HEARING ENHANCEMENT SYSTEM SEMINAR

AMPETRONIC
Listen to the difference

SecureCom

Listen®





CONTENT

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09.30am Registration & Light Refreshments

10.00am Welcome Address

10.10am BCA Code of Accessibility 2013 Provision, Standards and Legislation

10.30am Hearing Enhancement System: Induction Loop and IR/FM
Pros and Cons: Induction Loop and IR/FM
How to design and specify Hearing Enhancement System
Know more about IEC 60118-4 International Standards
Product Demonstration
Questions and Answers

12.00pm Lunch and Networking

CORPORATE INFO

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- Extra-Low Voltage (ELV) System Integrator Specialist
- Security, Communication, AV and related systems
- Design, Supply, Installation, Commissioning, Maintenance

AMPETRONIC

Listen to the difference

- Founded in 1987, Newark, Notthinghamshire, UK
- Induction Loop Manufacturer
- Sales, Marketing, Distribution and R&D Departments

Listen

- Founded in 1998,Utah, USA
- Infrared-Red and FM ALD Manufacturer
- Sales, Marketing, Distribution and R&D Departments

SYSTEM SETUP

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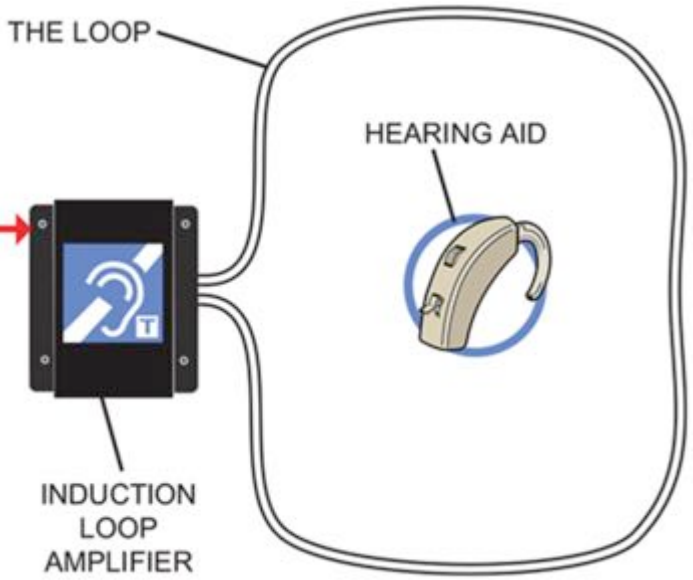

IR RADIATOR



IR TRANSMITTER



IR RECEIVER



INSTRUCTION TO USE

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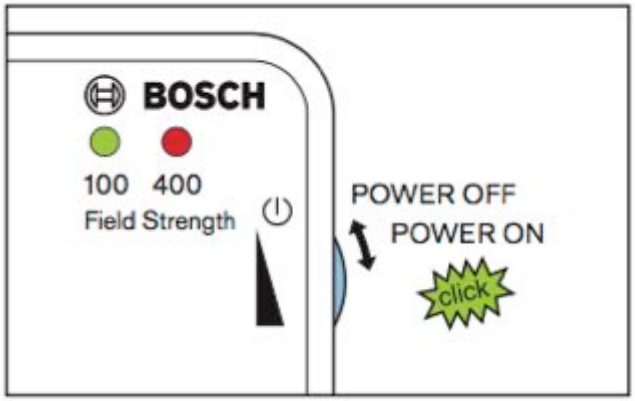
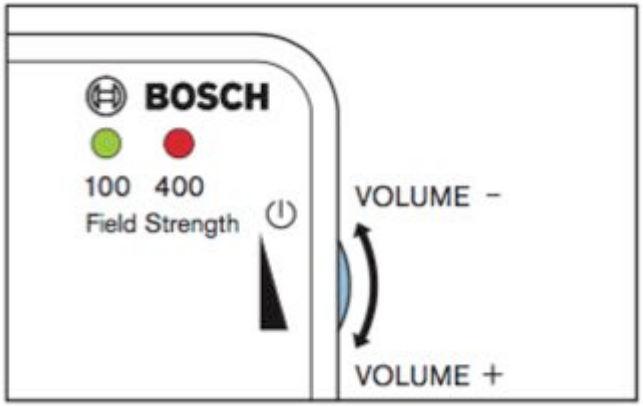
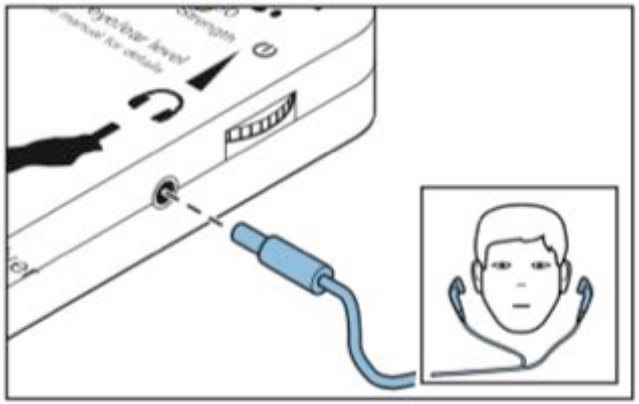
INDUCTION LOOP RECEIVER









