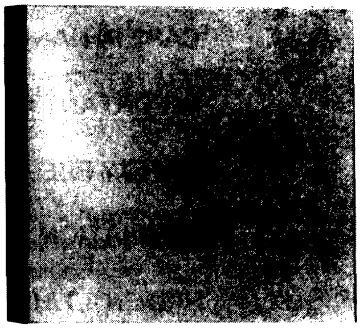
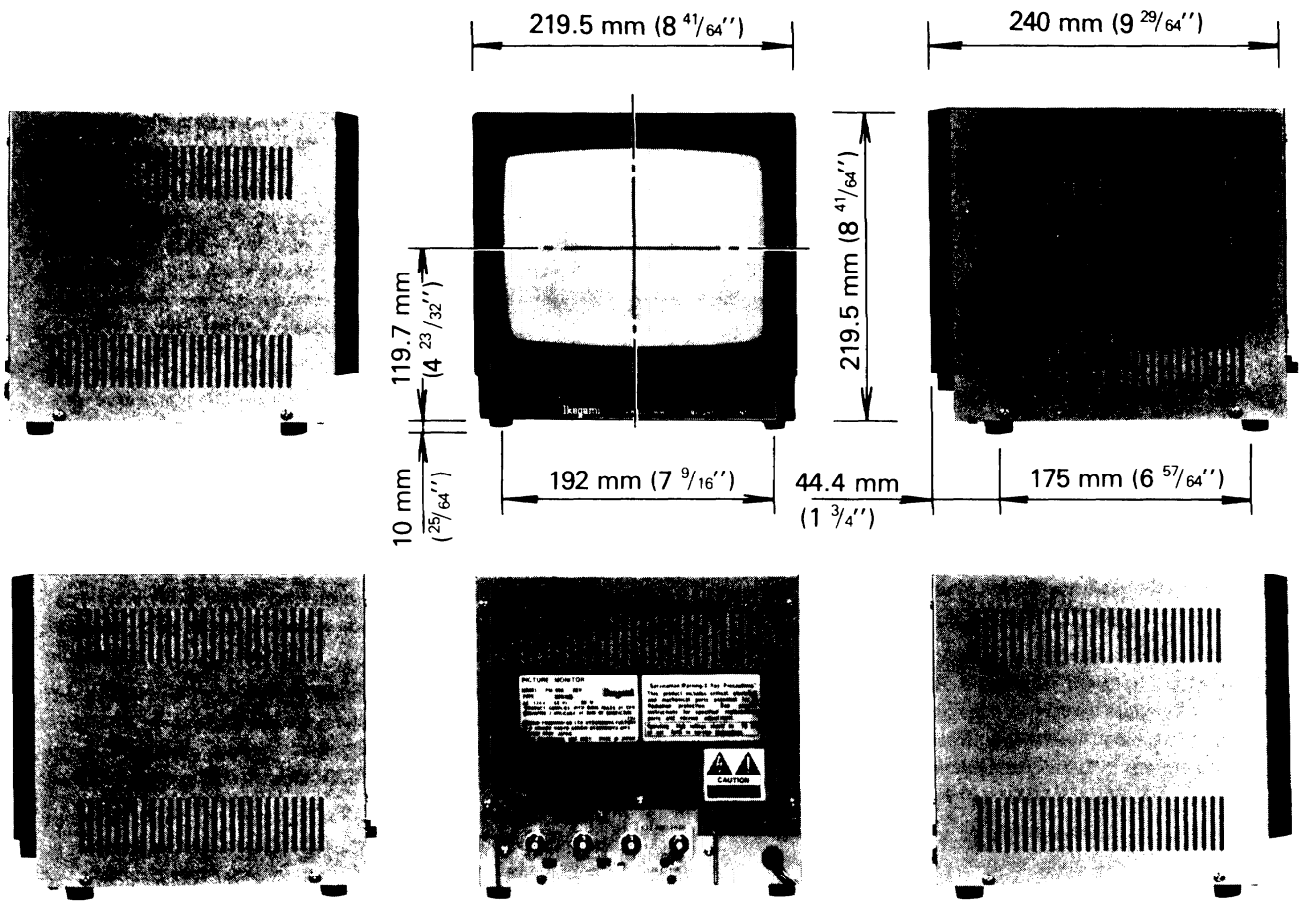
Ikegami

INSTRUCTION MANUAL

9" CCTV PICTURE MONITOR

Model PM-960





OUTDOOR USE WARNING

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

CONTENTS

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.

PRELIMINARIES

PM-960 incorporates a 9" diagonal CRT. This solid state design, utilizing top quality integrated circuits and silicon semiconductors, assures an excellent picture with long term reliability. This simple circuit design and compact construction present this unit as an economical device.

This manual contains initial set up procedures, operating instructions and service information for PM-960.

Please note that the PM-960 picture monitor 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 this monitor.

Although this picture monitor is a solid-state, modular unit using mainly low-voltage circuitry at nonhazardous energy levels, power supply voltages are 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 voltage can be LETHAL!

It is strongly recommended not to tamper with them unless really necessary, and in such cases, always follow the procedure given in these instructions. Use appropriate tools. And note that the inside adjustments or repair should only be made by fully qualified technicians.

CARE IN HANDLING

Careful handling of the monitor and accessories should be practiced at all times, avoiding unnecessary physical shocks and similar rough handling.

