

**CPC****COOPERATIVE PATENT CLASSIFICATION****H05G**

**X-RAY TECHNIQUE** ([apparatus for radiation diagnosis A61B 6/00](#); X-ray therapy [A61N](#); testing by X-rays [G01N](#); apparatus for X-ray photography [G03B](#); filters, conversion screens, microscopes [G21K](#); X-ray tubes [H01J 35/00](#); TV systems having X-ray input [H04N 5/321](#))

**WARNING**

The following IPC group is not used in the CPC scheme. [H05G 1/61](#) covered by [H05G 1/60](#)

**H05G 1/00****X-ray apparatus involving X-ray tubes; circuits therefor****H05G 1/02**

## . Constructional details

**H05G 1/025**

## .. { Means for cooling the X-ray tube or the generator }

**H05G 1/04**

## .. Mounting the X-ray tube within a closed housing

**H05G 1/06**

## ... X-ray tube and at least part of the power supply apparatus being mounted within the same housing

**H05G 1/08**

## . Electrical details

**H05G 1/085**

## .. { Circuit arrangements particularly adapted for X-ray tubes having a control grid }

**H05G 1/10**.. Power supply arrangements for feeding the X-ray tube {supply circuits with converters in general [H02M](#); supply circuits for emitters and amplifiers [H04B 1/16](#) to [H04B 1/1623](#)}**H05G 1/12**

## ... with dc or rectified single-phase ac {or double-phase}

**H05G 1/14**

## ... with single-phase low-frequency ac {also when a rectifier element is in series with the X-ray tube}

**H05G 1/16**

## .... Reducing the peak-inverse voltage

**H05G 1/18**

## ... with polyphase ac of low frequency {rectified}

**H05G 1/20**... with high-frequency ac; with pulse trains {(pulse generators in general [H03K 3/00](#), [H03K 4/00](#))}**H05G 1/22**

## ... with single pulses

**H05G 1/24**.... Obtaining pulses by using energy storage devices (pulse generators [H03K](#)) {current and voltage pulse generators [H03K 3/53](#)}**H05G 1/26**.. Measuring, controlling, protecting (measuring electric values [G01R](#); measuring X-ray intensity [G01T](#))**H05G 1/265**

## ... { Measurements of current, voltage or power }

**H05G 1/28**

## ... Measuring or recording actual exposure time; Counting number of exposures; Measuring required exposure time

**H05G 1/30**

## ... Controlling

**H05G 1/32**.... supply voltage of the X-ray apparatus or tube (regulating supply without reference to operating characteristics of the apparatus [G05F](#)) {voltage regulation in general [G05F](#)}**H05G 1/34**.... anode current, heater current, heater voltage of X-ray tube (regulating supply without reference to operating characteristics of the apparatus [G05F](#)) {current regulation in general [G05F](#)}

- H05G 1/36 . . . . temperature of anode; brightness of image {power (electrical temperature regulating in general G05D 23/19)}
- H05G 1/38 . . . . exposure time {time switches in general H01H 43/00 and subgroups}
- H05G 1/40 . . . . . using adjustable time-switch
- H05G 1/42 . . . . . using arrangements for switching when a predetermined dose of radiation has been applied, e.g. in which the switching instant is determined by measuring the electrical energy supplied to the tube
- H05G 1/44 . . . . . in which the switching instant is determined by measuring the amount of radiation directly {dosimetry in general G01T 1/02}
- H05G 1/46 . . . . Combined control of different quantities, e.g. exposure time as well as voltage or current
- H05G 1/48 . . . . Compensating the voltage drop occurring at the instant of switching-on of the apparatus (regulating supply without reference to the operating characteristics of the apparatus G05F) {voltage regulation in general G05F}
- H05G 1/50 . . . . Passing the tube current only during a restricted portion of the voltage waveform
- H05G 1/52 . . . . target size or shape; direction of electron beam, e.g. in tubes with one anode and more than one cathode
- H05G 1/54 . . . . Protecting { or lifetime prediction} (overload protection combined with control H05G 1/46)
- H05G 1/56 . . . . Switching-on; Switching-off
- H05G 1/58 . . . . Switching arrangements for changing-over from one mode of operation to another, e.g. from radioscopy to radiography, from radioscopy to irradiation { or from one tube voltage to another}
- H05G 1/60 . . . . Circuit arrangements for obtaining a series of X-ray photographs or for X-ray cinematography
- H05G 1/62 . . . . Circuit arrangements for obtaining X-ray photography at predetermined instants in the movement of an object, e.g. X-ray stroboscopy
- H05G 1/64 . . . . Circuit arrangements for X-ray apparatus incorporating image intensifiers

### **WARNING**

Material provisionally in **97DP27**; image intensifiers H01J 31/00

- H05G 1/66 . . . . Circuit arrangement for X-ray tubes with target movable relatively to the anode
- H05G 1/68 . . . . Circuit arrangements for Lillienfeld tubes; Circuit arrangements for gas-filled X-ray tubes
- H05G 1/70 . . . . Circuit arrangements for X-ray tubes with more than one anode; Circuit arrangements for apparatus comprising more than one X ray tube { or more than one cathode (H05G 1/58 takes precedence)}
- H05G 2/00** **Apparatus or processes specially adapted for producing X-rays, not involving X-ray tubes, e.g. involving generation of a plasma (X-ray lasers H01S 4/00; plasma technique in general H05H)**
- H05G 2/001 . . . . { X-ray radiation generated from plasma (plasma for generation of electrons to be accelerated towards an anode H01J 35/00)}
- H05G 2/003 . . . . { being produced from a liquid or gas}
- H05G 2/005 . . . . { containing a metal as principal radiation generating component}

- H05G 2/006 . . . { details of the ejection system, e.g. constructional details of the nozzle}
- H05G 2/008 . . { involving a beam of energy, e.g. laser or electron beam in the process of exciting the plasma}