INSTRUCTION TO USE

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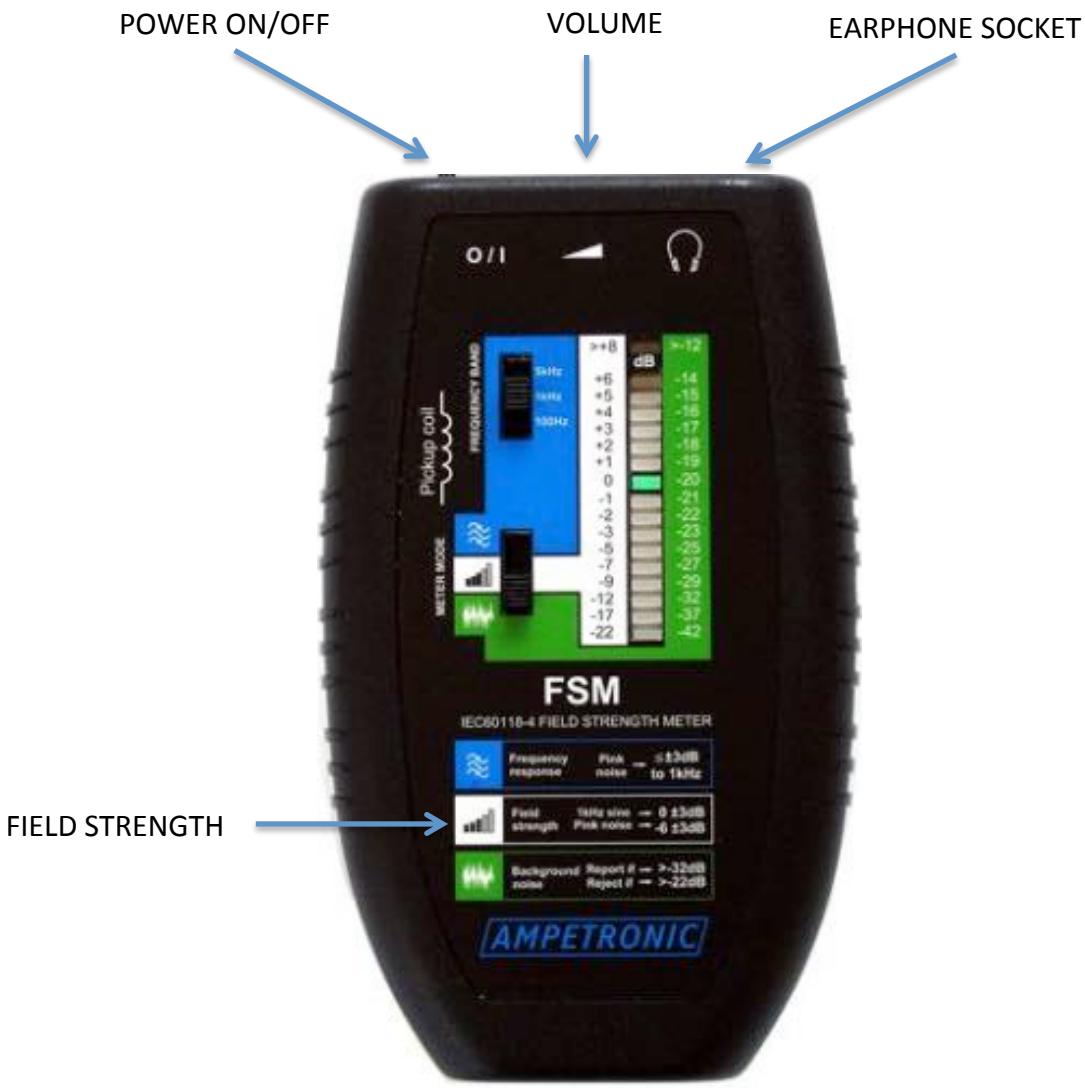

