

The ABC's of Digital Cinema:

A GLOSSARY FOR EXHIBITORS

With the surge in digital movie releases by major and independent movie distributors, digital cinema is here to stay. We have developed this glossary to help theaters navigate through unfamiliar terminology as they evaluate their options to transition to digital.

2K • A Digital Cinema picture of 2048 pixels wide by 1080 pixels high - 6.67% more pixels than consumer high definition TV of 1920 pixels wide by 1080 pixels high.

2K/4K compatibility • The DCI specification provides for seamless interoperability. 2K content is automatically resized for presentation on 4K projectors while extraction enables 4K content to be presented on 2K projectors. The Sony SRX series projection systems analyze the movie content and automatically select the best resolution for exhibition.

4K • A Digital Cinema picture with four times the pixels of 2K: 4096 wide by 2160 high. The 4K difference is visible, especially to viewers toward the front of the auditorium and especially with stadium seating. Sony introduced the first commercially available projection system in 2005.

DCDM • The Digital Cinema Distribution Master is the uncompressed and unencrypted electronic file with picture, sound and subtitles.

DCI specification • Specifications for digital projection agreed to by the Digital Cinema Initiatives. These provided the industry's green light for widespread digital cinema deployment. It provides future proofing and interoperability among multiple equipment vendors and service providers. Sony's was the world's first fully integrated projection system (projector and server/media block) to successfully complete the full range of compliance tests for specifications required by Digital Cinema Initiatives, LLC (DCI).

DCP • The Digital Cinema Package is the compressed, encrypted file that the theater receives. The Sony projection system includes the server so that the DCP can be ingested right into the projector. DCP files can be created from any high resolution content • films shot on 35mm, video captured in HD, 2K, 4K and beyond.

Fingerprinting • Hidden identification marks in the picture and/or sound that enable pirated content to be traced back to a specific auditorium and showing. The Sony Projection System uses an exclusive pattern that is invisible to the viewer so that there is no degradation of the image quality.

FIPS 140-2 • DCI compliant theater systems must be certified to meet this Federal standard for data security, which includes security from physical

intrusion. Since the Sony Projection System is a fully integrated projector/server/ SMS system, security is easy to manage and tracking intrusions into the system can be monitored by the exhibitor.

Integrator • A digital cinema integrator usually provides VPF contracts, theater management systems, deployment and service. Sony's VPF program includes not only the projector and storage server/Media Block, but complete installation, system integration, screen and theater management software, remote monitoring software, warranty, shipping, and 24/7 hour access to DOC.

JPEG 2000 • The DCI specified data compression; JPEG 2000 combines superb picture quality and manageable file sizes.

K • In computer-speak, two to the tenth power or 1,024. In digital film scanning, the width of the image is described as 2K or 4K pixels.

KDM • The Key Delivery Message is a set of data files that unlock the Digital Cinema Package for presentation. For security, the KDM is delivered to the theater separately from the DCP. With the Sony projection System, KDM management is simple with point and click ingest, and SMS alerts of KDMs that are about to expire.

Media Block • Digital cinema server. Sony's LMT-300 Media Block has a large storage capacity and can be seamlessly integrated into the chassis of the SRX-R320 projector, allowing for a highly secure digital cinema projection system.

MXF File • Material eXchange Format files carry a number of different coded files along with a metadata wrapper that can describe the contents of the MXF file. DCP files include picture, audio and subtitle data files that are wrapped into an MXF file.

NOC • Network Operations Center with remote monitoring. Sony provides a state-of-the-art network operations infrastructure for 24/7 customer support.

ODS • Other Digital Stuff can include policy trailers, commercials, local advertising "slides," live pay-per-view events and video gaming. To maximize theater revenues, digital projection is open to any digital content. The Sony Projection System includes two other inputs that include their own signal scaling allowing direct plug in of just about any type of video signal.



SM • The Security Manager is software within the projector/media block enclosure that monitors any entry. This is included with the Sony SRX Projection System.

SMS • The Screen Management System controls the projector and server of one auditorium. It includes a trusted device list of components within the secure environment. This is included with the Sony SRX Projection System.

SPB • Each area of the projection system must include protection and alerts for sensitive signal processing areas. These are called Security Processing Blocks. Depending on the area protected, the system may react by logging and reporting the event, erasing the stored KDMs, or possibly something as extreme as physical destruction of the protected area (just like Mission Impossible).

SXRD • Most digital projector manufacturers are at the mercy of their chip suppliers. Sony not only makes projectors, we make a high resolution micro display for digital cinemas known as Silicon Crystal Reflective Display (SXRD™), which has been well proven in demanding commercial, professional and digital cinema applications since 2005.

TMS • The Theater Management System manages content storage, keeps operational logs of what has been played or what will need to be played, movement of content to the auditorium and can interface with ticketing, contract management and key management.

Triple Flash • Conventional single-projector 3D systems present information first to the left eye only and then to the right eye only. Sony's 3D solution is dramatically different, presenting images to both eyes simultaneously, for more natural viewing.

VPF • Virtual Print Fee is a financing model designed by and supported by film studios to help offset the cost of theater exhibitor conversion to digital projection. Fee structures vary by studio, and fee details are often confidential and vary from exhibitor to exhibitor.

This glossary is brought to you by Sony Digital Cinema Solutions, the leader in 4K projection.

sony.com/digitalcinema