

## SACD Mastering and Authoring with Pyramix 5



*SUPER AUDIO CD*

**DSD**

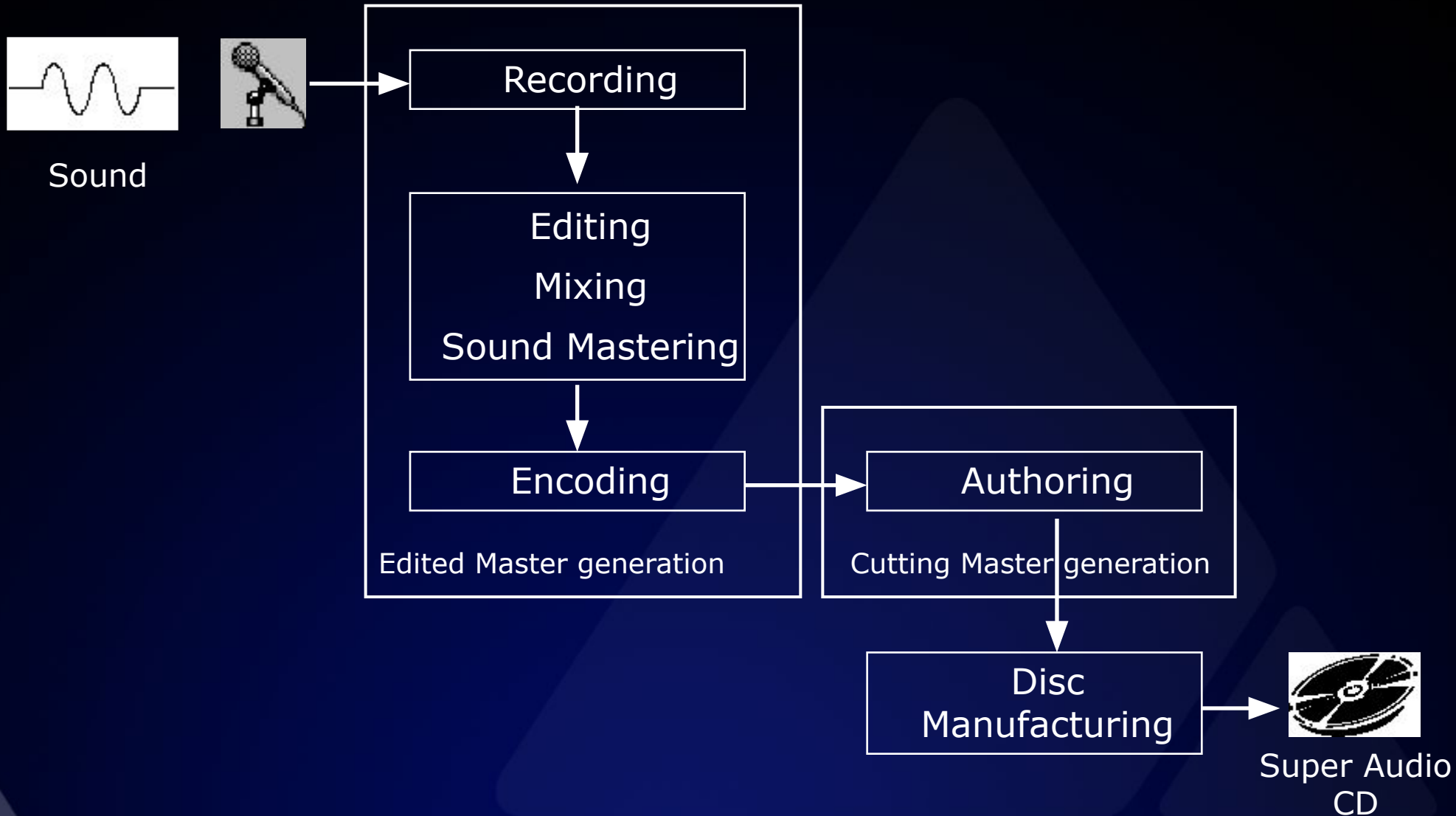
Direct Stream Digital

**DXD**

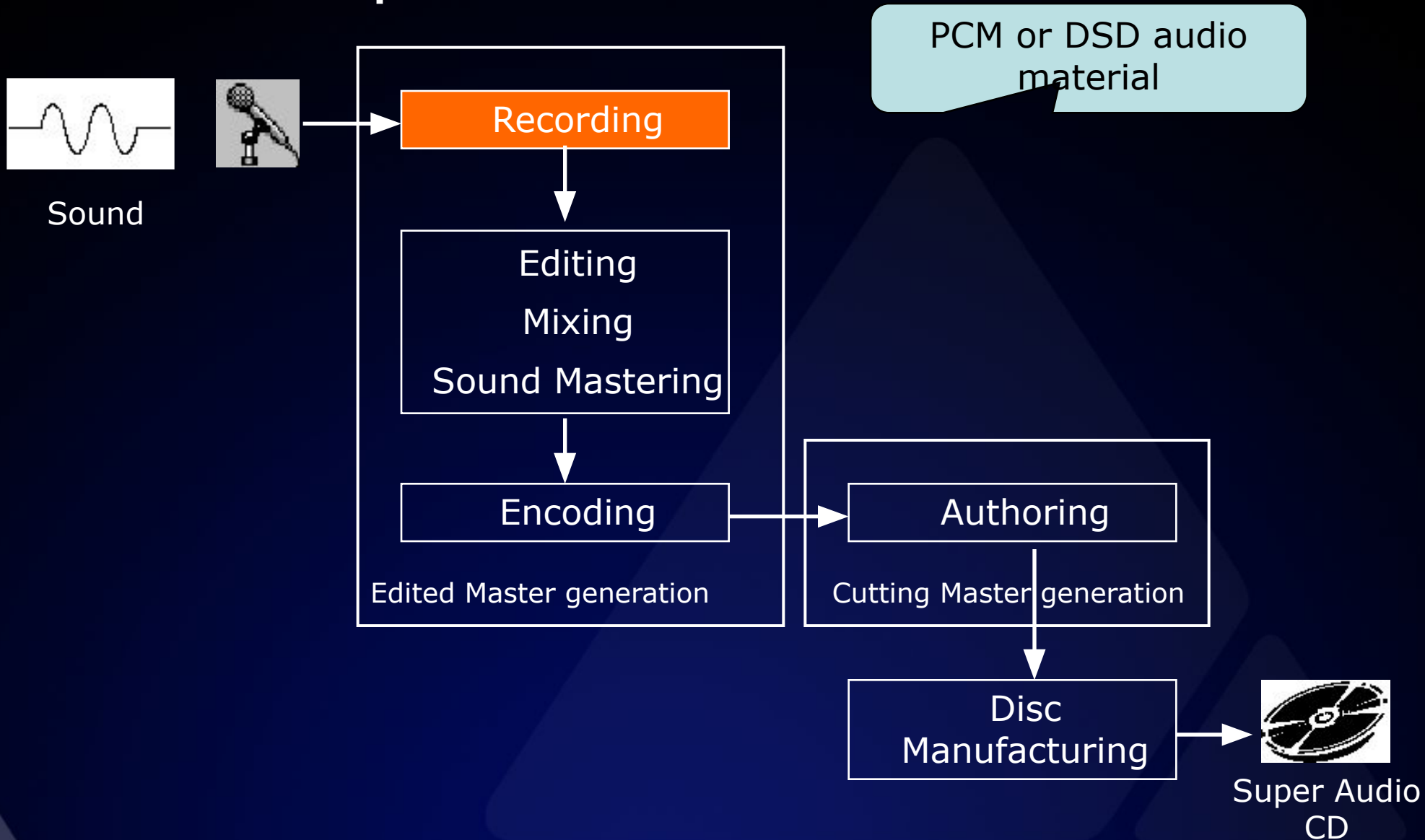
Digital eXtreme Definition

**Multi-ch  
Stereo**

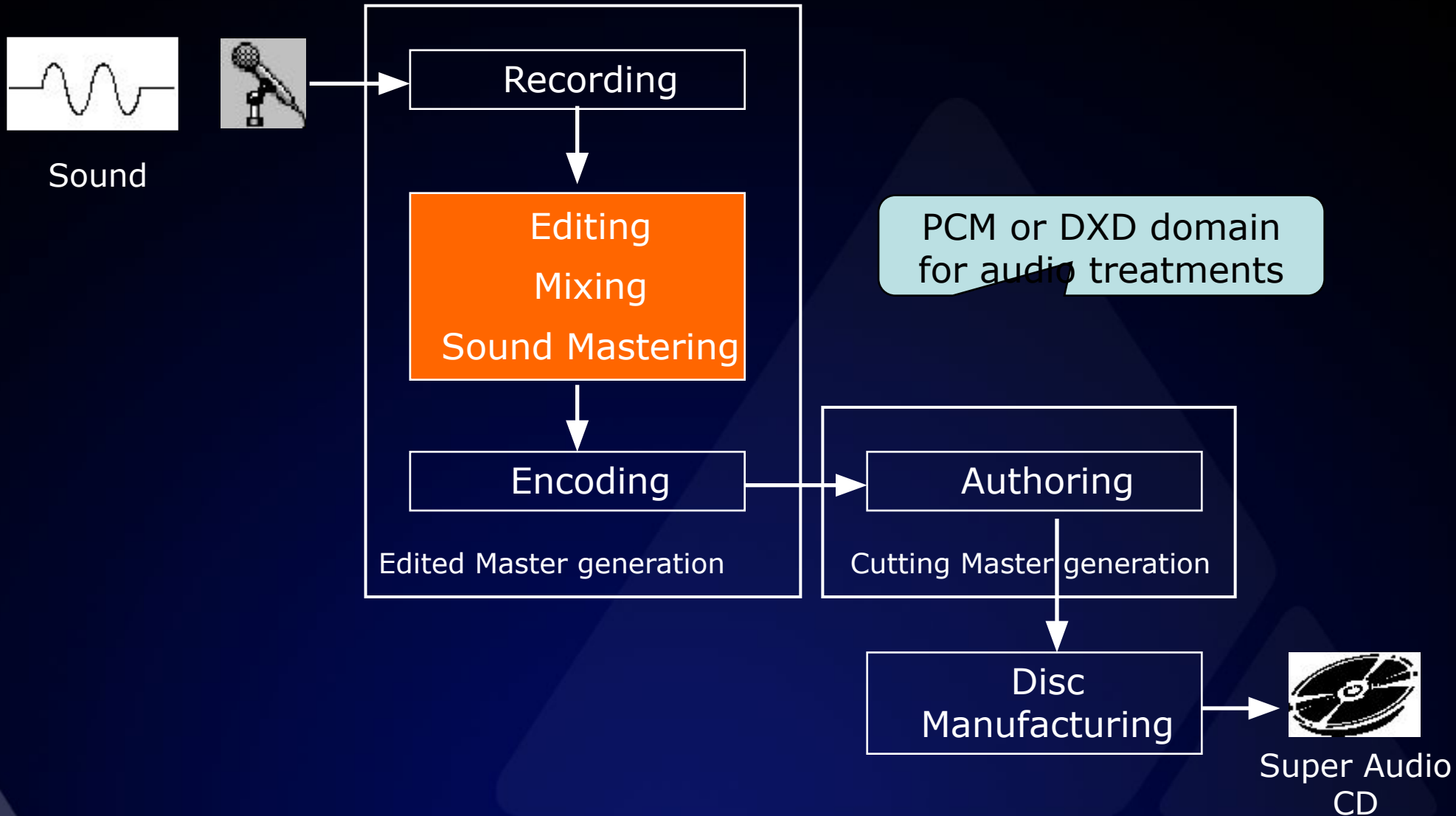
- Global SACD production workflow



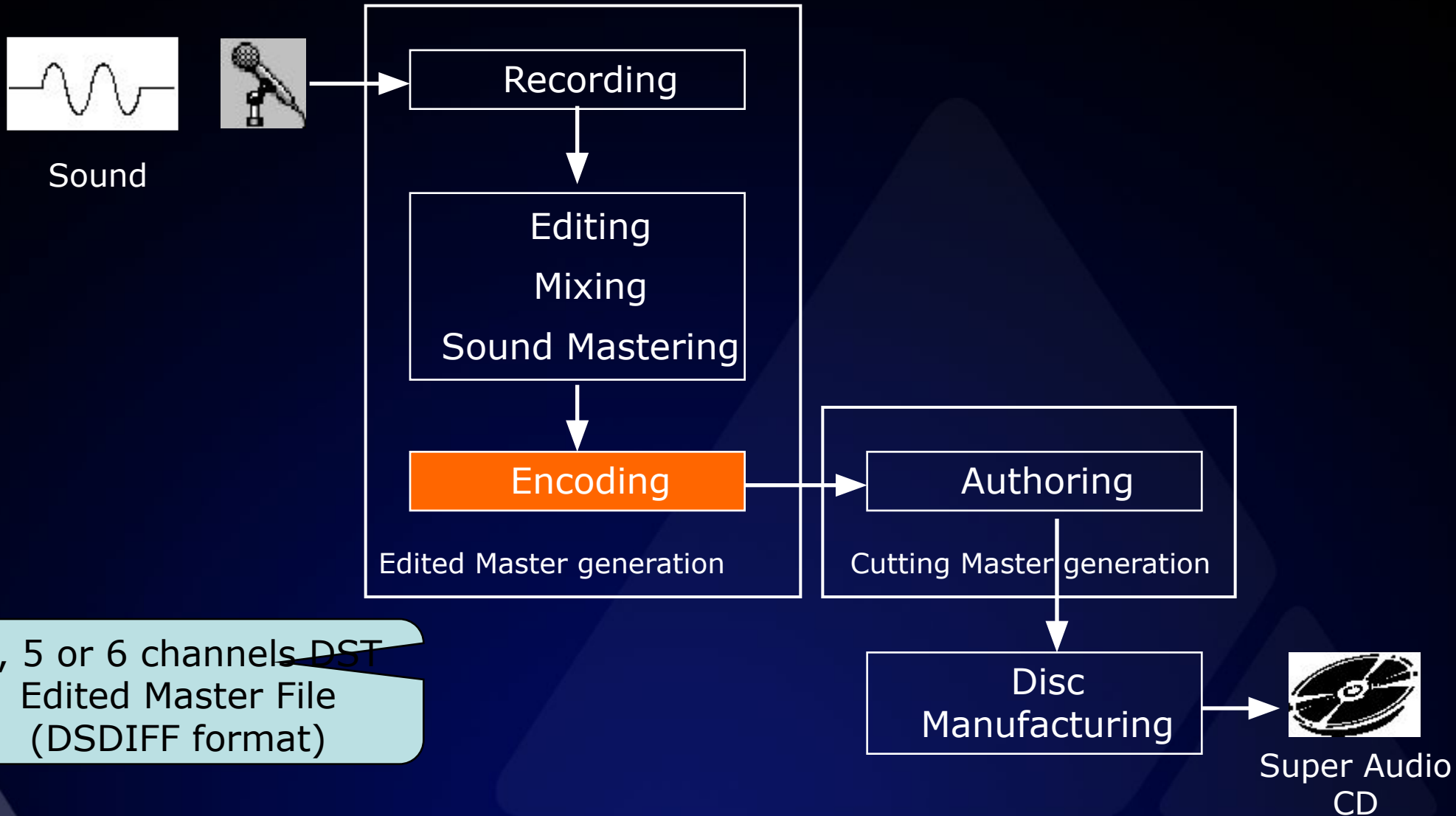
- Global SACD production workflow



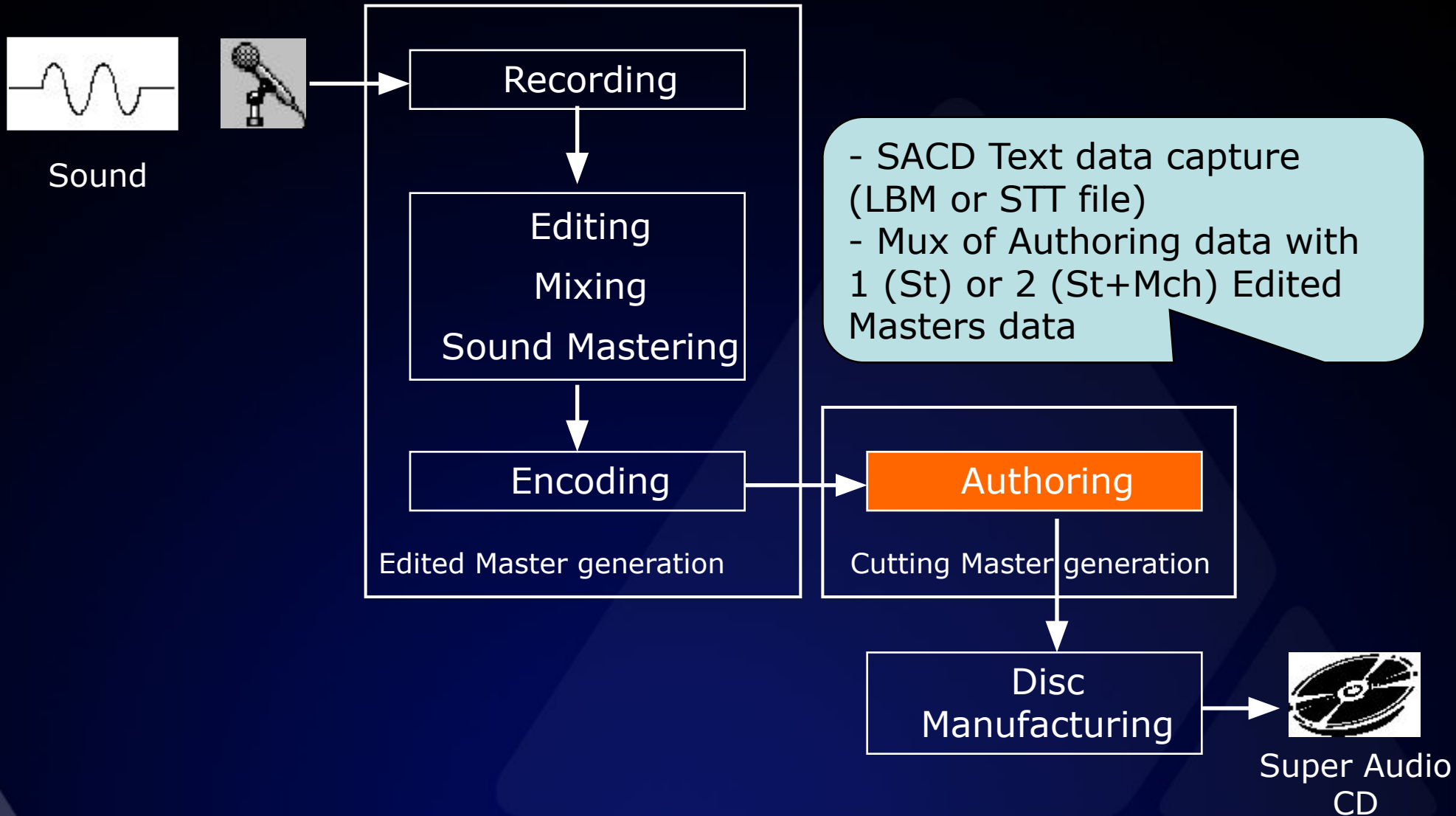
- Global SACD production workflow



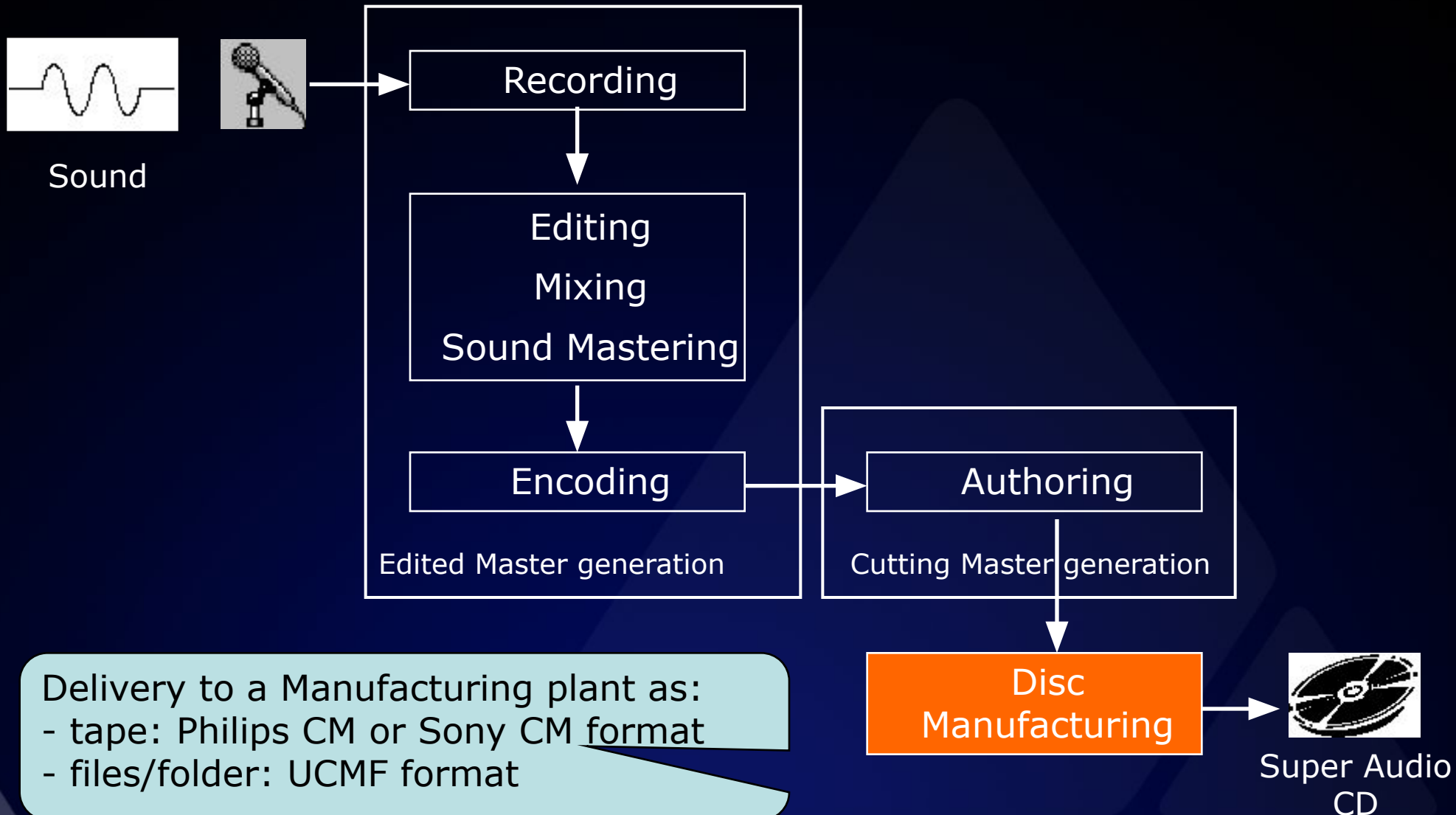
- Global SACD production workflow



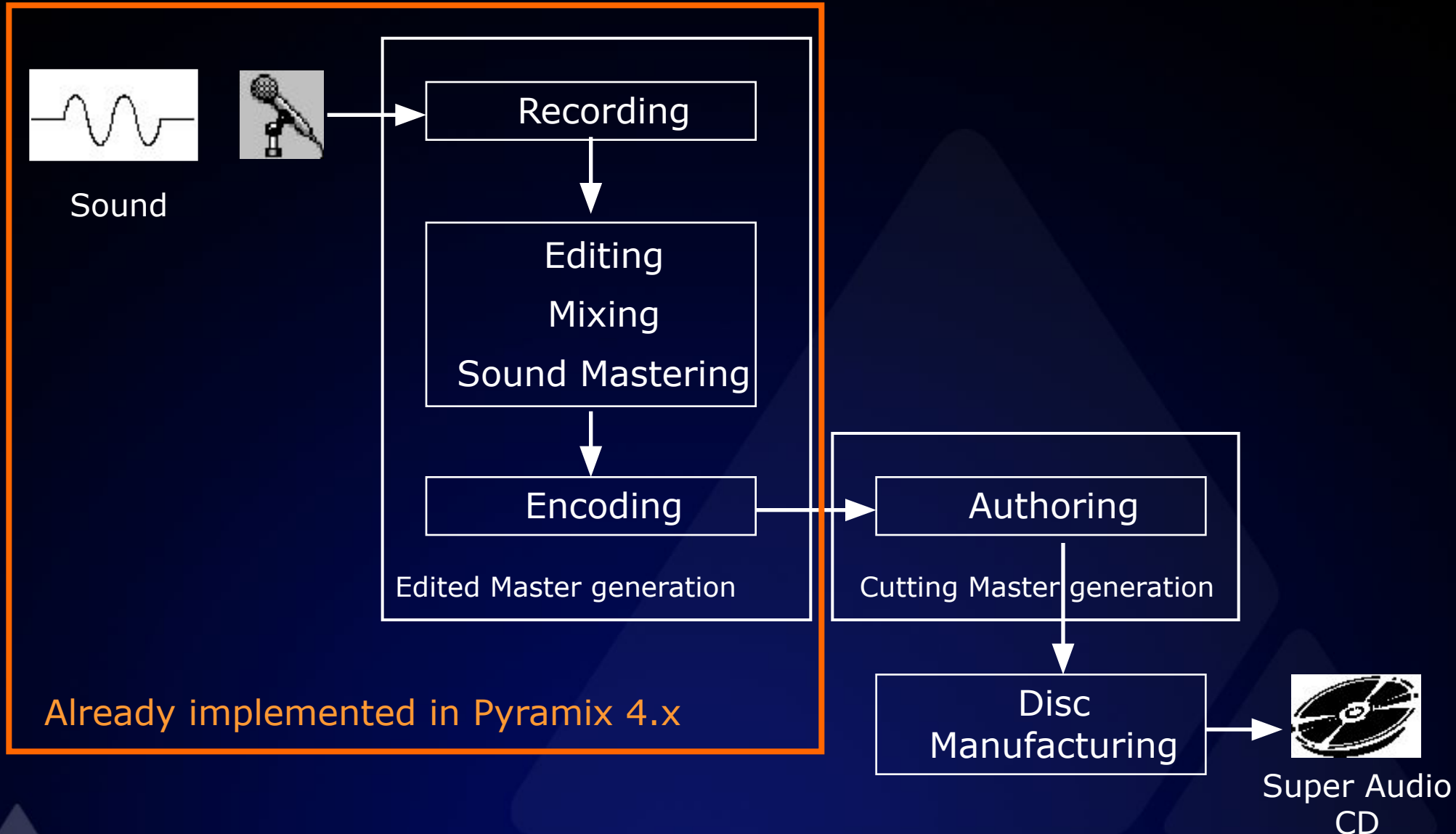
## • Global SACD production workflow



- Global SACD production workflow



- Global SACD production workflow

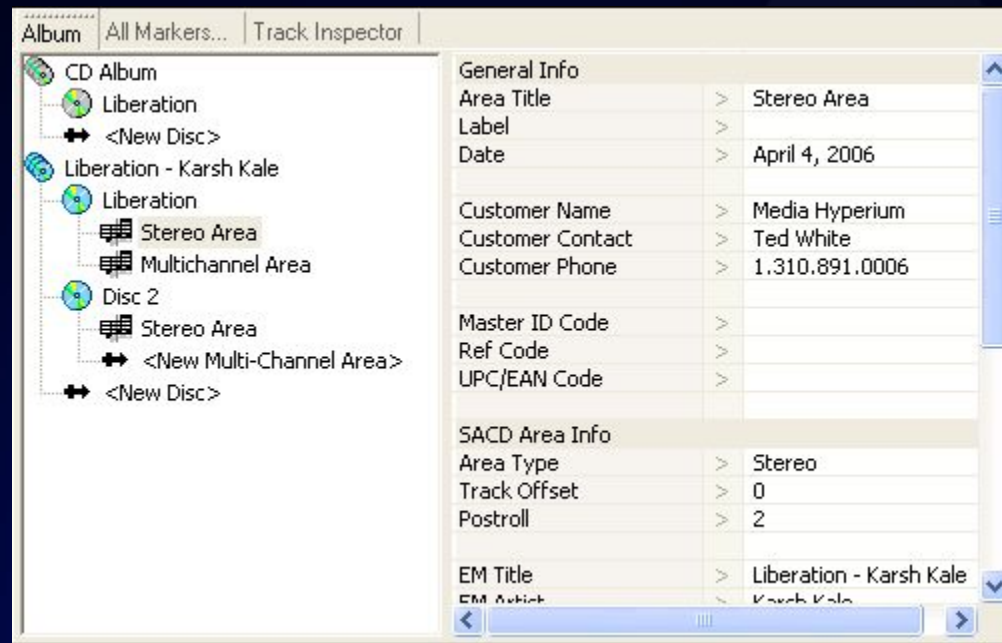




- **What's new in Pyramix 5?**

- Handling of multiple CD and SACD Discs in a single project
- Full SACD Text implementation
- Easy creation of CD disc from SACD or SACD disc from CD
- Batch generation and encoding of Edited Masters
- DSD Annex D3 verification
- Import/Export of LBM and STT Authoring file format
