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(12) **United States Design Patent** (10) **Patent No.:** **US D973,606 S**
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(54) **HUMAN MACHINE INTERFACE FOR A CONTROLLER**
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Related U.S. Application Data

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(51) **LOC (13) Cl.** **13-03**
(52) **U.S. Cl.**
USPC **D13/164; 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

(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)

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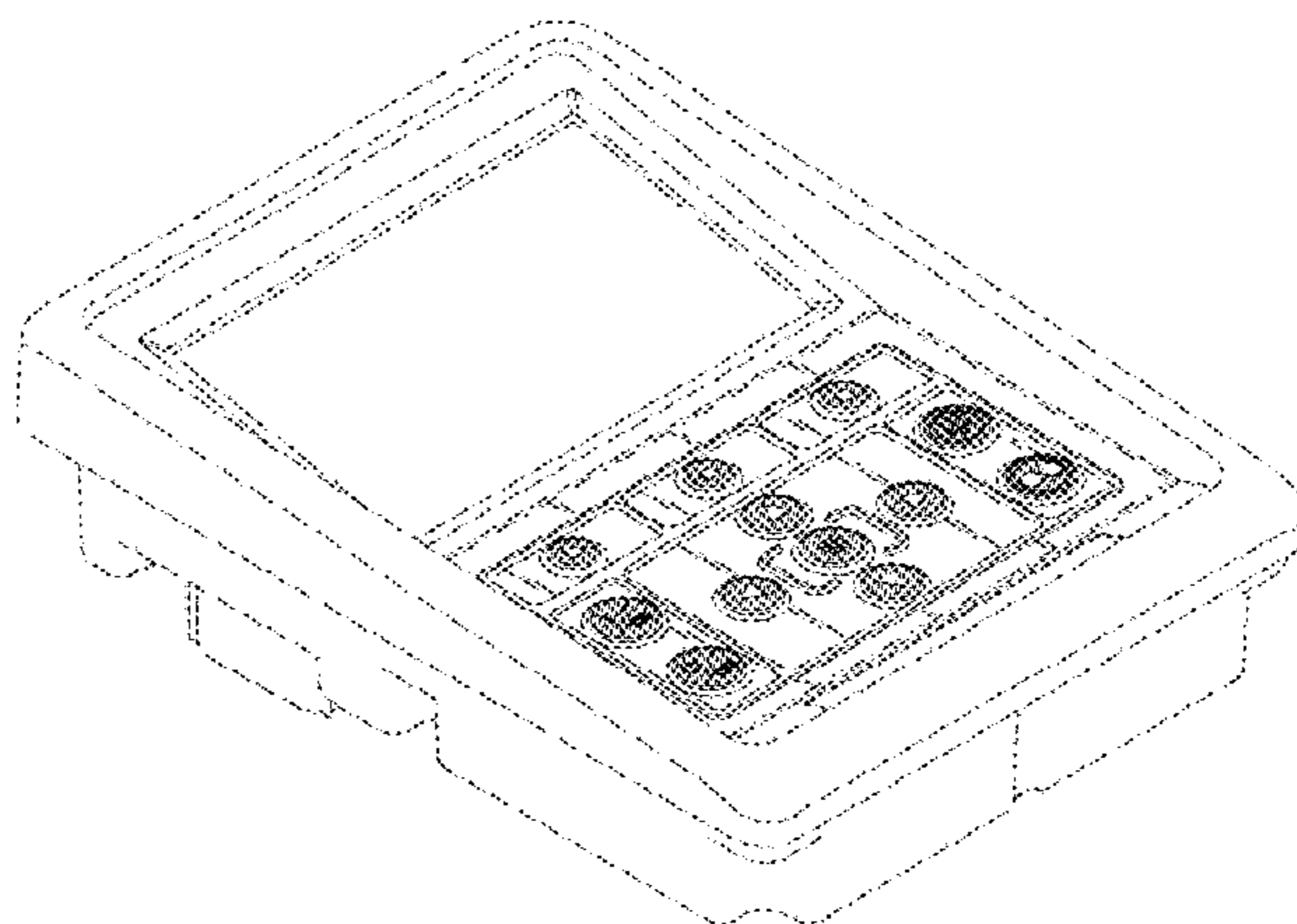
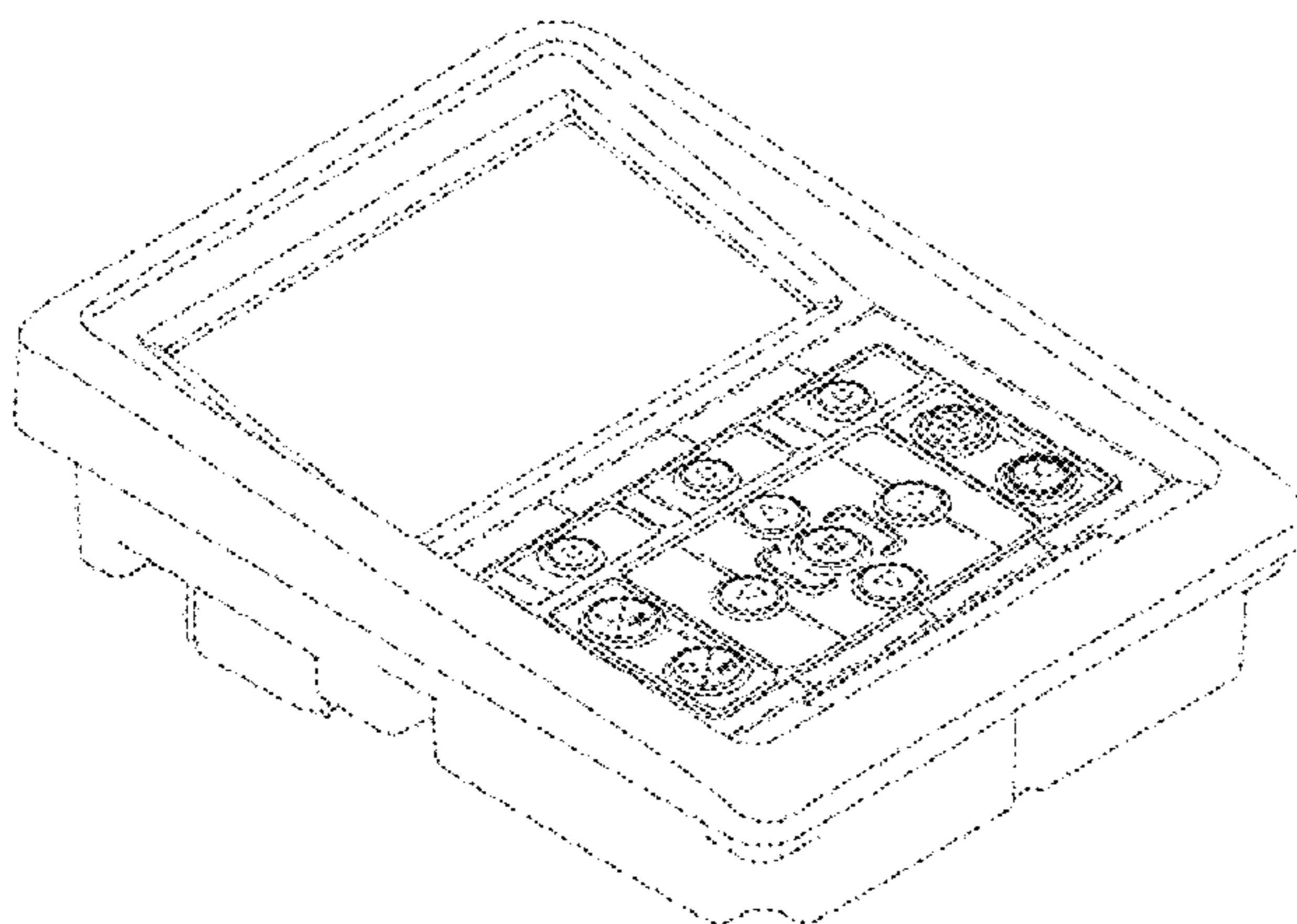
(57) **CLAIM**
The ornamental design for a human machine interface for a controller, as shown and described.