The monitor should always be set up in a well-ventilated area, and shielded from any heat sources, high-powered lights, especially strong magnetic fields (such as power transformers), which may cause picture swing or distortion.

Excessive moisture-, gas- or salt-laden atmospheres should be avoided as much as possible, since circuitry components and connector contacts may be adversely affected.

Dust accumulation should be avoided, since many parts of the unit will be adversely affected in time, and the service-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. Checking of the connectors for full insertion and tightness is also recommended, especially where the same set up is used for a long time.

IMPORTANT SAFEGUARDS

- Read all of these instructions.
- Save these instructions for later use.
- Unplug this television monitor from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
- Do not use attachments not recommended as they may cause hazards.
- Do not use this television monitor near water-for example, near a bathtub, washbowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool, etc.
- Do not place this television monitor on an unstable cart, stand, or table. The television monitor may fall, causing serious injury to a child or adult, and serious damage to the appliance. Use only with a cart or stand recommended, sold with the television monitor. Wall or shelf mounting should follow the manufacturer's instructions, and should use a mounting kit approved.
- Slots and openings in the cabinet and the back or bottom are provided for ventilation, and to ensure reliable operation of the television monitor and to protect it from overheating, these openings must not be blocked or covered. The openings should never be blocked by placing the television monitor on a bed, sofa, rug, or other similar surface. This television monitor should never be placed near or over a radiator or heat register. This television monitor should not be placed in a built-in installation such as a bookcase, unless proper ventilation is provided.
- This television monitor 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 supplied to your home, consult your television dealer or local power company. For a television monitor designed to operate on battery power, refer to this operating instructions.
- This television monitor is equipped with a grounding alternating-current line plug (a plug having one blade wider than the other) or with a 3-wire grounding type plug (a plug having a third grounding pin). 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.
- Do not allow anything to rest on the power cord. Do not locate this television monitor where the cord will be abused by persons walking on it.

- Follow all warnings and instructions marked on the television monitor.
- For added protection for this television monitor 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 receiver due to lightning and power line surges.
- Do not overload wall outlets and extension cords as this can result in fire or electric shock.
- Never push objects of any kind into this television monitor through cabinet slots 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 television monitor.
- Do not attempt to service this television monitor yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
- Unplug this television monitor from the wall outlet and refer servicing to qualified service personnel under the following conditions:
  a. When the power cord or plug is damaged or frayed.
  b. If liquid has been spilled into the television monitor.
  c. If the television monitor has been exposed to rain on water.
  d. If the television monitor does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the television monitor to normal operation.
  e. If the television monitor has been dropped or the cabinet has been damaged.
  f. When the television receiver exhibits a distinct change in performance-this indicates a need for service.
- When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer that have the same characteristics as the original parts. Unauthorized substitutions may result in fire, electric shock, or other hazards.
- Upon completion of any service or repairs to this television monitor, ask the service technician to perform routine safety checks to determine that the television is safe operating condition.

SAFETY PRECAUTIONS

WARNING: The chassis is fully isolated from the mains supply.

The following precautions should be observed:

1. Do not install, remove, or handle the picture tube in any manner unless shatter-proof goggles are worn. People not so equipped should be kept away while picture tubes are handled. Keep picture tube away from the body while handling.
2. When replacing a chassis in the cabinet, always ensure that all the protective devices are put back in place, such as, barriers, non-metallic knobs, adjustment and compartment cover or shields, isolation resistor capacitor, etc.
3. When service is required, observe the original lead dress. Extra precaution should be taken to ensure correct lead dress in the high voltage circuitry area.
4. Always use the manufacturer's replacement component. Especially critical components as indicated on the circuit diagram should not be replaced by other makes. Furthermore where a short circuit has occurred, replace those components that indicate evidence of overheating.
5. Before returning a serviced receiver to the customer, the service technician must thoroughly test the unit to be certain that it is completely safe to operate without danger of electrical shock, and be sure that no protective device built into the instrument by the manufacturer has become defective, or inadvertently defeated during servicing. Therefore, the following checks are recommended for the continued protection of the customers and service technicians.

INSULATION

Insulation resistance should not be less than 50 MΩ at 500 V DC between the mains poles and any accessible metal parts. Also, no flashover or breakdown should occur during the dielectric strength test, to apply 1,200 V AC for one minute between the mains poles and accessible metal parts.