FIELD STRENGTH METER

INSTRUCTION TO USE

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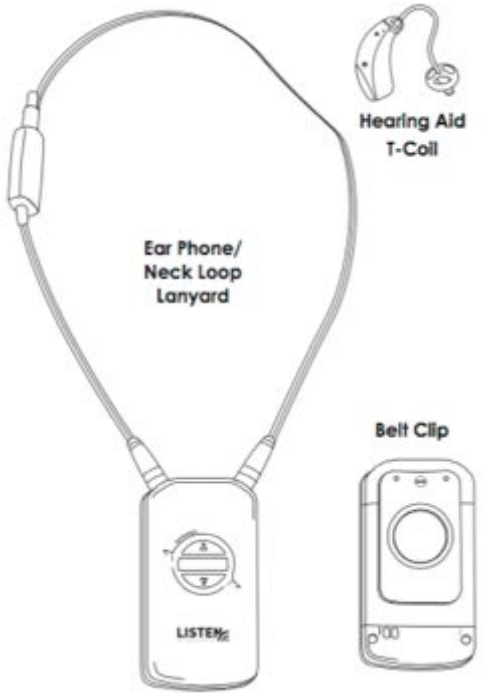
IR RECEIVER





HEARING LOSS?

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National Health Survey 2010

SINGAPORE

Table 10.2: Age-specific prevalence (%) of hearing loss, by severity level, 2010

Age (years)	At least 3 frequencies out of 4 affected in at least 1 ear		At least 3 frequencies out of 4 affected in better ear		All 4 frequencies affected in both ears	
	At least mild hearing loss (≥ 25 dB)	At least moderate hearing loss (≥ 40 dB)	At least mild hearing loss (≥ 25 dB)	At least moderate hearing loss (≥ 40 dB)	At least mild hearing loss (≥ 25 dB)	At least moderate hearing loss (≥ 40 dB)
18 - 29	12.7%	4.8%	4.3%	1.2%	0.7%	0.1%
30 - 39	12.4%	4.3%	2.3%	0.7%	1.1%	0.2%
40 - 49	26.4%	8.9%	10.2%	2.8%	4.5%	1.2%
50 - 59	36.6%	14.9%	20.1%	4.0%	8.8%	1.9%
60 - 69	64.2%	23.2%	32.9%	9.6%	18.6%	1.0%

LEGISLATION – BCA

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CODE ON
ACCESSIBILITY
IN THE BUILT ENVIRONMENT 2013

Building and Construction Authority

TABLE 1 (continued)
Accessibility for Persons with Disabilities and Families with Young Children

Building Type	Accessible Areas	Key provisions to note**	
		Sanitary provision	Other provisions
2. Shophouses.	First storey for non-residential use shall be accessible to employees or the public.	WC	Minimum 1 no. WC at 1st Storey. Where space is a constraint, an AM may be considered.
3. Office buildings.	All areas intended for access by employees or the public.	AM, UGB, WC	Cl 6.8: Hearing enhancement system shall be provided. Cl 4.6.1.4, 4.11.1.2 and 5.1.7: Tactile and Braille signs shall be provided.
4. Shopping complexes and multi-purpose complexes.	All areas intended for access by employees or the public.	AM, UGB, WC	Cl 2.3.8: Seats and counters shall be provided. Cl 6.8: Hearing enhancement system shall be provided. Cl 6.9: Family-friendly facilities shall be provided. Cl 4.6.1.4, 4.11.1.2 and 5.1.7: Tactile and Braille signs shall be provided.

https://www.bca.gov.sg/BarrierFree/others/ACCESSIBILITY_CODE_2013.pdf

LEGISLATION – BCA

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TABLE 1 (continued)
Accessibility for Persons with Disabilities and Families with Young Children

