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ABSTRACT

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11 JUN 2012

"INFORMATION PROCESSING APPARATUS, INFORMATION PROCESSING SYSTEM AND INFORMATION PROCESSING METHOD, AND PROGRAM"

An apparatus and method configured to identify the type of a content to be copied and perform a copying process in a sequence according to the result of identification is provided. In an information processing apparatus configured to perform the copying process for copying recorded data in an information recording medium to other media or the like, the type of the data recorded in the recording medium of a copy source is identified. More specifically, whether the type of the content to be copied is either a reproduction-pass-specific content which sets a reproduction pass corresponding to the information processing apparatus and causes the information processing apparatus to execute the reproduction according to the reproduction pass, or a content-code-applied content which verifies the reproduction sequence to be executed in the reproducing apparatus and verifies whether the reproduction process is executed according to the correct reproduction sequence is discriminated, and an optimal sequence is applied on the basis of the result of discrimination, whereby the copying process is executed. In this configuration, a reliable copying process on the basis of the optimal process according to various data types is realized.

CLAIMS

1. An information processing apparatus comprising a data processing unit configured to generate copy data of data recorded in an information recording medium, wherein

the data processing unit

executes a data type identification process for recorded data in the information recording medium,

discriminates whether or not the recorded data is a content-code-applied content including code information which causes a verification process for verifying a reproduction process or a conversion process for converting reproduction data to be executed at the time of data reproduction,

executes a generation process for generating the copy data after the start of the reproduction process, if it is determined to be the content-code-applied content, and

executes the generation process for generating the copy data without executing the reproduction process, if the recorded data is determined to be a non-content-code-applied content which does not include the code information.

2. The information processing apparatus according to Claim 1, wherein

if the recorded data is determined to be the content-code-applied content,

the data processing unit executes the generation process for generating the copy data after the data reproduction process according to a prescribed sequence has started by executing the verification process for verifying the reproduction process or the conversion process for converting the reproduction data applied with the code information.

3. The information processing apparatus according to Claim 2, wherein the data processing unit

starts the generation process for generating the copy data on the condition that an instruction of execution of copying is input within a data reproduction period after the data reproduction process has started.

4. The information processing apparatus according to Claim 1, wherein the data processing unit

executes a process for verifying a directory configuration of the recorded data in the information recording medium and executing the process of determining whether or not the recorded data is the content-code-applied content.

5. The information processing apparatus according to Claim 4, wherein the verification of the directory configuration is a process of confirming whether there exists

a specific directory, or whether a file exists in the specific directory.

6. The information processing apparatus according to Claim 1, wherein

if the recorded data in the information recording medium is determined to be data encrypted by applying individual unit keys on a unit to unit basis, the unit being segment data corresponding to individual titles in the data type identification process,

the data processing unit

acquires title information recorded in the copying process information acquired from the information recording medium or a management server, and

acquires a unit key corresponding to an acquired title information, executes the decoding process on a unit to unit basis using the acquired unit key, and generates the copy data.

7. The information processing apparatus according to Claim 6, wherein the data processing unit

discriminates whether or not the recorded data in the information recording medium is the reproduction-pass-specific content for performing the reproduction according to the reproduction pass selected corresponding to the information processing apparatus in the

data type identification process, and

if the recorded data is determined to be the reproduction-pass-specific content,

generates a segment key applied for decoding part of a configuration data of the reproduction pass and generates the copy data by the decoding process using the generated segment key and the unit key.

8. The information processing apparatus according to Claim 7, wherein the data processing unit

acquires identification information for identifying a play list which allows reproduction according to the reproduction pass by a process applying a sequence key stored in a memory of the information processing apparatus to a sequence key block reproduced from the information recording medium, reads out a play list file corresponding to the reproduction pass by applying the acquired identification information from the information recording medium and executes the data reading according to the reproduction pass by applying the play list.

9. The information processing apparatus according to Claim 7 or 8, wherein the data processing unit

acquires a classification number by a process using the sequence key stored in the memory of the information processing

apparatus with respect to the sequence key block reproduced from the information recording medium,

acquires identification information for identifying the play list using the classification number, and

acquires a segment key corresponding to a specific variation in the segment from a segment key file including an encryption key obtained by encrypting the key for decoding the data according to the reproduction pass.

10. An information processing system comprising:

an information processing apparatus configured to generate copy data of data recorded in an information recording medium; and

a management server configured to provide copy authorization information with respect to the information processing apparatus, wherein

the information recording medium is configured to record data encrypted by applying individual unit keys on a unit to unit basis, the unit being segment data corresponding to individual titles,

the management server

provides copying process information in which the identification of the title is recorded to the information processing apparatus according to the request from the information processing apparatus,

the information processing apparatus
executes a data type identification process for recorded
data in the information recording medium,
if the recorded data is determined to be data encrypted
by applying individual unit keys on a unit to unit basis, the
unit being a segment data corresponding to individual titles,
acquires title information recorded in the copying
process information acquired from the management server, and
acquires a unit key corresponding to the acquired title
information, and executes the decoding process on a unit to
unit basis using the acquired unit key.

11. An information processing method configured to
generate copy data of data recorded in an information recording
medium in an information processing apparatus, wherein

a data processing unit of the information processing
apparatus

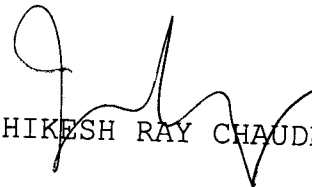
executes a data type identification process for recorded
data in the information recording medium,

discriminates whether or not the recorded data is a
content-code-applied content including code information which
causes a verification process for verifying a reproduction
process or a conversion process for converting reproduction
data to be executed at the time of data reproduction,

executes a generation process for generating the copy

non-content-code-applied content which does not include the
code information.

Dated this 11/6/2012



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[FIG.1]

INDEX	CONTENT MANAGEMENT UNIT (CPS)	UNIT KEY (CPS UNIT KEY)
TITLE 1	CPS1	Ku1
TITLE 2	CPS2	Ku2
TITLE3	CPS3	Ku3
· ·	· ·	· ·
TITLEn	CPSn	Kun

