

CHAPTER 85

Electrical machinery and equipment and parts thereof; sound recorders and reproducers, television image and sound recorders and reproducers, and parts and accessories of such articles

- 8501 Electric motors and generators (excluding generating sets)
- 8502 Electric generating sets and rotary converters
- 8503 Parts suitable for use solely or principally with the machines of 8501 or 8502
- 8504 Electrical transformers, static converters (for example, rectifiers) and inductors
- 8505 Electro-magnets; permanent magnets and articles intended to become permanent magnets after magnetisation; electro-magnetic or permanent magnet chucks, clamps and similar holding devices; electro-magnetic couplings, clutches and brakes; electro-magnetic lifting heads
- 8506 Primary cells and primary batteries
- 8507 Electric accumulators, including separators therefor, whether or not rectangular (including square)
- 8508 Vacuum cleaners
- 8509 Electro-mechanical domestic appliances, with self-contained electric motor, other than vacuum cleaners of 8508
- 8510 Shavers, hair clippers and hair-removing appliances, with self-contained electric motor
- 8511 Electrical ignition or starting equipment of a kind used for spark-ignition or compression-ignition internal combustion engines (for example, ignition magnetos, magneto-dynamos, ignition coils, sparking plugs and glow plugs, starter motors); generators (for example, dynamos, alternators) and cut-outs of a kind used in conjunction with such engines
- 8512 Electrical lighting or signalling equipment (excluding articles of 8539), windscreen wipers, defrosters and demisters, of a kind used for cycles or motor vehicles
- 8513 Portable electric lamps designed to function by their own source of energy (for example, dry batteries, accumulators, magnetos), other than lighting equipment of 8512
- 8514 Industrial or laboratory electric furnaces and ovens (including those functioning by induction or dielectric loss); other industrial or laboratory equipment for the heat treatment of materials by induction or dielectric loss
- 8515 Electric (including electrically heated gas), laser or other light or photon beam, ultrasonic, electron beam, magnetic pulse or plasma arc soldering, brazing or welding machines and apparatus, whether or not capable of cutting; electric machines and apparatus for hot spraying of metals or cermets
- 8516 Electric instantaneous or storage water heaters and immersion heaters; electric space heating apparatus and soil heating apparatus; electro-thermic hair-dressing apparatus (for example, hair dryers, hair curlers, curling tong heaters) and hand dryers; electric smoothing irons; other electro-thermic appliances of a kind used for domestic purposes; electric heating resistors, other than those of 8545
- 8517 Telephone sets, including telephones for cellular networks or for other wireless networks; other apparatus for the transmission or reception of voice, images or other data, including apparatus for communication in a wired or wireless network (such as a local or wide area network), other than transmission or reception apparatus of 8443, 8525, 8527 or 8528
- 8518 Microphones and stands therefor; loudspeakers, whether or not mounted in their enclosures; headphones and earphones, whether or not combined with a microphone, and sets consisting of a microphone and one or more loudspeakers; audio-frequency electric amplifiers; electric sound amplifier sets
- 8519 Sound recording or reproducing apparatus

