



# INSTRUCTION MANUAL

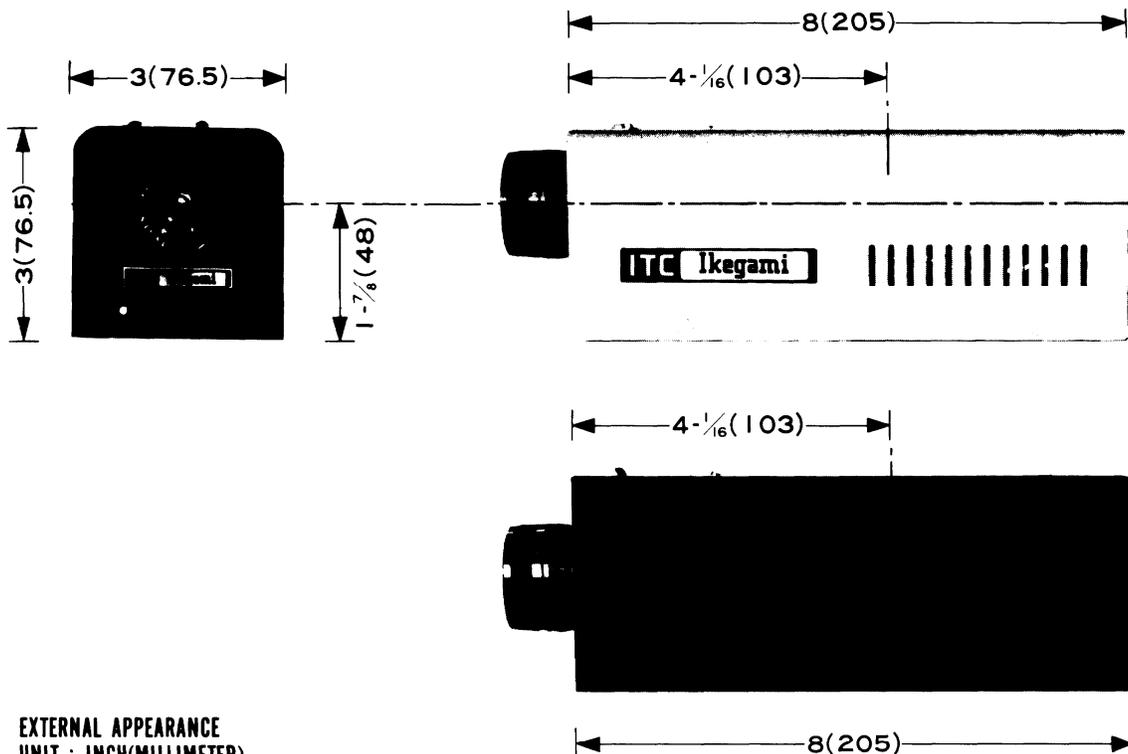
## Ikegami SURVEILLANCE CAMERA

OUTDOOR USE WARNING

**Model ITC-40**  
**(REV.B)**

WARNING - TO PREVENT FIRE OR ELECTRIC SHOCK,  
DO NOT EXPOSE THIS APPLIANCE TO RAIN OR  
MOISTURE.

### CLOSED CIRCUIT TELEVISION CAMERA



EXTERNAL APPEARANCE  
UNIT : INCH(MILLIMETER)

# IMPORTANT SAFEGUARDS

- \* **Read Instructions** - All the safety and operating instructions should be read before the appliance is operated.
- \* **Retain Instructions** - The safety and operating instructions should be retained for future reference.
- \* **Heed Warnings** - All warnings on the appliance and in the operating instructions should be adhered to.
- \* **Follow Instructions** - All operating and use instructions should be followed.
- \* **Cleaning** - Unplug this video product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
- \* **Attachments** - Do not use attachments not recommended by the video product manufacturer as they may cause hazards.
- \* **Water and Moisture** - Do not use this video 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.
- \* **Accessories** - Do not place this video product on an unstable cart, stand, tripod, bracket, or table. The video product may fall, causing serious injury to a child or adult, and serious damage to the appliance. Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer, or sold with the video product. Any mounting of the appliance should follow the manufacturer's instructions, and should use a mounting accessory recommended by the manufacturer.
- \* **Ventilation** - Slots and openings in the cabinet are provided for ventilation and to ensure reliable operation of the video 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 video product on a bed, sofa, rug, or other similar surface. This video product should never be placed near or over a radiator or heat register. This video 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.
- \* **Power Sources** - This video 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 appliance dealer or local power company. For video products intended to operate from battery power, or other sources, refer to the operating instructions.
- \* **Grounding or Polarization** - This video product is equipped with a polarized alternating-current line-plug (a plug having one blade wider than the other) or a 3-wire grounding-type plug (a plug having a third grounding pin). This is a safety feature. The plug having one blade wider than the other will fit into the power outlet only one way. If you are unable to insert the plug fully into the outlet, try reversing the plug. The plug having a third grounding pin will only fit into a grounding-type power outlet. If the plug should fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug or the grounding-type plug.
- \* **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 appliance.
- \* **Lightning** - For added protection for this video product receiver during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the cable system. This will prevent damage to the video product due to lightning and power-line surges.
- \* **Power Lines** - An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits as contact with them might be fatal.
- \* **Overloading** - Do not overload wall outlets and extension cords as this can result in a risk of fire or electric shock.
- \* **Object and Liquid Entry** - Never push objects of any kind into this video 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 video product.
- \* **Servicing** - Do not attempt to service this video product yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
- \* **Damage Requiring Service** - Unplug this video 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 video product.
  - c. If the video product has been exposed to rain or water.
  - d. If the video 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 video product to its normal operation.
  - e. If the video product has been dropped or the cabinet has been damaged.
  - f. When the video product exhibits a distinct change in performance - this indicates a need for service.
- \* **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.
- \* **Safety Check** - Upon completion of any service or repairs to this video product, ask the service technician to perform safety checks to determine that the video product is in proper operating condition.



