

INSTRUCTION MANUAL

Monochrome
Video Monitor
Type-5/9/12/17

MODEL

PM-K5

PM-K9

PM-K12

PM-K17

Ikegami

Ikegami Tsushinki Co., Ltd.

ENGLISH VERSION

OUTDOOR USE WARNING
WARNING: To reduce the risk of fire or electric shock, do not expose this product to rain or moisture.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including, interference that may cause undesired operation.

CAUTION;
ANY CHANGES OR MODIFICATIONS NOT EXPRESSLY APPROVED BY THE PART RESPONSIBLE FOR COMPLIANCE COULD VOID THE USERS AUTHORITY TO OPERATE THE EQUIPMENT.

	<p>CAUTION RISK OF ELECTRIC SHOCK DO NOT OPEN</p>		<p>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.</p>
--	--	--	---



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 product.

..... **For U.K.**

IMPORTANT: Power plug handling

CAUTIONS:
This appliance is supplied with a moulded three pin mains plug for your safety and convenience. A 13 amp fuse is fitted in this plug. Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 13 amp and that it is approved by ASTA or BSI to BS1362.

Check for the ASTA mark  or the BSI mark  on the body of the fuse.

How to replace the fuse
Open the fuse compartment with a screwdriver and replace the fuse and fuse cover.

If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced. If you lose the fuse cover of the plug must not be used until a replacement cover is obtained. A replacement fuse cover can be purchased from your local Ikegami Dealer.

WARNING:
This apparatus must be earthed.
If the fitted moulded plug is unsuitable for the socket outlet in your home, please consult a qualified electrician.

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 in 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. Exception: A product that is meant for uninterrupted service and that for some specific reason, such as the possibility of the loss of an authorization code for a CATV converter, is not intended to be unplugged by the user for cleaning or any other purpose, may exclude the reference to unplugging the product in the cleaning description otherwise required in 131.8 (5).
- 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 a cart, stand, tripod, bracket, or table 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) 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 may be equipped with a polarized alternating-current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug. Alternate Warnings - 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) Protective Attachment Plug - The product is equipped with an attachment plug having overload protection. This is a safety feature. See Instruction Manual for replacement or resetting of protective device. If replacement of the plug is required, be sure the service technician has used a replacement plug specified by the manufacturer that has the same overload protection as the original plug.
- 15) Outdoor Antenna Grounding - If an outside antenna or cable system is connected to the product, be sure the antenna or cable system is grounded so as to provide some protection against voltage surges and built-up static charges. Article 810 of the National Electrical Code, ANSI/NFPA 70, provides information with regard to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. See Figure 131.1.
- 16) 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 and disconnect the antenna or cable system. This will prevent damage to the product due to lightning and power-line surges.
- 17) 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.

- 18) Overloading - Do not overload wall outlets, extension cords, or integral convenience receptacles as this can result in a risk of fire or electric shock.
- 19) 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.
- 20) 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.
- 21) 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.
- 22) 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.
- 23) 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.
- 24) Wall or Ceiling Mounting - The product should be mounted to a wall or ceiling only as recommended by the manufacturer.
- 25) Heat - The product should be situated away from heat sources such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat.

CONTENTS

1. HANDLING PRECAUTIONS	E-1
2. OVERVIEW	E-1
3. FEATURES	E-2
4. NAMES AND OPERATIONS OF PARTS	E-2
5. EXAMPLES OF CONNECTIONS	E-4
6. MAJOR SPECIFICATIONS	E-5
7. BEFORE SUSPECTING TROUBLE	E-6
8. GUARANTEE	E-6
9. AFTER-SALES SERVICE	E-6
10. SKETCH DRAWING AND DIMENSIONS	E-7

Congratulations on having one of the Monochrome Video Monitor, Type-5/9/12/17.

Before use, read carefully this instruction manual to keep your unit in full swing. Save this manual in a safe place for future reference.

1. HANDLING PRECAUTIONS

• Supply voltage

For the monitor, use the specified supply voltage $\pm 10\%$.

• Power cord

Do not bend the power cord forcibly. Do not put anything heavy on the power cord. Damage to the power cord may cause fire or electric shock. When pulling out the power cord, be sure to hold its plug.

• Magnetic field

Put the monitor in an area away from devices that generate magnetic fields. Magnetism may distort screens or destabilize videos. When using the monitor and other apparatuses side by side, leave a space of 50 mm or more to the right, left and top of the monitor, respectively.

