

**Exhibit C-5**  
**U.S. Patent Pub. No. 2005/0110730 et al. (“Kim730”) applied to U.S. Patent No. 8,502,757 (“757 patent”)**

As demonstrated in the chart below, claims 1 and 16 of the 757 patent are anticipated by Kim730 at and/or rendered obvious by Kim730 (in combination with itself, the secondary references identified below, and/or the knowledge of a person of ordinary skill in the art). Kim730 was filed on Oct. 11, 2004, and published May 26, 2005, therefore qualifies as prior art at least under pre-AIA 35 U.S.C. § 102 (a), (b), (e). *See also*, materials from IPR2025-00239 incorporated herein by reference.

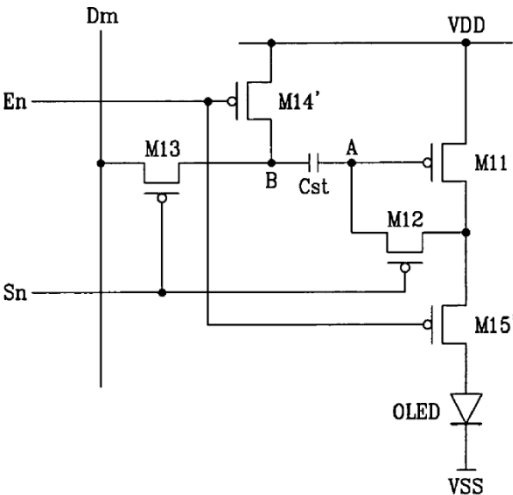
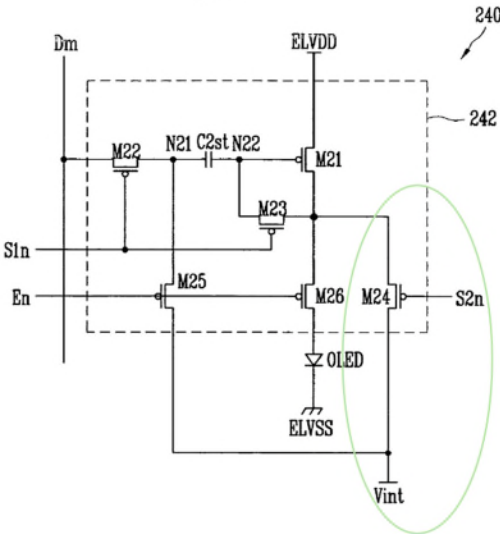
Secondary References:

- Certified translation of Korean Patent Pub. No. KR100562664, filed on May 06, 2004, and published on Nov. 11, 2005, qualifies as prior art at least under pre-AIA 35 U.S.C. § 102(a), (e) (“Chung”).
- U.S. Patent Pub. No. 2007/0103406 filed on Sept. 12, 2006, and published on May 10, 2007, qualifies as prior art at least under pre-AIA 35 U.S.C. § 102(a), (e) (“Kim406”).
- U.S. Patent Publication No. 2010/0013816, filed on July 10, 2009, and published on Jan. 21, 2010, qualifies as prior art at least under pre-AIA 35 U.S.C. § 102(a), (b), (e) (“Kwak”).
- U.S. Patent Publication No. 2012/0001893, filed on Nov. 8, 2010, and published on Jan. 5, 2012, qualifies as prior art at least under pre-AIA 35 U.S.C. § 102(a), (e) (“Jeong”).

Claim Language	Exemplary Citations in Kim730
[1pre] An organic light emitting display, comprising:	To the extent the preamble is limiting, Kim730 discloses preamble. Kim730 discloses “[a]n organic light emitting display.”  <i>See e.g.</i> : Kim730 at Abstract, [0003], [0014]-[0018], [0025]-[0026], [0071]-[0074], Figs. 1-2.  <i>See also</i> individual limitations below.
[1a] a data line for transmitting a data signal;	Kim730 discloses “a data line for transmitting a data signal.”  <i>See e.g.</i> : Kim730 at Abstract, [0018], [0025]-[0026], [0041]-[0044], [0050], Figs. 1-2, 4, 6-8, 10.

