

EUROPEAN PATENT OFFICE
U.S. PATENT AND TRADEMARK OFFICE

CPC NOTICE OF CHANGES 654

DATE: MAY 1, 2019

PROJECT RP0100

The following classification changes will be effected by this Notice of Changes:

<u>Action</u>	<u>Subclass</u>	<u>Group(s)</u>
SCHEME:		
Symbols Deleted:	G11B	5/732
	G11B	5/738
Symbols Deleted Pending Reclassification: (frozen (F))	G11B	5/7305
	G11B	5/731
	G11B	5/7315
	G11B	5/7325
Symbols New:	G11B	5/7334
	G11B	5/7353
	G11B	5/7356
	G11B	5/7358
	G11B	5/736
	G11B	5/7361
	G11B	5/7362
	G11B	5/7363
	G11B	5/7364
	G11B	5/7365
	G11B	5/7366
	G11B	5/7367
	G11B	5/7368
	G11B	5/7369
	G11B	5/737
	G11B	5/7371
	G11B	5/7373
	G11B	5/7375
	G11B	5/7377
	G11B	5/7379
	G11B	5/739
	G11B	5/73911
	G11B	5/73913
	G11B	5/73915
	G11B	5/73917
	G11B	5/73919
	G11B	5/73921
	G11B	5/73923
	G11B	5/73925
	G11B	5/73927
	G11B	5/73929
	G11B	5/73931
	G11B	5/73933

CPC NOTICE OF CHANGES 654

DATE: MAY 1, 2019

PROJECT RP0100

<u>Action</u>	<u>Subclass</u>	<u>Group(s)</u>
	G11B	5/73935
	G11B	5/73937
Titles Changed:	G11B	5/73
	G11B	5/733
	G11B	5/735
Warnings New:	G11B	5/73
	G11B	5/7305
	G11B	5/731
	G11B	5/7315
	G11B	5/7325
	G11B	5/733
	G11B	5/7334
	G11B	5/735
	G11B	5/7353
	G11B	5/7356
	G11B	5/736
	G11B	5/7368
	G11B	5/739
Warnings Modified:	G11B	subclass
Notes New:	G11B	5/733
DEFINITIONS:		
Definitions New:	G11B	5/73
	G11B	5/733
	G11B	5/7334
	G11B	5/735
	G11B	5/7353
	G11B	5/7356
	G11B	5/7358
	G11B	5/736
	G11B	5/7361
	G11B	5/7362
	G11B	5/7363
	G11B	5/7364
	G11B	5/7365
	G11B	5/7366
	G11B	5/7367
	G11B	5/7368
	G11B	5/7369
	G11B	5/737
	G11B	5/7371
	G11B	5/7373
	G11B	5/7375
	G11B	5/7377

CPC NOTICE OF CHANGES 654

DATE: MAY 1, 2019

PROJECT RP0100

<u>Action</u>	<u>Subclass</u>	<u>Group(s)</u>
	G11B	5/7379
	G11B	5/739
	G11B	5/73911
	G11B	5/73913
	G11B	5/73915
	G11B	5/73917
	G11B	5/73919
	G11B	5/73921
	G11B	5/73923
	G11B	5/73925
	G11B	5/73927
	G11B	5/73929
	G11B	5/73931
	G11B	5/73933
	G11B	5/73935
	G11B	5/73937

No other subclasses/groups are impacted by this Notice of Changes.

This Notice of Changes includes the following [Check the ones included]:

1. CLASSIFICATION SCHEME CHANGES

- A. New, Modified or Deleted Group(s)
- B. New, Modified or Deleted Warning(s)
- C. New, Modified or Deleted Note(s)
- D. New, Modified or Deleted Guidance Heading(s)

2. DEFINITIONS

- A. New or Modified Definitions (Full definition template)
- B. Modified or Deleted Definitions (Definitions Quick Fix)

- 3. REVISION CONCORDANCE LIST (RCL)
- 4. CHANGES TO THE CPC-TO-IPC CONCORDANCE LIST (CICL)
- 5. CHANGES TO THE CROSS-REFERENCE LIST (CRL)

CPC NOTICE OF CHANGES 654

DATE: MAY 1, 2019

PROJECT RP0100

1. CLASSIFICATION SCHEME CHANGES

A. New, Modified or Deleted Group(s)

SUBCLASS G11B - INFORMATION STORAGE BASED ON RELATIVE MOVEMENT BETWEEN RECORD CARRIER AND TRANSDUCER

<u>Type*</u>	<u>Symbol</u>	<u>Indent Level Number of dots (e.g. 0, 1, 2)</u>	<u>Title</u> “CPC only” text should normally be enclosed in {curly brackets}**	<u>Transferred to#</u>
C	G11B5/73	2	Base layers {, i.e. all non-magnetic layers lying under a lowermost magnetic recording layer, e.g. including any non-magnetic layer in between a first magnetic recording layer and either an underlying substrate or a soft magnetic underlayer}	G11B5/73, G11B5/733, G11B5/7334, G11B5/736, G11B5/7361, G11B5/7362, G11B5/7363, G11B5/7364, G11B5/7365, G11B5/7366, G11B5/7367, G11B5/7368, G11B5/7369, G11B5/737, G11B5/7371, G11B5/7373, G11B5/7375, G11B5/7377, G11B5/739, G11B5/73911, G11B5/73913, G11B5/73915, G11B5/73917, G11B5/73919, G11B5/73921, G11B5/73923, G11B5/73925, G11B5/73927, G11B5/73929, G11B5/73931, G11B5/73933, G11B5/73935, G11B5/73937
F	G11B5/7305	3	{with bonding agent in the material}	G11B5/73, G11B5/733, G11B5/7334, G11B5/736, G11B5/7361, G11B5/7362, G11B5/7363, G11B5/7364, G11B5/7365, G11B5/7366, G11B5/7367, G11B5/7368, G11B5/7369, G11B5/737, G11B5/7371, G11B5/7373, G11B5/7375, G11B5/7377, G11B5/739, G11B5/73911, G11B5/73913, G11B5/73915, G11B5/73917, G11B5/73919, G11B5/73921, G11B5/73923, G11B5/73925, G11B5/73927, G11B5/73929, G11B5/73931, G11B5/73933, G11B5/73935, G11B5/73937

CPC NOTICE OF CHANGES 654

DATE: MAY 1, 2019

PROJECT RP0100

<u>Type*</u>	<u>Symbol</u>	<u>Indent Level Number of dots (e.g. 0, 1, 2)</u>	<u>Title</u> <u>“CPC only” text should normally be enclosed in {curly brackets}**</u>	<u>Transferred to#</u>
F	G11B5/731	3	{without bonding agent in the material}	G11B5/736, G11B5/7361, G11B5/7362, G11B5/7363, G11B5/7364, G11B5/7365, G11B5/7366, G11B5/7367, G11B5/7368, G11B5/7369, G11B5/737, G11B5/7371, G11B5/7373, G11B5/7375, G11B5/7377, G11B5/739, G11B5/73911, G11B5/73913, G11B5/73915, G11B5/73917, G11B5/73919, G11B5/73921, G11B5/73923, G11B5/73925, G11B5/73927, G11B5/73929, G11B5/73931, G11B5/73933, G11B5/73935, G11B5/73937
F	G11B5/7315	4	{substrates}	G11B5/739, G11B5/73911, G11B5/73913, G11B5/73915, G11B5/73917, G11B5/73919, G11B5/73921, G11B5/73923, G11B5/73925, G11B5/73927, G11B5/73929, G11B5/73931, G11B5/73933, G11B5/73935, G11B5/73937
D	G11B5/732	4	{seed layers}	<administrative transfer to G11B5/7379>
F	G11B5/7325	4	{layers between substrate and first magnetic recording layer other than soft magnetic layers and seed layers}	G11B5/736, G11B5/7361, G11B5/7362, G11B5/7363, G11B5/7364, G11B5/7365, G11B5/7366, G11B5/7367, G11B5/7368, G11B5/7369, G11B5/737, G11B5/7371, G11B5/7373, G11B5/7375, G11B5/7377, G11B5/739, G11B5/73911, G11B5/73913, G11B5/73915, G11B5/73917, G11B5/73919, G11B5/73921, G11B5/73923, G11B5/73925, G11B5/73927, G11B5/73929, G11B5/73931, G11B5/73933, G11B5/73935, G11B5/73937

