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Annex : RCD 1.3D
CONNECTIONS AND CONTROLS

1. WAKE UP TRACK
   - Display the CD wake-up black number for ALARM 1 or ALARM 2.
   - Change the CD wake-up track number for ALARM 1 or ALARM 2.

2. TIME
   - Adjust the time of the clock.
   - Return to the clock display.

3. ALARM 1
   - Display the alarm time of ALARM 1.
   - Set alarm time 1.
   - Set the audible ALARM 1.

4. ALARM 2
   - Display the alarm time of ALARM 2.
   - Set alarm time 2.
   - Set the audible ALARM 2.

5. BRIGHTNESS
   - Change the brightness of the LCD display.

6. SLUMBER
   - Switch the function selection.
   - Set slumber time.
   - Display slumbering number time.

7. ALARM RESET
   - Stop the alarm for 24 hours.

8. HEADPHONE SOCKET
   - Connect the headphones.

9. CD STOP/FF
   - Stop and eject CD.

10. FUNCTION BUTTONS
    - Buzzer: for ALARM 1 or ALARM 2.
    - Volume: to adjust the volume level.

SPECIFICATIONS

GENERAL
- Mains voltage: 100 - 240V
- Mains frequency: 50Hz
- Power consumption: 5W
- Output power: 2 x 0.5W
- Weight: 1.7kg

COMPACT DISC
- Frequency response: 30Hz - 16kHz
- Signal-to-noise ratio: 60dB
- Channel difference: 0.5Hz
- Channel crosstalk: 48dB
- Laser wavelength: 780 ± 20nm
- Laser light power: < 0.3mW

TUNER - FM section
- Tuning range: 87.5 - 108MHz
- Sensitivity: > 25dBm at 25dBm S/N
- Selectivity: > 25dB at 50kHz S/N
- IF rejection: > 50dB
- Image rejection: > 25dB
- Intermodulation: > 25dB
- Ip/No: > 25dB

TUNER - AM section
- Tuning range: 530 - 1600kHz
- Sensitivity: 4.5dB
- Selectivity: > 10dB
- IF rejection: > 20dB
- Image rejection: > 25dB
DISASSEMBLY INSTRUCTION

A. To remove Tuning Knob and Volume Knob
B. To open CD Door
C. To remove Front Cabinet
   1. Remove Screw x 1
   2. Remove Screw x 2
D. To remove Top Cabinet
   1. Remove Screw x 7
E. To remove RCD
   1. Remove Cover RCD
   2. Remove Screw x 4
F. To remove Tuner Board
   1. Remove Screw x 2
   2. Remove Tuner Bracket
   3. Remove Gear
G. To remove CD Board
   1. Remove Screw x 1
MEASURE SETUP

Tuner FM

Use a bandpass filter to eliminate hum (50Hz, 100Hz) and disturbance from the phono (1.9kHz, 3.9kHz).

Tuner AM (MW/LW)

Use a bandpass filter for at least a high pass filter with (55kHz) to eliminate hum (26kHz, 103kHz).

CD

Use Audio Signal Disc: SBC905 4422 337 75184 (Pre-press test disc) or:
LP + "1/3" order Filter 4422 365 0024

SERVICE TEST PROGRAMME

DUT: Device under Test

LEVEL METER

e.g. 10MHz, 40MHz

Low pass filter 25kHz

DUT --- Device under Test

To avoid electromagnetic interference (EMI) measurements, have to be carried out in a Faraday’s cage.

Use a bandpass filter for at least a high pass filter with (55kHz) to eliminate hum (26kHz, 103kHz).
RADIO ALIGNMENT

AM IF
AM or MW 468KHz min. 5106 max.

AM RF
MW* 512KHz max. 5105
1635KHz min. C4
550KHz max. 5102
1500KHz C3

FM IF
FM # 10.7MHz symm. max. lin.

FM RF
FM # 75.7MHz max. 5104
103.25MHz min. C2
77MHz max. 5101
106MHz C1

STEREO DECODER
FM # 98MHz C 92MHz D 152 ± 1KHz

* Mod. 1KHz 30%
# 10nF ± 15E

Repeat

CD-PART

LASER CURRENT
The trimpot for adjustment of the laser current is located on the disc drive and has been adjusted in the production line.
Therefore for service purpose it is not intended to adjust the laser current. Check only if the HF-signal level is higher than 800mVpp.

TRACK BALANCE
Service pos. 3 Display shows "3"

3846 Adjust to 0±10mV DC offset

TRACK GAIN
Play with Test-Disc 5 track 1
1300 Hz 100 mVmax
see Fig. 1 3906

CHX = 50 mV/DIV
CHY = 50 mV/DIV
Adjust according to Fig. 3

FOCUS GAIN
Play with Test-Disc 5 track 1
1200 Hz 500 mVmax
see Fig. 2 3908

CHX = 200 mV/DIV
CHY = 200 mV/DIV
Adjust according to Fig. 3

Test disc 5 4822 397 30096

REMARK: In case the discdrive or the optical pickup has been exchanged, always adjust TRACK BALANCE, TRACK GAIN and FOCUS GAIN.

