

IEC 62368-1 Technical Brief

IEC 62368-1's Scope

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This technical brief is the first in an ongoing series of briefs that are intended to provide an introduction to key concepts and requirements covered in the new safety standard for audio/video, information and communication technology equipment, IEC 62368-1.

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The first edition of **IEC 62368-1**, *Audio/Video, Information Technology and Communications Technology Equipment, Part 1 – Safety Requirements*, was published in January 2010. It was developed, and will be maintained by IEC TC108, the IEC technical committee responsible for developing safety requirements for electronic equipment within the field of audio/video, information technology and communications technology. The standard was a result of almost eight years of hard work and collaboration by a variety of experts from multiple sectors of the high technology industry representing the over thirty national committees that participate as members on IEC TC108.

The Scope of IEC 62368-1 is found in its Clause 1. It encompasses the scopes of the two IEC standards that it is intended to replace, mainly, IEC 60065, Audio, Video and Similar Electronic Apparatus – Safety Requirements, and IEC 60950-1, Information Technology Equipment – Safety – Part 1: General Requirements.

Specific examples of equipment covered within the scope of the standard are provided in Annex A, with the examples divided into groups according to technology or like function.

The specific groups (and examples) provided specifically in Annex A include, banking equipment (e.g., ATMs); consumer electronic equipment, including professional audio, video and musical instrument equipment; data and text processing machines and associated equipment (e.g., printers, PCs, monitors, etc.); data network equipment (e.g., routers); electrical and electronic retail equipment (e.g., POS terminals); electrical and electronic office machines (e.g., document shredders); postage equipment; and telecommunication network infrastructure and terminal equipment (e.g., cell site equipment, wireless telephone sets).

Similar to both IEC 60065 and IEC 60950-1 the examples provided are not intended to be all-inclusive, and equipment not listed in Annex A is not necessarily excluded from the scope.

The Scope also clarifies that the standard additionally applies to components and subassemblies intended for incorporation in audio/video, information technology and communications technology equipment. It goes on to state that such components and subassemblies need not comply with every requirement of the standard, provided that the complete equipment (system), incorporating such components and subassemblies, does comply.

For example, this provision justifies investigating a component switch mode power supply (SMPS) to applicable parts of IEC 62368-1 if the SMPS is to be used in equipment (systems) covered by and investigated to IEC 62368-1.

The scope also clarifies while the Standard specifies safeguards for ordinary persons, instructed persons and skilled persons, it does not apply to equipment used in wet areas, outdoor installations, and it does not include requirements for functional safety. Those requirements are contained in other standards, such as IEC 61508-1 for functional safety and IEC 60950-22 for information and communication technology equipment intended for installation outdoors.

The scope further clarifies that among the other things the standard does not address are, manufacturing processes (except safety (routine) testing); injurious effects of gases released by thermal decomposition or combustion; disposal processes; effects of transport (other than as specified in the standard); effects of storage of materials, components, or the equipment itself; the likelihood of injury from particulate radiation such as alpha particles and beta particles; the likelihood of thermal injury due to radiated or convected thermal energy; the likelihood of injury due to flammable liquids; the use of the equipment in oxygen-enriched or explosive atmospheres; exposure to chemicals other than those specified in Clause 7; and electrostatic discharge events.

Examples (abridged) of equipment covered within the scope of IEC 62368-1 (Annex A).

Generic product type	Specific example of generic type
Banking equipment	Monetary processing machines, incl. ATMs
Consumer electronic equipment (including professional audio, video and musical instrument equipment)	Receivers and amplifiers for sound and/or vision, electronic musical instruments, music tuners and the like for use with electronic or non-electronic musical instruments, audio and/or video educational equipment, video projectors, video cameras and video monitors, video games, juke boxes, optical disc players, tape and optical disc recorders, antenna signal converters and amplifiers, antenna positioners, Citizen's Band equipment, cable head-end receivers, multimedia equipment, electronic flash equipment
Data and text processing machines and associated equipment	Data processing equipment, data storage equipment, personal computers, plotters, printers, scanners, text processing equipment, visual display units
Data network equipment	Bridges, data circuit terminating equipment, data terminal equipment, routers
Electrical and electronic retail equipment	Cash registers, point of sale terminals including associated electronic scales
Electrical and electronic office machines	Calculators, copying machines, document shredding machines, motor-operated files, pencil sharpeners, staplers
Other information technology equipment	Photoprinting equipment, public information terminals, multimedia equipment
Postage equipment	Mail processing machines, postage machines
Telecommunication network infrastructure equipment	Multiplexers, network powering equipment, network terminating equipment, radio base stations, repeaters, transmission equipment, telecommunication switching equipment
Telecommunication terminal equipment	Facsimile equipment, key telephone systems, modems, PABXs, pagers, telephone answering machines, telephone sets (wired and wireless)

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In this continuing series of technical briefs, additional key topics associated with the new IEC 62368-1 standard will be reviewed similarly.