



ASSOCIATION INTERNATIONALE DES INTERPRÈTES DE CONFÉRENCE  
INTERNATIONAL ASSOCIATION OF CONFERENCE INTERPRETERS

# DESIGNING AND BUILDING BOOTHS FOR SIMULTANEOUS INTERPRETATION

*GUIDELINES FOR ARCHITECTS, DESIGNERS, PLANNERS  
AND BUILDERS OF CONFERENCE FACILITIES*

## Table of Contents

Introduction .....	2
The conference hall .....	3
How SI booths fit into the design of a conference hall .....	3
A checklist for designing and building SI booths.....	4
Location of Booths in the hall .....	6
The booth area .....	7
Communication with the technicians and the conference room .....	8
The booth .....	9
The booth dimensions .....	10
Visibility from the booth .....	11
The workspace.....	12
Lighting in the booth.....	13
Soundproofing and acoustics in the booth .....	14
Climate control in the booth.....	15
Simultaneous interpretation equipment .....	16
The interpreter's control panel .....	17
The sound system .....	19
Some important details in the sound system and equipment.....	20

By Martha Hobart-Burela  
Photos courtesy of SCIC (Groupe Technique), Bosch Security Systems and Maya Giri

## Introduction

There are all kinds of simultaneous interpretation booths. Some are very pleasant places to work in, while others make the interpreters' job more difficult because they are not properly designed and built.



We want to give you some tips on how interpretation booths can be designed according to ISO Standard 2603 on built-in simultaneous interpretation booths, to make them places where interpreters can do their best work, and conference delegates can enjoy the best in multilingual communication.

There are two international standards that contain the requirements for built-in simultaneous interpretation booths and equipment:

- ISO 2603:1998 - Booths for Simultaneous Interpretation - General Characteristics and Equipment
- IEC 60914:1988 - Conference Systems - Electrical and Audio Requirements (International Electrotechnical Commission).

There are other details that are important to bear in mind from the start, which can mean the difference between well-designed booths that will make it easier for interpreters to do their job and ensure a pleasant, fruitful experience for conference participants, and poor design that can lead to frustration later when it may be too late to change anything.

These pages contain a few design pointers, based on ISO Standard 2603 plus some additional details drawn from interpreters' experience. However, the Standard contains much more detailed information than we can present here and must be consulted in the planning stage.

# The conference hall

## How SI booths fit into the design of a conference hall



Booths need to be included in the design of any conference room at the planning stage. There are two basic aspects to bear in mind: the booths themselves and the equipment. The best advice in a constantly changing situation is to consult AIIIC on the proposed design before starting to build.

AIIIC can also provide information on what is currently the best available equipment. AIIIC works closely with SI equipment manufacturers to help overcome the

problem of poorly designed equipment that does not comply with the Standards.

We can offer advice on other ergonomic details important in the design of booths and control panels although not specified in the Standards.

There are a number of questions to be addressed in the planning stage that will help determine how to fit SI booths into the overall design of a conference room, according to how it will be used. We have provided a checklist to assist you.

## A checklist for designing and building SI booths

These are a few general points to help determine how the booths can best be fitted into the structure of the conference room.

What is the purpose of the facility and how will it be used?

- Is it a dedicated conference facility or will it be used for other purposes as well (multipurpose hall, exhibition centre, banquets, etc.)?
- What type of meetings will be catered for?
  - Business and commercial
  - International agencies
  - Professional associations
  - NGOs
  - etc.

How often will the facility be used for multilingual conferences?

- Only a few times a year
- Regularly

How many languages and what combinations?

- Mainly 2 or 3 languages
- More, usually the most common languages in the region
- More, often including less common languages

The number of booths will depend on how the room is to be used.

If the facility is a small one intended mainly for activities involving 2 or 3 languages, there is no need to build in large numbers of booths for the rare event when more are needed. Mobile booths can be added on such occasions (provided adequate space is available in the conference room).

If it is a large facility to be used by international bodies that work with several languages, including less common languages which require relay systems involving two-way booths, an appropriate number of larger booths should be built to accommodate at least 3 interpreters in each one.



How many microphones will be used for speakers and delegates and where will they be located?