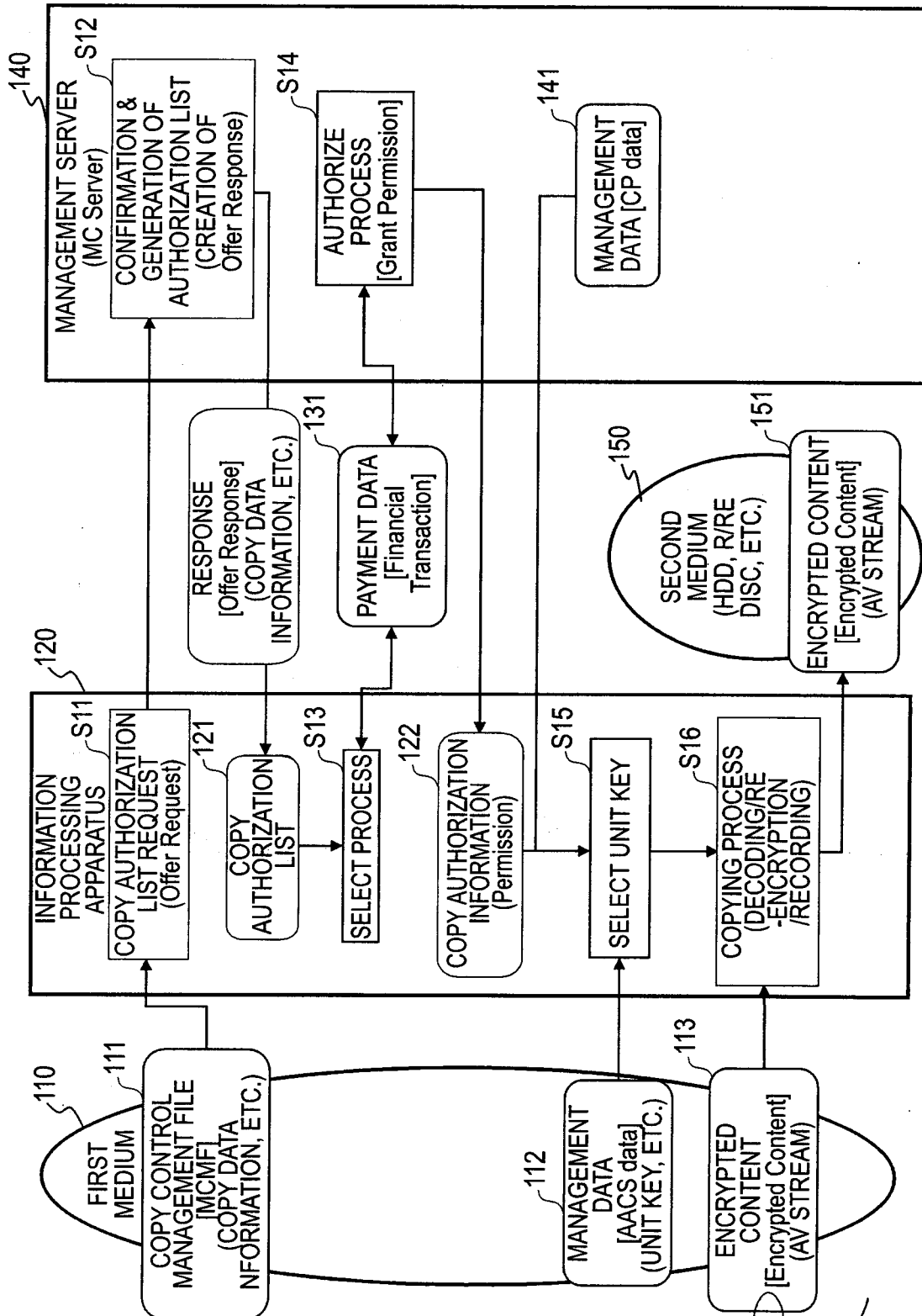

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[FIG.2]



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[FIG.3]

COPY DATA INFORMATION (dealManifest)

```
? <MCUALL>
? <DirectoryName>BDMV</DirectoryName>
? </MCUALL>
? <MCUPARTIAL ID="0x0001">
? <FileName>BDMV/PLAYLIST/00000.mpls</FileName>
? <FileName>BDMV/CLIPINF/00000.clpi</FileName>
? <FileName>BDMV/STREAM/00000.m2ts</FileName>
? <FileName>BDMV/BDJO/00000.bdjo</FileName>
? <FileName>BDMV/JAR/00000.jar</FileName>
? <FileName dest="BDMV/index.bdmv">PARTIALDB/index.bdmv</FileName>
? <FileName
  dest="BDMV/MovieObject.bdmv">PARTIALDB/MovieObject.bdmv</FileName>
? <description lang="eng" text="Lion" />
? <description lang="deu" text="Lowe" />
? </MCUPARTIAL>
```

171 {

172 {

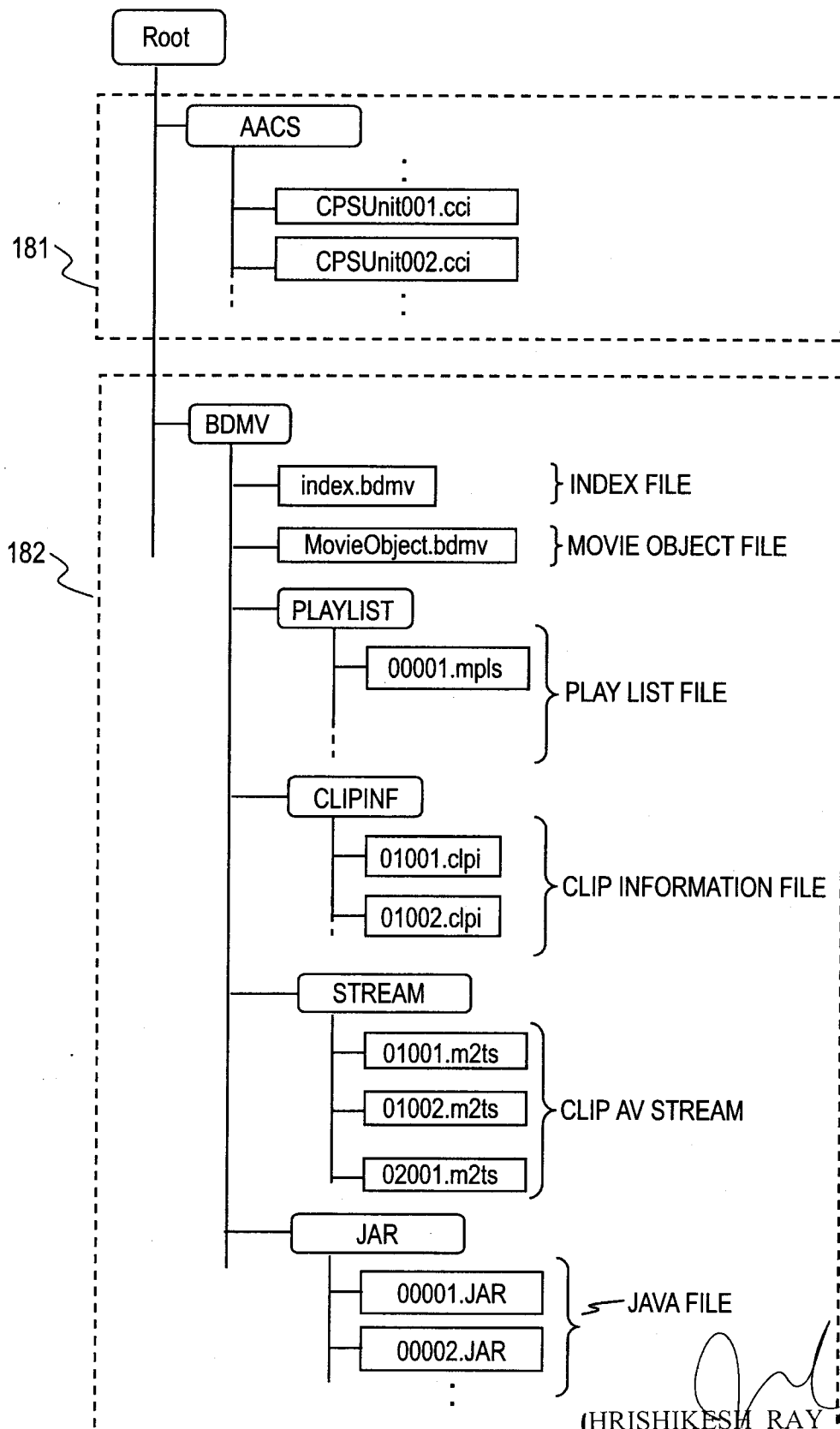
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[FIG.4]

