

CCD Camera

**KP-200/201/
200G/201G**

OPERATION MANUAL

Please read this operation manual carefully for proper operation, and keep it for future reference.

Hitachi Kokusai Electric Inc.

CCD カメラ

**KP-200/201/
200G/201G**

取扱説明書

この取扱説明書には、あなたや他の人々への危害や財産への損害を未然に防ぎ、この機器を安全にお使いいただくために守っていただきたい事項を示しています。ご使用になる前に、この取扱説明書をよくお読みいただき、正しい使い方でご愛用ください。お読みになった後も、この機器のそばなどいつも手元に置いてご使用ください。

株式会社 日立国際電気

CAUTION FOR SAFE OPERATION



CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL



This symbol is intended to alert the user to the presence of unisolated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS COLOR CAMERA TO RAIN OR MOISTURE.

AVERTISSEMENT

Afin d'éviter tout risque d'incendie ou d'électrocution, ne pas exposer l'appareil à la pluie ou à l'humidité.

Afin d'écartier tout risque d'électrocution, garder le coffret fermé.

Ne confier l'entretien de l'appareil qu'à un personnel qualifié.

VORSICHT

Um Feuergefahr und die Gefahr eines elektrischen Schiages zu vermeiden, darf das Gerät weder Regen noch Feuchtigkeit ausgesetzt werden.

Um einen elektrischen Schiag zu vermeiden, darf das Gehäuse nicht geöffnet werden. Überlassen Sie Wartungsarbeiten stets nur einem Fachmann.

NOTE FOR USERS IN THE UNITED KINGDOM:

IMPORTANT:

The wires of the mains lead are coloured in accordance with the following code:

Green-and-Yellow:	EARTH
Blue:	NEUTRAL
Brown:	LIVE

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

- The wire which is coloured green-and-yellow must be connected to the terminal in the plug which is marked by the letter E or by the safety earth symbol \perp or coloured green-and-yellow.
- The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.
- The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

WARNING: This product must be earthed.

Note: The model and serial numbers of your product are important for you to keep for your convenience and protection.

These numbers appear on the nameplate located on the bottom of the product. Please record these numbers in the spaces provided below, and retain this manual for future reference.

Model No. _____

Serial No. _____

IMPORTANT SAFETY INSTRUCTIONS

1. Read Instructions

All the safety and operating instructions should be read before the product is operated.

2. Retain Instructions

The safety and operating instructions should be retained for future reference.

3. Heed Warnings

All warnings on the product and the operating instructions should be adhered to.

4. Follow Instructions

All operating and use instructions should be followed.

5. Cleaning

Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.

6. Attachments

Do not use attachments not recommended by the product manufacturer as they may cause hazards.

7. Water and Moisture

Do not use this product near water - for example, near a bath tub, wash bowl, kitchen sink, or laundry tub; in a wet basement; or near a swimming pool; and the like.

8. Accessories

Do not place this product on an unstable cart, stand, tripod, bracket, or table. The product may fall, causing

serious injury to a child or adult, and serious damage to the product. Use only with fitting recommended by the manufacturer, or sold with the product. Any mounting of the product should follow the manufacturer's instructions, and should use a mounting accessory recommended by the manufacturer.

9. Moving

A product and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the product and cart combination to overturn.



10. Ventilation

Slots and openings in the cabinet are provided for ventilation and to ensure reliable operation of the product and to protect it from overheating, and these openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug, or other similar surface. This product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.

11. Power Sources

This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your home, consult your product dealer or local power company. For products intended to operate from battery power, or other sources, refer to the operating instructions.

12. Grounding or Polarization

This product is equipped with a three-wire grounding-type plug a plug having a third (grounding) pin. This plug will only fit into a grounding-type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding-type plug.

13. Power-Cord Protection

Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the product.

14. Lightning

For added protection for this product during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet. This will prevent damage to the product due to lightning and power-line surges.

15. Overloading

Do not overload wall outlets, extension cords or integral convenience receptacles as this can result in a risk of fire or electric shock.

16. Object and Liquid Entry

Never push objects of any kind into this product through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on the product.

17. Inflammable and Explosive Substance

Avoid using this product where there are gases, and also where there are inflammable and explosive substances in the immediate vicinity.

18. Heavy Shock or Vibration

When carrying this product around, do not subject the product to heavy shock or vibration.

19. Servicing

Do not attempt to service this product yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

20. Damage Requiring Service

Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:

- a. When the power-supply cord or plug is damaged.
- b. If liquid has been spilled, or objects have fallen into the product.
- c. If the product has been exposed to rain or water.
- d. If the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to its normal operation.
- e. If the product has been dropped or damaged in any way.
- f. When the product exhibits a distinct change in performance-this indicates a need for service.

21. Replacement Parts

When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized

substitutions may result in fire, electric shock, or other hazards.

22. Safety Check

Upon completion of any service or repairs to this product, ask the service technician to perform safety checks to determine that the product is in proper operating condition.

23. Mounting

The product should be mounted to place only as recommended by the manufacturer.

24. Heat

The product should be situated away from heat sources such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat.

WICHTIGE SICHERHEITSANWEISUNGEN

1. Alle Anweisungen lesen.

Vor Betrieb des Erzeugnisses sollten alle Sicherheits- und Bedienungsanleitungen gelesen werden.

2. Die Anweisungen aufbewahren.

Die Sicherheits- und Bedienungsanleitungen sollten für zukünftigen Bezug aufbewahrt werden.

3. Warnungen beachten.

Die Warnungen auf dem Erzeugnis und in den Bedienungsanleitungen sollten beachtet werden.

4. Anweisungen befolgen.

Alle Bedienungsanleitung- und Verwendungsanweisungen sollten befolgt werden.

5. Reinigung

Den Stecker des Geräts vor Reinigung aus der Steckdose ziehen. Keine flüssigen Reinigungsmittel oder Aerosolreiniger verwenden. Zum Reinigen einen feuchten Lappen verwenden.

6. Zubehör

Nur vom Hersteller des Erzeugnisses empfohlenes Zubehör verwenden, da es sonst zu Störungen kommen kann.

7. Wasser und Feuchtigkeit

Dieses Erzeugnis nicht in der Nähe von Wasser verwenden - z.B. in der Nähe einer Badewanne, eines Waschbeckens, einer Küchenspüle, eines Waschzubers, in einem nassen Keller, in der Nähe eines Schwimmbeckens usw.

8. Aufstellung

Das Erzeugnis nicht auf einen instabilen Wagen, Stand, Dreifuß, Träger oder Tisch stellen. Das Erzeugnis kann sonst herunterfallen und ein Kind oder einen Erwachsenen schwer verletzen. Außerdem kann das Gerät schwer beschädigt werden. Nur mit einem Wagen, Stand, Dreifuß, Träger oder Tisch verwenden, der vom Hersteller empfohlen oder mit dem Erzeugnis verkauft worden ist. Für jegliche Anbringung sollten die Anweisungen des Herstellers befolgt werden, und das vom Hersteller empfohlene Anbringungszubehör sollte verwendet werden.

