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Datasheet for the decision
of 17 August 2023

Case Number: T 2407/19 - 3.5.04

Application Number: 12815350.9

Publication Number: 2736255

IPC: H04N19/00

Language of the proceedings: EN

Title of invention:
IMAGE ENCODING METHOD, IMAGE DECODING METHOD, IMAGE ENCODING
APPARATUS, IMAGE DECODING APPARATUS, AND IMAGE ENCODING/
DECODING APPARATUS

Applicant:
Sun Patent Trust

Headword:

Relevant legal provisions:
EPC Art. 56
RPBA 2020 Art. 13(2)

Keyword:
Inventive step - alleged effect not made credible within the
whole scope of claim
Amendment after summons - exceptional circumstances (no)

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          It can be changed at any time and without notice

Decisions cited:

G 0002/98, G 0001/15

Catchword:

Beschwerdekammern

Boards of Appeal

Chambres de recours

Case Number: T 2407/19 - 3.5.04

D E C I S I O N
of Technical Board of Appeal 3.5.04
of 17 August 2023

Appellant: Sun Patent Trust
(Applicant)   450 Lexington Avenue, 38th Floor
                         New York, NY 10017 (US)

Representative: Grünecker Patent- und Rechtsanwälte
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Decision under appeal: **Decision of the Examining Division of the
                         European Patent Office posted on 4 April 2019
                         refusing European patent application
                         No. 12815350.9 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chair   G. Decker
Members: M. Paci
                 B. Le Guen

Summary of Facts and Submissions

I.   The appeal is against the examining division's decision
        refusing European patent application No. 12 815 350.9,
        published as international patent application
        WO 2013/011640 A1.

II.   The following two prior-art documents *inter alia* were
        cited in the decision under appeal:

        D4:   C. Rosewarne et al.: "Intra-mode bypass
              parallelism (IMBP)", 8th JCT-VC Meeting;
              99th MPEG Meeting, 1-10 February 2012, San José,
              (Joint Collaborative Team on Video Coding of ISO/
              IEC JTC1/SC29/WG11 and ITU-T SG16 WP3),
              No. JCTVC-H0244, 20 January 2012, XP030111271
        D5:   W-J. Chien et al.: "Intra mode coding for
              INTRA_NxN", 9th JCT-VC Meeting, 100th MPEG
              Meeting; 30 April - 7 May 2012, Geneva, (Joint
              Collaborative Team on Video Coding of ISO/IEC
              JTC1/SC29/WG11 and ITU-T SG16 WP3), No. JCTVC-
              I0302, 17 April 2012, XP030052892

III.   The decision under appeal was based on the following
        grounds.

        -   The subject-matter of independent claims 1, 7, 13
            and 14 of the main request then on file did not
            involve an inventive step in view of the disclosure
            of either document D4 or document D5
            (Articles 52(1) and 56 EPC).
        -   The subject-matter of independent claim 1 and the
            other independent claims of auxiliary requests 1, 2
            and 4 then on file did not involve an inventive

step in view of the disclosure of document D5
(Articles 52(1) and 56 EPC).

- Auxiliary request 3 then on file was not admitted
  into the proceedings (Rule 137(3) EPC).

IV.   The applicant (appellant) filed notice of appeal. With
       the statement of grounds of appeal, the appellant filed
       claims according to a main request and an auxiliary
       request 1. According to the appellant, the claims of
       these requests were identical to the claims of the main
       request and auxiliary request 1 forming the basis of
       the decision under appeal.

V.   A summons to oral proceedings was issued. In a
       communication under Article 15(1) RPBA 2020 the board
       gave the following preliminary opinion.

       - The subject-matter of independent claims 1, 7, 13
         and 14 of the main request did not involve an
         inventive step in view of the disclosure of either
         document D4 or D5 (Article 56 EPC). In this
         context, the board was inclined to concur with the
         examining division that the distinguishing features
         did not appear to achieve the technical effect
         alleged by the appellant. Rather, the
         distinguishing features were to be regarded as one
         of several obvious alternative solutions having
         predictable pros and cons.

       - The subject-matter of independent claims 1, 5, 9
         and 10 of auxiliary request 1 did not involve an
         inventive step for essentially the same reasons as
         for the main request.