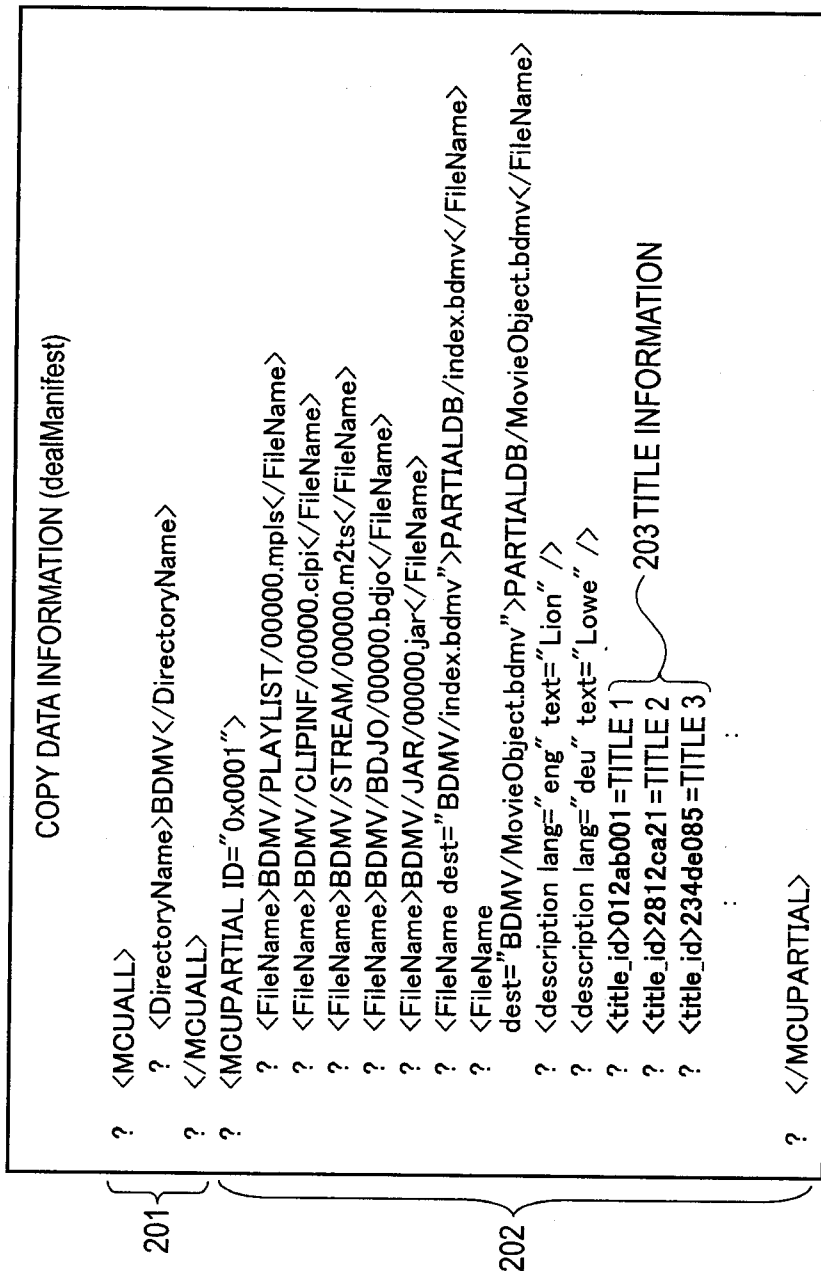


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[FIG.5]



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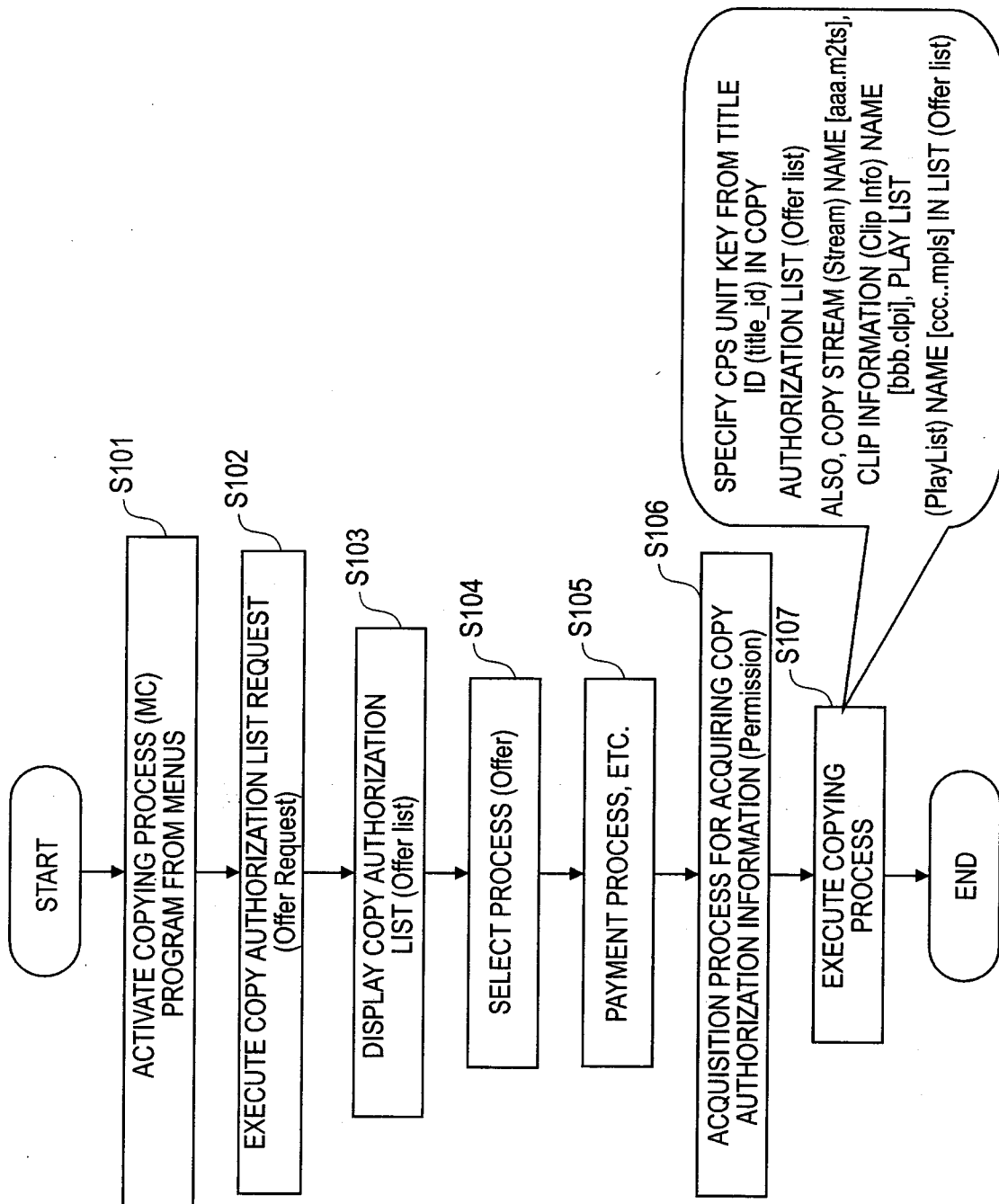
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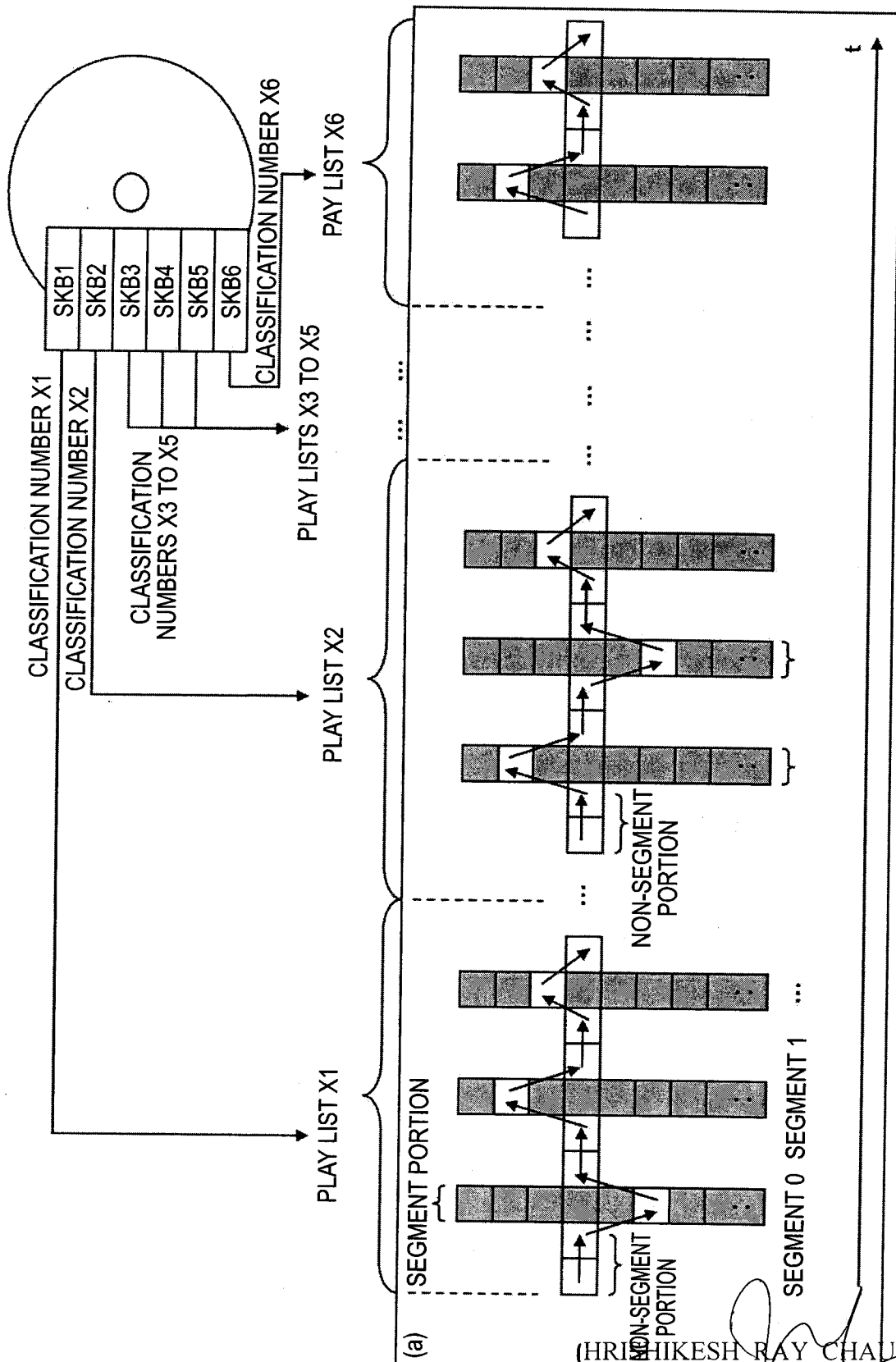
[FIG.6]



