

CD-I Digital Video Cartridge (DVC)

22ER9141/00 and 22SW1515

Service  
Service  
Service

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Interactive  
Media  
Systems







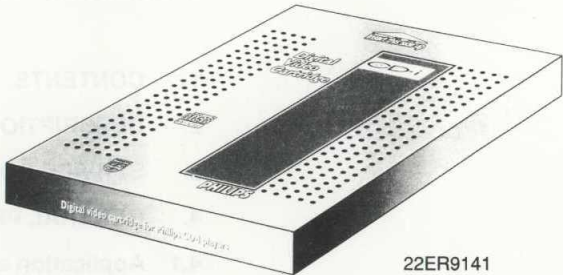
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DVC





22ER9141

# Service Manual

FIRST LINE SERVICE MANUAL

COMPACT  
disc  
Interactive

General Contents.

This manual describes the first line handling procedure when replacing the CD-i DVC module in dealer area's and other first line workshops.

DVC prepared CD-I typenumbers until September 1993		NOT DVC prepared
CDI-910/17(= CDI910 BK01)	CDI-205/00	CDI-180 series CDI-601 CDI-602 CDI-605 *)
CDI-205/17/17T	CDI-205/05/11	
CDI-200/17/37	CDI-200/00/20	
CDI-220/37/39(= CDI220BK01/02)	CDI-210/00/05	
Further total range of CDI-310, CDI350 and CDI-360	CDI-220/00/20/25	
	CDI-605T *)	*) special instructions
	*) special instructions	



Warning:  
Do not open the cartridge. Due to the construction of the housing factory tooling is required.

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2. DESCRIPTION OF FIRST LINE SERVICE HANDLING

First line service handling means replacement only of the defective DVC module. In case of necessary repair, the defective cartridges must be returned to Philips Consumer Service.

3. SERVICE POLICY

After replacement of a defective cartridge the unit is packed in a standard service box and sent to your local Philips service organisation. The service policy for the DVC cartridge is based upon repair in a central Philips facility.

**Attention:** Before replacement a particular customer complaint description should be verified in a CD-I player at the dealer or 1st line service shop.

Use any CD-I disc which contains a Digital Video program to verify the complaint.

4. GENERAL PRODUCT DESCRIPTION

The name Digital Video Cartridge (= DVC) was initially called FMV (= Full Motion Video).

The DVC cartridge can be plugged into many types of CD-I players. With this cartridge these CD-I players are able to play CD-I discs with Digital Full Motion Video. These CD-I discs contain compressed audio- and video data according to the MPEG1 standard. The DVC cartridge also contains 1 MByte memory usable as additional system memory.

4.1. Application area :

The DVC module can be applied in all DVC prepared CD-I players.

The list below contains all types of CD-I players available until September 1993.

CD-I type	DVC prepared
CDI-180 series	No
CDI-601	No
CDI-602	No
CDI-910/17 (= CDI910BK01/03)	Yes
CDI-205/00	Yes
CDI-205/05/11/17/17T (= BK01/02)	Yes
CDI-200/00/17 (= CDI-200BK01)	Yes
CDI-200/20/37 (= CDI-210BK11)	Yes
CDI-210/00/05	Yes
CDI-220/00	Yes
CDI-220/20/25/37/39 (= BK11)	Yes
CDI-605	No *)
CDI-605T	Yes *)
CDI-360	Yes
CDI-350	Yes
CDI-310	Yes

\*) See below for information. Further details can be found in the particular service manual

CDI -605

To use the cartridge in the existing CDI-605 (= caddy version) an additional CDI-605 kit is required. This kit includes a new interface expansion board, mounting plastics, new ROM's for the DVC board and the Ethernet / SCSI board and documentation. Several options have been defined. The typenumber is 22ER9420 and has to be ordered separately. Orders of this kit will be handled by the Philips Marketing group based on the agreed planning and availability.

CDI- 605T

For CDI-605T use 22SW1515. This is a Digital Video extension board with mounting hardware.

