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Simultaneous interpreting delivery platforms — Requirements and recommendations

Plateformes de distribution d'interprétation simultanée — Exigences et recommandations

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Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2. www.iso.org/directives

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This document was prepared by Technical Committee ISO/TC 37, *Language and terminology*, Subcommittee SC 5, *Translation, interpreting and related technology*.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

The use of simultaneous interpreting delivery platforms is a relatively new field of activities for interpreters. Parameters and conditions for using these services in settings where the interpreters are, or are not, in the same room as participants and speakers are still under development. Meanwhile, developers, providers and users need information about basic requirements and recommendations relating to these platforms.

Equipment and facilities for simultaneous interpreting are also covered in ISO 2603, ISO 4043, ISO 20108 and ISO 20109.

For certain settings and specializations, such as multilingual conference interpreting, additional specific provisions are applicable.

This document has been developed as a Publicly Available Specification, prior to the development of an International Standard on simultaneous interpreting delivery platforms. It is likely that the content of this document will form the basis of an ISO standard in due course.

Simultaneous interpreting delivery platforms — Requirements and recommendations

1 Scope

This document specifies requirements and recommendations for using simultaneous interpreting delivery platforms in settings where the interpreters are, or are not, in the same room as participants and speakers at a communicative event.

In conjunction with ISO 20108, this document provides the relevant requirements and recommendations for the quality and transmission of sound and image to interpreters and from interpreters to participants, and for the configuration of the interpreter's working environment.

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.

ISO 639-3, *Codes for the representation of names of languages — Part 3: Alpha-3 code for comprehensive coverage of languages*

ISO 2603:2016, *Simultaneous interpreting — Permanent booths — Requirements*

ISO 4043:2016, *Simultaneous interpreting — Mobile booths — Requirements*

ISO 9241-410, *Ergonomics of human-system interaction — Part 410: Design criteria for physical input devices*

ISO 20108:2017, *Simultaneous interpreting — Quality and transmission of sound and image input — Requirements*

ISO 20109:2016, *Simultaneous interpreting — Equipment — Requirements*

IEC 60268-4, *Sound system equipment — Part 4: Microphones*

IEC 60268-7, *Sound system equipment — Part 7: Headphones and earphones*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

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

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

— IEC Electropedia: available at http://www.electropedia.org/

3.1
interpret
render spoken or signed information from a source language to a target language in oral or signed form, conveying both the register and meaning of the source language content

[SOURCE: ISO 18841:2018, 3.1.1]

3.2
interpreter
person who *interprets* (3.1)

[SOURCE: ISO 18841:2018, 3.1.3]

3.3
interpreting
interpretation
rendering spoken or signed information from a source language to a target language in oral or signed form, conveying both the register and meaning of the source language content

[SOURCE: ISO 18841:2018, 3.1.2]

3.4
simultaneous interpreting
mode of *interpreting* (3.3) performed while a *speaker* (3.17) or *signer* (3.18) is still speaking or signing

[SOURCE: ISO 18841:2018, 3.1.13, modified – the words "or signer" have been added.]

3.5
simultaneous interpreting delivery platform
virtual environment that manages the processing of audio and video signals during the transmission of information from *speakers* (3.17) or *signers* (3.18) to *interpreters* (3.2) and thence to an *audience* (3.16) in *simultaneous interpreting* (3.4)

Note 1 to entry: Other equipment necessary in simultaneous interpreting, such as *interpreter interfaces* (3.6), *microphones* (3.9), *headphones* (3.10) and cameras, attach to the simultaneous interpreting delivery platform.

3.6
interpreter interface
equipment containing controls for listening and speaking used by the *interpreter* (3.2) to facilitate *simultaneous interpreting* (3.4)

3.7
interpreter console
individual hardware workstation containing physical controls for listening and speaking that facilitates *simultaneous interpreting* (3.4)

[SOURCE: ISO 20109:2016, 3.2, modified – the words "hardware" and "physical" have been added and the word "enables" has been changed to "facilitates".]

3.8
soft console
type of *interpreter interface* (3.6) which runs on an ordinary IT device and has onscreen controls

Note 1 to entry: Soft consoles can run on mobile phones, computers or tablets.

