

EUROPEAN PATENT OFFICE
U.S. PATENT AND TRADEMARK OFFICE

CPC NOTICE OF CHANGES 477

DATE: JANUARY 1, 2018

PROJECT RP0490

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

<u>Action</u>	<u>Subclass</u>	<u>Group(s)</u>
SCHEME:		
Titles Changed:	H04B	7/02
Warnings New:	H04B	1/7115
	H04B	7/02
DEFINITIONS:		
Definitions Modified:	H04B	7/02, 7/022

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)

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1. CLASSIFICATION SCHEME CHANGES

A. New, Modified or Deleted Group(s)

SUBCLASS H04B - TRANSMISSION

<u>Type*</u>	<u>Symbol</u>	<u>Indent Level Number of dots (e.g. 0, 1, 2)</u>	<u>Title (new or modified)</u> <u>“CPC only” text should normally be enclosed in {curly brackets}**</u>	<u>Transferred to#</u>
C	H04B 7/02	1	Diversity systems; Multi-antenna system, i.e. transmission or reception using multiple antennas (RAKE receivers H04B 1/7115)	H04B 1/7115, H04B 7/02

*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).
- For U groups, the minimum requirement is to include the U group located immediately prior to the N group or N group array, in order to show the N group hierarchy and improve the readability and understanding of the scheme. 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 except “D” which requires only a symbol.
- #“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>” or “<administrative transfer to XX and YY simultaneously>” when administrative transfer of the same documents is to more than one place.
- Administrative transfer to main trunk groups is assumed to be “invention information”, unless otherwise indicated, and to 2000 series groups is assumed to be “additional information”.

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B. New, Modified or Deleted Warning notice(s)

SUBCLASS H04B - TRANSMISSION

<u>Type*</u>	<u>Location</u>	<u>Old Warning notice</u>	<u>New/Modified Warning notice</u>
N	H04B 1/7115		Group H04B 1/7115 is incomplete pending reclassification of documents from group H04B 7/02. Groups H04B 7/02 and H04B 1/7115 should be considered in order to perform a complete search.
N	H04B 7/02		Group H04B 7/02 is impacted by reclassification into group H04B 1/7115. Groups H04B 7/02 and H04B 1/7115 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.

2. A. DEFINITIONS (modified)

H04B7/02

Definition statement

This place covers:

Insert: The following paragraphs (bullets) in the **Definition statement** before the existing statement “Aspects related to diversity, beamforming and antenna weighting:”

- the use of one or more antennas to transmit or receive signals, characterised by separation in time, phase, frequency, polarisation, angle or spacing; the improvement thereby being of channel quality and reliability;
- aspects of diversity, beamforming and antenna weighting;
- the generation of antenna weights for multiple antennas;
- the feedback of information in order to assign weights for multiple antennas;
- the transmission through multiple beams, for single or multiple users;
- the combination or selection of signals from one or more fading channels by using characteristics thereof or correlation.

Insert: The following paragraph in the new **Relationships with other classification places** section:

Relationships with other classification places

Antenna redundancy, namely the inclusion of spare antennas for the easy replacement of malfunctioning antennas, is not considered to be a multi-antenna system and therefore is not covered by this group. Details of transmission systems for increasing reliability, e.g. using redundancy, are covered by group H04B 1/74.

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References

Limiting references

This place does not cover:

Delete: The following rows from the **Limiting references** table.

Relay systems	H04B7/15
Specially adapted for satellite systems	H04B7/18534
Direction finding	G01S3/72
Aerial arrays or systems	H01Q
Pure time diversity	H04L1/00
For digital data transmission as such	H04L1/02
Ofdm	H04L5/00, H04L27/00

Insert: The following row into the **Limiting references** table.

RAKE receivers	H04B1/7115
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Informative references

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

Delete: The following row from the **Informative references** table.

RAKE receivers	H04B1/7115
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Insert: The following rows into the **Informative references** table.

Relay systems	H04B7/15
Specially adapted for satellite systems	H04B7/18534
Direction finding	G01S3/72
Aerial arrays or systems	H01Q
Pure time diversity	H04L1/00
For digital data transmission as such	H04L1/02

Delete: The following row from the **Informative references** table.

[SDMA]	H04W16/28
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Insert: The following row into the **Informative references** table.

Providing wireless coverage using beam steering for defining the cell structure, e.g. space division multiple access [SDMA]	H04W16/28
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H04B7/022

Insert: The following new **Limiting references** section and table.

References

Limiting references

This place does not cover:

Site diversity or macro-diversity using two or more spaced independent antennas	H04B 7/04
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Insert: The following new **Glossary of terms** section and table.

Glossary of terms

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

Site diversity	The technique of linking two or more ground stations receiving the same signal. This way, if the signal is heavily attenuated in one area, other ground stations can compensate.
Macro-diversity	In the field of wireless communication, macro-diversity is a kind of spatial diversity scheme using several antennas to transmit or receive wireless signals, wherein the distance between the antennas is much longer than the wavelength in use. This diversity technique limits the effects of fading in radio communications. The terms 'macro-diversity' and 'site diversity', are sometimes used synonymously in the art.

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3. REVISION CONCORDANCE LIST (RCL)

<u>Type*</u>	<u>From CPC Symbol (existing)</u>	<u>To CPC Symbol(s)</u>
C	H04B 7/02	H04B 1/7115, H04B 7/02

* 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.

NOTES:

- Only C, D, F and Q type entries are included in the table above.
- When multiple symbols are included in the “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>” or “<administrative transfer to XX and YY simultaneously>” when administrative transfer of the same documents is to more than one place.
- Administrative transfer to main trunk groups is assumed to be “invention information”, unless otherwise indicated, and to 2000 series groups is assumed to be “additional information”.