VI.   With its letter dated 7 August 2023, the appellant
       filed amended claims according to an auxiliary

request 2 and indicated a basis for the amendments in the application as filed. According to the appellant, the claims of auxiliary request 2 were identical to the claims of auxiliary request 2 forming the basis of the decision under appeal.

VII.   The board held oral proceedings on 17 August 2023.

During the oral proceedings, the appellant filed amended claims according to an auxiliary request 3.

The appellant's final requests were that the decision under appeal be set aside and that a European patent be granted on the basis of the claims of the main request filed with the statement of grounds of appeal or, alternatively, on the basis of the claims of auxiliary request 1 filed with the statement of grounds of appeal, auxiliary request 2 filed with the letter dated 7 August 2023 or auxiliary request 3 filed at the oral proceedings on 17 August 2023.

At the end of the oral proceedings, the Chair announced the board's decision.

VIII.   Claim 1 of the appellant's **main request** reads as follows:

"*An image coding method for coding an image using plural intra prediction modes, the image coding method comprising*

coding first binary data and second binary data, the first binary data indicating a first intra prediction mode used to code the image, the second binary data indicating a second intra prediction mode used to code the image,

wherein in the coding,

a first context adaptive portion and a second context adaptive portion are coded by context adaptive binary arithmetic coding, the first context adaptive portion being part of the first binary data, the second context adaptive portion being part of the second binary data, the context adaptive binary arithmetic coding being arithmetic coding using a variable probability updated based on coded data,

a first bypass portion and a second bypass portion are coded by bypass coding, the first bypass portion being different part of the first binary data, the second bypass portion being different part of the second binary data, the bypass coding being arithmetic coding using a predetermined fixed probability, and

coded data is generated which includes the first context adaptive portion, the second context adaptive portion, the first bypass portion, and the second bypass portion, in order: the first context adaptive portion; the second context adaptive portion; the second bypass portion; and the first bypass portion, the second context adaptive portion and the second bypass portion being consecutively included."

IX.   Claim 1 of the appellant's **auxiliary request 1** reads as follows (with additions to claim 1 of the **main request** <u>underlined</u>):

"An image coding method for coding an image using plural intra prediction modes, the image coding method comprising

coding first binary data and second binary data, the first binary data indicating a first intra prediction mode used to code the image, the second binary data indicating a second intra prediction mode used to code the image, wherein the first intra prediction mode is used to predict luma of the image, and the second intra prediction mode is used to predict chroma of the image,

wherein in the coding,

a first context adaptive portion and a second context adaptive portion are coded by context adaptive binary arithmetic coding, the first context adaptive portion being part of the first binary data, the second context adaptive portion being part of the second binary data, the context adaptive binary arithmetic coding being arithmetic coding using a variable probability updated based on coded data,

a first bypass portion and a second bypass portion are coded by bypass coding, the first bypass portion being different part of the first binary data, the second bypass portion being different part of the second binary data, the bypass coding being arithmetic coding using a predetermined fixed probability, and

coded data is generated which includes the first context adaptive portion, the second context adaptive portion, the first bypass portion, and the second bypass portion, in order: the first context adaptive portion; the second context adaptive portion; the second bypass portion; and the first bypass portion, the second context adaptive portion and the second bypass portion being consecutively included."

X.   Claim 1 of the appellant's **auxiliary request 2** reads as
         follows (with additions to claim 1 of **auxiliary
         request 1** underlined and deletions ~~struck-through~~):

"*An image coding method for coding an image using
plural intra prediction modes, the image coding method
comprising*

*coding first binary data and second binary data, the
first binary data indicating a first intra prediction
mode used to code the image, the second binary data
indicating a second intra prediction mode used to code
the image, wherein the first intra prediction mode is
used to predict luma of the image, and the second intra
prediction mode is used to predict chroma of the image,*

wherein in the coding,

*a first context adaptive portion and a second context
adaptive portion are coded by context adaptive binary
arithmetic coding, the first context adaptive portion
being part of the first binary data, the second context
adaptive portion being part of the second binary data,
the context adaptive binary arithmetic coding being
arithmetic coding using a variable probability updated
based on coded data,*

*a first bypass portion ~~and a second bypass portion are~~
is coded by bypass coding, the first bypass portion
being different part of the first binary data~~, the
second bypass portion being different part of the
second binary data~~, the bypass coding being arithmetic
coding using a predetermined fixed probability~~,~~; ~~and~~
wherein*

when the second binary data includes a second bypass portion, the second bypass portion being different part of the second binary data:

  ● *in the coding, the second bypass portion is coded by the bypass coding, and*

  ● *coded data is generated which includes the first context adaptive portion, the second context adaptive portion, the first bypass portion, and the second bypass portion, in order: the first context adaptive portion; the second context adaptive portion; the second bypass portion; and the first bypass portion, the second context adaptive portion and the second bypass portion being consecutively included.; and*

when the second binary data does not include the second bypass portion:

  ● *in the coding, a whole of the second binary data is coded, as the second context adaptive portion, by the context adaptive binary arithmetic coding to generate the coded data which does not include the second bypass portion, and*

  ● *coded data is generated which includes the first context adaptive portion, the second context adaptive portion, and the first bypass portion, in order: the first context adaptive portion; the second context adaptive portion; and the first bypass portion.*"

XI. Claim 1 of the appellant's **auxiliary request 3** reads as follows (with additions to claim 1 of **auxiliary request 1** underlined):

"*An image coding method for coding an image using plural intra prediction modes, the image coding method comprising*

coding first binary data and second binary data, the first binary data indicating a first intra prediction mode used to code the image, the second binary data indicating a second intra prediction mode used to code the image, wherein the first intra prediction mode is used to predict luma of the image, and the second intra prediction mode is used to predict chroma of the image,

wherein in the coding,

a first context adaptive portion and a second context adaptive portion are coded by context adaptive binary arithmetic coding, the first context adaptive portion being part of the first binary data, the second context adaptive portion being part of the second binary data, the context adaptive binary arithmetic coding being arithmetic coding using a variable probability updated based on coded data,

a first bypass portion and a second bypass portion are coded by bypass coding, the first bypass portion being different part of the first binary data, the second bypass portion being different part of the second binary data, the bypass coding being arithmetic coding using a predetermined fixed probability, and

coded data is generated which includes the first context adaptive portion, the second context adaptive portion, the first bypass portion, and the second bypass portion, in order: the first context adaptive portion; the second context adaptive portion; the

*second bypass portion; and the first bypass portion,
the second context adaptive portion and the second
bypass portion being consecutively included, wherein*

*the first context adaptive portion identifies whether a
first or a second element is coded in the first bypass
portion, wherein*

 • *the first element indicates which most probable
   mode is to be selected if there are two or more
   candidates for the first intra prediction mode, and*

 • *the second element is a value indicating the
   first intra prediction mode; and*

*the second binary data corresponds to a third element
indicating by a binary value the second intra
prediction mode, wherein the second context adaptive
portion is the first bit of the second binary data,
and, when the second binary data includes the second
bypass portion, the second bypass portion is the second
and subsequent bits of the second binary data.*"

Reasons for the Decision

1.   The appeal is admissible.

*Main request and auxiliary request 1 – entitlement to the
earlier claimed priority (Article 87(1) EPC)*

2.   As established by the Enlarged Board of Appeal in its
       opinion G 2/98 (OJ EPO 2001, 413) and confirmed in its
       decision G 1/15 (OJ EPO 2017, 82), the sole substantive
       condition laid down by the EPC (and the Paris
       Convention) for the right of priority to be validly

claimed is that the priority document and the
subsequent filing are directed to the same invention
(Article 87(1) EPC). Article 4C(4) of the Paris
Convention mentions "the same subject". However, the
meaning is identical (see G 1/15, point 4.2 of the
Reasons).

The requirement for claiming priority of "the same
invention", referred to in Article 87(1) EPC, means
that priority of a previous application in respect of a
claim in a European patent application in accordance
with Article 88 EPC is to be acknowledged only if the
skilled person can derive the subject-matter of the
claim directly and unambiguously, using common general
knowledge, from the previous application as a whole
(see G 2/98, Conclusion of the Opinion).

Moreover, the "same invention" must be disclosed in an
enabling manner in the priority document (see G 1/15,
Order of the decision).