- SACD Cutting Master generation including Tape export and verification

- **Manage SACD Stereo, Multi-channel and CD Authoring in a single project**



- Manage SACD Stereo, Multi-channel and CD Authoring in a single project

The screenshot shows the Merging Technologies software interface for SACD production. The top section displays a timeline with various tracks and markers. The bottom section displays a project tree on the left and a track list on the right.

**Project Tree (Left):**

- CD Album
  - Liberation
  - <New Disc>
- Liberation - Karsh Kale
  - Liberation
  - Stereo Area
  - Multichannel Area
- Disc 2
  - Stereo Area
  - <New Multi-Channel Area>
  - <New Disc>

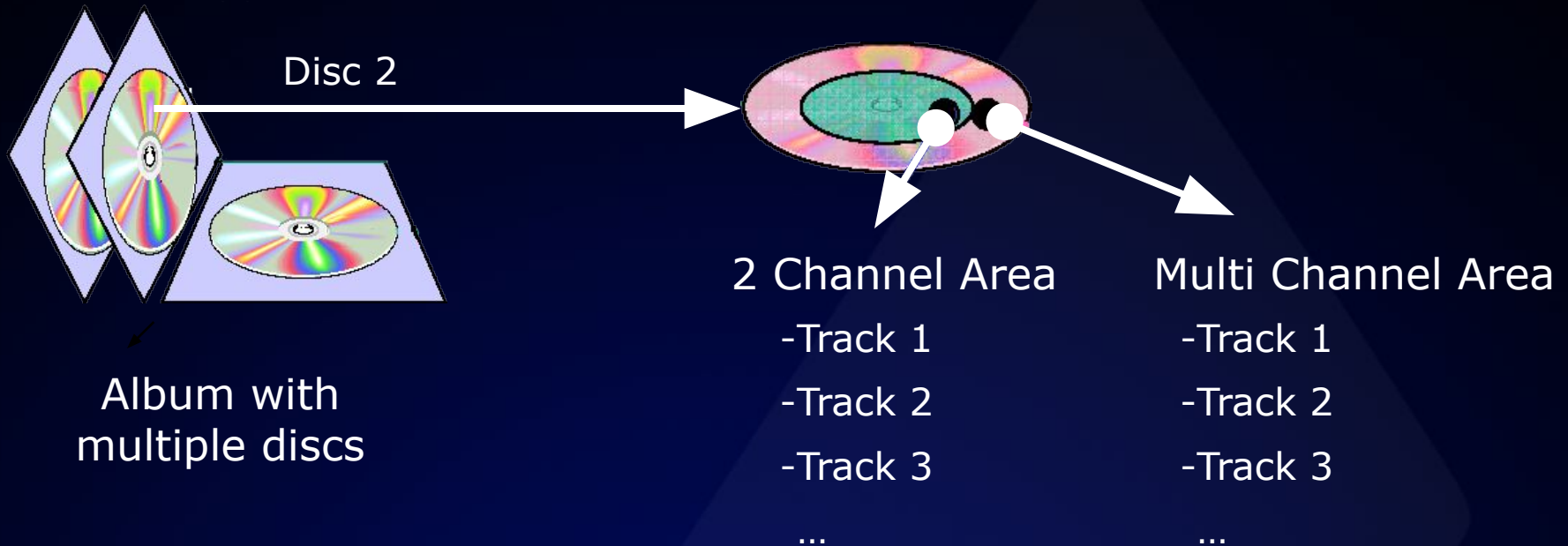
**General Info (Right):**

- Area Title: Stereo Area
- Label: April 4, 2006
- Customer Name: Media Hyperium
- Customer Contact: Ted White
- Customer Phone: 1.310.891.0006
- Master ID Code
- Ref Code
- UPC/EAN Code
- SACD Area Info
- Area Type: Stereo

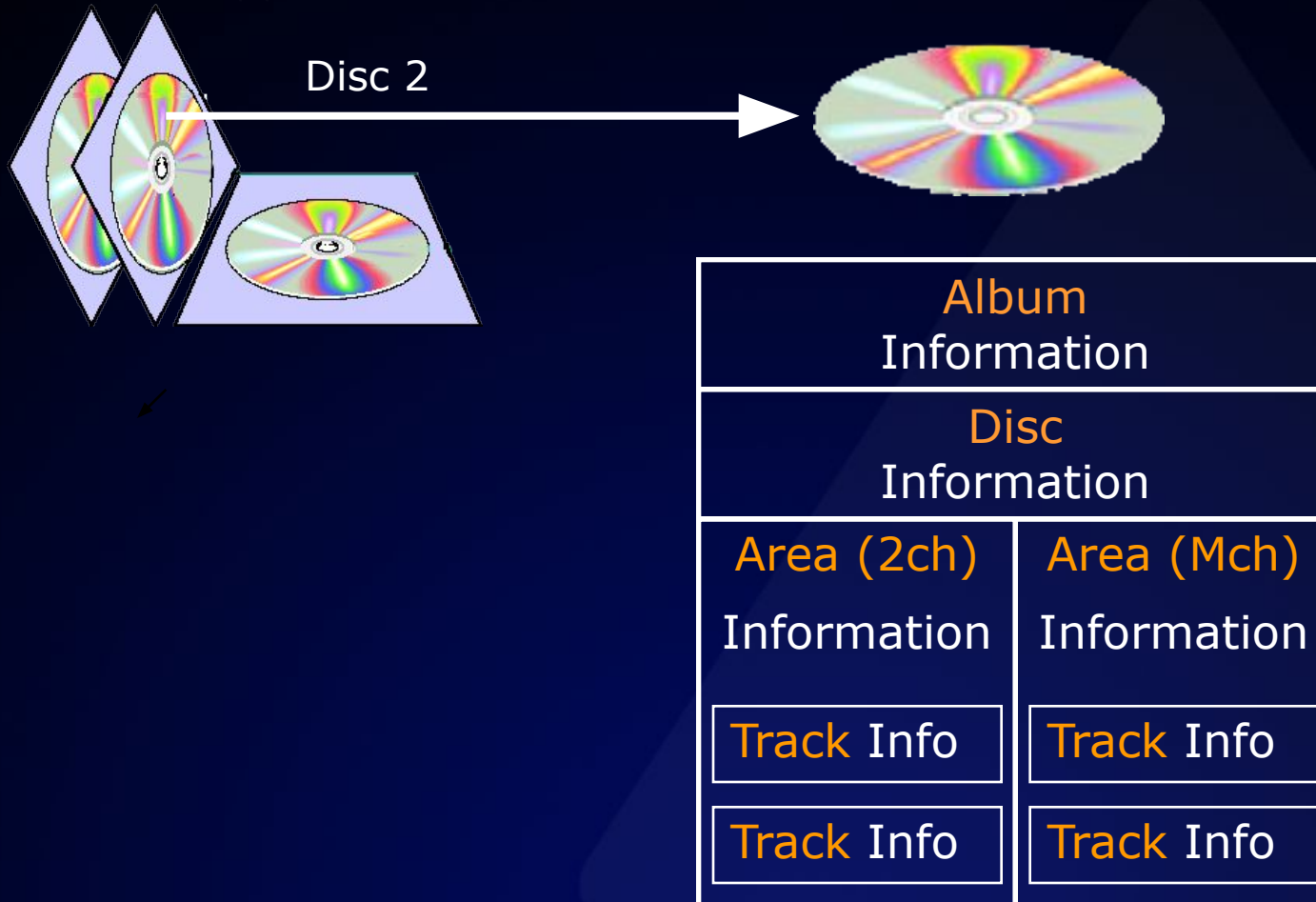
**Track List (Right):**

Name	#	Pause	Start	End	Length	Start Offset	L