CPC NOTICE OF CHANGES 654

DATE: MAY 1, 2019

PROJECT RP0100

<u>Type*</u>	<u>Symbol</u>	<u>Indent Level Number of dots (e.g. 0, 1, 2)</u>	<u>Title</u> <u>“CPC only” text should normally be enclosed in {curly brackets}**</u>	<u>Transferred to#</u>
C	G11B5/733	3	characterised by the addition of non-magnetic particles {(base layers having a non-magnetic layer under a soft magnetic layer G11B 5/736; magnetic recording media substrates G11B 5/739)}	G11B5/733, G11B5/7334, G11B5/736, G11B5/7361, G11B5/7362, G11B5/7363, G11B5/7364, G11B5/7365, G11B5/7366, G11B5/7367, G11B5/7368, G11B5/7369, G11B5/737, G11B5/7371, G11B5/7373, G11B5/7375, G11B5/7377, G11B5/739, G11B5/73911, G11B5/73913, G11B5/73915, G11B5/73917, G11B5/73919, G11B5/73921, G11B5/73923, G11B5/73925, G11B5/73927, G11B5/73929, G11B5/73931, G11B5/73933, G11B5/73935, G11B5/73937
N	G11B5/7334	4	{Base layer characterised by composition or structure}	
C	G11B5/735	3	characterised by the back layer {(magnetic recording media substrates G11B 5/739)}	G11B5/735, G11B5/7353, G11B5/7356, G11B5/7358, G11B5/739, G11B5/73911, G11B5/73913, G11B5/73915, G11B5/73917, G11B5/73919, G11B5/73921, G11B5/73923, G11B5/73925, G11B5/73927, G11B5/73929, G11B5/73931, G11B5/73933, G11B5/73935, G11B5/73937
N	G11B5/7353	4	{for a thin film medium where the magnetic recording layer structure has no bonding agent}	
N	G11B5/7356	4	{comprising non-magnetic particles in the back layer, e.g. particles of TiO ₂ , ZnO or SiO ₂ }	
N	G11B5/7358	5	{specially adapted for achieving a specific property, e.g. average roughness [Ra]}	
N	G11B5/736	3	{Non-magnetic layer under a soft magnetic layer, e.g. between a substrate and a soft magnetic underlayer [SUL] or a keeper layer (magnetic recording media substrates G11B 5/739)}	
N	G11B5/7361	4	{Two or more non-magnetic layers}	
N	G11B5/7362	5	{Physical structure of underlayer, e.g. texture}	
N	G11B5/7363	4	{Non-magnetic single underlayer comprising nickel}	
N	G11B5/7364	4	{Non-magnetic single underlayer comprising chromium}	

CPC NOTICE OF CHANGES 654

DATE: MAY 1, 2019

PROJECT RP0100

<u>Type*</u>	<u>Symbol</u>	<u>Indent Level Number of dots (e.g. 0, 1, 2)</u>	<u>Title</u> <u>“CPC only” text should normally be enclosed in {curly brackets}**</u>	<u>Transferred to#</u>
N	G11B5/7365	4	{Non-magnetic single underlayer comprising a polymeric structure, e.g. polymeric adhesion layer or plasma-polymerized carbon layer}	
N	G11B5/7366	4	{for heat-assisted or thermally-assisted magnetic recording [HAMR, TAMR]}	
N	G11B5/7367	4	{Physical structure of underlayer, e.g. texture}	
N	G11B5/7368	3	{Non-polymeric layer under the lowermost magnetic recording layer (base layers having a non-magnetic layer under a soft magnetic layer G11B 5/736; magnetic recording media substrates G11B 5/739)}	
N	G11B5/7369	4	{Two or more non-magnetic underlayers, e.g. seed layers or barrier layers}	
N	G11B5/737	5	{Physical structure of underlayer, e.g. texture}	
N	G11B5/7371	4	{Non-magnetic single underlayer comprising nickel}	
N	G11B5/7373	4	{Non-magnetic single underlayer comprising chromium}	
N	G11B5/7375	4	{for heat-assisted or thermally-assisted magnetic recording [HAMR, TAMR]}	
N	G11B5/7377	4	{Physical structure of underlayer, e.g. texture}	
N	G11B5/7379	4	{Seed layer, e.g. at least one non-magnetic layer is specifically adapted as a seed or seeding layer}	
D	G11B5/738	3	characterised by the intermediate layer	<administrative transfer to G11B5/73>
N	G11B5/739	3	{Magnetic recording media substrates}	
N	G11B5/73911	4	{Inorganic substrates}	
N	G11B5/73913	5	{Composites or coated substrates}	
N	G11B5/73915	6	{Silicon compound based coating}	
N	G11B5/73917	5	{Metallic substrates, i.e. elemental metal or metal alloy substrates}	
N	G11B5/73919	6	{Aluminium or titanium elemental or alloy substrates}	
N	G11B5/73921	5	{Glass or ceramic substrates}	
N	G11B5/73923	4	{Organic polymer substrates}	
N	G11B5/73925	5	{Composite or coated non-esterified substrates}	
N	G11B5/73927	5	{Polyester substrates, e.g. polyethylene terephthalate}	
N	G11B5/73929	6	{comprising naphthalene ring compounds, e.g. polyethylene naphthalate substrates}	

CPC NOTICE OF CHANGES 654

DATE: MAY 1, 2019

PROJECT RP0100

<u>Type*</u>	<u>Symbol</u>	<u>Indent Level Number of dots (e.g. 0, 1, 2)</u>	<u>Title</u> <u>“CPC only” text should normally be enclosed in {curly brackets}**</u>	<u>Transferred to#</u>
N	G11B5/73931	6	{Two or more layers, at least one layer being polyester}	
N	G11B5/73933	6	{Surface treated layers, e.g. treated by corona discharge}	
N	G11B5/73935	6	{characterised by roughness or surface features, e.g. by added particles}	
N	G11B5/73937	5	{Substrates having an organic polymer comprising a ring structure}	

*N = new entries where reclassification into entries is involved; C = entries with modified file scope where reclassification of documents from the entries is involved; Q = new entries which are firstly populated with documents via administrative transfers from deleted (D) entries. Afterwards, the transferred documents into the Q entry will either stay or be moved to more appropriate entries, as determined by intellectual reclassification; E= existing entries with enlarged file scope, which receive documents from C or D entries, e.g. when a limiting reference is removed from the entry title; M = entries with no change to the file scope (no reclassification); D = deleted entries; F = frozen entries will be deleted once reclassification of documents from the entries is completed; U = entries that are unchanged.

NOTES:

- **No {curly brackets} are used for titles in CPC only subclasses, e.g. C12Y, A23Y; 2000 series symbol titles of groups found at the end of schemes (orthogonal codes); or the Y section titles. The {curly brackets} are used for 2000 series symbol titles found interspersed throughout the main trunk schemes (breakdown codes).
- U groups: it is obligatory to display the required “anchor” symbol (U group), i.e. the entry immediately preceding a new group or an array of new groups to be created (in case new groups are not clearly subgroups of C-type groups). Always include the symbol, indent level and title of the U group in the table above.
- All entry types should be included in the scheme changes table above for better understanding of the overall scheme change picture. Symbol, indent level, and title are required for all types.
- “Transferred to” column must be completed for all C, D, F, and Q type entries. F groups will be deleted once reclassification is completed.
- When multiple symbols are included in the “Transferred to” column, avoid using ranges of symbols in order to be as precise as possible.
- For administrative transfer of documents, the following text should be used: “< administrative transfer to XX>”, “<administrative transfer to XX and YY simultaneously>”, or “<administrative transfer to XX, YY ...and ZZ simultaneously>” when administrative transfer of the same documents is to more than one place.
- Administrative transfer to main trunk groups is assumed to be the source allocation type, unless otherwise indicated.
- Administrative transfer to 2000/Y series groups is assumed to be “additional information”.
- If needed, instructions for allocation type should be indicated within the angle brackets using the abbreviations “ADD” or “INV”: <administrative transfer to XX ADD> , <administrative transfer to XX INV>, or < administrative transfer to XX ADD, YY INV, ... and ZZ ADD simultaneously>.
- In certain situations, the “D” entries of 2000-series or Y-series groups may not require a destination (“Transferred to”) symbol, however it is required to specify “<no transfer>” in the “Transferred to” column for such cases.
- For finalisation projects, the deleted “F” symbols should have <no transfer> in the “Transferred to” column.
- For more details about the types of scheme change, see CPC Guide.

CPC NOTICE OF CHANGES 654

DATE: MAY 1, 2019

PROJECT RP0100

B. New, Modified or Deleted Warning(s)

SUBCLASS G11B - INFORMATION STORAGE BASED ON RELATIVE MOVEMENT BETWEEN RECORD CARRIER AND TRANSDUCER

<u>Type*</u>	<u>Location</u>	<u>Old Warning</u>	<u>New/Modified Warning</u>
M	G11B	<p>The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:</p> <p>G11B5/65 covered by G11B 5/64 to G11B 5/656 G11B5/667 covered by G11B 5/66 G11B5/673 covered by G11B 5/66 G11B7/16 covered by G11B 7/135 G11B7/18 covered by G11B 7/135 G11B7/30 covered by G11B 7/00 G11B9/12 - G11B9/14 covered by G11B 9/00 G11B11/24 - G11B11/26 covered by G11B 11/00 G11B13/08 covered by G11B</p>	<p>The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups are classified in the following CPC groups:</p> <p>G11B5/667 covered by G11B5/66 G11B5/673 covered by G11B5/66 G11B5/738 covered by G11B5/73, G11B5/733, G11B5/7334, and G11B5/736 - G11B5/7377 G11B7/30 covered by G11B7/00 G11B9/12 - G11B9/14 covered by G11B9/00 G11B11/24 - G11B11/26 covered by G11B11/00 G11B13/08 covered by G11B13/00</p>
N	G11B5/73		<p>Group G11B5/73 is incomplete pending reclassification of documents from group G11B5/7305. Group G11B5/73 is also impacted by reclassification into groups G11B5/733, G11B5/7334, G11B5/736 - G11B5/7377 and G11B5/739 - G11B5/73937. All groups listed in this warning should be considered in order to perform a complete search.</p>
N	G11B5/7305		<p>Group G11B5/7305 is no longer used for the classification of documents as of May 1, 2019. The content of this group is being reclassified into groups G11B5/73, G11B5/733, G11B5/7334, G11B5/736 - G11B5/7377 and G11B5/739 - G11B5/73937. All groups listed in this warning should be considered in order to perform a complete search.</p>