• Moisture, dust and vibrations

Do not use the monitor in any dusty, humid or vibration-stricken area. Monitor trouble may result.

• Monitor innards

Never open the monitor. There are high-tension parts in the monitor. You may receive an electric shock. If repairs are needed, contact your dealer.

• Ventilation

The cover has ventilating openings to prevent the innards from being heated. Keep the monitor at least 10 cm away from the wall surface so as not to block the openings.

• CRT handling

Set the monitor in such a way that the screen is not exposed to direct sunlight or other strong light. When moving the monitor to any other area, take extra care not to shock the screen.

2. OVERVIEW

- This product is a high quality and high performance monochrome video monitor designed to monitor videos in combination with a monitor video camera.

PM-K5 ... Type-5 monochrome video monitor

PM-K9 ... Type-9 monochrome video monitor

PM-K12... Type-12 monochrome video monitor

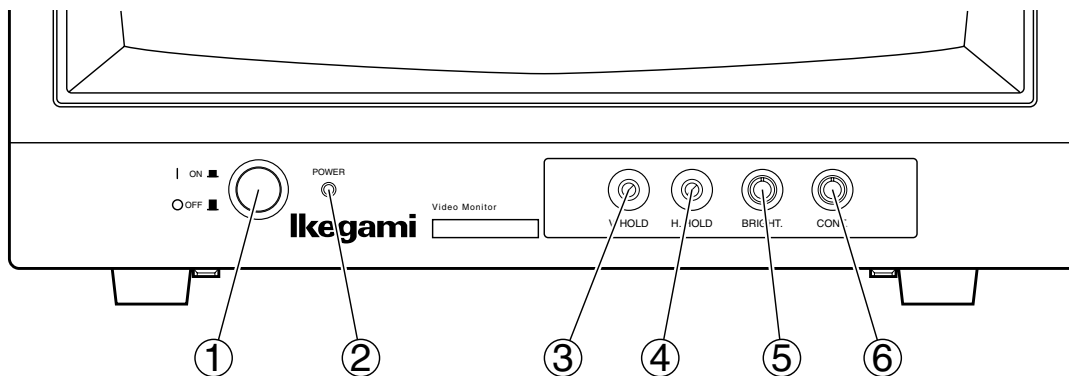
PM-K17... Type-17 monochrome video monitor

3. FEATURES

- A high reliability design minimizes failures. The use of stable circuits ensures high quality videos without adjustments even when a change in the supply voltage or temperature occurs.
- Built-in dc regenerative and ABL circuits always provide a stable video from bright to dim to display the monitoring target with high fidelity.
- The video input is equipped with a loop through output terminal. A 75 Ω termination is switched on/off automatically to allow a bridge connection, so that you can build a system consisting of various video devices and two or more monitors.
- The power unit employs a switching regulator system to support a wide range of supply voltages and achieve a reduction in power consumption and weight.
- The use of a metal monitor cabinet minimizes magnetic or noise effects from/to the outside. This metallic cabinet also maintains sufficient strength and safety.
- The response of a video amplifier to a wide range of frequencies, excellent linearity in the deflection system and other features further enhance the quality of videos.
- The safety standards for X-rays from CRT, etc., are fully taken into account to meet the safety requirements for the equipment.

4. NAMES AND OPERATIONS OF PARTS

• Front panel



* Illustrated is the PM-K12.

① POWER switch

Switch for turning on/off the power to the equipment. Pushing this switch turns on the power and pushing it again turns off the power.

② POWER indicator

When the power switch is pressed, this indicator goes on to show that the monitor is energized.

③ V. HOLD control

Control for adjusting the vertical synchronization of videos. Turning this control clockwise causes videos to flow in the direction from top to bottom. Turning it counterclockwise causes videos to flow in the direction from bottom to top.

④ H. HOLD control

Control for adjusting the horizontal positions of videos. Turning this control clockwise causes videos to move to the right. Turning it counterclockwise causes videos to move to the left.