3.9
microphone
transducer that converts sound into an electrical signal

[SOURCE: ISO 22259:2019, 3.14]

3.10
headphone
transducer that converts an electrical signal into sound, designed to be worn close to the ear

[SOURCE: ISO 22259:2019, 3.17]

3.11
headset
headphones (3.10) combined with a *microphone* (3.9)

[SOURCE: ISO 20109:2016, 3.5]

3.12
relay interpreting
interpreting (3.3) that occurs when an *interpreter's* (3.2) input comes from another interpreter's rendition and not directly from the *speaker* (3.17) or *signer* (3.18)

[SOURCE: ISO 20109:2016, 3.7, modified – the words "or signer" have been added.]

3.13
distance interpreting
remote interpreting
interpreting (3.3) of a *speaker* (3.17) or *signer* (3.18) in a different location from that of the *interpreter* (3.2), enabled by information and communications technology

[SOURCE: ISO 18841:2018, 3.1.10, modified – the words "or signer" have been added.]

3.14
communicative event
encounter between two or more parties during which information is transmitted

[SOURCE: ISO 20228:2019, 3.1.22, modified – the "Note 1 to entry" has been deleted.]

3.15
participant
person who takes an active part in an event

[SOURCE: ISO 22259:2019, 3.25]

3.16
audience
group of listeners or spectators at an event

[SOURCE: ISO 22259:2019, 3.28]

3.17
speaker
person addressing others using spoken language

[SOURCE: ISO 18841:2018, 3.1.7, modified – the comma and the words "either" and "or sign language" have been removed.]

3.18
signer
person addressing others using signed language

3.19
moderator
person responsible for facilitating interaction between people at an event

3.20
latency
<communications> time delay between the sending of a signal from one device and its reception by another device

[SOURCE: ISO/TS 27790:2009, 3.40]

4 Purpose and characteristics

A simultaneous interpreting delivery platform shall support the transmission of spoken and visual information from a speaker to an interpreter. Visual information can include slides and other materials projected live.

A simultaneous interpreting delivery platform shall also support the transmission of spoken information from an interpreter to an audience and from a speaker or signer to an audience at an event.

For signed language interpreting, supplementary requirements apply.

EXAMPLE AIIC Guidelines for the positioning of sign language interpreters in conferences, including webstreaming[12], and AIIC Guidelines for Distance Interpreting[11].

5 Provision of requirements to interpreters, speakers and participants

Providers of simultaneous interpreting delivery platforms shall supply interpreters, speakers and participants with information about the requirements of the equipment to be used in order to achieve compliance with the requirements included in this document.

6 Transmission

6.1 Connection

Data upload and download capacity at all connected points shall allow transmission of sound and image in accordance with ISO 20108:2017, 5.2 and Clause 6.

6.2 Latency

The propagation delay of the image and sound from the source to the interpreters and from the source directly to the audience shall not exceed 500 ms.

The propagation delay of the sound from the interpreters to the audience shall not exceed 500 ms.

7 Requirements relating to sound and image

7.1 Audio characteristics

The audio characteristics of the simultaneous interpreting delivery platform shall comply with the requirements in 7.1.1 to 7.1.7.

7.1.1 Sound pressure level

All sound pressure levels (dB_{spl}) referred to in this document are based on a sinusoidal frequency of 1 kHz (unless specified otherwise) measured under free field conditions. See Table 1.

Table 1 — Sound pressure level

Sound pressure level	Nominal	Maximum	Unit
at the microphone housing/capsule	80	110	dB_{spl}

7.1.2 System input and output

The nominal input and output of the system shall be -30 dBFS.

7.1.3 Frequency response

A simultaneous interpreting delivery platform and connected microphones and headphones should reproduce audio frequencies between 125 Hz and 15 000 Hz, with a variation of maximum +/-10 dB.

A simultaneous interpreting delivery platform shall transmit audio frequencies between 125 Hz and 15 000 Hz to interpreters, with a variation of maximum +/-3 dB. The same audio frequencies shall apply when the interpreter's input is an interpreted language channel, as is the case in relay interpreting.

A simultaneous interpreting delivery platform shall reproduce audio frequencies in the useful frequency range, with a variation of maximum +/-3 dB. Additionally, a high-pass filter shall attenuate the frequencies below 125 Hz with a slope of at least 12 dB per octave in order to improve speech intelligibility.