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[1b] a first scan line for transmitting a first scan signal;	Kim730 discloses “a first scan line for transmitting a first scan signal.” <i>See e.g.</i> : Kim730 at Abstract, [0018], [0025]-[0026], [0041]-[0044], [0050], Figs. 1-2, 4, 6-8, 10.
[1c] a second scan line for transmitting a second scan signal;	Kim730 discloses “a second scan line for transmitting a second scan signal.” <i>See e.g.</i> : Kim730 at Abstract, [0018], [0025]-[0026], [0041]-[0044], [0050], Figs. 1-2, 4, 6-8, 10.
[1d] a transmission line for transmitting an emission signal;	Kim730 discloses “a transmission line for transmitting an emission signal.” <i>See e.g.</i> : Kim730 at Abstract, [0018], [0025]-[0026], [0041]-[0044], [0050], Figs. 1-2, 4, 6-8, 10.
[1e] an input unit, electrically connected to the data line and the first scan line, for outputting a preliminary control voltage according to the data signal and the first scan signal;	Kim730 discloses “an input unit, electrically connected to the data line and the first scan line, for outputting a preliminary control voltage according to the data signal and the first scan signal.” <i>See e.g.</i> : Kim730 at Abstract, [0041]-[0044], [0050], [0053]-[0054], [0060]-[0064], Figs. 6, 8, 10.
[1f] a voltage adjustment unit, electrically connected to the transmission line and the input unit, for adjusting the preliminary control voltage according to the emission signal and a second reference voltage;	Kim730 discloses “a voltage adjustment unit, Electrically connected to the transmission line and the input unit, for adjusting the preliminary control voltage according to the emission signal and a second reference voltage” <i>See e.g.</i> : Kim730 at Abstract, [0025]-[0026], [0050], [0052]-[0060], [0061]-[0070], Figs. 6-8, 10.  <b><u>Kim730 in combination with Chung</u></b> Kim730 in combination with Chung renders obvious this limitation. Kim730 and Chung are analogous prior art to the 757 patent, as each relates to the pixel circuit design for an organic light emitting display comprising a data line, a first and second scan lines, a transmission line, an input unit, a voltage adjustment unit, a couple unit, a driving unit, a first and second reset unit, an organic light emitting diode, and an emission enable unit. A POSITA would have been motivated to combine these references to improve the pixel display output of Kim730 by

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	<p>integrating the second power voltage <math>V_{sus}</math> of Chung with the pixel circuit design of Kim730 for the voltage adjustment unit.</p> <p><i>See e.g.</i>: Chung at 6-8, Figs. 6-7, 9-10.</p> <p>A POSITA would have been motivated to apply the teachings of Chung where a second power voltage <math>V_{sus}</math> (i.e., a second reference voltage) is provided for the voltage adjustment unit M5. A POSITA would have had a reasonable expectation of success in combining the pixel circuit of Kim730 with the pixel circuit of Chung, as both references disclose pixel circuit design aimed at improving the function of an OLED display device. Moreover, the combination of Kim730 and Chung would involve known methods to yield predictable results.</p>
[1g] a couple unit, electrically connected to the input unit and the voltage adjustment unit, for adjusting a control voltage through coupling a change of the preliminary control voltage;	<p>Kim730 discloses “a couple unit, electrically connected to the input unit and the voltage adjustment unit, for adjusting a control voltage through coupling a change of the preliminary control voltage.”</p> <p><i>See e.g.</i>: Kim730 at Abstract, [0025]-[0026], [0046]-[0048], [0050], [0053]-[0055], [0060]-[0065], Figs. 6, 8, 10.</p>
[1h] a driving unit, electrically connected to the couple unit, for providing a driving current and a driving voltage according to the control voltage and a first power voltage;	<p>Kim730 discloses “a driving unit, electrically connected to the couple unit, for providing a driving current and a driving voltage according to the control voltage and a first power voltage.”</p> <p><i>See e.g.</i>: Kim730 at Abstract, [0013]-[0014], [0026], [0043], [0045], [0058]-[0060], [0061]-[0066], [0069]-[0073], Figs. 6, 8, 10.</p>
[1i] a first reset unit, electrically connected to the driving unit and the second scan line, for resetting the driving voltage according to the	<p>Kim730 discloses “a first reset unit, electrically connected to the driving unit and the second scan line, for resetting the driving voltage according to the second scan signal and a first reference voltage.”</p> <p><b><u>Kim730 in combination with Kim406</u></b></p>