CPC NOTICE OF CHANGES 654

DATE: MAY 1, 2019

PROJECT RP0100

<u>Type*</u>	<u>Location</u>	<u>Old Warning</u>	<u>New/Modified Warning</u>
N	G11B5/731		Group G11B5/731 is no longer used for the classification of documents as of May 1, 2019. The content of this group is being reclassified into groups G11B5/736 - G11B5/7377 and G11B5/739 - G11B5/73937. All groups listed in this warning should be considered in order to perform a complete search.
N	G11B5/7315		Group G11B5/7315 is no longer used for the classification of documents as of May 1, 2019. The content of this group is being reclassified into groups G11B5/739 - G11B5/73937. All groups listed in this warning should be considered in order to perform a complete search.
N	G11B5/7325		Group G11B5/7325 is no longer used for the classification of documents as of May 1, 2019. The content of this group is being reclassified into groups G11B5/736 - G11B5/7377 and G11B5/739 - G11B5/73937. All groups listed in this warning should be considered in order to perform a complete search.
N	G11B5/733		Group G11B5/733 is incomplete pending reclassification of documents from groups G11B5/73 and G11B5/7305. Group G11B5/733 is also impacted by reclassification into groups G11B5/7334, G11B5/736 - G11B5/7377 and G11B5/739 - G11B5/73937. All groups listed in this warning should be considered in order to perform a complete search.
N	G11B5/7334		Group G11B5/7334 is incomplete pending reclassification of documents from groups G11B5/73, G11B5/7305, and G11B5/733. All groups listed in this warning should be considered in order to perform a complete search.
N	G11B5/735		Group G11B5/735 is impacted by reclassification into groups G11B5/7353 - G11B5/7358 and G11B5/739 - G11B5/73937. All groups listed in this warning should be considered in order to perform a complete search.
N	G11B5/7353		Group G11B5/7353 is incomplete pending reclassification of documents from group G11B5/735. Groups G11B5/735 and G11B5/7353 should be considered in order to perform a complete search.

CPC NOTICE OF CHANGES 654

DATE: MAY 1, 2019

PROJECT RP0100

<u>Type*</u>	<u>Location</u>	<u>Old Warning</u>	<u>New/Modified Warning</u>
N	G11B5/7356		Groups G11B5/7356 and G11B5/7358 are incomplete pending reclassification of documents from group G11B5/735. All groups listed in this warning should be considered in order to perform a complete search.
N	G11B5/736		Groups G11B5/736, G11B5/7361, G11B5/7362, G11B5/7363, G11B5/7364, G11B5/7365, G11B5/7366, and G11B5/7367 are incomplete pending reclassification of documents from groups G11B5/73, G11B5/7305, G11B5/731, G11B5/7325, and G11B5/733. All groups listed in this warning should be considered in order to perform a complete search.
N	G11B5/7368		Groups G11B5/7368, G11B5/7369, G11B5/737, G11B5/7371, G11B5/7373, G11B5/7375, and G11B5/7377 are incomplete pending reclassification of documents from groups G11B5/73, G11B5/7305, G11B5/731, G11B5/7325, and G11B5/733. All groups listed in this warning should be considered in order to perform a complete search.
N	G11B5/739		Groups G11B5/739, G11B5/73911, G11B5/73913, G11B5/73915, G11B5/73917, G11B5/73919, G11B5/73921, G11B5/73923, G11B5/73925, G11B5/73927, G11B5/73929, G11B5/73931, G11B5/73933, G11B5/73935, and G11B5/73937 are incomplete pending reclassification of documents from groups G11B5/73, G11B5/7305, G11B5/731, G11B5/7315, G11B5/7325, G11B5/733, and G11B5/735. All groups listed in this warning should be considered in order to perform a complete search.

*N = new warning, M = modified warning, D = deleted warning

NOTE: The "Location" column only requires the symbol PRIOR to the location of the warning. No further directions such as "before" or "after" are required.

CPC NOTICE OF CHANGES 654

DATE: MAY 1, 2019

PROJECT RP0100

C. New, Modified or Deleted Note(s)

SUBCLASS G11B - INFORMATION STORAGE BASED ON RELATIVE MOVEMENT BETWEEN RECORD CARRIER AND TRANSDUCER

<u>Type*</u>	<u>Location</u>	<u>Old Note</u>	<u>New/Modified Note</u>
N	G11B5/733		<p>1. {This subgroup <u>covers</u>: non-magnetic base layer structures characterised by the addition of non-magnetic particles. }</p> <p>2. {This subgroup <u>does not cover</u>: magnetic layer structures comprising one or more layers of magnetisable material homogeneously mixed with a bonding agent (even when also containing non-magnetic particles), which are covered by G11B 5/68 (in particular, G11B5/708 and G11B5/7085). }</p>

*N = new note, M = modified note, D = deleted note

NOTE: The "Location" column only requires the symbol PRIOR to the location of the note. No further directions such as "before" or "after" are required.

DATE: MAY 1, 2019

PROJECT RP0100

2. A. DEFINITIONS (new)

G11B 5/73

Definition statement

This place covers:

Magnetic media in which each medium includes one or more non-magnetic layers under a lowermost magnetic recording layer.

Base layers are substrates or non-magnetic layers designated either by position (e.g. precoat layer, prelayer, base layer, underlayer, intermediate layer, lower layer, sublayer, ground layer, etc.) or function (e.g. nucleation layer, seed layer, barrier layer, corrosion prevention layer, diffusion prevention layer, texture layer, etc.).

Relationships with other classification places

Other aspects of magnetic recording media are classified as follows:

- [G11B 5/64](#) concerns thin film-type media directed to the selection of magnetic material for the recording layer(s).
- [G11B 5/68](#) concerns binder-type media directed to the selection of magnetic particles, binder composition, or binder additives to the recording layer(s).
- [G11B 5/72](#) concerns protective layers used on magnetic recording media.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Magnetic media characterised by the patterning of the magnetic layer (bit patterned, discrete track, etc.)	G11B 5/743 - G11B 5/746
Magneto-optic or opto-magnetic media substrates	G11B 7/253 - G11B 7/2539
Magneto-optic or opto-magnetic underlayers	G11B 7/256 - G11B 7/2595
Energy assisted record carriers	G11B 11/10582 - G11B 11/10593

DATE: MAY 1, 2019

PROJECT RP0100

Thin film-type magnetic layers characterized by material or structural arrangement, characterized by the coupling or physical contact with other layers	H01F 10/06
Thin film-type magnetic layers characterized by material or structural arrangement, characterized by the substrate or intermediate layers	H01F 10/26 - H01F 10/30
General utility Synthetic Antiferromagnetic exchange coupled magnetic layers	H01F 10/324 - H01F 10/3259

Special rules of classification

Layers formed by chemically modifying a surface layer (e.g. an oxidized surface layer formed from a previously deposited layer) are considered a separate layer and should be placed in the appropriate subgroup. Note that a surface layer formed as part of a recording medium substrate is still considered part of the substrate for classification purposes (i.e. placement would be in the coated or composite substrate areas).

Classification in this area is primarily of the claimed invention with each embodiment of claimed subject matter being Inventive unless the subject matter recited is nominal and well known in the art. Relevant disclosure in the specification should be classified primarily as Additional information unless deemed particularly relevant to the invention as a whole, in which case it may be given an Inventive symbol.

Base layers in which the invention is directed to the initial substrate or support upon which all other layers are deposited are classified in [G11B 5/739](#) - [G11B 5/73937](#).

Base layers in which the recording or magnetizable layer is a continuous-type layer free of polymeric binder (i.e. "thin film media") are classified in [G11B 5/736](#) - [G11B 5/7379](#) if on the same side of the substrate as the magnetic layer or [G11B 5/7353](#) if a backcoat layer.

Base layers in which the recording or magnetizable layer is a mixture of magnetic particles and a polymeric binder (i.e. "binder media") are classified in [G11B 5/733](#) - [G11B 5/7334](#) if on the same side of the substrate as the magnetic layer or [G11B 5/735](#), [G11B 5/7356](#), or [G11B 5/7358](#) if a backcoat layer.

The following figures illustrate where appropriate base layers should be classified, depending on whether the media in question includes a soft under layer (SUL) (also termed a 'Keeper layer').

DATE: MAY 1, 2019

PROJECT RP0100

Media with SUL or Keeper Layer

Lubricant Layer	
Protective Layer	
Magnetic Recording Layer(s)	
Non-Magnetic Seed/Intermediate/Interlayers	Binder with particles -> G11B 5/733 Thin film-type layers -> G11B 5/7368 – G11B 5/7379
Soft Magnetic Underlayer	
Non-Magnetic Orientation Control/Adhesion Layers	Binder with particles -> G11B 5/733 Thin film-type layers -> G11B 5/736 – G11B 5/7367
Substrate	
Backcoat	All media -> G11B 5/739 – G11B 5/73937 Thin Film media -> G11B 5/7353 Binder media -> G11B 5/753 and/or G11B 5/7356 – G11B 5/7358