Click here to add a new CD Track							
Cinematic Reprise	1	00:00:00:00	23:59:59:14	00:02:54:55	00:02:55:41	00:00:01:00	Y
Epic	2	00:00:00:00	00:02:54:55	00:08:20:13	00:05:25:33	00:00:00:00	N
Instinct	3	00:00:02:00	00:08:22:13	00:14:04:24	00:05:42:11	00:00:00:00	N
Milan	4	00:00:01:26	00:14:05:50	00:23:01:27	00:08:55:52	00:00:00:00	N
Dirty Fellow Remix	5	00:00:00:00	00:23:01:27	00:29:01:36	00:06:00:09	00:00:00:00	N
Tabla Song	6	00:00:00:00	00:29:01:36	00:31:58:55	00:02:57:19	00:00:00:00	N
Liberation	7	00:00:00:00	00:31:58:55	00:36:58:51	00:04:59:71	00:00:00:00	N
Letting Go	8	00:00:00:00	00:36:58:51	00:43:13:23	00:06:14:47	00:00:00:00	N
Analog Mood Swings	9	00:00:00:00	00:43:13:23	00:49:43:14	00:06:29:66	00:00:00:00	N
Letting Go Remix	10	00:00:00:00	00:49:43:14	00:56:09:27	00:06:26:13	00:00:00:12	Y

- **Full SACD Text implementation (1)**
  - 4 levels of information: Album, Disc, Area, Track



- **Full SACD Text implementation (2)**
  - 4 levels of information: Album, Disc, Area, Track

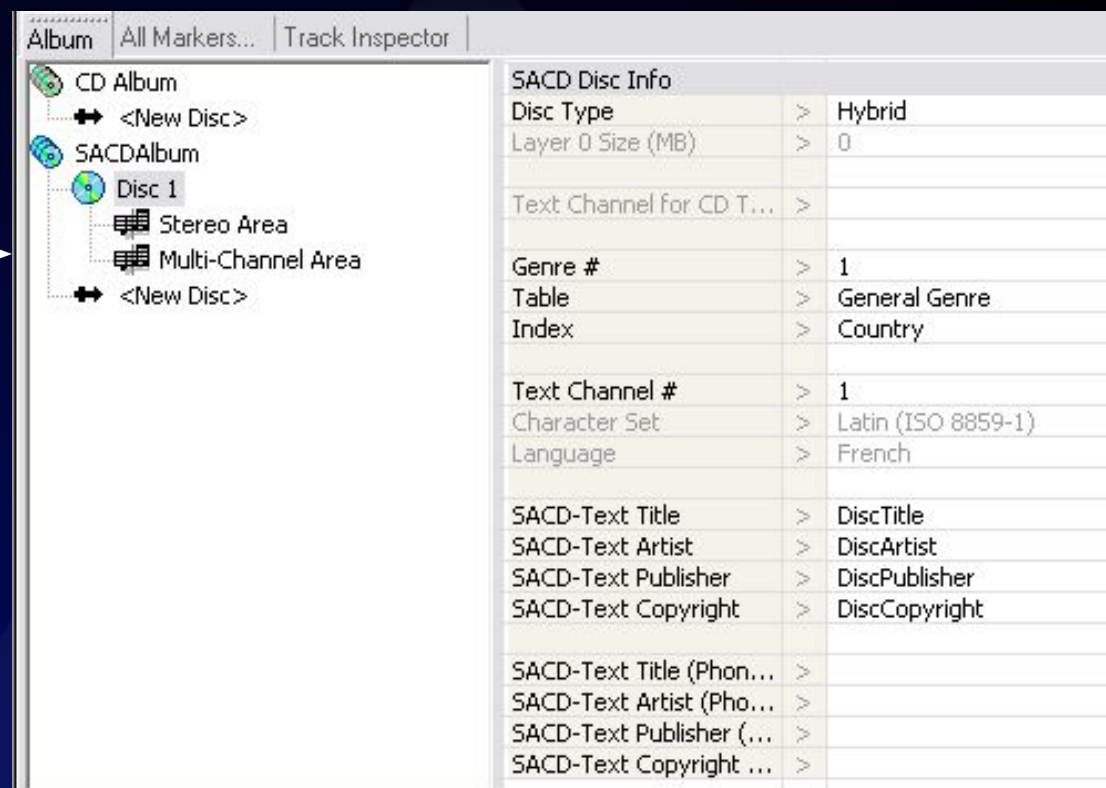
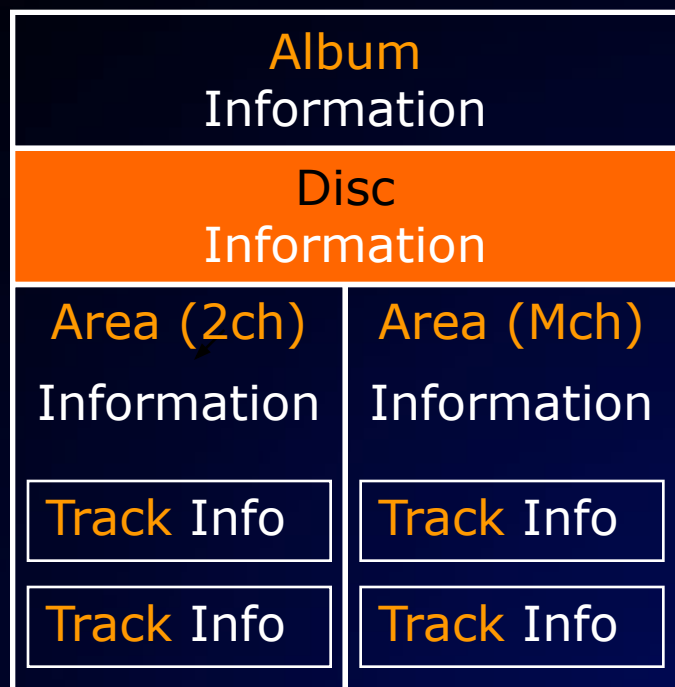