**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.**



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

## INTRODUCTION

The new Ikegami ITC-40 SURVEILLANCE camera is an advanced, B/W CCTV camera unit incorporating static-focusing, magnetic deflection type separate mesh vidicon. The most noticeable features of the SURVEILLANCE CAMERA include extensive use of ICs and a fully automated manufacturing process. The ITC-40 camera employs logic IC and linear IC having high reliability and offering highly stable picture quality, and features small size, light weight and low power consumption.

Installation and setup are extremely simple. Attention-free, reliable service is assured for long periods of time, and the following valuable features are also incorporated.

### EASY INSTALLATION AND SETUP

For easier mounting, the ITC-40 camera also feature two mounting threads; one on top and one on the bottom; for effective ceiling, shelf or wall mounting at any angle.

All controls and adjustments are factory set, therefore no more adjustment is required. However, target, focus and beam adjustments can be easily done at the camera rear side, if you need.

### DEFLECTION POLARITY REVERSAL

The deflection polarity can be quickly and easily reversed for compatibility with appropriate equipment or applications. Polarity reversal is performed by simply reversing the coil assembly connector.

### AUTO IRIS CAPABILITY

An auto iris lens can be attached to the ITC-40 as required when using high-sensitivity camera tubes such as the Newvicon or Chalnicon. The ITC-40 has the space for wiring that supplies the necessary +9V. These necessary +9V and video signals are easily accessible for wiring to an optional front-panel connector to achieve full auto-iris compatibility.

### HIGH PERFORMANCE AUTO SENSITIVITY CONTROL (ASC)

Incorporating high-performance ASC with video feedback circuits system, the light dynamic range is 8,000 : 1 or better, and objects illuminated as low as 1.5 fc can be televised. (Minimum 0.125 fc on the camera tube surface.)

### STABLE SYNCHRONOUS, DEFLECTION CIRCUIT

By an oscillation circuit employing crystal, extremely stable horizontal frequency is obtained. Synchronous, deflection circuit consists completely of solid state with C-MOS logic IC, resulting in generation of stable picture quality.