- Fixed or flexible speaker/delegate positions
- Roving microphones

The most reliable SI system is an absolute essential for large facilities used regularly with multiple languages and will require cabling from microphones in the conference room to the booths. The transmission from booths to conference room may be by cables or infrared.

Some thought should be given to the positioning of room microphones so that provision can be made for laying cabling ducts.

## Location of booths in the hall

This subject is covered in item 4 of the Standard.



A clear, unobstructed view of the entire room at an adequate distance and angle to be able to read material projected on the screen is crucial. Visual input is as important for interpretation as what comes through the earphones.

Booths should never be behind the podium. Many experienced speakers are keenly aware of the importance of pacing themselves to facilitate the interpretation and often rely on visual feedback from the booths.

The preferred location of the booths will depend on the structure and size of the conference room. Further details are to be found in the

Standard.

- At the rear of the room, facing the rostrum/screen: The distance from booths to rostrum or projection screen should not be over 30 m (20-25 is preferable) or it may be difficult to read figures and graphs.
- Along the side of the room: The minimum angle sideways at which a screen can be read is 30-35 degrees.

## The booth area

This subject is covered in item 4.4 of the Standard.

All booths should be placed in a separate area so they do not open directly onto a public area. This will keep unwanted outside noise from going through the interpreters' microphones and into the listeners' earphones.

- Access to the booth area should not be through the conference room.
- Access from booths to the conference room should be handy, to facilitate document availability and contact with the meeting.
- There should be daylight in the booth area, not just artificial lighting.
- Toilets and an interpreters' room with daylight (for sorting documents, taking breaks) should be close by.
- Access to the booths should be free of hazards (wide enough passage, no spiral or awkward stairs, properly lit, etc.).
- There should be adequate fire-escape provision.
- Floor covering in access passages and booths should be sound-absorbent and not hollow, to avoid disturbing resonance effects from footsteps.

## Communication with the technicians and the conference room

This subject is covered in item 4.2.2 of the Standard.

A qualified technician must be present at all times; hence a sound control booth and console for the technician must be provided in every room.

To facilitate dealing with problems as quickly as possible:

- The technician should be visible from the booths.
- The technician should have quick access to the booths.
- There should be direct communication from individual booths to the technician's booth.
- There should be communication between individual booths and the conference room, preferably directly to the rostrum.

## The booth

The success or failure of an international conference centre with simultaneous interpretation facilities largely depends on certain technical and health criteria, some obvious and others not.

What are the basic requirements? Interpreters must see, hear and of course, breathe. This means that visibility, ventilation and properly designed and maintained SI equipment are essential. As interpreters spend a good part of the day in interpretation booths and never work alone, the booths must be big enough for 2, 3 or more interpreters to work comfortably in.

This means:

- enough space inside the booth and plenty of leg room
- good lighting
- good ventilation and climate control
- enough space on the table for equipment, meeting documents, reference books and computers
- a good view of the conference room and its occupants
- proper soundproofing
- proper angle and distance from the rostrum so interpreters can read slides and transparencies and see the speakers

Another important factor are the specific needs of the blind and disabled. There is no reason for an interpreter not to be able to work from a wheelchair, which means that SI booths must be accessible for wheelchairs, etc. and not, as too often happens, by some remote spiral staircase! It also means having wide enough doors and other features that must be thought out in advance.

Just as important as getting into the booth is getting out in case of emergency; SI booths should be within easy access of well-lit emergency exits.

The full requirements for built-in SI booths are given in **ISO Standard 2603:1998**.

This is a reminder of the main points, plus a few tips drawn from interpreters' experience. References to relevant paragraphs in the standard are shown in parentheses after the items described in more detail on other pages.

## The booth dimensions

This subject is covered in **item 4.5** of the Standard.

The main factor governing booth size is air turnover; i.e., ensuring enough fresh air without drafts to keep the interpreters mentally alert and avoid drowsiness. This is more important than most people think.

Under the best of conditions, a simultaneous interpretation booth is still a small, closed space occupied throughout the day by 2 or 3 people. They need a good supply of fresh air to remain mentally alert and avoid exposure to high levels of CO<sub>2</sub> which can lead to fatigue and respiratory or other problems.