CDI -310, 350 and 360

To use a DVC with the portable player a DVC Docking station is available. Typenumber of this station is 22ER9142. The normal consumer cartridge 22ER9141/00 can be used in this Docking station.

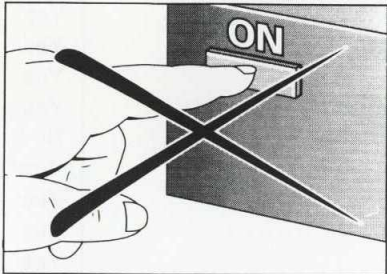
4.2. Installation.

\* Caution

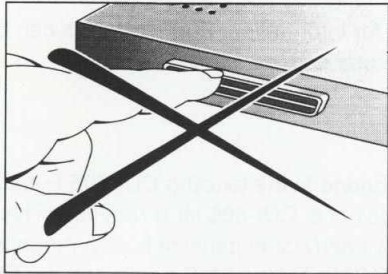


Unplug POWER before inserting the cartridge.

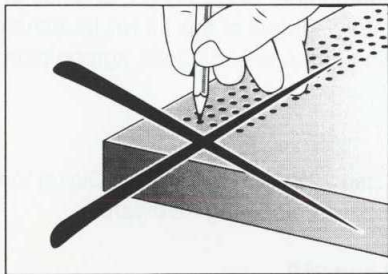
CAUTION - WHILE INSTALLING (OR REMOVING) YOUR CARDRIDGE:



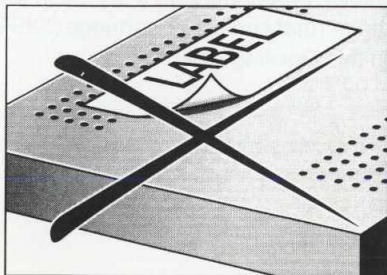
Make shure the player is switched off!



Do not touch the cartridge connector!



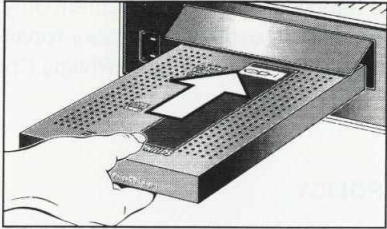
Do not probe into the ventiation holes!



Do not block the ventiation holes!

The DVC cartridge simply plugs into the extension socket. The extension socket lies behind a door on the rear side panel. The design is such that the DVC cartridge, when fully inserted, sits flush with the rear panel, behind the door.

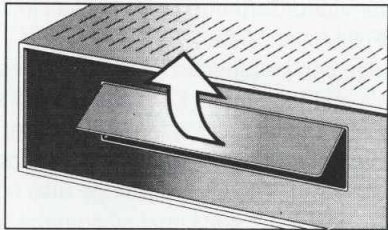
**Remark:** The CD-I players CDI-205 and CDI-910 have a spring loaded door, the rest of the players except the CDI-605T have an open hole for DVC application.



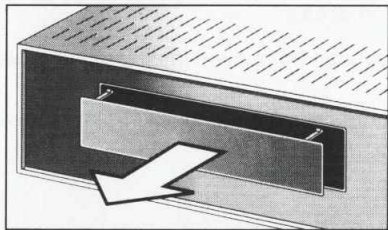
Take hold of the cartridge with the connector forward and the printed side up. Slide it into the slot until you feel the connector engage, then push it as far as it will go. If relevant, release the hinged cover or dispose clip-in cover.

Installation

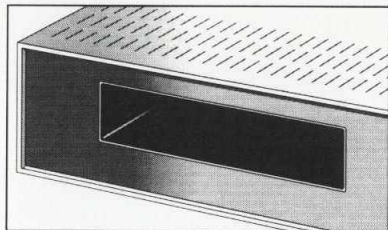
Open the extension slot on the player's rear panel. Depending on the model:



Lift the hinged cover, or



Pull out and keep the clip-in cover, or



Take no action; the slot is permanently open.

