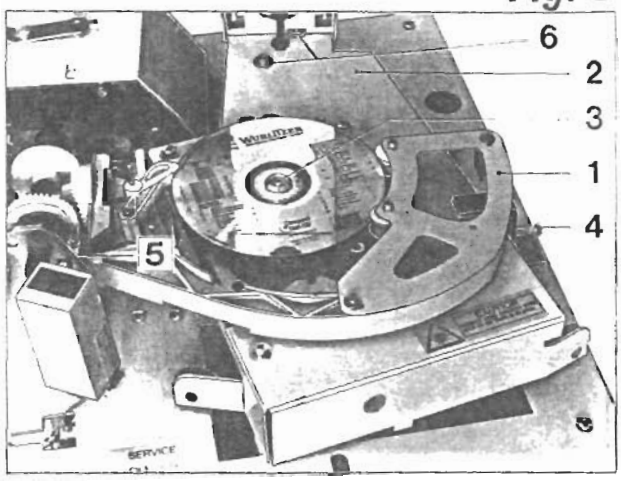


Fig. 4

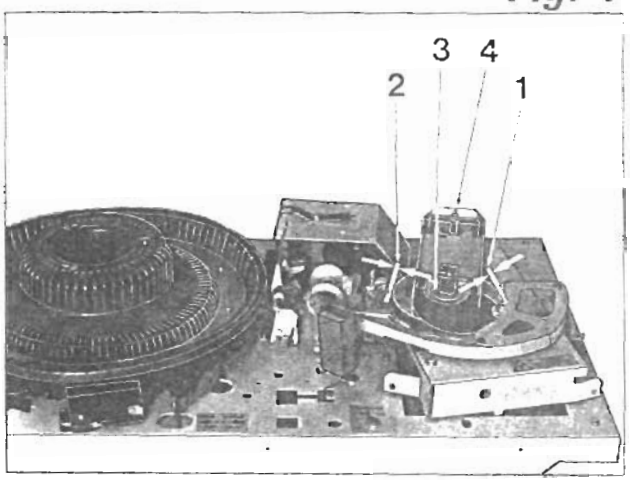


Fig. 5