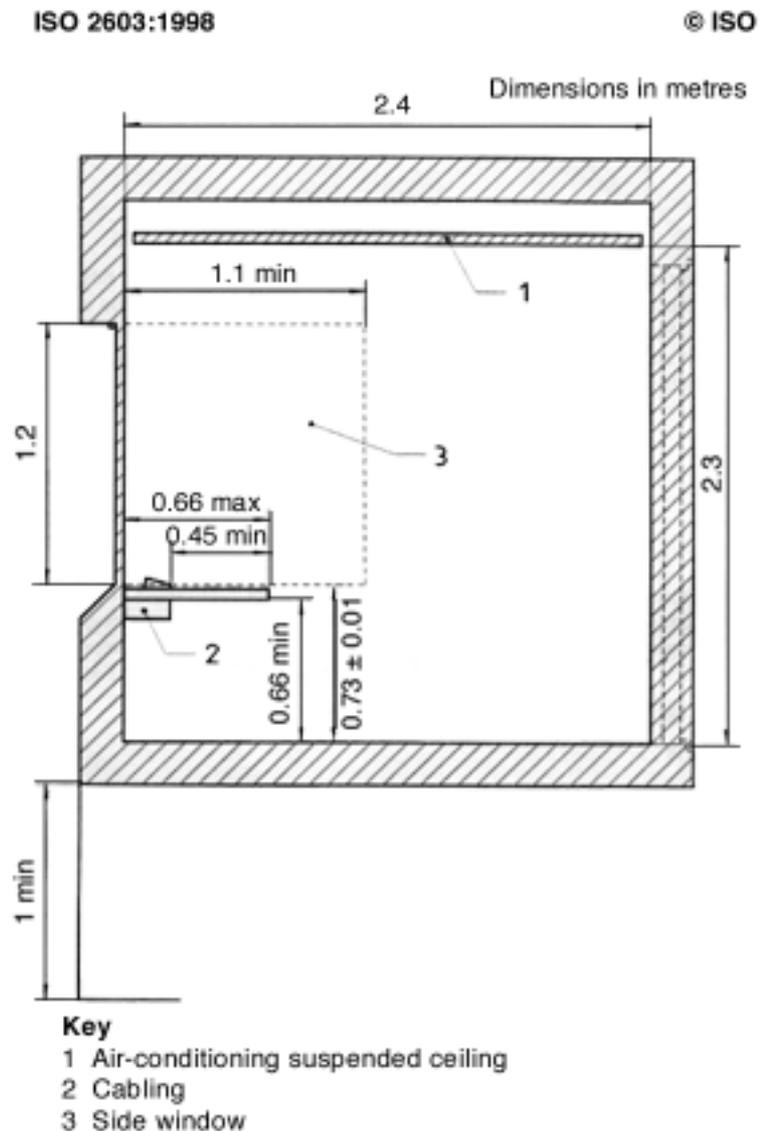
Minimum booth dimensions (interior):

- width: 2.50 m
- depth: 2.40 m
- height: 2.30 m

For conference halls with up to six booths, one or more should be 3.20 m wide to cover the need for the continuous presence of three interpreters.

For conference halls with more than six booths, all booths must be at least 3.20m wide.

To avoid resonance effects, the three dimensions of the booth should be different from one another and, to avoid standing waves, the two side walls should not be exactly parallel.



**Booth for simultaneous interpretation**

## Visibility from the booth

This subject is covered in **items 4.6 and 4.7** of the Standard.



There should be large windows in front for a good view of the conference room and on the sides for visibility into the other booths.

There should be no vertical support in the centre of the front window.

There should be no supports at the junction of front and side panes between booths, so as to afford the widest possible angle of vision from each booth.

There should be no columns or chandeliers likely to block the view from the booths.

The best solution for windows is a single pane of 40-mm thick multiplex glass, or permanently sealed double glazing mounted in a lightweight aluminium frame.

Two separately mounted panes are not a good solution as there may be problems with condensation between them.

Windows should be made of non-reflecting glass, so the interpreters can see into the conference room, not their own faces.

Reflections in the front window from within the booth can be avoided by slightly tilting the glass outward at the top (see photo on next page). Tinted or smoked glass is to be avoided.

Care should be taken in applying sealants between panes to ensure proper soundproofing.

The lighting in the conference room should be designed in such a way that it will not dazzle the interpreters in the booths.

