UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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UNIFIED PATENTS, LLC,
Petitioner,

v.

INTERDIGITAL VC HOLDINGS, INC.,
Patent Owner.

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IPR2021-00102
Patent 8,363,724 B2

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Before SALLY C. MEDLEY, MIRIAM L. QUINN, and
KRISTI L. R. SAWERT, *Administrative Patent Judges.*

QUINN, *Administrative Patent Judge.*

DECISION
Denying Institution of *Inter Partes* Review
35 U.S.C. § 314

I. INTRODUCTION

A. *Background and Summary*

Unified Patents, LLC ("Petitioner") filed a Petition requesting *inter partes* review of claims 1–4, 7–12, 15, 19–23, 26–31, 34, 38–42, 45–50, 53, 56–60, 63–68, 71, and 74 of U.S. Patent No. 8,363,724 B2 (Ex. 1001, "the '724 patent"). Paper 1 ("Pet."). Interdigital VC Holdings, Inc. ("Patent Owner") timely filed a Preliminary Response. Paper 7 ("Prelim. Resp.").

We have jurisdiction under 35 U.S.C. § 314. Upon considering the record, for the reasons discussed below, we deny the Petition and do not institute *inter partes* review.

B. *Related Matters*

The parties indicate the '724 patent is not subject to any other proceeding or district court litigation. Pet. 2; Paper 6, 1.

C. *The '724 Patent (Ex. 1001)*

The '724 patent "relate[s] generally to video encoding and decoding and, more particularly, to methods and apparatus using virtual reference pictures." Ex. 1001, 1:16–18. The '724 patent describes video encoder 100, illustrated in Figure 1 (reproduced below), that supports virtual reference pictures (VRPs). *Id.* at 2:18–21.
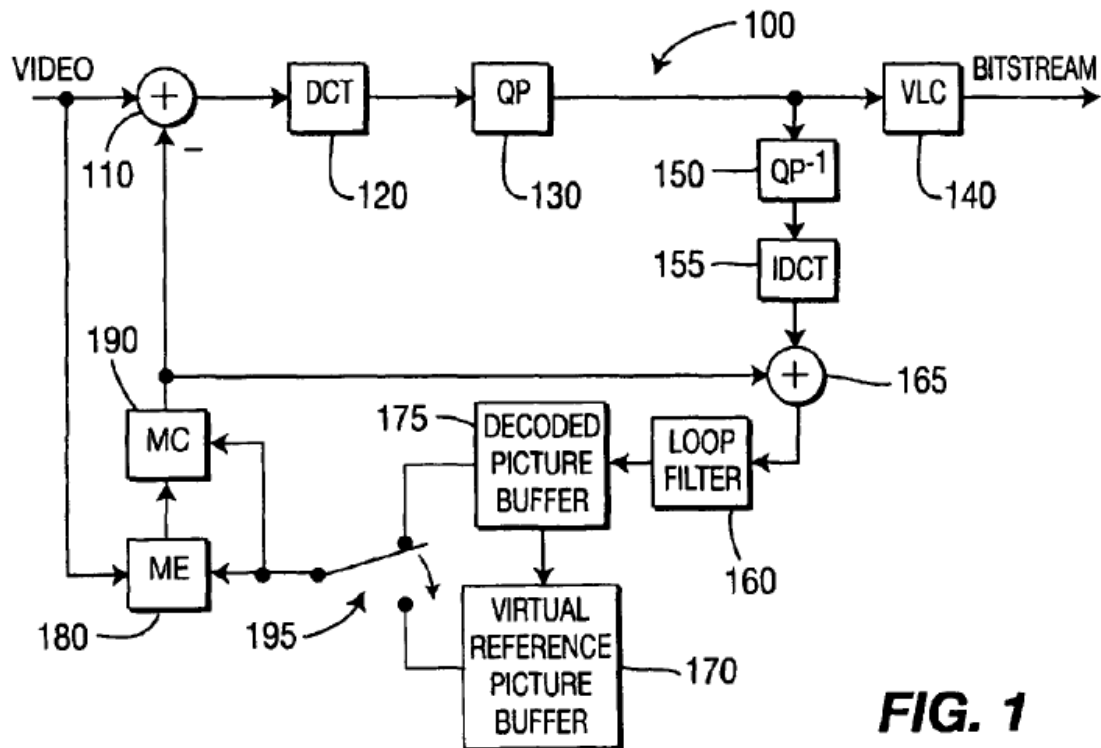
FIG. 1