DESCRIPTION

FIG. 1 is a front perspective view of a human machine interface for a controller showing our new design according to a first embodiment shown in an off state; FIG. 2 is a front elevation view thereof; FIG. 3 is a front perspective view of a human machine interface for a controller according to a second embodiment shown in an on state; and, FIG. 4 is a front elevation view thereof.

We note that the human machine interface for a controller shown in FIGS. 1-4 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

(Continued)



include, for example, a transport refrigeration system (TRS) and/or a heating, ventilation and air conditioning (HVAC) system.

The broken lines in FIGS. 1-4 depict portions of the human machine interface fora controller that form no part of the claimed design. The dash dot dash broken lines immediately adjacent to shaded surfaces form a boundary of the claim. The diagonal hatching shown in FIGS. 3 and 4 depict illumination in a on state.

1 Claim, 4 Drawing Sheets

(58) Field of Classification Search

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; 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 Kidó 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

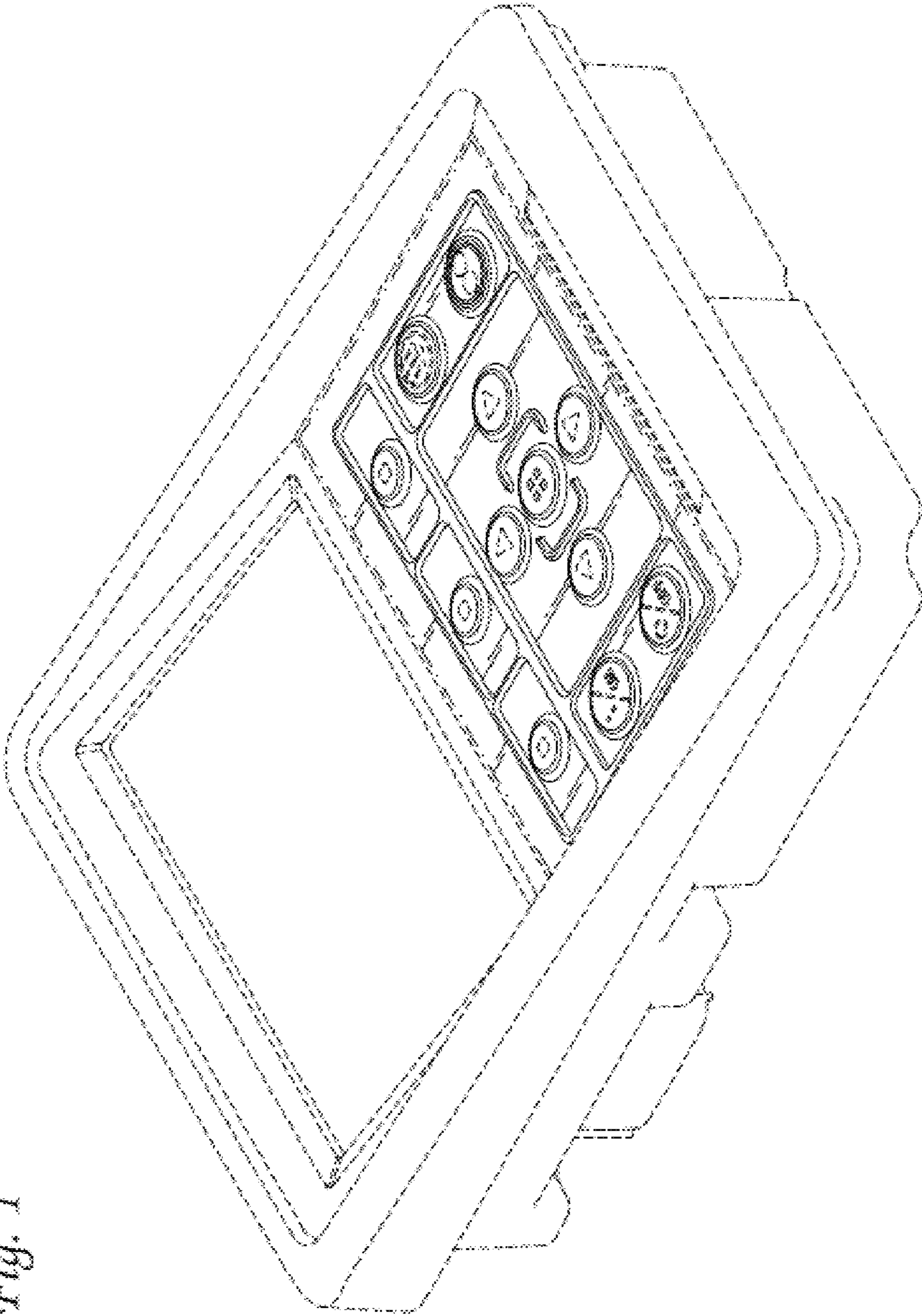
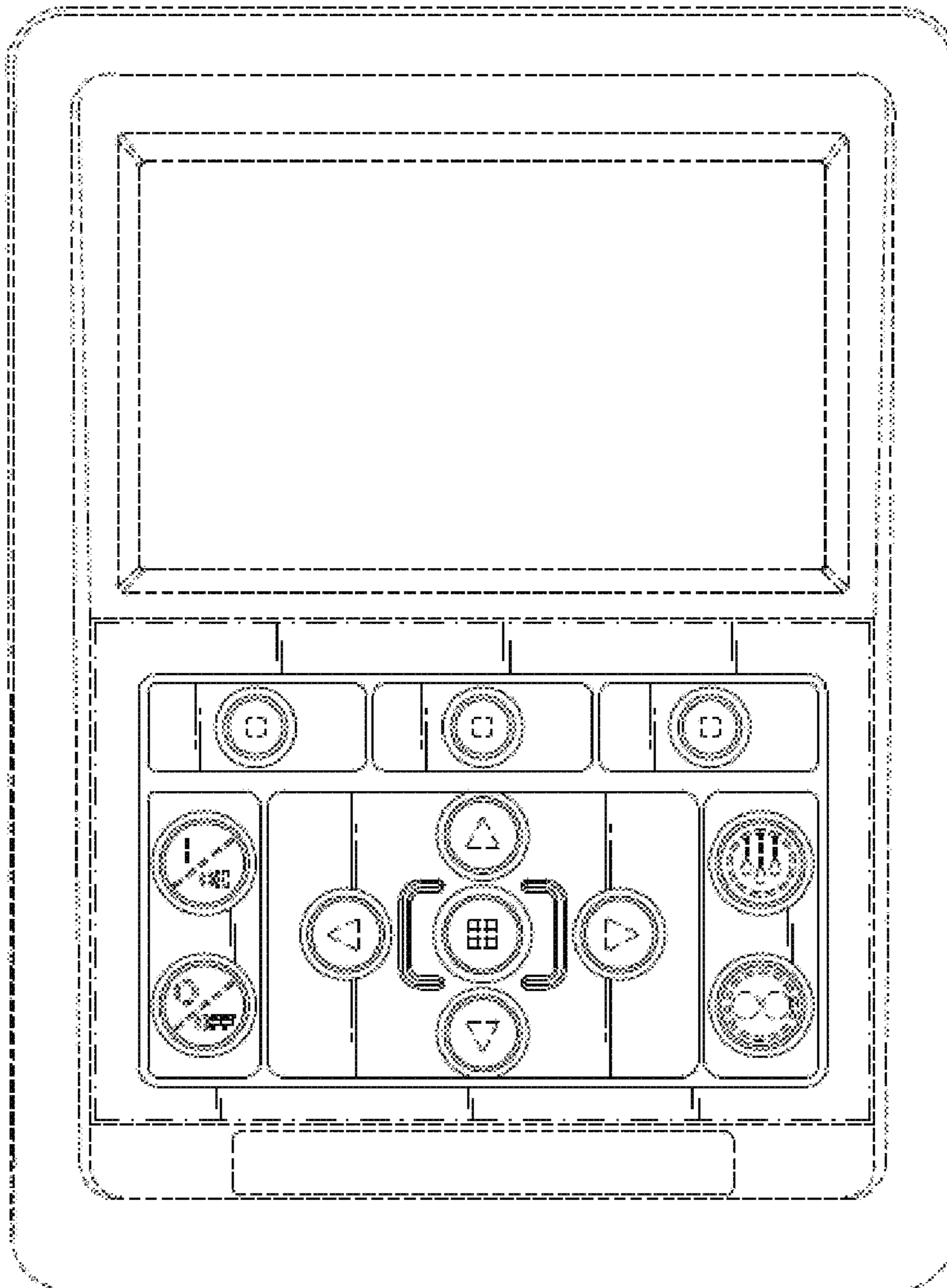