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[FIG.7]



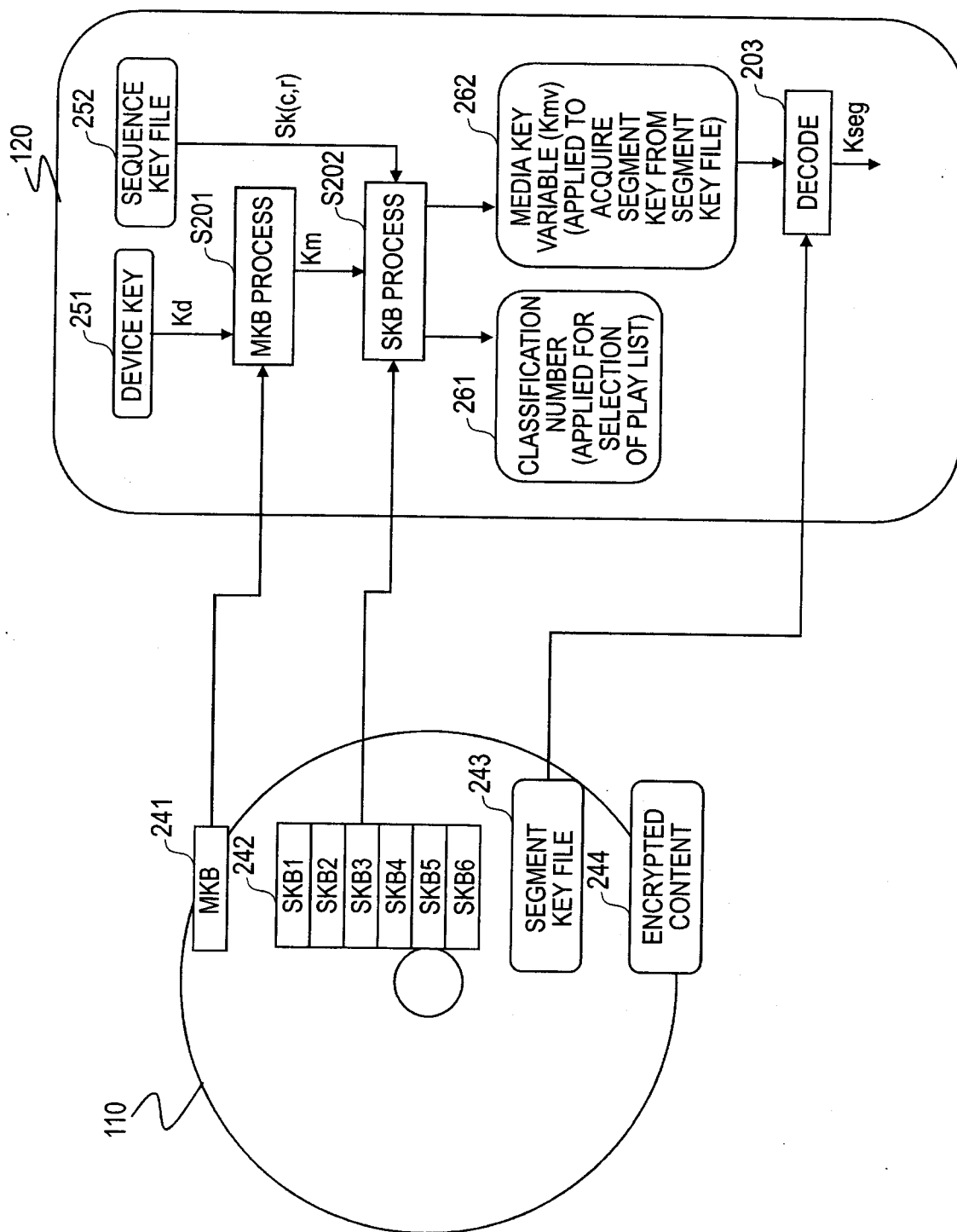
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[FIG.8]

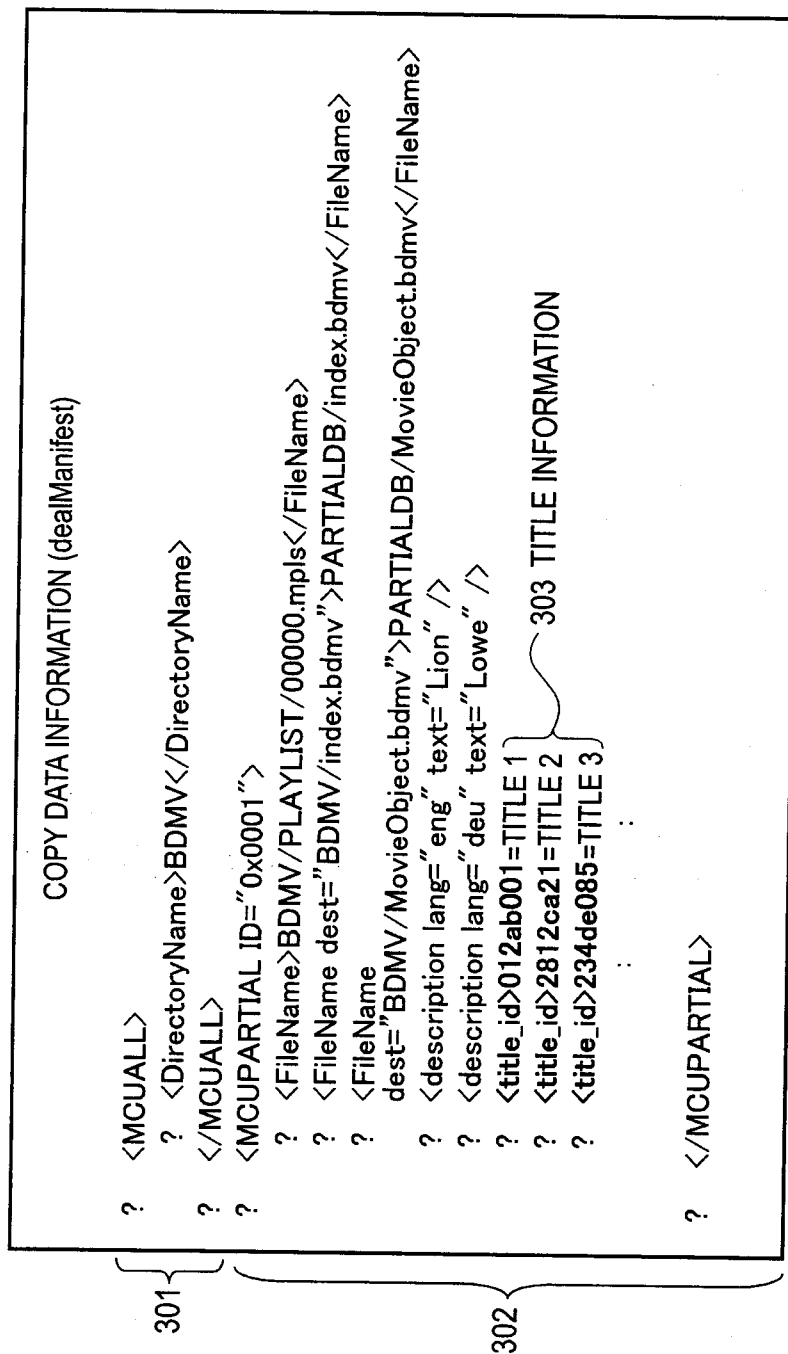


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[FIG.9]

