



US00D971861S

(12) **United States Design Patent** (10) **Patent No.:** **US D971,861 S**  
**Schemmel et al.** (45) **Date of Patent:** **\*\* Dec. 6, 2022**

- (54) **HUMAN MACHINE INTERFACE FOR A CONTROLLER**
- (71) Applicant: **THERMO KING LLC**, Minneapolis, MN (US)
- (72) Inventors: **Shawn Alan Schemmel**, Prior Lake, MN (US); **Russell L. Sanders**, Minnetonka, MN (US); **Adam Howard Raybin**, Burnsville, MN (US); **David Patrick O’Gorman**, Glasgow (GB); **Sean Keaveney**, Galway (IE); **Joshua Hubert**, Evans, GA (US); **Diarmaid Thomas Bucke**, Patrickswell (IE); **Shiva Kumar Dakshina Murthy**, Bangalore (IN); **Jonathan W. Blixt**, St. Cloud, MN (US); **John M. Gladitsch**, Fargo, ND (US)
- (73) Assignee: **Thermo King LLC**, Minneapolis, MN (US)
- (\*\*) Term: **15 Years**
- (21) Appl. No.: **29/790,040**
- (22) Filed: **Nov. 1, 2021**

**Related U.S. Application Data**

- (62) Division of application No. 29/717,274, filed on Dec. 16, 2019, now Pat. No. Des. 935,423.
- (51) **LOC (13) Cl.** ..... **13-03**
- (52) **U.S. Cl.**  
USPC ..... **D13/177; D13/162; D15/28**
- (58) **Field of Classification Search**  
USPC ..... D13/162, 164, 173, 177; D14/157, 188, D14/217, 257, 258, 308, 388, 441, 443, D14/450; D15/28; D23/324  
CPC ..... H01H 3/02; H01H 3/022; H01H 3/12; H01H 3/122; H01H 9/02; H01H 9/0235; H01H 13/023; H01H 13/04; H01H 13/06;

(Continued)

- (56) **References Cited**
- U.S. PATENT DOCUMENTS
- D307,675 S \* 5/1990 Jordan ..... D6/300  
D348,661 S \* 7/1994 Hansen ..... D14/389
- (Continued)
- Primary Examiner* — Selina Sikder  
(74) *Attorney, Agent, or Firm* — Hamre, Schumann, Mueller & Larson, P.C.

- (57) **CLAIM**
- The ornamental design for a human machine interface for a controller, as shown and described.

