

Made in Germany

Developmental Specialist cinemateq
turns little DVDs into Big Screen Entertainment.





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Images: archive, Herbert Härle

High End made in Germany – Is it at all possible in the video sector of the market? The home theatre specialist cinemateq, employing 10 staff, located in Gräfelfing near Munich is attempting this and has landed a sensational coup by developing a 127 cm Plasma Cinema which is designed to show DVD images at HDTV quality. The result of the feat – we can reveal right now – strongly impressed our *VIDEO* reviewers.

Picture Surgery

This image marvel consists of three components: the plasma panel, a scaler box including deinterlacer and a DVD player. The 10,400 € price tag for this trio can almost be regarded as a bargain in High End circles.

The scaler "picture optimizer plus II SDI" which forms the heart of this exquisite trio has already made its name as an independent product among High End cinema buffs. Signals from DVD players, set top boxes or video recorders can be linked to its inputs which are then relayed to a screen or beamer.

First the aristocratic silver box adds the finishing touches with veritable surgical precision. As a first step the scaler converts the 576 lines of the incoming PAL films to the exact number of pixels required by the resolution of the panel so that it can precisely add them together at the increased pixel count necessary. It must then eliminate the flickering lines of the half-

wizards have instead sought out high-quality video components which they have been able to optimize to conform to their concept.

In the "studio player SDI" manufactured by cinemateq themselves a Philips DVD drive extracts the image data. It has mainly convinced engineers in terms of its outstanding error

AN AMBITIOUS PLAN: NORMAL DVD PICTURES TO REACH HDTV LEVEL.

frames relayed to it and merge them into a steady progressive show with motif edges which are accurately drawn.

Architecture

The equally simple and fascinating idea behind the cinemateq home theatre center is as follows: with the picture optimizer and a perfectly matched home theatre quality chain

it is quite possible to extract even more from PAL images. Although cinemateq has not been able to enter into the production of plasma panels or DVD drives the Gräfelfing

correction – an achievement which the *VIDEO* test can also confirm. However the cinemateq model hasn't been separately evaluated in this test because its operation still revealed individual software errors which should be remedied by its market launch next month.

A search for a plasma panel was more difficult – *VIDEO* tests have shown time and again that only few displays can handle the frame rates of 50 and 60 cycles per second used by the PAL or American NTSC TV standard.



First rate team: the back of the Studio Player SDI looks almost bare. It only emits digital signals, whereby an SDI-BNC (1) jack produces video and an RCA jack audio signals.

