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Simultaneous interpreting — Equipment — Requirements

Interprétation simultanée — Équipement — Exigences

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Foreword

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The committee responsible for this document is ISO/TC 37, *Terminology and other language and content resources*, Subcommittee SC 5, *Translation, interpreting and related technology*.

Introduction

This document specifies the components of typical interpreting equipment, which together with either permanent (ISO 2603) or mobile (ISO 4043) booths, form the interpreter's working environment.

Interpreting equipment, included until the 1998 version in ISO 2603, and referred to in ISO 4043, has now found its place in this document, together with other elements indispensable for the interpreter's working environment, like video displays and chairs.

Simultaneous interpreting — Equipment — Requirements

1 Scope

This document specifies requirements for equipment used for simultaneous interpreting.

Accessibility requirements are defined in Annex A.

Requirements for booths furniture are defined in Annex B.

Requirements on the system operation are defined in Annex C.

In conjunction with either ISO 2603 or ISO 4043, ISO 20108 and this document provide the relevant requirements both for the quality and transmission of sound and image provided to interpreters and for the equipment needed in the booths.

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 9241-303, *Ergonomics of human-system interaction — Part 303: Requirements for electronic visual displays*

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

ISO 24503, *Ergonomics — Accessible design —Tactile dots and bars on consumer products*

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:

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

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

3.1
simultaneous interpreting
mode of interpreting performed while a speaker is still speaking or signing

Note 1 to entry: The activity requires specialized equipment.

3.2
interpreter console
individual workstation containing controls for listening and speaking that enables *simultaneous interpreting* (3.1)

3.3
microphone
device that converts sound into an electrical signal

3.4
headphones
device that converts an electrical signal into sound, designed to be held in place close to the user's ears

3.5
headset
headphones (3.4) combined with a *microphone* (3.3)

3.6
portable interpreting system
simultaneous interpreting (3.1) system that is lightweight, battery operated and enables the interpreter and the participants to move around

3.7
relay interpreting
interpreting that occurs when an interpreter's input comes from another interpreter's rendition and not directly from the speaker

3.8
relay status
indicator of the source of an *interpreter console's* (3.2) incoming channel

Note 1 to entry: The source can be the floor, direct interpreting, relay interpreting, or double relay interpreting.

3.9
video display
electronic device that represents information in a visual form

3.10
distance interpreting
remote interpreting
simultaneous interpreting (3.1) of a speaker in a different location from that of the interpreter, enabled by information and communications technology

4 Overall interpreting system

4.1 General

The entire system's audio processing shall be digital. Overall latency between the analogue input (microphone) to the analogue output (headphone) shall not exceed 10 ms.

All sound pressure levels (SPL) referred to in this document are based both on a nominal input level between 85 dB_{SPL} and 115 dB_{SPL} at 30 cm speaking distance, and on the use of passive headphones with an impedance of 32 ohms and a throughput between 95 dB_{SPL} and 115 dB_{SPL} per milliwatt.

4.2 Frequency response

The overall interpreting system excluding the microphones and headphones shall correctly reproduce audio-frequencies between at least 125 Hz and 15 000 Hz ± 3 dB, high-pass with attenuation of at least 12 dB per octave for frequencies below 125 Hz in order to improve speech intelligibility.

The microphone and the headphones shall correctly reproduce audio-frequencies between 125 Hz and 15 000 Hz ± 10 dB.

4.3 Amplitude nonlinearity

The system shall be free of perceptible distortion; total harmonic distortion (THD) should be less than 1 %.

4.4 Noise and hum

The system shall be free of perceptible noise and hum, with an end-to-end signal-to-noise ratio of at least 95 dBA at maximum input level.

4.5 Hearing protection

An audible hearing-damage warning shall be activated when the average sound pressure level is higher than 80 dBA_{SPL} for more than 1 min.

The system shall limit loud sounds, with a maximum output level of 94 dBA_{SPL} for any duration longer than 100 ms.

4.6 Level consistency across channels

The volume of each channel should be automatically adjusted to minimize the volume difference between channels, as well as between channels and the floor assuming that the input level varies between nominal and ±12 dB.