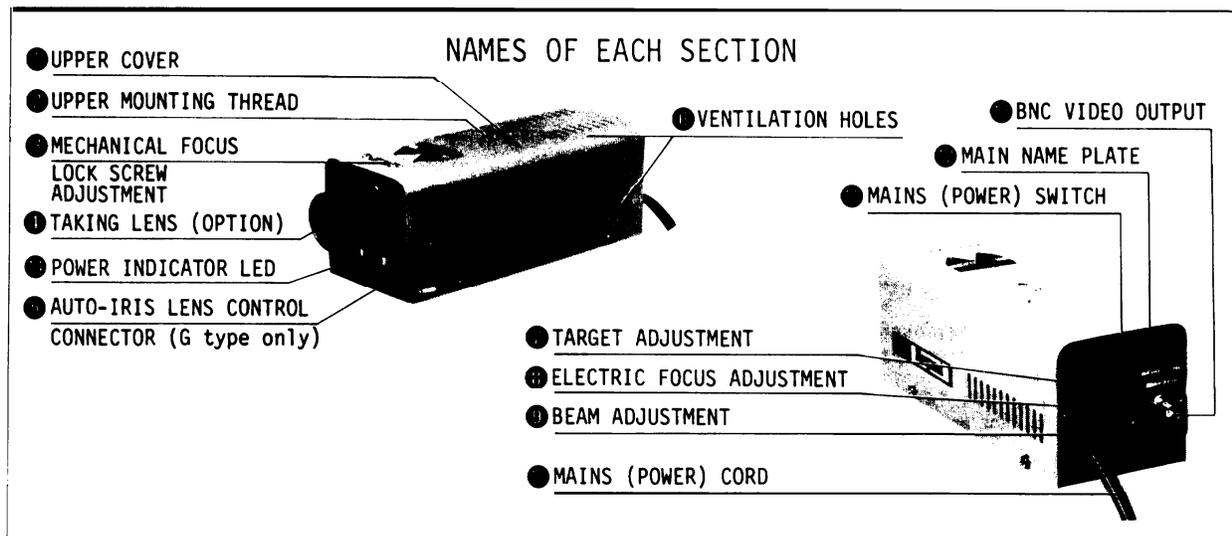
### STABLE POWER SUPPLY CIRCUIT

Low voltage side is constituted by solid state circuit with 3-terminal regulator IC offering highly stable +B voltage.

High voltage side supplies stabilized high voltage to camera tube, by virtue of flyback transformer system.

In addition to the above features, the ITC-40 camera offers easy mechanical focus adjustment so that precise focus can be attained when using zoom lens or other different types of lens.

Other optional features include economical 24V AC powered version, full 2 : 1 interlace version that ensures precise scan synchronization and auto beam control provision that under normal conditions no manual adjustments are necessary for the full service life of the camera tube.



## HANDLING PRECAUTION

Please note that the ITC-40 SURVEILLANCE CAMERA is a finely adjusted precision piece of equipment. To be assured of trouble-free operation, full performance capability and a long service life, we strongly recommend that you check these instructions completely before attempting to assemble, install or operate the camera.

Although this camera is a solid-state, modular unit using mainly low-voltage circuitry at non-hazardous energy levels, power supply voltages present on certain parts of the interior. Such parts are not accessible in normal use, but while carrying out maintenance or repair, EXTREME CARE should be taken. Mains voltages can be LETHAL.

It is strongly recommended not to move a camera cover and internal controls unless really necessary and in such cases, always follow the procedure given in these instructions, and use appropriate tools. And note that the inside adjustment or repair should only be made by a fully qualified technician.

\* Always handle the camera carefully, and avoid physical shock etc., as much as possible.

\* To avoid particle settling on the vidicon tube (inner) target surface, which reduces picture quality, the camera should never be handled or stored with the lens opening facing downward.

\* Do not allow strong light (sunlight, etc.) to shine directly into the lens. Damage to the camera tube may result, even if the camera is not switched on. When installing, give careful consideration to the changing sunlight direction through the day and through the seasons.

\* When installing, keep the camera away from direct heat sources, high-powered light, especially strong magnetic fields. Excessive moisture-, gas-, or salt-laden atmospheres should be avoided as much as possible, since circuitry components and connector contacts may be adversely affected.

\* When installing, ensure that ventilation is adequate. And do not block the ventilation holes in the camera cover.

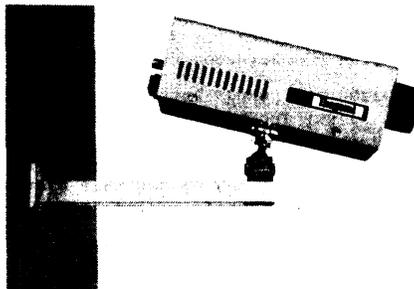
\* Dust accumulation should be avoided, since many parts of the unit will be adversely affected in time, and the service-free life will be shortened.

\* Regularly check the connection cables, which are prone to damage, especially in outdoor use. The cable should always be handled with care, kept free from sharp bends and kinks, and relieved from strain near the connectors. And checking of the connectors for full insertion and tightness is also recommended, especially where the same setup is used for a long time.

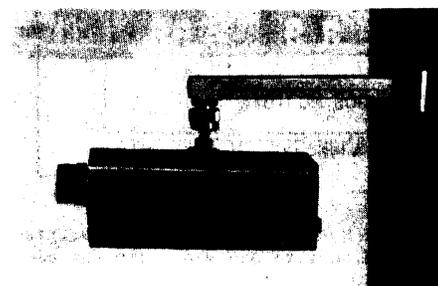
## CAMERA SETUP

\* Make sure that the camera is installed securely, in a stable condition.

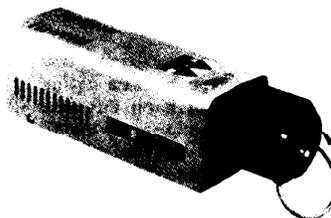
Three threaded holes are provided with the camera and normally the middle hole on the bottom is used for tripod or mounting bracket.



\* For ceiling installation, use the upper threaded hold for ceiling bracket.