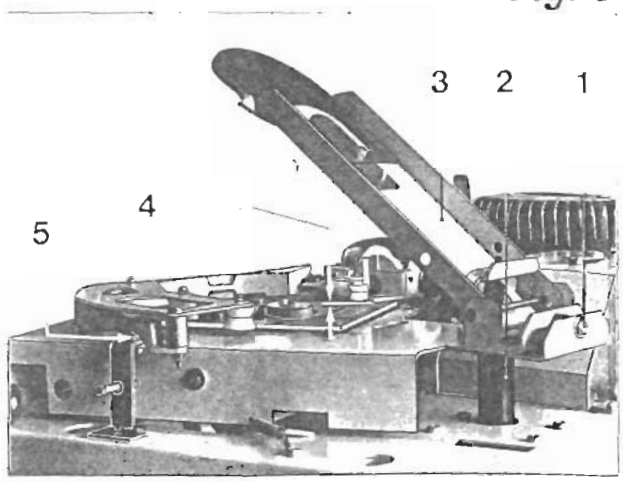
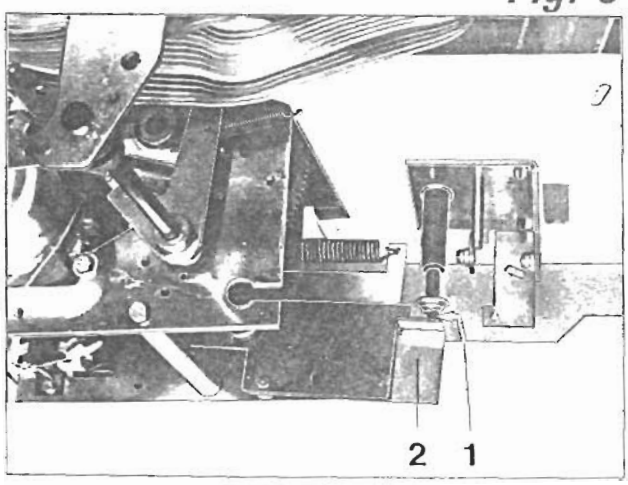
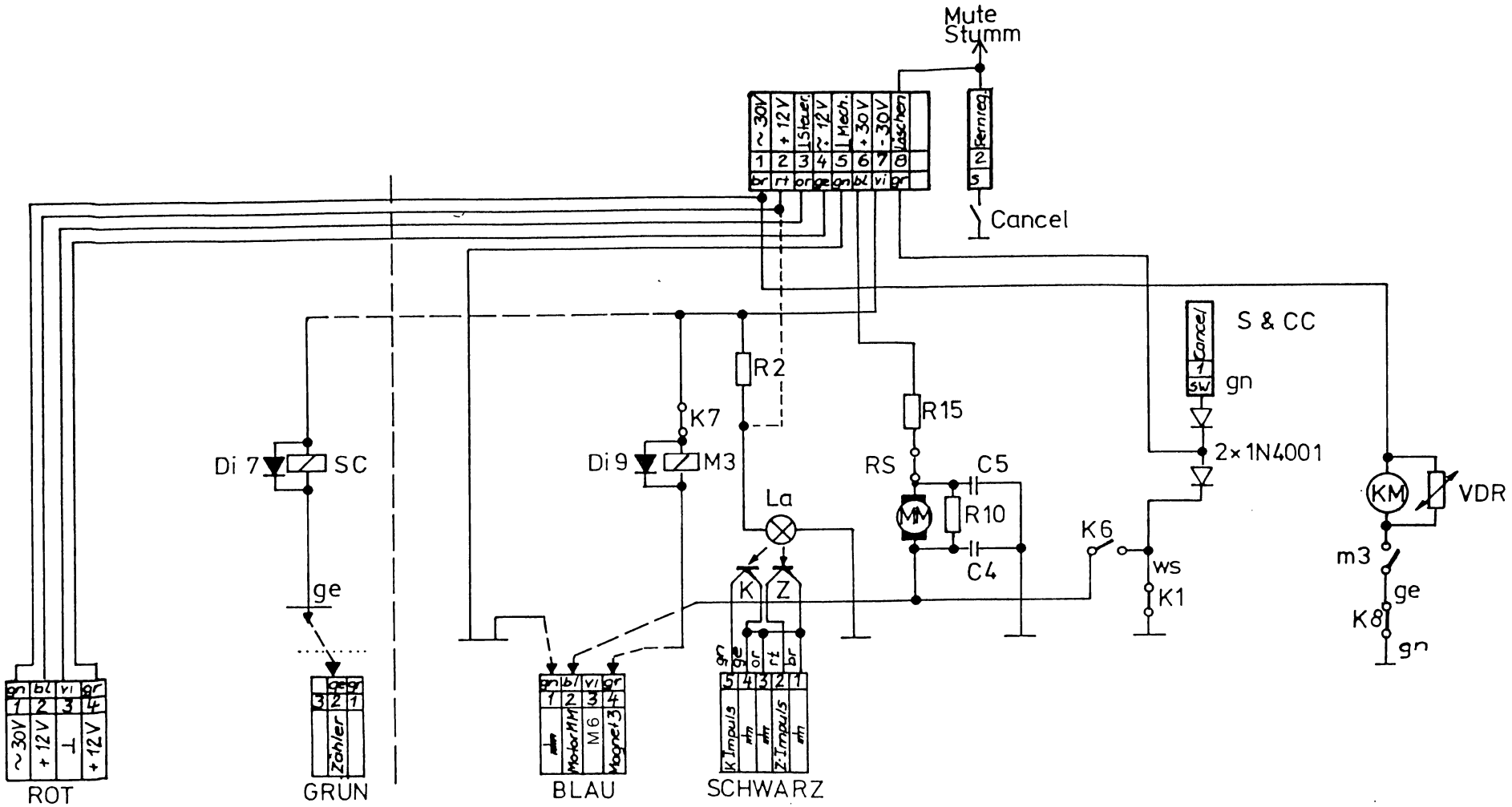