5 Interpreter console

5.1 General

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

The console may be either freestanding on or integrated into the working surface. The surface of the console shall be matte and non-reflecting.

It shall be possible to quickly and easily service or replace a malfunctioning console or its microphone without impairing the functioning of the rest of the system.

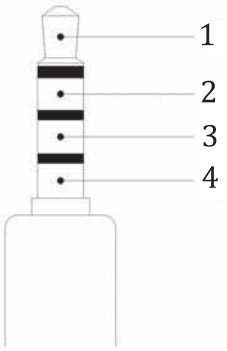
The console shall be fully and equitably usable by non-sighted persons, as well as persons with low vision, anomalous colour vision, or age-related degeneration of vision. It shall be easy to operate and not require manual dexterity from users.

For further requirements regarding the accessibility and usability of the interpreter console, see Annex A.

5.2 Headphones/headset connector

Each interpreter console shall have one non-locking, 3,5 mm headphones/headset connector socket on each side. It may have an additional, non-locking, 6,35 mm headphones connector socket.

Each 3,5 mm connector shall follow the Tip, Ring 1, Ring 2, Sleeve (TRRS) CTIA/AHJ Standard, where Tip = Headphone Left, Ring 1 = Headphone Right, Ring 2 = Ground, Sleeve = Microphone (see Figure 1).



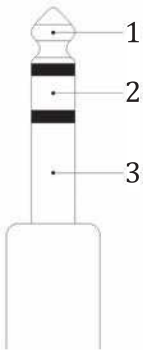
Key

1 headphone left
2 headphone right
3 ground
4 microphone

Figure 1 — 3,5 mm TRRS connector pinning

The console shall detect if a headset is connected to any 3,5 mm connector. When a headset is connected, the console's fixed microphone shall be automatically deactivated, but not the microphone on-air indicator light and the headset's microphone shall be activated. When the headset is disconnected, the console's fixed microphone shall be automatically activated again. An indicator shall be available when a headset is connected and activated.

Each 6,35 mm connector shall follow the Tip, Ring, Sleeve (TRS) configuration, where Tip = Headphone Left, Ring = Headphone Right and Sleeve = Ground (see Figure 2).



Key

1 headphone left
2 headphone right
3 ground

Figure 2 — 6,35 mm TRS connector pinning

5.3 Console dimensions

Console dimensions shall be (width × height × depth):

— maximum: 40 cm × 15 cm × 21 cm;

— minimum: 28 cm × 5 cm × 12,5 cm.

For ergonomics purposes, the console inclination shall be between 15° and 45°.

5.4 Indicator lights

Indicator lights shall be confined to primary functions (microphone "ON," channel selected, channel occupied/engaged, etc.) and shall be in the immediate vicinity of the corresponding controls.

The microphone "ON" light shall be evident to anyone present in the booth, without disturbing the occupants. It shall be the only red indicator light; all other indicator lights shall use colours other than red. In addition, the microphone shall have an on-air indicator light which shall be red when the microphone is switched on.

Where a "power-on" indicator is provided, it shall be unobtrusive.

5.5 Buttons

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

Buttons should protrude in depth from the surface and have, where possible, a diameter/width of 10 mm or greater. When a button is pressed, a clear haptic feedback shall be produced.

Groups of buttons should have tactile markings that aid identification and navigation, according to ISO 24503.

The number of buttons required to use the console should take into account the need to avoid excessive complexity and confusion.

5.6 Visual display

If the console includes a display screen, it shall be non-reflective and legible at the intended viewing angle.

The tilt of the display shall permit an ergonomically sound gaze angle and head tilt angle, in accordance with ISO 9241-303.

Display luminance shall be easily adjustable. The display shall be designed to provide good visual ergonomics and a good luminance contrast across a variety of lighting conditions (darkened meeting room, low lighting in the booth, normal office lighting conditions, direct sunlight).

For light-emitting (active) displays, the foreground to background luminance should have a contrast ratio of 6:1 or higher.

Character height should be 10mm for perpendicular viewing. If the user is looking at an angle, character height should be increased accordingly.