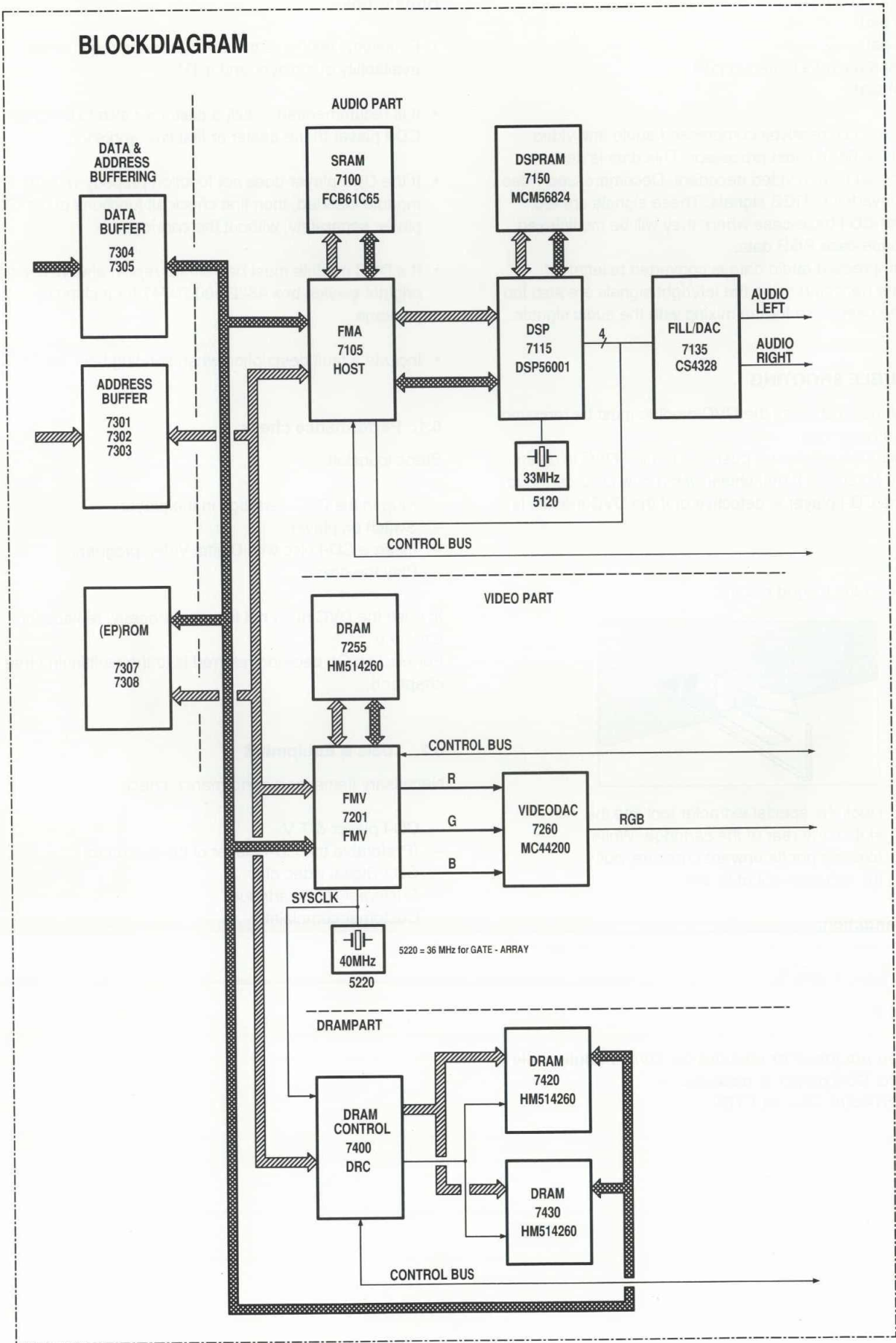
4.3. Main feature DVC

With additional features is meant here that the CD-I player is extended to be able to play moving natural pictures, interactively on a full screen together with Digital Audio sound quality.