Fig. 6





Deutsche Wurlitzer GmbH Werk Hüllhorst: Tel. (05744) 5050 Werk Levern: Tel. (05745) 280	Circuit Diagram Chassis 51 880 000 - 02

SERVICE LEVEL 2

To program press buttons 7 + RESET , enter 4 digits.

Button 8: Play Stimulator start and stop time. (Programming is necessary if set in level 1). Display shows flashing the:

			1

=> start time and then by pressing button 8 again the:

			2

=> stop time

Repeats indication of start time by pressing button 8 again.

To program press button 8 + RESET: Program play stimulator times by entering 2 times 4 digits.

Button 9: For future use.

TO LEAVE SERVICE LEVEL 2, PRESS RESET.

SERVICE LEVEL 3

BGM time each day, number and position in carrier of BGM discs, selection option of BGM discs.

To reach this level from service level 1, press button 4 and then R (Reset) whilst holding button 4, (display goes dark and service level 2 is reached) then press button 5, service level 3 now can be programmed.

Button 0: Indicates BGM times on Sunday. After pressing 0 button the display shows flashing in the left hand digit the day and in the right hand digits the first start/stop time reference for a few seconds, then it shows the actual time set (HHMM). Pressing 0 again moves on to the second start/stop time at the same day..

Display changes between BGM time indication and day/start + stop

0			1	-> start	time 1
0			2	-> stop	
0			3	-> start	time 2
0			4	-> stop	

Button 1: Indicates BGM times on Monday.

Display changes between time indication and allocation:

1			1	-> start	time 1
1			2	-> stop	
1			3	-> start	time 2
1			4	-> stop	

Button 2 to 6: as above for Tuesday to Saturday

To change start/stop times, press the key corresponding to the desired day (i.e. 0....6) together with the reset key. All 4 start/stop times for that day can now be entered using the keyboards.

Button 7: Shows number of BGM discs and wait time between titles between 0 and 99 minutes.

Example: 1 0 0 5

- 5 minutes silence between tracks (00 = continuous play of BGM)
- 10 discs used for BGM (00 = no BGM - Discs used, BGM is switched off)

To program press buttons 7 + RESET: (Display goes dark) enter number of disc and wait time, use all 4 digits.

Button 8: Selectable area of BGM-discs and selection of BGM disc after coin insertion: (Eprom version 2.08 or higher)
An area in the carrier can be programmed for BGM-discs. The start position has to be less or equal to the total number of discs in carrier (compare with programming in service level 1, button 5 in the manual), if above this it will be set to 01 automatically.

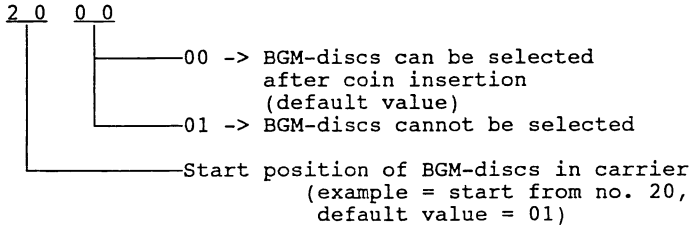
Following programming sequence has to be done at first:

a) Service level 1 button 5: Programming of total number of discs in magazine (BGM-discs included)

b) Service level 3 button 7: Programming number of BGM-discs only

c) Service level 3 button 8: startposition of BGM-discs

Programming of start position: press button 8 + RESET, display goes dark. Enter number of start position and code number for BGM selection option as follows:



Note: If a wallbox is connected, BGM selection option has to be programmed on 00.