Building Type	Accessible Areas	Key provisions to note**	
		Sanitary provision	Other provisions
5. Hotels, boarding houses, chalets and backpackers' hotels.	All areas intended for access by employees, guests or the public.	AM, UGB, WC	Cl 2.3.3: 1 in 100 guest rooms to be accessible. 1 in 50 guest rooms to be elder friendly. Cl 6.8: Hearing enhancement system shall be provided. Cl 4.6.1.4, 4.11.1.2 and 5.1.7: Tactile and Braille signs shall be provided.
6. Serviced apartments.	All areas intended for access by employees, residents, visitors, or the public.	AM, UGB, WC	Cl 2.3.4: 1 in 100 apartments to be accessible. Cl 4.6.1.4, 4.11.1.2 and 5.1.7: Tactile and Braille signs shall be provided.
7. Places of public resort.	All areas intended for access by employees or the public.	AM, UGB, WC	Cl 2.3.5: Where permanent fixed seating arrangements are provided, wheelchair spaces are to be provided. Cl 6.8: Hearing enhancement systems shall be provided. Cl 6.9: Family-friendly facilities shall be provided. Cl 4.6.1.4, 4.11.1.2 and 5.1.7: Tactile and Braille signs shall be provided.

TABLE 1 (continued)
Accessibility for Persons with Disabilities and Families with Young Children

Building Type	Accessible Areas	Key provisions to note**	
		Sanitary provision	Other provisions
8. Parks and open spaces including zoos, civic plazas, etc.	All areas intended for access by employees or the public.	AM, UGB, WC	Cl 2.3.5: Where permanent fixed seating arrangements are provided, wheelchair spaces are to be provided. Cl 6.9: Family-friendly facilities shall be provided.
9. Sports complexes and public swimming pools.	All areas intended for access by employees or the public.	AM, UGB, WC	Cl 2.3.7: At least one individual shower stall shall be accessible. Cl 6.8: Hearing enhancement systems shall be provided. Cl 6.9: Family-friendly facilities shall be provided. Cl 4.6.1.4, 4.11.1.2 and 5.1.7: Tactile and Braille signs shall be provided.
10. Restaurants and eating establishments.	All areas intended for access by employees or the public.	AM, UGB, WC	Cl 6.7: Wheelchair spaces provision for eating outlets.
11. Markets and hawker or food centres.	All areas intended for access by employees or the public.	AM, UGB, WC	Cl 6.7: Wheelchair spaces provision for eating outlets. Cl 4.6.1.4, 4.11.1.2 and 5.1.7: Tactile and Braille signs shall be provided.

LEGISLATION – BCA

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TABLE 1 (continued)
Accessibility for Persons with Disabilities and Families with Young Children

Building Type	Accessible Areas	Key provisions to note**	
		Sanitary provision	Other provisions
12. Transport stations, interchanges, passenger terminals.	All areas intended for access by employees or the public.	AM, UGB, WC	Cl 2.3.9: At least one entrance on each side of the road shall be made accessible. Cl 6.8: Hearing enhancement systems shall be provided. Cl 6.9: Family-friendly facilities shall be provided. Cl 4.6.1.4, 4.11.1.2 and 5.1.7: Tactile and Braille signs shall be provided.
13. Pre-school, schools colleges, universities or institutions of learning.	All areas intended for access by employees, students or the public.	AM*, UGB*, WC	*AM and *UGB are not required in pre-schools, primary and secondary schools. Cl 6.8: Hearing enhancement systems shall be provided. Cl 4.6.1.4, 4.11.1.2 and 5.1.7: Tactile and Braille signs shall be provided except for pre-school and school.

TABLE 1 (continued)
Accessibility for Persons with Disabilities and Families with Young Children

Building Type	Accessible Areas	Key provisions to note**	
		Sanitary provision	Other provisions
14. Hostels, halls of residence or dormitories.	All areas intended for access by employees, residents, students or the public.	AM*, UGB*, WC	Cl 2.3.6: At least one in every 100 rooms or shall be accessible. *AM and *UGB are not required in hostels and halls of residence or dormitories for primary and secondary schools. Cl 6.8: Hearing enhancement systems shall be provided. Cl 4.6.1.4, 4.11.1.2 and 5.1.7: Tactile and Braille signs shall be provided.
15. Hospitals, clinics, nursing homes, homes for the aged and welfare homes.	All areas intended for access by patients, residents, employees or the public.	AM, UGB, WC	Sanitary facilities within the wards or homes for patients/residents are to be provided in accordance with the hospitals' and homes' requirements and needs. Cl 6.8: Hearing enhancement systems shall be provided in hospitals and clinics. Cl 4.6.1.4, 4.11.1.2 and 5.1.7: Tactile and Braille signs shall be provided in hospitals and clinics.