Colour combinations should be considered carefully. When using colour to provide information, information shall also be provided using non-colour methods.

5.7 Listening section

5.7.1 Incoming channel pre-selection

Incoming channel pre-selection shall be provided for at least three incoming language channels and the floor channel. Depending on the number of booths or the requested language combination of a meeting or conference, up to seven incoming channel pre-selections may be required.

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

5.7.2 Incoming channel selection

Incoming channel selectors shall enable direct selection of any channel, without delay, through a single press of a button. These shall cause no mechanical or electrical noise.

The selected incoming channel shall be indicated either through an indicator light or on the console display.

An index of relay status shall be provided for each incoming channel, indicating whether the channel carries the floor, direct or indirect interpreting. An incoming channel carrying the floor shall be indicated with a 0, direct interpreting with a +, relay interpreting with a -, and double relay interpreting with a -- (double minus).

5.7.3 Volume control

The listening level should be adjustable manually, through a high-quality stepless rotary control with logarithmic behaviour and mechanical stops at the beginning and at the end.

Interpreters shall not be forced to work at the lower or higher ends of the control's range, i.e. the nominal volume shall be reached at mid-range.

5.7.4 Tone controls

A stepless rotary bass control shall be provided to attenuate or boost lower frequencies. A stepless rotary treble control shall also be provided to attenuate or boost higher frequencies. Bass and treble controls shall be independent of each other throughout their respective ranges with haptic feedback of the middle position and mechanical stops at the beginning and at the end.

5.8 Monitoring section

5.8.1 Monitor loudspeaker

The function of the monitor loudspeaker is to allow the interpreter to remove their headphones temporarily and continue to follow proceedings or to listen to a channel different from that received on the headphones while the booth is silent.

This loudspeaker shall be muted automatically as soon as one of the microphones in that booth is switched ON.

5.8.2 Channel pre-selection

The monitor loudspeaker shall have its own channel selector, which is independent of the incoming channel selector for the headphones.

5.8.3 Volume control

The monitor loudspeaker shall have its own volume control, which is independent of the volume control for the headphones. A stepless rotary control with logarithmic behaviour and mechanical stops at the beginning and at the end shall be used.

5.9 Microphone section

5.9.1 Microphone ON/OFF button

A microphone ON/OFF control button and a red indicator light shall be provided.

The microphone ON/OFF button shall be the largest button on the console and it shall be close to the lower edge of the console.

Switching the microphone ON or OFF shall make no mechanical or electrical noise perceptible by the listener.

5.9.2 Push-to-mute button

A self-releasing button shall be provided to mute the outgoing channel without delay and without switching back to the floor channel. Pressing this button shall extinguish the "microphone ON" indicator light but not the on-air indicator light on the microphone itself.

5.10 Outgoing channel section

5.10.1 Outgoing channel pre-selection

The assigned outgoing channel ("A") shall be the same for all interpreter consoles in the same booth. Centralised programming of these channels shall also be possible. The interpreter shall not be able to modify the assigned outgoing channel.

In addition to the assigned outgoing channel, each console shall have provision for selecting at least one other outgoing channel, independently of other consoles in the same booth. The interpreters shall be able to manually pre-select this (these) channel(s). It shall also be possible to program this (these) channel(s) in a centralised way.

The pre-selected channel shall be clearly indicated, close to the selector, showing channel numbers and languages in alphanumeric form according to ISO 639-3 codes.

5.10.2 Outgoing channel selection

Outgoing channel selectors shall enable direct selection of any channel, without delay, through a single press of a button. These shall cause no mechanical or electrical noise. It shall not be possible to change the selected outgoing channel while the microphone is switched ON.

The selected outgoing channel shall be indicated either through an indicator light or on the console display.

Each outgoing channel, on all consoles, shall have an indicator light giving the status "engaged" each time a microphone is switched ON in any booth on the same channel. The indicator light shall be integrated in or located close to the outgoing channel selector.

5.10.3 Audience indicator

The number of participants who have selected the relevant outgoing language channel should be displayed on the interpreter consoles concerned.