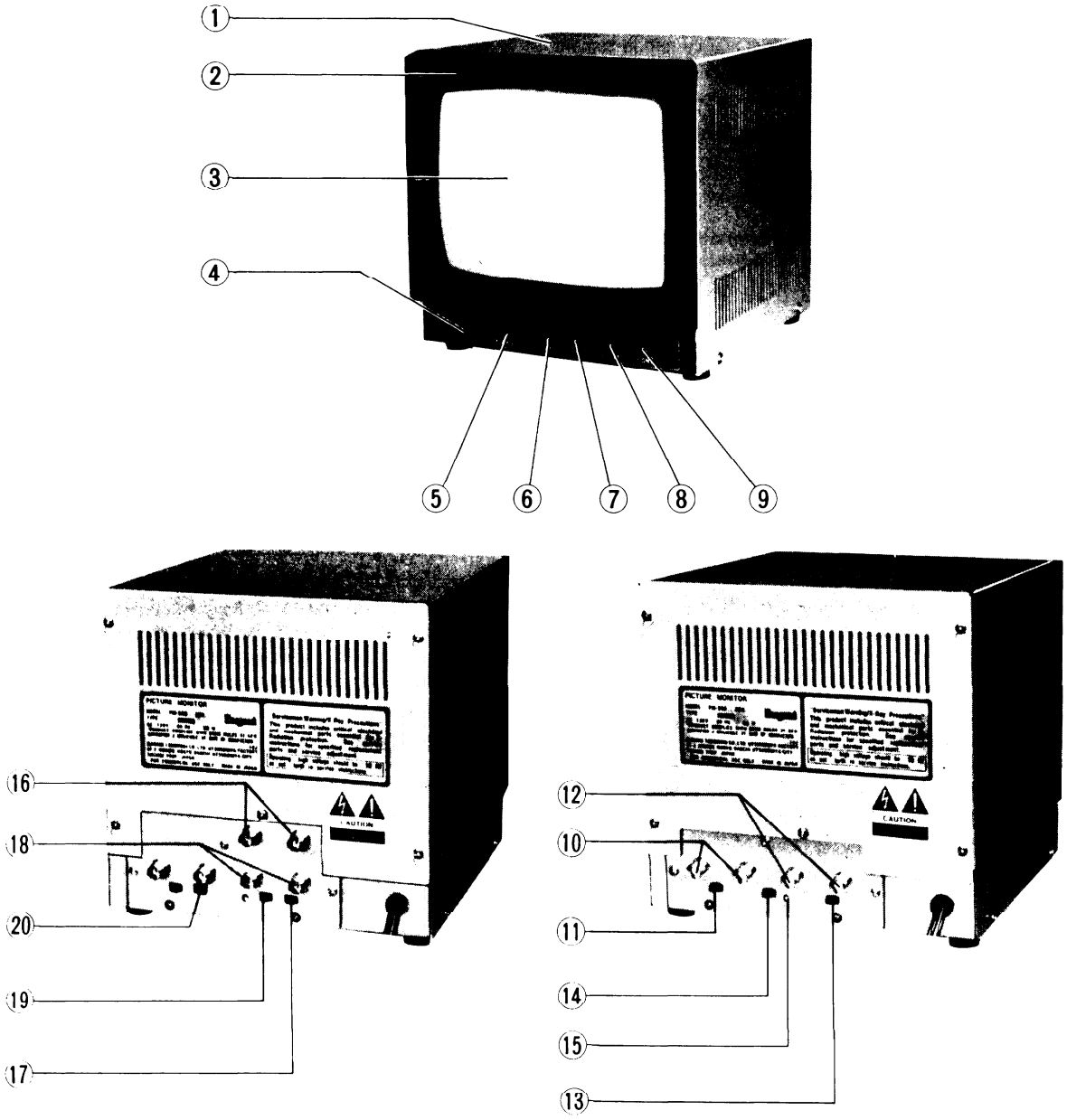
HIGH VOLTAGE

High voltage should always be kept at rated value of the chassis-no-higher. Operating at higher voltage may cause a failure of the picture tube or high voltage supply and, also, under certain circumstances could produce X-radiation moderately in excess of design levels. The high voltage must not, under any circumstances, exceed 10 KV on the chassis.

X-RADIATION

TUBES: The primary source of X-radiation in this monitor is the picture tube. The tube utilized for the above mentioned function in this chassis is specially constructed to limit X-radiation. For continued X-radiation protection, the replacement tube must be the same type as the original, IKEGAMI approved type.

FUNCTION LOCATIONS



① Upper case
② Front escutcheon
③ Picture tube (CRT)
④ Power switch
⑤ Power lamp
⑥ V. Hold (Driver control)
⑦ H. Hold (Driver control)
⑧ Brightness
⑨ Contrast
⑩ Video input connectors (bridged)
⑪ Video termination switch (75-ohm ON/OFF)
⑫ Sync. input connectors (bridged)
⑬ Sync. termination switch (75-ohm ON/OFF)
⑭ EXT/INT Switch
⑮ Video Peaking Volume
⑯ VD input connectors (bridged) (option)
⑰ VD termination switch (75-ohm ON/OFF) (option)
⑱ HD input connectors (bridged) (option)
⑲ HD termination switch (75-ohm ON/OFF) (option)
⑳ HD.VD/INT switch (option)

SET UP AND OPERATION

Position the picture monitor in the desired location and connect the power cord to an AC outlet. And make sure that the monitor is installed securely, in a stable condition.

Make the coaxial-cable connection for video signal between the picture monitor and the signal source (video camera or VTR etc.). And make certain that all connectors are properly and fully mated, and the locking rings are securely tightened.