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- 8520 No heading
- 8521 Video recording or reproducing apparatus, whether or not incorporating a video tuner
- 8522 Parts and accessories suitable for use solely or principally with the apparatus of 8519 to 8521
- 8523 Discs, tapes, solid-state non-volatile storage devices, "smart cards" and other media for the recording of sound or of other phenomena, whether or not recorded, including matrices and masters for the production of discs, but excluding products of Chapter 37
- 8524 No heading
- 8525 Transmission apparatus for radio-broadcasting or television, whether or not incorporating reception apparatus or sound recording or reproducing apparatus; television cameras, digital cameras and video camera recorders
- 8526 Radar apparatus, radio navigational aid apparatus and radio remote control apparatus
- 8527 Reception apparatus for radio-broadcasting, whether or not combined, in the same housing, with sound recording or reproducing apparatus or a clock
- 8528 Monitors and projectors, not incorporating television reception apparatus; reception apparatus for television, whether or not incorporating radio-broadcast receivers or sound or video recording or reproducing apparatus
- 8529 Parts suitable for use solely or principally with the apparatus of 8525 to 8528
- 8530 Electrical signalling, safety or traffic control equipment for railways, tramways, roads, inland waterways, parking facilities, port installations or airfields (other than those of 8608.00.00)
- 8531 Electric sound or visual signalling apparatus (for example, bells, sirens, indicator panels, burglar or fire alarms), other than those of 8512 or 8530
- 8532 Electrical capacitors, fixed, variable or adjustable (pre-set)
- 8533 Electrical resistors (including rheostats and potentiometers), other than heating resistors
- 8534 Printed circuits
- 8535 Electrical apparatus for switching or protecting electrical circuits, or for making connections to or in electrical circuits (for example, switches, fuses, lightning arresters, voltage limiters, surge suppressors, plugs, and other connectors, junction boxes), for a voltage exceeding 1 000 volts
- 8536 Electrical apparatus for switching or protecting electrical circuits, or for making connections to or in electrical circuits (for example, switches, relays, fuses, surge suppressors, plugs, sockets, lamp-holders and other connectors, junction boxes), for a voltage not exceeding 1 000 volts; connectors for optical fibres, optical fibre bundles or cables
- 8537 Boards, panels, consoles, desks, cabinets and other bases, equipped with two or more apparatus of 8535 or 8536, for electric control or the distribution of electricity, including those incorporating instruments or apparatus of Chapter 90, and numerical control apparatus, other than switching apparatus of 8517
- 8538 Parts suitable for use solely or principally with the apparatus of 8535, 8536 or 8537
- 8539 Electric filament or discharge lamps, including sealed beam lamp units and ultra-violet or infra-red lamps; arc-lamps
- 8540 Thermionic, cold cathode or photo-cathode valves and tubes (for example, vacuum or vapour or gas-filled valves and tubes, mercury arc rectifying valves and tubes, cathode-ray tubes, television camera tubes)
- 8541 Diodes, transistors and similar semiconductor devices; photosensitive semiconductor devices, including photovoltaic cells whether or not assembled in modules or made up into panels; light emitting diodes; mounted piezo-electric crystals

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- 8542 Electronic integrated circuits
- 8543 Electrical machines and apparatus, having individual functions, not specified or included elsewhere in this Chapter
- 8544 Insulated (including enamelled or anodised) wire, cable (including co-axial cable) and other insulated electric conductors, whether or not fitted with connectors; optical fibre cables, made up of individually sheathed fibres, whether or not assembled with electric conductors or fitted with connectors
- 8545 Carbon electrodes, carbon brushes, lamp carbons, battery carbons and other articles of graphite or other carbon, with or without metal, of a kind used for electrical purposes
- 8546 Electrical insulators of any material
- 8547 Insulating fittings for electrical machines, appliances or equipment, being fittings wholly of insulating material apart from any minor components of metal (for example, threaded sockets) incorporated during moulding solely for purposes of assembly, other than insulators of 8546; electrical conduit tubing and joints therefor, of base metal lined with insulating material
- 8548 Waste and scrap of primary cells, primary batteries and electric accumulators; spent primary cells, spent primary batteries and spent electric accumulators; electrical parts of machinery or apparatus, not specified or included elsewhere in this Chapter
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Notes.

1.- This Chapter does not cover:

- (a) Electrically warmed blankets, bed pads, foot-muffs or the like; electrically warmed clothing, footwear or ear pads or other electrically warmed articles worn on or about the person;
- (b) Articles of glass of 7011;
- (c) Machines and apparatus of 8486;
- ★ (d) Vacuum apparatus of a kind used in medical, surgical, dental or veterinary sciences (Chapter 90); or
- (e) Electrically heated furniture of Chapter 94.

2.- 8501 to 8504 do not apply to goods described in 8511, 8512, 8540, 8541 or 8542.

However, metal tank mercury arc rectifiers remain classified in 8504.

3.- 8509 covers only the following electro-mechanical machines of the kind commonly used for domestic purposes:

- (a) Floor polishers, food grinders and mixers, and fruit or vegetable juice extractors, of any weight;
- (b) Other machines provided the weight of such machines does not exceed 20 kg.

The heading does not, however, apply to fans or ventilating or recycling hoods incorporating a fan, whether or not fitted with filters (8414), centrifugal clothes-dryers (8421), dish washing machines (8422), household washing machines (8450), roller or other ironing machines (8420 or 8451), sewing machines (8452), electric scissors (8467) or to electro-thermic appliances (8516).