LEGISLATION – BCA

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Hearing enhancement systems

6.8 HEARING ENHANCEMENT SYSTEMS

6.8.1 A hearing enhancement system shall be provided in:

(a) the function rooms, halls and auditoriums used for meetings, lectures, performances or films; and

(b) at least one of the public information/service counters for cinemas, theatres, concert halls, stadiums, shopping complexes, museums theme parks, purpose-built family amusement centres, sport complexes, public swimming pools, hospitals, clinics, transport stations, interchanges and passenger terminal.

Note:

(1) A hearing enhancement system enables sound signals to be transmitted to a hearing impaired person without interference of background noise or excessive reverberation.

(2) Hearing enhancement systems that operate with induction loop, infrared and radio frequency are commonly used to provide enhanced level of sound.

(3) Expert advice should be sought when selecting a hearing enhancement system appropriate for the situation and purpose.

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6.8.2 Where hearing enhancement system is provided for persons with hearing impairment, the international symbol of access for hearing loss as shown in Figure 73 shall be conspicuously displayed and in accordance with clause 8.5.2.1.



Figure 73
Symbol of Access for people with Hearing Loss

LEGISLATION – BCA

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Table 1

S/No.	Building Type	Requirement	Provision	
1	Residential			
2	Shophouse			
3	Office Building	✔	The function Rooms, hall and auditoriums used for meetings, lectures, performances or film.	Service /Info Counter
4	Shopping Complexes and Multi-Purpose Complexes	✔	The function Rooms, hall and auditoriums used for meetings, lectures, performances or film.	Service /Info Counter
5	Hotels, boarding houses, chalets and backpackers' hotels	✔	The function Rooms, hall and auditoriums used for meetings, lectures, performances or film.	Service /Info Counter
6	Serviced apartments.			
7	Places of Public Resort, Cinemas, Theatres, Concert hall, Stadium	✔	The function Rooms, hall and auditoriums used for meetings, lectures, performances or film.	Service /Info Counter
8	Parks and open spaces including zoos, civic plazas, etc.			
9	Sports complexes and public swimming pools	✔	The function Rooms, hall and auditoriums used for meetings, lectures, performances or film.	Service /Info Counter
10	Restaurants and eating establishments.			
11	Markets and hawker or food centres.			
12	Transport Stations, Interchanges, Passenger Terminals	✔	The function Rooms, hall and auditoriums used for meetings, lectures, performances or film.	Service /Info Counter
13	Pre-school, Schools, Colleges, Universities or iInstitutions of learning.	✔	The function Rooms, hall and auditoriums used for meetings, lectures, performances or film.	Service /Info Counter
14	Hostels, Halls of Residence or Dormitories.	✔	The function Rooms, hall and auditoriums used for meetings, lectures, performances or film.	Service /Info Counter
15	Hospitals, Clinics, Nursing homes, Homes for the aged and welfare homes.	✔	The function Rooms, hall and auditoriums used for meetings, lectures, performances or film.	Service /Info Counter
16	Factories, workshops, industrial buildings and office/showroom areas in warehouses.			
17	Workers dormitory.			
18	Vehicle parks (Surface parking or vehicle parking buildings).			
19	Vehicle parks (Surface parking or vehicle parking buildings).			

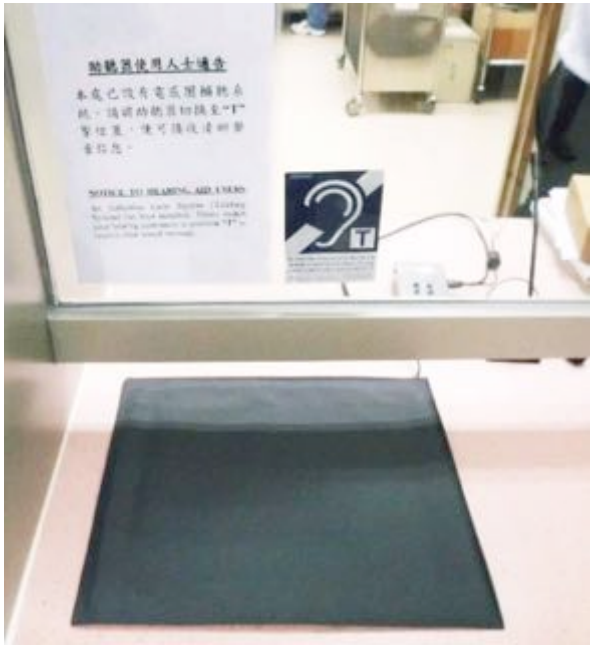
Effective Date: 01st April 2015 (Building Plan Submission)
For new buildings and existing buildings undergoing A&A works.

