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Sony optical blocks

Bulb Replacement will not fix any of these problems (Click for Larger Image) Sony Optical Blocks are available as Rebuilt parts. Part Costs range from \$249+ shipping from used parts, ebay-type shopping cart websites, to \$600 and up from the manufacturer's supply chain. Sony Optical Block Concept Sony Optical Block Light Path Sony Optical Block or Engine Sony Optical Block replacement means greater dis-mounting of the TV device. This is not recommended as a DIY project. The same chance of success as a Peruvian Indian does brain surgery with a sharp arrowhead. Sony LCD Rear Projector Dis-mounting Sony Optical Block Dis-mounting Sony 42WE655 Optical Block We can install on site for \$240 labor + parts. We will have access to Sony's supply chain or customer purchases from used sharing websites. Please ask before ordering parts that we will install. Distorted Image and Other Errors Find all Sony TV models and lamp numbers optical motor or optical block faults and information for 42WE620, 50A2000, 50E2000, 50E2000, 50E2000, 50E2000, 50E2000, 50E2000, 60A2020, 60W655, 60WE610, 60wf655, KDF-55E2000, KDF-E50A10, KDF-E55A20, KDS-50A2000, KDS-55A2020, KDS-60A2000, KDS-60A2020, KDS-60A20 60WE620, KFE42A10, KFE50A10 and other Sony LCD Rearor Projector models. This article needs additional citations for verification. Help improve this article by adding citations to trusted sources. Unmapped material can be guestioned and removed. Find Sources: Silicon X Century Reflective Display – News · newspapers · books · scholar · JSTOR (June 2009) (Learn how and when to remove this template message)SXRD (Silicon X-century Reflective Display) is Sony's proprietary variant of liquid crystal on silicon, a technology used primarily in projection televisions and video projectors. In the front and rear projection television market, competes directly with JVC's D-ILA and Texas Instruments DLP. Sony has stopped producing all of its rear-projection TVs, including those used SXRD display chips, in favor of flat-panel devices that use LCD and OLED displays. Sony has now concentrated SXRD on HD home front projectors and next-generation 4K digital theater projection. Models The following SXRD branded products have been released or announced: Sony SXRD Models Year Size Series and Model Number A2000 A3000 XBR Qualia BRAVIA SXRD 2004 Projection -- -- 004 -- 70 -- -- 006 -- 2005 50 -- -- KDS-R50XBR1 -- -- 60 -- -- KDS-R60XBR1 -- -- Projection -- -- -- V V PL-VW100 2006 50 KDS-50A2000 -- -- -- 55 K DS-55A2000 -- -- -- 60 KDS-60A2000 -- KDS-R60XBR2 -- -- 70 -- -- KDS-R70XBR2 -- --Projection -- -- -- VPL-VW50 20 50 50KDS-50A2020 -- -- -- 55 KDS-55A2020 KDS-55A2020 KDS-60A2020 KDS-60A2020 KDS-60A3000 KDS-Z60XBR5 (Cancelled by Sony) -- -- 70 -- -- KDS-Z70XBR5 (Cancelled by Sony)[1] -- -- Projection -- -- -- VPL-VW60VPL-VW200 2008 Projection -- -- VPL-VW40VPL-HW10VPL-VW80 200 9 Projection -- -- VPL-HW15VPL-VW85 2010 Projection -- -- VPL-VW90 2018 Projection VPL-VW295ES VPL-VW695ES VPL-VW995ES Controversy While being able to produce good highresolution image quality, Sony has had trouble mastering the technology of mass producing the rear projector version of these displays. A high failure rate for the optical block has required repeated replacements of the optical blocks on some TVs. [citation needed] Sony previously settled a class action lawsuit filed by owners of the first generation of SXRDs, and apparently failed to fix this defect. Sony discontinued production of all SXRD rear projector sets, as owners of most second-generation sets filed new class action lawsuits. [citation needed] The second generation of class action lawsuits were recently filed and pending in federal court. [citation needed] Refers to ^ Gizmodo report - Bye rear projection: Sony says goodbye to rear projection: V. Retrieved December 29, 2007. External links SonyStyle VPL-VW40 product page All Engadget SXRD articles Sony Professional SXRD Site Sony optical block problem site This product article is a stub. You can help Wikipedia by extending it.vte Taken from The discoloration usually, but not necessarily always, arise from degraded and/ or dirty parts within a module called the optical block inside the TV--typically the liquid crystal panel and/or polarizing filter in the blue light channel. TVs can often be repaired (at least temporarily) by replacing the blue panel and/or filter--a process called remodeling. Note the following: I most cases, the best option is probably to have the optical block professionally rebuilt. This requires you (or someone you hire) to remove the optical block from your TV and send it back to you for reinstallation. You may be able to find a replacement optical block online (see article number