- **Full SACD Text implementation (3)**
  - 4 levels of information: Album, Disc, Area, Track



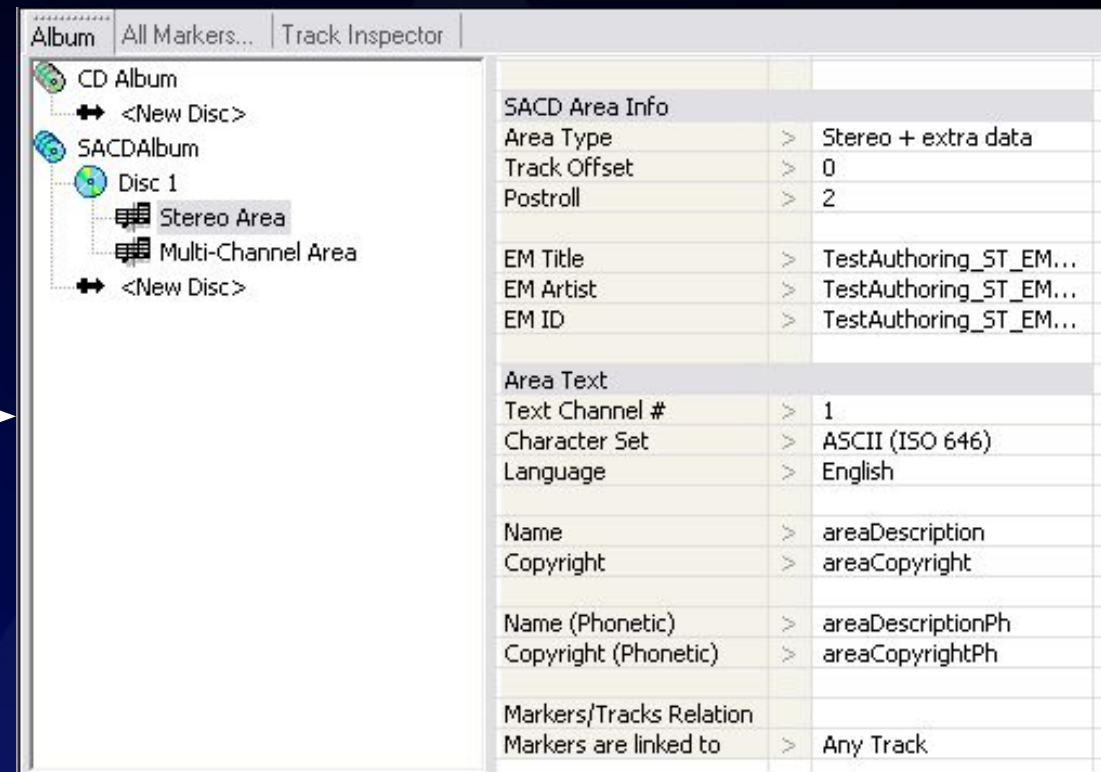
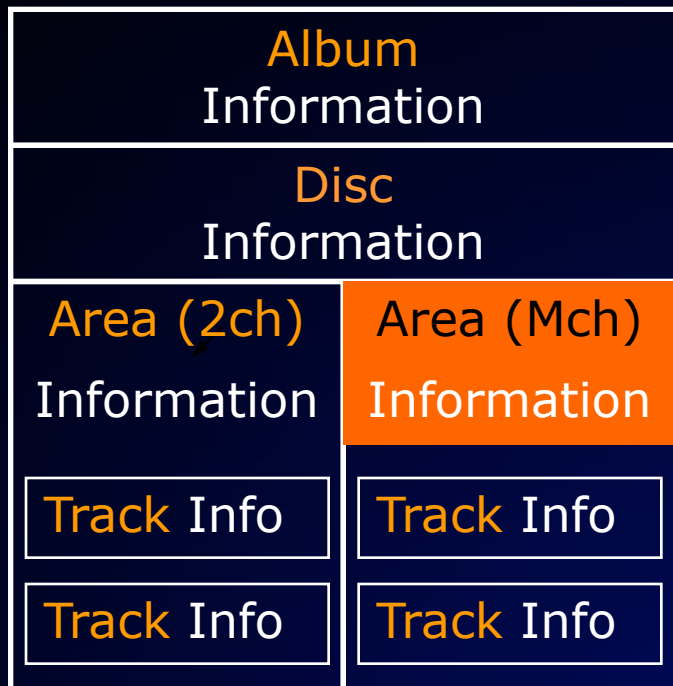
Album	All Markers...	Track Inspector
CD Album		Customer Name > Mister T
<New Disc>		Customer Contact >
SACDAlbum		Customer Phone > +414789456544
Disc 1		Master ID Code > 00000000000000
Stereo Area		Ref Code >
Multi-Channel Area		UPC/EAN Code > 012414157487412
<New Disc>		Catalog Number > 012345789014
		SACD Album Info
		Genre # > 1
		Table > General Genre
		Index > Alternative Rock
		Text Channel # > 1
		Character Set > Latin (ISO 8859-1)
		Language > French
		Title > albumTitle
		Artist > albumArtist
		Publisher > albumPublisher
		Copyright > albumCopyright
		Title (Phonetic) >
		Artist (Phonetic) >
		Publisher (Phonetic) >
		Copyright (Phonetic) >

- **Full SACD Text implementation (4)**
  - 4 levels of information: Album, Disc, Area, Track



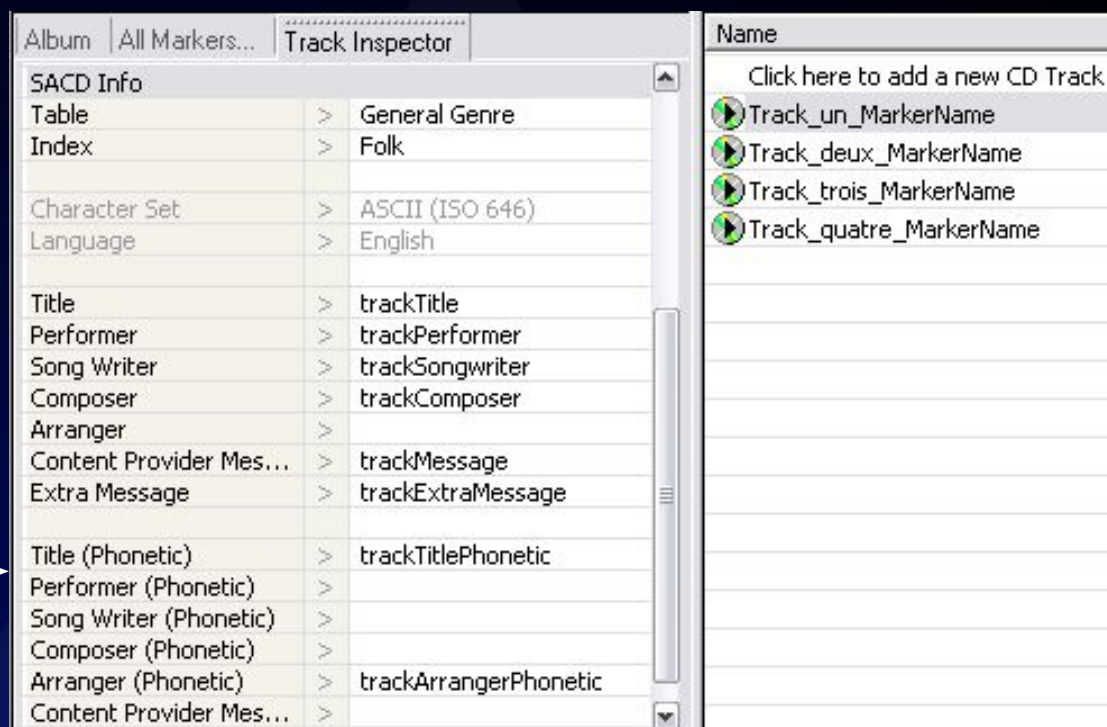
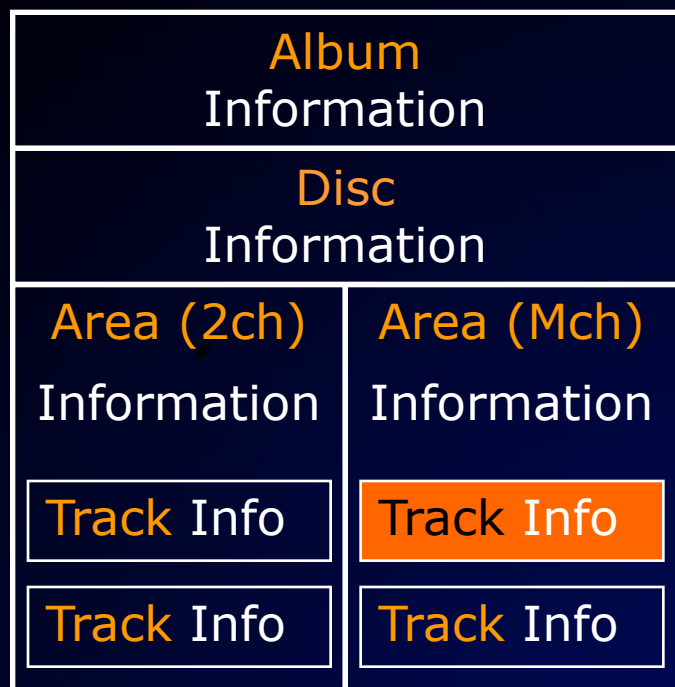


- **Full SACD Text implementation (5)**
  - 4 levels of information: Album, Disc, Area, Track





- **Full SACD Text implementation (6)**
  - 4 levels of information: Album, Disc, Area, Track



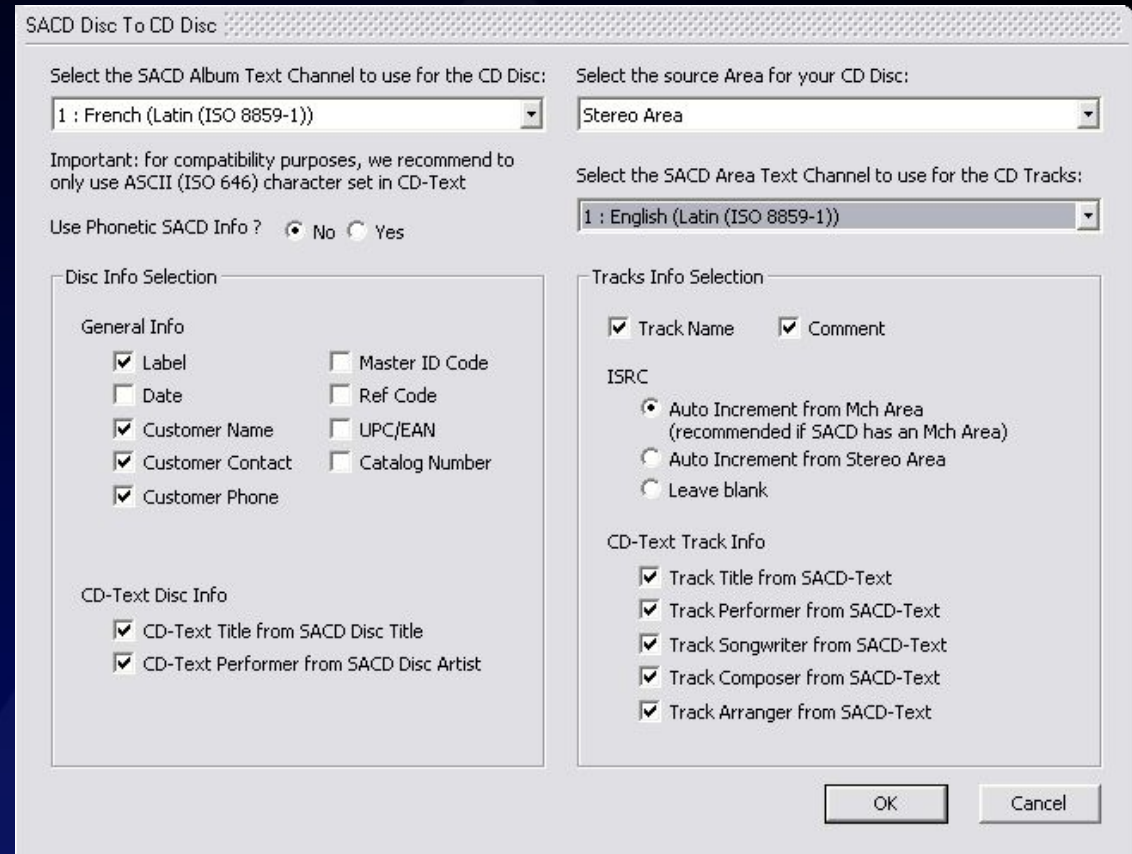
- **Full SACD Text implementation (7)**

- Multilingual text:

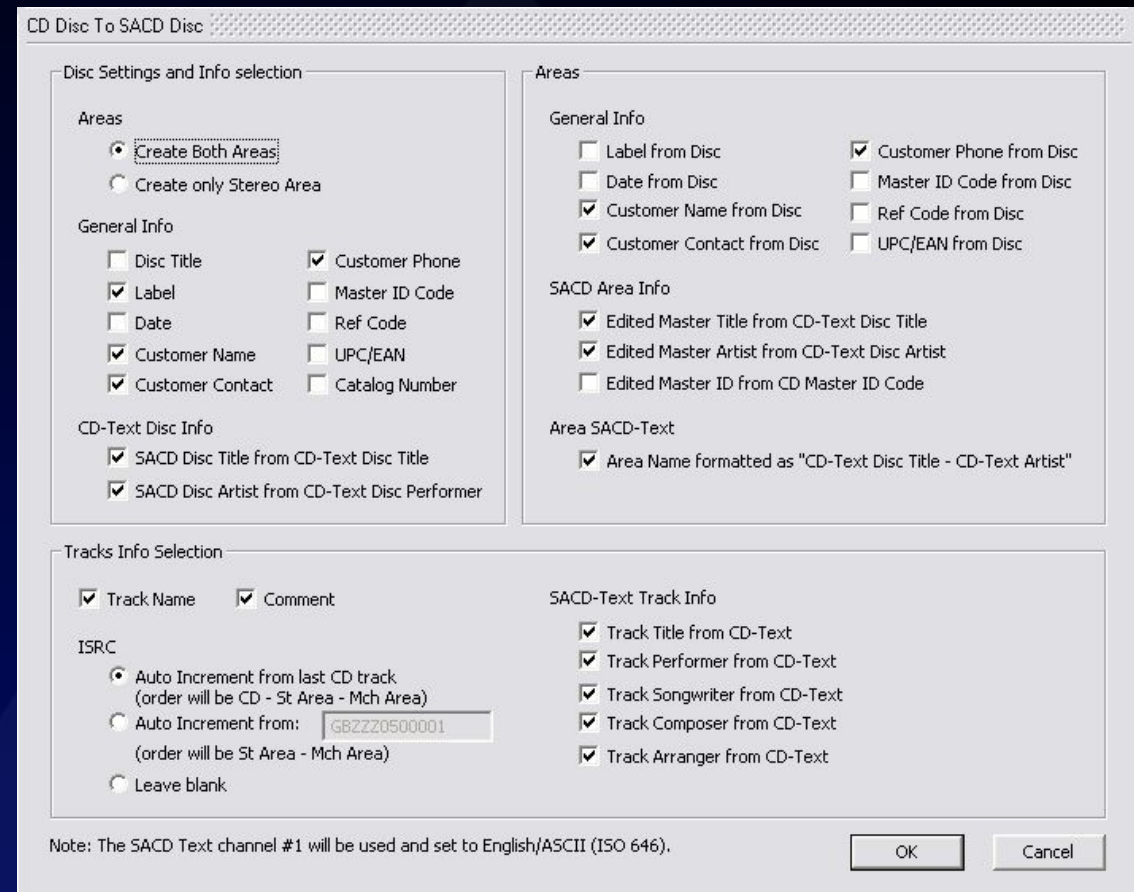
- Text channels definition (for Album and Areas):
      - language code (ex: French)
      - Character set code (ex: Latin (ISO 8859-1))
    - Up to 8 Text channels (at least 1 must be defined for text information)
    - Affects:

Title, Artist/Performer, Songwriter, Composer, Arranger, Message, Extra message, Area Name, Copyright, Publisher.

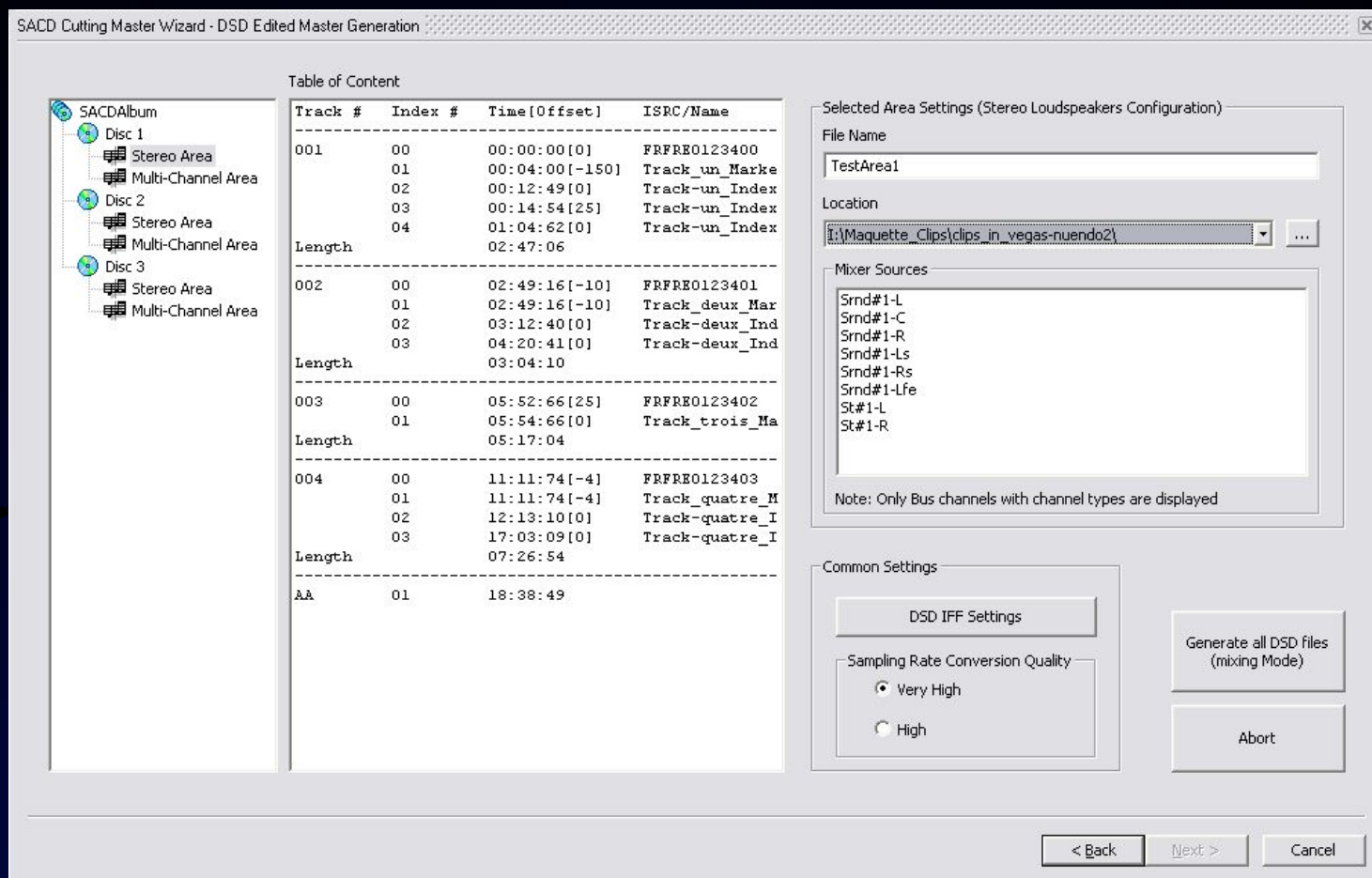
- Easy creation of CD disc from SACD or SACD disc from CD



# • Easy creation of CD disc from SACD or SACD disc from CD



# • Cutting Master Wizard (1): Batch generation of EM



□ A single button to generate all the edited masters of an Album

- **Cutting Master Wizard (2):**

The screenshot shows the 'SACD Cutting Master Wizard - SACD Annex D Verifying and DST Encoding' window. On the left is a tree view of the 'SACDAlbum' structure, showing three discs, each with 'Stereo Area' and 'Multi-Channel Area' options. The 'Selected Disc' section on the right has fields for 'Image Name' (set to 'DISC\_1'), 'Extra Data Folder' (empty), 'Intermediate Folder' (set to 'I:\PmxMedia'), and 'Image Folder' (set to 'I:\PmxMedia'). Each folder field has a 'Browse' button. Notes are provided for each field. The 'Selected Area' section shows 'Area Info' as 'Stereo Area, 4 tracks', 'Input DSD audio file' (empty), 'Encoding Strategy' (set to '00' with a 'DST Estimator' button), 'Output DST encoded file' (set to 'TestDST'), and 'Location' (set to 'I:\PmxMedia'). At the bottom are three buttons: 'Verify all DSD audio files' (1st Step), 'Generate all DST files' (2nd Step), and 'Write Album File for SACD Disc Builder' (Final Step). Navigation buttons '< Back', 'Next >', and 'Cancel' are at the bottom right.

- DSD Annex D3 Verification of all Edited Masters
- DST Encoding of all Edited Masters at once
- Generation of the Script file for Cutting Master generation

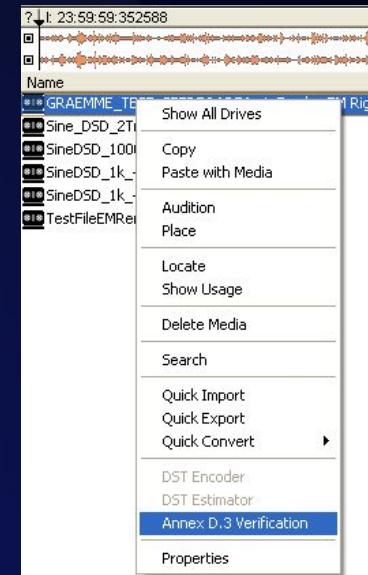


- **DSD Annex D3 verification**

- What is it?

- a specification on DSD Maximum peak level for SACD.  
«Peak signal levels above +3.10 dB SA-CD are not allowed. »
    - This is equivalent to: the number of bits set to '1' within any 28 consecutive bits of the DSD Stream must fit in the [4 - 24] range.

- A necessary compliance for safe playback on SACD players
  - Available from the Media Manager
  - Report (TXT file) showing Excessive DSD Modulation Levels if found

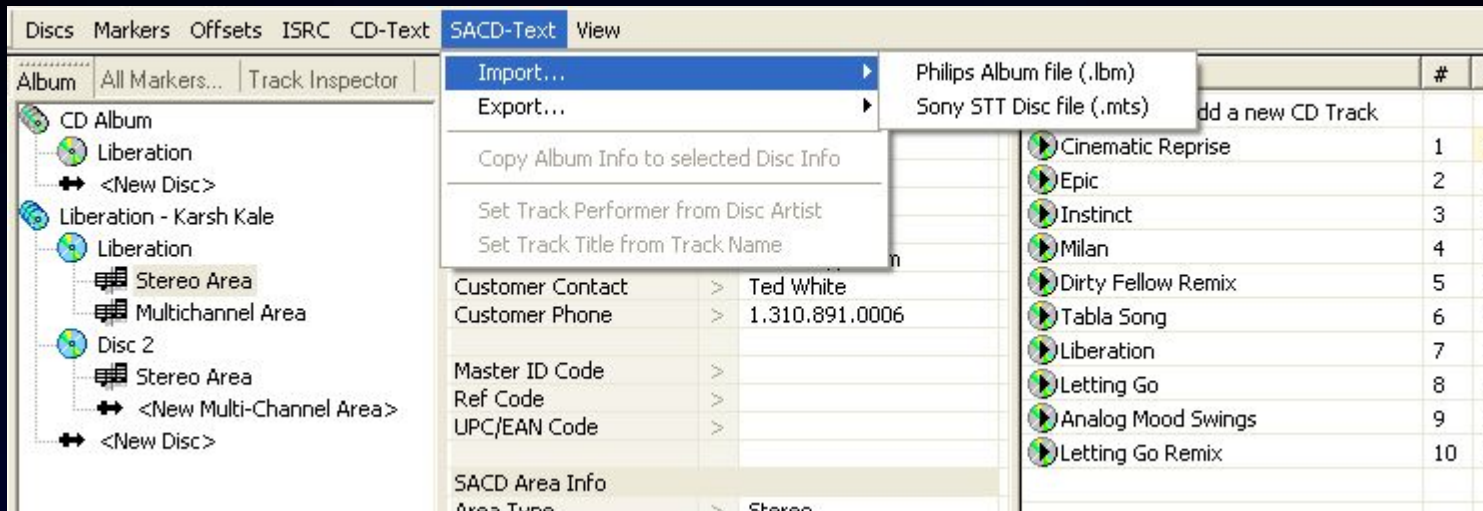


- **Import/Export of LBM and STT Authoring file format (1)**
  - LBM: SACD Authoring format introduced by Philips in Superauthor
  - STT: Sony SACD Text format (.mts extension)