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<p>second scan signal and a first reference voltage;</p>	<p>The combination of Kim730 and Kim406 renders obvious this limitation. A POSITA would have been motivated to integrate the first reset unit (M24 of Fig. 6) of Kim406 with the pixel circuit design of Figure 8 of Kim730.</p> <p><i>See e.g.: Kim406 at Figs. 7-8, [0052]-[0060], [0067].</i></p> <p>Kim730 shares the common inventor with Kim406 and discloses similar OLED pixel driving circuits.</p> <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;"> <p>FIG. 8</p>  </div> <div style="text-align: center;"> <p>FIG. 6</p>  </div> </div> <p>Above are Figure 8 (left) of Kim730 and Figure 6 (right) of Kim406. The differences in the circuits are 1) Kim730's voltage adjustment unit (M14') is connected to VDD while Kim406's (M25) is connected to Vint and 2) Kim406 includes a first reset unit M24 for resetting the driving voltage using S2n, first reference voltage Vint and also as a second reference voltage Vint for M25.</p>

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	<p>It would have been obvious to a POSITA to modify the adjustment unit in Kim406 (M25) to use VDD as the reference voltage, instead of Vint, based on the teachings of Kim730. Kim730 explains how the voltage adjustment unit M14' can be connected to VDD to make a voltage adjustment. <i>e.g.</i>: Kim730 at Figs. 7-8, [0052]-[0060], [0067]. Kim730 explains how M14' can be connected to a third voltage “V<sub>sus</sub>” to make a voltage adjustment. <i>Id.</i>, Fig. 10 [0062]-[0068]. Thus, a POSITA would have understood each of these options was a known design choice. And because it was known to connect voltage adjustment units to VDD, VSS, or a third voltage source, none of those design choices is novel or non-obvious. In the combination a POSITA would have also understood to continue to use Vint (instead of VDD) at M24 to ensure M23 and M24 ensure M21 is put in a conductive state for reset as disclosed by Kim406 and because the voltage value of the “initialization power source Vint is set to be smaller than the voltage value of the data signal” which would not be true for VDD. Kim406, [0064].</p> <p>A POSITA would also have been motivated to use different reference voltage sources for each unit in order to use the optimum reference voltage for that unit to improve the efficiency and performance of the pixel circuit. Each of these voltage adjustments is different. Thus, using a reference voltage that is tailored to each particular desired voltage adjustment would improve the speed of the pixel circuit and reduce the overall power consumption of the pixel circuit. It was known that using different reference voltage sources would also reduce the voltage swing for driving the OLED display. A POSITA would have known of these advantages and how significant they can become for large displays with thousands of pixels.</p> <p>A POSITA would have had a reasonable expectation of success in making the modification. Kim730 teaches it was a known technique in the art to use VDD to perform a positive voltage adjustment and that each of the design choices could be used for a circuit. Kim406, Figs. 6-10 and accompanying text.</p>
[1j] a second reset unit, electrically connected to the driving unit, the first reset unit and the first scan line, for resetting the control	Kim730 discloses “a second reset unit, electrically connected to the driving unit, the first reset unit and the first scan line, for resetting the control voltage according to the first scan signal and the driving voltage.”