3.   In the case in hand, the examining division held that
       priority from the earlier application was not validly
       claimed for the subject-matter of all the claims of the
       main request and auxiliary request 1 because the
       following features in those claims were not disclosed
       in the earlier application (see section 1 of the
       Reasons for the decision):

       "*in order: the first context adaptive portion; the
       second context adaptive portion; the second bypass
       portion; and the first bypass portion, the second
       context adaptive portion and the second bypass portion
       being consecutively included*"

4.   The appellant has not disputed this finding.

5.   The board concurs with the examining division that
        priority from the earlier application is not validly
        claimed for the subject-matter of all the claims of the
        main request and auxiliary request 1.

*Main request and auxiliary request 1 - status of documents D4
and D5*

6.   Documents D4 and D5 were made available to the public
        after the filing date of the earlier application but
        before the filing date of the application at issue.
        Since the appellant is not entitled to the right of
        priority for the claimed subject-matter, these
        documents belong to the state of the art under
        Article 54(2) EPC.

7.   The appellant has not disputed that documents D4 and D5
        belong to the state of the art under Article 54(2) EPC.

Main request - inventive step (Articles 52(1) and 56 EPC)

8.   Closest prior art and distinguishing features

8.1   It is common ground between the examining division and
        the appellant that either document D4 or document D5
        may be regarded as the closest prior art and that each
        discloses all the features of the image coding method
        of claim 1 except the following distinguishing
        features:

        (a) The second bypass portion is prior to the first
        bypass portion.
        (b) The second context adaptive portion and second
        bypass portion are consecutively included.

(See points 2.1.1 and 2.2.1 of the Reasons for the decision under appeal, point IV.2, first paragraph, of the statement of grounds of appeal and Section III, first paragraph, of the appellant's letter of 7 August 2023.)

8.2   The board concurs with this finding.

9.   Technical effect

9.1   Preliminary considerations

The relevant aspects of the coding in the method of claim 1 may be summarised as follows:

First binary data indicating a first intra prediction mode comprises two portions: a first context adaptive portion (hereinafter also referred to as **"prefix_1"**) and a first bypass portion (hereinafter also referred to as **"suffix_1"**).

Second binary data indicating a second intra prediction mode comprises two portions: a second context adaptive portion (hereinafter also referred to as **"prefix_2"**) and a second bypass portion (hereinafter also referred to as **"suffix_2"**).

Prefix_1 and prefix_2 are coded by context adaptive binary arithmetic coding (CABAC).

Suffix_1 and suffix_2 are coded by bypass coding.

In claim 1, coded data is generated which includes the prefixes and suffixes in the following order:

prefix_1, prefix_2, **suffix_2**, **suffix_1** (distinguishing feature (a)),

wherein prefix_2 and suffix_2 are "*consecutively included*" (distinguishing feature (b)).

In contrast, in the closest prior art (D4 or D5), the coded data is generated in the following order:

prefix_1, prefix_2, **suffix_1**, **suffix_2**.

9.2 It is undisputed that a technical effect achieved by the method of claim 1 arises from the feature that suffix_1 and suffix_2 are next to each other in the coded data. According to the description of the application as filed, this feature makes it possible to perform the bypass coding on these two suffixes in parallel (see, for instance, paragraph [0056]).

However, it is also undisputed that the same technical effect is achieved by the same feature in documents D4 and D5 (see, for instance, Abstract and Introduction of D4 and Conclusion of D5). Hence this technical effect does **not** count as a technical effect achieved over the closest prior art.

9.3 Appellant's arguments

According to the appellant's statement of grounds of appeal, **the technical effect over the closest prior art** (D4 or D5), i.e. arising from the distinguishing features, may be summarised as follows.

The order suffix_2, suffix_1 in claim 1 (distinguishing feature (a)) instead of suffix_1, suffix_2 in D4 and D5, together with the feature that prefix_2 and

suffix_2 are consecutive (distinguishing feature (b)),
decreased the "*complexity of processing*" (see
point IV.3 of the statement of grounds of appeal).

The existence of this technical effect was supported by
paragraphs [60], [76] and [214] of the application as
filed, which mentioned a decrease in the degree of
complexity. This decrease in complexity arose from the
fact that, because prefix_2 and suffix_2 were
consecutive, prefix_2 did not require temporary storing
in a buffer until suffix_2 was decoded, as a result of
which **the memory requirements were reduced** in the
encoder/decoder (page 3, third paragraph, and page 6,
second paragraph, of the statement of grounds of
appeal). Regarding the reduction of memory
requirements, the appellant referred to paragraph [109]
of the application as filed, which mentioned that the
"*prefixes of the intra prediction modes are not
temporarily stored*".