Additionally, a specific icon shall be displayed when the relevant outgoing language channel is being transmitted outside the conference room, such as through a broadcast/web stream, a videoconference link or a recording.

5.11 Communications section

5.11.1 Slow-down button

A button should be included which, when pressed on a configurable minimum number of interpreter consoles within a configurable timeframe, activates an indication at the chairperson's panel, indicating that the current speaker is talking at a pace that is too fast for simultaneous interpreting. The indication shall remain active for a configurable timeout after its activation.

5.11.2 Incoming message indicator

An incoming message should be indicated by a flashing indicator, until the interpreter presses the corresponding button. This shall display the message on the console display for as long as the button is pressed. It shall be possible to display the message again, within 1 min, by pressing the same button. The message should not hide vital information, such as the incoming channels. A new incoming message arriving within the one-minute interval shall replace the previous one.

It should be possible to select the message to be sent from a predefined list of messages, or to type a new message.

An audible beep shall be heard in the headphones when an incoming message arrives. The tone and level of this beep shall be chosen so as not to disturb interpreters and it shall be different from the tones described in A.3. Its maximum volume shall be limited.

5.11.3 Incoming call indicator

The console should be equipped with a facility to visually and/or audibly indicate an incoming call from a phone installed outside the booth.

The tone and level of the beep shall be chosen so as not to disturb interpreters and it shall be different from the tones described in A.3. Its maximum volume shall be limited.

5.11.4 System clock

The current local time shall be indicated on the console display, in the HH:MM, 24 hours format.

6 Microphones

6.1 Interpreter console microphone

There shall be one microphone according to IEC 60268-4 for each interpreter.

The microphone shall have an adjustable stem so it can be oriented in the desired acoustical direction. The microphone's polar pattern shall be directional.

The microphone shall be mounted in such a way that transmission of contact noises is avoided.

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

6.2 Interpreter microphone behaviour

The system shall at least function according to the following modes of operation:

— It shall be possible to switch ON only one microphone per booth. Switching ON another microphone shall switch OFF any other microphone in the same booth, whether it is connected to the same or to a different outgoing channel.

— Furthermore, 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, whether it is located in the same or in a different booth.

— When no microphone on a given outgoing channel is ON, this outgoing channel shall automatically switch back to the floor channel. The sound level of the floor channel should match that of the interpreted channel (see 4.6).

6.3 Conference microphone

A conference microphone shall have at least the same frequency response (see 4.2) as the rest of the sound system.

The microphone's type and polar pattern shall be chosen so as to combine a good suppression of noise with a high sound quality even if the speaker is changing his/her position relative to the microphone.

It shall include the same protection from contact noises and interference as interpreter console microphones (see 6.1).

The maximum number of switched ON microphones in a conference room shall be configurable.

6.4 Ambient microphone

One or more ambient microphones shall be switched ON when all other audio input is switched OFF, to provide interpreters with the ambience of the conference room.

It shall be possible to manually switch the ambient microphones ON/OFF, and their level shall be adjustable. The ambient microphones shall be automatically switched OFF when the sound of an external system such as a computer or videoconference is fed into the system.

7 Interpreters' headphones/headset

7.1 Headphones

One set of headphones (see IEC 60268-7) per interpreter shall be provided, comprising two on-ear pads per set, which should rotate around both the vertical and horizontal axes so as to perfectly adapt to each interpreter's morphology.

Health requirements shall be borne in mind when choosing the material and shape of headphones. Where foam padding is provided, for hygienic reasons, it shall be replaceable and the headphones shall be wearable without it. The hard contact surface with the ears shall be easily cleanable.

Headphones shall have the following characteristics:

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

b) ear contact pressure: ≤2,5 N;

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

d) a lead approximately 1,50 m long and terminating in a non-locking TRS plug of 3,5 mm. Where desktop consoles are used, the lead length should be adapted accordingly.

7.2 Headset

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

The headset shall be equipped with a lead approximately 1,50 m long and terminating in a non-locking TRRS plug of 3,5 mm. Where desktop consoles are used, the lead length should be adapted accordingly.