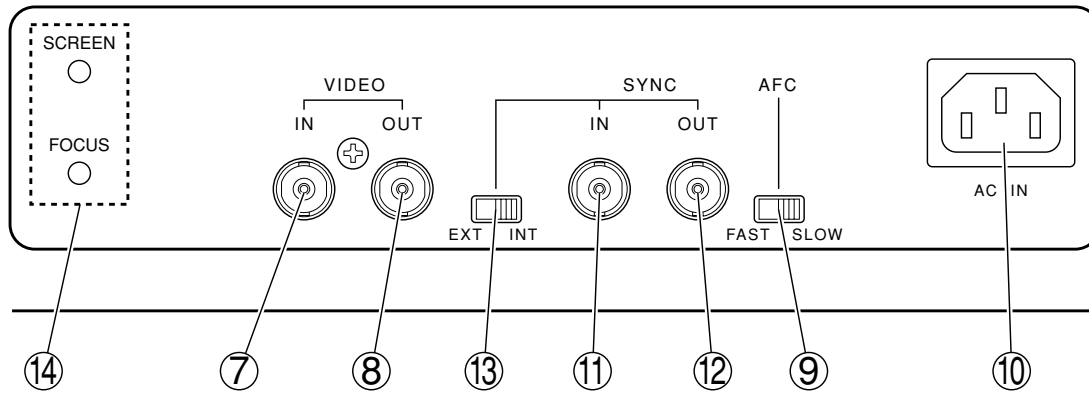
⑤ BRIGHT. control

Control for adjusting the brightness of videos. Turning this control clockwise brightens videos. Turning it counterclockwise dims videos.

⑥ CONT. control

Control for adjusting the contrast of videos. Turning this control clockwise increases the contrast. Turning it counterclockwise decreases the contrast.

• Rear panel



* Illustrated is the PM-K17.

⑦ ⑧ **VIDEO IN/VIDEO OUT terminal**

These are input (VIDEO IN) and output (VIDEO OUT) terminals for video signals. For a bridge connection, connect the VIDEO OUT terminal to a VTR or any other monitor.

Note: A 75 Ω termination is switched on automatically only when the VIDEO IN terminal is connected. Therefore, be sure to connect the input of video signals to the VIDEO IN terminal. When the VIDEO OUT terminal is connected, the termination goes HIGH automatically.

⑨ **AFC switch (FAST – SLOW)**

Select FAST or SLOW when the upper part of the screen is distorted.

⑩ **AC INLET**

Power input terminal for the equipment. Connect this terminal to an AC wall outlet through the supplied power cord.

⑪ **SYNC IN/SYNC OUT terminal (option)**

These are input (SYNC IN) and output (SYNC OUT) terminals for external synchronizing signals. For a bridge connection, connect the SYNC OUT terminal to the next monitor or equipment.

Note: A 75 Ω termination is switched on automatically only when the SYNC IN terminal is connected. Therefore, be sure to connect the input of an external synchronizing signal to the SYNC IN terminal. When the SYNC OUT terminal is connected, the termination goes HIGH automatically.

⑫ ⑬ **EXT – INT switch (option)**

Switch used to select a synchronizing signal. When using the monitor in the external synchronization mode, place this switch in the EXT position. When using it in the internal synchronization mode, set the switch in the INT position.

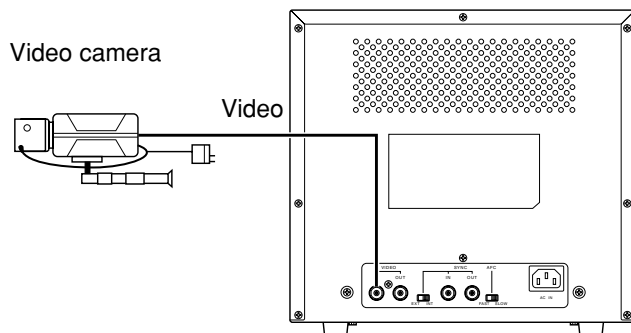
⑭ **Control for adjustments by a service person (PM-K17 only)**

No one other than a service person is allowed to touch this control.

5. EXAMPLES OF CONNECTIONS

* Illustrated is the PM-K12.