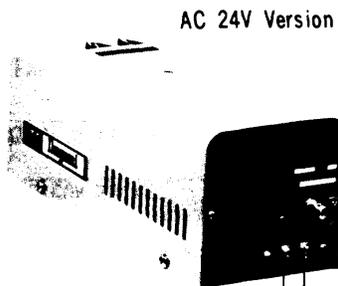
\* Make the coaxial-cable connection between the camera output and the monitor input.



If the lens is an auto-iris control type, plug in the lens control cable to the camera lens connector on a front panel (G type).

AUTO-IRIS LENS CONTROL  
CONNECTOR SPACE  
(G TYPE ONLY)

\* After completing cable connections, connect the AC mains cable to AC outlet.



AC 24V Version

In the case of 24V AC version camera, connect the power cord to the 24V AC terminal strip on the camera rear panel, as shown.

AC 24V in

\* After switching on the monitor and setting up the raster brightness, switch on the camera power.

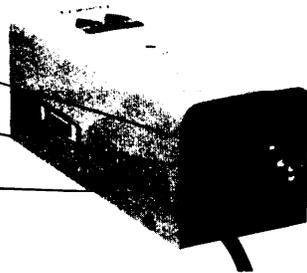
The picture should appear after 20 ~ 30 seconds warmup. And adjust the lens focusing to produce the required image sharpness.

## TARGET, BEAM & FOCUS ADJUSTMENT

TARGET ADJUSTMENT

ELEC. FOCUS ADJUSTMENT

BEAM ADJUSTMENT



### TARGET ADJUSTMENT

- (1) This control is preset at the factory and does not normally require adjustment.
- (2) Turning the control clockwise improves sensitivity and signal-to-noise ratio, but there will be noticeable image burning. Turning it counterclockwise decreases burning, but when the scene is very bright, landing error may cause darkening of the screen periphery.

### BEAM ADJUSTMENT

- (1) This can be done with the beam adjustment at the rear of the camera. It is preset before shipment for double beam current on the resolution chart at 800 Lux for televising normal scenes.
- (2) If the white parts of the picture do not appear clearly, turn this control clockwise and stop at a position where the brightest part of the scene appears completely (except small bright parts).

Turning the control too far clockwise will cause impaired focus and distortion at the center of the picture.

### FOCUS ADJUSTMENT

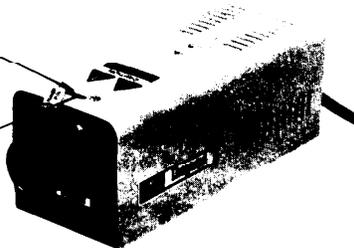
- (1) Both optical and electrical focus adjustments are provided. Clear picture can only be obtained when both are adjusted correctly.
- (2) Normally, the optical focus is adjusted with the focus ring on the lens. This is not normally provided on short focal length lenses. There is also a factory preset optical focus adjustment on the camera body (on the front top). This moves the vidicon tube back and forth to for coarse focussing. Optical focus may need to be re-adjusted when the lens is changed.

OPTICAL (MECHANICAL)

FOCUS LOCK

OPTICAL (MECHANICAL)

FOCUS ADJUSTMENT



To do this, first set the lens focus ring to infinity and open the lens iris. Then, adjust optical focus until objects 20 meters and farther away are in focus. The lens focus ring can now be used to focus objects at any distance.

- (3) Electrical focus is adjusted with the focus adjustment on the rear of the camera. When clear picture cannot be obtained by adjusting the lens focus ring, the beam may be out of focus.

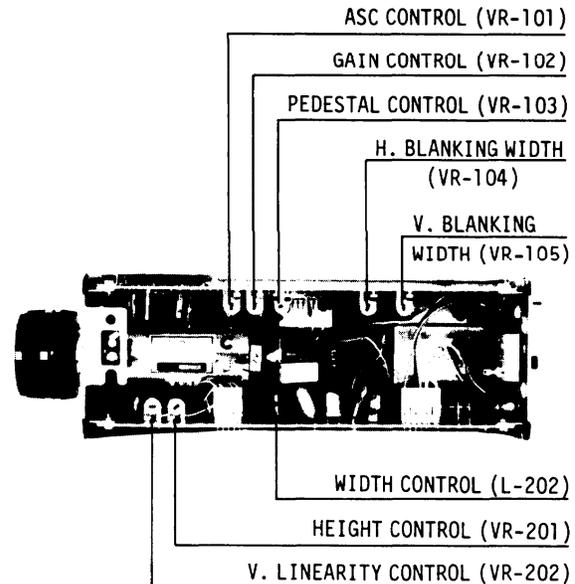
Turn the focus control to adjust. Note that the optimum setting varies according to the setting of the beam current.

## INTERNAL UNIT ADJUSTMENTS

All internal adjustments and controls are factory set and locked at the optimum position.