	LBM format	STT format
Album Info	X	X
Disc Info	X	X
Track Info	X	X
Multiple discs	X	-
Markers Timecode	X	-
Disc Image Info	X	-



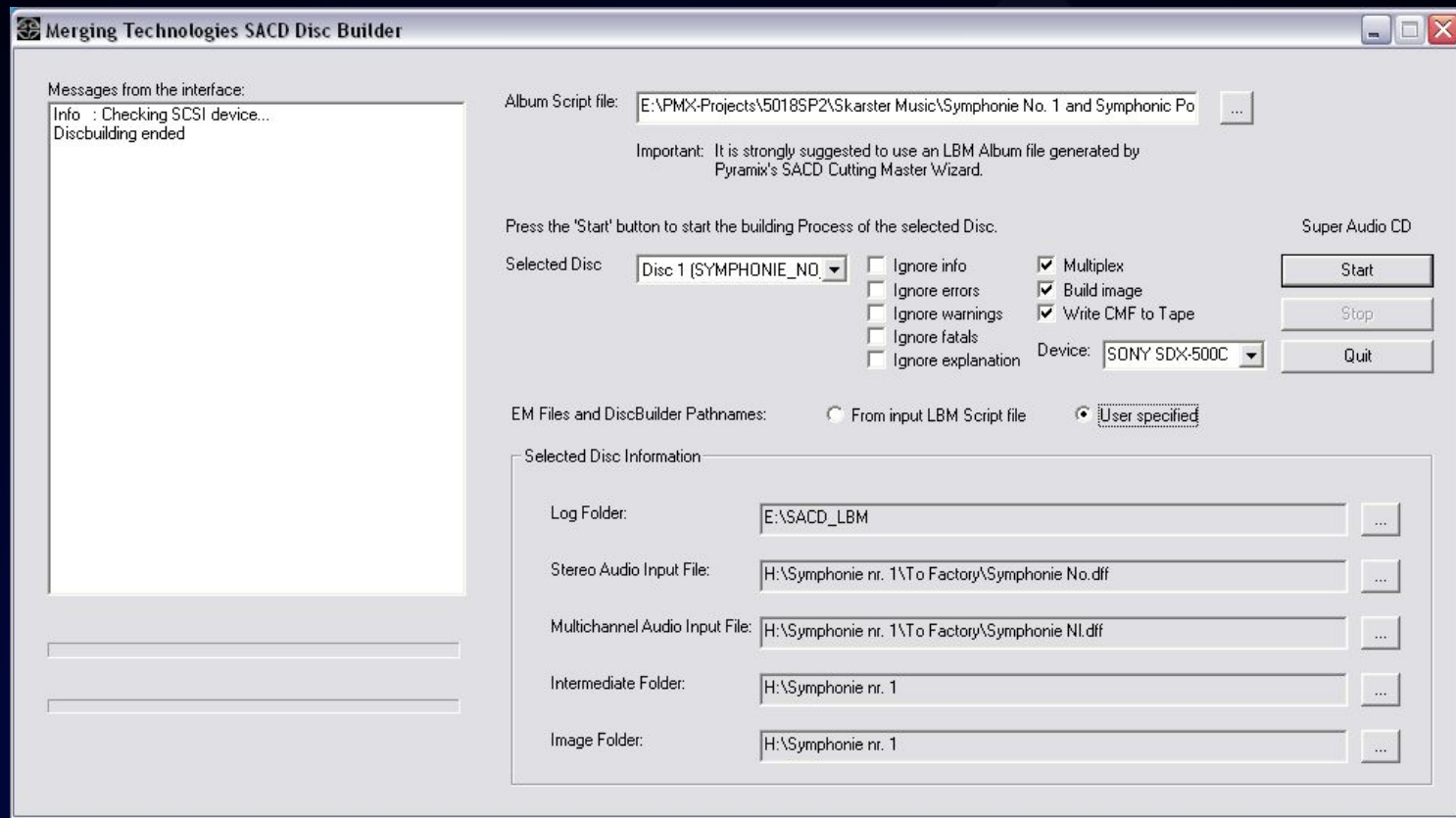
- **Import/Export of LBM and STT Authoring file format (2)**



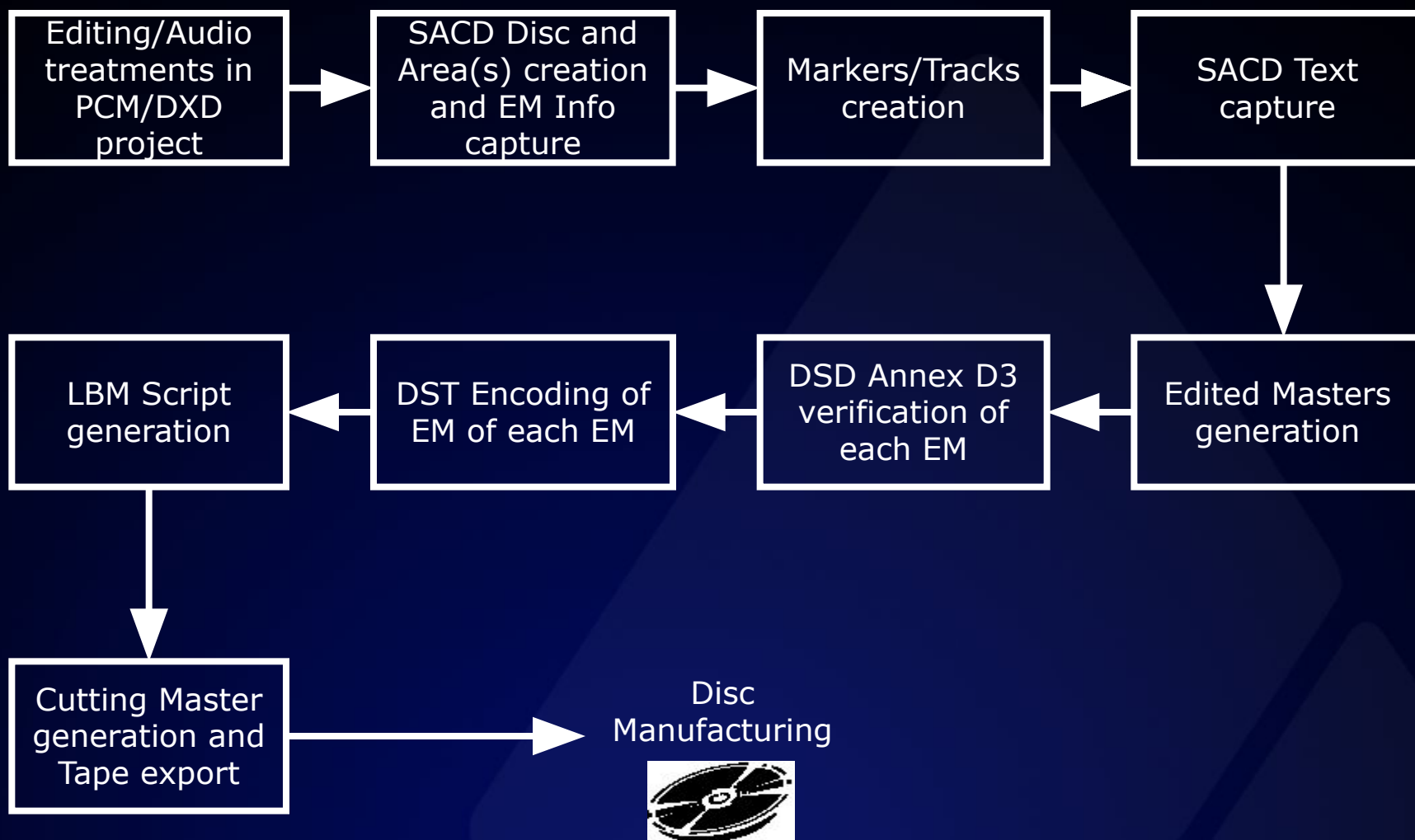
- ❑ Exchange with SuperAuthor/SonicStudio SACD Authoring software and Sony SACD Text Editor
- ❑ Script Generation (LBM only) for SACD Disc Builder

- **SACD Cutting Master generation including Tape export and verification (1)**
  - The very last step before Disc Manufacturing
  - A Cutting Master or Disc Image contains either:
    - 1 Stereo Area
    - 1 Stereo Area + 1 Mch Area
  - ...bundled with all TOC and SACD-Text information
  - Input:
    - LBM Script file
    - Stereo DST Edited Master and/or MCh DST Edited Master
  - Output:
    - A Disc Image on Hard disk (can be directly sent to Philips plants)
    - Optionally, if AIT SCSI drive connected, a Philips SACD Tape Cutting Master (can be converted with the Sony tool for delivery to Sony plants or directly sent to Philips plants)
    - Log files for each step of the process, including verification.

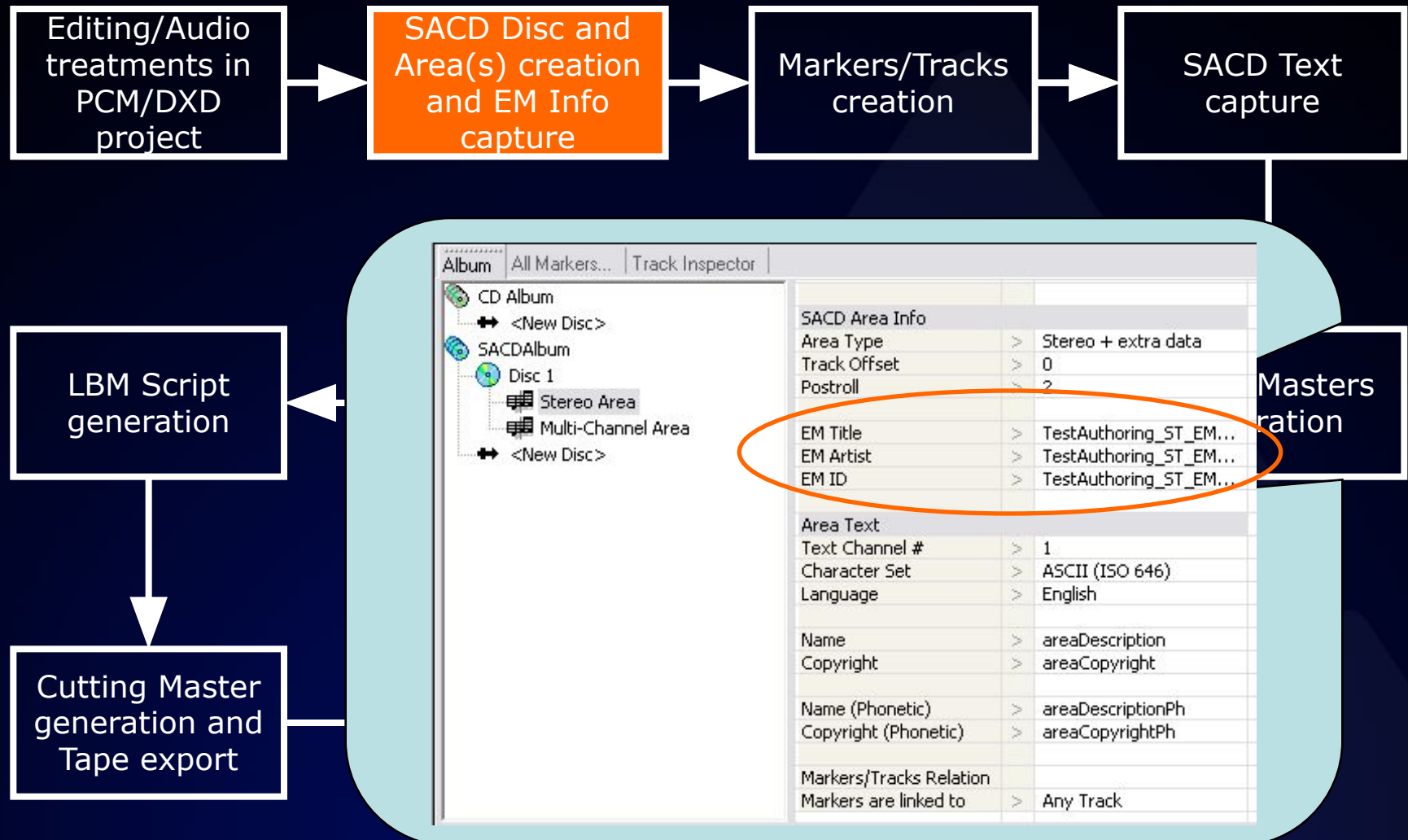
- **SACD Cutting Master generation including Tape export and verification (2)**



