

What's a FlatPhone®?

FlatPhone® is a range of directional speakers conceived by TKGeo which enable to reintroduce audio communication in public places.



So, it is not a question of simply broadcasting music in a building, store or reception area, but rather focusing sound content onto clearly defined zones without disturbing surroundings and people who are not concerned. FlatPhone® enables you to multiply sound sources in one place without having sound pollution, while also not forcing visitors to wear audio headphones.



A few striking technical characteristics:

Audio properties:

Max output sound pressure level: > 85 dB

Bandwith: 400 Hz – 16 kHz (-6 dB/oct.)

Operational principle:

Bridged mono (stereo to mono internal conversion)

Electrical properties:

External power supply: 24V DC, 1,25 A

Input impedance: 100 k Ω

Input voltage: 50 mV – 2 V max

Output power: 30 Watts

Output voltage: Max 40 V rms

Audio input: Stereo mini-jack 3,5 mm, unbalanced

Adjustable gain

Power indicator: led (green)

Clip indicator: led (red)

Automatic volume control relative to changes in ambient noise level (can be disabled)

Virtual bass Function (can be disabled)

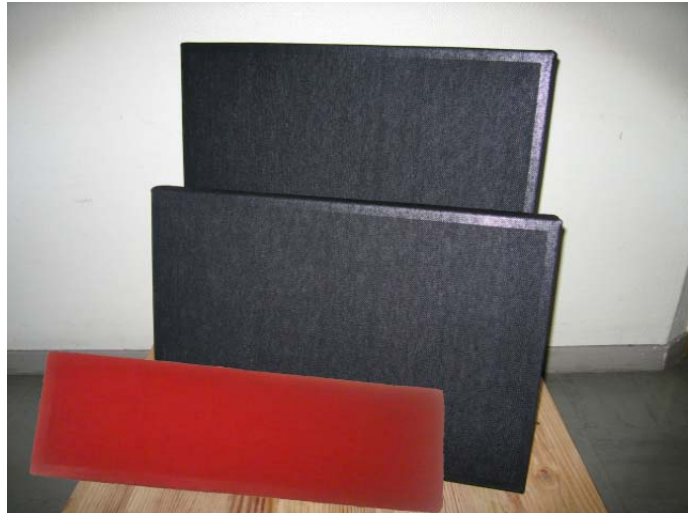
Power supply for external device: 5 V DC, 100 mA on USB connector (type A).



The standard and super-thin ranges

FlatPhone® comes in two ranges:

- The standard one with 5 cm-width as its distinctive feature
- The super-thin one is 1 centimeter wide



Each range comes in three sizes:

- 600 x 200
- 600 x 400
- 600 x 600

The choice in size depends on the area concerned and the quality you are looking for:

- The bigger the FlatPhone®, the broader the covered area will be.
- The bigger the FlatPhone®, the better the bass will sound.

Standard FlatPhone®

15° to 20° sound cone projection.

They offer the best results in terms of sound pressure and audio quality.

It is the best choice as soon as one wants a good sound quality and a high volume.