The end position for loading of the BGM-discs can be calculated as follows:
end position = start position + number of BGM-discs - 1.

Note:
A playing BGM-disc will be interrupted immediately if a selection is made from wallbox or keyboard.

Button 9: For future use.

RETURN TO SERVICE LEVEL 1: PRESS RESET.

To leave service program to normal operation:

1. Put slide switch "Service" on SCC-unit to OFF.
2. Press "LT". Record carrier turns to position 01.

Test selections can be made by locking up credit with the credit button at the coin rejector assembly and then making the selection with the keyboard.
In a hideaway the test credit button is located inside RH of the wallbox terminal connector block, test credit is not registered in the cash box content.

TECHNICAL INFORMATION

I. Check procedure - CD player

All CD components can be checked separately by operating the CD-control buttons. The following key operation gives the same function as during normal selection controlled by the SCC unit. At first, a disc must be in play position and the switch "Gripper motor" on chassis should be in OFF position.

For easier trouble shooting a seperate service module is obtainable from factory under part number 53 880 401 00 and is not required for normal operation. This service module can be connected at P 6 of the TOC-Circuit and P 14 of CD control board. It consists of a display and additional buttons. It allows you to start and operate the internal Philips service program. A LED indicates the tray simulation.

key:	service modul display:	function:
open/close	- -	Simulation: tray open LED TOC lids
open/close	- - flashes	Simulation: tray closed Disc starts briefly and stops.

	1 2	TOC is read and number of titles, e.g. 12, LED TOC is dark if no error happens
Next	1	Each key operation advances one title
"	2	
"	3	
Progr.	3	Title which was selected with the next key, is stored
Play	3 0 1	Program title is played. Number of playing title and time or track is indicated. At end of title player stops.
Stop	1 2	CD stops

CD stops, number of chapters is indicated

If no title is stored in SCC unit, an OPEN/CLOSE command is given while CD is laid down. LED "Tray open" lids.

Additional titles are called on by going back to command NEXT

The other buttons on the Service Modul have the following functions:

Button Previous: Previous title is selected

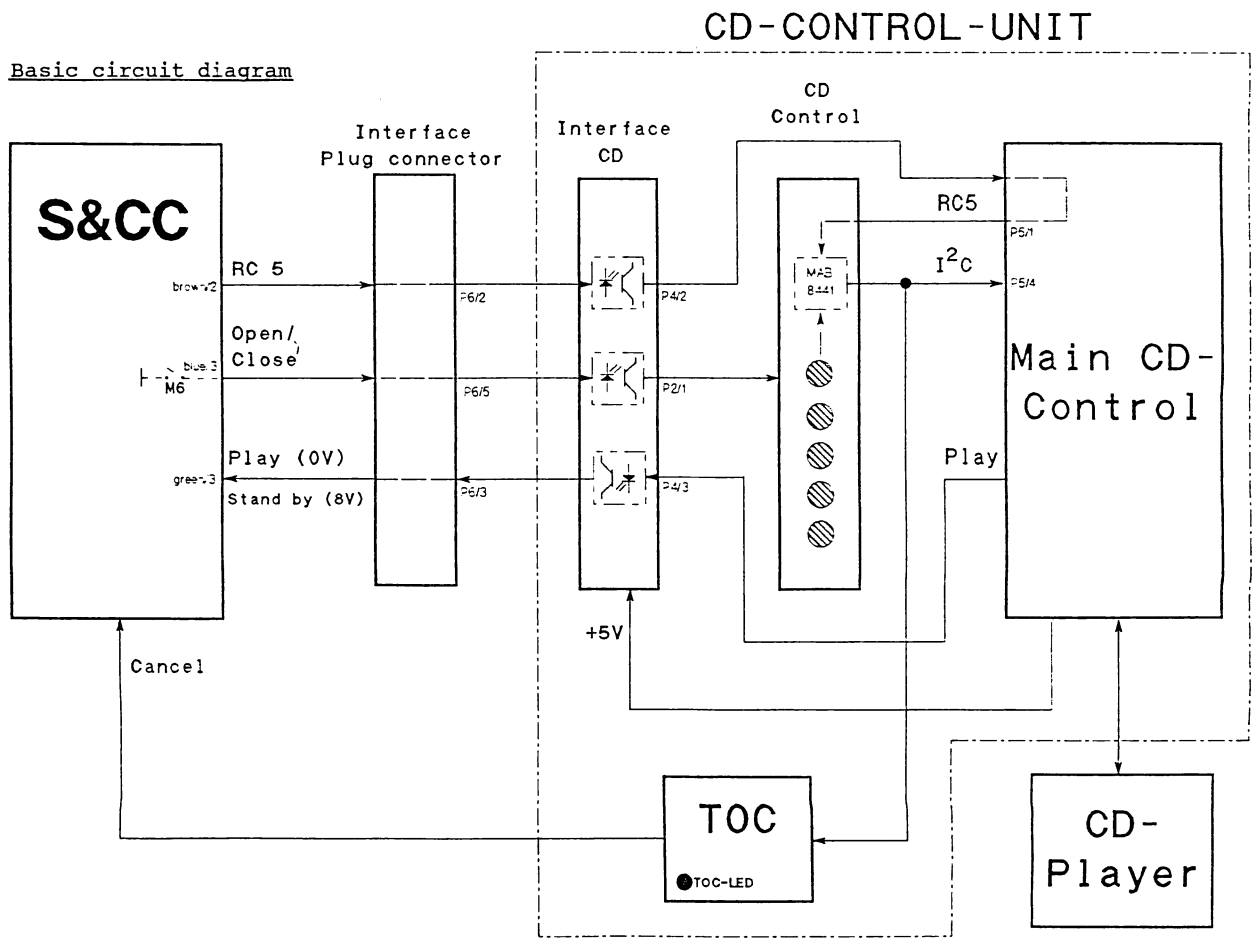
Button FR: Fast reserve

Button FF: Fast forward

Button Repeat: whole disc is repeated

Button Pause: playing is interrupted and continued by pressing button again

Button Time: a. indicates play time of CD
b. indicates time which has passed by since start of title in each case



II. **Functional description - CD mechanism** (see circuit diagram no. 51 880 000 01 and 02)

a. The power to the mechanism is supplied from the amplifier. The solenoid M 3 (carrier latch) is operated from minus 30 V. The motor MM is operated from +30 V and motor KM operated from 30 V AC. The SCC unit is supplied from 30 V AC. and +12 V DC. The +30 V are fused in the amplifier with fuse SI 5.

The CD specific components, CD main board, CD control and CD player are supplied via the CD transformer inside the CD-control box. A plug adapter and the CD interface carry the interconnections. The CD transformer is connected to 30 V AC with an overload protection PTC of 0,85 A.
The secondary side delivers 4 x 9,5 V AC to plug P 8 at the CD main board used to rectify and stabilize the required voltages.

The display consists of four 7-segment digits controlled from the S&CC. The first 2 LH digits show the disc and the RH digits the title number.
The SCC control delivers, for each coin inserted, a number of relay pulses corresponding to the value of the lowest coin expressed in basic units. This allows to connect a counter between pole 2, plug green at the SCC and a solder terminal at chassis.

After a valid selection, the SCC unit connects pole 4 (grey wire), blue plug to ground. This operates latch magnet at solenoid M3 operating m3: The record carrier turns.

The teeth of the record carrier operate light gate Z which gives corresponding pulses to the SCC unit.
A metal vane under the record carrier interrupts light gate "K" when compartment 01 is in line with the gripper arm. K is the reference signal for counting start.