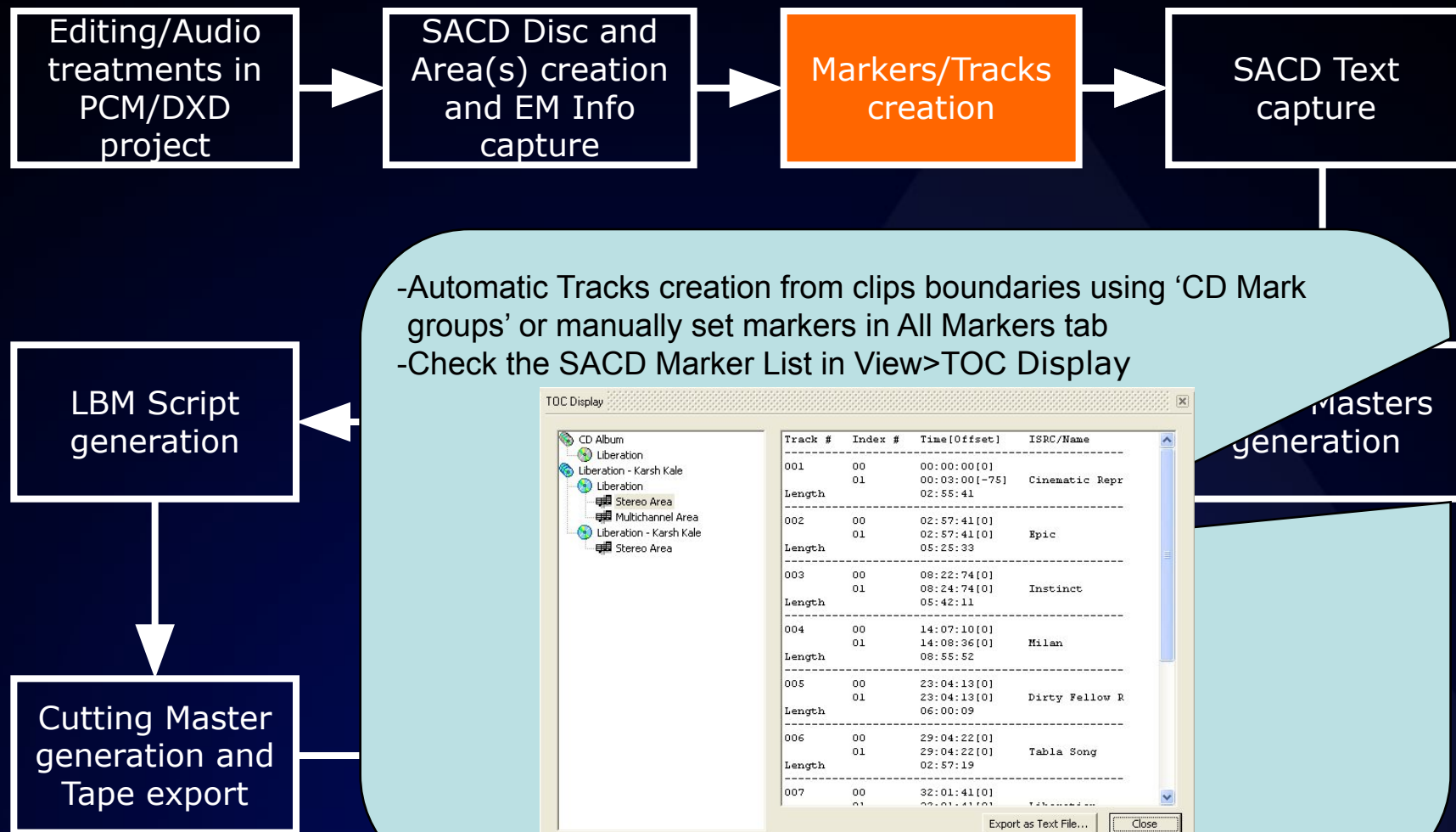
- Mastering/Authoring workflow in Pyramix 5



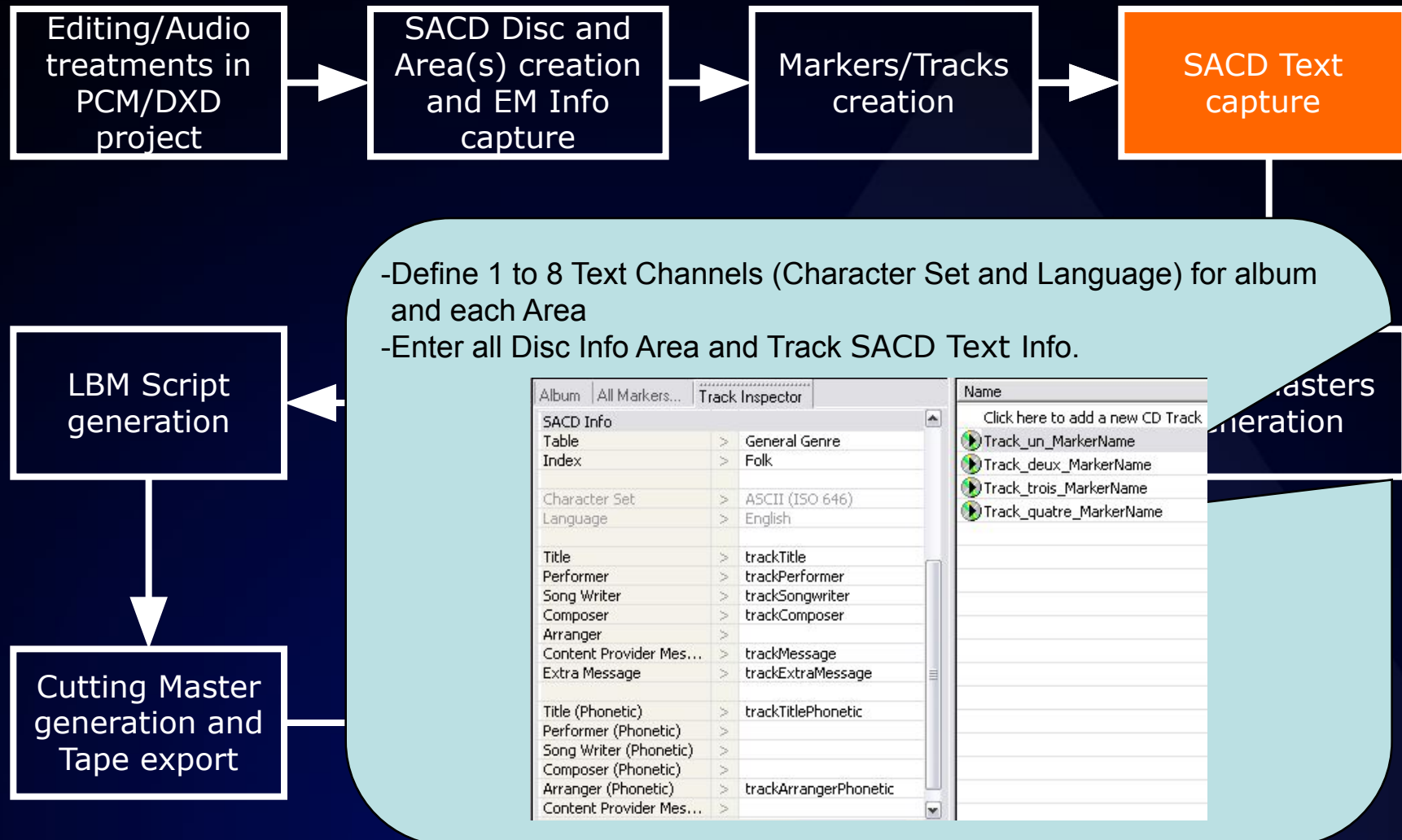
# Mastering/Authoring workflow in Pyramix 5



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# • Mastering/Authoring workflow in Pyramix 5