It is strongly recommended not to touch them unless really necessary, and such cases, always follow the instructions given in this operation manual or the service/maintenance manual separately issued, and use the appropriate tools.

And adjustment should not be undertaken except a fully qualified service personnel.



### HANDLING OF TRANSISTORS AND IC'S

- (1) Transistors and ICs are resistant to mechanical shock but vulnerable to electric shock. Extreme care must be taken when checking circuits with power applied. Never short terminals together with the test probe.
- (2) Be sure to remove power before installing or removing components.
- (3) When soldering transistors, take care to avoid overheating the transistors. Use a heat sink when possible. And never use a soldering iron with any AC leakage.
- (4) When using an oscilloscope for waveform observation, be sure to use a high-impedance probe.
- (5) When measuring voltages in transistor circuits, it is desirable to use a VTVM or equivalent high-impedance measuring instrument rather than a conventional tester.

### CAUTIONS ON USING CMOS IC'S

MOS ICs generally are said to be more easily damaged by static electricity than bipolar ICs. With MOS ICs, the most common type of damage is to the gate of the input MOS IC or to the protection circuit, resulting in increased leakage current. The inputs and outputs of an unconnected CMOS IC exhibit a high input impedance and therefore must be protected from external electrical stress.

To ensure maximum protection, the devices should not be removed from the conductive carriers insofar as possible. Also, static-generating containers such as plastic boxes or plastic bags should be strictly avoided. During storage, the devices should be kept out of direct sunlight and away from extremes of heat and cold. When taking the ICs out of their protective packaging for actual use, all handling should be performed on a grounded workbench. Work clothes made of synthetic materials should be avoided.

## VIDEO BOARD ADJUSTMENTS

### ASC CONTROL (VR-101)

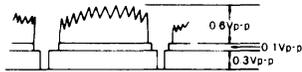
This control is used to change ASC (Automatic Sensitivity Control) circuit feedback gain to control target voltage variable range.

By turning it clockwise, amplifier gain of video amp (Q111) increases. Therefore, even small video input signal is amplified, double-voltage-rectified by D101, D102, DC-amplified by Q112 then target voltage is reduced, according to its operating principle.

It is used together with rear panel TARGET CONTROL. For starting, set ASC VR to the minimum. Set lens iris to F4, pick up a test pattern (Reso Chart) illuminated by approx. 80 fc. then set rear panel TARGET VR in such manner that video output becomes 0.7 V(p-p). Then, set lens iris to F1.4 and set ASC VR in such manner that video output becomes 0.6 ~ 0.7 V(p-p).

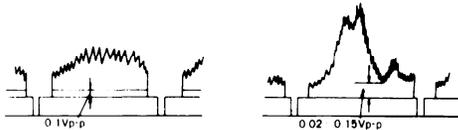
### GAIN CONTROL (VR-102)

This control is used to control video amplifier gain. It is used for resetting video output level after replacing camera tube or for increasing sensitivity because of low video output level due to too low object illumination even though sacrificing S/N and resolution.



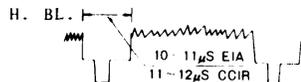
### PEDESTAL CONTROL (VR-103)

This adjustment controls the black level of the video signal. After adjusting the target control and gain, adjust the black level of the line output to 0.1 V(p-p) with a resolution pattern illuminated with 800 Lux (80 fc) and a lens opening of F4. A black level of 0.02 ~ 0.15 V(p-p) is appropriate for scenes with both bright and dark areas.



### H. BL. WIDTH CONTROL (VR-104)

This adjustment controls horizontal blanking width. It should be adjusted for a blanking width of 10 ~ 11 μs at the video output.



### V. BL. WIDTH CONTROL (VR-105)

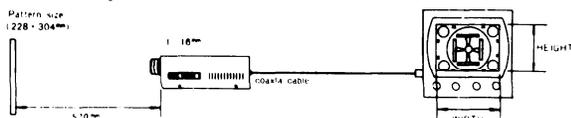
This adjustment controls vertical blanking width. It should be adjusted for a blanking width of 17 ~ 21H at the video output.



## DEFLECTION BOARD ADJUSTMENTS

### WIDTH AND HEIGHT CONTROLS (L-202 & VR-201)

The width control adjusts horizontal amplitude, while the height control adjusts vertical amplitude. Use an underscan type picture monitor under normal conditions (see diagram below) and adjust the test pattern fills the whole screen.