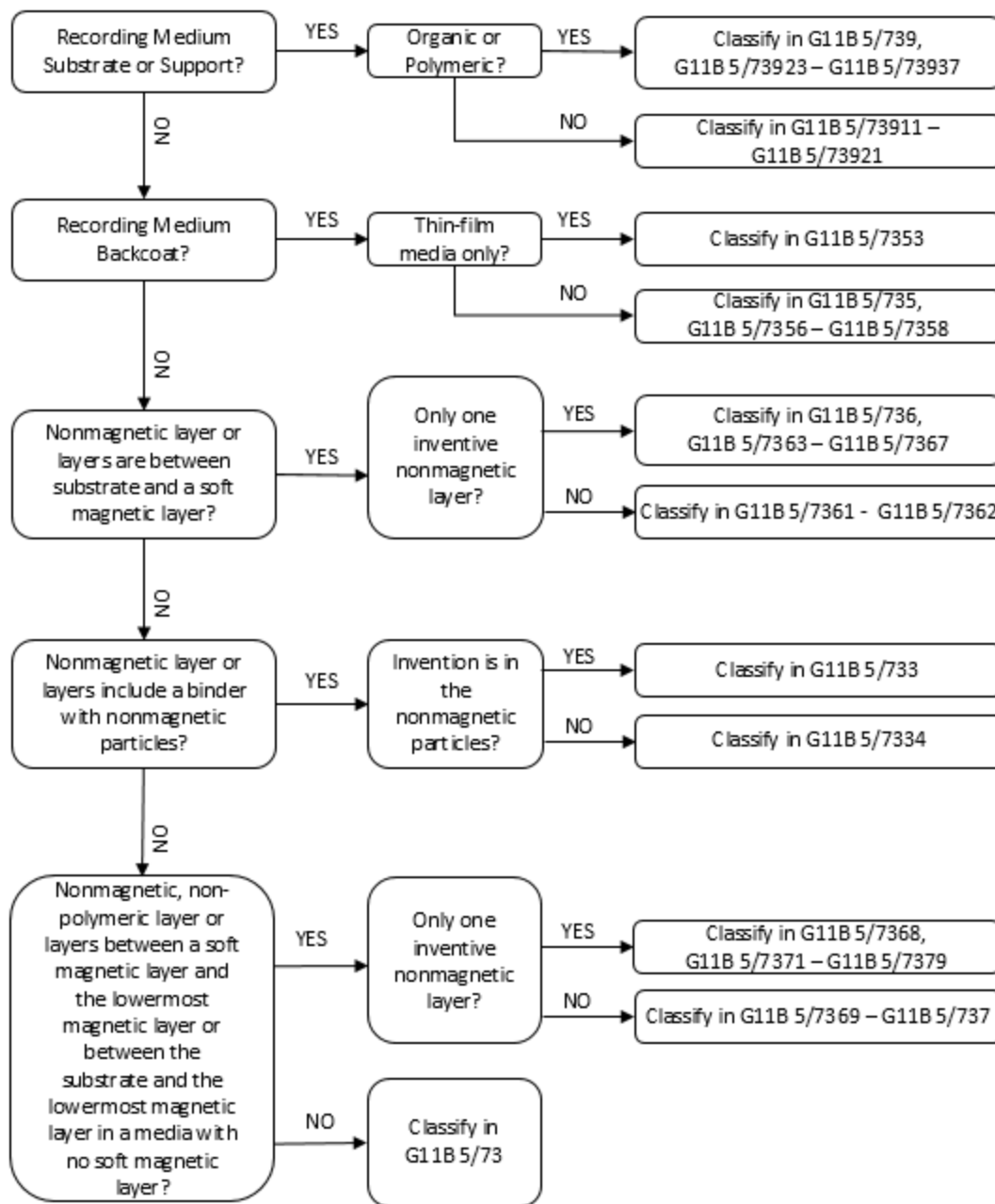
Non-Kepered (or without SUL) Media

Lubricant Layer	
Protective Layer	
Magnetic Recording Layer(s)	
Non-Magnetic Seed /Adhesion/Underlayers	Binder with particles -> G11B 5/733 Thin film-type layers -> G11B 5/7368 – G11B 5/7379
Substrate	
Backcoat	All media -> G11B 5/739 – G11B 5/73937 Thin Film media -> G11B 5/7353 Binder media -> G11B 5/753 and/or G11B 5/7356 – G11B 5/7358

DATE: MAY 1, 2019

PROJECT RP0100

The following flow-chart provides guidance on the precedent notes within this portion of the scheme.



DATE: MAY 1, 2019

PROJECT RP0100

An invention is to 'plural inventive non-magnetic layers' for the purpose of placement in appropriate subgroups of [G11B 5/736](#) - [G11B 5/7379](#) if the independent claim is directed to multiple non-magnetic layers, even if these layers are recited in name only or if dependent claims recite multiple non-magnetic layers in other than name only. The sole exception would be if a dependent claim further limits the structural location of one of the inventive non-magnetic layers relative to an included soft magnetic layer (such that only a single non-magnetic layer is now above or below an included soft magnetic layer - see example 2, below).

Examples:

<p>(1)</p>	<p>What is claimed is:</p> <p>1. A magnetic recording medium comprising: a substrate; a seed layer; an under layer; and a perpendicular recording layer having a granular structure, wherein $(Ms \cdot \alpha \cdot \delta^{1.5} (1-Rs)^{0.33})$, Ms, and α satisfy the following relations: $(Ms \cdot \alpha \cdot \delta^{1.5} (1-Rs)^{0.33}) \leq 0.1 [\mu\text{-emu} \cdot (\text{mm})^{-1.5}]$, $Ms \geq 450$ [emu/cc], and $\alpha \geq 1.2$, and wherein in the above formulas, Ms indicates a saturated magnetization amount, α indicates the gradient of a M-H loop around a coercive force Hc, δ indicates the thickness of the perpendicular recording layer, and Rs indicates a squareness ratio.</p> <p>2. The magnetic recording medium according to claim 1, wherein the seed layer has an amorphous state and includes a metal having a melting point of 2,000° C. or less.</p>	<p>(1) The invention at the left would be placed in a subgroup directed to plural inventive nonmagnetic layers as both the seed layer and <u>underlayer</u> are recited in claim 1, even though the seed layer is the only layer further limited in the dependent claim (i.e. the <u>underlayer</u> is recited in name only).</p>
<p>(2)</p>	<p>Claim 1: A magnetic recording medium comprising a magnetic layer having ...</p> <p>Claim 2: The invention of claim 1, further comprising a base substrate and a laminated film thereon. ...</p> <p>Claim 5: The invention of claim 2, wherein the laminated film has an amorphous <u>TiCr</u> seed layer, a Ru foundation layer, and a recording layer formed in this order. ...</p> <p>Claim 15: The invention of claim 5, further comprising a soft magnetic layer provided between the seed layer and the foundation layer.</p>	<p>(2) Claim 1 does not recite any 'inventive nonmagnetic layers', but the dependent claims, e.g. claim 5, recites a seed layer and a foundation layer. This aspect is classified in G11B 5/7369. However, claim 15 adds a soft magnetic layer between the seed and foundation layers, resulting in a {base substrate/seed layer/soft magnetic layer/foundation layer/recording layer} structure, which is classified in G11B 5/736.</p>

DATE: MAY 1, 2019

PROJECT RP0100

Glossary of terms

In this place, the following terms or expressions are used with the meaning indicated:

Binder-type media	A recording medium where the recording layer includes (a usually polymeric) binder mixed with magnetisable particles.
Thin film-type media	A recording medium where the recording layer is substantially free of any polymeric material.
Non-magnetic	A material that has a zero magnetic moment.
Magnetic	A material that has a non-zero magnetic moment, including paramagnetic, ferromagnetic, and ferrimagnetic materials.
SUL	Soft Under Layer - a soft magnetic layer usually located between a substrate and a recording layer to direct the flux from the magnetic head through the media recording layer and back to a return head.
Soft Magnetic	A material exhibiting a (relatively) low coercivity, typically under 100 Oe.
Hard Magnetic	A material exhibiting a (relatively) high coercivity capable of storing data, typically over 1000 Oe.

Synonyms and Keywords

In patent documents, the following words/expressions are often used as synonyms:

- Base layer, precoat, prelayer, under layer, inter layer, intermediate layer, onset layer, lower layer, sublayer, ground layer, barrier layer, corrosion prevention layer, diffusion barrier layer, or texture layer.

In patent documents, the word/expression in the first column is often used instead of the word/expression in the second column, which is used in the classification scheme of this place:

Any base layer used in a binder-type medium	Characterized by the addition of non-magnetic particles (i.e. G11B 5/733)
---	--

DATE: MAY 1, 2019

PROJECT RP0100

G11B 5/733

Definition statement

This place covers:

Magnetic recording media having one or more base layers formed from a binder with included non-magnetic particles or filler.

References

Limiting references

This place does not cover:

Base layers having a non-magnetic layer under a soft magnetic layer	G11B 5/736
Magnetic recording media substrates	G11B 5/739

Informative references

Attention is drawn to the following places, which may be of interest for search:

Layers above a recording layer (relative to a substrate), even if including non-magnetic particles (i.e. protective layers)	G11B 5/72
Base layers on the opposite side of the substrate from the magnetic recording layer, even if including non-magnetic particles (i.e. backcoat layers)	G11B 5/735
Base layers having a non-polymeric layer under the lowermost magnetic recording layer, but without binder material and without non-magnetic particles (i.e. thin film-type layers)	G11B 5/7368

Special rules of classification

A base layer deposited solely as part of a substrate that has no disclosed utility in establishing the magnetic properties of the recording layer would not be classified here, even if containing non-magnetic particles. Such a layer would be classified in [G11B 5/739](#) according to the scheme title of [G11B 5/733](#) and would include layers typically denoted as smoothing layers, coating layers, etc. that are taught as part of the substrate, per se.

DATE: MAY 1, 2019

PROJECT RP0100

Underlayers used in binder-type media cases are typically referred to as lower layers, primer layers, undercoats, etc. and would be classified here if including non-magnetic particles. If without non-magnetic particles they are classified in [G11B 5/73](#).

Where the non-magnetic particles included in the base layer are only nominally recited and the inventive subject matter is directed to the base layer binder composition (or structure) or the composition (or structure) of a non-particulate additive (e.g. lubricant, viscosity aid, etc.), classification is in [G11B 5/7334](#).