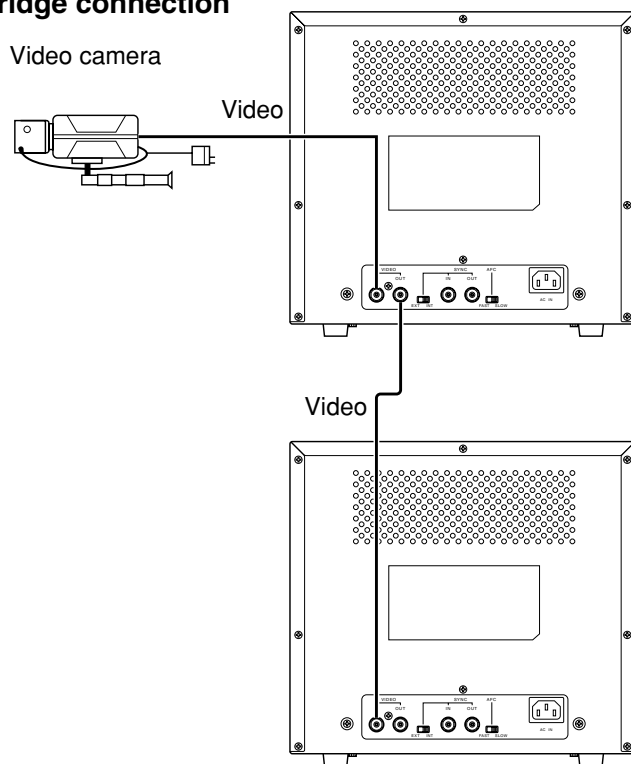
• Standard connection



Monitor

For a 75 Ω termination, be sure to connect the video input to the VIDEO IN terminal.

• Bridge connection

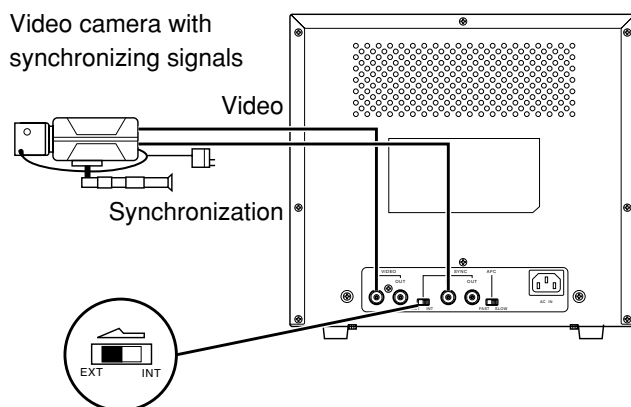


1st monitor

Last monitor

For a 75 Ω termination, be sure to connect the video input of the last monitor to the VIDEO IN terminal.

• Connector connections for external synchronizing signal input (option)



Monitor

When connecting an external synchronizing signal, place the EXT-INT switch in the EXT position.

6. MAJOR SPECIFICATIONS

1. Power supply	AC 100 V, 50/60 Hz; AC 120 V, 60 Hz; AC 230 V, 50 Hz (Input voltage range: AC 90-132 V or AC 198-264 V)
2. Power consumption	PM-K5: 16 W or less PM-K9: 20 W or less PM-K12: 25 W or less PM-K17: 45 W or less
3. Signal input	
(1) Video signal	Composite video signal 1.0 Vp-p or Optional video signal 0.7 Vp-p (positive polarity) 75 Ω or high impedance (automatic switching)
(2) Synchronizing signal (option)	Composite sync signal 4.0 Vp-p (negative polarity) 75 Ω or high impedance (automatic switching)
4. Signal input/output connectors	1 system: BNC type, 2 connectors
5. Operating temperature	-10 to +45 °C
6. Outside dimensions (including rubber legs)	PM-K5: 147 (W) x 157.5 (H) x 239 (D) mm PM-K9: 220 (W) x 217.5 (H) x 240 (D) mm PM-K12: 304 (W) x 285 (H) x 305 (D) mm PM-K17: 408 (W) x 386 (H) x 341 (D) mm
7. Weight	PM-K5: Approx. 2.4 kg PM-K9: Approx. 4.1 kg PM-K12: Approx. 7.1 kg PM-K17: Approx. 12.5 kg
8. Electrical specifications	
(1) Resolution	PM-K5: Horizontal 700 TV lines or more (center) PM-K9: Horizontal 700 TV lines or more (center) PM-K12: Horizontal 750 TV lines or more (center) PM-K17: Horizontal 900 TV lines or more (center)
(2) Scanning frequency	Horizontal: 15.75 kHz, Vertical: 60 Hz Horizontal: 15.625 kHz, Vertical: 50 Hz
9. Accessories	Power cord (approx. 2 m): 1 piece Instruction manual: 1 copy

7. BEFORE SUSPECTING TROUBLE

When videos are not normal, check the following items before asking for repairs.

