



# **HAMAMATSU**

## **SHORT LINE CATALOG 1984**

PHOTOSENSITIVE DEVICES • SPECIALTY LAMPS • IMAGING DEVICES • MEASURING VIDEO SYSTEMS



# HAMAMATSU — A BIG NAME IN PHOTONICS

## A PHOTOMULTIPLIER TUBES FOR EVERY NEED



Hamamatsu offers the world's most complete line of head-on and side-on photomultiplier tubes 3/8" to 20" in diameter, photomultiplier tube accessories, electron multipliers and microchannel plates. Our 56-page catalog details 18 photomultiplier tube characteristics including spectral response, luminous sensitivity, dark current and voltage-divider consideration. Selection guide by applications and dimensional outlines help you make the best choice.

**Request Catalog 83-A.**

## B PHOTOTUBES— UVtrons, Vacuum Type, Gas-Filled, Biplanar



Over 40 head-on and side-on phototubes, UVtrons (UV detectors), vacuum type phototubes, gas-filled and biplanar phototubes are available. Applications for this wide range of detectors include laser detection, flame detection and others. Our 12-page catalog includes a selection guide, spectral response charts, dimensional outlines and specification charts.

**Request Catalog 83-B.**

## C PHOTOMULTIPLIER TUBES FOR SCINTILLATION COUNTING AND HIGH ENERGY PHYSICS



Hamamatsu supplies a variety of photomultiplier tubes designed and selected specifically for scintillation counting and high energy physics applications. Our 16-page catalog provides a quick reference of 42 tubes 3/8" to 20" in diameter, including hemispherical tubes and MCP-PMTs. Performance characteristics, a glossary of terms and replacement information are detailed.

**Request Catalog 83-C.**

## D ACCESSORIES FOR PHOTOMULTIPLIER TUBES— Socket Assemblies, Shield Cases etc.



Hamamatsu offers a wide range of photomultiplier tube accessories, such as socket assemblies incorporating voltage-dividers, magnetic shield cases, refrigerators and high-voltage power supplies. This 24-page catalog provides information on the relationship between photomultiplier tubes and their accessories as well as performance specifications and dimensional outlines. Connections of photomultiplier tubes to external circuits are also described.

**Request Catalog 83-D.**

## E PHOTOCELLS— Silicon, PIN Silicon, GaAsP



Hamamatsu photocells offer excellent stability, linearity and response time compared with conventional CdS cells or phototransistors. Sometimes one of our high quality photocells can be used in place of more expensive phototubes for both low light level and general applications. Our 34-page catalog provides information about linearity, response time, leakage current vs. reverse voltage, and complete specifications for UV to IR and visible to IR photocells.

**Request Catalog 83-E.**

## F PHOTOCONDUCTIVE CELLS— CdS, CdSe

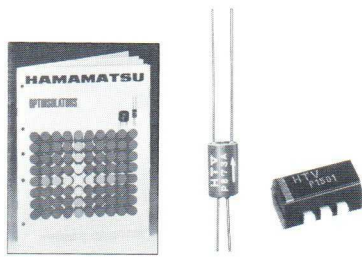


Hamamatsu offers quality photoconductive cells for use in exposure meters, auto dimmers, musical instruments, flame monitors, photo relays, automatic street light controls and other applications. If your application requires a special photoconductive cell not readily available, chances are that we can work with you to meet your requirements. Our 16-page catalog describes characteristics and specifications of over 45 photoconductive cells.

**Request Catalog 83-F.**



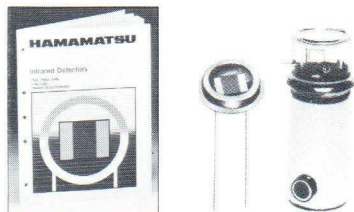
## **G** OPTOISOLATORS



Hamamatsu optoisolators are used in musical instruments, sound instruments, medical instruments and communications devices. Single and multi-element LED-CdS optoisolators, LED-phototransistor and lamp-CdS optoisolators, and optointerruptors are described in our 12-page catalog that provides photos, specifications, dimensional outlines, input to output characteristics and other specifications and characteristics.

**Request Catalog 83-G.**

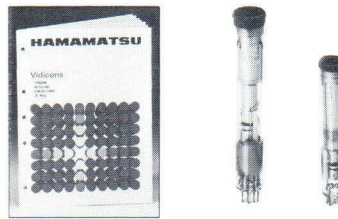
## **H** INFRARED DETECTORS— PbS, PbSe, InAs, Photon Drag Detector



This 14-page catalog describes Hamamatsu IR detectors with various elements and configurations, including metal case types, thermoelectric-cooled types and glass dewar types. Extensive diagrams, characteristic graphs and a glossary accompany performance specifications.

**Request Catalog 83-H.**

## **I** VIDICONS— Visible, IR, UV, X-Ray



Our vidicons are compact, easy to use, low power and in most applications offer long life. Applications include surveillance, process control, inspection of jewels, biological studies, flame studies, reflectography of paintings or antiques, medical analysis, non-destructive inspection of small organic and inorganic objects. Our 24-page catalog provides a cross reference of vidicon types and typical applications in addition to dimensional outlines, application photos and complete specifications.