9. Eine Kombination von Erzeugnis und Wagen sollte vorsichtig bewegt werden. Schneller Halt, übermäßige Krafteinwirkung und unebene Oberflächen können Umkippen der Kombination von Erzeugnis und Wagen verursachen.



10. Ventilation

Schlitze und Öffnungen im Gehäuse dienen der Ventilation. Sie sind für zuverlässigen Betrieb des Gerätes und Schutz vor Überhitzung erforderlich und dürfen nicht blockiert oder abgedeckt werden. Die Öffnungen sollten niemals dadurch blockiert werden, daß das Gerät auf ein Bett, ein Sofa, einen Teppich oder eine ähnliche Oberfläche gestellt wird. Das Gerät sollte nur dann in Einbauinstallation wie in einem Bücherschrank

odereinem Gestell verwendet werden, wenn angemessene Ventilation vorgesehen ist bzw. die Anweisungen des Herstellers befolgt worden sind.

11. Stromversorgung

Dieses Erzeugnis sollte nur an der auf dem Typenschild angegebenen Stromversorgungsart betrieben werden. Wenn Sie nicht sicher sind, was für eine Stromversorgung Sie haben, so wenden Sie sich bitte an Ihren Erzeugnishändler oder an das lokale Elektrizitätswerk. Beziehen Sie sich für Batteriebetrieb oder andere Stromquellen vorgesehene Erzeugnisse bitte auf die Bedienungsanleitungen.

12. Erdung oder Polarisierung

Dieses Erzeugnis ist mit einem Schutzkontaktstecker mit drei Leitern ausgerüstet, mit einem Erdungskontakt. Dieser Stecker paßt nur in ein Schuko-Steckdose. Dies ist eine Sicherheitsmaßnahme. Wenn Sie den Stecker nicht in die Steckdose stecken können, so wenden Sie sich bitte an ihren Elektriker, damit er die veraltete Steckdose ersetzt. Machen Sie nicht den Schutz des Schutzkontaktsteckers unwirksam.

13. Netzkabelschutz

Netzkabel sollten so verlegt werden, daß möglichst nicht darauf getreten wird und daß sie nicht eingeklemmt werden, mit besonderer Beachtung der Kabel an Steckern, Verlängerungskabeln und dem Austritt des Kabels aus dem Erzeugnis.

14. Blitzschlag

Für zusätzlichen Schutz des Erzeugnisses während eines Gewitters oder bei Nichtverwendung für lange Zeit den Stecker aus der Steckdose ziehen. Dies verhindert Beschädigung durch Blitzschlag und Netzspannungsschöße.

15. Überlastung

Wandsteckdosen, Verlängerungskabel und eingebaute Bequemlichkeitssteckdosen nicht überlasten, da dies Feuer oder elektrischen Schlag verursachen kann.

16. Eindringen von Fremdkörpern und Flüssigkeit

Niemals Objekte irgendwelcher Art durch die Öffnungen in das Gerät schieben, da diese unter hoher Spannung stehende Teile berühren oder kurzschließen können, wodurch es zu Feuer oder elektrischem Schlag kommen kann. Niemals Flüssigkeiten irgendwelcher Art auf das Erzeugnis verschütten.

17. Entflammare und explosive Substanzen

Vermeiden Sie Verwendung dieses Erzeugnisses an Orten mit Gasen bzw. entflammaren oder explosiven Substanzen in der direkten Umgebung.

18. Starke Stöße oder Vibrationen

Setzen Sie das Erzeugnis beim Transport nicht starken Stößen oder Vibrationen aus.

19. Wartung

Versuchen Sie nicht, dieses Erzeugnis selbst zu warten, da Sie sich durch Öffnen bzw. Entfernen von

Abdeckungen hohen Spannungen und sonstigen Gefährdungen ausserzen können.

Beziehen Sie sich für jegliche Wartung auf qualifiziertes Wartungspersonal.

20. Beschädigung, die Wartung erfordert

Ziehen Sie den Stecker dieses Erzeugnisses aus der Steckdose und wenden Sie sich an qualifiziertes Wartungspersonal, wenn eine der folgenden Bedingungen vorliegt:

- a. Wenn das Netzkabel oder der Stecker beschädigt ist.
- b. Bei Eindringen von Flüssigkeit oder Fremdkörpern in das Gerät.
- c. Wenn das Erzeugnis Regen oder Wasser ausgesetzt worden ist.
- d. Wenn das Erzeugnis bei Befolgen der Bedienungsanleitungen nicht normal funktioniert. Nur die Regelelemente verstellen, die in den Bedienungsanleitungen behandelt werden, da unangemessene Einstellung anderer Regelelemente Beschädigung verursachen kann und oft beträchtliche Arbeit durch einen qualifizierten Techniker erfordert, um das Erzeugnis wieder zu normalem Betrieb zurückzubringen.
- e. Wenn das Erzeugnis fallen gelassen oder beschädigt worden ist.
- f. Wenn das Erzeugnis eine klare Änderung in der Leistung zeigt-dies weist darauf hin, daß Wartung erforderlich ist. daß das Erzeugnis im angemessenen Betriebszustan ist.

21. Ersatzteile

Wenn Ersatzteile erforderlich sind, darauf achten, daß der Wartungstechniker nur die vom Hersteller festgelegten Ersatzteile oder Teile mit den gleichen Charakteristiken wie die ursprünglichen Teile verwendet. Unautorisierte Ersatzteile können Feuer, elektrischen Schlag oder sonstige Gefährdungen verursachen.

22. Sicherheitsprüfung

Bitten Sie den Wartungstechniker nach der Vollendung von Wartung oder Reparaturarbeiten an diesem Erzeugnis um die Durchführung von Sicherheitsprüfungen, um zu bestimmen,

23. Anbringung an der Wand oder an der Decke

Das Erzeugnis sollte nur entsprechend den Empfehlungen des Herstellers an einer Wand oder an der Decke angebracht werden.

24. Wärme

Das Erzeugnis sollte fern von Wärmequellen wie Radiatoren, Heizwiderständen, Öfen und anderen Wärme erzeugenden Erzeugnissen (einschließlich Verstärkern) aufgestellt werden.

MISES EN GARDE IMPORTANTES

1. Lire les instructions

Lire toutes les instructions de sécurité et de fonctionnement avant de faire fonctionner l'appareil.

2. Conserver ces instructions

Conserver les instructions de sécurité et de fonctionnement à des fins de référence ultérieure.