1. Videos are faint or flat
 - Adjust the CONT or BRIGHT control on the front of the monitor.
 - Check that the surroundings of the monitor are not bright excessively.
2. Videos are overlapping
 - Check that the video input is connected to the VEDEO IN terminal.
 - When two or more monitors are bridge-connected, check that the video input of the last monitor is connected to the VIDEO IN terminal.
3. Videos are distorted
 - Check that the BRIGHT control on the front of the monitor is not turned clockwise excessively.
 - Check that the video input is connected to the VIDEO IN terminal.
 - When two or more monitors are bridge-connected, check that the video input of the last monitor is connected to the VIDEO IN terminal.
4. Normal videos are not obtained or no video appears
 - Check that the CONT/BRIGHT control on the front of the monitor is not turned counterclockwise excessively.
 - Check that the cables are connected properly to the monitor.
 - Check that the POWER indicator on the front of the monitor is lit.
5. Videos are swaying
 - Check that there is no transformer room, transformer, electromagnet or large capacity cable near by (adjoining, upstairs or downstairs room).
 - Check that the specified power is supplied to the monitor.

8. GUARANTEE

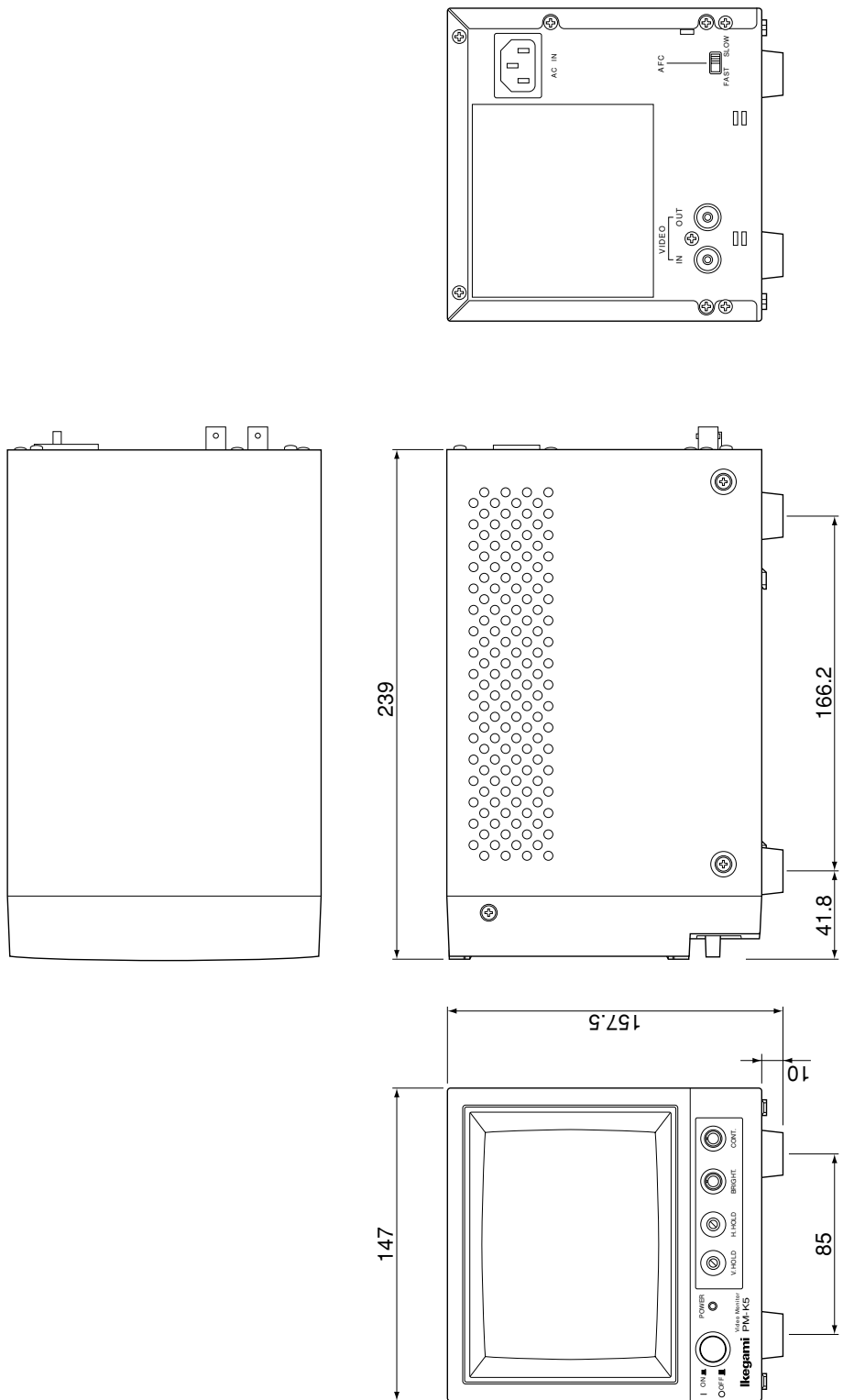
- A guarantee card comes with this video monitor.
- Your dealer completes the guarantee card and hands it to you.
Read the card carefully and keep it with care.
- The guarantee period is one year from date of purchase. Tubes (CRT, etc.) and consumables are not covered by this guarantee.
- Your dealer will make repairs according to the contents of the guarantee card. For details, refer to the guarantee card.
- For repairs after the expiration of the guarantee period, consult your dealer.
- When the product malfunctions after the expiration of the guarantee period, it will be repaired for pay at the request of the customer, if its functions are maintained through repairs.