G11B 5/7334

Definition statement

This place covers:

Magnetic recording media having one or more base layers formed from a binder with included non-magnetic particles or filler, where the particles are recited in name only and the inventive subject matter is in the binder composition (or structure) or a non-particulate additive composition (or structure).

Special rules of classification

If the non-magnetic particles are recited in more than name only and are deemed inventive, classification should be in [G11B 5/733](#). If inventive subject matter is directed to both the particles and the binder (or additive), then classification should be given in both [G11B 5/733](#) and [G11B 5/7334](#).

Glossary of terms

In this place, the following terms or expressions are used with the meaning indicated:

Structure	The chemical structure of an organic compound, i.e. the arrangement of the atoms or molecules of one or more of the underlayers.
-----------	--

DATE: MAY 1, 2019

PROJECT RP0100

G11B 5/735

Definition statement

This place covers:

Magnetic recording media having one or more base layers formed on the opposite side of a support from where the recording layer is located (i.e. back layers).

Also included are back layers including a binder with non-magnetic particles or filler, where the particles or filler are nominal and recited in name only.

Two-sided recording media having recording layer structures on both sides may be placed in [G11B 5/735](#) and its subgroups if meeting the requirements for placement. In this situation, multi-aspect classification must be done on the appropriate base layer subgroups for the layer structure under the recording layer, as well.

References

Limiting references

This place does not cover:

Magnetic recording media substrates	G11B 5/739
-------------------------------------	----------------------------

Informative references

Attention is drawn to the following places, which may be of interest for search:

Layers above a recording layer (relative to a substrate), even if including non-magnetic particles (i.e. protective layers)	G11B 5/72
Base layers on the same side of the substrate as the recording layer structure for single sided media	G11B 5/733 - G11B 5/7334 , G11B 5/736 - G11B 5/7379

Special rules of classification

If the back layer includes non-magnetic particles or filler and the particles or filler are recited in no more than name only, classification is in [G11B 5/735](#) and not in

DATE: MAY 1, 2019

PROJECT RP0100

G11B 5/7356 - G11B 5/7358. If any inventive subject matter is directed to the particles, classification is in **G11B 5/7356** or **G11B 5/7358**.

Glossary of terms

In this place, the following terms or expressions are used with the meaning indicated:

Back layer	A layer on the opposite side of a substrate from the recording layer structure; typically used for controlling the running and electrostatic properties of a tape-form medium.
------------	--

Synonyms and Keywords

In patent documents, the following words/expressions are often used as synonyms:

- Back layer, backcoat, back coat

G11B 5/7353

Definition statement

This place covers:

Magnetic recording media, each having one or more back layers wherein the recording layer is a thin-film type structure, e.g. sputtered layer, CoCrPt alloy layer, Co/Pt multilayers.

G11B 5/7356

Definition statement

This place covers:

Magnetic recording media having one or more back layers characterized by inventive non-magnetic particles (e.g. oxides, carbon black, etc.).

Special rules of classification

If the back layer includes non-magnetic particles or filler and the particles or filler are recited in no more than name only, classification is in **G11B 5/735**.

If the non-magnetic particles or filler are recited as being added to achieve a specified inventive or non-conventional physical property, classification is in [G11B 5/7358](#).

G11B 5/7358

Definition statement

This place covers:

Back layers including non-magnetic particles or filler recited as being added to achieve a specified inventive or non-conventional physical property.

Special rules of classification

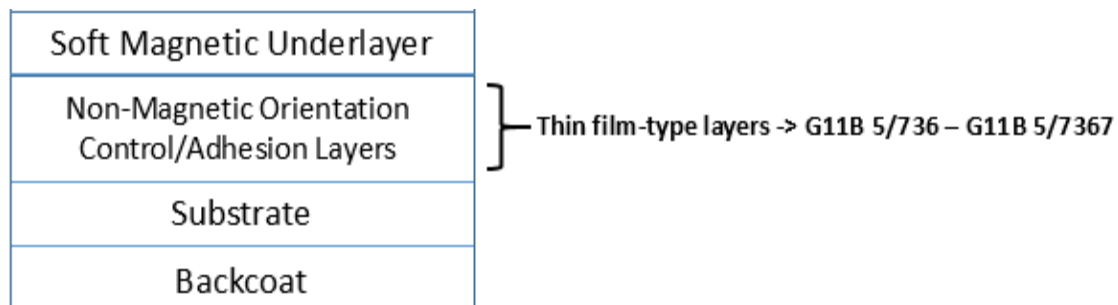
If the recited property is nominal or conventional (e.g. carbon black is added to control the electrostatic property of the back layer to known, conventional ranges), classification is in [G11B 5/735](#) and its subgroups.

G11B 5/736

Definition statement

This place covers:

Base layers between a substrate and a soft magnetic underlayer.



DATE: MAY 1, 2019

PROJECT RP0100

References

Limiting references

This place does not cover:

Magnetic recording media substrates	G11B 5/739
-------------------------------------	----------------------------

Informative references

Attention is drawn to the following places, which may be of interest for search:

Magnetic media substrates characterised by the patterning of the magnetic layer (bit patterned, discrete track, etc.)	G11B 5/743 - G11B 5/746
Magneto-optic or opto-magnetic media substrates	G11B 7/253 - G11B 7/2539
Substrates only characterised by having a specific form or shape	G11B 5/74 - G11B 5/825
Surface layers comprising particles mixed in a binder or resin wherein the layer is set forth as distinct from the substrate and used for establishing the surface properties of a magnetic layer	G11B 5/733 - G11B 5/7334

G11B 5/7361

Definition statement

This place covers:

Base layers including two or more inventive layers between a substrate and a soft magnetic underlayer wherein the inventive subject matter lies in the composition or structural arrangement of the layers.

Special rules of classification

For a base layer to be considered 'inventive' it should be recited in the independent claim (even if recited in name only) or have non-nominal, inventive features.

DATE: MAY 1, 2019

PROJECT RP0100

G11B 5/7362

Definition statement

This place covers:

Base layers including two or more inventive layers between a substrate and a soft magnetic underlayer wherein the physical macroscopic structure (e.g. texture, patterning, etc.) or microstructure (crystal plane, crystallographic texture, etc.) of at least one layer is also deemed inventive.

Special rules of classification

If the physical structure is recited in name only and is not deemed inventive, classification should be based on other aspects of the recording media base layers.

G11B 5/7363

Definition statement

This place covers:

Base layers including only a single inventive layer between a substrate and a soft magnetic underlayer wherein the layer is recited as including non-trace amounts of nickel.

Special rules of classification

If the composition of the underlayer is not inventive, classification should be based on other aspects of the recording media base layers (e.g. circa 2010, NiP underlayers are well established and mere recitation of an NiP underlayer would not result in placement in this subgroup without additional, inventive features).

G11B 5/7364

Definition statement

This place covers:

Base layers including only a single inventive layer between a substrate and a soft magnetic underlayer wherein the layer is recited as including non-trace amounts of chromium.

DATE: MAY 1, 2019

PROJECT RP0100

Special rules of classification

If the composition of the underlayer is not inventive, classification should be based on other aspects of the recording media base layers (e.g. circa 2010, Cr-alloy underlayers are well established and mere recitation of a Cr-alloy underlayer would not result in placement in this subgroup without additional, inventive features).

G11B 5/7365

Definition statement

This place covers:

Base layers including only a single inventive layer between a substrate and a soft magnetic underlayer wherein the layer is recited as being polymeric or a resin-based underlayer.

This includes polymeric or resin-based non-magnetic underlayers having particles, provided they are located under a soft-magnetic layer.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Polymeric or resin-based underlayers without particles, wherein the layer is under a recording layer, but either above a soft magnetic underlayer or in a medium without a soft magnetic underlayer	G11B 5/73
Polymeric or resin-based underlayers with particles, wherein the layer is under a recording layer, but either above a soft magnetic underlayer or in a medium without a soft magnetic underlayer	G11B 5/733 - G11B 5/7334

G11B 5/7366

Definition statement

This place covers:

Base layers having specific utility for use in energy assisted (HAMR, TAMR, etc.) magnetic recording.

DATE: MAY 1, 2019

PROJECT RP0100

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Optical Recording	G11B 7/00
Magneto-optical Recording	G11B 11/00

Special rules of classification

Barring exceptional circumstances, most classification into [G11B 5/7366](#) will be Additional information. If the base layer is critical and inventive to the energy assisted recording medium, an Inventive symbol may be placed in this subgroup.

Glossary of terms

In this place, the following terms or expressions are used with the meaning indicated:

Energy Assisted	A recording process where, in addition to a magnetic field from a magnetic head, the reading and/or writing process is assisted by energy in the form of heat, microwaves, etc.
-----------------	---

Synonyms and Keywords

In patent documents the following abbreviations are often used:

EAMR	Energy Assisted Magnetic Recording
HAMR	Heat Assisted Magnetic Recording
MAMR	Microwave Assisted Magnetic Recording
TAMR	Thermally Assisted Magnetic Recording

In patent documents, the following words/expressions are often used as synonyms:

- HAMR, TAMR, Heat Assisted Magnetic Recording, or Thermally Assisted Magnetic Recording

G11B 5/7367

Definition statement

This place covers:

Base layers including one inventive layer between a substrate and a soft magnetic underlayer wherein the physical macroscopic structure (e.g. texture, patterning, etc.) or microstructure (crystal plane, crystallographic texture, etc.) of the layer is also deemed inventive.

Special rules of classification

If the physical structure is recited in name only and is not deemed inventive, classification should be based on other aspects of the recording media base layers.