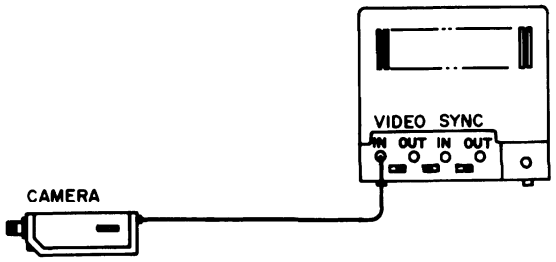
Set the video termination switch to 75-ohm if one monitor is to be used. (See below)

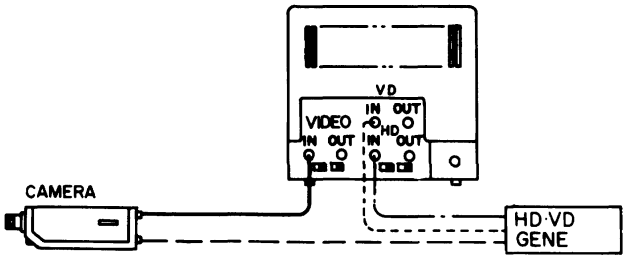
In case one camera and several monitors are to be used. Switch off the 75-ohm termination switches of all monitors except the last one in the train.

If provided, set the sync internal/external switch to internal (if applicable).

After switching on the monitor and setting up the raster, adjust the brightness and contrast controls for the most pleasing picture.

[BASIC CONNECTION] (One camera & one monitor)



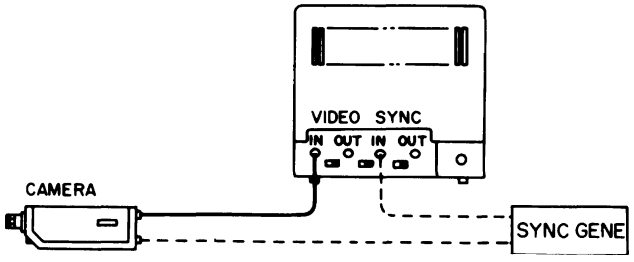


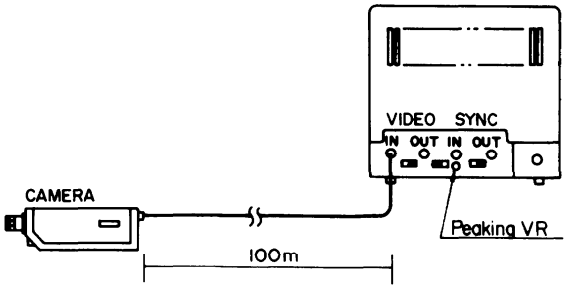
1. INTERNAL SYNC MODE

- Switch on the monitor 75-ohm video termination switch.
- Set the sync switch of the monitor to internal.
- Install the coaxial cable between the camera and monitor.

3. EXTERNAL HD/VD MODE:

- Switch on the 75-ohm video termination switch.
- Set the HD/VD Switch of the monitor to external.
- Install the coaxial cable between the camera and monitor. Connect the HD.VD Cable to HD.VD input of the monitor from a HD.VD generator.





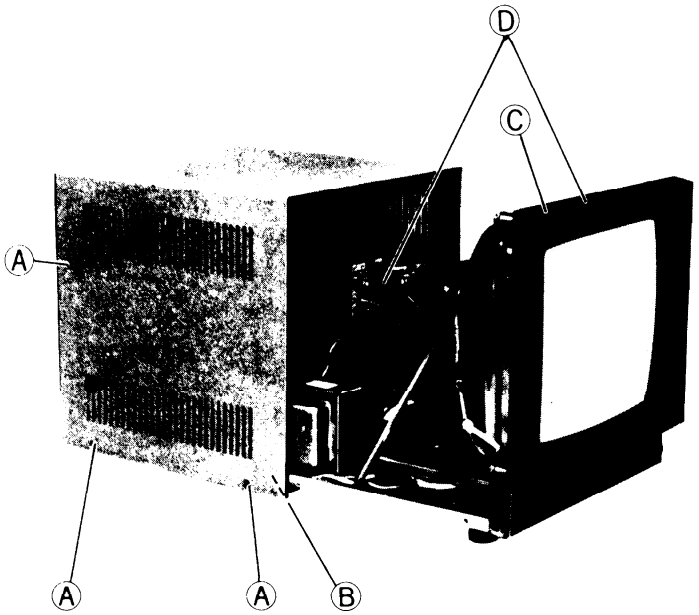
2. EXTERNAL SYNC MODE

- Switch on 75-ohm video termination switch.
- Set the sync switch of the monitor to external.
- Install the coaxial cable between the camera and monitor. Connect the sync cable to sync input of the monitor from a sync generator.

4. VIDEO PEAKING

- By adjusting the Peaking VR on the rear panel of the monitor, it is possible to prevent Video signal deteration even with coaxial cable runs of up to 100 m.

PICTURE TUBE (CRT) REPLACEMENT



(1) Switch off the power and unplug the power cord.

In the case tube replacement, making sure that the monitor has been switched off for several minutes to allow the tube anode to discharge.

(2) Take out the five screws (A) from the top cover, and remove the cover.

(3) Take out the two screws (B) from the CRT support bar.

(4) Carefully remove CRT socket, connector to the deflection coil assembly and anode cap. (D)

(5) Take out the four screws (C) and remove old CRT.

(6) Put new CRT for replacement, and observe reverse sequence in assembling the cover.

Note that the picture tube (CRT) must be replaced only with identical part number.

INTERNAL ADJUSTMENTS

All internal controls are factory set and locked at the optimum position. Adjustment should not be undertaken except by a qualified service techenician, and only when absolutely necessary. This information is provided only as a source of reference for the qualified service technician.