9. AFTER-SALES SERVICE

When trouble is suspected, stop the equipment, turn off the POWER switch, disconnect the power cord from the wall outlet and consult or ask your dealer for repairs. It is very dangerous to use the equipment in poor conditions or make repairs yourself. Never do such a thing.

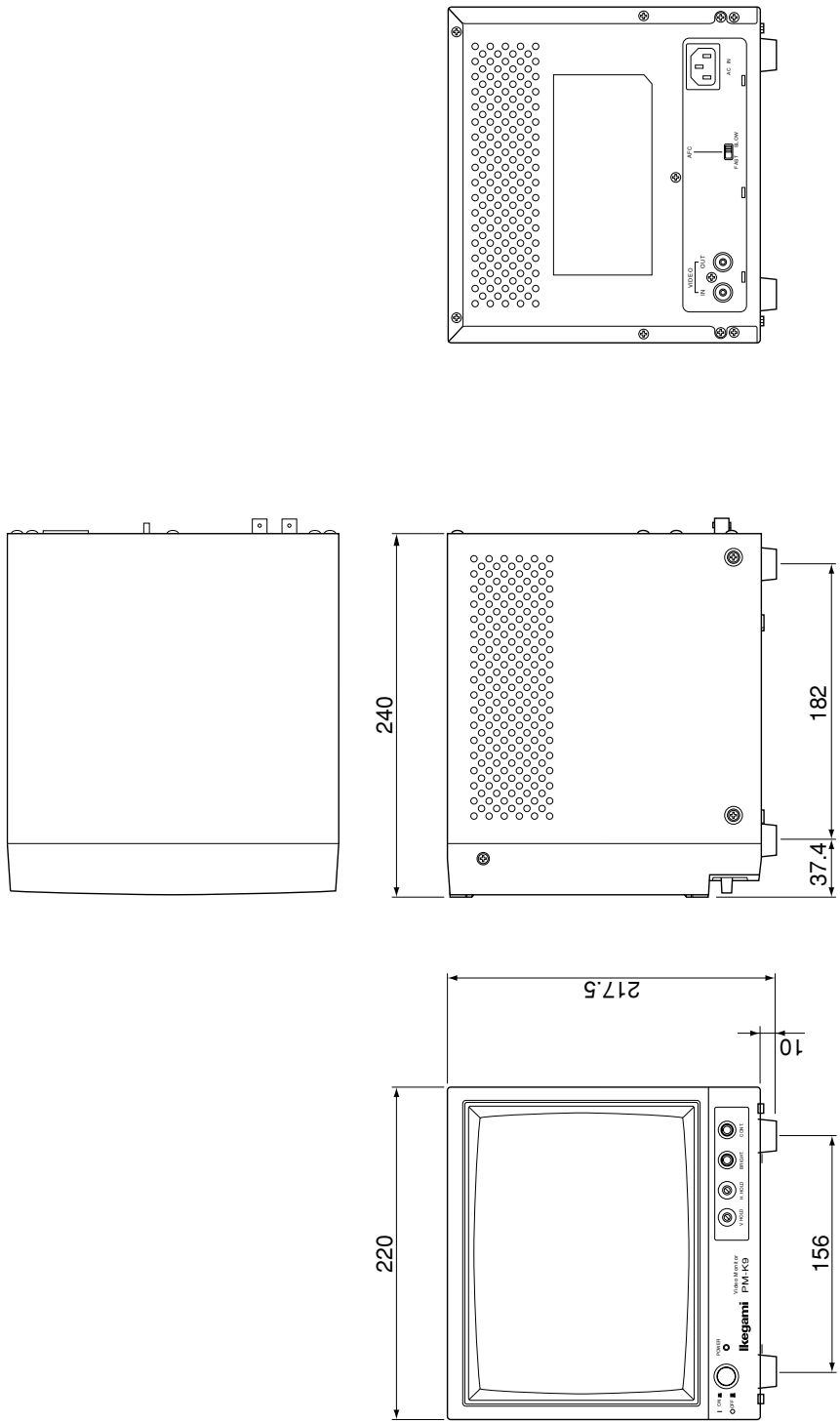