9.4   The examining division's view

The above arguments from the appellant regarding the
alleged technical effect, which were essentially
already provided in the first-instance proceedings, did
not convince the examining division for the following
reasons (see point 2.1.3 of the Reasons for the
decision under appeal).

(1) The application provided no explanation on how
having contiguous prefix_2 and suffix_2 would actually
lead to a decrease in processing complexity in coding
or decoding.

(2) The disclosure of Figure 9 and paragraph [109] of
the application as filed did not teach the skilled

person that the claimed invention solved the problem of
providing a syntax that was suitable for both decoders
that aimed at increased parallelism and decoders that
had limited memory, as argued by the applicant. This
technical effect did not appear to be derivable from
other passages of the description either and thus could
not form a basis for the definition of the technical
problem.

(3) The alleged technical effect was not obtained by
any claimed steps or means with reduced complexity, nor
was it apparent from the application as a whole how
such technical effect would be enabled by the claimed
features.

The examining division therefore concluded that there
was **no meaningful technical effect** achieved by having
the prefix_2 and suffix_2 consecutively included in the
coded data (see point 2.1.4 of the Reasons for the
decision under appeal).

Hence, distinguishing feature (a) simply corresponded
to one of a set of arbitrary alternatives to the order
disclosed in D4 or D5, and it was an order that the
skilled person would have obviously considered
according to the circumstances (see point 2.1.4 of the
Reasons for the decision under appeal).

9.5   Further arguments by the appellant

In its letter of 7 August 2023 and during the oral
proceedings before the board, the appellant further
developed its arguments in the following directions.

(A1) The fact that prefix_2 and suffix_2 were
"*consecutively included*" in the bitstream allowed the

coder/decoder to immediately use the output of the
processing of prefix_2 as an input for the processing
of suffix_2, thereby reducing the complexity of
processing and reducing the memory requirements in the
coder/decoder, because said output could, for instance,
be stored in a low-level register instead of having to
be fetched from the main memory at a later time.
Prefix_2 could even be used as an address to a table
for the processing of suffix_2 and thus not be stored
at all.

(A2) The reduction of memory requirements could be a
reduction in the amount of time for which the memory
was used rather than a reduction in the amount of
memory used.

(A3) The distinguishing features created a bitstream
which provided an advantage both when decoded by
parallelism-enabled decoders (parallel processing of
bypass portions) and when decoded by sequential
decoders (reducing the memory requirements and
decreasing the complexity of processing).

(A4) There was a synergy between distinguishing
features (a) and (b) because it was the combination of
both that, on the one hand, allowed parallel processing
of bypass portions (suffixes) and, on the other hand,
made it possible to reduce the memory requirements and
decrease the complexity of processing.

(A5) Even if the board did not recognise that the
distinguishing features achieved a technical effect of
reducing memory requirements and/or decreasing
processing complexity, the fact remained that the
distinguishing features were not suggested by any
prior-art documents on file.

9.6   The board's view

         For the reasons set out below, the board is of the view
         that the technical effects alleged by the appellant,
         i.e. a reduction of memory requirements and a decreased
         complexity of processing in the encoder/decoder, are
         not achieved by the features of claim 1.

9.6.1   The application as filed briefly mentions a decreased
         complexity of processing in paragraphs [60], [76] and
         [214] and a reduction of memory requirements in
         paragraph [109]. However, as pointed out by the
         examining division, it does not provide any explanation
         why these technical effects are achieved.

         Since there are many ways in which encoders and
         decoders could be designed, such as in hardware,
         software or a mix of the two, and claim 1 covers all of
         them, the alleged advantages would have to exist for
         substantially all of these forms of implementation.

9.6.2   Re arguments (A1) and (A2)

         The board is not convinced that merely placing prefix_2
         and suffix_2 consecutively in the bitstream is
         sufficient for achieving the effect that the "*prefixes
         do not have to be temporarily stored (e.g., until the
         suffixes are decoded)*" as stated on page 3, third
         paragraph, of the statement of grounds of appeal.
         Decoded prefix_2 may indeed have to be stored for less
         time than decoded prefix_1 (compared with the methods
         disclosed in documents D4 and D5), but it must still be
         stored until suffix_2 is decoded.

