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DVD and VHS tape backup? NO PROBLEM!

Digital Videofilters

DVF332 Video / **DVF772** Video, S-Video, RGB

Enables the creation of a back-up copy of an original DVD disc or VHS tape onto VHS, S-VHS or DVD-R

Fully removes stability and intensity changing troubles of the original protected recording and of the DVDR RECORD function

DVF332 - **DVD, VHS without the power supply**

DVF772 - **DVD, VHS, S-VHS HighEnd**

- **processes Video, S-Video and RGB (top quality video signal transfer)**
- **SDS - Super Digital Synchro**
- **TTI - Time Trip Immunity**
- **Code identification through LED**
- Power supply included

Read operating instructions before using the product!

Correct ELECTRONICS
Electronic products for you

Dear customer,

Thank you for buying the **DVF332/DVF772**digital video filter. This device will enable you to create a backup copy of a videotape or a DVD disc (protected against copying with the MACROVISION system or the DVD R protection bit). It should be inserted between the video player (video recorder or DVD player) and the video recorder (DVD recorder) creating the backup copies.

The **DVF332/DVF772** are successors to the successful **DVF442** and **DVF552**. They remove jumping (sync troubles), blinking (changing brightness), colour pulsing and changing troubles. These troubles appear when playing a protected video or DVD disc copy and are caused by the presence of the jamming signal on the original videotape (DVD disc). The creation of a DVD disc copy includes the removal of the protection bit that activates DVD R protection (stops the write-in). The video filter uses a processor providing perfect synchronisation and top circuits for video signal processing. This guarantees maximum reliability, function and parameter stability and a lossless transfer of video signal (1:1 ratio), which means that amplification: 1.

The **DVF772** video filter enables the transfer of the classical video signal and, moreover, also the **S-Video** signal or the **RGB** signal, which provides the best recording quality. Another unique advantage of the **DVF772** is the built-in code identification with **LED** indicators, which makes it possible to recognise whether the **VHS** tape or **DVD** disc is protected against copying and the code version if it is the case.

We believe that the **DVF332/DVF772** filters will perfectly match your expectations.

Enjoy!

The LED CODE Down and CODE Up indicators do not light or blink (DVF772 only)

- the **KEY** switch is pressed (the video filter is not active) the video recording is not protected against copying

The LED CODE Up indicator (this applies to the DVF772 only) lights (blinks) also when an unprotected video recording is concerned

- this is not necessarily a defect as where the jamming signal appears in the picture information area (level: black and higher) there may appear teletext information, which happens if the videotape contains a TV recording. When making other copies of such video recordings containing teletext information, it is not necessary to connect the video filter (or activate a connected one) and remove the teletext information with the video filter since the teletext information alone (without the jamming signal in the synchronisation area) has no negative impact on picture stability (quality).

If you fail to remove the defect or another defect is concerned, unplug immediately the device from the wall outlet and contact qualified service personnel or the producer.

8. Maintenance

Cleaning the **DVF332** and **DVF772** digital video filters.

Use a dry, clean and soft cloth to dust the machine. Before cleaning, unplug the device from the wall outlet.

!!! Never use aggressive detergents or solvents, they could damage both the surface and interior of the device!!!

9. Warranty

The **DVF332** and **DVF772** comes with 24-month warranty. The warranty does not concern defects caused by handling the device contrary to the instruction or by a natural disaster.

The picture has a different prompt in the background

- interference of another picture from the TV tuner or video recorder - video signal coupling in the **SCART/SCART** cable - non-quality cables (see Operating Instructions - Connecting the video filter)
- defective contact in the connector or torn cable ground conductor
- simplify the interconnection as much as possible (e.g. player - video filter - TV set) and connect other devices gradually. Thus you can identify the defective or non-quality cable.

The DVF772 connection troubles:

The picture is black and white

- the recorder is set to **S-Video** transmission and the recorder (TV set) to the conventional (composite **CVBS**) video signal, or vice versa - set both devices to the same type of video signal transmission.