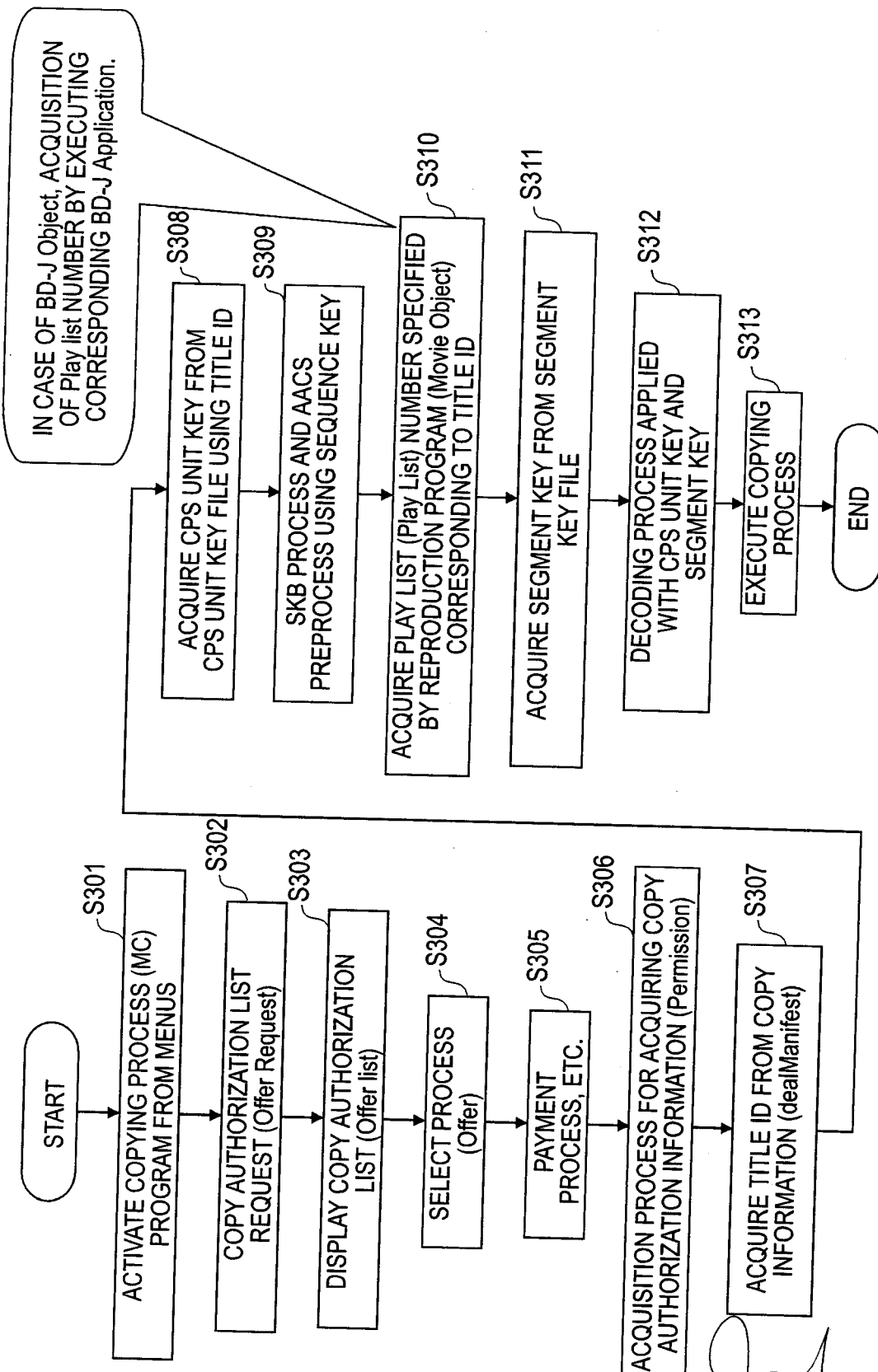


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[FIG.10]



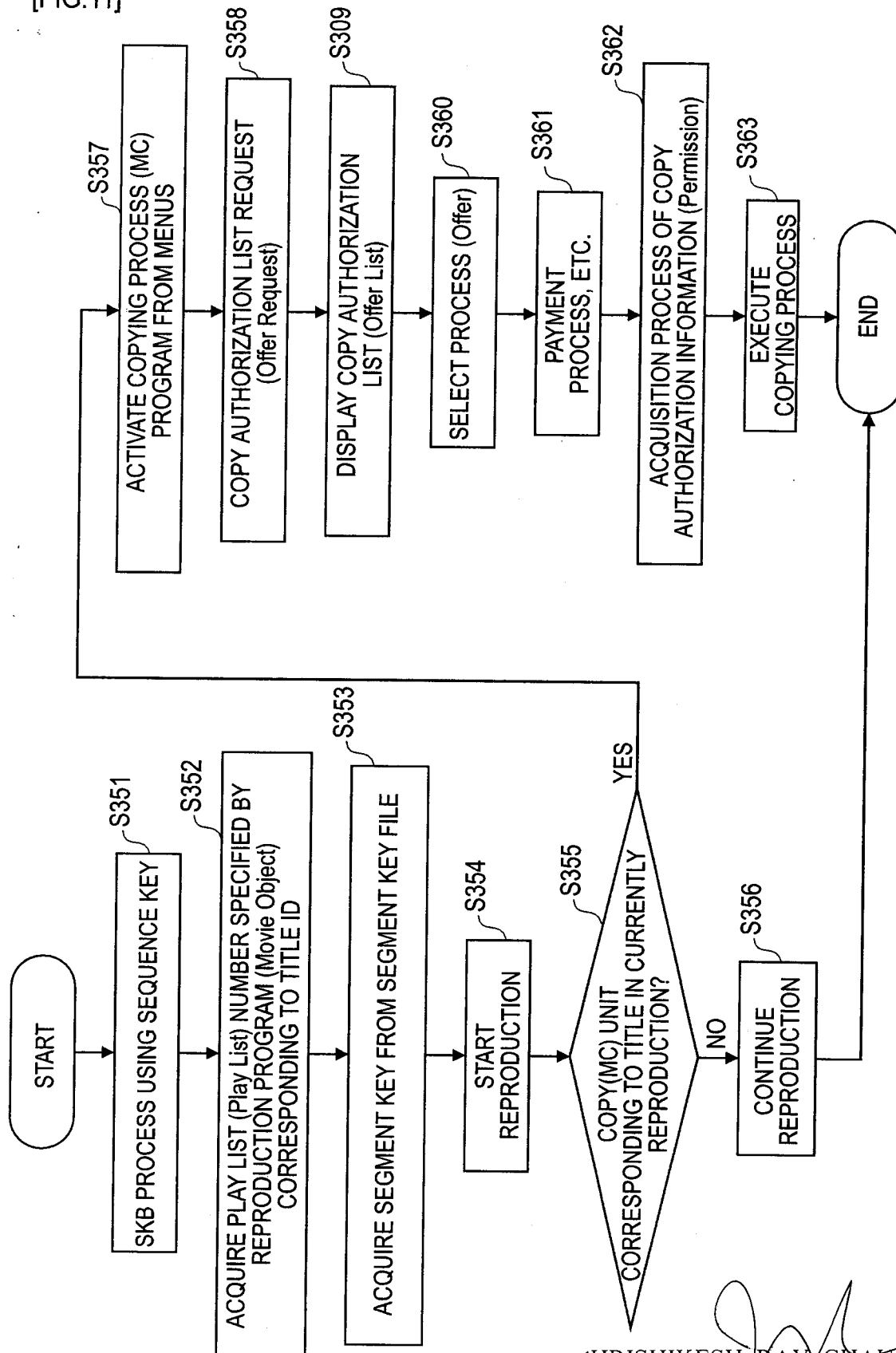
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[FIG.11]