3. Tenir compte des avertissements

Tous les avertissements qui figurent sur l'appareil et dans le mode d'emploi devront être respectés.

4. Observer les instructions

Observer toutes les instructions de fonctionnement et d'utilisation.

5. Nettoyage

Avant de procéder au nettoyage, débrancher l'appareil de la prise secteur. Ne pas utiliser de produits de nettoyage liquides ou en aérosol. Nettoyer l'appareil avec un chiffon humide.

6. Fixations

Ne pas utiliser de fixations non recommandées par le fabricant de l'appareil car elles pourraient être source de danger.

7. Eau et humidité

Ne pas utiliser l'appareil à proximité d'eau-par exemple près d'une baignoire, d'un lavabo, d'un évier ou d'un bac à lessive, dans un sous-sol humide, ou près d'une piscine, etc.

8. Accessoires

Ne pas placer l'appareil sur un chariot, un socle, un pied, un support ou une table instables. L'appareil pourrait tomber, blessant grièvement des enfants ou des adultes, et étant sérieusement endommagé.

Utiliser exclusivement le chariot, le socle, le pied, le support ou la table recommandés par le fabricant, ou vendus avec l'appareil. Pour tout montage de l'appareil, respecter les instructions du fabricant, et utiliser à cette fin l'accessoire de montage recommandé par le fabricant.

9. L'appareil monté sur son chariot devra

être déplacé avec précaution. Des arrêts brusques, une force excessive et des surfaces irrégulières pourraient provoquer le renversement de l'ensemble appareil-chariot.



10. Ventilation

Les fentes et les ouvertures du coffret sont prévues pour la ventilation ainsi que pour garantir un fonctionnement en toute sécurité de l'appareil et le protéger de toute surchauffe, et ces ouvertures ne devront donc être ni obstruées ni recouvertes. Ne jamais obstruer les ouvertures en plaçant l'appareil sur un lit, un sofa, un tapis ou toute surface similaire. Ne jamais placer l'appareil dans un support confiné, par exemple une bibliothèque ou une étagère, sans ventilation suffisante

ou sans respecter les instructions du fabricant.

11. Sources d'alimentation

L'appareil devra être alimenté exclusivement sur le type d'alimentation indiqué sur l'étiquette signalétique. Si l'on n'est pas sûr du type d'alimentation du local, consulter le revendeur de l'appareil ou la compagnie d'électricité locale. Pour les appareils qui fonctionnent sur batterie ou sur d'autres sources, voir le mode d'emploi.

12. Mise à la terre ou polarisation

L'appareil est doté d'une fiche trifilaire avec mise à la terre, dont la troisième broche assure la mise à la terre. Cette fiche ne rentrera que dans les prises trifilaires de mise à la terre. Ceci est une mesure de sécurité. Si la fiche ne rentre pas dans la prise, faire remplacer la prise désuète par un électricien.

Ne pas rendre vaine la mesure de sécurité assurée par cette prise avec mise à la terre.

13. Protection du cordon d'alimentation

Acheminer les cordons d'alimentation de façon qu'on ne risque pas de marcher dessus ou de les coincer sous un objet placé dessus ou contre eux. Faire particulièrement attention aux fiches des cordons, à la proximité des prises, et à l'endroit où ils ressortent de l'appareil.

14. Foudre

Pour renforcer la protection de l'appareil pendant un orage, ou si l'on s'en éloigne ou qu'on reste longtemps

sans l'utiliser, le débrancher de la source d'alimentation. Ceci permettra d'éviter tout dommage de l'appareil dû à la foudre et aux surtensions de ligne.

15. Surcharge

Ne pas surcharger les prises, rallonges et prises multiples car cela pourrait entraîner un risque de feu ou de choc électrique.

16. Pénétration d'objets et de liquides

Ne jamais enfoncer d'objets d'aucune sorte dans les ouvertures de l'appareil car ils pourraient toucher des points de tension dangereuse ou court-circuiter des pièces, ce qui pourrait provoquer un feu ou un choc électrique. Ne jamais renverser de liquide d'aucune sorte sur l'appareil.

17. Substances inflammables et explosives

Eviter d'utiliser l'appareil en présence de gaz, ainsi qu'à proximité immédiate de substances inflammables et explosives.

18. Chocs ou vibrations violents

Lorsqu'on transporte l'appareil, ne pas le soumettre à des chocs ou des vibrations violents.

19. Réparations

Ne pas tenter de réparer l'appareil soi-même car le fait d'ouvrir ou de retirer les caches risque d'exposer l'utilisateur à des tensions dangereuses notamment. Confier toute réparation à un personnel qualifié.

20. Dommages nécessitant réparations

Débrancher l'appareil de la source d'alimentation et confier les réparations à un personnel qualifié dans les cas suivants :

- a. Lorsque le cordon d'alimentation ou sa fiche sont endommagés
- b. Si du liquide s'est renversé sur l'appareil ou que des objets sont tombés dedans
- c. Si l'appareil a été exposé à la pluie ou à l'eau.
- d. Si l'appareil ne fonctionne pas normalement lorsqu'on observe les instructions d'utilisation. Ne régler que les commandes couvertes par le mode d'emploi ; en effet, un réglage incorrect des autres commandes pourrait entraîner des dommages et nécessiteront souvent des travaux de réparation coûteux par un technicien qualifié pour remettre l'appareil en état de marche.
- e. Si l'appareil est tombé ou qu'il a été endommagé
- f. Si l'appareil affiche une nette modification de ses performances, cela signifie qu'il a besoin d'être réparé.

21. Pièces de rechange

Si l'on a besoin de pièces de rechange, veiller à ce que le technicien de réparation utilise exclusivement les pièces de rechange spécifiées par le fabricant ou des pièces ayant les mêmes caractéristiques que les pièces d'origine. Les pièces de rechange non autorisées risquent de provoquer un feu, un choc électrique et autres dangers.

22. Vérification de sécurité

Après tout travail d'entretien ou de réparation de l'appareil, demander au technicien de réparation d'effectuer les vérifications de sécurité pour s'assurer que l'appareil est en bon état de marche.

23. Montage au mur ou au plafond

L'appareil ne pourra être monté au mur ou au plafond que de la manière recommandée par le fabricant.

24. Chaleur

Eloigner l'appareil des sources de chaleur, telles que radiateurs, appareils de chauffage, cuisinières, et de tout produit engendrant de la chaleur (y compris les amplificateurs).

For U. S. A.

These products have been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. These equipments generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of these products in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

WARNING

Changes or modifications not expressly approved by Hitachi Kokusai Electric responsible for compliance could void the user' s authority to operate the equipment.

For Canada

These products do not exceed the class A limits for radio noise emissions from digital apparatus as set out in the radio interference regulations.