4.4. Block diagram

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4.5. Short description

The block diagram consists of four parts:

- Audio part
- Video part
- Data and address buffering part
- DRAM part

The DVC module receives compressed audio and video data from the 68070 host processor. This data is decompressed by audio and video decoders. Decompressed video data is converted to RGB signals. These signals are fed back to the CD-I base-case where they will be multiplexed with the base-case RGB data.

The decompressed audio data is converted to left/right audio. After decompression the left/right signals are also fed back to the base-case for the mixing with the audio signals.

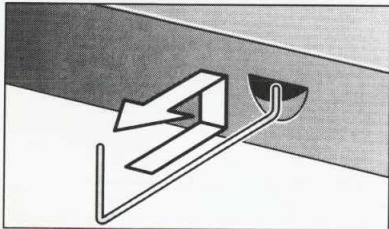
5. TROUBLE SHOOTING

In case of malfunctioning the DVC module must be removed with the extractor tool.

For checking the connector positions put the DVC in again and try if it functions. If not, check with a new DVC cartridge if either the CD-I player is defective or if the DVC module is defective.

Removal

If relevant, lift the hinged cover.



Hook the special extractor tool into the slot on the rear of the cartridge. While exerting gentle upward pressure, pull the cartridge out of its slot.

Recommendation:

Check the performance deviation of the user if possible in presence of the customer.

Important !!!



**Do not insert or take out the DVC module while the CD-I player is powered on !  
UNPLUG CD-I PLAYER!!**

Hints & tips

- Functional testing of the DVC cartridge requires the availability of a player and a TV.
- It is recommended to ask a customer also to bring his CD-I player to the dealer or first line workshop
- If the CD-I player does not function properly with the DVC module inserted, then first check all functions of the CD-I player separately, without the cartridge.
- If a DVC module must be sent for repair, always use the original service box 4822 600 70747 for a shipping package.
- Include a fault description when sending back the DVC.

5.1. Performance check

Steps to install:

- Plug-in the DVC cartridge in the player
- Switch on player
- Insert a CD-I disc with Digital Video program.
- Play the disc

In case the DVC does not function properly, replace the cartridge.

For Go / no Go decision referred is to the faultfinding tree in chapter 6.