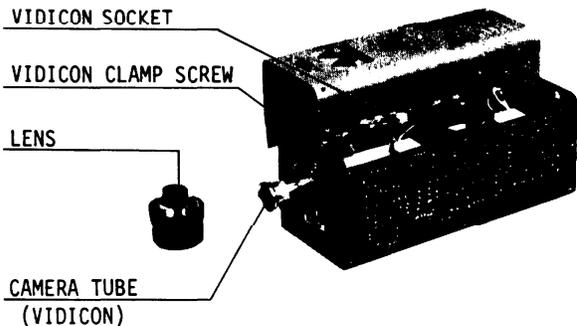
### V. LIN. CONTROL (VR-202)

This adjustment corrects the linearity of the vertical deflection. The monitor used first be aligned, if necessary.

Adjust the monitor so that a circle test pattern generated by a monoscope camera appears perfectly circular. Then, adjust the camera so that a circle test pattern signal from the camera appears circular on the picture monitor, too.

## VIDICON REPLACEMENT

- (1) Turn the camera power off, and remove the upper cover and lens.
- (2) Remove the vidicon socket carefully from the vidicon. When removing the socket, watch out for electric shocks from the capacitor connected to the electrodes.
- (3) Loosen the vidicon clamp screw attached to the front of the coil assembly, pull the old vidicon out and insert the new one.

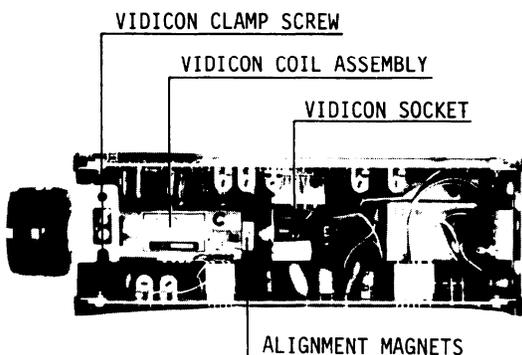


- (4) Push the new vidicon in as far as it will go and adjust the angle so that the short index pin is on the right when facing the vidicon front. If problems with poor alignment or shading have been experienced, the vidicon angle may be adjusted at this point for optimum performance.

- (5) Being careful not to break the vidicon, tighten the vidicon clamp screw so that the vidicon will not rotate.

Insert the vidicon socket while holding the vidicon front with some soft clean cloth such as silicon cloth.

- (6) Remove any dirt from the vidicon surface with a silicon cloth, and then attach the lens.



- (7) Align the vidicon by turning the two alignment magnets attached to the rear of the coil assembly. The ideal alignment point is where turning the focus adjustment does not move the center of the image but instead causes the image to rotate around the center.

Furthermore, when focusing with this alignment position, shading and focus must have good uniformity and flicker and corner must not appear.

- (8) When all these adjustment have been performed, paint-lock the alignment magnets and install the cover.

If the optical focus has slipped so that distant objects are not in focus with the lens focus ring set at infinity, adjust it.

# MAIN COMPONENT LIST

## (1) MAIN CHASSIS

△ IC1	Integrated circuit	HA17808P
L1	Vidicon coil assembly	VCS-33A
△ PW1	Power cord with plug	UL recognized parts SPT-2 6 ft VM-0228AP E35496 cord E35708 plug HIRAKAWA
△ PW1-a	Power cord bushing	UL recognized parts SR-4N-4 E15331 HEYMAN Mfg.
△ SW1	Slide switch	UL recognized parts ESD-275D E36636 MATSUSHITA
△ T1	Power transformer	ST4-A50013-2B Under UL application at TOKYO KEIDENKI CO., LTD.
V1	Camera tube	20PE19 or equivalent 2/3 inch vidicon
CN1	1P connector	SMF-01T-1.3
CN2	1P connector	SMF-01T-1.3
CN3	1P connector	SMF-01T-1.3
CN4	1P connector	SMF-01T-1.3
CN6	Connector housing	UL recognized parts J021-05 E29179A2 Molex Inc.
CN7	Connector housing	UL recognized parts 5047-06 E29179 Molex Inc.
CN9	Coaxial receptacle	UHF bulkhead BNC type