in the table below) to avoid having to send your block and wait for a rebuild. However, they are usually prohibitively expensive or are not really available even though they are listed on a website, unless they are made available as a rebuilt part of a known rebuilder. Buyer watch out! In very rare cases (e.g. purple/pink splotches the size of large coins that look a bit like fingerprints), you might be able to fix the problem by cleaning dust from the optical block. Usually this is not the case, however. If you are skilled adventurous and has the spare parts and equipment required, it may be possible to carry out your own rebuilding. Rebuilding. Rebuilding. parts can be obtained only by harvesting them from other similar TVs (eg. through purchase scans through craigslist, eBay, etc.). Some pre-harvested parts can be purchased online. Again, the buyer watch out! In addition, the process of adjusting the convergence (aligning the blue, red and green color channels) and/or polarizing filters are best made by skilled individuals using special equipment. In some cases, conversions use new parts that are built according to specifications other than the original parts, which may be longer than the originals. For the most part, however, conversions are likely done using parts harvested from other similar televisions. There are three panels in each TV (one each for blue, red, and green), and they are interchangeable between color channels and similar model families, so the replacement panels are often from the red or green color channel of another TV. It is therefore likely that the TV will fail again with the same problem after a similar, or slightly extended, level of use. Please note that the information on this page may or may not be accurate or complete. Try to remove and/or rebuild an optical block should probably be reserved for those who have experience with such procedures, as it can lead to damage and/or make your TV inoperable or damage it. Continue at your own risk! Below are some instructions and links to aid in the removal of the optical block from some models. Note that there are two different optical block technologies, 3LCD and SXRD (see table below to determine your technique). The process differs greatly between technologies, and there are also differences depending on the specific model. Service manuals are available for all models, and these should help the process, even if they do not provide step-by-step instructions. I can have a copy, so feel free to ask, although I may not be able to answer, or it may take a while. There are a lot of steps that can take a few hours to complete for those who are not familiar with the process. To help ensure a smooth reassembly at the end, you should carefully notice all electrical connections, including the orientation of wiring in the connectors. You should also carefully note which screws are used to attach specific components. Generally, the procedures described on this page require only Philips head screwdrivers, but note that you will need one with an extra long shaft to remove the optical block itself from 3LCD models. You may also need a hex head (Allen) wrench to remove your projection lamp and housing norcal715 videos The following excellent YouTube videos of norcal715 show both the removal and rebuilding of optical blocks for many of the models. Be sure to note the text he has added to the videos at various points. For those who want to venture beyond removal to actually rebuild their optical blocks, note that norcal715 uses special source source including solid colors and a grid to assess convergence and color accuracy, as well as a special jig (disassembled TV with parts cut off) to help convergence setting on the A2000/A2020 models. It is possible, at least in some cases, to set convergence by switching the optical block outside the original TV and projecting the image onto a ceiling or other surface while tweaking the position of the liquid crystal panel. However, this can be very challenging: Detailed photo and text instructions have devised a detailed procedure with annotated photos and text of my 3LCD model KDF-55WF655 HERE, which should be generally applicable to the WE, WF, XBR950 and XS models. This includes the removal of the optical block, as well as a demolition of the optical block itself. A detailed set of images and instructions for removing the optical block from an SXRD model KDS-R60XBR1 by ACP Forum member adrian1281 can be found HERE. Other photosA get instructions and images describing access to the optical blocks of a 3LCD model KF-50WE610 provided by ACP Forum member lou58 can be found here: Set 1 and Set 2.Paul Patience has posted some instructions and photos for the Canadian 3LCD model KF-42WE620 on his Sony LCD Projection TV Cleaning