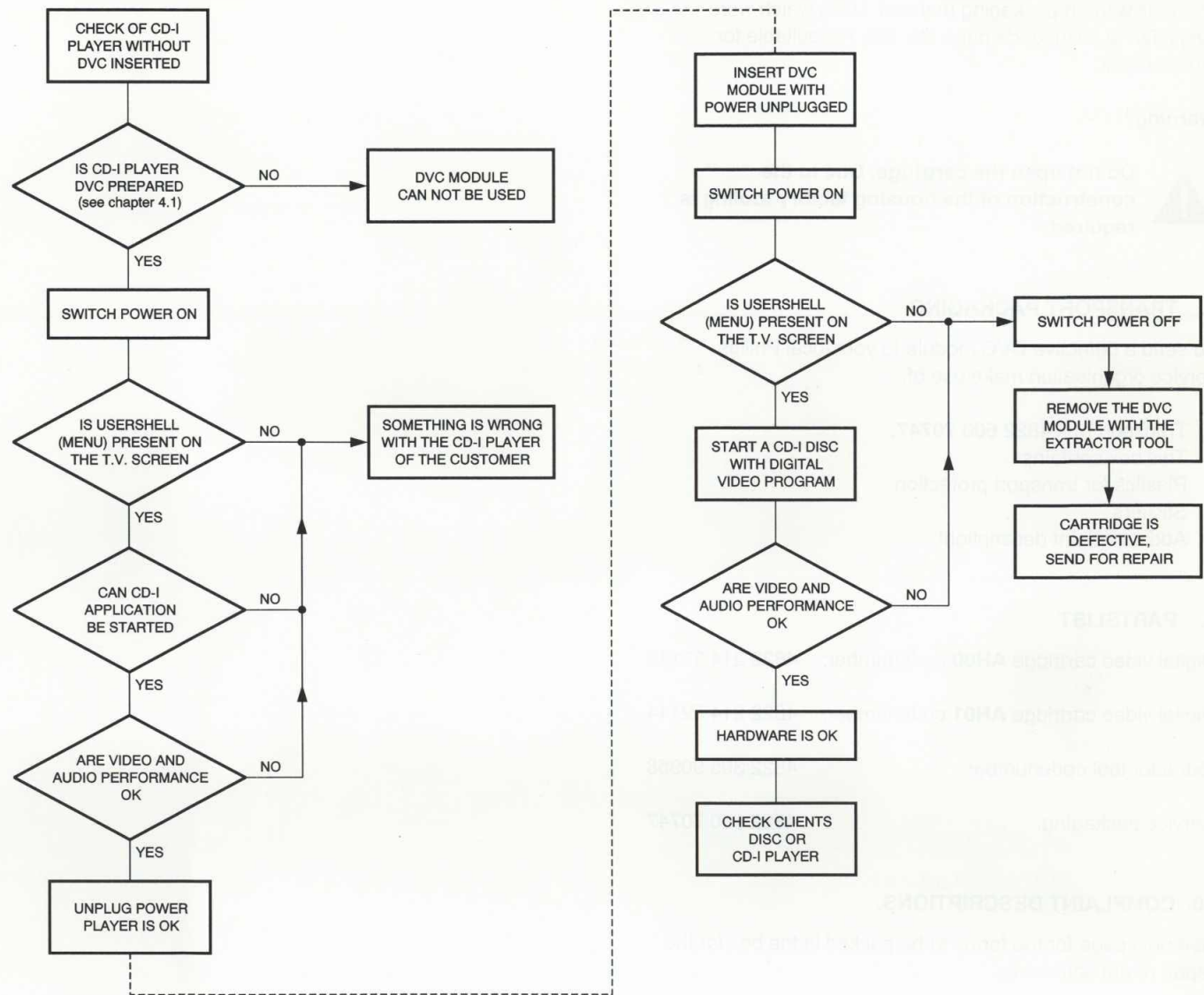
5.2. Tools & Equipment

Necessary items for a performance check:

- CD-I player & T.V.
- (Preferable the CD-I player of the customer).
- CD-I Digital video disc
- Customer DVC cartridge
- Customer complaint.

6. FAULTFINDING TREE

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7. REPAIR PROCEDURE

As instructed by your local Philips organization you will obtain a repaired DVC unit after sending in a defective one. You will be informed by your Philips organisation on the particular addresses and shipping details. Also instructions are dealt with on packaging material. Units which were subjected to misuse, damage etc. are, not suitable for further repair.

Warning:



Do not open the cartridge. Due to the construction of the housing factory tooling is required.

8. TRANSPORT PACKAGING

To send a defective DVC module to your local Philips service organisation make use of:

Transport box 4822 600 70747.

This box contains:

Plastics for transport protection

- Stickers
- Add complaint description!

9. PARTSLIST

Digital video cartridge **AH00** codenumber: 4822 214 52142

Digital video cartridge **AH01** codenumber: 4822 214 52144

Extractor tool codenumber: 4822 395 90958

Service packaging: 4822 600 70747

10. COMPLAINT DESCRIPTIONS.

See next page for the forms to be packed in the box for the repair return shipments.



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COMPLAINT DESCRIPTION DVC.

Pls return this description in the box for DVC repair.

Player modelnr :  
Player serialnr :  
Title of disc :

Date :  
Country :

Description of the complaint.

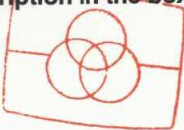
Thank you for  
the information.



COMPLAINT DESCRIPTION DVC.

Pls return this description in the box for DVC repair.

Player modelnr :  
Player serialnr :  
Title of disc :



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Description of the complaint.

Thank you for  
the information.



COMPLAINT DESCRIPTION DVC.

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Player modelnr :  
Player serialnr :  
Title of disc :

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Description of the complaint.

Thank you for  
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