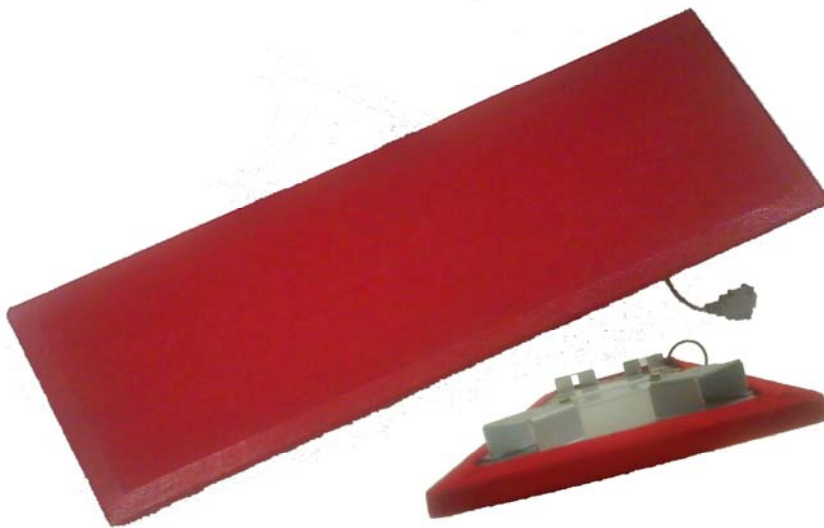


Super-thin FlatPhone®

Aside from aesthetic concerns, the super-thin FlatPhone® range offers a very narrow sound cone projection around 5° to 10°.

But the audio quality is inferior compared to that of the Standard FlatPhone® range. That's the price you have to pay to have the preciseness of the laser.

Most often they are used to broadcast voices or sounds.



Why FlatPhone®?

FlatPhone® is the best solution for directional audio when you compare their features in terms of audio footprint*, bandwidth, long distance covered, sound pressure level, directionality, easily installation and costs.

Three technological approaches exist for directional audio:

A/ Constraint speakers

Sound focus dome speakers that can be found in music stores to listen to audio CDs.

Cons: ugly, very limited for broadcasting distances > 2 meters, not very powerful

Pros: bandwidth, cost.

B/ Hypersonic speakers (HSS from TKGeo)

They broadcast a much focused beam of hyper sonic sound which became audible when they are in contact with targeted listeners.

Cons: very restrictive audio footprint, low sound pressure level, low audio quality.

Pros: precision, extreme directivity.

C/ Electrostatic plane wave speakers (FlatPhone® from TKGeo)

FlatPhone®: flat speaker, a film vibrates to create the audio signal according to a plane wave instead of a spherical one.

Pros: good bandwidth, directivity. It can be easily integrated and customized, high sound pressure level, affordable quality-price ratio.

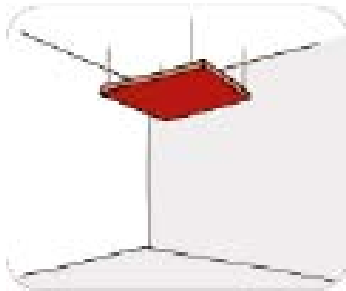
Cons: required to define the area where audio will be listened.

*** "Audio footprint" is the area where audio can be easily listened to.**

HOW TO USE THEM?

On the whole, you will be able to use FlatPhone® products in two ways: with the SHOWER or with the BEAM.

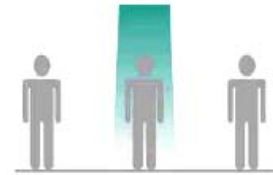
SHOWER:



integrated into the structure or decor.

The shower use is one of the most efficient ways of using FlatPhone®:

- it enables to really enjoy the speakers' directive feature
- audio footprint can be easily manageable (both in terms of size and sound pressure level)
- Loudspeakers can be



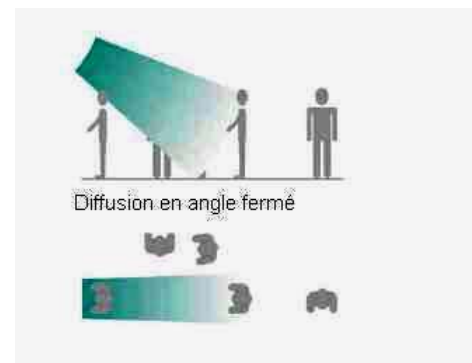
Diffusion en douche verticale



HORIZONTAL BEAM:



The horizontal beam use is mainly adapted to a use with screens or in places where the targeted audience is quantitatively more numerous and the required broadcasting distances longer.



Diffusion en angle fermé

Here are its assets:

- Larger and longer audio footprint to be able to focus 2 to 15 people groups simultaneously.
- Easily combined with display (binding kit, different sizes)



Typical Applications:

Shower use:

Museography: broadcasting of information in different languages for adults or children (who don't read the comments).