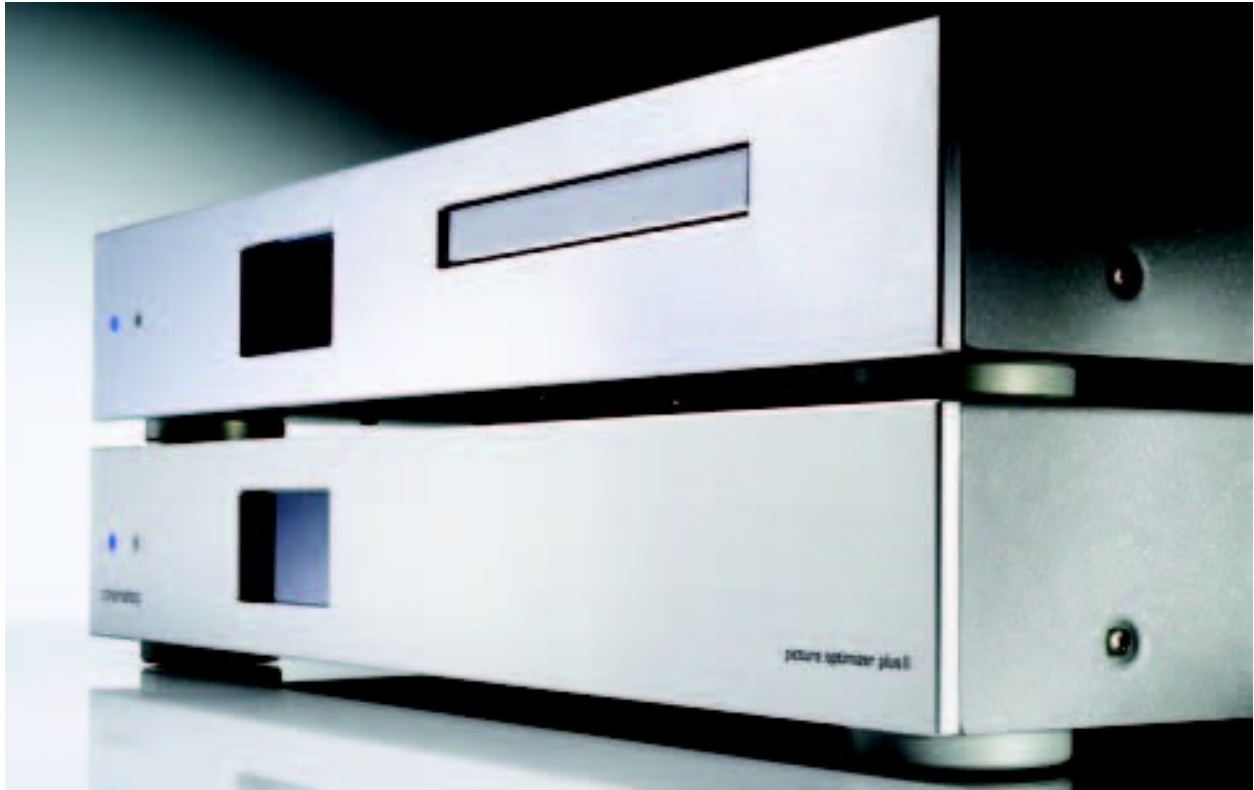
In contrast the picture optimizer II SDI has numerous sockets for all kinds of players and signals. The first socket, the SDI input (2), is reserved for the Studio Player, the second can link an extra SDI player such as a set-top box.



Moreover the plasma panel is supposed to display the pictures supplied by the picture optimizer unaltered. The smooth transport of digital signals to the panel and within also had to be guaranteed at a high level. A solution to the problem has also come from Germany. Conrac mass-produces plasma and LCD televisions in

Weikersheim. Inspired by the idea of a high end "no holds barred" model the manufacturer designed the CT-50 HD especially for cinemateq. The enormous display does exactly what the scaler feeds it with and is also only controllable by the picture optimizer. For the plasma panel Conrac selected one made by Samsung

because at present the Koreans achieve the best contrast and brightness values. So the model excels with a lush contrast of 3000:1, high brightness and an HD compliant resolution of 1366 x 768 pixels.



No buttons: the cases feature clean looks. cinemateq has completely abandoned the usual controls.

Digital Architecture

However the best components are of little use if losses occur in signal transport.

Therefore cinemateq designed a digital architecture which assumes control immediately after reading the DVD. Even before any signal processing can interfere the SDI electronics captures the data stream in the player (see

technology, page 121). An SDI link ensures a totally pristine DVD half-frames transfer from the player to the scaler which does all of the image processing by itself. Lastly the scaler talks to the plasma panel via a proven DVI data feed.

As a consequence this system goes far beyond what is generally found in home theatre set-ups. So is it only consistent to allow valued

customers to adjust the picture not only in familiar parameters but also in many other details in tune with their personal preferences. So the scaler converts the picture to any resolution to also enable other picture processors such as a beamer to fully exploit their potential.

Furthermore the picture can be enlarged or shrunk in one per cent steps. High End buffs really value this so-called overscan correction, because only in this way can DVDs whose mastering deviates from the standard be very precisely fitted to the display.



Many buttons: The scaler remote control (left) and the DVD player could be labeled more clearly and understandably.

Enormous Diversity of Function

Due to this diversity of function a layman can easily lose his way in the menu. The well designed manual however helps with problems, besides cinemateq also assists with home installation and with later software updates. And: anybody without any special wishes can simply switch on the home theatre and enjoy it without any installation effort. The only points which irritate are the sluggish Philips drive with its long read times as well as the poor labeling of the two remotes (see pictures below).

