Abstract: Camera systems and methods configured to receive power wirelessly are described. A wireless energy transfer system according to some examples includes a transmitter of wireless energy located within a communication device, such as a mobile phone, or attached to the communication device and a distance separated receiver located within an electronic wearable device other than the communication device, such as a wearable camera.
INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 15/00205

A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - H02J 7/00, H04N 5/232 (2016.01)  
CPC - H04N 5/23203, H04N 5/23206, H02J 7/0013, H02J 7/0042  
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
IPC(8) - H02J7/00, H04N5/232 (2016.01)  
CPC - H04N5/23203, H04N5/23206, H02J7/0013, H02J7/0042

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched  
CPC - Y02T9/14, Y02T9/16, Y02T10/7241, Y02T10/7072  
USPC - 320/108, 320/137

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

Electronic Database Search: Patbase, Google Scholar, Google Patents

Search Terms Used: Camera, receiver, wireless power, base unit, memory, rechargeable battery, Tx/RX coil, magnetic/ferrite, wearable, housing, magnet, eyewear, waterproof, microphone, voice command, proximity, capacitive switch, transparent, status, view finder, etc.,

C. DOCUMENTS CONSIDERED TO BE RELEVANT

<table>
<thead>
<tr>
<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
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<tbody>
<tr>
<td>X</td>
<td>US 2013/01 19929 A1 (Partovi) 16 May 2013 (16.05.2013); entire document, especially, Abstract, FIG. 1, para [0060], [0061], [0063], [0064], [0069]-[0072], [0108], [0169], [0175], [0185], [0188], [0304]</td>
<td>1-4, 14, 10, 12, 13</td>
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<td>Y</td>
<td>US 20 14/0354885 O A1 (Han) 14 December 2014 (04.12.2014); especially, Abstract, FIG. 1-3, para [0014], [0015], [0038], [0041]</td>
<td>5-8, 11, 14-23</td>
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<tr>
<td>Y</td>
<td>US 2009/01 10386 A1 (Kamada et al.) 30 April 2009 (30.04.2009); especially, Abstract, FIG. 3, para [0132]-[0134]</td>
<td>16</td>
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<tr>
<td>Y</td>
<td>US 2012/0127423 A1 (Blum et al.) 24 May 2012 (24.05.2012); especially, Abstract, para [0234], [0238], [0239], [0245], [0263], [0361]</td>
<td>18-22</td>
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<tr>
<td>Y</td>
<td>US 2007/0009253 A1 (Nikkanen et al.) 11 January 2007 (11.01.2007); entire document, especially, FIG. 10, para [0031], [0095], [0100]</td>
<td>23</td>
</tr>
<tr>
<td>Y</td>
<td>US 2013/027851 A1 (Dabov) 15 August 2013 (15.08.2013); especially, Abstract, para [0005],[0029], [0030]</td>
<td>14</td>
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</table>

Further documents are listed in the continuation of Box C.

**Special categories of cited documents:**

"A" - earlier application or patent but published on or after the international filing date.

"E" - document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified).

"T" - later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention.

"X" - document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone.

"W" - document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"P" - document published prior to the international filing date but later than the priority date claimed.

"A" - document member of the same patent family.

Date of the actual completion of the international search  
25 May 2016

Date of mailing of the international search report  
09 JUN 2016

Name and mailing address of the ISA/US  
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Facsimile No. 571-273-8300

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Lee W. Young  
PCT Helpdesk: 571-272-4300  
PCT OSP: 571-272-7774

Form PCT/ISA/2 10 (second sheet) (January 2015)
<table>
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<tr>
<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>US 7,126,558 B1 (Dempski) 24 October 2006 (24.10.2006); entire document, especially, Abstract, FIG. 1, col.2, is 16-32</td>
<td>1-23</td>
</tr>
</tbody>
</table>
### Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. **Claims Nos.:**
   - because they relate to subject matter not required to be searched by this Authority, namely:

2. **Claims Nos.:**
   - because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. **Claims Nos.:**
   - because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

### Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This international Searching Authority bound multiple inventions in this international application, as follows:

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1. In order for all inventions to be examined, the appropriate additional examination fees must be paid.