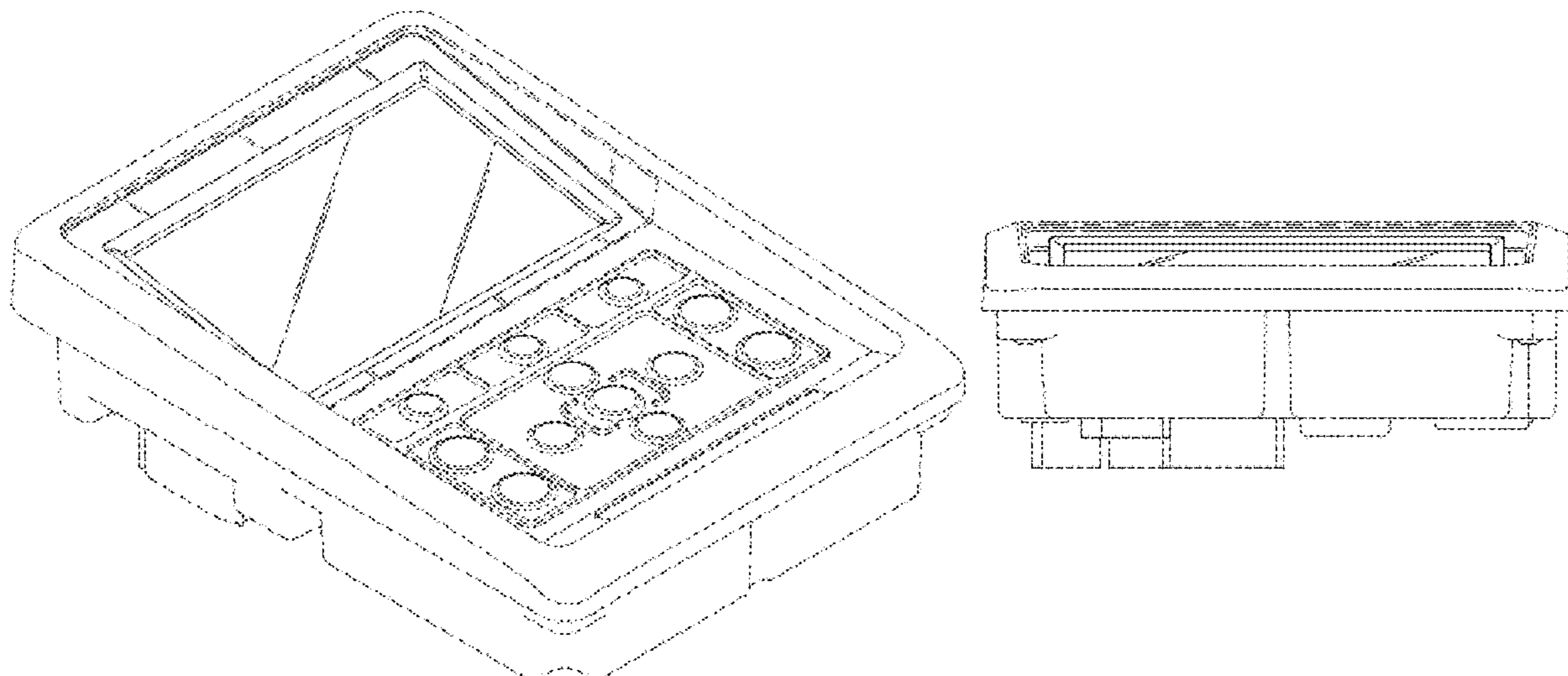
**DESCRIPTION**

FIG. 1 is a front perspective view of a human machine interface for a controller showing our new design; FIG. 2 is a front elevation view thereof; and, FIG. 3 is a top plan view thereof.

We note that the human machine interface for a controller shown in FIGS. 1-13 can be used, for example, in transport applications. For example, the human machine interface can be for a controller used to control a transport climate control system. The transport climate control system can be used to control environmental condition(s) (e.g., temperature, humidity, air quality, and the like) within a climate controlled space of a transport unit (e.g., a truck, a container (such as a container on a flat car, an intermodal container, etc.), a box car, a semi-tractor, a bus, or other similar transport unit). The transport climate control system can include, for example, a transport refrigeration system (TRS) and/or a heating, ventilation and air conditioning (HVAC) system.

The even spaced broken lines in the drawings depict portions of the controller that form no part of the claimed design. The dash-dot-dash broken lines define the bounds of the claim design and form no part thereof.

**1 Claim, 3 Drawing Sheets**



- (58) **Field of Classification Search**  
 CPC ..... H01H 13/063; H01H 13/10; H01H 13/12;  
 H01H 13/142; H01H 13/20; H01H 13/30;  
 B60K 37/06; B60N 2/14; B60N 2/797;  
 G01C 21/16; G08G 1/096; G08G 1/883;  
 F25D 29/003; F25D 29/005; F25D  
 2400/36  
 See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