The picture is blue and white

- the player is set to **S-Video** transmission and the recorder (TV set) to the **RGB** video signal transmission, or vice versa - set both devices to the video signal transmission of the same type

The picture is unnaturally colourful (an unnatural tint - colour is missing)

- the player and recorder (TV set) is set to **RGB** transmission but the **SCART/SCART** cable may be defective (torn conductor of one of the **RGB** picture chrominance points) or the connector's contact is defective - use different, quality cables.

The LED RGB indicator does not light

- The player is not set to **RGB** transmission of the video signal - set in the player menu
- the **SCART/SCART** cable is not correctly connected (21pin)

The LED KEY indicator does not light (applies to the DVF772 only)

- the **KEY** button is pressed - is not active
- the video signal is missing in video filter input

Warning!!!
Unauthorised copying and public performance of the coded original video tapes or DVDdiscs and their copies made with the DVF332/DVF772 video filters for other than private recording backup is prohibited!!! The DVF332/DVF772 producer and dealers hold no responsibility for potential damages and recourses related to the misuse of the DVF332/DVF772 video filters for hiring, lending, etc. of the recording copies.

1. Table of Contents

Before connecting and using the **DVF332** or the **DVF772**, study carefully the operating instructions. The warranty does not cover defects due to handling the machine contrary to the instructions.

2. Machine location

For safe operation and maximum use of the device, adhere to the following rules concerning the location of the machine:

! - protect the device against direct sunshine and do not store it close to strong sources of heat and in dusty or wet environment.

! - protect the device from strong vibrations.

! - do not place the video filte**DVF332/DVF772** close to potential sources of high frequency disturbance (cell phones, short wave walkie-talkies, etc.) and close to strong electric magnetic fields (power supplies, etc.)

! - do not unnecessarily move the device from warm to cold environment and vice versa

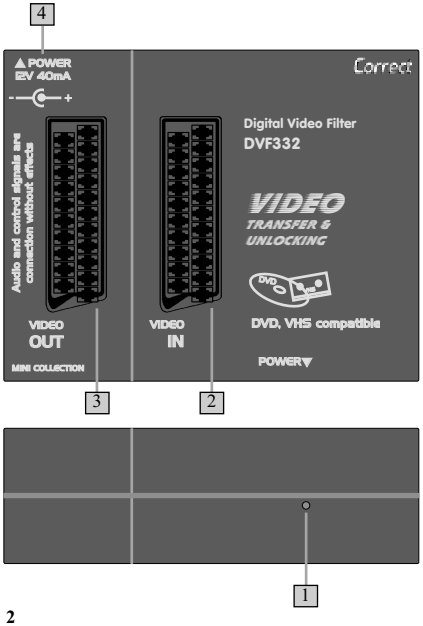
3.1 DVF332 Points of connection and control items

1 - LED **POWER** indicator indicating machine feed

2 - **SCART** input video signal connector (21 pin, only 10 pin/contacts used)

3 - **SCART** video signal output connector (21 pin, only 10 pin/con)

4 - power supply connector Standard 5,5/2,1 (plus pole central contact)



6. DVF332 / DVF772 Technical Data:

Video signal frequency range: - unlimited
Input impedance: - video 75 ohm
Output impedance: - video 75 ohm
Input (output) video signal level
DVF332/**DVF772** Video Y - 1 V pp
DVF772 S-Video C - 0.3 V pp
DVF772 RGB R,G,B - 1V pp
Current supply: 12V ss
Take-off: approx. 30-60 mA
Connectors: 2x **SCART,** lx **POWER** Standard feed-through connector 5,5mm/2,lmm (pin diameter 2,1 mm) for the connection of power supply - plus pole on inner contact
Control items: 1 x **KEY** button (to activate the video filter function - applies to the **DVF772** only)
Dimensions- 95 x 80 x 35 mm

7. Troubles and troubleshooting DVF332/DVF772

LED POWER indicator does not light:
- the power supply is not connected
- the power supply is defective
- output reverse polarity of the power supply output voltage

Picture contrast is weak, the picture is not stabile (twirls or jumps), the picture is disturbed with horizontal or perpendicular strips

- the video signal's low level (contrast) - poor quality of video recording

- the video signal in not in accordance with the TV standard
- the video signal is strongly disturbed (weak or no synchronisation impulses). Insert a tape with a recording of a better quality.