See Table 2.

Table 2 — Audio frequencies

Parameter	Min.	Typical	Max.	Unit
Low frequency limit			125	Hz
High frequency limit	15 000			Hz
Amplitude variation in the useful frequency range (applies to the simultaneous interpreting delivery platform and connected micro-phones and headphone)			+/-10	dB
Amplitude variation in the useful frequency range (applies to the simultaneous interpreting platform only)			+/-3	dB
High-pass filter corner frequency		125		Hz
High-pass filter slope	12			dB_{Oct}

Microphones shall comply with IEC 60268-4. Headphones shall comply with IEC 60268-7.

7.1.4 Distortion

A simultaneous interpreting delivery platform shall be free of any perceptible audio distortion.

A simultaneous interpreting delivery platform and connected microphones shall exhibit a total harmonic distortion (THD) level below 1 % at any sound pressure levels up to 110 dB_{spl} at 1 kHz.

7.1.5 Noise and hum

A simultaneous interpreting delivery platform shall be free of perceptible noise and hum.

A simultaneous interpreting delivery platform and connected microphones shall exhibit a signal to noise ratio (SNR) of at least 90 dB at 1 kHz at the maximum sound pressure level.

7.1.6 Level consistency

The variation of the level of the headphones shall be no more than ±3 dB for each distributed interpreted language and distributed floor at an input level of 80 dB_{spl} ±12 dB.

7.1.7 Interference

A simultaneous interpreting delivery platform shall be immune to interference from any source, including nearby electromagnetic sources such as (but not limited to) mobile phones, wireless LANs and other conference systems. Audible artefacts resulting from interference or analogue-to-digital/ digital-to-analogue conversion shall be at least 50 dB below the nominal level; system noise shall not be considered audible interference.

7.2 Hearing protection

To avoid damaging the hearing of interpreters and participants, specific instructions shall be given to them to avoid acoustic feedback and to provide acoustic shock protection. Any hearing protection feature shall comply with ISO 20109:2016, 4.5.

7.3 Image transmitted to interpreters

7.3.1 Image quality

The quality of the images shall comply with ISO 20108:2017, 5.2.

7.3.2 Image content

The image content shall consist of the image of the active speaker(s) and the slides and other materials projected live.

NOTE Slides and other materials can be displayed in a separate window or on a separate screen.

The recommendations given about image content in ISO 20108:2017, Annex B, should also be considered.

8 Interpreter interface

8.1 General

The interpreter interface used for managing all incoming and outgoing audio and video signals can consist of either an interpreter console, according to 8.3, or a soft console, according to 8.4. It shall be independent from any other device used to support the interpreting process, such as a device used for terminology management.

There shall be one interpreter interface for each interpreter, containing individual controls for listening and speaking, including the relevant indicators.

8.2 Accessibility

Whenever needed, the interpreter interface shall be fully usable by non-sighted persons as well as persons with low vision, anomalous colour vision, or age-related degeneration of vision. It shall be easy to operate and not require manual dexterity from users.

NOTE For further requirements regarding the accessibility and usability of the interpreter interface, see ISO 20109:2016, Annex A.

8.3 Interpreter console

Interpreter consoles shall comply with ISO 20109:2016, Clause 5 and Annex A.

8.4 Soft console

8.4.1 General

The provider of the simultaneous interpreting delivery platform should have access to the soft console during the entirety of the assignment.

8.4.2 Headphones or headset connector

Each soft console should have one connector used exclusively to connect to a headset or to headphones and a separate microphone.

8.4.3 Indicators

There shall be indicators on the soft console for the following primary functions: microphone “ON”, channel selected, channel occupied/engaged.

All indicators shall be visible in the same window at all times. Corresponding controls shall be highlighted.

The microphone "ON" indicator shall be evident to the interpreter. It shall be the only red indicator; all other indicators shall use colours other than red.

Colour combinations should be considered carefully. When using colour to provide information, methods other than colour shall also be used to convey the same information.

Audible indicators shall only be used if strictly necessary and shall be as short and as unobtrusive as possible.

8.4.4 Controls

There shall be controls on the soft console for the following functions: microphone ON/OFF, push-to-mute, volume control, tone controls, incoming channel selection, outgoing channel selection, audience indicator, slow-down button.