The board is not convinced by the argument
(argument A1) that the decoded prefix_2 could be
provided as an address of a table for the processing of
suffix_2 and thus would not have to be stored, because
it is based on features (an address of a table) which
are not present in claim 1 and, in fact, not even in
the application as a whole.

Hence the board cannot discern any **reduction in the
amount** of memory being used.

The board is also not convinced as regards the alleged
reduction of the time for which the outputs of prefix_1
and prefix_2 are stored. The reverse order of suffix_1
and suffix_2 compared with D4 or D5 does shorten the
storage time of prefix_2; however, it correspondingly
lengthens the storage time of prefix_1. The sum of
storage times for prefix_1 and prefix_2 thus remains
essentially unchanged.

The argument (argument A1) that a (fast) register may
be used instead of a (slow) main memory for storing
prefix_2 is based on the assumption that prefix_2 and
suffix_2 would be processed continuously as one entity
at a low hardware level. However, no such features are
present in claim 1. This is not implied by the
contiguity between prefix_2 and suffix_2 because a
return to a higher syntactic level of processing may be
necessary between the end of the processing of prefix_2
and the start of processing of suffix_2.

For the above reasons, on the basis of the features of
claim 1, the board cannot discern either a reduction of
memory requirements or a decrease in complexity of
processing compared with the closest prior art. Hence
arguments A1 and A2 are not persuasive.

9.6.3   Re arguments (A3) and (A4)

The technical effect of the parallel processing of the
bypass portions (suffixes) is already achieved by the
closest prior art (D4 or D5). It is achieved not by
distinguishing features (a) and (b) but by the feature
that suffix_1 and suffix_2 are next to each other in
the coded data. It is thus not a technical effect
achieved over the closest prior art.

The alleged technical effects of reducing memory
requirements and decreasing complexity of processing
are not achieved by the distinguishing features of
claim 1 for the reasons given in point 9.6.2 above.

It thus also follows that there is no synergy between
distinguishing features (a) and (b) in achieving these
effects.

9.6.4   Re argument (A5)

The appellant is correct that none of the prior-art
documents on file discloses the following sequence of
coded data of claim 1:

prefix_1, **prefix_2, suffix_2,** suffix_1 (distinguishing
feature (a)), wherein prefix_2 and suffix_2 are
"*consecutively included*" (distinguishing feature (b)).

In the closest prior art (D4 or D5), the coded data is
generated in the following order:

prefix_1, **prefix_2,** suffix_1, **suffix_2.**

However, since in the closest prior art suffix_1 and
suffix_2 are processed in parallel, it would have been
obvious to the skilled person that the order of these
two suffixes does not matter. Hence, the skilled person
would have regarded the order of the suffixes in
claim 1 as an obvious alternative to the order of the
suffixes in the closest prior art.

For the reasons given in point 9.6.2 above, the reverse
order of suffix_1 and suffix_2 compared with the
closest prior art does not achieve the technical
effects (reduction of memory requirements and decrease
of complexity of processing) alleged by the appellant.

That is not to say that no technical effect at all is
achieved, because any change to the order of suffix_1
and suffix_2 will necessarily have an effect on the
structure of the encoder/decoder. However, this
technical effect will merely amount to the predictable
technical advantages and disadvantages associated with
such changes.

9.7   Obviousness

For the above reasons, the board concurs with the
examining division that the distinguishing features of
claim 1 are merely one of several obvious alternatives
to D4 or D5 with predictable pros and cons.

In the absence of an unexpected and credible technical
effect arising from the distinguishing features, the
distinguishing features are to be regarded as one of
several obvious alternative solutions having
predictable pros and cons, and the prior art does not
need to contain an incentive for the skilled person to
select the particular solution claimed (see Case Law of

the Boards of Appeal of the European Patent Office, 10th edition, 2022, "Case Law", I.D.9.21.1 and I.D.9.21.9).

10. Conclusion on inventive step

For the above reasons, the subject-matter of claim 1 of the main request does not involve an inventive step in view of the disclosure of either document D4 or document D5 (Articles 52(1) and 56 EPC).

11. Conclusion on the main request

Since the subject-matter of claim 1 does not involve an inventive step, the main request is not allowable.