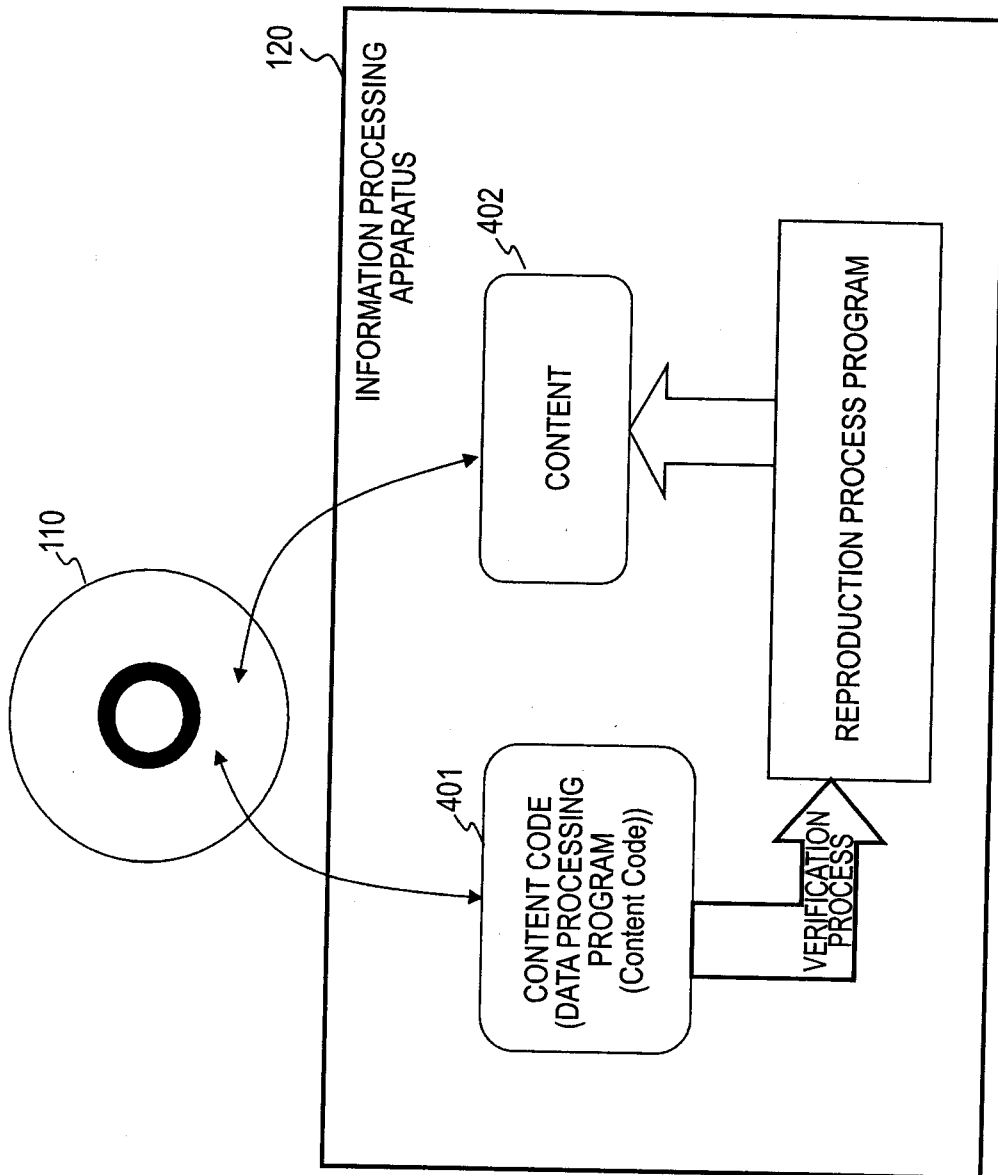
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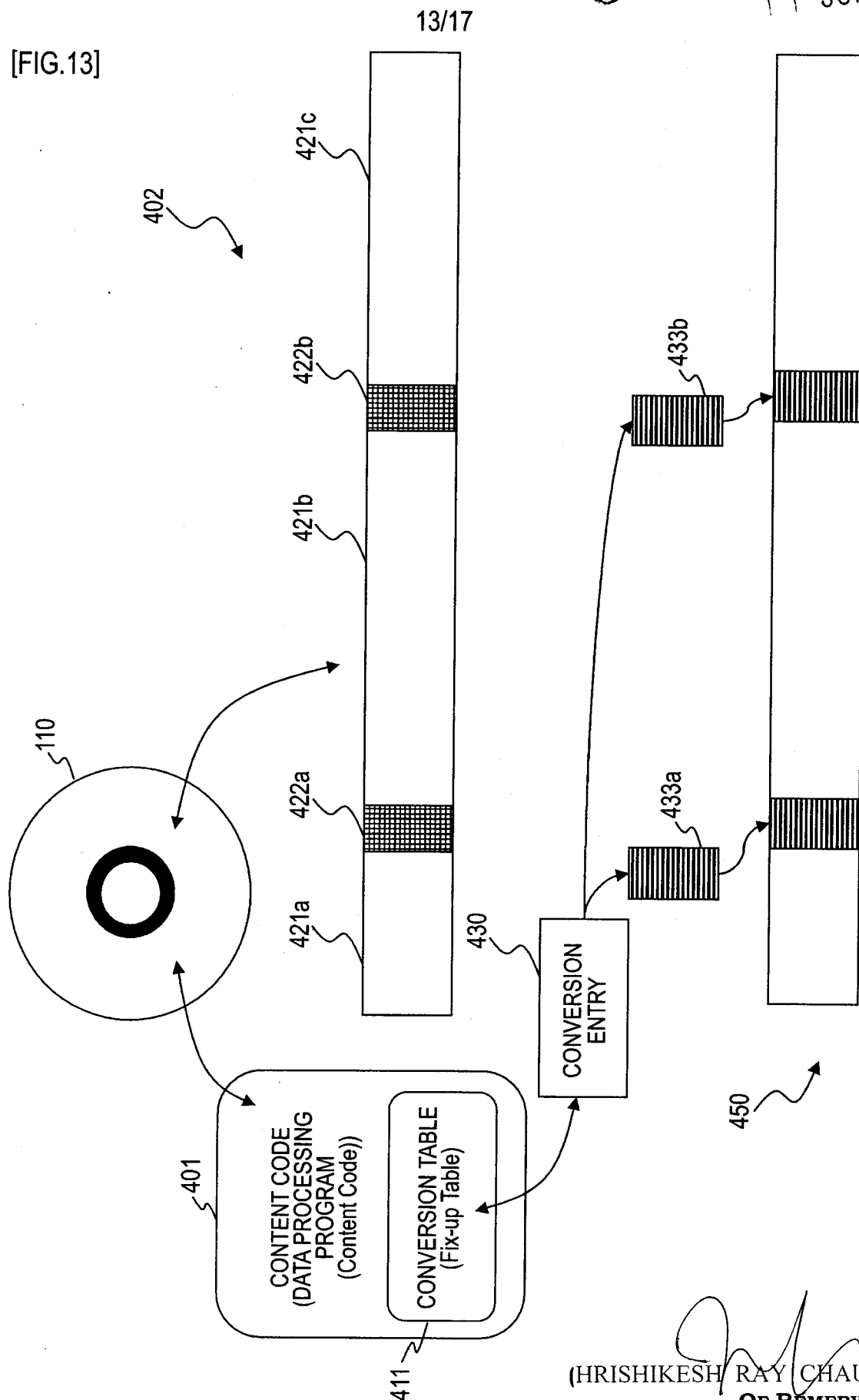
[FIG.12]