Windows looking outdoors can be helpful, if there is adequate protection from glare.

## The workspace

This subject is covered in **items 5.4 and 5.5** of the Standard.



standing up).

Walls, table-tops and glazing should not reflect light. Documents on the table are inclined to do so, but the effect can be reduced by matt, neutral-coloured surfaces on the table and SI control panel.

The table surface should also be sound-absorbent, to prevent pencil scratching and other sounds being picked up by the microphone, yet firm enough to write on.

Conveniently located electric outlets should be available for computers and other devices. It is also advisable to provide a connection to the Internet.

Floor covering should be silent.

For seating, silently operated chairs on 5 casters are the best solution. The arms should be sound-absorbent, to avoid noisy bumping against the table edge.

Footrests are essential for people with short legs, if they are to sit at the appropriate height for the table and enjoy an unrestricted view. A simple wooden bar on stable supports a few inches off the floor is all that is needed.

There should be a table running the full width of the booth, with enough space to accommodate the SI equipment, plus papers, reference books, computers and other materials needed by the interpreters.

A table that is too large can be as inconvenient as one that is too small. The appropriate dimensions for the table are given in ISO Standard 2603.

Shelving or pigeonholes on side or rear walls are desirable, or even an extra table. A 2-tier trolley can be very useful, or a shelf above the front window (depending on booth design – but watch head clearance when



## Lighting in the booth

This subject is covered in **item 5.2** of the Standard.

Interpreters often work with written texts and jot down notes to help a colleague. If the light in the booth is bad, the result is eyestrain and headaches.

Table lamps are essential so that interpreters can read texts or take notes when the room lights are off.

Overhead lighting in the booth should not cast shadows. It should not be behind the interpreters and should be placed in the ceiling in such a way that it does not shine in their eyes.

Overhead fluorescent tubes are not suitable.

Individual reading lamps for interpreters should:

- not obstruct the view of the meeting room
- not generate heat
- not create glare into other booths or the meeting room
- not interfere with the sound system
- not have transparent lampshades or hard-to-reach switches

A simple solution is to have hanging spotlights above the work table on an extensible coiled cord, with a cylindrical lampshade big enough not to restrict the beam too much when lowered and to prevent glare outside the booth when raised. The intensity of the light is determined by the distance of the lamp from the table surface.



Some form of dimming is required, particularly if projection is likely. Beware of cheap dimmers whose rheostats may interfere with SI equipment, causing crackle.

Some form of lighting is required further back in the booth to light up the booth on entering (switch by the door), for cleaning, etc. Fluorescent lighting may be used for this purpose.

The general lighting should not be too far toward the back of the booth to avoid casting shadows on the table (if this lighting is in use while the interpreters are working).

A light switch should be within reach of the working interpreter.

## Soundproofing and acoustics in the booth

This subject is covered in **item 4.8** of the Standard.

Walls, doors and windows must be soundproof to prevent interference. (See the booth plan for more details.)

- between booths
- between the interpreters' booths and the sound control booth
- between the booths and the conference room

The booth walls may be covered with fabric of sufficient thickness, but carpeting should not be used for health reasons.

The booths should be placed in a separate area that does not open directly onto a public area. This will keep unwanted outside noise from going through the interpreters' microphones and into the listeners' earphones.

Floor covering in access passages and booths should be sound-absorbent, to avoid disturbing resonance effects from footsteps.

Air ducts and cable ducts should also be soundproofed to prevent noise transmission from booth to booth.

## Climate control in the booth

The subject of air supply/heating/air conditioning is covered in **item 4.9** of the Standard.

Booth air-supply systems, since they are built into the structure, should be addressed early in the planning stages. They should be controlled independently of systems supplying the conference room and/or the rest of the building and have a 100% fresh-air intake (no recycled air).

Each booth should have an individual unit or individual thermostat control for the central system.

Air-supply ducts should not pass through walls between booths.

Air ducts and inlets should introduce air in a silent, draught-free manner while ensuring that no noise is transmitted from booth to booth.

Air inlets and outlets inside the booths should be placed so as to avoid creating draughts around the working interpreters.

Direct vents in ceilings or floors are liable to create draughts between inlets and outlets and along walls, as well as eddies in corners, owing to the rate of air turnover required by ISO 2603 and the confined space in a booth.