Instructions website. Images of an original and a replacement optical block for a KDS-50A2020, including comments on those installed in a TV, can be seen HERE. Sony previously had optical blocks available for purchase, in most cases for about \$500-\$1,500 plus one-way shipping. A company called Tri-State Module (also doing business like River Valley Electronics) and an individual named John Breton rebuilt optical blocks for various models. In addition, the TriState Module sometimes had rebuilt optical blocks in stock for purchase, as well as blue light road polarizing filters and LCD panels (parts required for remodeling) for a limited set of models (2003-2004 3LCD). It is unlikely that any of these options are still available, nor are they considered reliable or cost-effective. Part numberThe following table indicates the optical block subnumber of the indicated models. The part numbers in parentheses refer to numbers that have been replaced. The accuracy of this table is not guaranteed. In fact, there are a lot of variations from place to place on which part numbers work in which models. For the 2005 SXRD models, there are several part numbers for each model, apparently due to changes made during the year of production. For those models, you should contact Sony with your serial number to confirm the correct part number. TV modelsOptic block part number Old optical block part number?2002 3LCD KF-60DX100A1601922A KF-50XBR800A1603624A1603625A KF-60XBR 800A1603611603613A2003 3LCD KF-

KF-42WE620A1086496A/B KDF-42WE610A16060606A1606033A KF-50WE610A1606008A KF-60WE610A1606010A KF-60WE610A1606010A KDF-60XBR950A1606041A A1606042A KDF-70XBR950A1606039A A1606040A 2004 3LCD KF-50WE620A1086497A KDS-42WE655A1084658AA1056437A KDF-50WE655A1084660AA1057972A KDF-55WF655A1084662A A1060807A KDF-60WF655A1084664A A1061049A KDF-55XS955A1084666A A1061489A KDF-60XS955A1084668A A1061404A 2004 SXRD (QUALIA) KDF-E42A10 A1123071A KDF-E50A10 A1123069A KDF-E55A20 A1132202A 70Q006991300092 A1105717A 2005 3LCD KDF-E60A20 A1132204A 2005 SXRD* KDS-R50XBR1 (earlier)A1148155A/B A1168495B KDS-R50XBR1 (later) A1168495A KDS-R60XBR1 KDF-42E2000 A1212387A KDF-46E2000 A1197240A A1175106A KDF-50E2000 A1197241A A1174954A KDF-55E2000 A1197243A A1174964A2006 SXRD KDS-R60XBR1 (later) A1168494A/B 2006 3LCD (earlier) A1127174A/B KDS-50A2000A1203196A/B KDS-55A2000A1203195A/B KDS-60A2000A1203194A/B KDS-R60XBR2A1203198A/B KDS-R70XBR2A1203197A/B2007 SXRD KDS-50A2020 see KDS-50A2000 KDS-55A2020 see KDS-55A2000 KDS-60A2020 see KDS-60A2000 KDS-50A3000 A1359074A? KDS-60A3000 A1359074A 2007 3LCD (BRAVIA) KDF-37H1000 A1307742A KDF-46E3000 A1310251A KDF-50E3000 A1310249A *Previous models have serial numbers starting with 20xxxxx, 90xxxxx, and 98xxxx, Later models have serial numbers KDS-55A3000 A1359074A? starting with 91xxxxx and 99xxxxx. Removing the rear protectorUnstoppers the TV and remove the rear cover from the back of the TV by removing all the screws with arrows pointing towards them. On the KDF-55WF655 there are nine screws around the perimeter and four screws within the audio/video connection area (chassis mounting). When all the screws are removed, the lid should move very easily away from the TV. Set the rear cover aside with its screws so that you do not get them mixed together with others. Two examples of perimeter screws with arrows pointing towards them (screws removed): Audio/video connection area (chassis mount) screws with arrows pointing towards them: Rear cover removed. From left to right, note (1) the audio/video connection unit (chassis unit), (2) the center column (large metal plate in front of the optical block), (3) the main cooling fan and (4) the Woofer block unit (speakers).: Center pillar removalSwitch the two ground wires from the connector on the centre column (metal plate between the audio/video connection unit and the main cooling fan). Remove the five screws with arrows pointing towards them from the center column. Please note that the center-right screw enters the main cooling fan housing, which must be properly lined up during reinstallation. Please also note that is a support quide for optical blocks on the back of the centre column near the bottom (see the two screws in a small metal plate at the bottom of the center pillar). This guide slides into a slot, which requires the center pillar to be lifted for removal. Once all the screws are removed, it should be easy to gently lift the center column up then out from the bottom bracket. Set the center column to the side with its screws so that you do not get them mixed up with others. Center column (removed): Side view of removed center pillar showing optical block support guide: Head cooling fan removal Remove another screw at the bottom of the fan housing (except the one removed with the centre