If it is not available, a repair of synchronisation impulses of the non-quality video recording with a fixing machine.

- the power supply output voltage is insufficient or output ampacity is insufficient
- the video filter output is overloaded, for instance by a parallel connection of more devices (TV set, video). Use an active video hub.

The **DVF772** does not contain through the **DVF772** is completely identical with the picture independent of the video filter. A difference can only be caused by non-quality cables and the use of an additional non-quality cable (when connecting the video filter). There are only active and very fast executive switches in the **DVF772** video signal route. The built-in processor pickup (synchronisation separator) has no impact on picture quality due to the fact that input impedance considerably higher than video signal impedance (75ohm).

The synchronisation stability function (applies to the **DVF442**, **DVF552** and **DVF772** only):

The **SDS - Super Digital Synchro** function works on the basis of processor-controlled video filter and video signal synchronisation. This means that no troubles with inaccurately cut out MACROVISION jamming signal known to the users of analogue de-coders, which moreover depend on temperature, can appear.

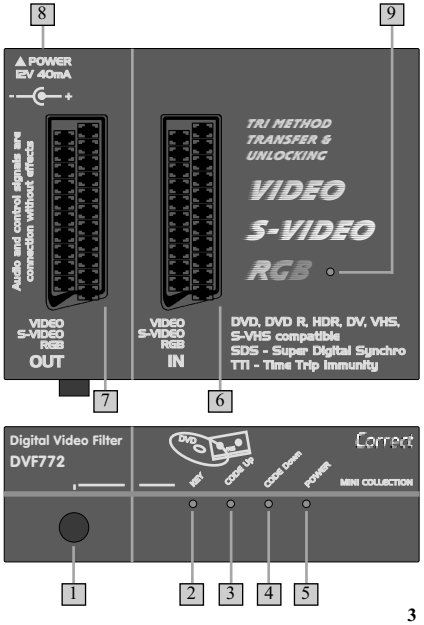
Inaccurateness troubles cause picture tearing during contrast changes (explosions, reflectors, etc.) and various manifestations of picture instability in the upper part of the TV screen (picture bending, colour dropouts).

The **TTI - Time Trip Immunity** function means that the synchronising processor software counts on the so-called timing defect (it does not concern DVD players and digital video recorders). This is the name of the error consisting in the differing length of individual TV lines. The difference in the length of a TV lines cannot be noticed with the naked eye. The TV set can eliminate this defect. The difference in the TV line length is the bigger the worse the video recorder. Even some digital video filters available at the market do not count on the TV line length error and consequently are not compatible with some video recorders and the above described picture instability troubles caused by inaccurate elimination of the MACROVISION jamming code appear. The elimination of the code must be extremely accurate - microseconds matter.

The processor built in the video filters synchronises with each TV line individually. This means that a difference in the line's length has no impact on accurate editing.

3.2 DVF772 points of connection and control items

1 - the activation switch (removal of the code from video signal)
2 - the LED **KEY** indicator indicating the removal of code from the video signal
3 - the LED **CODE Up** key indicating the presence of the jamming code in the video signal picture component
4 - the LED **CODE Down** key indicating the presence of the jamming signal in the sync area
5 - the LED **POWER** key indicating machine feed
6 - video signal input connector (**SCART 21 pin**)
7 - video signal output connector (**SCART 21 pin**)
8 - power supply connector for the connection of the Standard 5,5/2,1 power supply (plus pole on the central contact)
9 - the LED **RGB** key indicating **RGB** transmission



4. Connecting the DVF332 or the **DVF772**

Before connecting the power supply, interconnect the video filter and the video recorder (DVD recorder) with the video player (DVD player) and a TV Set.