★ Operative 1/1/12

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- 4.- For the purposes of 8523:
- (a) "Solid-state non-volatile storage devices" (for example, "flash memory cards" or "flash electronic storage cards") are storage devices with a connecting socket, comprising in the same housing one or more flash memories (for example, "FLASH E²PROM") in the form of integrated circuits mounted on a printed circuit board. They may include a controller in the form of an integrated circuit and discrete passive components, such as capacitors and resistors;
 - (b) "Smart cards" means cards which have embedded in them one or more electronic integrated circuits (a microprocessor, random access memory (RAM) or read-only memory (ROM)) in the form of chips. These cards may contain contacts, a magnetic stripe or an embedded antenna but do not contain any other active or passive circuit elements.
- 5.- For the purposes of 8534.00.00, "printed circuits" are circuits obtained by forming on an insulating base, by any printing process (for example, embossing, plating-up, etching) or by the "film circuit" technique, conductor elements, contacts or other printed components (for example, inductances, resistors, capacitors) alone or interconnected according to a pre-established pattern, other than elements which can produce, rectify, modulate or amplify an electrical signal (for example, semiconductor elements).
- "Printed circuits" does not cover circuits combined with elements other than those obtained during the printing process, nor does it cover individual, discrete resistors, capacitors or inductances. Printed circuits may, however, be fitted with non-printed connecting elements.
- Thin- or thick-film circuits comprising passive and active elements obtained during the same technological process are to be classified in 8542.
- 6.- For the purposes of 8536, "connectors for optical fibres, optical fibre bundles or cables" means connectors that simply mechanically align optical fibres end to end in a digital line system. They perform no other function, such as the amplification, regeneration or modification of a signal.
- 7.- 8537 does not include cordless infrared devices for the remote control of television receivers or other electrical equipment (8543).
- 8.- For the purposes of 8541 and 8542:
- (a) "Diodes, transistors and similar semiconductor devices" are semiconductor devices the operation of which depends on variations in resistivity on the application of an electric field;
 - (b) "Electronic integrated circuits" are:
 - (i) Monolithic integrated circuits in which the circuit elements (diodes, transistors, resistors, capacitors, inductances, etc.) are created in the mass (essentially) and on the surface of a semiconductor or compound semiconductor material (for example, doped silicon, gallium arsenide, silicon germanium, indium phosphide) and are inseparably associated;
 - (ii) Hybrid integrated circuits in which passive elements (resistors, capacitors, inductances, etc.), obtained by thin- or thick-film technology, and active elements (diodes, transistors, monolithic integrated circuits, etc.), obtained by semiconductor technology, are combined to all intents and purposes indivisibly, by interconnections or interconnecting cables, on a single insulating substrate (glass, ceramic, etc.). These circuits may also include discrete components;
 - (iii) Multichip integrated circuits consisting of two or more interconnected monolithic integrated circuits combined to all intents and purposes indivisibly, whether or not on one or more insulating substrates, with or without leadframes, but with no other active or passive circuit elements.

For the classification of the articles defined in this Note, 8541 and 8542 shall take precedence over any other heading in this Schedule, except in the case of 8523, which might cover them by reference to, in particular, their function.

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- 9.- For the purposes of 8548, "spent primary cells, spent primary batteries and spent electric accumulators" are those which are neither usable as such because of breakage, cutting-up, wear or other reasons, nor capable of being recharged.

Subheading Note.

- 1.- 8527.12.00 covers only cassette-players with built-in amplifier, without built-in loudspeaker, capable of operating without an external source of electric power and the dimensions of which do not exceed 170 mm x 100 mm x 45 mm.

Additional Notes.

- 1.- In this Chapter "kVA" means kilovoltampere.
- 2.- For the purposes of 8539:
- (a) "lamps" means light globes, bulbs, tubes, and the like which consist of glass, quartz or similar containers, of various shapes, having the necessary elements for converting electrical energy into light rays, including infra-red or ultra-violet rays;
 - (b) "lamps" also includes sealed beam lamp units and arc-lamps;
 - (c) "lamps" equipped with external features such as lamp holders, switches, flex and plugs, transformers, etc. are excluded from this heading.
- 3.- For the purposes of 8543.90.20 and 8548.90.10, "electronic microassemblies" are microassemblies of the moulded module, micromodule or similar types, consisting of discrete, active or both active and passive, components which are combined and interconnected.