When the selected disc is at the gripper arm position and the solenoid M3 is interrupted, the record carrier stops. Grounding pole 2 (blue wire), plug blue, starts gripper motor MM.
The control signal MM lasts only 2 seconds. During this time, motor MM has turned the main gear shaft so that switch K 6 (sliding switch at main gear) is closed. Therefore, the mechanism becomes independent from the control unit.

In addition to the MM signal, output M 6 (plug blue, pole 2) is activated for approx. 500 ms which generates via the plug adapter and CD interface a control signal "Tray out" in the CD control board.

After the pressure arm is holding the disc, wiper contact K 1 opens. The gripper motor, breaked by R 10, stops in play position.
Wiper contact K 6 is then closed but MM cannot continue to run because relay M of SCC unit is de-energized.
The open micro-switch K 8 (gripper arm) and K 7 (micro switch main gear) prevent the start of the magazine motor.

The amplifier is activated because lead "Löschen" ("cancel") to the amplifier is no longer grounded. D 1 prevents a continuous mute signal because the cancel input of the SCC unit is clamped to 5 V.

After the disc is in play position, the control output M 6, plug blue is briefly activated to bring the signal "Tray in" to the CD control unit. The CD runs briefly and the sub code and number of title are being read. Then the disc stops again.

The SCC control verifies running of the CD through the signal CD play, plug green and carries 0 V while the CD is running and 8 V when the CD is stopped.

Then the desired title is programmed via the RC 5 remote signal (next commands) and started. The desired tune is played.
The audio signal is taken from the Chinch sockets CD main board to the Aux. input of the amplifier.
The CD stops automatically at the end of the desired title.

The playing CD can be stopped by pressing cancel button K 2. This grounds the input cancel of the SCC control plug green (pole 1). D 2 prevents an immediate gripper motor start which would pull the turning disc off the player. The SCC control sends a stop command via RC 5. This stops then same as at the end of a title.

The signal change (from 0 to 8V) of CD play is recognized by the SCC control. Gear motor MM starts and the disc returns to carrier.

Micro-switch K 8 closes and enables the record carrier to be restarted. K 7 closes and connects the negative operating voltage to plug blue, pole 4.

This switches transistor T 22 in the SCC control on (relay R 4 is de-energized) which is recognized by the control that a new disc search can begin. If a further selection has been entered, relay 4 pulls in energizing solenoid M 3; record carrier turns again.

Additional information CD player

The CD assembly is operated by the CD control board. It transforms the remote control signals (format RC 5) and the keyboard operation into signals suitable for the CD main board (format I^2C).

The SCC control sends the remote control signal from plug brown, pole 5 via the adapter and CD interface to the solder connection RC 5 on the CD main board. The signal can be checked as a group of 5 V pulses. During the signal transmission, the display flickers briefly.

The keyboard processor on the CD control board requires signals in and out determining the position of the tray for the disc transport. These signals are simulated by the circuit CD-control 51 880 101 00 consisting of IC 2 and IC 3.

By a low pulse at the input open/close CD control the signals "IN" and "OUT" are inverted. The open/close input is served from the SCC control via the adapter and the CD interface.
The Table of Contents on the disc are read after a level change high to low of the signal IN. The signal is available at P 14, pin 13 and 14.

Before starting a desired chapter on a disc the TOC (Table of Contents) is read before. The TOC circuit repeats the reading of the TOC information if the reading is incorrect. If the unit cannot detect the TOC the red LED on the circuit board lids after reading and Pin 1, plug grenn of the S&CC unit is switched to ground, with the result that the S&CC unit generates an open/closed puls again, to repeat reading of the TOC.
If the TOC cannot read 3 times the CD is rejected to the carrier.