D349,102 S 7/1994 Ziegler et al.  
 D362,427 S \* 9/1995 Mizusugi ..... D18/4.4  
 D382,569 S \* 8/1997 Esposito ..... D15/28  
 D434,425 S \* 11/2000 Rossow ..... D15/28  
 D464,948 S \* 10/2002 Vasquez ..... D14/218  
 D490,727 S 6/2004 Kidō et al.  
 D512,026 S 11/2005 Nurmi et al.  
 D512,691 S 12/2005 Hisatsune  
 D520,883 S 5/2006 Hillard et al.  
 D520,885 S 5/2006 Takach et al.  
 D542,504 S \* 5/2007 Yanagida ..... D34/35  
 D556,698 S 12/2007 Walser  
 D557,221 S 12/2007 Ewringmann  
 D557,645 S \* 12/2007 Akagawa ..... D12/192  
 D559,792 S 1/2008 Gemme et al.  
 D567,189 S 4/2008 Stiles, Jr. et al.  
 D567,513 S \* 4/2008 Fang ..... D14/496  
 D575,239 S 8/2008 Shah  
 D583,687 S \* 12/2008 Menges ..... D10/102  
 D588,250 S \* 3/2009 Lohrding ..... D23/324  
 D596,587 S \* 7/2009 Gaertner ..... D13/162  
 D599,075 S \* 8/2009 Shibata ..... D34/35  
 D607,418 S 1/2010 Kleman et al.  
 D610,553 S 2/2010 Makela  
 D611,005 S \* 3/2010 Lanfear ..... D13/162  
 D611,007 S 3/2010 Kangas  
 D611,430 S 3/2010 Stiles, Jr. et al.  
 D612,339 S 3/2010 Braun et al.  
 D612,503 S \* 3/2010 Johnston ..... D24/186  
 D628,603 S 12/2010 Berning et al.  
 D640,640 S 6/2011 DuckWOrth et al.  
 D642,132 S \* 7/2011 Brennan, III ..... D13/164  
 D646,990 S 10/2011 Rhodes  
 D648,641 S 11/2011 Wallaert et al.  
 D648,642 S 11/2011 Wallaert et al.  
 D659,560 S 5/2012 Rhodes  
 D659,939 S \* 5/2012 Saitou ..... D15/28  
 D661,266 S \* 6/2012 Laube ..... D14/126  
 D662,837 S 7/2012 Morrow  
 D662,838 S 7/2012 Morrow  
 D662,839 S 7/2012 Morrow  
 D663,224 S 7/2012 Morrow  
 D672,262 S 12/2012 Holland et al.  
 D672,666 S 12/2012 Rhodes et al.  
 D675,542 S 2/2013 Breuer  
 D679,204 S 4/2013 Breuer  
 D679,205 S 4/2013 Eyring et al.  
 D679,789 S \* 4/2013 Thao ..... D23/324  
 D688,955 S 9/2013 Deligiannis et al.

D689,028 S 9/2013 Ewringmann  
 D689,443 S 9/2013 Ewringmann  
 D695,234 S 12/2013 Santiago et al.  
 D699,130 S 2/2014 Rhodes et al.  
 D716,298 S 10/2014 De La Cruz et al.  
 D717,673 S 11/2014 Eyring et al.  
 D720,242 S 12/2014 Kostelecky et al.  
 D723,007 S 2/2015 Oh  
 D731,560 S 6/2015 Schmaltz et al.  
 D733,591 S 7/2015 Golden et al.  
 D734,276 S 7/2015 Wiesbaum  
 D737,154 S 8/2015 Jacoby et al.  
 D738,755 S 9/2015 Druce  
 D738,756 S 9/2015 Jiang et al.  
 D738,830 S 9/2015 Suthmann  
 D742,332 S \* 11/2015 Matsuguma ..... D13/162  
 D752,115 S \* 3/2016 Ewringmann ..... D15/28  
 D752,116 S \* 3/2016 Ewringmann ..... D15/28  
 D752,657 S \* 3/2016 Ewringmann ..... D15/28  
 D761,741 S 7/2016 Santiago et al.  
 D762,495 S 8/2016 Tanaka et al.  
 D762,497 S 8/2016 Tanaka et al.  
 D763,201 S 8/2016 Burkell et al.  
 D768,580 S \* 10/2016 Thompson ..... D13/164  
 D784,168 S 4/2017 Jacoby et al.  
 D788,715 S 6/2017 Ewringmann et al.  
 D788,716 S 6/2017 Ewringmann et al.  
 D797,580 S 9/2017 Read et al.  
 D800,075 S 10/2017 Cooksey et al.  
 D801,287 S 10/2017 Tehranchi  
 D801,939 S 11/2017 Mäkelä et al.  
 D802,450 S 11/2017 Boynton et al.  
 D803,705 S 11/2017 Read et al.  
 D804,431 S \* 12/2017 Abellera ..... D13/162  
 D807,763 S 1/2018 Jacoby et al.  
 D809,943 S 2/2018 Jacoby et al.  
 D821,454 S \* 6/2018 Maibach ..... D15/28  
 D828,816 S 9/2018 Spors et al.  
 D832,118 S 10/2018 Higashijima et al.  
 D832,722 S 11/2018 Farenski  
 D834,541 S \* 11/2018 You ..... D13/168  
 D835,052 S 12/2018 Jokiniemi et al.  
 D835,053 S 12/2018 Jokiniemi et al.  
 D843,239 S 3/2019 Read et al.  
 D843,859 S 3/2019 Thoren et al.  
 D854,429 S 7/2019 Gentle et al.  
 D862,255 S 10/2019 Erbacher et al.  
 D868,602 S 12/2019 Pennebaker, III  
 10,501,972 B2 12/2019 Twigg, III et al.  
 D875,052 S 2/2020 Zhou et al.  
 D883,235 S 5/2020 Zhou et al.  
 D891,381 S 7/2020 Wareham et al.  
 D904,469 S 12/2020 Loew  
 D916,954 S \* 4/2021 De Beule ..... D18/4.4  
 D931,281 S \* 9/2021 Turk ..... D13/164  
 D935,423 S \* 11/2021 Schemmel ..... D15/28  
 D949,764 S \* 4/2022 Fowler ..... D15/28  
 D954,002 S \* 6/2022 Thompson ..... D13/162  
 2013/0145460 A1 6/2013 Dudley et al.  
 2013/0258567 A1 10/2013 Eul et al.  
 2020/0087611 A1 \* 3/2020 He ..... G01N 21/645

