



MIS Family of Signal Processors

DCA has a signal processor for whatever format you want to master and whatever LBR on which you want to master.

DCA offers a variety of signal processors under the MIS (Mastering Interface System) family name. DCA MIS products cover for all major optical disc formats – prerecorded or recordable. MIS can be integrated in all current LBR's and most older models.

MIS Family of Products

Product	Supported Formats
MIS V8	CD, DVD
MIS 8.5	HD, BD (DVD Q2, 2006)
MIS Pro	HD, BD (DVD Q2, 2006)

All DCA Mastering Systems have these common features:

Standardized User interface

The MIS products all use the same interface and operation. This simplifies training and helps avoid user error due to unfamiliarity with the application.

Pulse Control Module for Pit Geometry Manipulation

DCA's PCS (Pulse Control System) module allows facilities to control pit geometry of the glass master at the LBR – essential for mastering high density formats. Adjustment in pit geometry can control the width and length of the pits and/or leading and trailing edge timing.

DiscTag™ and HCRC™ Technologies to Help Increase Productivity Yield

All MIS products insert DCA's DiscTag. The DiscTag is a unique identifier applied in the content. The unique DiscTag can be used to retrieve metadata information and speed data entry at each stage of the replication process (loading, mastering, physical testing, and content verification). The DiscTag metadata can also aggregate reports from each stage of the replication process for later retrieval.

HCRC (Hierarchal CRC) allows for full sector verification without the need for the original content. This can dramatically reduce the network bandwidth needed to verify high density content in your facility, since an HCRC file for a 9GB image takes less than 1% of the original content space.

If the input DDP® fileset has an existing HCRC, MIS will verify the disc image against that HCRC during the mastering job.

Network Mastering Capabilities

MIS is designed for networking and can be integrated into Network Mastering configuration with a server for loading and storage. Our networking solutions are designed for high speed mastering and eliminate input media failures. This is an especially important factor for high density format's much higher network resource requirements (e.g., server storage space and network bandwidth).

MIS also provides an entry point to DCA's Commander for scheduling and workflow control.

Copy Protection

DCA's MIS supports a wide range of copy protection methods for all formats.

MIS 8.5

MIS 8.5 is DCA's signal processor for high density optical disc formats where advanced Pulse Control is **not required** by the LBR. MIS 8.5 supports HD-DVD and Blu-ray formats. MIS 8.5 performs all sector formatting, BCA, Media Marks (for HD-DVD), and ETM/17PP modulation for 1R HD-DVD and Blu-ray.

MIS V8.5 Standard Features

- ✓ Supports a broad range of input devices to allow flexibility in mastering media,
- ✓ Up to 1R HD-DVD (64.8MHz) and 1R Blu-ray (66 MHz),
- ✓ PCS-2 land-pit pulse manipulation,
- ✓ DDP 3.00 and HD-DVD CMF 2.00 support for HD DVD-ROM and 3X-SPEED DVD-ROM
- ✓ BD CMF support (*DDP 3.00 support for BD forthcoming*)
- ✓ DDP 2.00, DDP 2.10, DVD CMF 1.00, DVD CMF 1.10, DVD CMF 1.20 support (*forthcoming*),
- ✓ BCA Support for both HD-DVD & Blu-ray,
- ✓ Media Mark support for HD-DVD AACS implementation,
- ✓ AACS support for HD-DVD (in combination with an external AACS encryption server, like DCA's Blazer Workstation),
- ✓ Graphics & Lettering Bands with IRG Wizard - DCA's utility for checking and modifying Graphic Band file information within the LBR File,
- ✓ True Type Font and Barcode 128 (A, B & C symbol sets) support.

MIS Pro

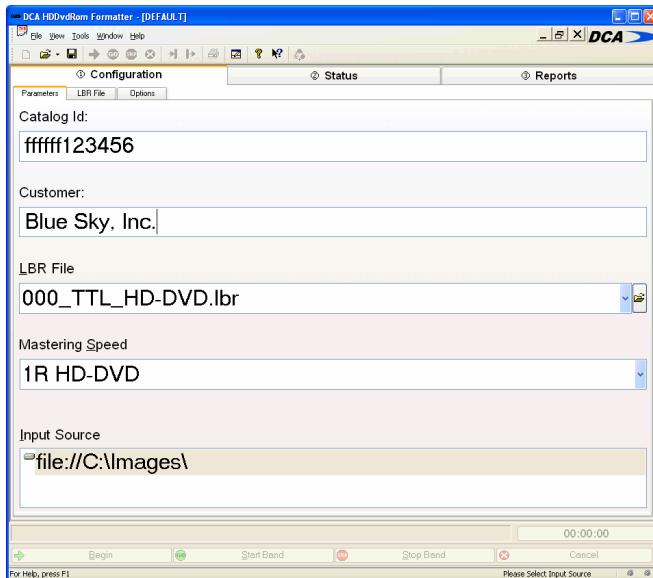
MIS Pro is DCA's signal processor for high density optical disc formats where advanced Pulse Control **is required** by the LBR. MIS Pro supports HD-DVD & Blu-ray formats. MIS Pro performs all sector formatting, BCA, Media Marks (for HD-DVD), and ETM/17PP modulation for 1R HD-DVD and Blu-ray.