Le présent appareil n'émet pas de bruits radioélectriques dépassant les limites applicable aux appareils numériques de class A prescrites dans le règlement sur le brouillage radioélectrique édicter par le ministère des communications du canada:



Introduction	1	Camera mounting	12
Features	1	Sensitivity setting switches	13
Operating considerations	2	Sensitivity setting switches	13
CCD inherent properties	3	Electronic shutter switches	14
Names and functions	4	Auto electronic shutter (AES)	14
Connections	6	Light setting area	15
Lens	8	External sync	16
Recommended lenses	8	Major specifications	18
Note on lens selection	8	Accessories	19
Installation of CS-mount lens	8		
Lens selector switch	9		
Lens connector	9		
Flangeback adjustment	10		
DC control lens	11		

Introduction

The KP-200/201/200G/201G is a high performance CCD camera that offers superior resolution and sensitivity in the near-infrared spectrum. The many important functions include AES and AGC. KP-200G and KP-201G include external sync (int/ext auto select)

Features

Extremely high sensitivity

The CCD is selected for sensitivity in the near-infrared region. The camera is an optimum choice for surveillance under infrared lighting.

Superior resolution

Total picture elements are 410,000 (470,000 CCIR) of which effective pixels are 768 (H) × 494 (V) (752 (H) × 582(V) CCIR). The recently developed CCD provides horizontal resolution of 570 TV lines (560 TV lines CCIR) and vertical resolution of 380 TV lines (380 TV lines CCIR).

AES and AGC

Automatic electronic shutter (AES) and automatic gain control (AGC) functions are provided. Up to 8 fixed shutter speeds are obtained from 1/100 (1/120 CCIR) to 1/100000 second.

Operating considerations

Power supply

Be sure to use the power source specified in the Major Specifications.

- Before plugging or unplugging a connector, be sure to turn off power.
To plug or unplug a connector, be sure to hold the connector section.
- Note that it will take several seconds until a picture is displayed on the monitor after power on.

Handling

- Do not attempt to remove cover.
- When installing or removing a lens, be sure to use care that water or dust does not enter the inside of the camera.

Installing and storage

Avoid installing or storing the camera in the following environments.

- Environments exposed to direct sunlight, rain or snow
- Environments where combustible or corrosive gas exists
- Excessively warm or cold environment (Operating ambient temperature: -10 to 50°C)
- Humid or dusty environment
- Place subjected to excessive vibration or shock
- Environment exposed to strong electric or magnetic field

- Do not aim the camera lens at the sun.
- Do not shoot strong light or a scene including strong light. When such a scene is shot, vertical trailings will appear. However, this is not due to failure.
In case strong light enters the camera through the lens, partial deterioration in picture quality will result.

To obtain stable performance for long time

When the camera is used continuously for long time under high ambient temperature, the inside electrical parts become deteriorated, resulting in shortening its life. To use the camera continuously for long time, the highest temperature must be below 40°C.

Cleaning

- Use a blower or a lens brush to remove dusts on the lens or the optical filter.
- Wipe dirt on the case off with dry soft cloth. If dirt is hardened, wipe it off with cloth moistened with neutral detergent liquid; wipe the cover with dry cloth.
- Do not use benzene, thinner, alcohol, liquid cleaner or spray-type cleaner.

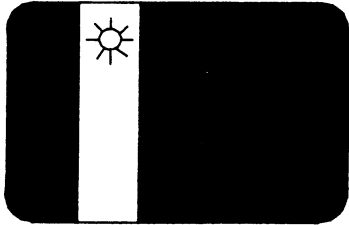
CCD inherent properties

Following are the phenomena inherent to a CCD imaging device, and not defects

1) Smear and blooming

When strong light (lamp, fluorescent lamp, reflected light, etc.) is shot, pale bands are displayed vertically above and below the light.

In this case, change the angle of the camera so that such strong light does not enter the camera through the lens.



2) Fixed pattern noise

When the camera is operated in a high temperature, fixed pattern noise may appear on the entire screen

3) Moire

When fine patterns are shot, moire may be displayed.

4) Burning

When excessively intense light comes to the CCD for a long time, the spectral filter in the CCD pixel may be deteriorated, and the color of the corresponding portion may change. Avoid using the camera under such condition.

Names and functions

Sensitivity setting switches

[AGC 1 and AGC 2]

See page 13.

H. Phase

Horizontal phase (HD) control

Refer to external sync usage of Page 16.

Level adjust control

[Level, Peak-Average]

Adjust when using a DC voltage control type auto iris lens.

Refer to description of Page 11.

Lens D/V switch

Set according to lens type.

D : DC control voltage type lens

V : Video signal input type lens

See page 9.

Tripod adapter holes

Use when attaching the camera to a tripod. See further description under Installation.

Lens mount screws

Secure the lens mount after adjusting the flangeback. See page 10.

Lens mount ring

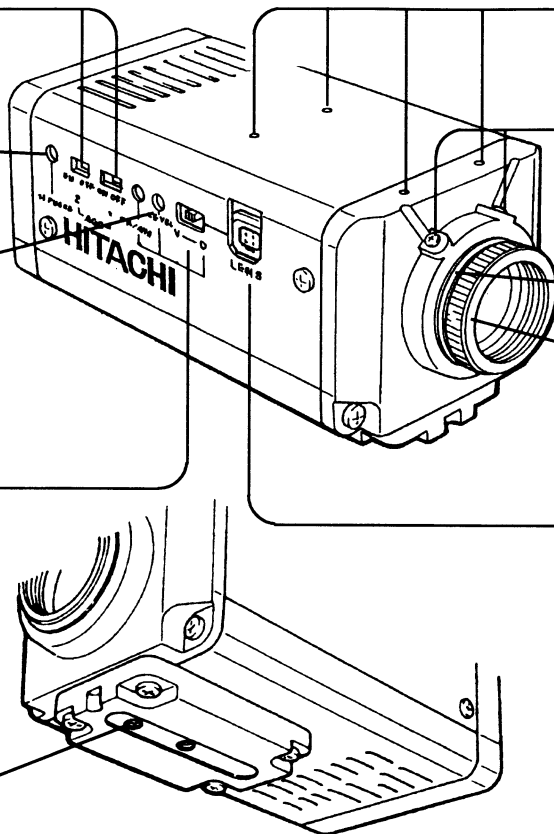
C mount adaptor

Remove when using a CS mount type lens.

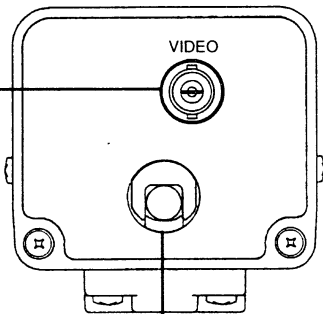
Lens connector

Use for connecting the control cable of an auto iris lens. See page 9.