10. SKETCH DRAWING AND DIMENSIONS

- PM-K5



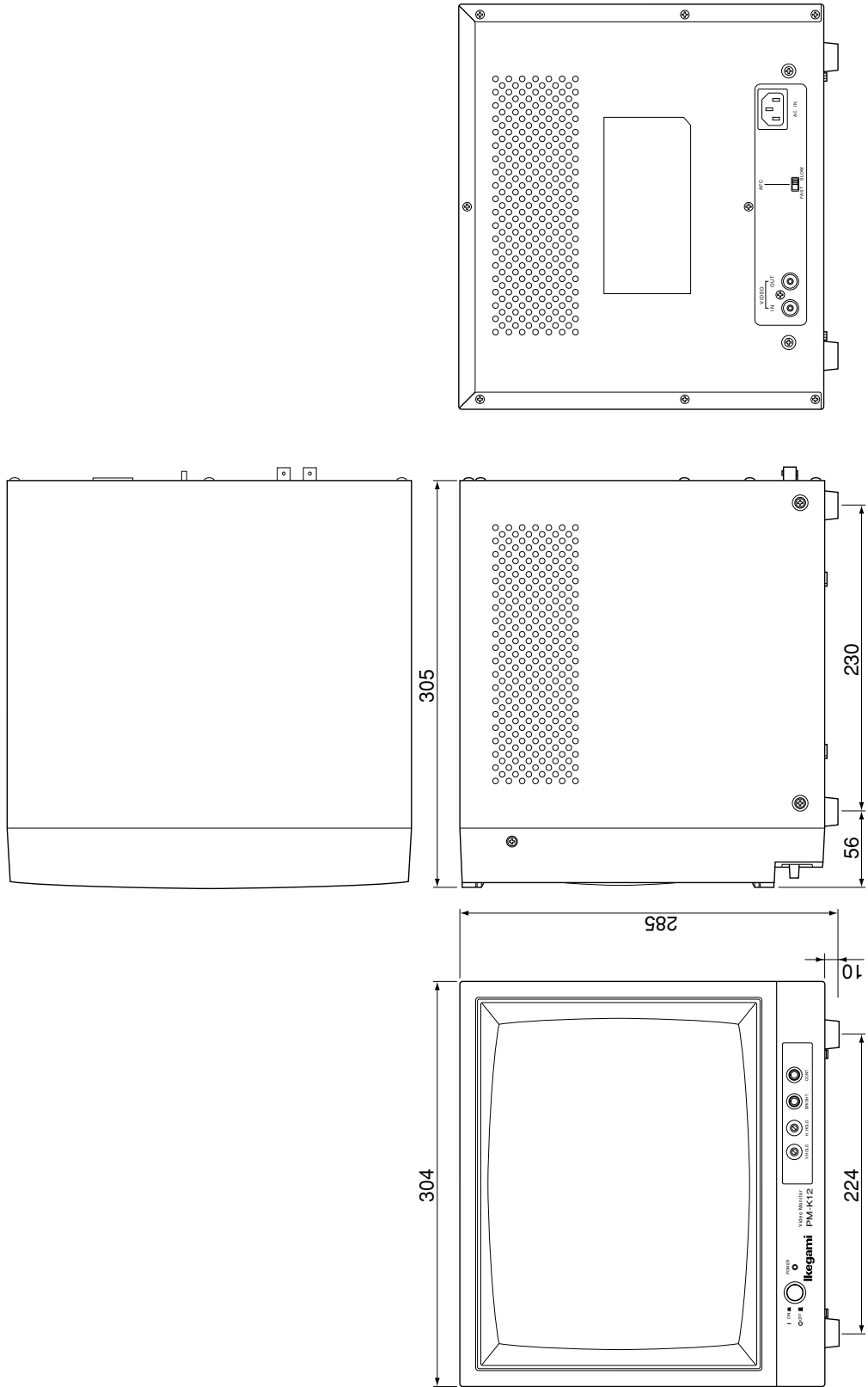
Unit: mm

• PM-K9



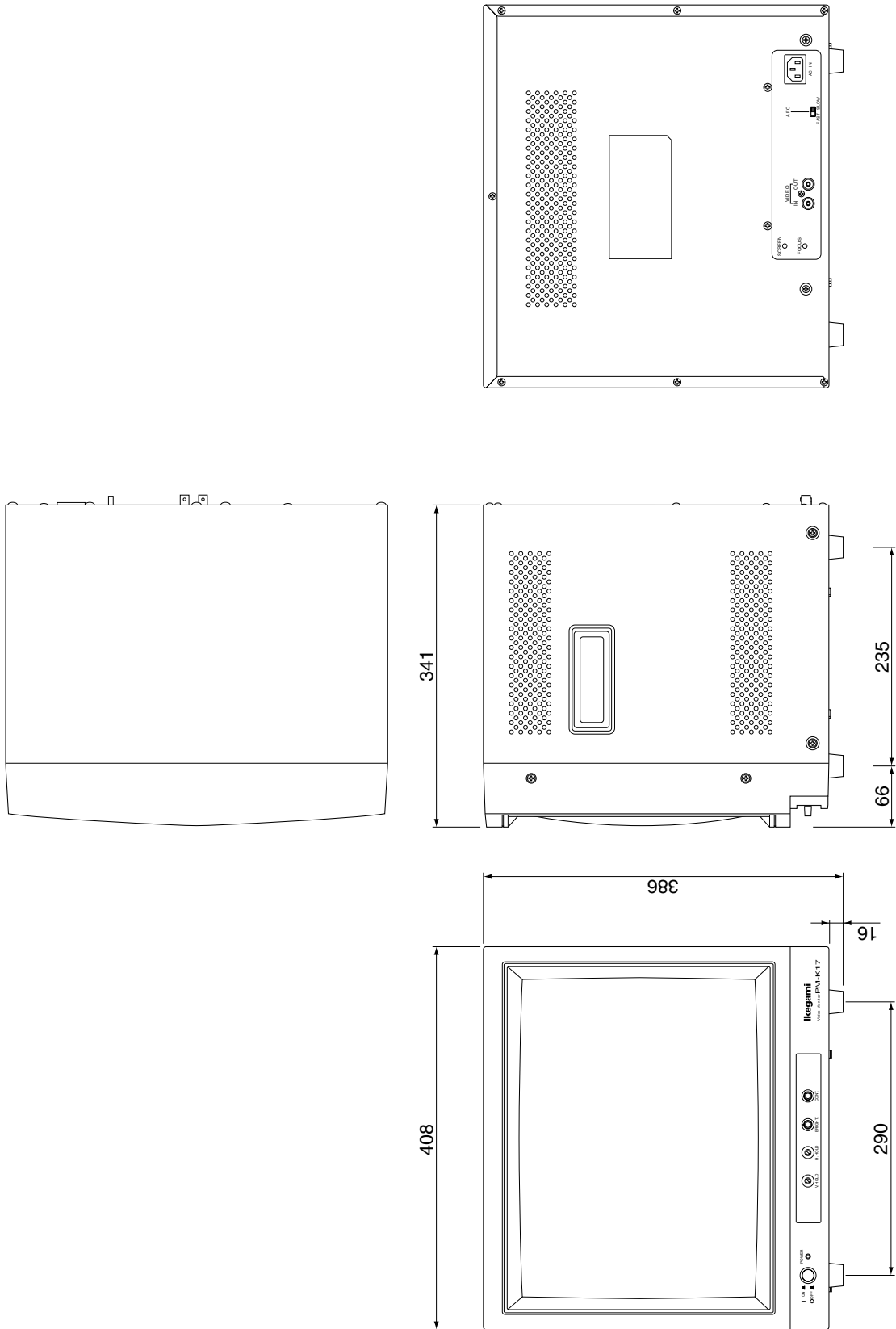
Unit: mm

• PM-K12



Unit: mm

• PM-K17



Unit: mm

MEMO

Ikegami

■ **Ikegami Electronics (U.S.A.), Inc.**

37 Brook Avenue, Maywood, New Jersey 07607, U.S.A.
Phone: (201) 368-9171, FAX 201-569-1626

■ **Ikegami Electronics (Europe) GmbH**

Ikegami Strasse 1, 41460 Neuss 1, F.R. Germany
TEL. 02131-123-0/FAX 02131-102820

■ **Ikegami Electronics (Europe) GmbH U.K. Branch**

Unit E1 Cologne Court Brooklands Close,
Windmill Road Sunbury-on-Thames Middlesex TW16 7EB, UK
TEL. 01932-769700/FAX 01-92-769710