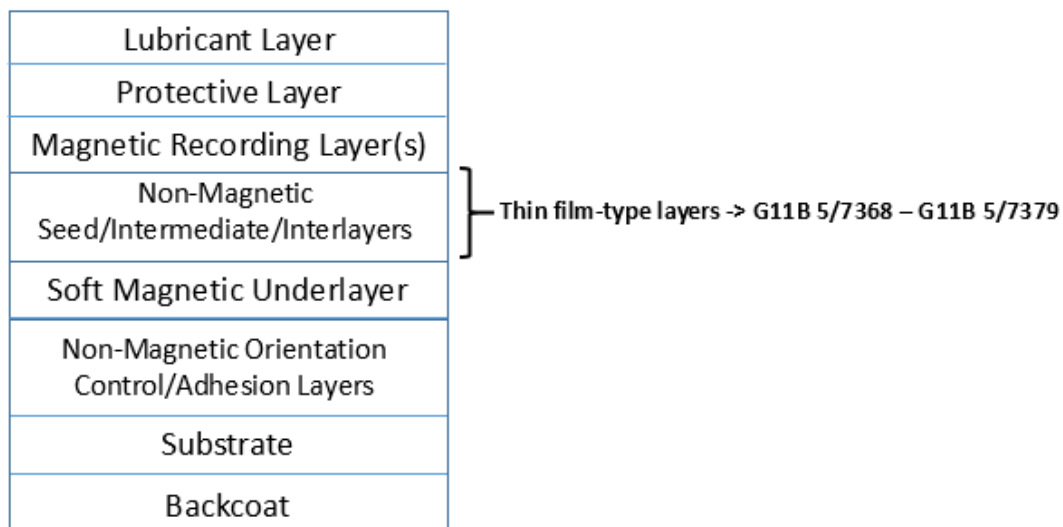
G11B 5/7368

Definition statement

This place covers:

Non-Polymeric base layers between a soft magnetic underlayer and the recording layer structure or, if no soft magnetic underlayer in the recording medium, any base layers under the recording layer structure.

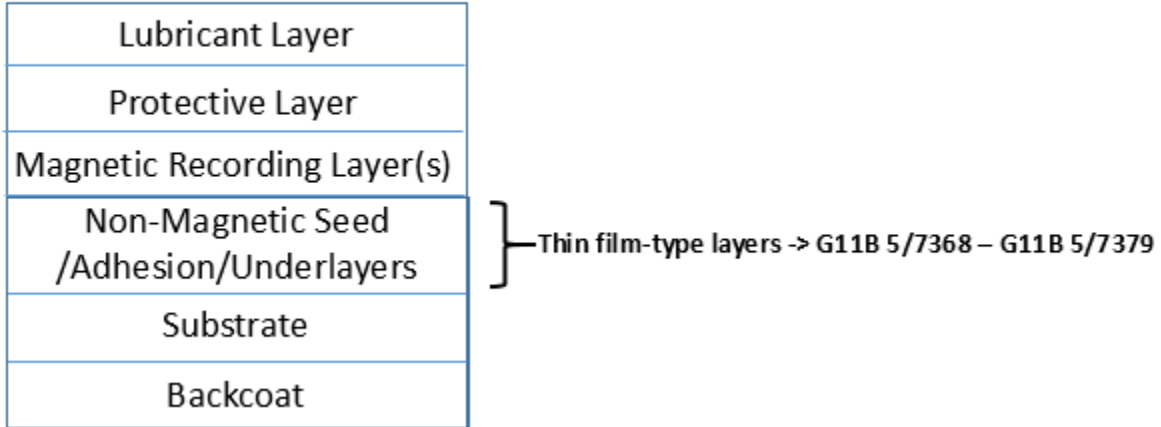
Media with SUL or Keeper Layer



DATE: MAY 1, 2019

PROJECT RP0100

Non-Kepered (or without SUL) Media



References

Limiting references

This place does not cover:

Base layers having a non-magnetic layer under a soft magnetic layer	G11B 5/736
Magnetic recording media substrates	G11B 5/739

Informative references

Attention is drawn to the following places, which may be of interest for search:

Polymeric or resin-based underlayers without particles, wherein the layer is under a recording layer, but either above a soft magnetic underlayer or in a medium without a soft magnetic underlayer	G11B 5/73
Polymeric or resin-based underlayers with particles, wherein the layer is under a recording layer, but either above a soft magnetic underlayer or in a medium without a soft magnetic underlayer	G11B 5/733 - G11B 5/7334

DATE: MAY 1, 2019

PROJECT RP0100

G11B 5/7369

Definition statement

This place covers:

Base layers including two or more inventive layers in the required structural location within the media wherein the inventive subject matter lies in the composition or structural arrangement of the layers.

Special rules of classification

For a base layer to be considered 'inventive' it should be recited in the independent claim (even if recited in name only) or have non-nominal, inventive features.

G11B 5/737

Definition statement

This place covers:

Base layers including two or more inventive layers in the required structural location within the media wherein the physical macroscopic structure (e.g. texture, patterning, etc.) or microstructure (crystal plane, crystallographic texture, etc.) of at least one layer is also deemed inventive.

Special rules of classification

If the physical structure is recited in name only and is not deemed inventive, classification should be based on other aspects of the recording media base layers.

G11B 5/7371

Definition statement

This place covers:

Base layers including only a single inventive layer in the required structural location within the media wherein the layer is recited as including non-trace amounts of nickel.

DATE: MAY 1, 2019

PROJECT RP0100

Special rules of classification

If the composition of the underlayer is not inventive, classification should be based on other aspects of the recording media base layers (e.g. circa 2010, NiP underlayers are well established and mere recitation of an NiP underlayer would not result in placement in this subgroup without additional, inventive features).

G11B 5/7373**Definition statement**

This place covers:

Base layers including only a single inventive layer in the required structural location within the media wherein the layer is recited as including non-trace amounts of chromium.

Special rules of classification

If the composition of the underlayer is not inventive, classification should be based on other aspects of the recording media base layers (e.g. circa 2010, Cr-alloy underlayers are well established and mere recitation of a Cr-alloy underlayer would not result in placement in this subgroup without additional, inventive features).

G11B 5/7375**Definition statement**

This place covers:

Base layers in the required structural location within the media having specific utility for use in energy assisted (HAMR, TAMR, etc.) magnetic recording.

References**Informative references**

Attention is drawn to the following places, which may be of interest for search:

Optical Recording	G11B 7/00
Magneto-optical Recording	G11B 11/00

DATE: MAY 1, 2019

PROJECT RP0100

Special rules of classification

Barring exceptional circumstances, most classification into [G11B 5/7375](#) will be Additional information. If the base layer is critical and inventive to the energy assisted recording medium, an Inventive symbol may be placed in this subgroup.

Glossary of terms

In this place, the following terms or expressions are used with the meaning indicated:

Energy Assisted	A recording process where, in addition to a magnetic field from a magnetic head, the reading and/or writing process is assisted by energy in the form of heat, microwaves, etc.
-----------------	---

Synonyms and Keywords

In patent documents the following abbreviations are often used:

EAMR	Energy Assisted Magnetic Recording
HAMR	Heat Assisted Magnetic Recording
MAMR	Microwave Assisted Magnetic Recording
TAMR	Thermally-assisted Magnetic Recording

In patent documents, the following words/expressions are often used as synonyms:

- HAMR, TAMR, Heat Assisted Magnetic Recording, or Thermally Assisted Magnetic Recording

G11B 5/7377

Definition statement

This place covers:

Base layers including two or more inventive layers in the required structural location within the media wherein the physical macroscopic structure (e.g. texture, patterning, etc.) or microstructure (crystal plane, crystallographic texture, etc.) of at least one layer is also deemed inventive.

Special rules of classification

If the physical structure is recited in name only and is not deemed inventive, classification should be based on other aspects of the recording media base layers.

DATE: MAY 1, 2019

PROJECT RP0100

G11B 5/7379

Definition statement

This place covers:

Base layers in the required structural location within the media having specific utility for use as seed or seeding layers.

Special rules of classification

Multi-aspect classification should be used when dealing with seed or seeding layers having inventive subject matter that falls in other subgroups of the [G11B 5/73](#) area.

Glossary of terms

In this place, the following terms or expressions are used with the meaning indicated:

Seed or Seeding Layer	A non-magnetic layer explicitly recited as a 'seed' or 'seeding' layer or that is explicitly disclosed as only used for seeding the crystallographic growth of the immediately following layer in the deposition process.
-----------------------	---

Synonyms and Keywords

In patent documents, the following words/expressions are often used as synonyms:

- Seed Layer, Seeding Layer, or Nucleation Layer

G11B 5/739

Definition statement

This place covers:

Base layers in which a layer or laminate provides physical integrity to a magnetic recording media by acting as substrate or support for a magnetic recording layer.

This subgroup and its subgroups provide for substrates set forth with chemical or structural specificity.

DATE: MAY 1, 2019

PROJECT RP0100

Care must be taken to distinguish between (a) a composite or coated substrate and (b) a subsequently formed non-magnetic base layer when considering binder media type structures. A layer recited as an "underlayer", "undercoat", "lower layer" or "intermediate layer" is a layer distinct from a substrate. For a layer to be considered as a part of a substrate, it must be recited specifically in the disclosure of forming the substrate or as part of a substrate prior to any deposition of a recording layer structure.