Auxiliary request 1 – amendments

12. Claim 1 of auxiliary request 1 differs from claim 1 of the main request on account of the following additional feature:

"*wherein the first intra prediction mode is used to predict luma of the image, and the second intra prediction mode is used to predict chroma of the image*"

Auxiliary request 1 – inventive step (Articles 52(1) and 56 EPC)

13. The board concurs with the examining division that the skilled person, starting from the closest prior art (D4 or D5) and wishing to increase the amount of parallelism even further, would have obviously considered extending the teaching of D4 or D5 regarding the luma intra prediction mode to the chroma intra prediction mode, thereby arriving at the additional

features of claim 1 without an inventive step (see point 3.5 of the decision under appeal).

14. The appellant argued that the skilled person would not have arrived at the additional features of claim 1 without an inventive step because it would have required an extra step of dividing the chroma intra prediction mode into a context adaptive portion and a bypass portion.

15. The board does not find this argument persuasive for the following reasons.

In the closest prior art (D4 or D5), the **luma** intra prediction mode is divided into a context adaptive portion and a bypass portion. The division of the **chroma** intra prediction mode into a context adaptive portion and a bypass portion would thus have been a straightforward consequence of the teaching concerning luma being applied to chroma.

16. Conclusion on inventive step

For the above reasons, the subject-matter of claim 1 of the main request does not involve an inventive step in view of the disclosure of either document D4 or D5 (Articles 52(1) and 56 EPC).

17. Conclusion on auxiliary request 1

18. Since the subject-matter of claim 1 does not involve an inventive step, auxiliary request 1 is not allowable.

Auxiliary request 2 – amendments

19.   Claim 1 of auxiliary request 2 differs from claim 1 of
        auxiliary request 1 on account of the features
        underlined under point X. above.

Auxiliary request 2 – admittance (Article 13(2) RPBA 2020)

20.   In the case in hand, the summons to oral proceedings
        was notified after the date on which RPBA 2020 entered
        into force, i.e. 1 January 2020 (Article 24(1) RPBA
        2020). Thus, in accordance with Article 25(1) and (3)
        RPBA 2020, Article 13(2) RPBA 2020 applies to the
        question of whether to admit the amended claims
        according to the appellant's auxiliary request 2, which
        were filed after the summons to oral proceedings was
        notified. The amended claims of auxiliary request 2 are
        therefore amendments within the meaning of
        Article 13(2) RPBA 2020.

21.   Article 13(2) RPBA 2020 reads as follows:

        "*Any amendment to a party's appeal case made after the
        expiry of a period specified by the Board in a
        communication under Rule 100, paragraph 2, EPC or,
        where such a communication is not issued, after
        notification of a summons to oral proceedings shall, in
        principle, not be taken into account unless there are
        exceptional circumstances, which have been justified
        with cogent reasons by the party concerned.*"

22.   Article 13(2) RPBA 2020 implements the third level of
        the convergent approach applicable in appeal
        proceedings (see document CA/3/19, section VI,
        explanatory remarks on Article 13(2), first paragraph,
        first sentence; see also Supplementary publication 2,

OJ EPO 2020). Article 13(2) RPBA 2020 imposes the most
stringent limitations on appeal submissions which are
made at an advanced stage of the proceedings, namely
after expiry of a period set by the board of appeal in
a communication under Rule 100(2) EPC or, where no such
communication is issued, after notification of a
summons to oral proceedings (see document CA/3/19,
section VI, explanatory remarks on Article 13(2), first
paragraph, second sentence). Where an amendment is made
to a party's appeal case at this advanced stage of the
proceedings, Article 13(2) RPBA 2020 provides that it
will, in principle, no longer be taken into account
unless the party concerned has shown compelling reasons
why the circumstances are exceptional. If such
circumstances are shown to exist, the board of appeal
may, in exercising its discretion, decide to admit an
amendment made to the appeal case at this advanced
stage of the proceedings (see document CA/3/19,
section VI, explanatory remarks on Article 13(2), third
paragraph, last sentence).

23.   In the case in hand, auxiliary request 2 was filed
        after notification of a summons to oral proceedings and
        in a letter of reply (dated 7 August 2023) to the
        board's communication pursuant to Article 15(1) RPBA
        2020 expressing the board's preliminary opinion. In
        that letter, the appellant submitted that the claims of
        auxiliary request 2 were identical to the claims of
        auxiliary request 2 forming the basis of the decision
        under appeal. No reason was given for filing auxiliary
        request 2 at this late stage.