**Request Catalog 83-I.**

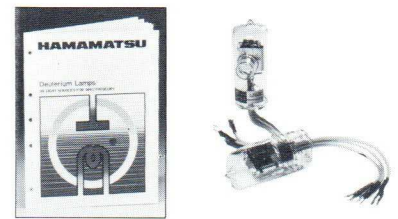
## **J** IMAGE INTENSIFIER TUBES— UV, Visible, Infrared



Hamamatsu offers a variety of second-generation image intensifier tubes and image converter tubes. This 16-page catalog describes 4 image intensifier tubes with spectral response of extended S-20 and solar blind as well as an S-1 image converter tube. A spectral response chart, construction and operating principles, and a glossary also accompany performance specifications.

**Request Catalog 83-J.**

## **K** DEUTERIUM LAMPS UV Light Sources for Spectroscopy



Hamamatsu deuterium lamps have been widely used in many spectrophotometers because of stable operation, high intensity and depth of product line. In our 12-page catalog 6 types of Super Quiet lamps, 8 types of 30W lamps, 6 types of pulse drive lamps and 2 types of water-cooled 200W lamps are tabulated along with their power supplies. Selection guide and characteristic description help you choose the best lamp for your application.

**Request Catalog 83-K.**

## **L** HOLLOW CATHODE LAMPS For Atomic Absorption Analysis

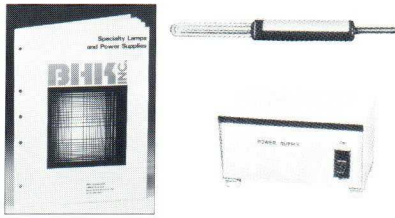


Hamamatsu hollow cathode lamps offers high output intensity with low noise, thus enhancing detection limits in atomic absorption analysis. Two vinyl-coated spec sheets provide a complete line of our hollow cathode lamps. One tabulates L1788 series lamps designed for Perkin-Elmer AAS and the other 1-1/2" diameter lamps. Operating currents and analysis lines are listed in both the sheets.

**Request Spec Sheet 83-L1 for L1788 series, 83-L2 for 1-1/2" diameter lamps, or 83-L for Both.**



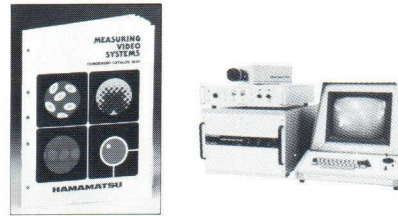
## **M** SPECIALTY LAMPS AND POWER SUPPLIES



BHK, Incorporated, a subsidiary of Hamamatsu Corporation, designs and manufactures a variety of specialty lamps of different sizes, shapes and phosphor coatings. Lamp types include mercury lamps, germicidal lamps, grid lamps and other specialty lamps and power supplies. Our catalog describes these lamp types and includes a Special Lamps Request Form which allows you to specify your requirements for lamps not commonly available.

**Request Catalog 83-M.**

## **O** MEASURING VIDEO SYSTEMS



Hamamatsu has developed and produced a variety of measuring video systems and related instruments. Our 36-page catalog provides condensed information on our wide range of products including computer compatible video cameras, ultra-high-speed shutter cameras, image processing units, image analysis systems, and their accessories. Application and image tube selection guides are also included.

**Request Catalog 83-O.**

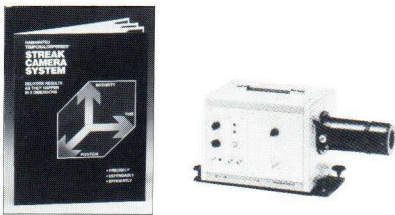
## **P** CAN THE C1000 VIDEO CAMERA DIGITIZE YOUR IMAGE?



Hamamatsu offers this computer compatible video camera which converts visual images into digital data of virtually any object magnified, demagnified or actual size using the appropriate visible, infrared, ultraviolet light or X-ray sensitive vidicon. Our 8-page brochure describes the features and specifications of the C1000 video camera.

**Request Catalog 83-P.**

## **N** TEMPORAL DISPERSER STREAK CAMERA SYSTEMS



Hamamatsu offers a variety of Temporal Disperser Streak Camera Systems with time resolutions of 2 picoseconds, 10 picoseconds, 1 nanosecond, synchroscan camera and an X-ray sensitive model. The Temporal Disperser Streak Camera System offers dependable operation in high technology nuclear physics and other fast kinetics experiments where changes in molecular structure and the release of energy must be measured for recording and analysis on an ultra-fast time scale as a function of intensity vs. time vs. position. A new, comprehensive brochure describes each of the four systems and accessories.

**Request Catalog 83-N.**

We can custom select detectors, custom modify detectors and design unique detectors to meet your special needs. To receive literature on any of the products described here, please simply write down the code listed next to the product description offered on the enclosed reply card. We'll promptly send you the literature you request or have one of our representatives call if you request this.

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