4.1 Connecting the DVF332

As for the connection of the **DVF332**, see **Picture 3**. Always connect with "individually shielded" video cables and **SCART/CINCH** connectors. Using other, electrically unshielded individual connectors, could worsen the quality of the picture and video filter and output and input interference. Cheap cables equipped with **SCART** connectors usually contain a multi-core cable with single "electric shielding" for all cable signal connectors under the outer cable isolation. It shields from outer interference but does not prevent mutual interference and coupling of individual signal conductors. Using such cheap and unsuitable cables can lead to buzz or the interference of one sound channel into another. In the picture background there may appear a picture (a "cross" or veil of the other picture which is not synchronised with the required signal) from terrestrial TV set's output (video recorder), or from other signals. The disturbance trouble can get bigger with the implementation of a second unsuitable cable when inserting the video filter or with a bigger length of such cables.

Therefore, always use quality cables with individual electric shielding for each inner signal conductor casing and as low a capacity against the cord casing as possible (in has an impact on picture acumination if a long cable is used). Consult qualified or service personnel.

A quality interconnection cable is typical of a bigger diameter or gild **SCART (SCART/CINCH)** connectors. Gild connectors help remove bad contacts reacting to the shaking of cables and devices and resulting in buzz, picture strips, etc.

On **Picture 3** you can also see the variant of the connection of the **DVF332** to **SCART / CINCH** cables according to the used equipment connectors. The variants can be combined. The automatic switch to the AV input with the help of the command conductor **(SCART pin-8)** is only possible if the

appearing above the level of the synchronisation signal (above the level of black).

The functions and basic parameters of the **DVF332 / DVF772** are similar. The **DVF772** also works fully automatically and needs no further manual operation.

The **DVF772** however allows the use of the **S-Video** (**Y/C**) divided video signal system which transfers the video signal with separated luminance information and keeps thus better video signal transmission quality from a DVD player to an **S-VHS** video recorder or DVD recorder. The best quality of video signal transmission is provided by **RGB**. If the machines are interconnected this way (which is possible as far as video recorders of new types and probably all DVD players and DVD recorders are concerned), colour de-coders (and other circuits) do not work and the transmission is provided by three **RGB** basic colour conductors and the luminance channel and synchronisation conductor. The picture is generally more stable (does not blink), the colours are livelier, colour transition is sharper, there is no cross fade and buzz and it is sharper and deeper.

The quality of the recording however depends on other factors like the quality of the videotape, video (DVD) recorder quality class and the tape-to-head speed (LP, SP, etc.). The **DVF772** eliminates the **MACROVISION** code in all the video signal components (**Y, C, RGB**) and removes thus the protection bit which appears at random in all the video signal items including **RGB** and blocks the **RECORD** function of DVD recorders (and next generation video recorders) which, when receiving the protection bit command inform that the recording, is protected and recording is not launched. The mere removal of the **MACROVISION** protection (which older and video filters of different types do) is not sufficient. The **DVF332**, (as for **DVF442**, **DVF552** see the special manual) and **DVF772** have - compared to other video filters - the advantage of the ability to reprogram the firmware in the processor provided a new coding system (if it is technically possible) or new knowledge and experience concerning technical development appear at the market. For latest information see **www.correct.cz**.

lights if a command in the **SCART** connector is sent from the device set to RGB transmission (output).

If the **KEY** button is not pressed (the video filter is active - decoding operates) and there is video signal containing the **MACROVISION** jamming signal at the input (the video player, video recorder or DVD player works in the play mode),

LED **CODE Down** a **CODE Up** indicators or one of them lights or blinks. The variants periodically or non-periodically change in relation to the timing and type of the jamming signal (**MACROVISION** code) on the particular videotape or DVD disc. Therefore, the LED **CODE Down** and **CODE Up** indicators will light and blink in the following way:

The LED **CODE Down** indicator indicates the presence of the jamming signal (code) in the video signal sync area. Its presence causes a deformation of the protected videotape copy's picture. Sometimes when vulnerable monitors and TV sets are used, troubles with picture stability may appear already when recording the original protected video recording.

The LED **CODE Up** indicator indicates the presence of the jamming signal (code) in the area of the video signal picture information (and also teletext information). Its presence along with the first part of the code causes the brightness and colour pulsing of the copy's picture. In the case of old TV sets, these troubles may appear already when playing the original protected video recording.