24.   During the oral proceedings, the appellant gave the
        following reasons for the late filing of auxiliary
        request 2.

-    The appellant had not maintained this request with
     the statement of grounds of appeal because it was
     convinced that the examining division was clearly
     wrong in its assessment of the main request and
     auxiliary request 1 and that the board would concur
     with the appellant on these requests. It thus
     appeared unnecessary to the appellant to maintain
     auxiliary request 2.

-    It was only when the appellant received the board's
     preliminary opinion that it realised, with
     surprise, that the board was inclined to concur
     with the examining division regarding the main
     request and auxiliary request 1.

In response to the board's surprising preliminary
opinion, the appellant decided to re-file auxiliary
request 2.

25.   The board is of the view that the above circumstances
        are not "*exceptional circumstances*" within the meaning
        of Article 13(2) RPBA 2020 for the reasons set out
        below.

25.1   The appellant should have been aware of the possibility
        that the board might concur with the examining division
        regarding the main request and auxiliary request 1.

        If the appellant was interested in auxiliary request 2
        as a fallback position, it should have maintained this
        request in the statement of grounds of appeal so that
        the board could provide a preliminary opinion on the
        merit of the reasons given in the decision under appeal
        for not allowing this request.

By filing this request at a late stage of the appeal proceedings (only ten days before the date of the oral proceedings), the appellant prevented the board from properly reviewing it.

The appellant's justification that it was convinced that the board would not concur with the examining division on the higher-ranked requests cannot be accepted as describing "*exceptional circumstances*" within the meaning of Article 13(2) RPBA 2020. If the board were to accept the appellant's justification as sufficient, the admittance of every new claim request filed in response to a board's preliminary opinion could be justified on that basis, which would deprive Article 13(2) RPBA 2020 of its purpose.

25.2   The board notes that the appellant did not argue that auxiliary request 2 had been filed as a reaction to new facts or evidence, or a new interpretation of claim 1, set out by the board in its preliminary opinion. The board's preliminary opinion was essentially in line with the reasons given by the examining division in the decision under appeal.

26.   Conclusion on auxiliary request 2

For the above reasons, the board did not admit auxiliary request 2 into the appeal proceedings (Article 13(2) RPBA 2020).

Auxiliary request 3 - amendments

27.   Claim 1 of auxiliary request 3 differs from claim 1 of auxiliary request 1 on account of the features underlined under point XI. above.

Auxiliary request 3 – admittance (Article 13(2) RPBA 2020)

28.   Auxiliary request 3 was filed at a late stage of the
        oral proceedings before the board, after the board had
        expressed a negative opinion on the higher-ranked
        requests.

29.   Auxiliary request 3 had not been submitted in first-
        instance proceedings and included additional features
        taken from the description.

30.   According to the appellant, the "*exceptional
        circumstances*" were that it had understood for the
        first time during the oral proceedings why the board
        was of the view that the distinguishing features of
        claim 1 did not achieve the alleged technical
        effect(s). Auxiliary request 3 was filed in response to
        this.

31.   The board did not find the appellant's above reasons
        persuasive because during the oral proceedings the
        board essentially maintained the same position as in
        its preliminary opinion on inventive step, which itself
        was essentially in line with the examining division's
        assessment of inventive step in the decision under
        appeal. Of course, the discussion during the oral
        proceedings allowed the board to express certain
        aspects of its position in more detail than in its
        written preliminary opinion. However, this is almost
        always the case at oral proceedings. Thus, if the board
        were to accept the appellant's justification as
        sufficient, the admittance of every new claim request
        filed at an advanced stage of the oral proceedings
        could be justified on that basis, which would deprive
        Article 13(2) RPBA 2020 of its purpose.

32.   Conclusion on auxiliary request 3

        For the above reasons, the board did not admit
        auxiliary request 3 into the appeal proceedings
        (Article 13(2) RPBA 2020).

Conclusion

33.   Since the main request and auxiliary request 1 are not
        allowable and auxiliary requests 2 and 3 are not
        admitted into the appeal proceedings, the appeal must
        be dismissed.

Order

For these reasons it is decided that:

        The appeal is dismissed.

The Registrar: The Chair:

K. Boelicke   G. Decker

Decision electronically authenticated