Trade shows: Broadcasting of sound when a screen is in a booth, not like in a silent movie and without disturbing people who are not concerned by it.



Reception areas: confidentiality areas



The information shower in a reception area (company, banks, insurance, doctor's office)

Associated with a screen it enables to broadcast promotional content or entertainment in a waiting area with a double goal:

❶ **Waiting does not seem so long** as the visitor is immersed in the media flux which entertains him before his host comes to get him.

❷ Confidentiality is reinstated in places where it is important. The reception area is the archetypal space where all visitors are idle and are receptive to all outside stimuli: they are waiting for their appointment.

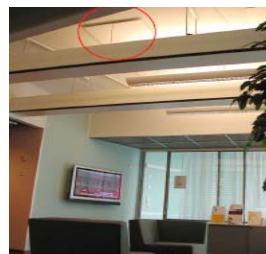
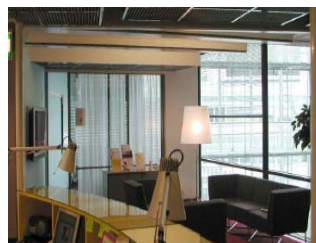
In other words, they are watching and listening to the people at the reception desk. They are listening to the people calling in and who they are asking for in the company, in the waiting line. They hear the previous customer's problems or on the contrary his/her good

news which the customer did maybe not want to share with everybody else.

By using the FlatPhone® solution in reception areas, the visitor is informed and especially isolated in a delimited audio video bubble. A calm ambiance is maintained throughout the area and the visitor is prevented from concentrating on events which are outside that sphere.

Thanks to its directivity, FlatPhone® enables to create a discreet and useful sound mask as it is used to inform the visitor about the company's activities, products and innovations or just to entertain him with a TV program broadcast on a screen (news, music, sports channel).

Confidentiality is reinstated and the visitor can be informed about the company he is about to visit in a way which is a lot more efficient than the usual brochures or professional magazines spread on the surrounding coffee tables.

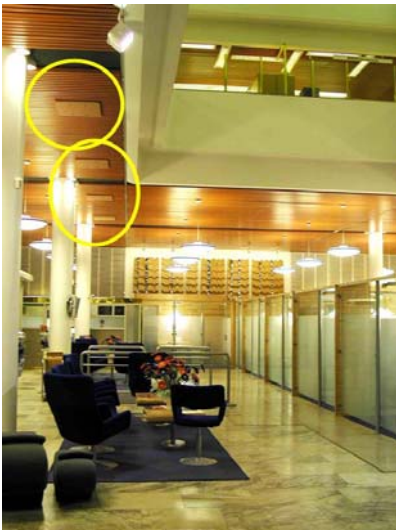


Show room and Shop in Shop:



You can show a product in the showroom and intervene in another part of the showroom and not disturb a demonstration underway. To show a product in a company without bothering other visitors and customers – this is precisely what the FlatPhone® solution, used as a shower, enables you to do in the SHOP in SHOP applications.

Plus: many audio areas (targeted at sound or ambiance) can cohabitate on short distances. The space is wisely compartmentalized.



Children areas:

The children area may be equipped with FlatPhone® to enable them to watch a TV program while not bothering the customers and parents who are present in the sale area.



Horizontal Beam Use:

Digital Signage (combined with display):

The digital signage use enables to combine the screen with a FlatPhone® sound system in order to catch again the spectator's attention.

One of the first applications is to entertain waiting lines because the fact of introducing sound catches the attention of spectators and distracts him from confidential information and other discussions going on between the visitor and the person giving out information.



Teaser:

Used outside stores, FlatPhone® can catch the attention of passers-by and thus make them observe, then walk into the store.



Museography:

Audio and multimedia content. FlatPhone® enables to multiply the multimedia content in one same open space without having to use headphones. The visitor can go freely throughout the exhibitions and truly appreciate the art works.



Multimedia kiosk:

Used with multimedia kiosk, FlatPhone® enables to make sure that conversations remain confidential and especially, not to bother people not far from the kiosk