- **Group I:** Claims 1-23 drawn to a camera with a receiver for receiving power wirelessly from a separated transmitting coil of a base unit; a rechargeable battery.
- **Group II:** Claims 24-36 drawn to a system with a base unit configured for wireless power delivery, and a wearable camera having a receiver inductively coupled to the transmitter, and a method for using the same.
- **Group III:** Claims 37-38 drawn to a camera devoid of a view finder and configured to be attachable to and detachable from eyewear and a safety feature for preventing loss of the camera.
- **Group IV:** Claims 39-43 drawn to a method for automatically adjusting an image in accordance with a configuration parameter.

--- See Continuation on Supplemental Page ---

1. **X** All required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.

2. **X** All searchable claims could be searched without effort justifying additional fees, this Authority did not invite payment of additional fees.

3. **X** As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. **X** No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos. 1-23

### Remark on Protest

- **X** The additional search fees were accompanied by the applicant’s protest and, where applicable, the payment of a protest fee.
- **X** The additional search fees were accompanied by the applicant’s protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- **X** No protest accompanied the payment of additional search fees.

Form PCT/ISA/2 10 (continuation of first sheet (2)) (January 2015)
- Continuation of Box No. III - Observations where unity of invention is lacking -

The inventions listed as Groups I through IV do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

Groups II-IV do not require a rechargeable battery coupled to the receiver for storing wirelessly received power or a memory configured to store images captured with the image capture device, as required by group I.

Groups I and II-IV do not transmitting power from the base unit to the wearable while the electronic device remains within a charging range of the base unit or until a charge state signal of the wearable camera corresponds to a fully charged state, as required by group II.

Groups III and IV do not require camera configured to be attachable to and detachable from eyewear, as required by group III.

Groups III do not require wirelessly transmitting the image to a computing system and process the images via the computing system, as required by group IV.

The only features shared by Groups I-IV that would otherwise unify the groups, is an image capture device. However, this shared technical feature does not represent a contribution over prior art, because the shared technical feature is anticipated by US 2007/0009253 A1 (Nikkanen et al.) 11 January 2007 (11.01.2007), wherein Nikkanen teaches an image capture device (para [0031]).

Additionally, Groups I and II share the common technical feature of a base unit comprising a transmitter configured for wireless power delivery, wherein the transmitter comprises a transmitting coil. However, this shared technical feature does not represent a contribution over prior art, because the shared technical feature is anticipated by US 2013/01 19929 A1 (Partovi) 16 May 2013 (16.05.2013), wherein Partovi teaches a base unit comprising a transmitter configured for wireless power delivery, wherein the transmitter comprises a transmitting coil (Abstract, para [0060]).

Additionally, Groups III and IV share the common technical feature of a camera devoid of a view finder. However, this shared technical feature does not represent a contribution over prior art, because the shared technical feature is anticipated by US 2007/0009253 A1 (Nikkanen et al.) 11 January 2007 (11.01.2007), wherein Nikkanen teaches a camera devoid of a view finder, (para [0031]).

Additionally, Group I-III share the common technical feature of a battery. However, this shared technical feature does not represent a contribution over prior art, because the shared technical feature is anticipated by Partovi, wherein Partovi teaches a battery (Abstract, para [0060]).

Additionally, Groups I-II and IV share the common technical feature of a memory for the image capture device. However, this shared technical feature does not represent a contribution over prior art, because the shared technical feature is anticipated by Nikkanen, wherein Nikkanen teaches a memory for the image capture device (FIG. 10, para [0065]).

Additionally, Groups I and IV share the common technical feature as a transmitting image data to a computing system; however group IV is the only group that requires wireless transfer. However, this shared technical feature does not represent a contribution over prior art, because the shared technical feature is anticipated by US 7,126,538 B1 (Dempski) 24 October 2006 (24.10.2006), wherein Dempski teaches transmitting image data to a computing system (Abstract, FIG. 1, col. 2, In 16-32).

Additionally, Groups III and IV share the common technical feature as a wearable camera. However, this shared technical feature does not represent a contribution over prior art, because the shared technical feature is anticipated by Dempski wherein Dempski teaches a wearable camera (Abstract, FIG. 1, col. 2, In 16-23).

As these technical features were known in the art at the time of the invention, these cannot be considered special technical features that would otherwise unify the groups.

Groups I-IV therefore lack unity under PCT Rule 13 because they do not share a same or corresponding special technical feature.