III. **CD-Mechanism Adjustment Instructions** (see page 48, figures 1 - 6)

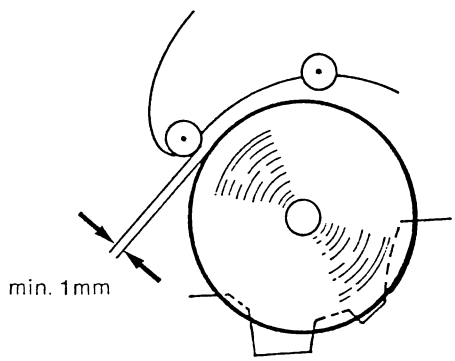
For mechanical adjustment the following parts are necessary and can be ordered under the following part numbers:

Centering ring CD-turntable cone	53 880 308 01
Gauge cone height measuring	53 880 308 91
Disc, diameter 119mm (4,66 inch)	53 880 308 94
Disc, diameter 121mm (4,76 inch)	53 880 308 95
Flat gauge 0.2mm (0.008 inch)	53 880 308 92
Flat gauge 0.5mm (0.02 inch)	53 880 308 96

1. For easy adjustment go into service program - push button 7 and interupt supply to gripper motor with gripper motor switch on chassis when the gripper arm is in the position described below:

2. Adjustment of gripper arm to CD in rest position

   - The clearance between gripper arm rollers and CD's in basket should be minimum of 1mm when using the 121mm test disc.
   - Insert disk and rotate disc carrier. Check clearance in several positions of disc in carrier.



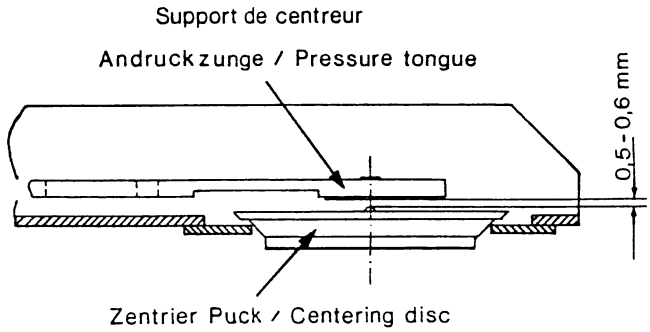
   - Adjust with screws of adapter fig. 2 pos. 1.

3. Position of CD-disc relative to disc carrier

   - Make selection with 121mm diameter disc and switch gripper motor off immediately after disc is clamped.
   - Disc must now be lifted approximately 1-2mm from the inside base of the disc carrier fig. 2 pos. 3.
   - Adjust with screws fig. 2 pos. 1 and shifting of adapter fig. 2 pos. 1
   - Check adjustment at different carrier positions.
   - Re-check adjustment of para 2.

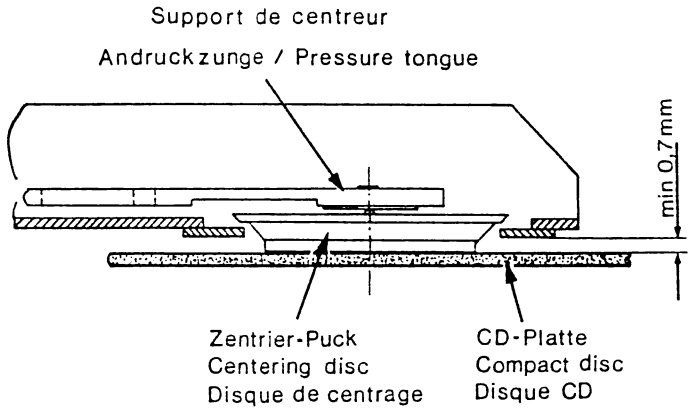
4. Adjustment of pressure tonque

a) With the pressure arm (fig 1. pos 1) in the open position the clearance between pressure tonque and centering disc should be between 0.5 - 0.6mm (0.019 - 0.023inch). Ceck with flat gauge of 0.5mm, adjust by slightly bending the front part of tonque.