Examples:

(1)	<p>What is claimed is:</p> <p>1. A magnetic recording medium comprising a flexible support containing polyethylene naphthalate or polyethylene terephthalate and having a thickness of 10 to 200 μm, an undercoating layer containing at least one of polyimide resins, polyamide-imide resins, and silicone resins, and fluorine resins, and a magnetic layer selected from a cobalt/palladium multilayer film and a cobalt/platinum multilayer film, wherein the undercoating is located between the support and the magnetic layer, wherein a surface of the undercoating layer has projections having a height of 5 to 60 nm, and a density of the projections is 0.1 to 100 μm^2.</p>	(1) In claim 1 at left, the "undercoating layer" is part of the recording layer structure and is distinct from the substrate.
(2)	<p>1. A multi-layer biaxially oriented film comprising a first layer (A) comprising an aromatic polyester (a) and a second layer (B) comprising a polyolefin (b) having a melting point of from 230 to 290° C. wherein said polyolefin is a styrene polymer, and an adhesive interlayer (C) between a layer (A) and a layer (B), wherein said adhesive interlayer (C) comprises a tie-layer material (c) selected from anhydride-modified ethylene copolymers in which the proportion of anhydride present in the copolymer is no more than 3.0% by weight of the polymer, and in which the ethylene copolymer comprises one or more additional comonomers other than styrene.</p>	(2) In claim 1 at left, layers (A), (B), and (C) are all part of a composite substrate including at least one polyester layer.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Magneto-optic or opto-magnetic media substrates	G11B 7/253 - G11B 7/2539
Surface layers that are not part of a substrate, but are provided for the electromagnetic or crystallographic growth properties of a recording medium	G11B 5/73 - G11B 5/7379
Surface layers comprising particles mixed in a binder or resin wherein the layer is set forth as distinct from the substrate and used for establishing the surface properties of a magnetic layer	G11B 5/733 - G11B 5/7334

DATE: MAY 1, 2019

PROJECT RP0100

Substrates only characterised by having a specific form or shape	G11B 5/74 - G11B 5/825
Magnetic media substrates characterised by the patterning of the magnetic layer (bit patterned, discrete track, etc.)	G11B 5/743 - G11B 5/746
Methods of making substrates	G11B 5/8404

Synonyms and Keywords

In patent documents, the following words/expressions are often used as synonyms:

- Substrate, Support, or Base Layer

G11B 5/73911

Definition statement

This place covers:

Base layers including a substrate having at least one formed layer or portion comprising inorganic material.

Special rules of classification

Resin or binder material including inorganic particles wherein the substrate, in total, would be considered a polymeric or organic substrate are classified in the appropriate subgroup, i.e. [G11B 5/73923 - G11B 5/73937](#).

Substrates which are formed from inorganic compounds and are disclosed primarily in terms of property values are classified in [G11B 5/739](#), i.e. the inorganic materials are nominal and recited in name only.

Multi-aspect classification should be used for composite substrates including mixture of both inorganic and organic layers or formed portions.

DATE: MAY 1, 2019

PROJECT RP0100

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Substrates including a non-esterfied polymeric binder layer containing inorganic particles or particulate	G11B 5/73925
Substrates including an esterfied polymeric binder layer containing inorganic particles or particulate	G11B 5/73935

G11B 5/73913

Definition statement

This place covers:

Inorganic substrates having two or more contiguous layers or portions of distinct components (e.g. glass containing metallic particles, etc.).

Included in this subgroup are an inorganic structural element and an organic compound; e.g. metallic particles and resin, provided that the substrate as a whole would be considered an inorganic substrate.

Special rules of classification

Substrates having only a single alloy layer, i.e. heterogeneous mixtures of elements that are not separate phases, are not classified in this subgroup, but in other subgroups appropriate to the recited alloy.

Included herein are NiP plated substrates wherein the NiP plating layer is inventive and is clearly taught as part of the substrate. NiP layers deposited with the purpose of corrosion prevention, adhesion, or establishing the microstructure of the recording layer are classified in [G11B 5/7363](#) or [G11B 5/7371](#). The lines between these subgroups and the current subgroup can often be ascertained by looking at the method of depositing the NiP layer and/or whether the NiP layer is deposited on an already commercially formed substrate (as opposed to being deposited to form the substrate).

DATE: MAY 1, 2019

PROJECT RP0100

Glossary of terms

In this place, the following terms or expressions are used with the meaning indicated:

NiP	Nickel-Phosphorous (a conventional pre-coat deposited on substrates for smoothing and texturing purposes).
AlMg/NiP	An aluminium-magnesium alloy substrate coated with an NiP coating layer
Plating layer	A layer deposited by either an electrolytic or electroless plating method; typically an NiP layer.

G11B 5/73915

Definition statement

This place covers:

Base layers including a substrate having at least one contiguous layer of a silicon compound.

G11B 5/73917

Definition statement

This place covers:

Base layers including a substrate that is an elemental metal or a metal alloy.

G11B 5/73919

Definition statement

This place covers:

Base layers including a substrate that is elemental aluminium or titanium or an aluminium or titanium alloy (i.e., an alloy containing 40% or more aluminum and/or titanium).

DATE: MAY 1, 2019

PROJECT RP0100

G11B 5/73921

Definition statement

This place covers:

Base layers including a substrate that is composed of glass or ceramic, including amorphous or crystalline glasses.

Included in this subgroup are glass or ceramic substrates including texturing.

G11B 5/73923

Definition statement

This place covers:

Substrates composed of a solid polymer compound or polymeric composition (e.g. polyurethane, melamine resin, polyamide, etc.).

Special rules of classification

Substrates that are formed from organic polymer compounds and that are disclosed primarily in terms of property values are classified in [G11B 5/739](#), i.e. when the polymer materials are nominal and recited in name only.

Multi-aspect classification should be used for substrates including a mix of organic and inorganic material layers, as appropriate for the specific materials recited.

Synonyms and Keywords

In patent documents the following abbreviations are often used:

PEN	Polyethylene naphthalate (poly(ethylene 2,6-naphthalate))
PET	Polyethylene terephthalate

DATE: MAY 1, 2019

PROJECT RP0100

G11B 5/73925

Definition statement

This place covers:

Substrates that are materials other than an ester and are composed of a plurality of layers (e.g. a laminate or distinct particulate or non-particulate compounds containing in a single layer).

This subgroup includes coatings on an organic substrate directed to the improvement of the properties of the substrate and not affecting the crystalline anisotropy or magnetic orientations of a subsequently deposited layer (e.g. a coating solely for adhesive, texture, etc.).

Special rules of classification

The distinction between a lower layer used in a binder-type media and a coating layer for purpose of classification here depends on the recited end use of the layer, as most are composed of similar mixtures of binder material plus non-magnetic particulate filler. If the layer is recited as a "lower layer", "under layer", "first layer", it is usually directed to establishing the deposition of the magnetic layer and are classified in [G11B 5/733](#) - [G11B 5/7334](#). The same applies if the deposition is a "wet-on-wet" process where the magnetic layer is immediately deposited following the non-magnetic layer.

If the invention is directed to the substrate and the layer is included to tailor the surface properties of the substrate (e.g. a binder and particulate layer deposited on a polyamide base to create a polyamide substrate having specific roughness profile), then classification should be in this subgroup only.

When the non-magnetic layer is unable to be ascertained as to whether it is part of the substrate or used to establish the magnetic layer deposition, multi-aspect classification should be applied in [G11B 5/733](#) and [G11B 5/73925](#).

G11B 5/73927

Definition statement

This place covers:

Base layers including a substrate in which the polymer substrate includes an ester group thereon such as carboxylic acid ester.

DATE: MAY 1, 2019

PROJECT RP0100

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

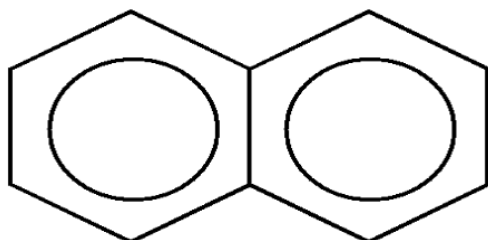
Esterified substrates having two or more layers	G11B 5/73931
Composite esterified substrates formed from a mixture of an ester-based resin and particles	G11B 5/73935

G11B 5/73929

Definition statement

This place covers:

Base layers including a substrate that comprises a polyester substrate including a naphthalene ring structure.



Example of a naphthalene ring structure.

G11B 5/73931

Definition statement

This place covers:

Substrates that are composed of a plurality of layers, wherein at least one inventive layer is a polyester.

This subgroup includes coatings on a polyester substrate directed to the improvement of the properties of the substrate and not affecting the crystalline anisotropy or magnetic orientations of a subsequently deposited layer (e.g. a coating solely for adhesive, texture, etc.).

DATE: MAY 1, 2019

PROJECT RP0100

Special rules of classification

The distinction between a lower layer used in a binder-type media and a coating layer for purpose of classification here depends on the recited end use of the layer, as most are composed of similar mixtures of binder material plus non-magnetic particulate filler. If the layer is recited as a "lower layer", "under layer", "first layer", it is usually directed to establishing the deposition of the magnetic layer and are classified in [G11B 5/733](#) - [G11B 5/7334](#). The same applies if the deposition is a "wet-on-wet" process where the magnetic layer is immediately deposited following the non-magnetic layer.

If the invention is directed to the substrate and the layer is included to tailor the surface properties of the substrate (e.g. a binder and particulate layer deposited on a polyester base to create a polyester substrate having specific roughness profile), then classification should be in this subgroup only.

When the non-magnetic layer is unable to be ascertained as to whether it is part of the substrate or used to establish the magnetic layer deposition, multi-aspect classification should be applied in [G11B 5/733](#) and [G11B 5/73931](#).