Figure 1 depicts video encoder 100 receiving a video signal at a non-inverting input of combiner 110 and at a first input of motion estimator (ME) 180. *Id.* at 3:61−63. The output of combiner 110 is connected in signal communication with an input of discrete transformer (DCT) 120, and then quantizer (QP) 130. *Id.* at 3:63−67. The output of the quantizer follows two paths. First, after the signal goes through variable length coder (VLC) 140, encoder 100 outputs a bitstream of encoded video. *Id.* at 4:1−4. Second, the quantized signal is inverse quantized and processed through inverse discrete cosine transformer 155, which feeds the signal to combiner 165. *Id.* at 4:5−8. The resulting signal is filtered (loop filter 160) and is processed by decoded picture buffer 175 and virtual reference picture buffer 170, according to the methods described in the '724 patent. *Id.* at 4:10−15. For instance, in one embodiment, VRPs may be stored in the decoded picture buffer (*id.* at 6:30−33), and in another embodiment, the VRPs may be stored

in a virtual reference picture buffer (*Id.* at 6:47–52). In the embodiment of encoding video content using VRP management in a decoded picture buffer, when a VRP is generated, it is stored in the decoded picture buffer and the reference list construction is updated to reflect the included VRP. *Id.* at 7:31–52.

According to the '724 patent, VRPs "can be utilized for prediction, but are not required for display purposes." *Id.* at 4:66–5:1.

D. Representative Claim

Of the challenged claims, claims 1, 20, 39, and 57 are independent. Claims 1 and 20 are directed to the encoder described above in the summary of the '724 patent. Claims 39 and 57 are directed to a decoder having similar limitations to those of claims 1 and 20. Claim 1 is representative of the subject matter:

> 1. An apparatus, comprising:
> an encoder for encoding at least one picture, using at least one virtual reference picture, to form a resultant bitstream, wherein the at least one virtual reference picture is different than a previously decoded picture, and the at least one virtual reference picture is stored in a decoded picture buffer that also stores non-virtual reference pictures.

Ex. 1001, 13:18–25.

E. Asserted Prior Art and Grounds of Unpatentability

The asserted grounds in this proceeding involve the following prior art references:

1. *Xin*: US 2006/0146138 A1, published July 6, 2006, filed as Exhibit 1003;

2. *LeGall*: "MPEG: A Video Compression Standard for
Multimedia Applications," *Communications of the ACM*, vol.
34, no. 4, April 1991, filed as Exhibit 1004;

Petitioner asserts the following grounds of unpatentability (Pet. 5):

Claims Challenged	35 U.S.C. §	References
1–3, 9, 15, 19–22, 28, 34, 38–41, 47, 53, 56–59, 65, 71, 74	102	Xin
1–3, 7, 9, 12, 15, 19–22, 26, 28, 31, 34, 38–41, 45, 47, 50, 53, 56–59, 63, 65, 68, 71, 74	103(a)	Xin
4, 8, 10, 11, 23, 27, 29, 30, 42, 46, 48, 49, 60, 64, 66, 67	103(a)	Xin, LeGall

Petitioner also relies on a Declaration of Didier J. LeGall, filed as
Exhibit 1005 ("LeGall Decl.").

II. DISCUSSION

A. Claim Construction

There are no claim terms in dispute or that need construction for
purposes of this Decision. *See* Pet. 14.

B. Level of Ordinary Skill in the Art

In determining whether an invention would have been obvious at the
time it was made, we consider the level of ordinary skill in the pertinent art
at the time of the invention. *Graham v. John Deere Co.,* 383 U.S. 1, 17
(1966). "The importance of resolving the level of ordinary skill in the art
lies in the necessity of maintaining objectivity in the obviousness inquiry."

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