LEGISLATION – BCA

Service / Information Counters
(Induction Loops only)







LEGISLATION – BCA

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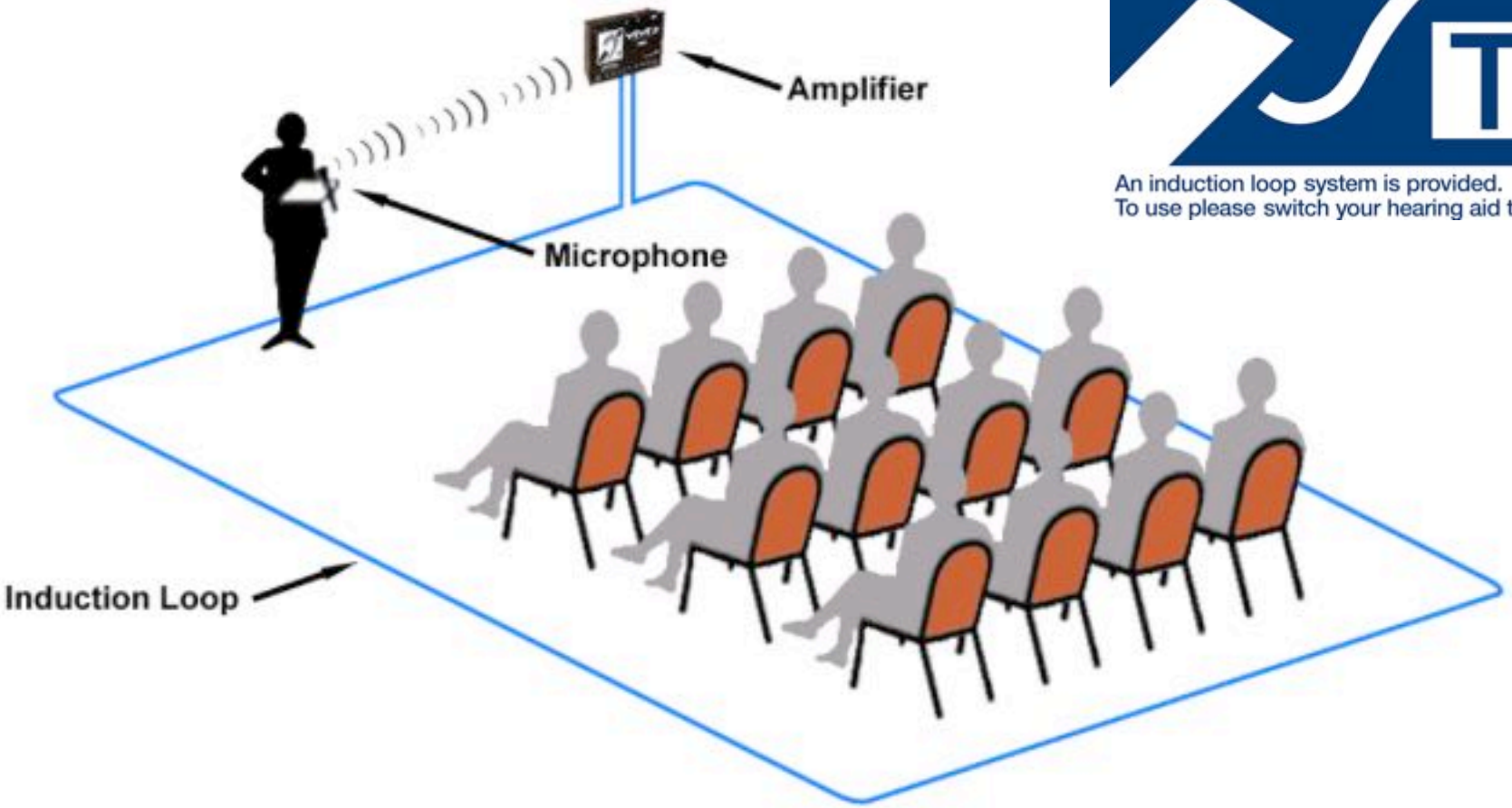
Large Venue – Induction Loop System