All controls shall be accessible in the same window, without the need to minimize or hide the interpreting window.

The controls shall be laid out so that they correspond with the information and content they control, and they shall be arranged in hierarchical order or in a sequence, which will aid recognition and use, in accordance with ISO 9241-410.

When activated, the control shall react without delay.

The number of controls required to use the soft console should be minimal to avoid excessive complexity and confusion.

8.4.5 Handover procedure and control

There shall be a procedure and a control for the handover function if interpreters working on the same outgoing channel are not located side by side.

8.4.6 Listening section

8.4.6.1 Incoming channel preselection

Incoming channel preselection shall be provided for 2 or more incoming language channels, apart from the floor channel.

The pre-selected channels shall be clearly indicated, giving channel numbers and languages in alphanumeric form, according to ISO 639-3 codes.

8.4.6.2 Incoming channel selection

Incoming channel selectors shall allow any channel to be enabled without delay. The selected incoming channel shall be clearly indicated.

The incoming and outgoing channels shall be independent of each other; changing one shall not automatically change the other. Booth partners shall be able to select different incoming channels.

8.4.6.3 Volume control

The volume shall be adjustable. The volume control shall allow for fast and easy operation.

Interpreters shall not be forced to work at the lower or higher ends of the control's range.

8.4.6.4 Tone controls

Bass control shall be provided to attenuate or boost lower frequencies. Treble control shall also be provided to attenuate or boost higher frequencies. Bass and treble controls shall give visual feedback of their respective ranges and their middle position.

8.4.7 Microphone section

8.4.7.1 Microphone ON/OFF control

A microphone ON/OFF control shall be provided.

The microphone ON/OFF control shall be the most prominent control on the soft console.

8.4.7.2 Push-to-mute

A control shall be provided to mute the outgoing channel without delay and without switching back to the floor channel. Activating this control shall turn off the "microphone ON" indicator.

8.4.8 Outgoing channel section

8.4.8.1 Outgoing channel preselection

Each soft console shall have provision for selecting two or more outgoing channels. It shall be possible to set the language of the first outgoing channel (A output) in advance from a central location. It shall be possible for interpreters to change the language of other outgoing channels (B and C outputs).

The outgoing channel shall be clearly indicated, showing channel numbers and language abbreviations in alphanumeric form, according to ISO 639-3 codes.

8.4.8.2 Outgoing channel selection

It shall be possible to select any outgoing channel using only one control. The selected outgoing channel shall be clearly indicated.

The interpreter shall not be able to modify the outgoing channel while the microphone is switched “ON”.

Each outgoing channel shall have an indicator giving the status "engaged" when it is occupied by another interpreter working into that channel.

The incoming and outgoing channels shall be independent of each other; changing one shall not automatically change the other.

Interpreters working into the same outgoing channel (A output) shall be able to select different outgoing channels (B and C outputs).

8.4.8.3 Audience indicator

There should be an indicator on the soft console informing interpreters that the activated outgoing channel is being broadcast and that at least one user has selected this channel.

8.4.9 Video feeds

The image of any speaker communicating from any location connected to the event, as well as any slides or other materials projected live to the participants and/or the audience, shall be made available to the interpreter as individual and selectable video feeds during the event.

9 Communication

9.1 General

Ease of communication is important, especially in situations where interpreters are not in the same room as other people attending an event. In such cases, functions accessible via the interpreter interface shall enable instant communication between interpreters and operator, moderator and speaker, and between the interpreters themselves.

The use of these functions should cause minimal additional cognitive load to the interpreters, so as not to hinder their work. The function should not hide any vital information on the interpreter interface.

9.2 Slow-down message

When a configurable minimum number of interpreters indicate, within a configurable timeframe, that the current speaker is talking at a pace that is too fast for simultaneous interpreting, the simultaneous interpreting delivery platform should send a slow-down message to the moderator.

9.3 Intercommunication

Intercommunication shall be enabled by a function in the interpreter interface between:

— the interpreter and the operator;

— the interpreter and the event moderator or speaker;

— interpreters with the same selected outgoing channel; and

— all of the interpreters at the same communicative event.