I here are two adjustments on the monitor main board.

HORIZONTAL FREQUENCY: This is a screwdriver adjustment to control picture horizontal position when the H. Hold cannot follow.

VERTICAL HEIGHT: This is also a screwdriver adjustment to correct a height when the center circle of the test pattern is oblong vertically or horizontally.

CAUTIONS

(1) The face of the picture tube is a part of a high Vacuum. Scoring, scratching or applying undue pressure may result in implosion of the picture tube, and serious personal injury may result.

(2) The components marked within parts list and schematic diagram are critical ones of X-ray radiation emission. Replacement of these critical components should check + 12 V line to + 12 V ±0.5 V and anode voltage of CRT to 9.5 kV ±1 kV.

MAINTENANCE

Although PM-960 picture monitor is designed to withstand long continuous service, it is recommended to conduct periodical inspections for longer satisfactory service with full performance.

Check the following points periodically.

(1) The knobs and adjustments for correct positions and connections.
(2) Connectors for good contact.
(3) Input and output circuits for short-circuit.
(4) Internal temperature drift.
(5) Soldering portions.

And keep the monitor interior clean as much as possible.

PM-960 PARTS LIST

※ MARKED VALUES ARE SUBJECT TO CHANGE WITHOUT NOTICE.
★ MARKED PARTS ARE CRITICAL COMPONENTS OF X-RAY RADIATION.
⚠ MARKED PARTS HAVE SPECIAL CHARACTERISTICS IMPORTANT TO SAFETY.
IN CASE OF REPLACING THESE PARTS, USE THE PARTS SPECIFIED BY IKEGAMI.

(1) MAIN CHASSIS

NO.	PARTS	DESCRIPTION
CN101	Connector Housing	171822-6
	Contact	170262-1 or 170204-1
CN102	Connector Housing	W-A5002-1N #02
	Contact	W-T0504-21
CN103	Faston Tab	ST0-41T-187N or 170037-2
CN104	Faston Tab	43031-2 or 170001-3
⚠F101	Fuse	1.0 A ---- 100 V
		0.5 A ---- 120 V
		0.25 A ---- 220 V — 240 V
F101-a	Fuse Holder	X-N1161 or F4032F250 ---- 100 V — 120 V
		F-7175 ---- 220 V — 240 V
★⚠L101	Deflection Yoke	ST4-B0402
⚠PC101	Power Cord	SPT-2 Cord or CEE Cord (UL Type)
		SJT Cord or CEE Cord (CSA Type)
		EP-011-J09 (For Europe)
⚠SW101	Power Switch	ESD-275DUS-100 V — 120 V
		ESD-3997 ---- 220 V — 240 V
★⚠T101	Power Transformer	ST4-B27058-A4: 100 V
		ST4-B27058-B4: 120 V
		ST4-B27058-C4: 220 V/240 V
★⚠V101	Cathode Ray Tube	230BLB4 or Equivalent
	Insulock Tie	BK-1, T-30R
	Bushing	SR-4K-4 (UL Type)
		SR-6W-1 (CSA Type)
		SR-5P-4 (For Europe)
	Repeat tie	RF-250

(2) MAIN P.W.B. MODULE

NO.	PARTS	DESCRIPTION
C1	Electrolytic Capacitor	10 μF, 50WV
C2	Electrolytic Capacitor	100 μF, 16WV
C3	Electrolytic Capacitor	100 μF, 16WV
C4	Ceramic Capacitor	100 pF, 50WV
C5	Ceramic Capacitor	220 μF, 50WV
C6	Electrolytic Capacitor	100 μF, 16WV
C7	Electrolytic Capacitor	1000 μF, 10WV
C8	Electrolytic Capacitor	10 μF, 50WV
C9	Electrolytic Capacitor	100 μF, 16WV
C10	Electrolytic Capacitor	47 μF, 16WV
※C11	Ceramic Capacitor	150 μF, 50WV
※C12	Ceramic Capacitor	820 pF, 50WV
C13	Electrolytic Capacitor	22 μF, 160WV
C14	Metallized Polyester Film Capacitor	0.47 μF, 200WV
C15	Polyester Film Capacitor	0.1 μF, 200WV
C16	Electrolytic Capacitor	1 μF, 50WV
C17	Polyester Film Capacitor	0.022 μF, 100WV
C18	Electrolytic Capacitor	100 μF, 16WV
C19	Polyester Film Capacitor	0.022 μF, 100WV
C20	Polyester Film Capacitor	0.022 μF, 100WV