For technically educated users: The jamming signal (code) appears in the video signal components (the composite **CVBS** or the separated **Y/C**) or in the signal colour **RGB** components (when picturing the video signal of the protected video recording on the oscilloscope) in the third to 17th TV line after each vertical synchronising impulse and between each synchronising line impulse of TV line No. 3 to 17.

The LED **CODE Down** indicator indicates the lower part of the jamming signal which interferes into the synchronisation signal of zero level "blacker than black" up to the upper limit of the synchronisation signal "black".

The LED **CODE Up** indicator indicates the presence of the upper part of the disturbance signal (code)

cables are fully shouldered with **SCART** connectors.

The video signal output (VIDEO OUT) of the video player (video recorder, DVD player) in which you play the coded videotape (DVD disc) should be connected to the video filter input (VIDEO IN). Connect the **DVF332** output (VIDEO OUT) to the input (VIDEO IN) of the video recorder in which you will make the copy. If the code troubles the playing of the original video recording, connect the DVF332 output directly to the TV set video input (VIDEO IN).

4.2 Connecting the DVF772

As for the connection of the **DVF772**, see **Picture 4**. If the top quality **RGB** video signal transmission is to be used, the **DVF772** must be connected with **SCART/SCART** connectors only. The **RGB** transmission must be supported by both AV machines (player - video / DVD player and the VHS, S-VHS, DVD, DV, HD recorder; the **DVF772** is compatible with all the machines). The **SCART/SCART** interconnection provides all video signal transmission variants depending on the functions of the machines used and the setting of the transmission type. The transmission type must be identical in both AV machines. The simplest way is to set "automatic selection" in the machine receiving the video signal (through the recorder), if it's possible, and control the transmission type through the machine sending the video signal (the player).

The automatic selection of the transmission type is controlled with the command through the **SCART** connector contact 16. The automatics must be supported by both machines (the playing one and the recording one) and the interconnection must be realised with a quality cable with SCART connectors only (all the 21 contacts must be fully interconnected and conductors must be shielded with individually shielded conductors). Switch to the suitable transmission type in accordance with the particular machines' operating instructions.

If you want to use the **Video** (**S-Video**) transmission, it is not necessary to use **SCART/SCART** cables, but for instance the **CINCH/SCART** cable and the **SCART/CINCH** cable for ordinary (composite) video

signal or the **CINCH(audio) + MINIDIN(S-Video) / SCART** cable and the **SCART / CINCH(audio) + the MINIDIN(S-Video)** cable.

When interconnecting with these cables (with no data conductors), the equipment's automatic switch to the AV input, transmission type and other automatic communication operating through **SCART** connectors do not work. You can also use various **SCART / CINCH(audio) / MINIDIN(S-Video)** reducers.

(**WARNING:** some of the inner and outer reducers incorporate a switch). It is also preferable to minimise the number of connector connections as their contact may sometimes be bad. We also recommend the use of gilt connectors with better surface conducting qualities which minimise sound and picture troubles when the cables and equipment moves. When selecting the type of transmission, always prefer the best transmission quality for the best use of machines and recording:

The data in the tables is based on the contemporary

Type transmission	Quality class	Machines supporting of transmission
Video	lowest	VHS, S-VHS, DVD
S-Video	middle	S-VHS, DVD(R), DV...
RGB	top	new S-VHS, DVD(R), DV...

Type transmission	Video filters Correct supporting this type of transmission
Video	DVF332, DVF442, DVF552, DVF772
S-Video	DVF552, DVF772
RGB	DVF772

Type transmission	Device connectors for this sort of transmission
Video	CINCH, SCART
S-Video	MiniDin 4pin (HOSIDEN), SCART
RGB	SCART

state of knowledge and may change in future. The producer of the video filters reserves the right to change the video filter names, accessories and functions. The information is valid as of 1 October 2003 (for latest information see **www.correct.cz)**