# Mastering/Authoring workflow in Pyramix 5

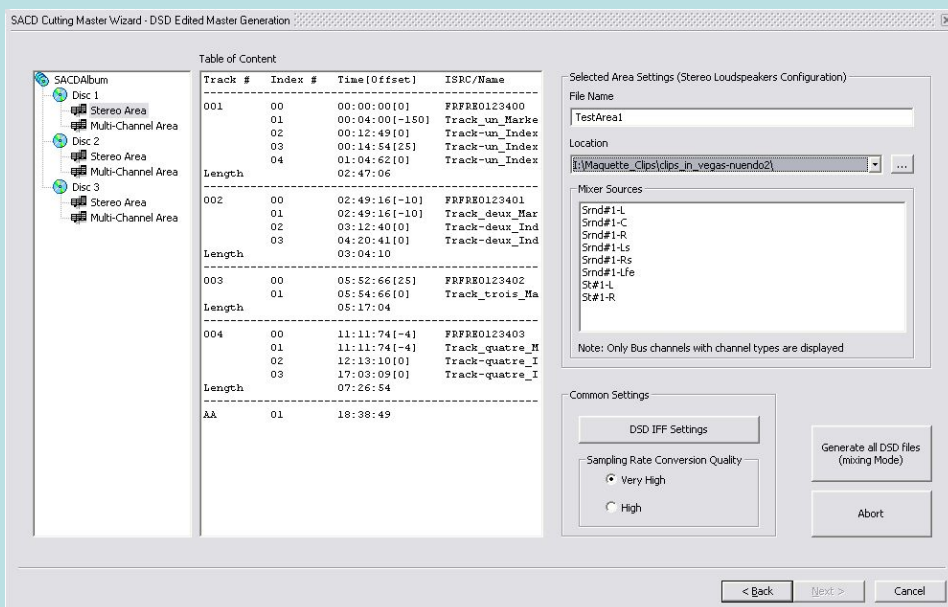
Editing/Audio  
treatments in  
PCM/DXD

SACD Disc and  
Area(s) creation  
and EM Info

Markers/Tracks  
creation

SACD Text  
capture

-Use Generate CD/SACD Image or Cutting Master Wizard



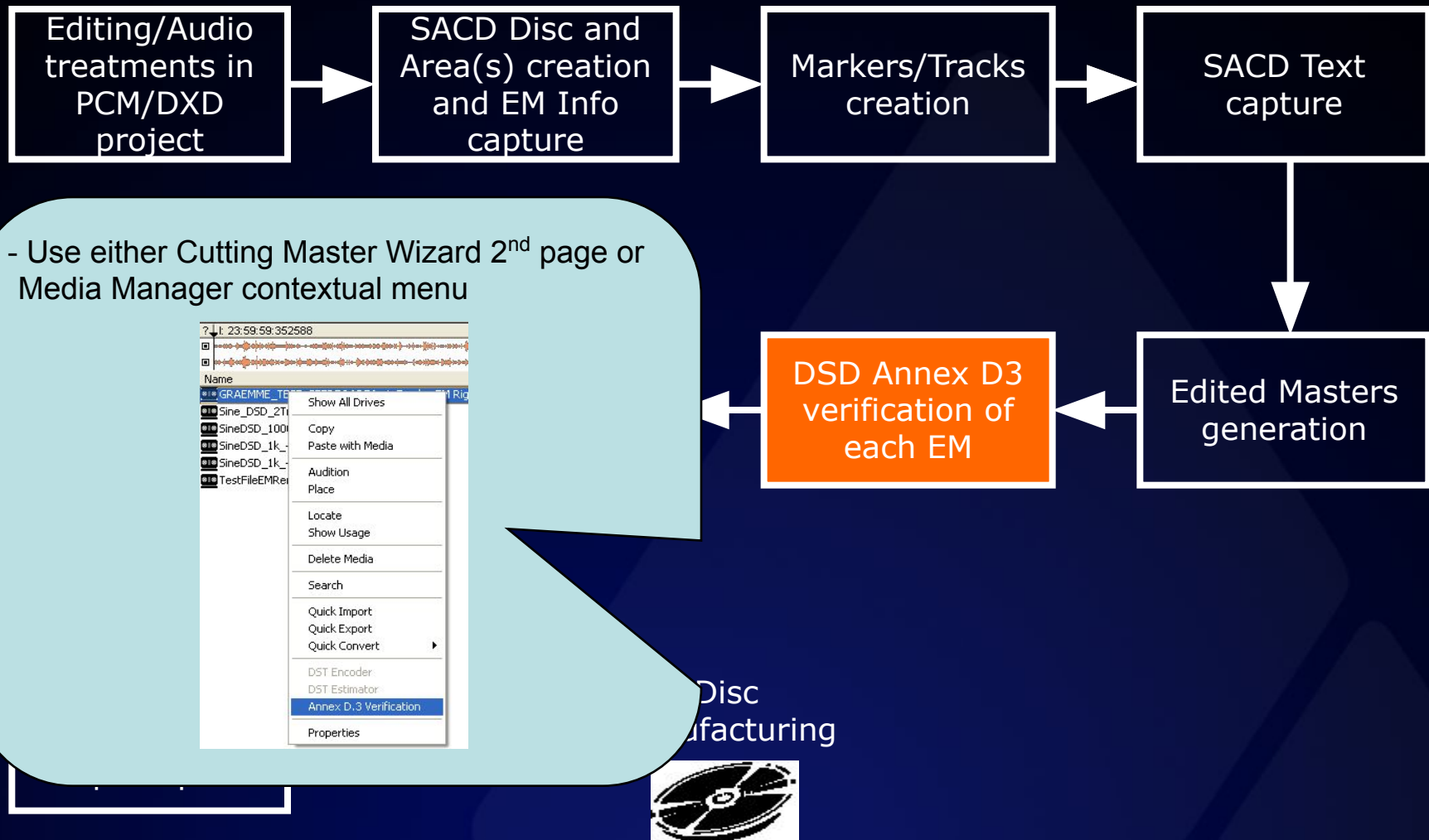
Edited Masters  
generation

Tape export

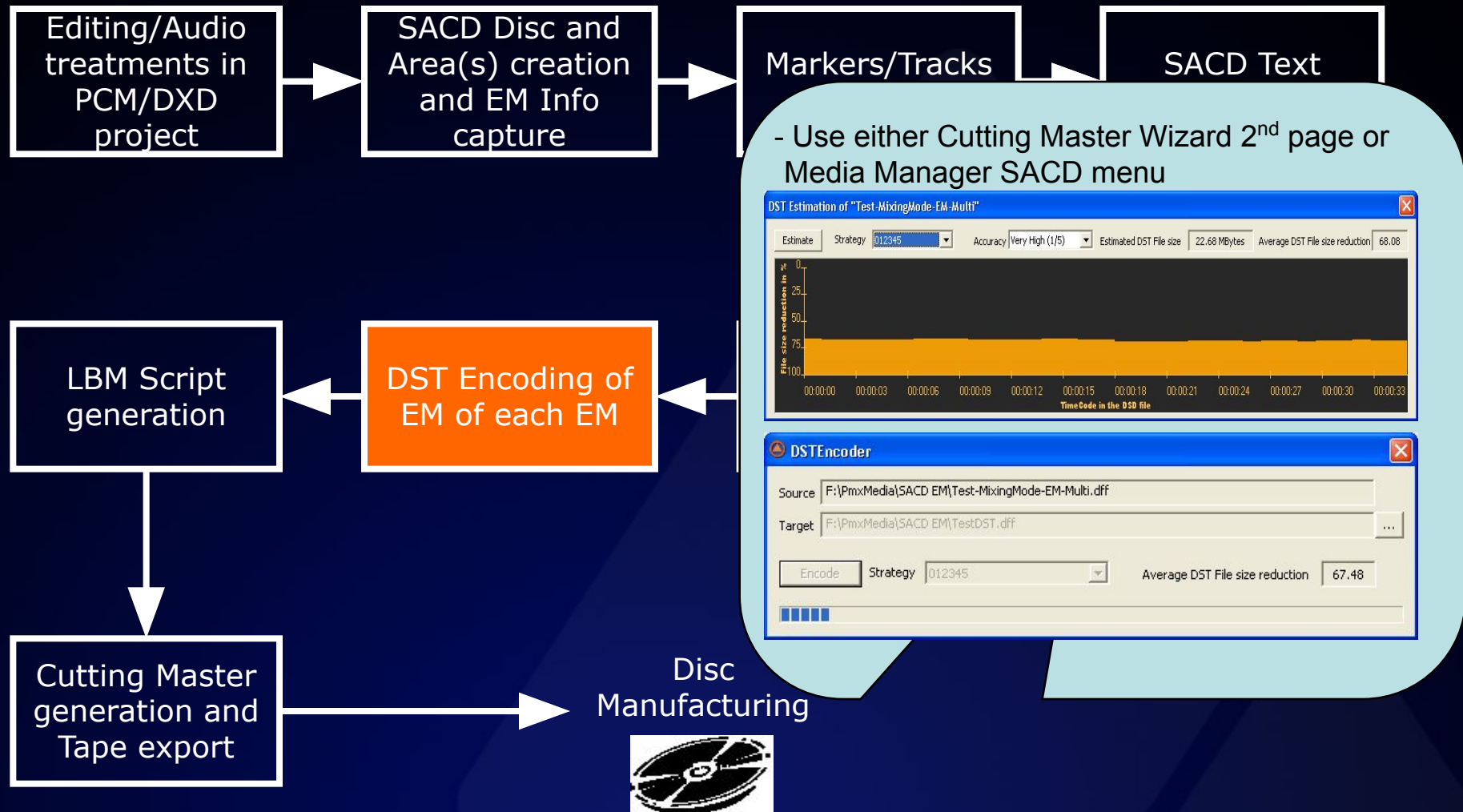




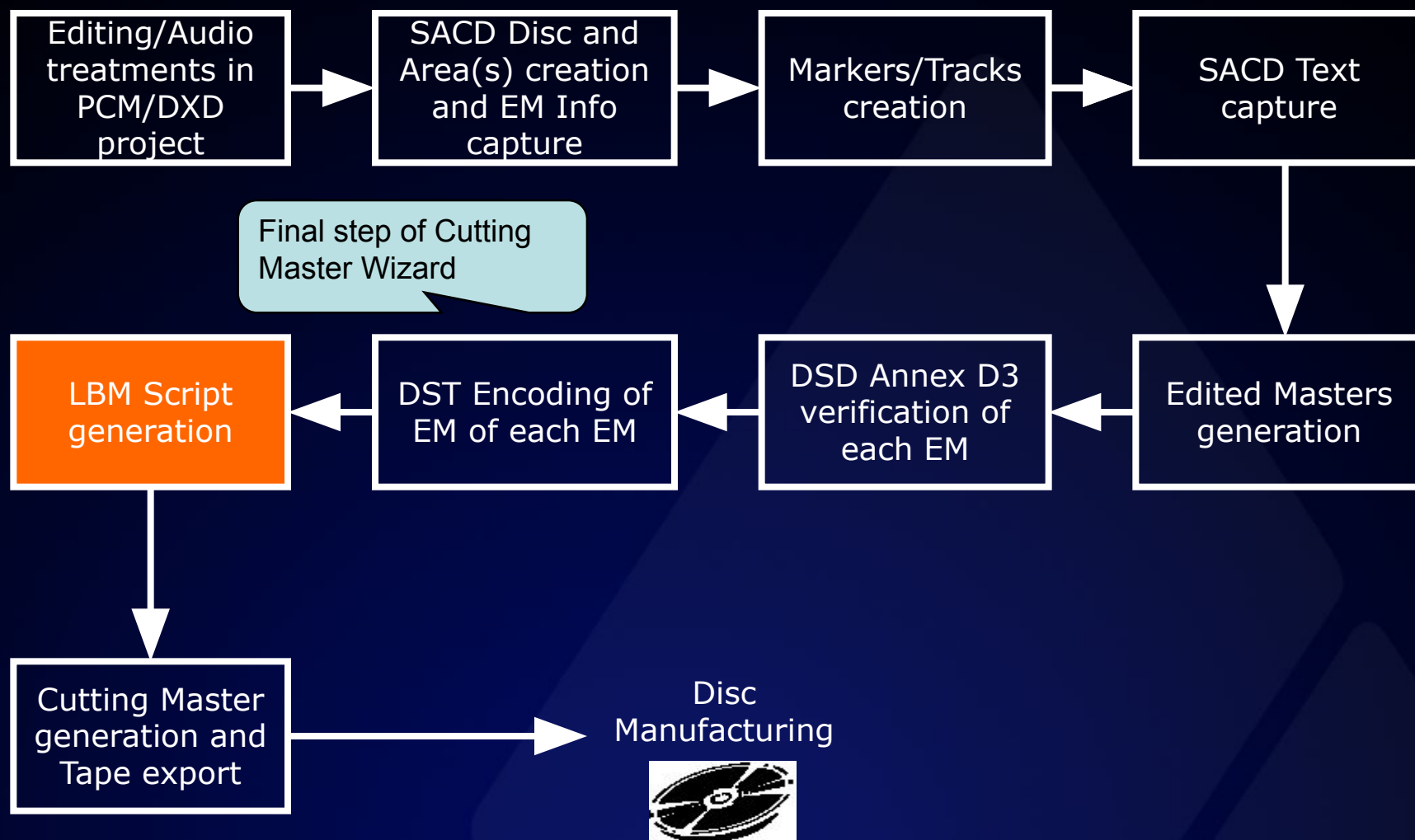
- Mastering/Authoring workflow in Pyramix 5



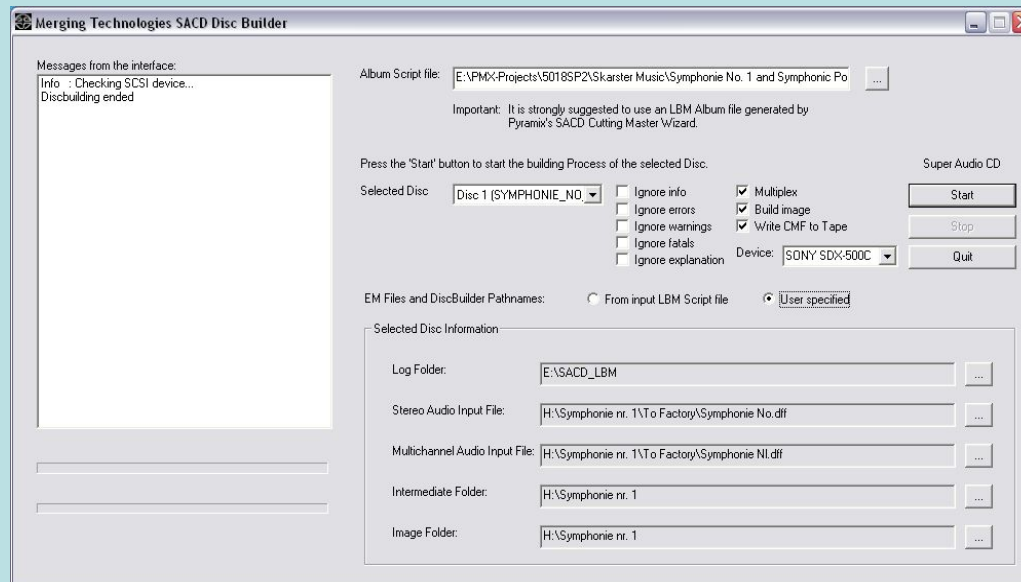
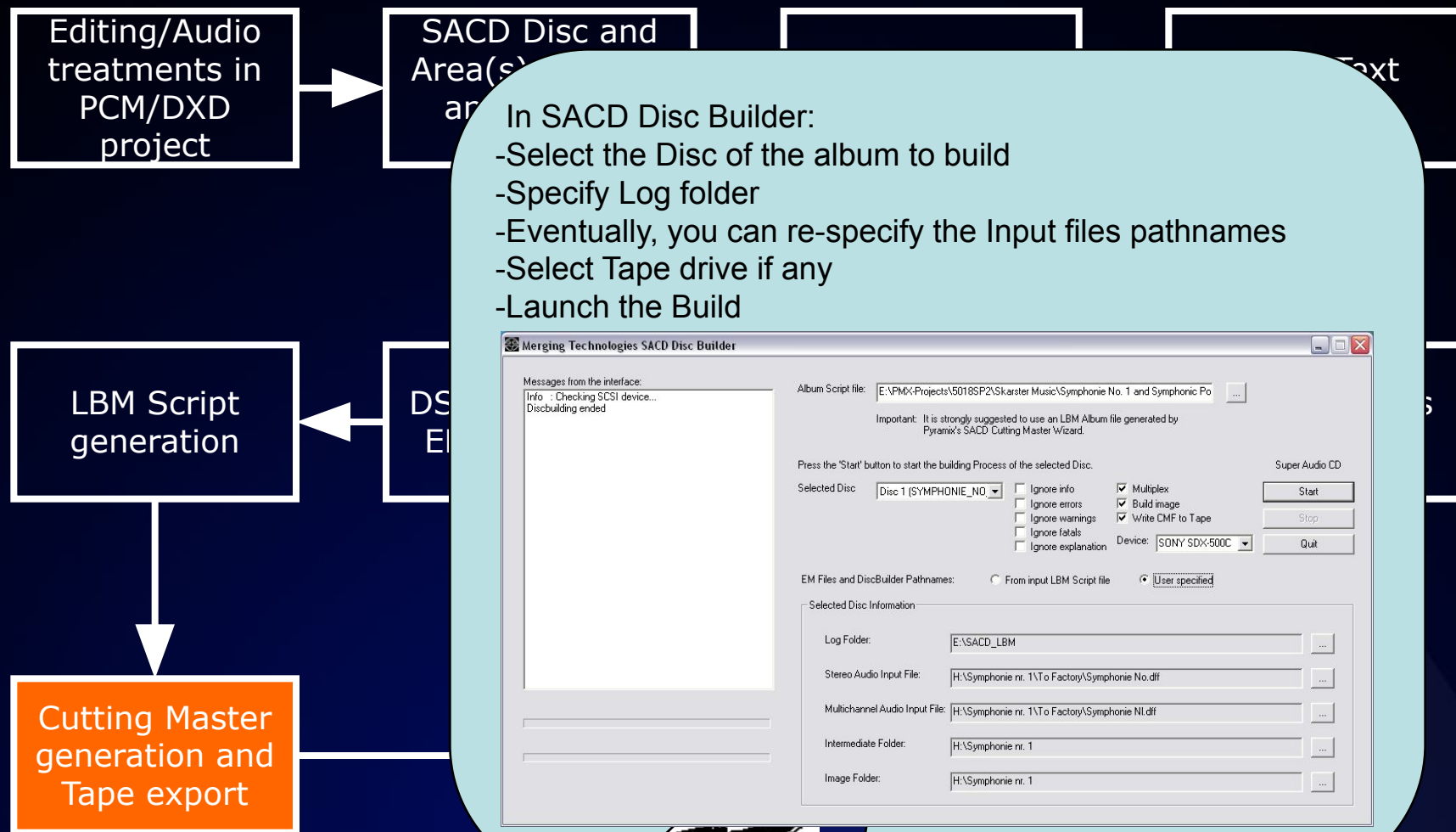
- Mastering/Authoring workflow in Pyramix 5



- Mastering/Authoring workflow in Pyramix 5



# • Mastering/Authoring workflow in Pyramix 5



- Features and Software options**

	<b>HSR</b>	<b>DSD-SACD Support</b>	<b>SACD Authoring &amp; Disc Builder</b>
<b>DSD/DXD Recording</b>	<b>Required</b>	<b>Required</b>	<b>-</b>
<b>DSD/DXD Editing</b>	<b>Required</b>	<b>Required</b>	<b>-</b>
<b>SACD Album Creation and SACD Text input</b>	<b>-</b>	<b>Required</b>	<b>-</b>
<b>Edited Master Generation</b>	<b>Required</b>	<b>Required</b>	<b>-</b>
<b>LBM Export</b>	<b>-</b>	<b>Required</b>	<b>Partially Required*</b>
<b>LBM Import, STT Import/Export</b>	<b>Required</b>	<b>Required</b>	<b>-</b>
<b>Cutting Master Generation</b>	<b>-</b>	<b>Required</b>	<b>Required</b>

\*LBM Export won't export PQ timecodes nor Disc builder information without SAA key (only SACD Text)

- **Future**

- Optimized Authoring interface ergonomics for fluent authoring workflow
- SACD Text full Verifier module
- DSD Annex D4 compliancy verification for DSD files
- UCMF support
- Native Authoring solution