Camera mounting hole



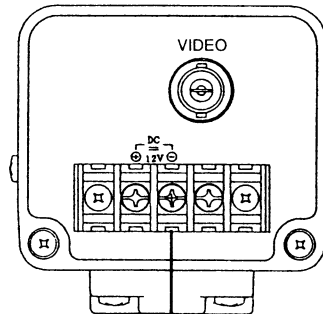
[KP-201]



Video output connector
See Connection on page 6.

AC power cord

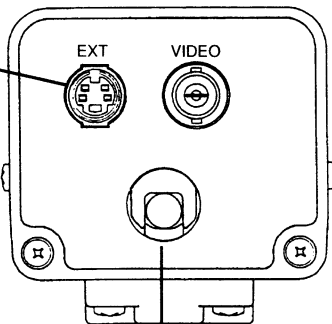
[KP-200]



Power supply input connector

Connect an external DC power supply.

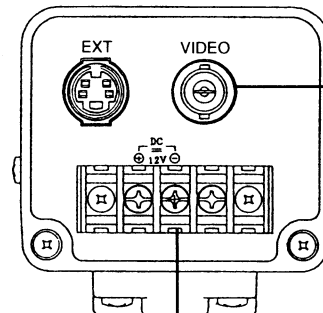
[KP-201G]



External sync signal input connector
Refer to external sync of Page 16.

AC power cord

[KP-200G]



Video output connector
See Connection on page 6.

Power supply input connector
Connect an external DC power supply.

Connections

Video output connection

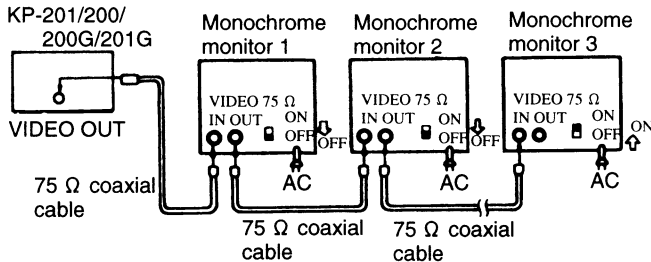
Connect the video output of the camera to the video input of a monitor or other equipment. When using a "loop through" connection of two or more monitors, set the 75 Ω switch of only the final monitor to ON. Determine the type of cable according to the distance of the connected equipment. The maximum cable lengths indicated below are recommended for avoiding appreciable picture degradation.

3C-2V : 150 meters

5C-2V : 200 m

7C-2V : 300 m

10C-2V : 400 m

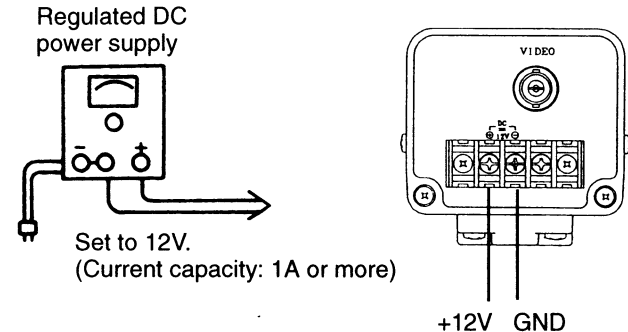


Set the 75 Ω switch of only the final monitor to on. Set the 75 Ω switch of other monitors to off.

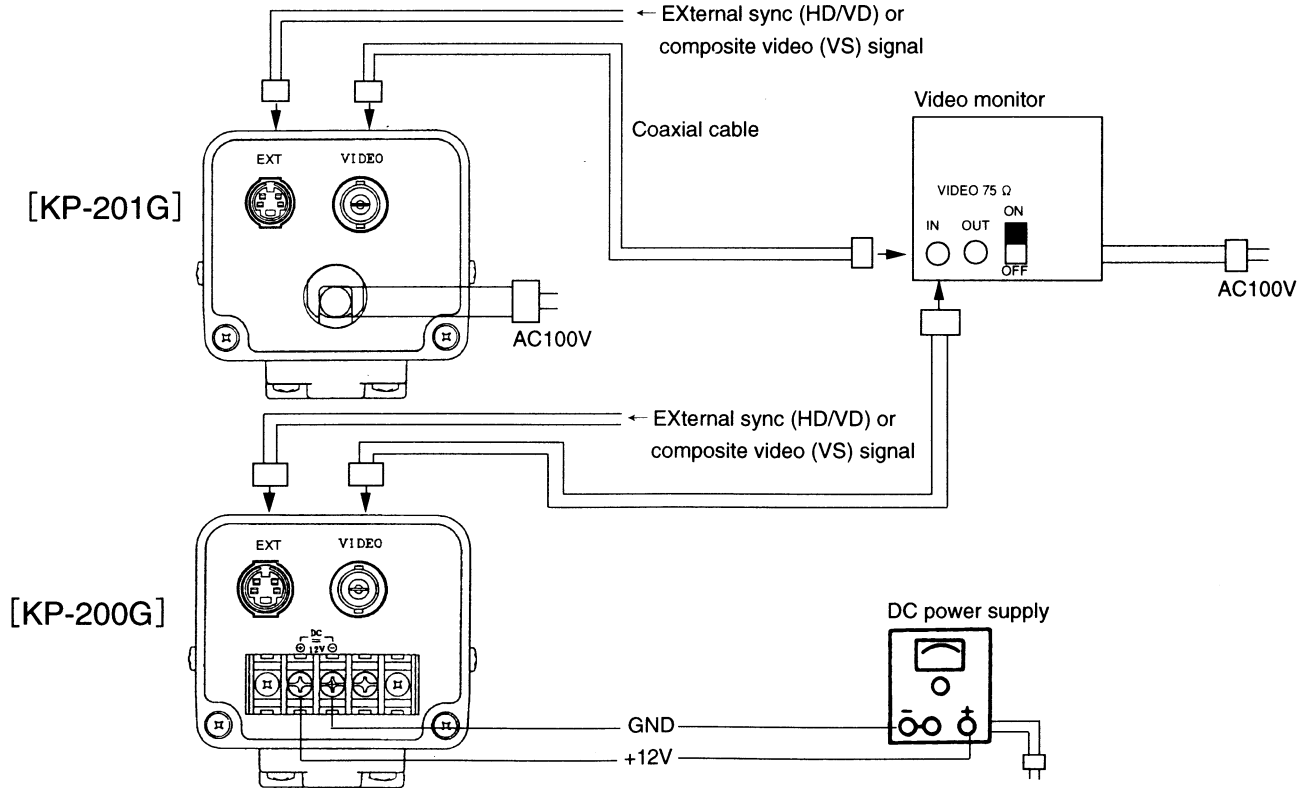
Connection of DC power supply (KP-200/200G only)

Use a DC power supply rated 12V \pm 10%, 1A or more.