Fig. 1

Fig. 2



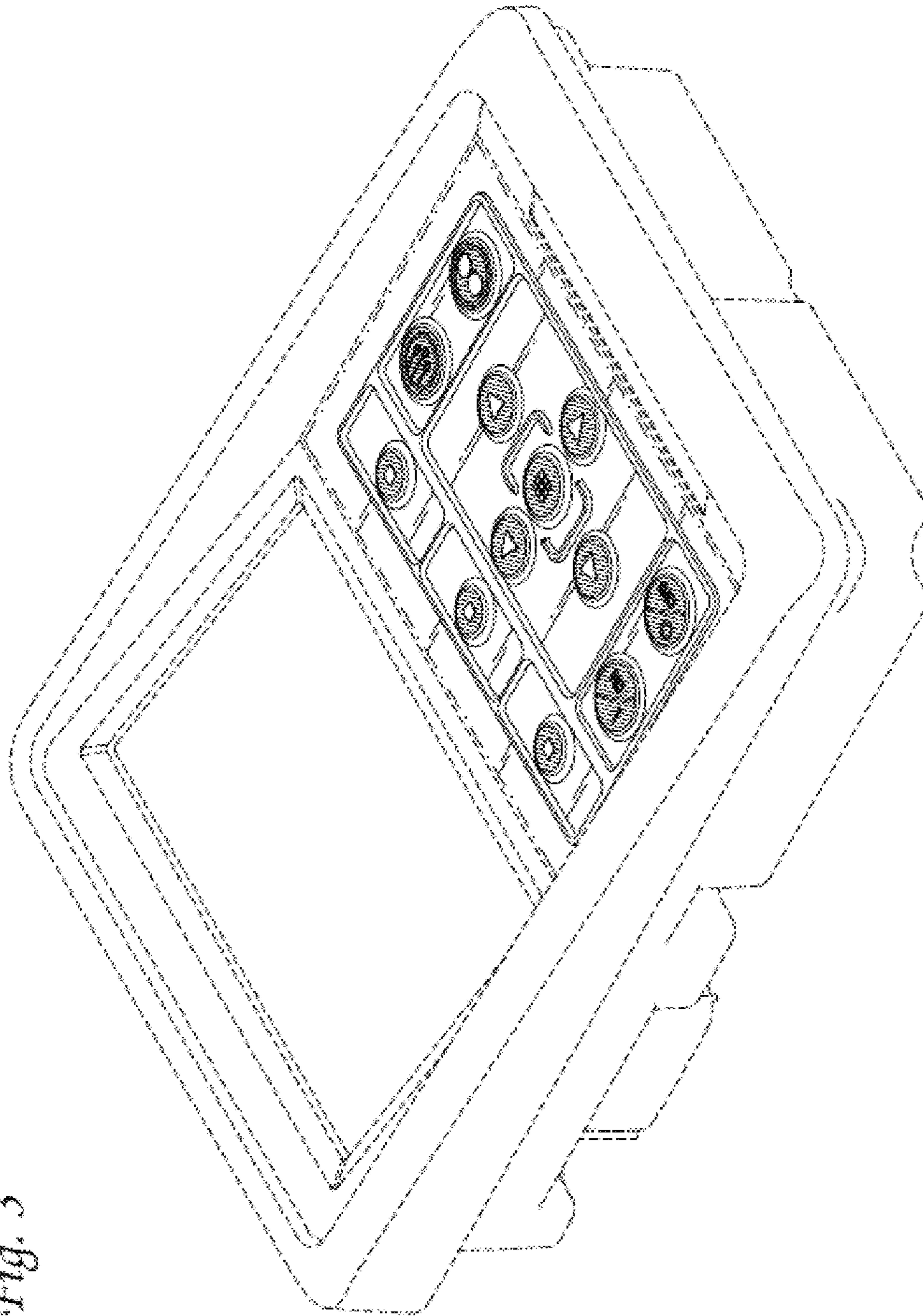


Fig. 3

Fig. 4