10 Microphones

10.1 Interpreter interface microphone

There shall be one microphone for each interpreter, according to IEC 60268-4. The microphone can be integrated into a headset (see 10.2) or be a separate component.

The microphone shall be connected to the interpreter interface.

The microphone shall have the polar pattern that renders the interpreter most intelligible, and that avoids ambient noises being picked up. The microphone shall at all times be positioned in such a way that contact noises are not captured.

The microphone shall not pick up audible interference from any nearby electromagnetic sources.

10.2 Interpreter microphone behaviour

It shall be possible to switch ON only one microphone on each outgoing channel. Switching a microphone ON shall switch OFF any other microphone connected to the same outgoing channel, wherever it is located. The interpreter whose microphone is switched off during the handover shall receive a message or a visual indication of the microphone status.

When no microphone on a given outgoing channel is ON, this outgoing channel shall automatically switch back to the floor channel.

10.3 Speaker's microphone

Any microphone used by a speaker during a communicative event shall have the polar pattern that renders the speaker most intelligible, and that avoids ambient noises being picked up.

The microphone shall at all times be positioned in such a way that contact noises are not captured.

The microphone shall not pick up audible interference from any nearby electromagnetic sources.

11 Interpreter headphones or headset

11.1 Headphones

When choosing the material and shape of headphones, the health of the wearer shall be taken into consideration. For the purposes of hygiene, where foam padding is provided, it shall be replaceable, and the headphones shall be wearable without it. The hard surface in contact with the ears shall be easily cleanable.

Headphones shall have the following characteristics:

a) mass of ≤100 g, excluding the cable and connector;

b) ear contact pressure of ≤2,5 N;

c) headband which is adjustable in length and sufficiently flexible to adapt to individual ear pressure requirements. It should not provoke perspiration.

11.2 Headset

A headset, according to IEC 60268-7, shall satisfy the same requirements as headphones, with the exception of the maximum mass, which shall be ≤200 g, excluding the cable and connector.

The microphone arm shall be flexible. It should be possible to mount the microphone arm on either side of the headset or to reverse the headphones.

There shall be no feedback between the headset headphones and microphone.

12 Interpreter's working environment

12.1 Booths

Interpreters should work in booths, according to ISO 2603 (permanent booths) or ISO 4043 (mobile booths).

A room in which these booths are installed shall comply with ISO 2603:2016, 4.1 and 4.2, or with ISO 4043:2016, Clause A.3.

The booths shall be equipped with interpreter consoles, according to ISO 20109:2016, Clause B.1, or with interpreter interfaces, according to Clause 8 of this document.

12.2 Any other location

The interpreter's working environment shall be located at a distance from any sources of disturbance that are likely to produce audible artefacts.

NOTE The following sources of disturbance can be considered:

Noise from the home and neighbourhood

— outside traffic,

— noisy corridors, lifts and kitchens,

— do-it-yourself work, gardening (lawnmowers),

— household appliances,

— the cries of animals,

— high heels, doors slamming, screaming, loud conversations,

— noisy games played in unsuitable premises,

— domestic ventilation and air conditioning equipment.

Transport noise

— in road transport, engine noise and tire contact with the road,

— in railway transport, train noise, wheel to rail contact and aerodynamic noise,

— in air transport, jet engine noise during landing and take-off and low-flying aircraft.

13 Recording and webcasting

The simultaneous interpreting delivery platform should enable the recording, webcasting and storing of the transmitted content.

14 Confidentiality and data protection

Signals transmitted and processed through the simultaneous interpreting delivery platform shall be inaccessible to unauthorized persons. Data protection and confidentiality regulations can be applicable.

If the interpreter works from a location where the responsibility for maintaining confidentiality of information and data protection is not assumed by third parties by means of a contract, the interpreter shall take all necessary measures to maintain confidentiality and to deny access to confidential data to any unauthorized person.

Measures to ensure data protection within the telecommunication infrastructure used for connecting to the signal and data system used for the event should be taken in cooperation with the simultaneous interpreting delivery platform provider.

Requirements about security, integrity and availability of information are specified in Annex A.

Prior consent shall be asked of all participants, including interpreters, by or on behalf of the legally responsible parties in case of recording, webcasting or storing of the communicative event, or any information in relation thereto.

Prior consent shall be asked of each interpreter in case of recording or storing of the interpreting services.