NO.	PARTS	DESCRIPTION
C21	Polyester Film Capacitor	0.0047 μF,100WV
C22	Tantalum Capacitor	0.33 μF, 35WV
C23	Tantalum Capacitor	4.7 μF, 16WV
C24	Tantalum Capacitor	4.7 μF, 16WV
C25	Electrolytic Capacitor	10 μF, 50WV
C26	Electrolytic Capacitor	33 μF, 16WV
C27	Electrolytic Capacitor	1000 μF, 16WV
C28	Electrolytic Capacitor	220 μF, 16WV
C29	Electrolytic Capacitor	10 μF, 50WV
C30	Electrolytic Capacitor	1000 μF, 16WV
C31	Polyester Film Capacitor	0.01 μF, 100WV
C32	Polypropylene Film Capacitor	0.01 μF, 630WV
C33	Polyester Film Capacitor	0.1 μF, 200WV
⚠C34	Electrolytic Capacitor	3300 μF, 35WV, UBU1V332M
C35	Electrolytic Capacitor	470 μF, 25WV
C36	Polyester Film Capacitor	0.01 μF, 100WV
C37	Electrolytic Capacitor	1 μF, 50WV
C38	Ceramic Capacitor	100 μF, 50WV
C39	Polyester Film Capacitor	0.022 μF, 100WV
C40	Polyester Film Capacitor	0.022 μF, 100WV
C41	Polyester Film Capacitor	0.22 μF, 100WV
C42	Polyester Film Capacitor	0.01 μF, 100WV
C43	Electrolytic Capacitor	220 μF, 16WV
C44	Polypropylene Film Capacitor	0.0039 μF,100WV
C45	Polyester Film Capacitor	0.001 μF, 100WV
C46	Electrolytic Capacitor	100 μF, 16WV
C47	Polyester Film Capacitor	0.01 μF, 100WV
C48	Polyester Film Capacitor	0.068 μF, 100WV
C49	Electrolytic Capacitor	1 μF, 50WV
★⚠C50	Polypropylene Film Capacitor	0.033 μF, 400WV ECQ-F4333KZ
★⚠C51	Polypropylene Film Capacitor	0.033 μF, 400WV ECQ-F4333KZ
C52	Electrolytic Capacitor	1000 μF, 16WV
C53	Electrolytic Capacitor	12 μF, 25WV
C54	Polypropylene Film Capacitor	0.047 μF, 630WV
★⚠C55	Polypropylene Film Capacitor	0.047 μF, 400WV ECQ-F4473KZ
C56	Polyester Film Capacitor	0.0022 μF,100WV (Option)
C57	Ceramic Capacitor	33 pF 500WV
CN1	Connector Plug	W-P3502#02, or W-P3002#02
CN2	Connector Plug	171825-6
CN3	Coaxial Receptacle	BNC-BR-D or BNC-RB3-8A
CN4	Coaxial Receptacle	BNC-BR-D or BNC-RB3-8A
CN5	Coaxial Receptacle	BNC-BR-D or BNC-RB3-8A
CN6	Coaxial Receptacle	BNC-BR-D or BNC-RB3-8A
CN7	Coaxial Receptacle	BNC-BR-D or (Option) BNC-RB3-8A
CN8	Coaxial Receptacle	BNC-BR-D or (Option) BNC-RB3-8A
CN9	Faston Receptacle	ST0-41T-187N or 170038-2
D1	Diode	1S1588
D2	Zener Diode	HZ-5C-1
D3	Diode	1S1588
D4	Diode	RF-01F
D5	Not Used	
D6	LED	LN25RCP
D7	Diode	EM-1Z
D8	Diode	1S1588
D9	Diode	1SS81
⚠D10	Diode	S4VB10 or RB401
D11	Diode	EM-1Z
D12	Diode	RU-1A
D13	Diode	RU-1A
D14	Diode	RP4C
D15	Diode	GH-1F
IC1	Integrated Circuit	AN5763

NO.	PARTS
★IC2	Integrated Circuit
★⚠IC3	Integrated Circuit
L1	Micro Inductor
★L2	H.Width Coil
★L3	H.Linearity Coil
Q1	Transistor
Q2	Transistor
Q3	Transistor
Q4	Transistor
Q5	Transistor
Q6	Transistor
R1	Carbon Film Resistor
R2	Carbon Film Resistor
R3	Carbon Film Resistor
R4	Carbon Film Resistor
R5	Carbon Film Resistor
R6	Carbon Film Resistor
R7	Carbon Film Resistor
R8	Carbon Film Resistor
R9	Carbon Film Resistor
R10	Carbon Film Resistor
R11	Carbon Film Resistor
R12	Carbon Film Resistor
R13	Carbon Film Resistor
R14	Carbon Film Resistor
R15	Carbon Film Resistor
⚠R16	Fusing Resistor
R17	Carbon Film Resistor
R18	Carbon Film Resistor
R19	Carbon Film Resistor
R20	Carbon Film Resistor
※R21	Carbon Film Resistor
R22	Carbon Film Resistor
R23	Carbon Film Resistor
R24	Metal Oxide Film Resistor
R25	Carbon Film Resistor
R26	Carbon Film Resistor
⚠R27	Fusing Resistor
※R28	Carbon Film Resistor
R29	Carbon Film Resistor
R30	Carbon Film Resistor
R31	Carbon Film Resistor
R32	Carbon Film Resistor
R33	Carbon Film Resistor
R34	Carbon Film Resistor
R35	Carbon Film Resistor
R36	Carbon Film Resistor
R37	Carbon Film Resistor
R38	Carbon Film Resistor
R39	Carbon Film Resistor
R40	Carbon Film Resistor
※R41	Carbon Film Resistor
R42	Carbon Film Resistor
※R43	Carbon Film Resistor
※R44	Carbon Film Resistor
R45	Carbon Film Resistor
R46	Carbon Film Resistor
R47	Carbon Film Resistor
R48	Carbon Film Resistor
R49	Carbon Film Resistor
⚠R50	Fusing Resistor
R51	Carbon Film Resistor
R52	Carbon Film Resistor
R53	Carbon Film Resistor