column). Please note that it is not necessary to remove the fan itself from the housing. It's going to come out like a congregation. Follow the wires (black, yellow and red) from the fan to a plug. Pull the plug apart. It can only be re-introduced into an orientation, so you shouldn't have to worry about it. Remove the fan wires and plug from the white wire holders (handbag lock). Finally, slide the main fan and the housing outwards towards the back of the TV:Head cooling fan with housing (removed): The following photo is of the back of the TV with the centre column and the main cooling fan/body removed. Note the screw at the bottom of the middle of the photo. This is the second that needs to be removed to release the fan housing. The optical block is the large device between the audio/video connector on the left and the speaker on the right. The green electronic board attached to the rear of the optical block (with the red wires leading to the right and to the area of the projection lamp) is the power supply block (also known as the lamp drive unit or ballast). The black sensor wire should be removed from the clamp by the fan at the top right of the optical block. It creates a loop as it goes through the white wallet clip on top, through the clip, and then back over in front of the power supply block to its starting point (remember to re-create this loop during re-installation): Audio/video connection device (chassis assembly) remove Remove the screw on top of the metal support beam to the left of the audio/video connection device, and remove the beam by slightly lifting the plastic TV case just above the metal support beam to the left of the audio/video connection device, and remove the beam by slightly lifting the plastic TV case just above the metal support beam to the left of the audio/video connection device, and remove the beam by slightly lifting the plastic TV case just above the metal support beam to the left of the audio/video connection device, and remove the beam by slightly lifting the plastic TV case just above the metal support beam to the left of the audio/video connection device, and remove the beam by slightly lifting the plastic TV case just above the metal support beam to the left of the audio/video connection device, and remove the beam by slightly lifting the plastic TV case just above the metal support beam to the left of the audio/video connection device, and remove the beam by slightly lifting the plastic TV case just above the metal support beam to the left of the audio/video connection device, and remove the beam by slightly lifting the plastic TV case just above the metal support beam to the left of the audio/video connection device, and remove the beam by slightly lifting the plastic TV case just above the metal support beam to the left of the audio/video connection device, and remove the beam by slightly lifting the plastic TV case just above the metal support beam to the left of the audio/video connection device, and remove the beam by slightly lifting the plastic TV case just above the metal support beam to the left of the audio/video connection device, and remove the beam by slightly lifting the plastic TV case just above the metal support beam to the left of the audio/video connection device, and remove the beam by slightly lifting the plastic TV case just above the metal support beam to the left of the audio/video connection device, and remove the beam by slightly lifting the plastic TV case just above the metal above the metal-beam. The audio/video connection device is not secured to the TV. It can be pushed out to the back of the TV. For now, you just need to slide it out and slightly to the left to access one of the screws secure the optical block to the TV:Audio/video connection device partially slid out:Optical block (optics device assembly) removalThere is available screws secure the optical block to the TV house which is somewhat difficult difficult access and requires a long-stalked Philips screwdriver. Note that in some other models, there apparently are three screws. The left screw that secures the optical block (accessible after you have slipped out the audio/video connection device): D screw that is optical furthest to the TV (accessible through the semicircular slot): Remove all wire bundles from the white purse locks that protrude the top of the optical block out of the TV while shooting up the audio video connection device. Here is a photo of both devices from the TV: The following photo shows the area of the TV that the optical block was secured by the two screws. Make sure that the screws are secure when installing the optical block again. The adjustment of the block will affect the adjustment of the image. If it is not tight up against the foam gasket on the TV