\* cited by examiner

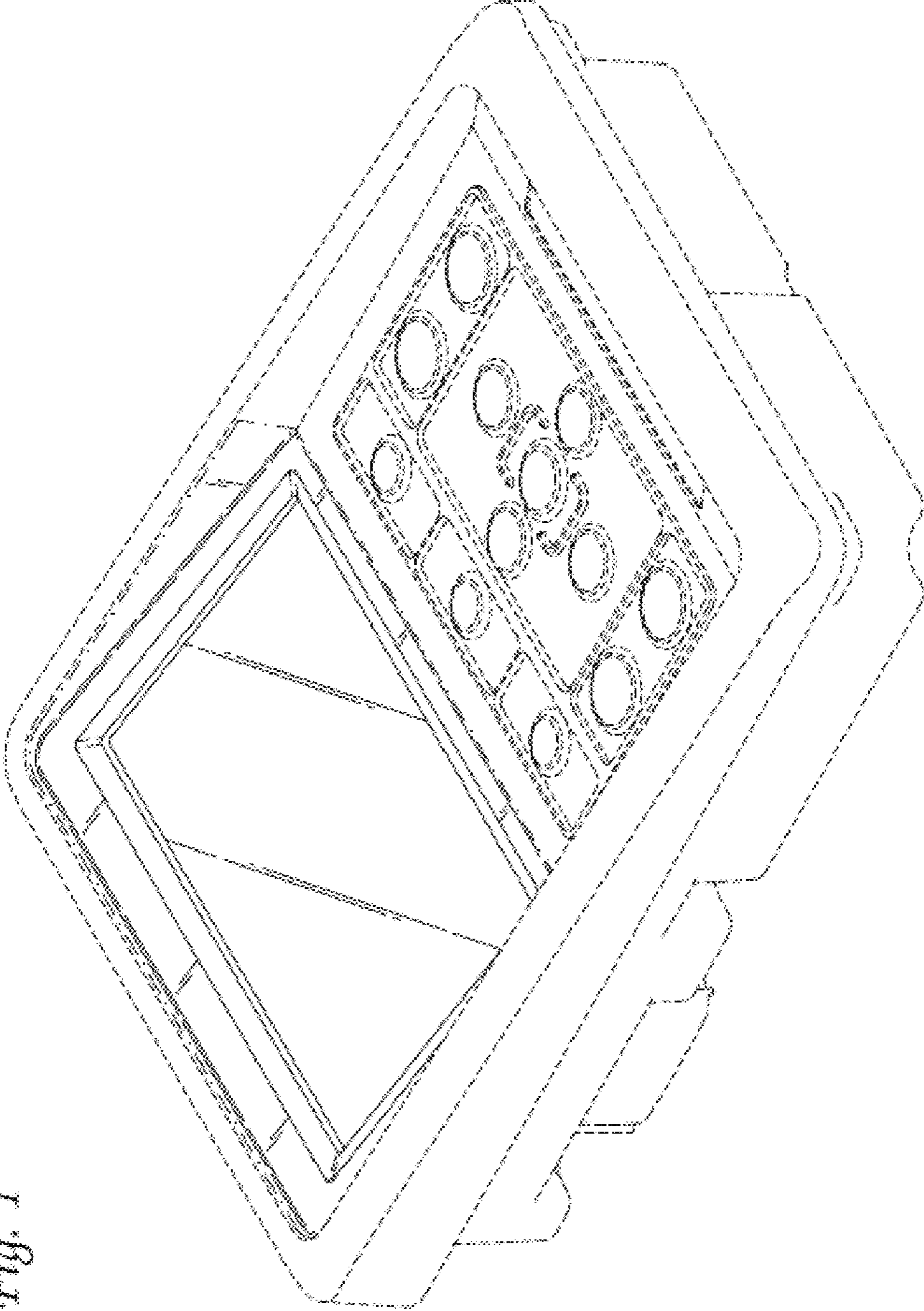