But as much as the effort gone into construction may impress – the only thing which counts in the *VIDEO* test is performance. Can cinemateq actually get HD pictures from a DVD?

Fascinating Attention to Detail

First the reviewers fed the player with the best trusted test scenes from the DVD "The Mummy". And even the first pictures clearly showed: This rig is in a league of its own. The desert scenes bathed in reddish sunlight, the steel-blue sky above and the white cloths of the robes blowing in the wind in chapter 2 gleamed with a radiance and color intensity that no plasma panel has thus far achieved in a *VIDEO* test. The plasma panel and the signal processing of the picture optimizer gelled simply perfectly: Despite the immensely high

brightness the 127 cm image did not once peak in the brightest motifs and revealed shades which no screen had thus far shown. Furthermore the panel provided terrifically black image depths which one does not expect a thin plasma display to be at all capable of.

The reviewers had also never previously seen "The Mummy" in such phenomenal clarity. The scaler rendered the horde of riders visible on the far desert horizon against the background with the finest motif lines making the individual little figures visible without no trace of peaking.

The cinemateq team showed the new martial arts high achiever "House Of Flying Daggers" (DVD of the month, page 62) in breathtaking splendor and majesty. The colored robes and charming expressions on the actors' faces in chapter 2 were portrayed with fascinating attention to detail. The individual colors were clear and extremely accurately separated from each other, the subtle facial expressions of the actors clearly visible.

As for color detail and motif lines the reviewers actually felt almost as if they were in an HDTV theatre: no equipment reviewed at *VIDEO* has thus far been able to extract so much from conventional PAL signals.

Perfect Full Size Pictures

The deinterlacer played a pivotal role. It added the half-frames of the

film so accurately to make full frames that no line even quivered a little and each subtle-detailed motif was sharply visible too - an important requirement for both vivid and realistic reproduction.

In video films, the half-frames of which do not complement each other as well as those of motion picture films, the deinterlacer however got out of step. Movement artifacts showed up in the form of double or frayed motif edges which caused *VIDEO* to indeed give a lower score to the ability of the cinemateq to portray movement. There were also deductions for slight false contour effects and fine pixel noise in the plasma display. But overall the otherwise terrific picture quality clearly prevailed.

Conclusion

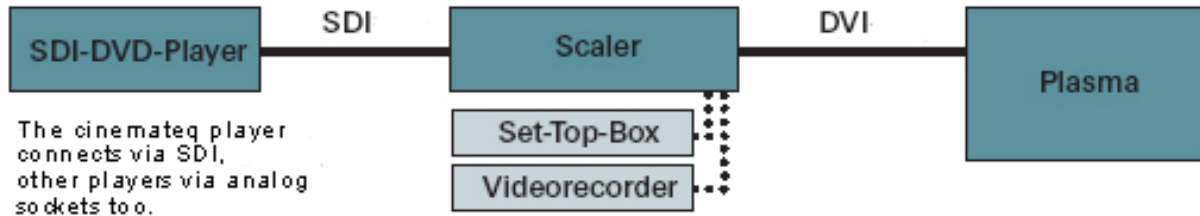
cinemateq and Conrac show that "Made in Germany" works. The package however does not obtain exactly the same picture effect as high definition hardware and software, particularly as the technology also makes the errors in PAL DVDs stand out. But thanks to cinemateq it will be possible to enjoy current DVDs even in the future HDTV era, which the plasma display will be equipped for as of November: cinemateq is currently developing a digital switcher which will relay HDTV pictures to the plasma panel unimpeded and at optimum quality.