housing, the picture may be crooked: Wire disconnections There are four additional wire connectors that should be disconnected to allow easy removal of the optical block. One connects the audio-video connector to the speaker (woofer) and sits on the speaker cover (see previous photo). The wire bundles of the remaining three connectors may be attached with tape to a fan housing on the upper right side of the optical block. Remove the wire bundles from the tape, and disconnect the three connectors: You should now be able to freely access the optical block for any of the subsequent procedures described below. If you submit your optical block for conversion, the rebuilders are likely to request that you leave all parts of the optical block for testing purposes, so you should just disconnect the remaining wires that connect the optical block to other parts of the TV. If you make a direct replacement of your optical block with a purchased part, the purchased part is unlikely to have a projection lamp or power supply block on it, so you need to remove these parts from your current optical block and install them on replacement. Disconnect wiring from power supply blocks This step can be optional, if the power supply block must be transferred to a purchased replacement optical block. Undo the blue plastic-coated wire holders to release the two wire bundles. Disconnect the contacts that appear with the dotted lines in the image below. One, which probably provides power, is disconnected directly from the power supply block, and the other is a regular wire connector. Disconnect ing the optical block fan wiresSwitch the optical block fan wire connector:Disconnect the wires from the optical block circuit board (C Board)Carefully pull up on the three wire contacts directly connected to the top of the C Board: Final wire disconnect from C BoardRemove the screw and gently pull the blue tape cable out of the C Board side: Your optical block should now free from the TV and ready to be sent. I recommend adding specific protection for the projection lens, then sealing the entire device in a bag to prevent infiltration of dust or packaging material, then carefully packing it with significant padding. Remove the projection light and power supply block (in case you install a purchased replacement cover optical block) To remove the lamp and housing, loosen it to attach it to the optical block and pull the housing outwards from the metal clamps. To loosen the power supply block, remove the four screws that attach the board to the optical block and the two screws that attach the lamp connector. Image of replacement optical block and circuit box for KF-60WE610 (courtesy John Setar)Here is a picture of a replacement optical block for the KF-60WE610. Note that the lamp and power button need to be removed from the old optical block and attached to the omplacmentet. The following two images show a circuit box that helps power the optical block in at least some WE610 models (and maybe others). It is connected to the audio/video connection device and must also be replaced on some models. Otherwise, the color will not be correct (e.g. blue hue all over the screen). Cleaning alone is likely only effective in very limited circumstances (e.g. the pink/purple fingerprints/stains are believed to be caused by dust alone). If you plan to replace your optical block, skip this section and go to the Optical Block Replacement section. Remove the black LCD panel cover to expose the area with LCD panels: Optical block with LCD panel cover off: When-up of the LCD panel area (note that the locations of the blue and red LCD panels are reversed in some models): I theory, blowing air over LCD panels and other internal parts could move some dust. In addition, the glass on the projection lens can be cleaned with lens paper and solution. Aerosol (canned) air is not recommended, as it can come out very cold and /or spray moisture, so extreme caution should be exercised when using it (do this at your own risk). More thorough cleaning can be accomplished by further disassembly of the optical, as described below. The method described below requires even more care and patience, especially the points where LCD tape cables and light runway filters are removed. However, it will allow much more thorough cleaning of the inner parts, as it allows direct access to the filters and LCD panels. Note that Paul Patience has created another website (Sony LCD Projection TV Cleaning Instructions) describing this process on a KF-42WE620. It contains instructions and photos on accessing and cleaning the individual LCD panels, prism faces, and filters inside the optical block. Also note that, on the KF-42WE620 (and maybe all 2003 Grand WEGA or WE the seats for the blue and red LCD panels are changed to the