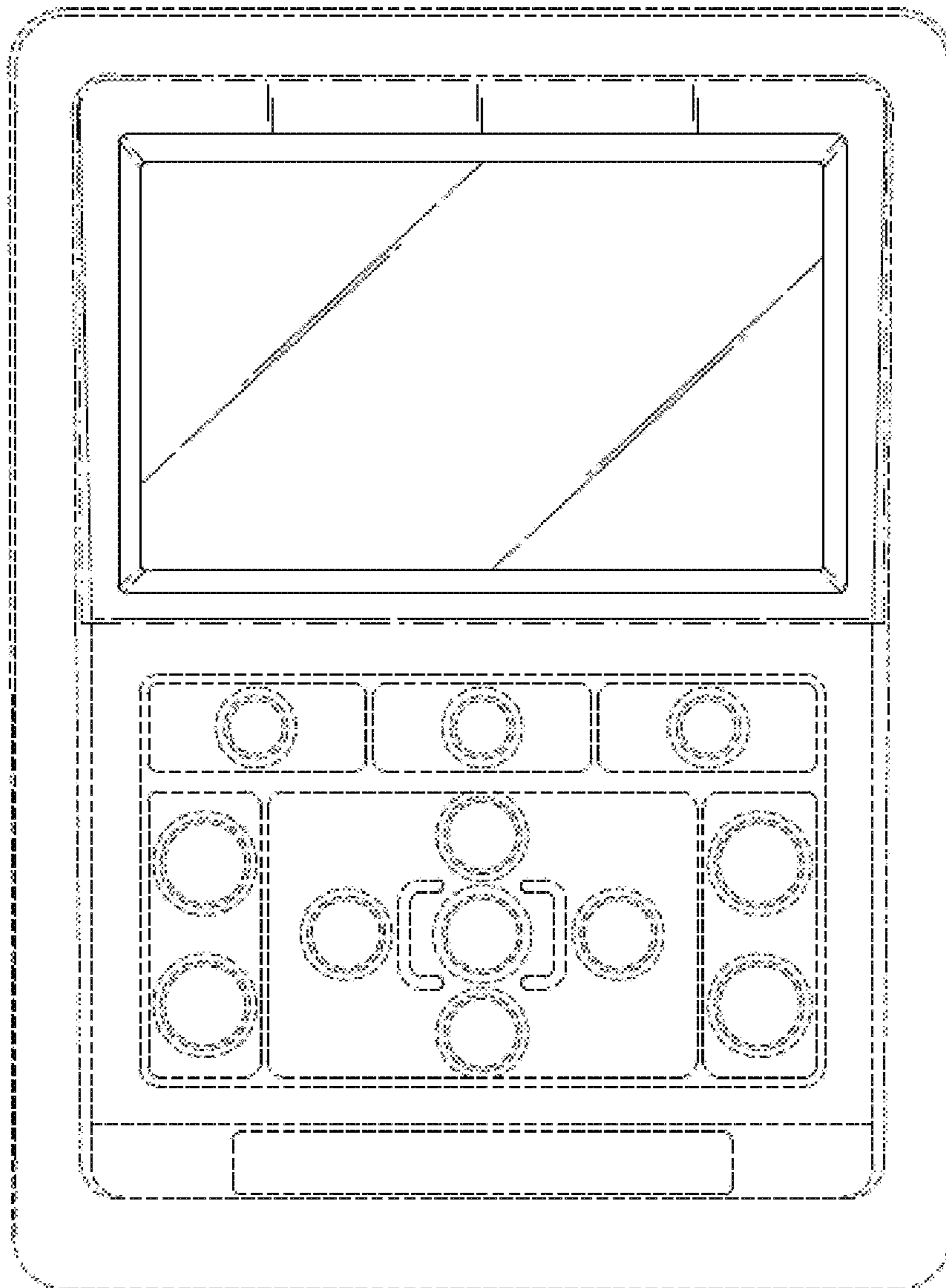


Fig. 1

*Fig. 2*



*Fig. 3*