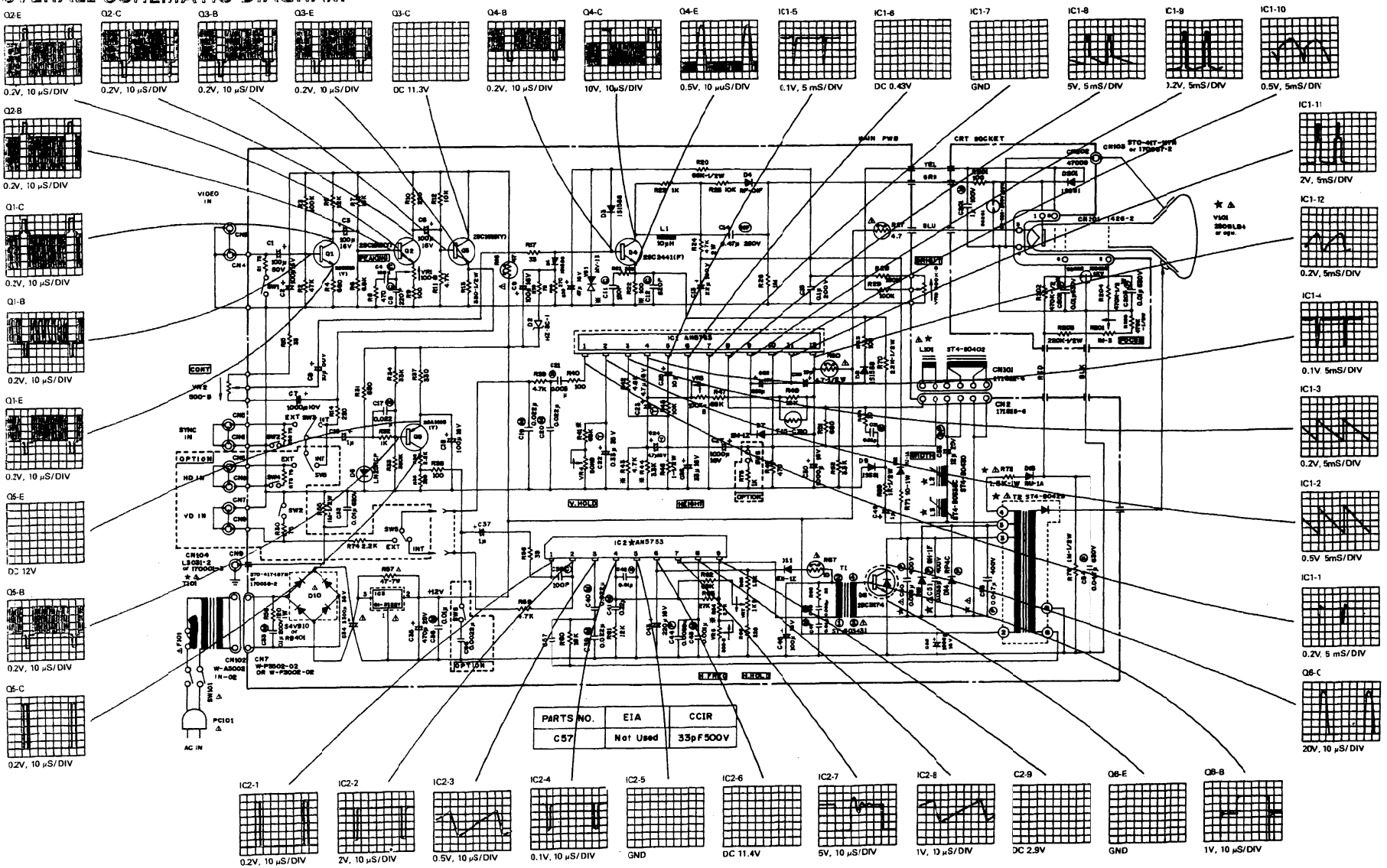
DESCRIPTION
AN5753
SI-3122V
10 μH
ST4-B0430
ST4-B0338C
2SC1815(Y)
2SC1815(Y)
2SC1815(Y)
2SC2441(F)
2SA1015(Y)
2SC3174
75 ohms 1/4W
47K ohms 1/4W
100K ohms 1/4W
680 ohms 1/4W
1.2K ohms 1/4W
6.8K ohms 1/4W
18K ohms 1/4W
470 ohms 1/4W
100 ohms 1/4W
220 ohms 1/4W
4.7K ohms 1/4W
10K ohms 1/4W
330 ohms 1/2W
220 ohms 1/4W
33 ohms 1/4W
47 ohms 1/4W, RF25S 47 ohms J
33 ohms 1/4W
270 ohms 1/4W
75 ohms 1/4W
68K ohms 1/2W
330 ohms 1/4W
100 ohms 1/4W
1K ohms 1/4W
4.7K ohms 2W
10K ohms 1/4W
1M ohms 1/4W
4.7 ohms 1/4W, RF25S 4.7 ohms J
150K ohms 1/4W
100K ohms 1/4W
75 ohms 1/4W
680 ohms 1/4W
1K ohms 1/4W
330K ohms 1/4W
33K ohms 1/4W
330 ohms 1/4W
2.2K ohms 1/4W
330 ohms 1/4W
100 ohms 1/4W
4.7K ohms 1/4W
100 ohms 1/4W
68K ohms 1/4W
6.8 ohms 1/4W
4.7K ohms 1/4W
3.3K ohms 1/4W
10K ohms 1/4W
1 ohms 1/2W
68K ohms 1/4W
470 ohms 1/4W
12K ohms 1/4W
4.7 ohms 1/2W, RF50S 4.7 ohms J
680 ohms 1/4W
3.3K ohms 1/4W
100 ohms 1/4W