## (2) VIDEO AMP P.W.B. MODULE

IC101	Integrated circuit	MC14001BP or equivalent
IC102	Integrated circuit	MC14001BP or equivalent
IC103	Integrated circuit	MC14001BP or equivalent
Q101	Field effect transistor	2SK121 or equivalent
Q102	Silicon transistor	2SC1923 or equivalent
Q103	Silicon transistor	2SC1923 or equivalent
Q104	Silicon transistor	2SC458 or equivalent
Q105	Silicon transistor	2SC458 or equivalent
Q106	Silicon transistor	2SC458 or equivalent
Q107	Silicon transistor	2SC458 or equivalent
Q108	Silicon transistor	2SC458 or equivalent
Q109	Silicon transistor	2SC458 or equivalent
Q110	Silicon transistor	2SC458 or equivalent
Q111	Silicon transistor	2SC458 or equivalent
Q112	Silicon transistor	2SC1627 or equivalent
D101	Silicon diode	1S1588
D102	Silicon diode	1S1588
D103	Germanium diode	FM-1
D104	Silicon diode	1S1588
D105	Silicon diode	1S1588
D106	Silicon diode	1S1588
D108	Light emitting diode	SEL2110R
VR101	Variable resistor	(carbon film) 20k ohms
VR102	Variable resistor	(carbon film) 5k ohms
VR103	Variable resistor	(carbon film) 1k ohms
VR104	Variable resistor	(carbon film) 20k ohms
VR105	Variable resistor	(carbon film) 10k ohms
CN1	1P connector	RT-01T-1.3B
CN2	1P connector	RT-01T-1.3B
CN3	1P connector	RT-01T-1.3B
CN4	1P connector	RT-01T-1.3B
CN5	Connector plug	UL recognized parts 5048-09A E29179 Molex Inc.
E1	Printed wiring board	UL recognized parts CTP40-13 UP-41 94V-0 E43852 Uehara Electric Industrial

## (3) DEF AMP P.W.B. MODULE

Q201	Silicon transistor	2SC1645 or equivalent
△ Q202	Silicon transistor	2SD975
Q203	Silicon transistor	2SC458 or equivalent
Q204	Silicon transistor	2SC1815 or equivalent
Q205	Silicon transistor	2SC458 or equivalent
Q206	Silicon transistor	2SC458 or equivalent
D201	Zener diode	HZ7C-3
D202	Silicon diode	1S1588
△ D203	Silicon diode	EU-1
D204	Silicon diode	ES1F
D205	Silicon diode	ES1F
D206	Silicon diode	1S1588
△ D207	Rectifying diode bridge	RB-152
L201	Choke coil	ST4-A42044 or ST4-A61011
L202	H. width coil	ST4-A41072 or ST4-A61014
L203	H. linearity coil	ST4-A50041 or ST4-A5023b
△ T201	Flyback transformer	ST4-A50040 or ST4-A61013
VR201	Variable resistor	(carbon film) 2k ohms
VR202	Variable resistor	(carbon film) 2k ohms
VR203	Variable resistor	(carbon film) 1M ohms
VR204	Variable resistor	(carbon film) 1M ohms
VR205	Variable resistor	(carbon film) 1M ohms
VS201	Varistor	SRN-14P300K
CN5	Connector plug	UL recognized parts 5047-09 E29179 Molex Inc.
CN6	Connector plug	UL recognized parts J022-05A E29179F Molex Inc.
CN7	Connector housing	UL recognized parts 5048-06A E29179 Molex Inc.
CN8	Vidicon socket	S7-502B-04
E2	Printed wiring board (DEF AMP P.W.B.)	UL recognized parts CTP40-21 or CTP40-22 UP-41 94V-0 E43852 Uehara Electric Industrial

## (4) AC 24V TYPE

△ T1	Power transformer	ST4-A50013-2D Under UL application at TOKYO KEIDENKI CO., LTD.
△ CN10	2P connector wiring	OM9-2 UL recognized parts UL1015AWG22

## (5) AC 220V/240V TYPE

△ PW1	Power cord with plug	EP-011-309
△ PW1-a	Power cord bushing	SR-5N-4
△ T1	Power transformer	ST4-A50013-2C
△ F1	Fuse Holder	F-7175
△ "	Fuse	0.15A/250V



# SPECIFICATIONS

**CAMERA TUBE :**  
 2/3" static focusing, magnetic deflection  
 system tube  
 [Standard] S4097 or equivalent separate mesh vidicon  
 [Optional] S4102 or S4092 Newvicon tube  
 E5175A Chalnicon tube