MIS Pro Standard Features

- ✓ Supports a broad range of input devices to allow flexibility in mastering media,
- ✓ Up to 1R HD-DVD (64.8MHz) and 1R Blu-ray (66 MHz),
- ✓ PCS-3 land-pit pulse manipulation,
- ✓ DDP 3.00 and HD-DVD CMF 2.00 support for HD DVD-ROM and 3X-SPEED DVD-ROM
- ✓ BD CMF support (*DDP 3.00 support for BD forthcoming*)
- ✓ DDP 2.00, DDP 2.10, DVD CMF 1.00, DVD CMF 1.10, DVD CMF 1.20 support (*forthcoming*),
- ✓ BCA Support for both HD-DVD & Blu-ray,
- ✓ Media Mark support for HD-DVD AACS implementation,
- ✓ AACS support for HD-DVD (in combination with an external AACS encryption server, like DCA's Blazer Workstation),
- ✓ Graphics & Lettering Bands with IRG Wizard - DCA's utility for checking and modifying Graphic Band file information within the LBR File,
- ✓ True Type Font and Barcode 128 (A, B & C symbol sets) support.

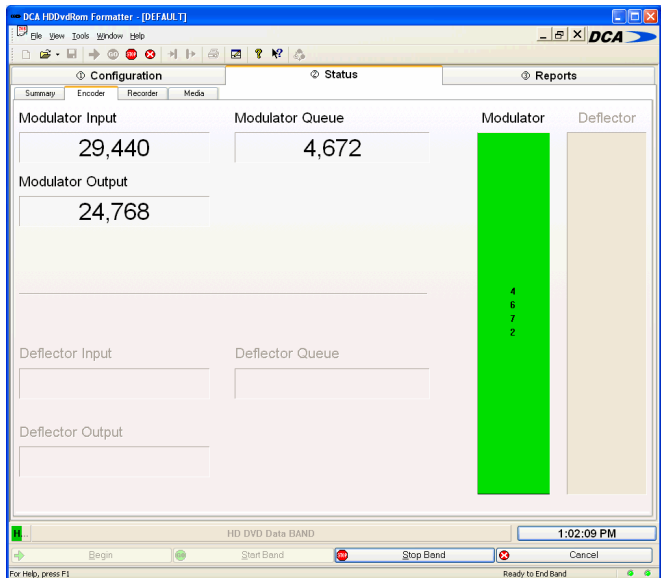
MIS V8

MIS V8 provides a common graphical user interface for all types of laser beam recorders and supports a broad range of input devices to allow flexibility in mastering media. MIS supports all standard DVD and CD formats. MIS V8 performs all sector formatting, scrambling, and EFM/EFM+ modulation for 2R DVD and 8X CD including PQ subcode generation and R-W subcode output for CD.



MIS V8 Standard Features

- ✓ 10XCD and 3RDVD Mastering in CAV or CLV mode,
- ✓ Full support for DDP 1.00, 1.01, 2.00, 2.10 (including CMF 1.00, 1.10, 1.11 and 1.20),
- ✓ CAV Graphics Bands - Adaptive graphic bands give clean and crisp images,
- ✓ IRG Wizard - Utility for checking and modifying Graphic Band file information within the LBR File,
- ✓ Multi-session Discs and Blue Book Build Support,
- ✓ DVD-R General and Authoring grade supported as input media,



"Congratulations on your new MIS V8 with CAV. This well thought out and executed system is fast, easy to implement, easy to use, requires less cabling in the equipment rack, and makes fast work of recording CD and DVD formats while maintaining or improving the product quality."

**Mark Schlorff
Senior Mastering Engineer
Sonopress
North Carolina**

- ✓ CD Text - CD Text enables formatted subcode in lead-in,
- ✓ R-W Merge - supports files from a separate device during mastering,
- ✓ True Type Font and Barcode 128 (A, B & C symbol sets) support.

PCS (Pulse Control)

There are three types of Pulse Control available with DCA MIS products: PCS-2 for MIS 8.0, PCS-2e for MIS 8.5 and PCS-3 for MIS Pro.

PCS-2 features:

- ✓ Pit Geometry can be adjusted at all encoder supported speeds,
- ✓ No recabing required from standard encoder,
- ✓ Alter leading edge, trailing edge and pulse intensity (amplitude) of individual pits or pit/land pairs as a global or individual setting,
- ✓ Leading edge and Trailing edge delay adjustment: 1/16 of a channel bit period increments (in positive or negative direction),
- ✓ Pit amplitude adjustment: minimum amplitude value of 0 Volts; maximum amplitude value of 4.0 Volts,
- ✓ Greater control over the Land run length and Pit run length adjustment than in DCA's original PCS,
- ✓ PCS-2 Pit Geometry Editor simplifies setting the desired adjustments.

In addition to all the PCS 2 features, **PCS 2e** (offered in MIS 8.5) has a maximum resolution of 1/128 T channel bit edge adjustments.

DCA's **PCS-3** offered in MIS Pro allows you to modify pit geometry on a land-pit-land basis while mastering. Not only can operators create complex waveforms necessary for blue-laser masters prior to the cut, but facilities can also use PCS-3 to create step-band masters and modify the write strategy during the cut, to attain the highest degree of calibration possible.

Copy Protection

DCA supports copy protection during mastering for the following formats:

HD-DVD and Blu-ray

AACS

DVD

DVD CCA CSS
4C Entity CPPM
Macrovision RipGuard

CD

Macrovision SafeDisc® 1.0 and 2.0,
SafeAudio
SmarteSolutions' SmarteMaster
First4Internet XCP© (Extended Copy Protection)
Panlok Ltd CodeLok®
MLS LaserLock®
SunnComm™ Audio Copy Protection

For more information on DCA's MIS Family of Products, contact your DCA Regional Sales Manager

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