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[FIG.13]



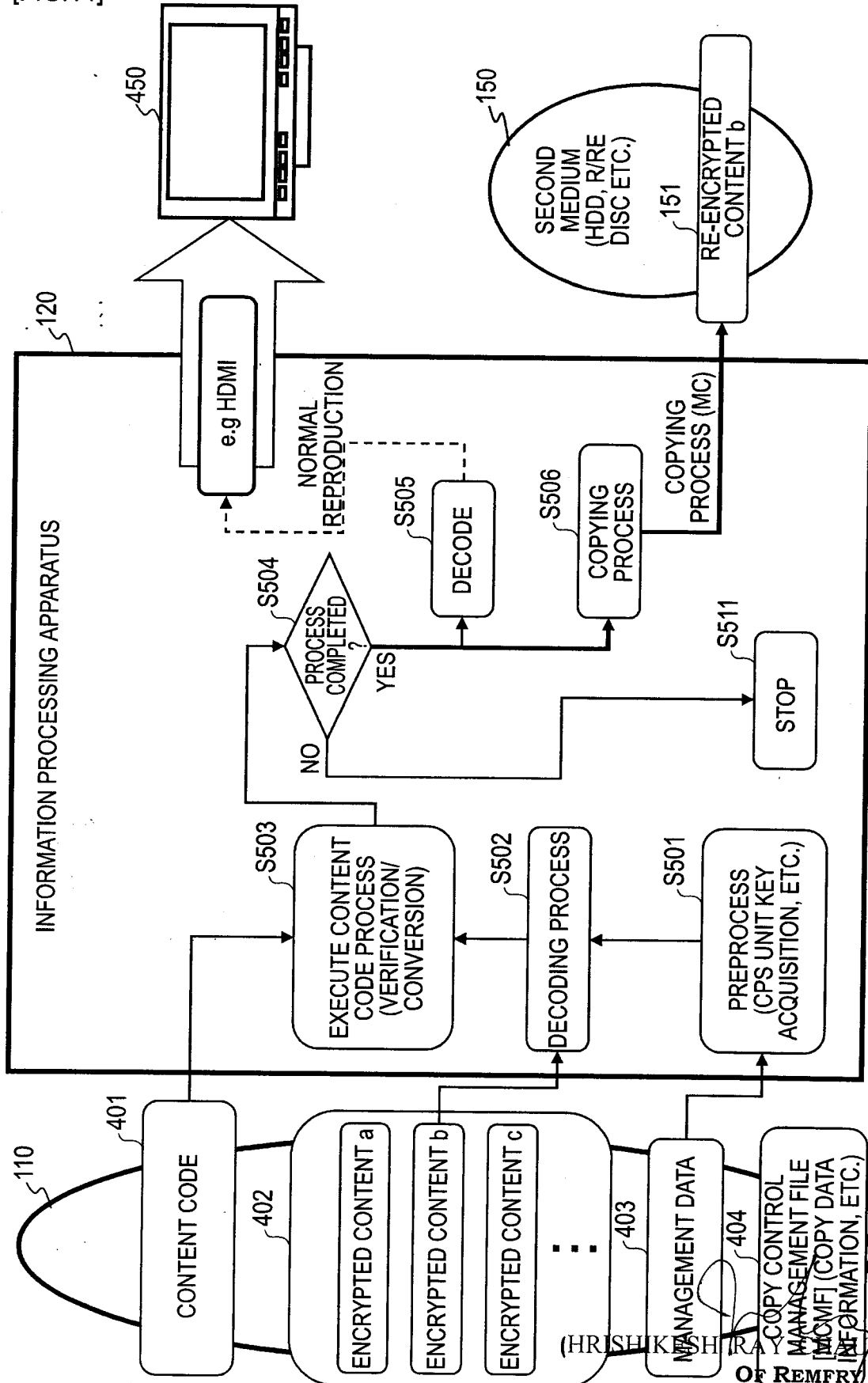
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[FIG.14]