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

Feedback between the headset headphones and the microphone shall be avoided.

8 Portable interpreting system

8.1 General

A portable interpreting system includes transmitters, receivers, microphones, headphones/headsets and potentially a transport case.

NOTE Portable interpreting equipment is meant to be used in specific environments and for specific specialisations and is not meant to replace mobile booth installations, where these are deemed appropriate.

The system's operating range shall have a radius of at least 50 m outdoors and 25 m indoors, in accordance with local regulations.

Both transmitters and receivers shall be able to operate continuously for at least 10 h.

8.2 Microphones/Transmitters

The system shall use either handheld microphones/transmitters or neckband microphones connected to pocket transmitters.

Each handheld microphone/transmitter shall weigh no more than 400 g, including the batteries. Each neckband microphone shall weigh no more than 50 g.

The transmitter shall have an ON/OFF button that includes an indicator light.

The microphone's type and polar pattern shall be chosen so as to combine a good suppression of noise with a high sound quality even if the speaker is changing his/her position relative to the microphone.

Handheld microphones/transmitters and pocket transmitters shall provide the same number of channels as the portable receivers.

8.3 Receivers/Transceivers

The receiver/transceiver shall include a 3,5 mm TRS or TRRS headphones/headset connector socket (see 5.2).

The currently selected channel should be indicated in alphanumeric form according to ISO 639-3 codes on a display screen. The screen shall be backlit and its size should be sufficiently large for easy reading.

The receiver may include a way to quickly switch between two pre-selected channels, allowing interpreters to switch between listening to the floor channel and a pre-defined relay channel.

The system should offer the functionality to assign in a single step languages to channels on all receivers and to set all receivers to the same channel.

The listening level should be adjustable manually.

8.4 Transport system

The system should include a rugged, shock-absorbing transport case for the receivers and microphones/transmitters. Each case should weigh no more than 20 kg. If the total weight of the case and its contents is more than 5 kg, wheels should be included for easy transport.

The system should include a detachable charger for the receivers and microphones/transmitters.

Annex A
(normative)

Accessibility and usability of interpreter consoles

A.1 General

In designing interpreter consoles, usability and accessibility requirements shall be taken into account to address the needs of older persons and persons with disabilities (see ISO/IEC Guide 71 and ISO/TR 22411).

A.2 Physical buttons

Visually impaired interpreters shall be able to set up and use the console without assistance.

The core functionalities of the console shall therefore be available as physical, protruding buttons. This includes switching a microphone ON or OFF, muting the microphone, adjusting the headphones volume, the bass and the treble, and pre-selecting and selecting the input and output channels. Tactile dots and bars in accordance with ISO 24503 shall help locate the most important buttons, such as the microphone ON/OFF and mute buttons.

Physical buttons shall be identified by visual contrast. Rotary dials shall have an indicator line of high visual contrast.

A.3 Audible beeps

Feedback on the status of the most important controls shall be multisensory and clearly recognisable, for example, through audible beeps in the interpreter headphones. This includes the microphone status and the input channel relay status. The tone of the audible beeps shall be distinct for each feature.

A dedicated and clearly indicated button shall be provided in order to enable/disable the audible beeps.

Two different tones should be used:

— the first tone (T1) has its fundamental at 1 000 Hz (±5 %);

— the second tone (T2) has its fundamental at 500 Hz (±5 %).

They should be used according to the following scheme:

a) activating the audible beeps or turning on the microphone: one burst of T1 lasting 150 ms (±10 %);

b) deactivating the audible beeps or turning off the microphone: two bursts of T2 lasting 100 ms each (±10 %), separated by a pause of 50 ms (±10 %);

c) switching to an incoming channel already in relay or if the chosen incoming channel switches from “floor” to another incoming channel: four bursts of T1 lasting 50 ms each (±10 %), separated by pauses of 50 ms (±10 %). This train of bursts should be heard each time that channel button is depressed, or while pre-selecting it.

d) incoming message notification: one burst of T1 lasting for 500 ms followed by a pause lasting for 500 ms, repeated for at least 30 s.