FEATURES	
Manufacturer	cinemateq
Type	CT-50HD
Telephone	+49 (0)89 / 8913690
Address	Lochhamer Schlag 12 82166 Gräfelfing Germany www.cinemateq.com
Guarantee	24 months
Technology/image frequency	plasma/ –
Visible screen (diagonally)	127 cm
Resolution pixel/format	1366x768 / 16:9
Panel size W x H x D	124x96x26 cm
control box size W x H x D	44x7x30 cm
FUNCTIONS	
Line flicker reduction/ with movement recognition	● / ●
Progressive scan internally/from externally	● / ●
NTSC rendition (3.58/4.43 MHz)	● / ●
HD ready/HDTV compatible	/ ●
14:9-/16:9 Zoom	● / ●
Noise reduction	●
Color temperature selection/by RGB	● / ●
Loudspeaker	-
Integrated TV tuner	-
Remote control	
VCR/DVD control	-/-
Devices from other manufacturers/programmable	-/-
FEATURES	
Scart/of which S-VHS/of which RGB	2/2/2
Scart output (overacting function)	-
YUV (RCA/BNC/VGA)	2/-/-
RGB (RCA/BNC/VGA)	-/-/-
DVI/HDMI/with HDCP	-/-/-
RCA AV/Hoside RCA-AV/Hoside input	-/2
RCA audio output/loudspeaker output	-/-
Front AV RCA/Hoside/VGA/DVI/HDMI	-/-/-/-
Special features	With HDMI /DVI inputs upgradeable to HDTV as of Nov.

TEST RESULTS			
Manufacturer	cinemateq		
Type	CT-50 HD with studio player SDI		
Price (in Germany)	around 10,400 €		
optimum picture settings	Contrast: -3 Brightness: 0 Colour saturation: -15 other: as set by the factory		
The data corresponds to the values to be set in the television's menu.			
PICTURE TEST	max. 60 points	VERY GOOD	51
Naturalness of picture	(30%)	very good	
Portrayal of movement	(20%)	very good	
Sharpness	(20%)	outstanding	
Picture error	(20%)	very good	
Picture noise	(10%)	good	
MEASUREMENTS	max.10 points	GOOD	7
Relative resolution	(15%)	very good	91 %
Color temperature	(5%)	outstanding	7010 k
Color deviation	(10%)	outstanding	neutral
Convergence	(15%)	outstanding	0.0 pixels
Geometry	(10%)	outstanding	0 pixels
Power consumption in stand-by	3.9 watts		
Power consumption in operation	403/334 watts		
OPERATION	max. 10 points	SATISFACTORY	5
User guidance	(40%)	good	
Remote control	(30%)	satisfactory	
Operating instructions	(20%)	good	
Installation	(10%)	good	
EQUIPMENT	max. 20 points	SATISFACTORY	12
VIDEO VERDICT	max. 100 points	VERY GOOD	75
PRICE/PERFORMANCE	VERY GOOD		

Digital Chain

cinemateq secures best quality with a studio standard.



In production studios SDI (serial digital interface) is a standard for digital connections which transport interlaced pictures. The signals move uncompressed at a high data rate of 270 megabits per second down the cable. SDI links convey the pictures as YUV signals. Therefore the cinemateq scaler converts the pictures arriving from the DVD player into DVI

compatible RGB signals for the plasma display. SDI links are also increasingly to be found on DVD players and set-top boxes such as the Elipsus DVR made by Elium. There are good reasons for this: SDI permits high quality connections for up to 250 meters of cable length. Furthermore unlike DVI and HDMI no royalties need to be paid for this digital link.

About cinemateq:

cinemateq is the European leader for optimizing technologies in the homecinema- and presentationmarket. Under the brand cinemateq the cinemateq GmbH & Co. KG has developed proprietary optimization technology for the hometheatre and showroom environment.

The basis for cinemateq solutions has been created in the course of a wide range of developments for the complete intelligent home system. A newly developed transfer method for video- and audiosignals offer much potential to gain the leading position in technology.

cinemateq ranks among the top manufacturers of high quality optimizing systems for hometheater and projection systems for the improvement of video reproduction. The strength of cinemateq products is based on the following cinemateq philosophy: doing the utmost to exhaust technical possibilities considering the latest technological demands and strict adherence to high quality standards. For further information please refer to www.cinemateq.com

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