Fig. 1

Fig. 2

Fig. 3

Correct Wrong
### ELECTRICAL PARTSLIST

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Ref. No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>6815</td>
<td>4822 130 34173</td>
<td>BZX79-C5V6</td>
</tr>
<tr>
<td>6816</td>
<td>4822 130 83363</td>
<td>LTL-16KGE</td>
</tr>
<tr>
<td>6817</td>
<td>4822 130 83363</td>
<td>LTL-16KGE</td>
</tr>
<tr>
<td>6818</td>
<td>4822 130 30621</td>
<td>1N4148</td>
</tr>
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### MISCELLANEOUS

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Ref. No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1263</td>
<td>4822 267 31468</td>
<td>Socket-headphone</td>
</tr>
<tr>
<td>1306</td>
<td>4822 070 31252</td>
<td>Fuse 1.25A</td>
</tr>
<tr>
<td>1306</td>
<td>4822 253 30203</td>
<td>Fuse 1.6A</td>
</tr>
<tr>
<td>1500</td>
<td>4822 277 30974</td>
<td>Voltage Selector</td>
</tr>
<tr>
<td>1810</td>
<td>4822 276 12465</td>
<td>Switch Tact</td>
</tr>
</tbody>
</table>

Note: Only the parts mentioned in this list are normal service parts.
TABLE OF CONTENTS

- Exchange instruction for optical pickup unit
- Partslist
- Service hints
- Cleaning the lens
Exchange instruction for the OPTICAL PICKUP unit

WARNINGS: Danger of electrostatic discharge!
The laser diode is more sensitive to ESD than MOS ICs.
Therefore take care of ESD-protection whenever working on the disc drive.

Never touch the lens!

Exchanging the optical pickup unit
1) Remove fixing spring of guiding axes.
2) Lift guiding axes so far that gear gets out of engagement.
3) Pull the pickup unit off the axes.
4+9) Pull off the connectors as shown in the sketch and plug them on the new pickup unit.
5+6) Remove the toothed bar plus compression spring.
7+8) Mount toothed bar and compression spring on new pickup unit.
10) Put the new pickup unit on the guiding axes.
11) Put guiding axes down to the chassis while positioning the pickup unit so that gear is forced easily into engagement.
12) Mount fixing spring of guiding axes.

IMPORTANT NOTE:
All electrical adjustments have to be carried out now.
Follow the adjustment table of the service manual for the relevant set the disc drive is used.
The laser current has already been adjusted by the factory.

SERVICE HINTS

Service DISC - HOLDDOWN
The disc must always be fixed well on the turntable. If the mechanism has to be dismounted for repair, a separate disc-holddown has to be used (e.g. service disc-holddown 4822 532 51871).
The CD mechanism then can function normally as in the set.

REDUCTION of REPAIR PRICE
If the disc drive does not function, in most cases the optical pickup unit will be defect.
To reduce the actual repair price it is recommended to replace the optical pickup unit only.
Follow the exchange instruction on the previous page.

CLEANING the LENS

Principle: Avoid cleaning of the lens!

DUST particles are normally no major problem. They can be blown away with offfree compressed air.

Finger - prints
If the lens is obviously polluted with finger - prints, it can be cleaned with alcohol or spirit.
Take a padstick and dip it into alcohol until it is soaked.
Then clean the surface of the lens by rotating the soaked padstick smoothly.
The alcohol will dissolve the finger - prints, rotation helps mechanically. Finally the lens will be filled with the dirty cleaning solvent.

Now incline the lens (disc drive) and soak the solvent up with absorbent paper.
The remnants of the solvent will evaporate.

4822 691 30345 RCD1.3 disc drive assy
4 4822 522 32451 gear wheel
6 4822 522 32453 toothed bar
7 4822 492 51976 spring, compression
8 4822 492 63841 spring, wire (motor)
9 4822 492 63942 spring, wire (axes)
1001 4822 218 30768 optical pickup unit RCD1.3
1003 4822 361 21113 servomotor assy
1004 4822 276 12163 switch, leaf

Only those parts of which a service code number is stated are service parts.
**Service Information**

**GB**
To adapt the service manual the following sheets have been added/changed.

**NL**
Voor het aanpassen van de service manual zijn de onderstaande pagina's toegevoegd/gewijzigd.

**F**
Afin de pouvoir adapter le "manual service" les feuilles suivants ont été soit modifiés, soit ajoutés.

**D**
Zur anpassung des Service Manual sind die nachstehenden Seiten hinzugefügt/geändernt.

**I**
Le seguenti pagine sono state cambiate/aggiunte allo scopo di adattare il Manuale di Servizio.

Many changes implemented at the start of production and new release of PCB will be used from week 9538 onwards.