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voltage according to the first scan signal and the driving voltage;	<i>See e.g.</i> : Kim730 at Abstract, [0050], [0053]-[0054], [0060]-[0064], [0069], Figs. 6, 8, 10.
[1k] an organic light emitting diode for generating output light according to the driving current; and	<p>Kim730 discloses “an organic light emitting diode for generating output light according to the driving current; and.”</p> <p><i>See e.g.</i>: Kim730 at Abstract, [0007]-[0013], [0046]-[0048], [0056]-[0061], [0066]-[0068], Figs. 2, 6-10.</p>
[1l] an emission enable unit, electrically connected to the transmission line, the driving unit and the organic light emitting diode, for providing a control of furnishing the driving current to the organic light emitting diode according to the emission signal.	<p>Kim730 discloses “an emission enable unit, electrically connected to the transmission line, the driving unit and the organic light emitting diode, for providing a control of furnishing the driving current to the organic light emitting diode according to the emission signal.”</p> <p><i>See e.g.</i>: Kim730 at Abstract, [0007]-[0009], [0050]-[0051], [0056], [0060]-[0061], [0066]-[0070], Figs. 2, 6, 8, 10.</p>
16. The organic light emitting display of claim 1, wherein the organic light emitting diode comprises an anode electrically connected to the emission enable unit and a cathode for receiving a second power voltage.	<p>Kim730 discloses “[t]he organic light emitting display of claim 1, wherein the organic light emitting diode comprises an anode electrically connected to the emission enable unit and a cathode for receiving a second power voltage.”</p> <p><i>See</i> limitation 1[k].</p> <p><i>See e.g.</i>: Kim730 at Abstract, [0003], [0014]-[0018], [0025]-[0026], [0071]-[0074], Figs. 1-2, 6, 8, 10.</p> <p><b><u>Kim730 in combination with Kwak</u></b></p> <p>Kim730 in combination with Kwak renders obvious this limitation. Kim730 and Kwak are analogous prior art to the 757 patent, as each relates to the pixel circuit design for an organic light emitting display comprising a data line, a first and second scan lines, a transmission line, an input unit, a voltage adjustment unit, a couple unit, a driving unit, a first and second reset unit, an</p>

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	<p>organic light emitting diode, and an emission enable unit. A POSITA would have been motivated to combine these references to improve the pixel display output of Kim730 by integrating the electrical connection of the cathode of the organic light emitting diode to a second power voltage (ELVSS) of Kwak with the pixel circuit design of Kim730 for the OLED element.</p> <p><i>See e.g.:</i> Kwak at [0032], [0036]-[0037], [0049], [0064], [0069], Figs. 2, 4.</p> <p>A POSITA would have been motivated to apply the teachings of Kwak where the cathode of the OLED is connected to a second power voltage ELVSS (i.e., a second power voltage). A POSITA would have had a reasonable expectation of success in combining the pixel circuit of Kim730 with the pixel circuit of Kwak, as both references disclose pixel circuit design aimed at improving the function of an OLED display device. Moreover, this combination would involve known methods to yield predictable results.</p> <p><b><u>Kim730 in combination with Jeong</u></b></p> <p>Kim730 in combination with Jeong renders obvious this limitation. Kim730 and Jeong are analogous prior art to the 757 patent, as each relates to the pixel circuit design for an organic light emitting display comprising a data line, a first and second scan lines, a transmission line, an input unit, a voltage adjustment unit, a couple unit, a driving unit, a first and second reset unit, an organic light emitting diode, and an emission enable unit. A POSITA would have been motivated to combine these references for the same reasons as stated above.</p> <p><i>See e.g.:</i> Jeong at [0040], [0043], [0054], [0063], [0088], Figs. 2, 4A, 4C, 4E, 4G.</p> <p>A POSITA would have been motivated to apply the teachings of Jeong where the cathode of the OLED is connected to a second power voltage ELVSS (i.e., a second power voltage). A POSITA would have had a reasonable expectation of success in combining the pixel circuit of Kim730 with the pixel circuit of Jeong, as both references disclose pixel circuit design aimed at improving the function of an OLED display device. Moreover, this combination would involve known methods to yield predictable results.</p>