Caution : Prior to turning on the power switch, be sure to check that the polarities of the power supply are correct.



External sync



Lens

Recommended lenses

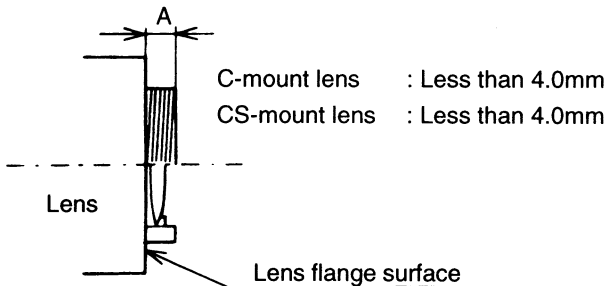
Notes: Please appoint wiring of plug as EIAJ (Electronic Industries Association of Japan) when a lens is ordered.

Note on lens selection

- 1) Observe the maximum size limit (A in the figure) when installing the lens. Internal damage can occur if a larger lens is used.
- 2) Avoid using a lens that is heavier than the camera. If unavoidable, be sure to fix the lens itself on a support.

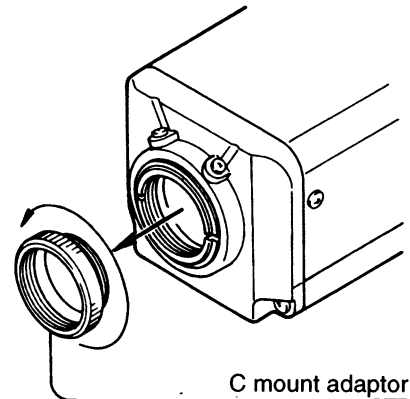
Caution:

A heavy lens can disturb the balance with respect to the camera and possibly result in damage.



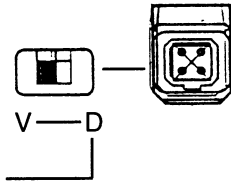
Installation of CS-mount lens

C-mount adaptor is provided for the camera in the factory. When using a CS-mount lens, unscrew and remove the C-mount adaptor. Save the C-mount adaptor for possible future use.



Lens selector switch

Set the switch according to the type of auto-iris lens. The factory setting is D.



D: Set to D when using a DC control voltage input type lens.

V: Set to V when using a video signal input type lens.

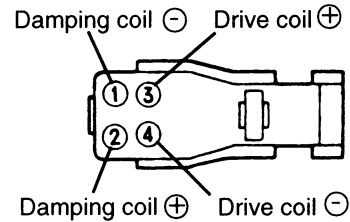
Notes

1. To the extent possible, set the lens response to Average. Hunting can occur toward the Peak setting.
2. Set the switch to DC when using a manual iris lens with auto electronic shutter (AES) at the same time.

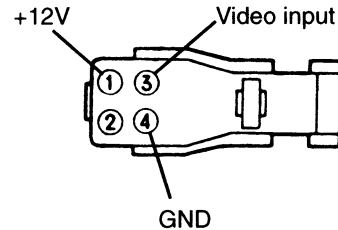
Lens connector

When using an auto iris lens, install the lens plug on the lens cable as indicated in the figures. Refer to the lens instructions regarding the signals and wire colors.

DC type lens



VIDEO type lens



After installing the plug on the cable, connect it to the Lens connector on the rear of the camera.

Flangeback adjustment

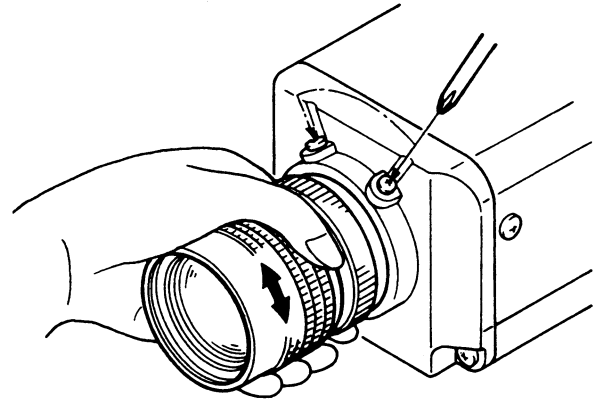
Flangeback adjustment is needed in cases where focus cannot be obtained by normal lens focus operation or focus is lost at the maximum telephoto and wide angle settings of a zoom lens. In such cases, open the lens iris and adjust as follows.

1. Fixed focus lens

Set the lens focus ring to infinity and pickup a camera subject at least 20 meters distant. Loosen the lens mount setscrews (2 screws) and turn the lens and lens mount ring to adjust the focus. After adjusting, tighten the lens mount setscrews.

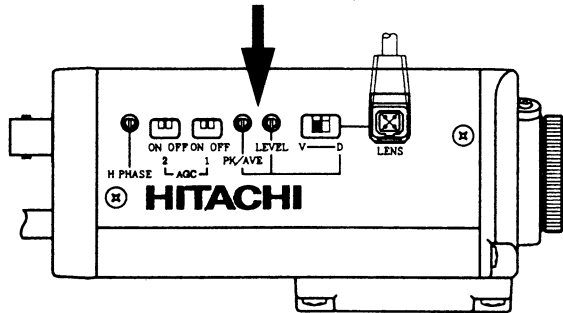
2. Zoom lens

- 1) Set the lens to maximum telephoto and pickup a camera subject at least 3 meters distant. Loosen the lens mount setscrews (2 screws) and turn the focus ring to adjust the focus while using care not to turn the lens and lens mount ring .
- 2) Set the lens to maximum wide angle and pickup the same camera subject. While using care not to turn the lens focus ring, turn the lens and lens mount ring to adjust the focus. Repeat these steps until focus is obtained at both telephoto and wide angle settings. After adjusting, tighten the lens mount setscrews.



DC control lens

The factory setting is for average (AVE) light sensitivity.
If necessary, adjust the level control for best image.

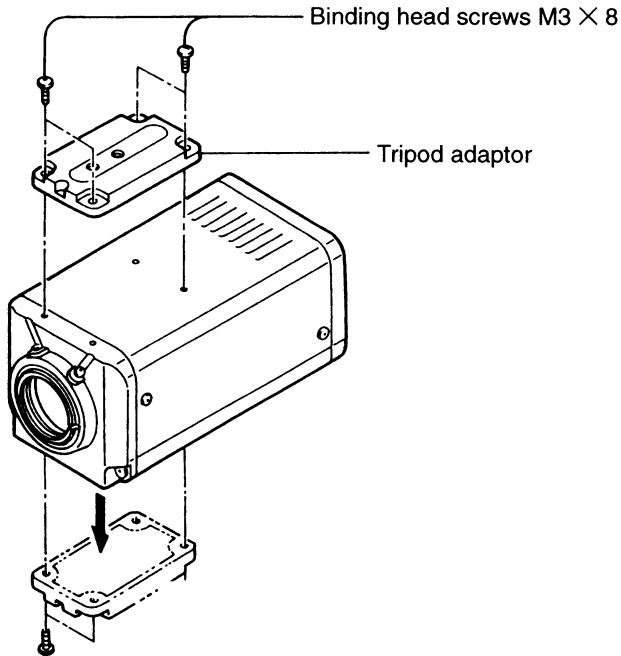


Note

The PK/AVE control functions only with a DC input type lens. In the Video mode, the value is fixed at the factory.