<table>
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<th>PCS No.</th>
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<td>Combi Board - Layout diagram</td>
<td>PCS 84 856</td>
</tr>
<tr>
<td>12-a</td>
<td>Combi Board - Circuit diagram</td>
<td>PCS 84 857</td>
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</table>
### RADIO ALIGNMENT

<table>
<thead>
<tr>
<th>AM IF</th>
<th>AM or MW</th>
<th>468kHz</th>
<th>min. 5105</th>
<th>max. 5108</th>
</tr>
</thead>
<tbody>
<tr>
<td>AM RF</td>
<td>MW *</td>
<td>512kHz</td>
<td>min. C4</td>
<td>max. 5105</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1635kHz</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>550kHz</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1500kHz</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FM IF</td>
<td>FM #</td>
<td>10.7MHz</td>
<td>symmetry</td>
<td>max line</td>
</tr>
<tr>
<td>FM RF</td>
<td>FM #</td>
<td>75.7MHz</td>
<td>min. C2</td>
<td>max. 5104</td>
</tr>
<tr>
<td></td>
<td></td>
<td>108.25MHz</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>77MHz</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>105MHz</td>
<td></td>
<td></td>
</tr>
<tr>
<td>STEREO DECODER</td>
<td>FM #</td>
<td>98MHz</td>
<td>B</td>
<td>92MHz</td>
</tr>
</tbody>
</table>

* Mod. 1kHz 30%
# 10nF + 15E

### ADJUSTMENT TABLE

#### CD-PART

<table>
<thead>
<tr>
<th>LASER CURRENT</th>
</tr>
</thead>
</table>
| The trimpot for adjustment of the laser current is located on the disc drive and has been adjusted in the production line. Therefore for service purpose it is not intended to adjust the laser current. Check only if the HF-signal level is higher than 800mVp.

#### TRACK BALANCE

<table>
<thead>
<tr>
<th>Service pos. 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display shows &quot;3&quot;</td>
</tr>
<tr>
<td>3846 Adjust to 0±10mV DC offset</td>
</tr>
</tbody>
</table>

#### TRACK GAIN

| CHX = 50 mV/DIV CHY = 50 mV/DIV Adjust according to FIG.3 |
| Play with Test-Disc 5 track 1 |
| 1300 Hz 100 mVp |

#### FOCUS GAIN

| CHX = 200 mV/DIV CHY = 200 mV/DIV Adjust according to FIG.3 |
| Play with Test-Disc 5 track 1 |
| 1200 Hz 500 mVp |

Test disc 5 4822 397 30096

**REMARK:** In case the disc drive or the optical pickup has been exchanged, always adjust TRACK BALANCE, TRACK GAIN and FOCUS GAIN.
EXPLODED VIEW DIAGRAM - CABINET

MECHANICAL PARTSLIST

401 4822 423 51268 Cabinet Front
402 4822 464 12976 Sheed Lens (for -00)
403 4822 454 12979 Sheed Lens (for -01)
404 4822 454 12987 Sheed Lens (for -06)
405 4822 454 12975 Sheed Lens (for -17)
406 4822 450 62497 Lens Display (not for -17)
407 4822 450 62491 Lens Display (for -17 only)
408 4822 532 61101 Spacer
409 4822 532 61103 Damper
410 4822 236 80676 Bracket
411 4822 380 26507 Guide
412 4822 462 96273 Cabinet Bottom
413 4822 462 40692 Plug
414 4822 454 96504 Sheet CD Door
415 4822 444 61976 CD Door (not for -17)
416 4822 444 61974 CD Door (for -17 only)
417 4822 532 1871 Ring Pressure
418 4822 454 12877 Sheet Function Knob
419 4822 410 63853 Knob Function
420 4822 410 63854 Knob Repeat Alarm
421 4822 410 63852 Knob Band
422 4822 469 25322 Spring Compression
423 4822 535 60066 Disc
424 4822 413 51518 Knob Volume
425 4822 532 1241 Ring
426 4822 413 51517 Knob Tuning
427 4822 276 13579 Locking Mechanism
428 4822 423 92032 Cabinet Top (for -00)
429 4822 423 92024 Cabinet Top (for -01)
430 4822 423 92024 Cabinet Top (for -06)
431 4822 423 92021 Cabinet Top (for -17)
432 4822 529 10257 Damper
433 4822 522 53579 Gear
434 4822 450 81232 Pointer
435 4822 321 16853 Mains (for -00/01)
436 4822 276 22491 IFU (for -00/01)
437 4822 276 22488 IFU (for -17)