A.4 Anomalous vision

In choosing the colours, colour temperatures and luminance of indicator lights, the needs of persons with low vision, anomalous colour vision, as well as age-related degeneration of vision should be taken into consideration. When using colour to provide information, information shall also be provided using non-colour methods.

Preferably, each indicator light should be either OFF or ON, with a single colour in the on-state. If a single indicator light switches between two different colours, then red-blue or yellow-blue should be preferred over red-green. Bluish colours must be chosen to be distinguishable from surrounding colours such as black by, for example, aged users.

To reduce the possibility of a visually induced seizure, transitions to and from a saturated red should be avoided. The flash rate shall be kept to less than 2 Hz with breaks between flashes.

Annex B
(normative)

Furniture and equipment

B.1 Booth furniture and equipment

For each interpreter and technician, there shall be a comfortable chair according to EN 1335-1 with the following characteristics:

— five legs;

— adjustable height;

— adjustable backrest;

— armrests;

— casters and user-friendly levers;

— upholstery consisting of heat-dissipating material;

— all components shall be free of any perceptible noise.

Independent, movable foot-rests should be available.

One coat hanger per interpreter shall be available.

One compact, table-top, low-heat, adjustable reading light per interpreter shall be available.

At least one dustbin per interpreter booth should be available inside the booth.

B.2 Video displays

A minimum of one video display between two interpreters should be provided in each booth.

If such a video display is provided, it shall be positioned at a convenient ergonomic angle, i.e. with a gaze angle from 0° to 40° and a head-tilt angle from 0° to 25° in accordance with ISO 9241-303.

It shall not impede visibility from inside the booth into the hall, nor shall it encroach on leg room.

The video display's diagonal dimension shall be between 25 cm (10 inches) and 43 cm (17 inches) for one interpreter, or between 38 cm (15 inches) and 43 cm (17 inches) if shared between two interpreters. It shall be flat and flicker-free and display the incoming signal without distorting its original aspect ratio. The surface shall be anti-glare and easily cleanable.

If several video signals, according to ISO 20108:—[1)], 5.3, are available, an easily identifiable and silently operating button shall switch between them.

Video displays may be placed inside or in front of the booth. They shall not obstruct the interpreters' view towards the room; they shall be placed at an ergonomic angle; their diagonal shall be proportional to the viewing distance.

NOTE ISO 20108 applies to distance interpreting

1) Under preparation. Stage at the time of publication: ISO/DIS 20108:2016.

B.3 Interpreters' room furniture and equipment

In the interpreters' room (see ISO 2603), the following equipment and furnishings are required:

— easy chairs;

— working tables and chairs;

— cloakroom or coat-rack;

— telephone (for internal and local outside lines);

— at least one computer with Internet access;

— printer;

— individual lockers to deposit personal belongings, documents, etc.

A photocopy and scanning machine should be available nearby.

Annex C
(normative)

System operation

C.1 Speech reinforcement system

The conference hall's speech reinforcement system shall be adjusted so as to minimise echo, feedback from loudspeakers into microphones in the hall, and quiet enough so as not to disturb the audience listening to interpreted channels in their headphones.

C.2 Presence of a conference technician

At least one qualified conference technician shall be present throughout the event/conference, in order to monitor the correct functioning of the equipment. The technician may either be physically present or located in a centralized control booth or room.

Bibliography

[1] ISO 2603, *Booths for simultaneous interpretation — General characteristics and equipment*

[2] ISO 4043, *Mobile booths for simultaneous interpretation — General characteristics and equipment*

[3] ISO 20108:—,[2)] *Simultaneous interpreting — Quality and transmission of sound and image input — Requirements*

[4] ISO/IEC Guide 71, *Guide for addressing accessibility in standards*

[5] ISO/TR 22411, *Ergonomics data and guidelines for the application of ISO/IEC Guide 71 to products and services to address the needs of older persons and persons with disabilities*

[6] EN 1335-1, *Office furniture — Office work chair —Dimensions — Determination of dimensions*

2) Under preparation. Stage at the time of publication: ISO/DIS 20108:2016.

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