Caution: Do not damage the sensitive top of the centering disc when checking!

b) When the compact disc is on the player and the lid is closed, the space between the lid and the compact disc has to be not less than 0.7mm. To check use both gauges of 0.5 and 0.2mm.



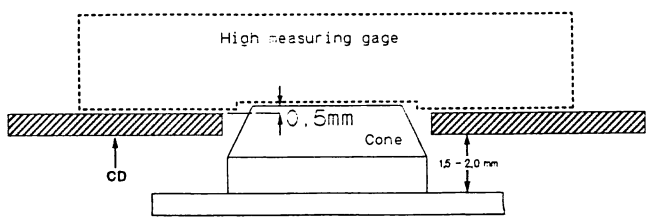
5. Adjustment of pressure arm position, fig. 1 pos. 1 to CD player fig. 1 pos. 2

- Slacken 4 screws fig. 1 pos. 3
- Place the 119mm test disc on the turntable
- Bring arm into lower position
- Place centering ring gauge on centering disc fig. 4 pos. 3
- Adjust 2 screws fig. 1 pos. 5 so that the centering disc moves freely in the assembly gauge
- Tighten 4 screws fig. 1 pos. 3 again.

6. Position of gripper arm fig. 3 pos. 1 with CD relative to player fig. 3 pos. 2

a) - Make selection with 119mm diameter disc and stop with service switch when gripper arm hits stop fig. 5 pos. 5.
- Center hole of CD must be concentric with turntable player hub fig. 3 pos. 3. Adjust with screws fig. 3 pos. 4 and fig 5 pos. 1, using the tool provided on top of the gear box.
- Slacken 2 screws fig. 3 pos. 6 before adjustment and tighten afterwards.

b) - After adjustment CD must be approximately 1,5-2mm above turntable (approx. at the height of the turntable cone). correspondingly the top face of CD must be 0 to 0,5mm (0 to 0.02 inches) below top face of turntable cone. Check with gauge "Cone high measuring".

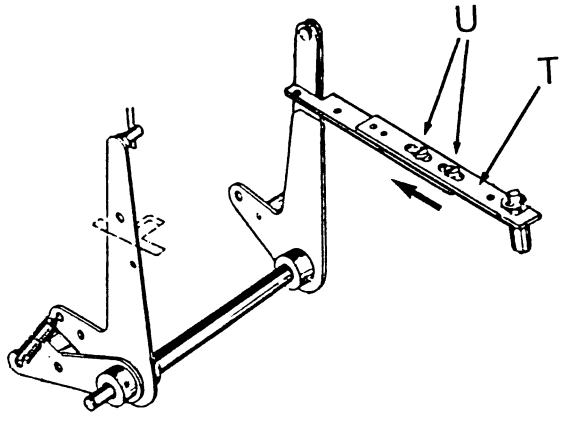


Adjustment with screw fig. 5 pos. 5 and fig. 3 pos. 5.

c) - Remove CD from clamp, leaving gripper arm in original position. The record clamp fig. 5 pos. 4 must have minimum clearance of 0,5mm to player chassis. Check with flat gauge of 0,5 mm and reshape with file if necessary.

7. Clearance of CD-player

- Push again button 7 in the service program and interrupt supply to gripper motor with gripper motor switch on chassis after CD-player has moved to play position.
- Clearance between roller fig. 4 pos. 1, record clamp fig. 4 pos. 2 should be equal on both sides of 121mm test CD.
- Center with screws U of butt strap T on connecting rod fig. 1 pos. 7 through the access wholes of player chassis.



8. Adjustment of lifting shaft fig. 4 pos. 4 of pressure arm fig. 5 pos. 3

- In play position, shaft fig. 6 pos. 1 below chassis must have a clearance of approximately 0,2mm to the lift lever fig. 6 pos. 2. Check with gauge of 0,2 mm.
- Adjustment with screw fig. 4 pos. 4 on the lift bracket, ensuring the lock nut is re-tightend afterwards.