Camera mounting

If the camera is to be suspended from the ceiling, change the position of the tripod adaptor from the bottom to the top of the camera, as indicated in the figure.

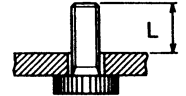


Caution : Use the following type of camera mounting screw.

Type : U 1/4-20

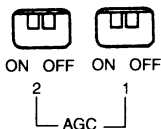
Length L : less than 7 mm

If longer than 7 mm, there is risk of internal damage to the camera. Conversely, if too short, the camera will not be firmly secured and there is risk of dropping.



Sensitivity setting switches

● Sensitivity setting switches

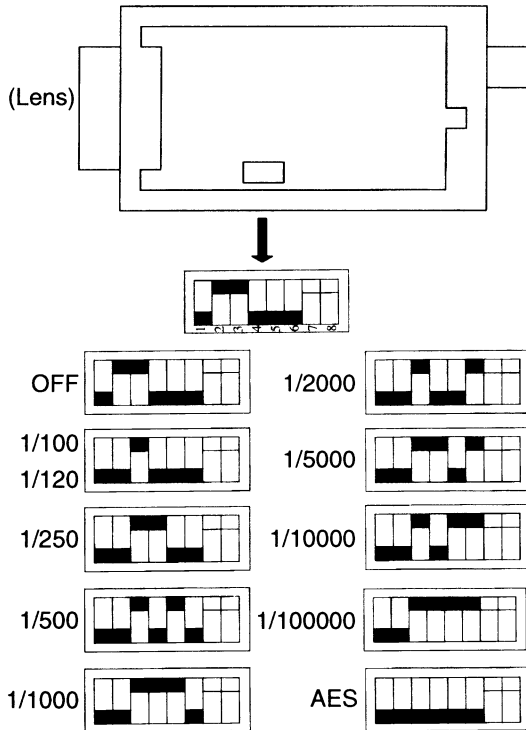


Switch combination sets the camera sensitivity.

Mode	AGC 2	AGC 1
1	Off	Off
2	On	Off
3	Off	On
4	On	On

- Sensitivity increases in the sequence 1, 2, 3 and 4.
- Mode 1 only is fixed sensitivity.
- Mode 4 is maximum sensitivity, use when outdoor light variations are large. If noise is disturbing, use modes 2 and 3.
- Set according to the scene to obtain the best resolution.

● **Electronic shutter switches**



● **AES**

Sets the CCD auto shutter (EIA : 1/60 to 1/100,000 second, CCIR : 1/50 to 1/100,000 second) light response range.

On: When using a fixed iris lens for continuous day/night operation.

Off: When using an auto iris lens. Select according to actual scene conditions.

At the On setting, smear is more likely to occur. Also, flicker may occur under fluorescent or other frequency contingent light source.

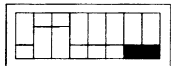
Light setting area

Light sensing area (backlight compensation)

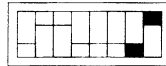
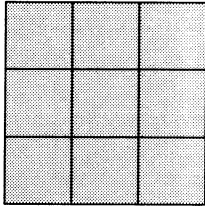
The video signal from scene light sensing area controls the AGC, auto iris lens and AES. Thus, change in light amount outside the light sensing area does not change the video signal level.

The response is effective for strong illumination such as sunlight outside the light sensing area.

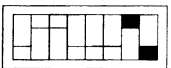
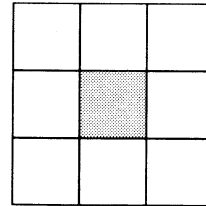
The light sensing area can be selected from the following 4 patterns by internal switches.



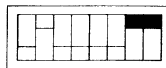
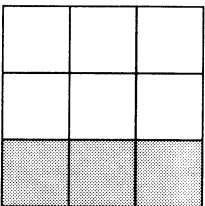
Full



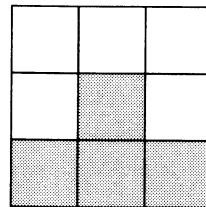
Center



Bottom



Bottom+center



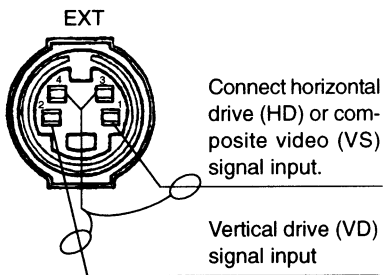
(Factory setting)

External sync (KP-200G/KP-201G)

To use external synchronization, supply horizontal and vertical drive (HD/VD) signals or composite video (VS) signal to the EXT connector. When external sync is supplied, operation is automatically switched from internal to external sync.

● Connection

Connect horizontal and vertical drive to pins 1 and 2 of the EXT connector. Alternatively, connect composite video (VS) to pin 1.



Note

If composite video (VS) signal is used, it is not necessary to connect VD to pin 2.

● External sync signal ratings

External signal input
HD/VD or composite video (VS)

HD $f(H)$ EIA : $15.734\text{kHz} \pm 1\%$

CCIR: $15.625\text{kHz} \pm 1\%$

VD $f(V)$ EIA : 59.94Hz , $f(V)=f(H) \div 262.5 \pm 1\%$

CCIR: 50Hz , $f(V)=f(H) \div 312.5 \pm 1\%$

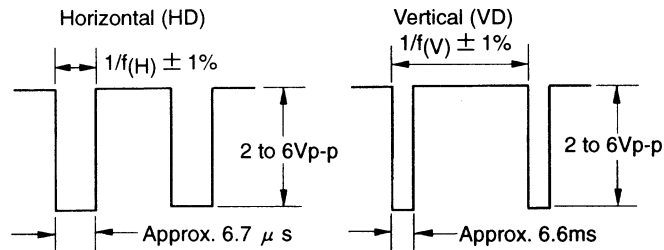
● Input level

2 to 6 V_{p-p} negative (HD/VD) or
1.0V_{p-p} (VS) sync negative

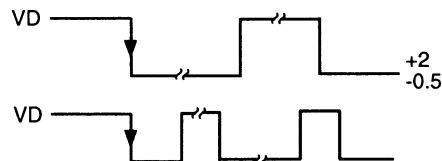
● Input impedance

75 Ω negative

● Drive signal waveforms



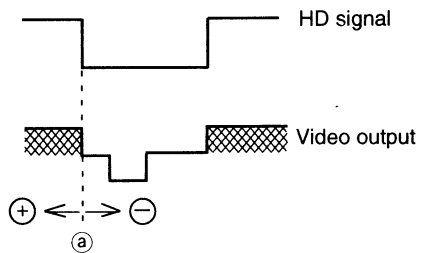
● Phase relation



Use HD and VD falling edges at the same phase ($\pm 5.0 \mu\text{s}$)



● Horizontal phase



The H phase control can adjust component a to $\pm 3 \mu\text{s}$.