is a video signal at its input. The **DVF332** works fully automatically. Video signal de-coding runs from the **SCART IN** connector (contact 20) to the **SCART OUT** connector (contact 19) only. Sound channels inside the video filters are interconnected in the shortest way possible and are mutually shielded, so that sound is not disturbed by the picture signal. The reverse way of the video signal from the **SCART OUT** connector (contact 19) into the **SCART IN** connector (contact 20) and the audio signal (contact 1a 3 - **SCART OUT** and **SCART IN** 2 and 6) is also only interconnected in the video filter and enables to record to a video recorder connected to the **IN** input from a video recorder connected to the **OUT** input for instance TV broadcasts or an unprotected videotape. If you want the decoding to stay turned off, use reverse counter (between two video recorders) from **OUT** to **IN** or disconnect the video filter from the equipment and interconnect with one cable. Another contact of the interconnected **SCART** connectors is the pin 8 where the command voltage for the automatic switch of the devices to the AV input.

If you want to use this function, the cables must contain this conductor (pin8 - pin8). This is of course possible with the **SCART/SCART** cable only.

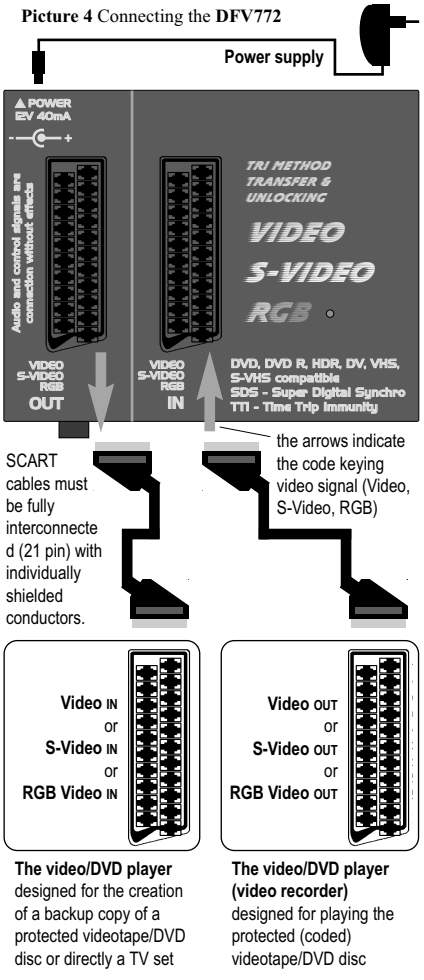
Other **DVF332 SCART** connector contacts are not on connected and therefore need not be used in the cables.

5.2 The DVF772 operation

The **DVF772** has the additional built-in push-button **KEY** switch. If you press it, you turn off the decoding and the video filter then has no impact on the video signal in both directions of the AV signal transmission (from **IN** to **OUT** and vice versa).

The LED **CODE Down** and **CODE Up** indicators will not indicate the presence of the code. If the switch is not pressed and there is video signal in the input, the video filter will be active and will indicate and eliminate the MACROVISION jamming signal. This state will be indicated by the lighting of the LED **KEY** indicator. The state of the switch has no impact on the **RGB** transmission (**RGB** blue indicator on the video filter upper side) indication. The LED **RGB** indicator

Picture 4 Connecting the **DFV772**



The video/DVD player designed for the creation of a backup copy of a protected videotape/DVD disc or directly a TV set

The video/DVD player (video recorder) designed for playing the protected (coded) videotape/DVD disc

4.3 Connecting the power supply

Check whether the power supply output voltage is in accordance with the **DVF332 / DVF772** input voltage, i.e. 12V at approx. 30-60mA take-off. If the video filter is to work well, the feeding voltage must be stabilised and must be exactly 12V. Do not use various non-quality power supplies. Do not use various non-quality power supplies.

To feed the **DVF332 / DVF772** use a power supply with a standard output connector and a 2.1 mm socket. The plus pole is in the middle, the minus pole is on the connector cover. If the power supply polarity is reversed, the video filter does not work. However, due to the fact that anti-reversal polarity protection system is built in the video filter, it cannot cause any damage. The ideal way is to use the power supply designed for the **DVF332 / DVF772** and made by the video filter producer.

Do not pull the power supply connector from the **DVF332 / DVF772** by pulling the cable, as you could tear the cable. Hold the connector cover first and then draw out the connector. After connecting the video filter **DVF332 / DVF772**, connect the power supply to the devices and only then plug the feeder cable into the wall outlet.