KDF-55WF655 (and maybe all 2004 Grand WEGA). or WF models). Remove the centrifugal cooling fan lamp. It is held by 3 silver screws, as indicated in the photo below. The following photo shows the centrifugal cooling fan removed. Note the two silicone shockabsorbers on which it was mounted. Then remove the fan mounting plate of the black plastic lamp. It is held by 4 silver screws, as indicated in the picture below (screws removed): Remove the projection lamp by loosening the hexagon screw and pulling it out of the clips. Next, remove the black plastic wedge-shaped piece covering the circuit board on top of the optical block. It is held by 4 silver screws, as shown in the picture below: The following images show the optical block with the lamp fan mounting plate, lcd panel cover, wedge-shaped piece and the projection lamp removed (note that the blue and red LCD panel positions are reversed on some models): Then the 3 copper band cables must be removed from the circuit board on top of the optical block. To accomplish this, gently lift up one of the small beige-colored handles from one side. One way to do this is to place a small flat-head screwdriver underneath and gently lift up. The beige handle will raise about 45 degrees, and you will be able to gently remove the tape cable. In order to replace them properly later, note that the tape cables are inserted near the top of the handles, and that only a small amount of the gold area is visible when fully inserted. See the pictures below for more details. Lifting tape cable connector: All three tape cable connectors loosened: All three tape cables removed from their connectors: Next, remove the part of the optical block that contains LCD panels, prism and projection lens. It is held by four silver and four black screws, as indicated in the photo below. Pull this device off the rest of the optical block, while carefully monitoring the tape cables to make sure they don't get caught. Note that the clear dome of the projection lens appears to be made of plastic. Below are images of the removed panel/prism/projection lens device. Projection lens side (optical block fan filter removed--two silver screws): LCD panel side: The optical block fan filter is made of a Scotch-Brite-like material and stapled together by a piece of beige adhesive tape. It seems to be a rather raw construction that is unable to filter small dust particles. This filter in my TV was not very dirty, nor was the centrifugal fan. I've seen others that are very clogged with dirt: Photo of main optical blocks after removal of panel/prism/projection lens device: Close-up of blue and green light road filters. The filter in the blue light path appears orange and the filter in the green light path looks yellow: Close-up filters in green and red light paths. The filter in the red light path appears blue:Next, remove the circuit board with sheet metal shielding from the top of the optical block. It is attached with 3 silver screws located, as indicated in the photo below: Then, remove the large black plastic plate covering the remaining part of the optical block. It is fastened with 6 silver screws located, as indicated in the image below. Before lifting off the plate, remove the red thread that slithers through the posts on the plate. This is one of the two power lines (the top) that go from the power supply block to the projection light. After removing the black plastic plate, you can access the screws that secure the filters through which the light travels just before they reach the LCD panels. In addition you can see the centrifugal fan that cools the internal LCD parts. Parts for cleaningCare wash both sides of the following parts, preferably with optical quality lens paper and cleaning solution: The filters and adjacent lenses in each of the three light paths The outside and inside surfaces of each of the LCD panels Other exposed parts of the light path the following photo is of the filter in blue light path, which has been removed for cleaning. Note the cloudy discoloration of the filter in the form of a rectangle with an oval shape in the middle. This seems to be characteristic of the filters in the blue light path, likely due to exposure to heat and light, especially UV light. This phenomenon is likely to be a cause and/or effect of the blue discoloration: The following photo shows the gaps between the LCD panels and the prism through which it is possible to clean the surfaces. DO NOT TRY to unscrew the LCD panels from prism faces, or you are likely to lose your convergence when reinstalling: Images of dismantled optical blocks on the KDF-55XS955 (courtesy of Bob Scott) – similar to above © Copyright 2009-2012 by Steven P. Linke. All rights reserved. Reserved.

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