Some form of air decompression is usually required before it enters the booth. This may involve a perforated false ceiling over which the air spreads before penetrating into the booth. No loss of booth height should be incurred (see the booth plan).

It is best for air to be extracted close to the floor and to the rear of the booth.

## Simultaneous interpretation equipment

This subject is covered in **item 8** of the Standard.

What equipment does an interpreter need?

- 1 booth per language
- 1 console or interpreter's unit per interpreter
- individual earphones
  - high-quality and lightweight – NOT the kind intended for listening to music or used by journalists
  - audio frequencies of 125-12,500 Hz
- individual microphone
- 1 outgoing channel per language

SI equipment is a major investment item when building a multilingual conference facility, and an unfortunate choice of equipment will blight the life of a whole generation of interpreters and their audiences. No management is going to be persuaded to find money to replace apparently new, little used equipment, however useless it may be. The best way to avoid such mistakes is to consult with AIIC in the planning stage.

## The interpreter's control panel

This subject is covered in **items 8 and 9** of the Standard. The main features are outlined below.



### Channels

- There should be multiple incoming and outgoing channels.
- Selectors for outgoing and incoming channels should be easy to distinguish from each other.
- Outgoing-channel selectors should be push-buttons.
- Incoming-channel selector should be dial type.
- There should be 1 outgoing channel per language plus floor channel.

### Microphones

- Individual microphones for all interpreters.
- Microphone control: a toggle switch easily distinguishable from other controls (a different colour, for example, or a light of a different colour on a digital panel).
- A "microphone-on" light: an easily visible ring around the mike or a light on the console.
- If the microphone is fixed to the control panel, it should have a long enough flexible stem so the interpreter is not forced to adopt a rigid or awkward position.

### Other panel items

- Tone controls to adjust bass and treble settings according to individual preferences and different speakers' voices.
- Automatic relay with channel pre-selector.
- The relay on-off should be a toggle switch.
- A mute button that switches off the microphone without returning to the floor channel.

An important design item is that listening and speaking controls not be confused. One way is to confine them to distinct areas on the panel. The controls most frequently used should be easily accessed (e.g., microphone on/off, tone control, etc.).

All controls should operate noiselessly.

## The sound system

The subject of sound in general is covered in **item 7** of the Standard and headphones are discussed in **item 10**.

It is one thing to sit and listen to a speaker through a bad sound system, and quite another to listen to both the speaker and your own voice – and interpret. Poor sound quality is a cause of fatigue and headaches.

### The earphones

- Individual headphones should be provided for all interpreters
- Headphones should be high-quality and lightweight, designed for interpreters (not for stereo music listening)
- No in-the-ear headphones – for interpreters or audience
- Earphones should provide audio frequencies from 125-12,500 Hz

### The importance of sound

- Good sound quality in the booth and in the conference room is an essential factor in simultaneous interpretation.
- Poor sound causes unnecessary stress and fatigue.
- Good sound depends on many factors, among others:
  - proper sound equipment that supplies the full range of sound: 125-12,500 Hz
  - good-quality, lightweight earphones
  - room acoustics
  - loudspeakers distributed around the room and volume kept low enough

## Some important details in the sound system and equipment

- Infrared and fully cabled systems are the systems of choice.
- A loudspeaker installed on the control panel or somewhere in the booth can be very useful for following the speaker while your channel is occupied by another booth, or to follow the proceedings with the headphones off when the booth is at rest. It must be equipped with volume control, which should be within easy reach of the seated interpreters.
- It is always wise to provide for more channels than the number of built-in booths. Extra channels can be useful to accommodate additional languages interpreted from mobile booths.
- There should be one complete set of controls and headphones per interpreter.
- Control panels may be sunken into the table-top or free-standing; however, the panel should be at a slight angle for easier access and better view of the controls.
- If the control panel is built into the table, it should be mounted in the interpreter's direct line of vision into the hall, leaving at least 0.45 m clear to the edge of the table in front of the interpreter, so as not to encroach on the available work space.
- Headphone cables should pass under the table and be secured under the free edge. The rough requirement is to leave 1.5 m of free cord, although a useful rule of thumb is that the interpreter should be able to reach the document shelves easily, wherever they are in the booth, without having to remove the headphones.