G11B 5/73933

Definition statement

This place covers:

Base layers including a polyester substrate that has been coated or surface treated.

Included in this subgroup are polyester substrate leader and trailer tapes.

G11B 5/73935

Definition statement

This place covers:

Base layers including a polyester substrate, typically containing particles, which has a defined and inventive roughness profile/property or surface feature, e.g. protrusion density.

DATE: MAY 1, 2019

PROJECT RP0100

G11B 5/73937

Definition statement

This place covers:

Base layers including a substrate that has a specific organic ring structure, e.g. benzyl groups or 1,4-dihydroxydimethylbenzene.

CPC NOTICE OF CHANGES 654

DATE: MAY 1, 2019

PROJECT RP0100

3. REVISION CONCORDANCE LIST (RCL)

<u>Type*</u>	<u>From CPC Symbol (existing)</u>	<u>To CPC Symbol(s)</u>
C	G11B 5/73	G11B5/73, G11B5/733, G11B5/7334, G11B5/736, G11B5/7361, G11B5/7362, G11B5/7363, G11B5/7364, G11B5/7365, G11B5/7366, G11B5/7367, G11B5/7368, G11B5/7369, G11B5/737, G11B5/7371, G11B5/7373, G11B5/7375, G11B5/7377, G11B5/739, G11B5/73911, G11B5/73913, G11B5/73915, G11B5/73917, G11B5/73919, G11B5/73921, G11B5/73923, G11B5/73925, G11B5/73927, G11B5/73929, G11B5/73931, G11B5/73933, G11B5/73935, G11B5/73937
F	G11B5/7305	G11B5/73, G11B5/733, G11B5/7334, G11B5/736, G11B5/7361, G11B5/7362, G11B5/7363, G11B5/7364, G11B5/7365, G11B5/7366, G11B5/7367, G11B5/7368, G11B5/7369, G11B5/737, G11B5/7371, G11B5/7373, G11B5/7375, G11B5/7377, G11B5/739, G11B5/73911, G11B5/73913, G11B5/73915, G11B5/73917, G11B5/73919, G11B5/73921, G11B5/73923, G11B5/73925, G11B5/73927, G11B5/73929, G11B5/73931, G11B5/73933, G11B5/73935, G11B5/73937
F	G11B5/731	G11B5/736, G11B5/7361, G11B5/7362, G11B5/7363, G11B5/7364, G11B5/7365, G11B5/7366, G11B5/7367, G11B5/7368, G11B5/7369, G11B5/737, G11B5/7371, G11B5/7373, G11B5/7375, G11B5/7377, G11B5/739, G11B5/73911, G11B5/73913, G11B5/73915, G11B5/73917, G11B5/73919, G11B5/73921, G11B5/73923, G11B5/73925, G11B5/73927, G11B5/73929, G11B5/73931, G11B5/73933, G11B5/73935, G11B5/73937
F	G11B5/7315	G11B5/739, G11B5/73911, G11B5/73913, G11B5/73915, G11B5/73917, G11B5/73919, G11B5/73921, G11B5/73923, G11B5/73925, G11B5/73927, G11B5/73929, G11B5/73931, G11B5/73933, G11B5/73935, G11B5/73937
D	G11B5/732	<administrative transfer to G11B5/7379>
F	G11B5/7325	G11B5/736, G11B5/7361, G11B5/7362, G11B5/7363, G11B5/7364, G11B5/7365, G11B5/7366, G11B5/7367, G11B5/7368, G11B5/7369, G11B5/737, G11B5/7371, G11B5/7373, G11B5/7375, G11B5/7377, G11B5/739, G11B5/73911, G11B5/73913, G11B5/73915, G11B5/73917, G11B5/73919, G11B5/73921, G11B5/73923, G11B5/73925, G11B5/73927, G11B5/73929, G11B5/73931, G11B5/73933, G11B5/73935, G11B5/73937
C	G11B5/733	G11B5/733, G11B5/7334, G11B5/736, G11B5/7361, G11B5/7362, G11B5/7363, G11B5/7364, G11B5/7365, G11B5/7366, G11B5/7367, G11B5/7368, G11B5/7369, G11B5/737, G11B5/7371, G11B5/7373, G11B5/7375, G11B5/7377, G11B5/739, G11B5/73911, G11B5/73913, G11B5/73915, G11B5/73917, G11B5/73919, G11B5/73921, G11B5/73923, G11B5/73925, G11B5/73927, G11B5/73929, G11B5/73931, G11B5/73933, G11B5/73935, G11B5/73937

CPC NOTICE OF CHANGES 654

DATE: MAY 1, 2019

PROJECT RP0100

Type*	From CPC Symbol (existing)	To CPC Symbol(s)
C	G11B5/735	G11B5/735, G11B5/7353, G11B5/7356, G11B5/7358, G11B5/739, G11B5/73911, G11B5/73913, G11B5/73915, G11B5/73917, G11B5/73919, G11B5/73921, G11B5/73923, G11B5/73925, G11B5/73927, G11B5/73929, G11B5/73931, G11B5/73933, G11B5/73935, G11B5/73937
D	G11B5/738	<administrative transfer to G11B5/73>

* C = entries with modified file scope where reclassification of documents from the entries is involved; Q = new entries which are firstly populated with documents via administrative transfers from deleted (D) entries. Afterwards, the transferred documents into the Q entry will either stay or be moved to more appropriate entries, as determined by intellectual reclassification; D = deleted entries; F = frozen entries will be deleted once reclassification of documents from the entries is completed.

NOTES:

- Only C, D, F, and Q type entries are included in the table above.
- When multiple symbols are included in the “To” column, do not use ranges of symbols.
- For administrative transfer of documents, the following text should be used: “< administrative transfer to XX>”, “<administrative transfer to XX and YY simultaneously>”, or “<administrative transfer to XX, YY ...and ZZ simultaneously>” when administrative transfer of the same documents is to more than one place.
- Administrative transfer to main trunk groups is assumed to be the source allocation type, unless otherwise indicated.
- Administrative transfer to 2000/Y series groups is assumed to be “additional information”.
- If needed, instructions for allocation type should be indicated within the angle brackets using the abbreviations “ADD” or “INV”: <administrative transfer to XX ADD>, <administrative transfer to XX INV>, or < administrative transfer to XX ADD, YY INV, ... and ZZ ADD simultaneously>.
- In certain situations, the “D” entries of 2000-series or Y-series groups may not require a destination (“To”) symbol, however it is required to specify “<no transfer>” in the “To” column for such cases.
- RCL is not needed for finalisation projects.

CPC NOTICE OF CHANGES 654

DATE: MAY 1, 2019

PROJECT RP0100

4. CHANGES TO THE CPC-TO-IPC CONCORDANCE LIST (CICL)

<u>CPC</u>	<u>IPC</u>	<u>Action*</u>
G11B 5/732		DELETE
G11B 5/7334	G11B 5/733	NEW
G11B 5/7353	G11B 5/735	NEW
G11B 5/7356	G11B 5/735	NEW
G11B 5/7358	G11B 5/735	NEW
G11B 5/736	G11B 5/73	NEW
G11B 5/7361	G11B 5/73	NEW
G11B 5/7362	G11B 5/73	NEW
G11B 5/7363	G11B 5/73	NEW
G11B 5/7364	G11B 5/73	NEW
G11B 5/7365	G11B 5/73	NEW
G11B 5/7366	G11B 5/73	NEW
G11B 5/7367	G11B 5/73	NEW
G11B 5/7368	G11B 5/73	NEW
G11B 5/7369	G11B 5/73	NEW
G11B 5/737	G11B 5/73	NEW
G11B 5/7371	G11B 5/73	NEW
G11B 5/7373	G11B 5/73	NEW
G11B 5/7375	G11B 5/73	NEW
G11B 5/7377	G11B 5/73	NEW
G11B 5/7379	G11B 5/73	NEW
G11B5/738		DELETE
G11B 5/739	G11B 5/73	NEW
G11B 5/73911	G11B 5/73	NEW
G11B 5/73913	G11B 5/73	NEW
G11B 5/73915	G11B 5/73	NEW
G11B 5/73917	G11B 5/73	NEW
G11B 5/73919	G11B 5/73	NEW
G11B 5/73921	G11B 5/73	NEW
G11B 5/73923	G11B 5/73	NEW
G11B 5/73925	G11B 5/73	NEW
G11B 5/73927	G11B 5/73	NEW
G11B 5/73929	G11B 5/73	NEW
G11B 5/73931	G11B 5/73	NEW
G11B 5/73933	G11B 5/73	NEW
G11B 5/73935	G11B 5/73	NEW
G11B 5/73937	G11B 5/73	NEW

*Action column:

- For an (N) or (Q) entry, provide an IPC symbol and complete the Action column with “NEW.”
- For an existing CPC main trunk entry or indexing entry where the existing IPC symbol needs to be changed, provide an updated IPC symbol and complete the Action column with “UPDATED.”
- For a (D) CPC entry or indexing entry complete the Action column with “DELETE.” IPC symbol does not need to be included in the IPC column.

CPC NOTICE OF CHANGES 654

DATE: MAY 1, 2019

PROJECT RP0100

- For an (N) 2000 series CPC entry which is positioned within the main trunk scheme (breakdown code) provide an IPC symbol and complete the action column with “NEW”.
- For an (N) 2000 series CPC entry positioned at the end of the CPC scheme (orthogonal code), with no IPC equivalent, complete the IPC column with “CPCONLY” and complete the action column with “NEW”.

NOTES:

- F symbols are not included in the CICL table above.
- E and M symbols are not included in the CICL table above unless a change to the existing IPC is desired.