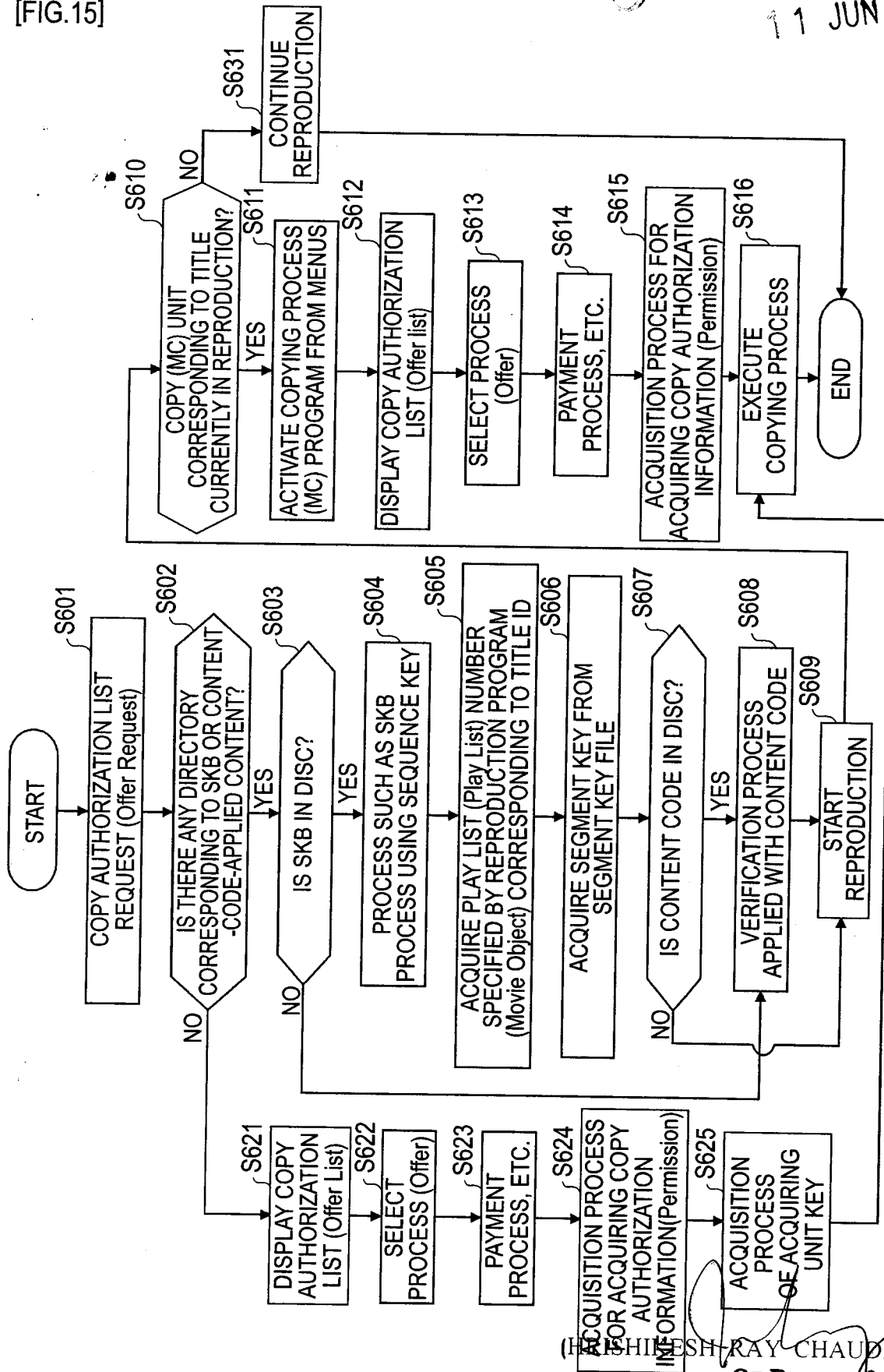


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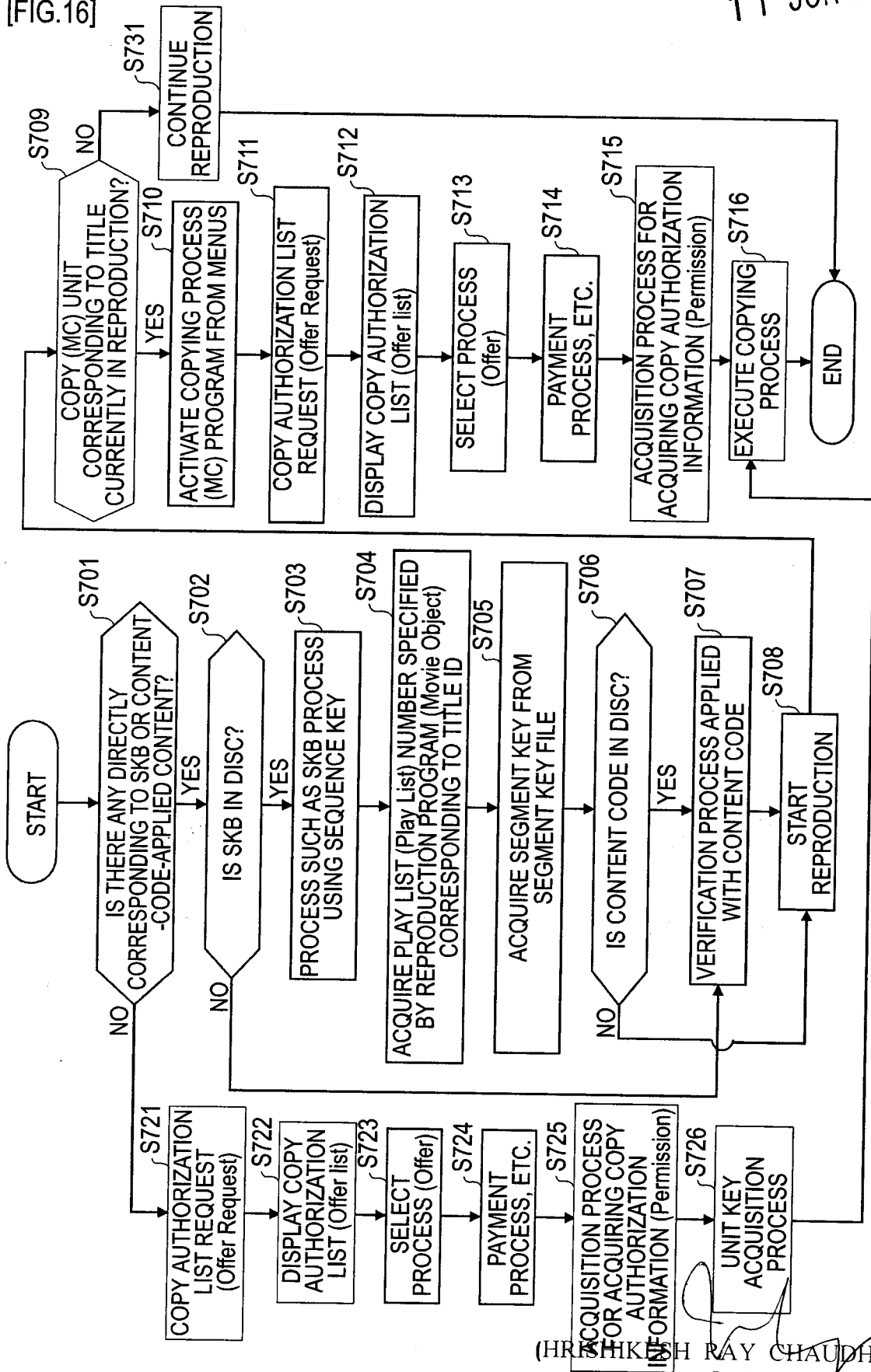
[FIG.15]



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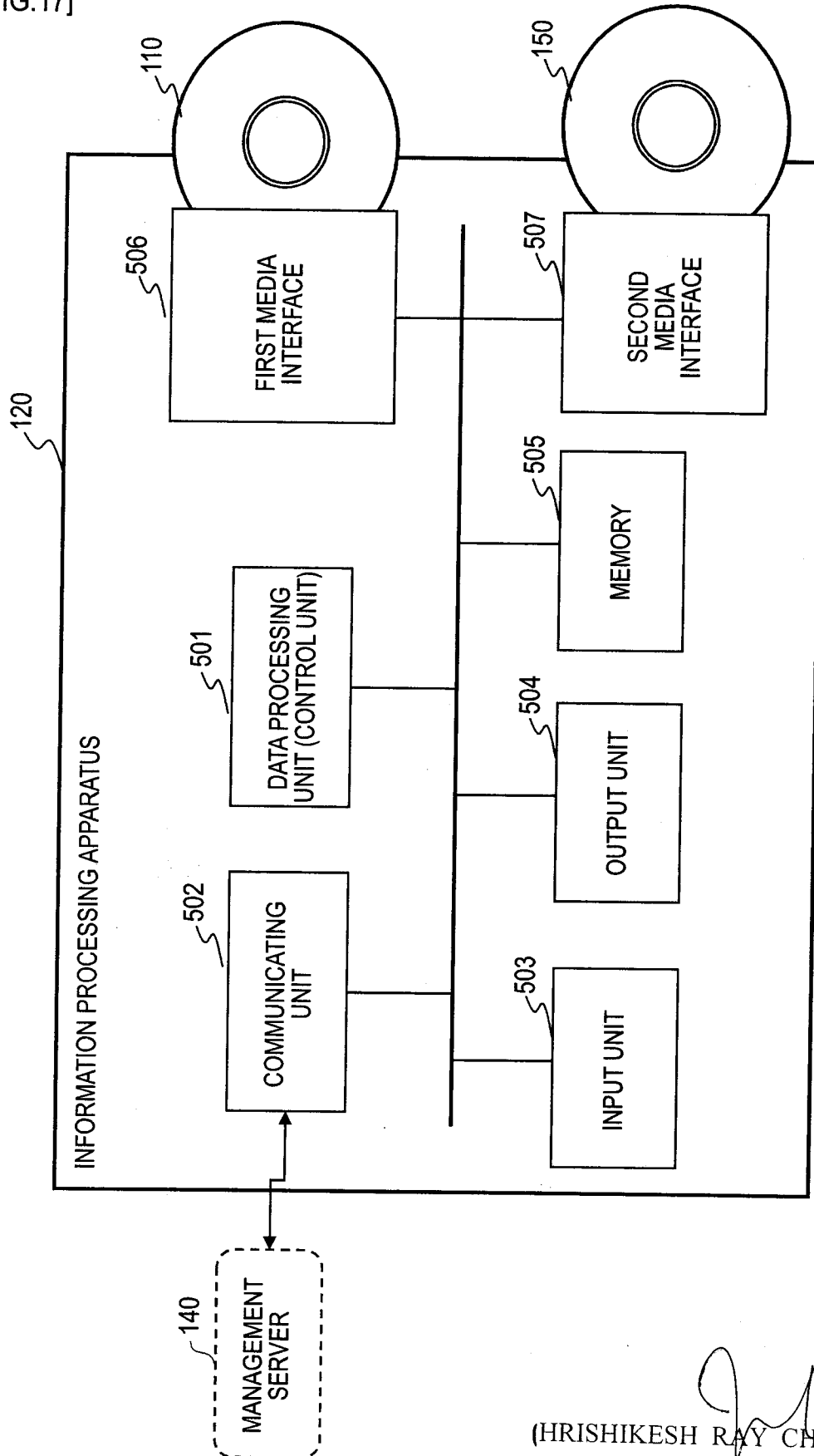
[FIG.16]



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[FIG.17]



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