Use at $a = \pm 1 \mu\text{s}$.

The control position is shown on Page 4.

Major specifications

1 Signal system	EIA/CCIR
2 Pickup element	Interline transfer type CCD
Total pixels	EIA 811 (H)×508 (V) CCIR 795 (H)×596 (V)
Effective pixels	EIA 768 (H)×494 (V) CCIR 752 (H)×582 (V)
Scanning area	EIA 6.45(H)× 4.84(V) mm CCIR 6.47(H)×4.83 (V) mm
Cell size	EIA 8.4 (H)×9.8 (V) μ m CCIR 8.6 (H)×8.3 (V) μ m
3 Scanning system	2:1 interlace
4 Scanning frequency	Hor. EIA : 15.734 kHz CCIR: 15.625 kHz Vert. EIA : 59.94 Hz CCIR: 50 Hz
5 Sync system	Internal/External
6 Sync signal input KP-200G/201G	Input level HV/VD 2 to 6 Vp-p Input impedance 75 Ω negative Frequency HD EIA : 15.734kHz \pm 1% CCIR : 15.625kHz \pm 1% VD EIA : 59.94Hz \pm 1% CCIR : 50Hz \pm 1% VS composite video signal 1.0Vp-p/75 Ω sync negative VS 1.0 Vp-p/75 Ω
7 Video signal output	

8 Resolution

		Standard sensitivity
Hor.	EIA	570 lines
Ver.	EIA	380 lines
Hor.	CCIR	560 lines
Ver.	CCIR	380 lines

9 S/N (luminance signal) More than 50 dB

10 Minimum illumination 0.0002 lx (F1.4, AGC and gamma ON)

11 Electronic shutter Yes

12 Auto iris lens outputs

Video signal input type lens	Luminance signal 1.0Vp-p/high impedance Power supply 12V DC 40mA
Iris control voltage input (galvanometer) type lens	Coupling coil impedance Damper : 1150 Ω \pm 10% Drive : 190 Ω \pm 10%

13 Lens mount C/CS mount

14 Ambient temperature

-10 to +50°C,
30 to 80% RH

15 Storage ambient

-20 to 60°C,
30 to 90% RH



Accessories

- 16 Power supply** U: AC 117V \pm 10%, 60Hz
E,K: AC230V \pm 10%, 50Hz
KP-200: 12V DC \pm 1.0V
- 17 Power consumption** U: 3W (including lens load)
E,K: 4W (including lens load)
KP-200/200G: 260mA
(including lens load)
- 18 External dimensions** 64(W) \times 55(H) \times 122(D)mm
- 19 Mass** KP-201/201G U : Approx. 620g
KP-201/201G E : Approx. 630g
KP-201/201G K : Approx. 580g
KP-200/200G : Approx. 400g

Supplied

Fuse	U: (125 V 630mA)	1 (U type only)
	E,K (250V 400mA)	1 (E,K type only)
Operation manual		1
External connector		1

Important
The fuse must be replaced only by a qualified service technician.

Optional accessories
lenses
Lens plug : E4-191-100 Part Code JPE0001

Note: If used continuously, be sure to operate at less than 40°C for long term stable performance.

HITACHI KOKUSAI ELECTRIC INC.

1, Kanda Izumi-cho Chiyoda-ku, Tokyo 101-0024, Japan
Phone : (03) 5821-5311, Fax : (03) 5821-5394

HITACHI DENSHI AMERICA, LTD.**Headquarters and Northeast Office**

150 Crossways Park Drive, Woodbury, New York 11797, U. S. A.
Phone : (516) 921-7200, Fax : (516) 496-3718

Parts Center

Phone : (516) 682-4435, Fax : (516) 921-0993

Latin Sales

Phone : (516) 682-4420, Fax : (516) 496-3718

West Office

371 Van Ness Way, Suite 120 Torrance, CA. 90501, U. S. A.
Phone : (310) 328-6116, Fax : (310) 328-6252

Midwest Sales

Phone : (877) 326-8104, Fax : (516) 496-3718
Service (734) 721-6180

South Sales

Phone : (877) 326-8105, Fax : (516) 496-3718
Service (678) 937-0201

HITACHI DENSHI CANADA, LTD.**Head Office**

1 Select Avenue Unit#14 Scarborough, Ontario M1V 5J3, Canada.
Phone : (416) 299-5900, Fax : (416) 299-0450

Eastern Office

5795 Chemin St. Francois St. Laurent, Quebec H4S 1B6, Canada
Phone : (514) 332-6687, Fax : (514) 335-1664

Ottawa Office

9 Antares Drive, Nepean, Ontario, K2E 7V5, Canada
Phone : (613) 727-3930, Fax : (613) 825-4253

HITACHI DENSHI (EUROPA) GmbH**Head Office**

Wesikircher Stra ß e 88, Jügesheim D-63110 Rodgau, Germany
Phone : (6106) 6992-0, Fax : (6106) 1690-6

HITACHI DENSHI (U. K.) LTD.**Head Office**

14 Garrick Industrial Centre, Irving Way, Hendon, London, NW96 AQ,
United Kingdom
Phone : (208) 202-4311, Fax : (208) 202-2451

Leeds Office

Brookfield House, Selby Road, Garforth, Leeds LS25 1NB United Kingdom
Phone : (113) 287-4400, Fax : (113) 287-4260

HITACHI KOKUSAI ELECTRIC INC. BEIJING OFFICE

Beijing Fortune Building
5, Dong San Huan Bei-lu, Chao Yang District, Beijing, 100029 China
Phone : (10) 6590-8755/8756, Fax : (10) 6590-8757

Beijing Service Center

A25, Bei San Huan Zhong Road Beijing China
Phone : (10) 6204-3901/3903, Fax : (10) 6204-3902

HITACHI KOKUSAI ELECTRIC INC. SINGAPORE BRANCH

NO. 123, Genting Lane #03-01 Yenom Industrial Building
Singapore 349574
Phone : (65) 223-0030, Fax : (65) 223-0206