WARNING: Do not plug the power supply first to the wall pug and then to the video filter. Do not turn off the **DVF332 / DVF772** by unplugging the feeding connector under operation but first unplug the power supply from the wall outlet!

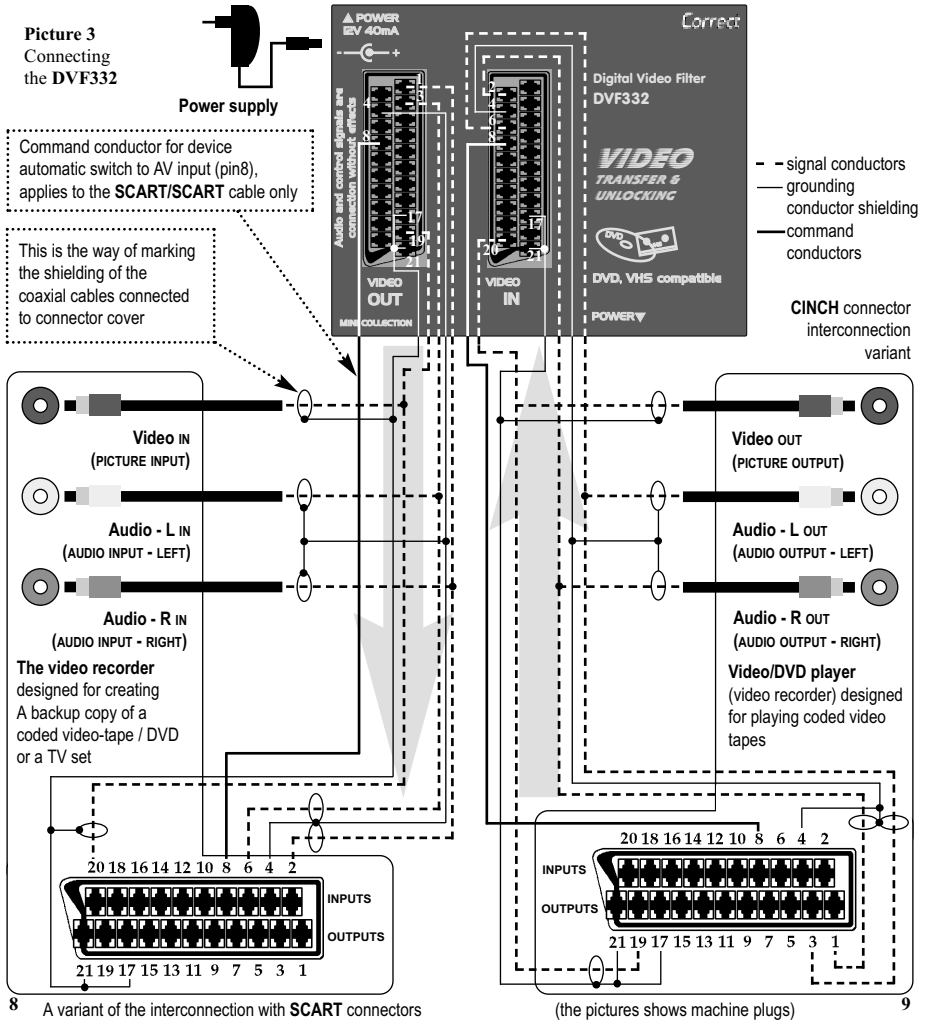
Due to the video filter's built-in protective circuits, it cannot suffer any damage. However, do adhere to the above-mentioned instructions. If you proceed correctly, you will not overload the device with a discharge when connecting the power supply producing output voltage.

5.1 Operating the DVF332

The **DVF332** is now connected to the equipment and the power supply. After plugging the power supply's plug in a 220 V / 50 Hz wall outlet, the LED **POWER** on the **DVF332** front panel must light.

In this video filter of the simplest type de-coding (**MACROVISION** code keying) works all the time if there

Picture 3
Connecting
the **DVF332**



A variant of the interconnection with **SCART** connectors

(the pictures shows machine plugs)