LEGISLATION – BCA

Large Venue – Infrared Red / FM System







BEYOND

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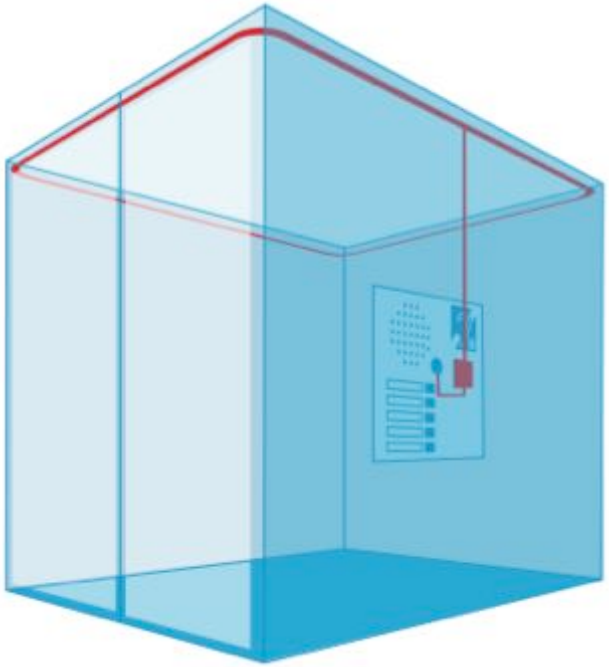
Emergency Help Point



Elevator

BEYOND...

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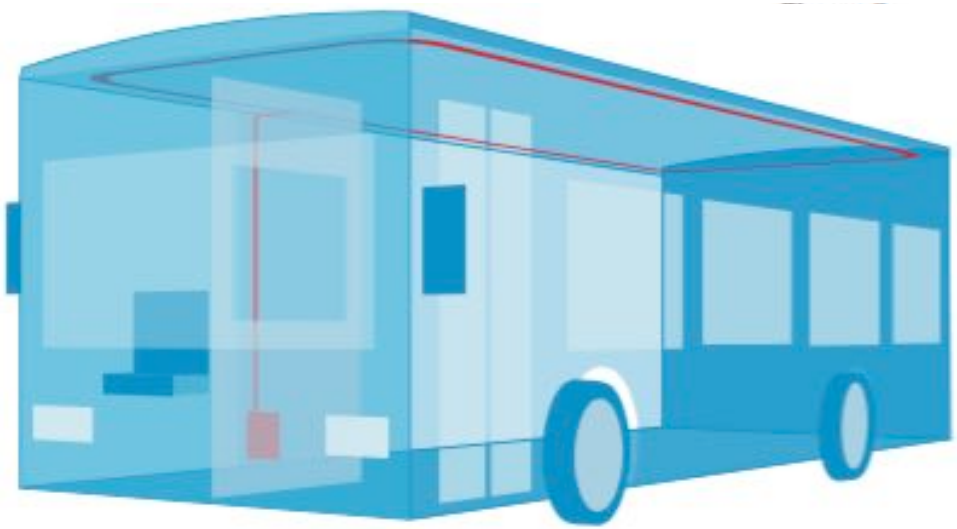
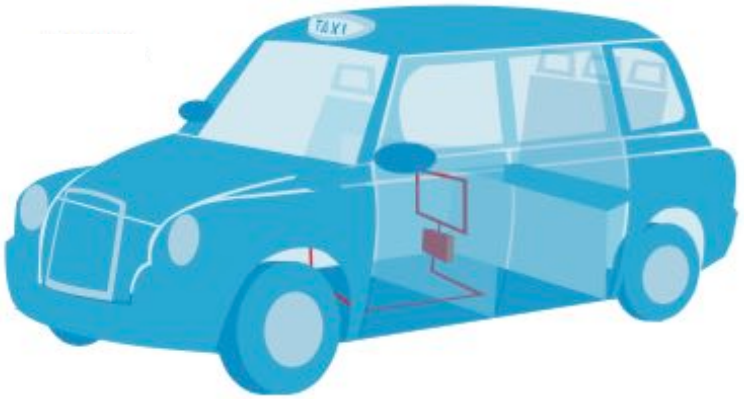


Bus / Coach / Trains



Taxi