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Touch and interactive displays -
Part 1-3: Generic - ~~General introduction to~~ Overview of pen touch technology

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CONTENTS

FOREWORD 3
INTRODUCTION 5
1 Scope 6
2 Normative references 6
3 Terms, definitions and abbreviated terms 6
3.1 Terms and definitions 6
3.2 Abbreviated terms 6
4 Generic information on pen touch technology 7
4.1 General 7
4.2 Classification 7
4.3 Sensing technology for touch pen 9
4.3.1 General 9
4.3.2 Resistive type panel structure and sensing method 9
4.3.3 Capacitive type panel structure and sensing method 10
4.3.4 EMI type panel structure and sensing method 10
4.3.5 Optical type panel structure and sensing method 11
4.3.6 Ultrasonic type panel structure and sensing method 11
4.4 Touch pen architecture 12
4.4.1 General 12
4.4.2 Passive stylus pen 12
4.4.3 Active stylus pen 13
5 Pen touch characteristics 17
5.1 General 17
5.2 Basic characteristics of pen touch 17
5.3 Unique and important characteristics of pen touch 17
5.3.1 General 17
5.3.2 Tracking speed 18
5.3.3 Writing ~~comfort~~ characteristics 18
5.3.4 Position parallax 18
5.3.5 Minimum area and minimum pressure 20
5.3.6 Pressure sensitivity 20
5.3.7 Tilt angle 21
6 Application example for each pen touch technology 21
6.1 General 21
6.2 Passive stylus pen 21
6.3 Active stylus pen 21
6.3.1 General 21
6.3.2 EMI pen 22
6.3.3 Universal pen for PCAP type 23
6.3.4 Type MPP 23
6.3.5 Type AP 23
6.3.6 Type WA Active ES stylus 23
~~6.3.7 Type U (multiple use) ..... 23~~
7 Issue of future pen touch technology 24
7.1 General 24
7.2 Tracking speed 24

7.3 Writing comfort 24
7.4 Combinational use of finger and pen touch 25
7.5 Palm rejection area and pen positional relationship 25
8 Collaboration of hardware and software 25
Annex A (informative) Example of use-case: touch display used in the classroom 27
A.1 Impact of glare on the viewing distance and the posture of the students 27
A.2 Writing and Optical characteristics of anti-glare screen 28
Bibliography 31

Figure 1 – Resistive type panel structure 9
Figure 2 – Capacitive type panel structure 10
Figure 3 – EMI type panel structure 11
Figure 4 – Optical type panel structure 11
Figure 5 – Ultrasonic type panel structure 12
Figure 6 – Example of conductive fibre tip 13
Figure 7 – Example of transparent disk tip 13
Figure 8 – Example of exclusive pen 13
Figure 9 – Example of EMI pens (Type WE) 15
Figure 10 – Example of frictional response between different pen tips and screens 19
Figure 11 – Example of frictional response between paper and pencil, AGL and touch pen, and glass and touch pen 19
Figure 12 – Position parallax 20
Figure 13 – Pen tablet for animation/illustration 22
Figure 14 – Examples of notebook PCs 24
Figure 15 – Example of drawing settings for a software simulating several pen types 26
Figure A.1 – Ambient light sources in the classroom 27
Figure A.2 – Examples of poor postures of the students caused by the glare 28
Figure A.3 – Example of the screen with AGL (left) and without AGL (right) 28
Figure A.4 – Unwanted reflection from measured samples 29
Figure A.5 – Writing and optical characteristics of the measured samples 29
Figure A.6 – Examples of scoring the writing and optical characteristics with the different types of screens 30

Table 1 – Comparison among pointing devices 8
Table 2 – Classification of touch pens 8
Table 3 – Correspondence between touch panel and touch pen 9
Table 4 – Performance comparison of touch pens for PCAP/EMI 16
Table 5 – Basic pen touch characteristics 17
Table 6 – Unique and important characteristics of touch pen 18

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This redline version of the official IEC Standard allows the user to identify the changes made to the previous edition IEC TR 62908-1-3:2021. A vertical bar appears in the margin wherever a change has been made. Additions are in green text, deletions are in strikethrough red text.

IEC TR 62908-1-3 has been prepared by IEC technical committee 110: Electronic displays. It is a Technical Report.

This second edition cancels and replaces the first edition published in 2021. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

a) add writing characteristics as physical properties of interaction between a pen and a surface of a screen;
b) add example of frictional response between paper and pencil, AGL and touch pen, and glass and touch pen;
c) add example of touch display used in the classroom regarding writing and optical characteristics.

The text of this Technical Report is based on the following documents:

Draft	Report on voting
110/1834/DTR	110/1849/RVDTR

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this Technical Report is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

A list of all parts in the IEC 62908 series, published under the general title *Touch and interactive displays*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

– reconfirmed,
– withdrawn, or
– revised.

INTRODUCTION

With the spread of smartphones in recent years, finger touch technology has become widespread throughout the world. The field of popularization has started with smartphones and has spread out with information terminals such as notebook (laptop) PCs and tablets to kiosks, ATMs, sales equipment in the field of social infrastructure, medical equipment for professional use, and construction-related items.

Finger touch technology faces several challenges, such as malfunction due to usage environment, wearing of gloves or water droplets, in addition to difficulty of fine drawing with finger touch, signature input, and so on.

In the early stage of the pen touch technologies, the operating system and application software only supported the same function as finger touch~~, but recently~~. However, a new concept of digital ink has enabled to ~~use not only the data of the entered trajectory, but also~~ treat the progressing data, such as writing pressure, pen angle, and drawing, ~~being~~ in addition to the data of the entered trajectory. These are digitized and saved together with the trajectory data. This means that a new technique with pen input has been developed, which goes beyond the conventional technology of finger touch input.

Based on the above situation, this document aims to focus on the issues related to future standardization by summarizing the sensing methods of pen touch, the types of touch pens and the corresponding technologies, and the market's trend of pen touch technology.

1 Scope

This part of IEC 62908, which is a technical report, provides general information on pen touch technology with the aim toward standardization. This document includes an overview of the pen touch technology, critical performance characteristics, issues of characteristics measurements, and other information.

The purpose of this document is to provide an overview of the different products available in pen touch technology.

~~NOTE~~ The companies and products named in this document do not constitute an endorsement by IEC of these products.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60068-1, *Environmental testing - Part 1: General and guidance*

IEC 62908-1-2, *Touch and interactive displays - Part 1-2: Generic - Terminology and letter symbols*

3 Terms, definitions and abbreviated terms

3.1 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 60068-1 and IEC 62908-1-2 apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

– IEC Electropedia: available at https://www.electropedia.org/

– ISO Online browsing platform: available at https://www.iso.org/obp

3.2 Abbreviated terms

AES active electrostatic

AGL anti-glare layer

AP Apple pencil

API application program(ing) interface

AR/VR augmented reality/virtual reality

ATM automated [automatic] teller machine

DSC Digital Stationery Consortium

EMI electromagnetic induction

EMR electromagnetic resonance

ES electrostatics

IC integrated circuits

MPP Microsoft Pen Protocol