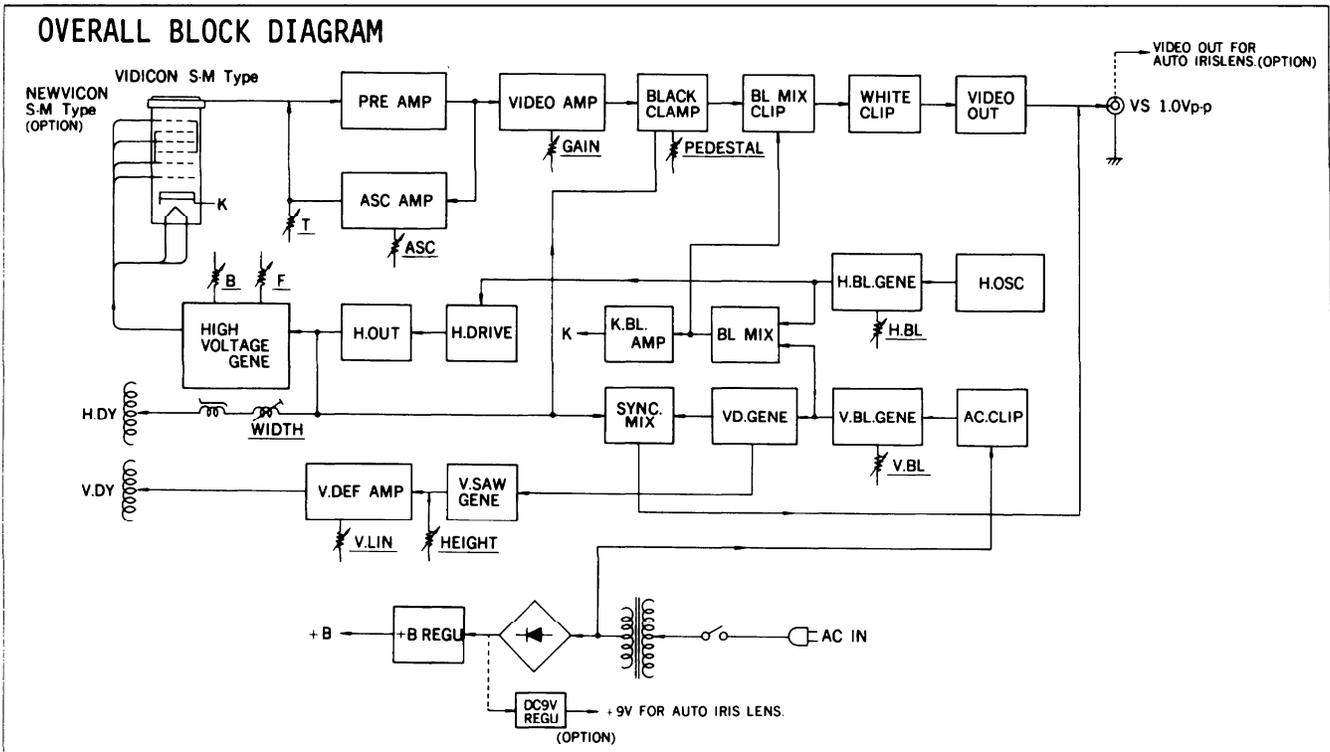
**SCANNING SYSTEM :**  
 Line lock random interlaced  
**HORIZONTAL SCANNING FREQUENCY :** 15.75 kHz or 15.625 kHz  
**VERTICAL SCANNING FREQUENCY :** 60 Hz or 50 Hz  
**VIDEO OUTPUT :** 1.0V (p-p) VS composite  
**OUTPUT ROAD IMPEDANCE :** 75 ohms  
**VIDEO AMPLIFIER BANDWIDTH :** 6 MHz or better  
**HORIZONTAL RESOLUTION :**  
 550 lines or better at center (S4097)  
 500 lines or better at center (S4102 or S4092)  
**SIGNAL-TO-NOISE RATIO :** 42 dB (p-p/rms) or better

**SENSITIVITY :**  
 (1) Faceplate illumination : 0.125 fc minimum (S4097)  
 or 0.015 fc minimum (S4102 or S4092)  
 (2) Scene illumination [F1.4 lens, 89% reflectance  
 object]  
 : 1.5 fc minimum (S4097)  
 or 0.18 fc minimum (S4102 or S4092)

**AUTOMATIC LIGHT CONTROL RANGE :** 8,000 : 1 or more  
**PEAK WHITE CLIPPER :** Built in (Factory preset at 1.3 V(p-p))  
**DEFLECTION DISTORTION :**  
 [Zone 1] Maximum  $\pm 2\%$  within a circle of picture height  
 [Zone 2] Maximum  $\pm 3\%$  outside a circle of picture height

**POWER REQUIREMENT :** (1) 120/220 VAC, 60/50 Hz  
 (2) 24 VAC, 60 Hz (optional)  
**POWER CONSUMPTION :** 7.5 watts  
**ENVIRONMENTAL TEMPERATURE :**  $-10^{\circ}\text{C}$  to  $+50^{\circ}\text{C}$  ( $14^{\circ}\text{F}$  to  $122^{\circ}\text{F}$ )  
**CAMERA MOUNT THREADS :** 1/4" threaded holes x 2  
 (on top and bottom)  
**LENS MOUNT :** Standard cinema mount (C-mount)  
**VIDEO OUTPUT CONNECTOR :** BNC type coaxial connector  
**DIMENSIONS :** 3.0 x 3.0 x 8.0 (in inch)  
 76.5 x 76.5 x 205 (in millimeter)  
**WEIGHT (Net without lens) :** 3.5 lbs approx. (1.6 Kg)

**OPTIONAL PROVISION :**  
**AUTO-IRIS LENS CONTROL CONNECTOR :** 3-pin front connector  
 (C version only)



\* Design and specifications are subject to change for improvement without notice.



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