NO.	PARTS	DESCRIPTION
R54	Carbon Film Resistor	10 ohms 1/4W
R55	Carbon Film Resistor	1M ohms 1/2W
R56	Metal Oxide Film Resistor	120 ohms 1W
⚠R57	Cement Filled Fixed Resistor	47 ohms 7W, MPS07N470K
R58	Carbon Film Resistor	39 ohms 1/4W
R59	Carbon Film Resistor	4.7K ohms 1/4W
R60	Carbon Film Resistor	18K ohms 1/4W
R61	Carbon Film Resistor	12K ohms 1/4W
R62	Carbon Film Resistor	68K ohms 1/4W
R63	Carbon Film Resistor	27K ohms 1/4W
※R64	Carbon Film Resistor	2.7K ohms 1/4W
R65	Carbon Film Resistor	1.5K ohms 1/4W
R66	Carbon Film Resistor	220 ohms 1/4W
R67	Fusing Resistor	10 ohms 1/4W, RF25S 10 ohms J
R68	Carbon Film Resistor	22 ohms 1/4W
R69	Carbon Film Resistor	1K ohms 1/2W
R70	Carbon Film Resistor	2.2K ohms 1/2W
⚠R71	Metal Oxide Film Resistor	10 ohms 1W, RSF1B 10 ohms J
R72	Metal Oxide Film Resistor	1.5K ohms 1W
R73	Carbon Film Resistor	75 ohms 1/4W (Option)
R74	Carbon Film Resistor	2.2K ohms 1/4W (Option)
R75	Carbon Film Resistor	1K ohms 1/4W (Option)
R76	Carbon Film Resistor	1M ohms 1/2W
SW1	Slide Switch	SLP-2-1022F
SW2	Slide Switch	SLP-2-1022F
SW3	Slide Switch	SLP-2-1022F
SW4	Slide Switch	SLP-2-1022F (Option)
SW5	Slide Switch	SLP-25-2042 (Option)
T1	H.Drive Transformer	ST-603431
★⚠T2	Flyback Transformer	ST4-B0429
TH1	Theramistor	TD5-C310D (0 or 1)
VR1	Variable Resistor	100 ohms Lin.taper
VR2	Variable Resistor	500 ohms Lin.taper
VR3	Variable Resistor	300K ohms Lin.taper
VR4	Variable Resistor	50K ohms Lin.taper
VR5	Variable Resistor	100K ohms lin.taper
VR6	Variable Resistor	500 ohms Lin.taper
VR7	Variable Resistor	1K ohms Lin.taper
VS1	Diode Varistor	MV-13
E1	Printed Wiring Board	PMP-960-14
	Bushing	Bushing P (For Q6)
	Sheet	BFG30 D3
	Board In Conector	SIN-01T-1.8

(3) CRT SOCKET P.W.B. MODELE

No.	PARTS	DESCRIPTION
C201	Polyester Film Capacitor	1 μF, 100WV
C202	Polypropylene Film Capacitor	0.01 μF, 630WV
C203	Polypropylene Film Capacitor	0.01 μF, 630WV
CN201	CRT Socket	1426-2 or S7-502B-05
CN202	Faston Tab	47008
D201	Diode	1SS81
R201	Carbon Film Resistor	100 ohms, 1/4W
R202	Carbon Film Resistor	470K ohms, 1/2W
R203	Carbon Film Resistor	220K ohms, 1/2W
R204	Carbon Film Resistor	470K ohms, 1/2W
R205	Carbon Film Resistor	470K ohms, 1/2W
SG201	Spark Gap	GD-626-200V
SG202	Spark Gap	3GD-626-1KV
E201	Printed Wiring Board	PMP-960-20
VR201	Variable Resistor	VG152H 10SB 1MΩ
	Insulock Tie	BK-1

OVERALL SCHEMATIC DIAGRAM



AC IN	T101	F101
100 V	ST4-B27058-A4	0.5 A, 250 V
120 V	ST4-B27058-B4	0.5 A, 250 V
220 V/240 V	ST4-B27058-C4	0.25 A, 250 V

NOTE: 1. RESISTORS ARE IN OHMS, 1/4 W UNLESS OTHERWISE SPECIFIED.
2. CAPACITORS ARE IN FARADS, 50WV UNLESS OTHERWISE SPECIFIED.
(T) TANTALUM CAP. (M) POLYESIER FILM CAP.
(P) POLYPROPYRENE FILM CAP. (C) CERAMIC CAP.
(MF) METALIZED POLYESTER FILM CAP.
ELECTROLYTIC CAP
3. ※ MARKED VALUES ARE SUBJECT TO CHANGE WITHOUT NOTICE.
4. ★ MARKED PARTS ARE CRITICAL COMPONENT OF X-RAY RADIATION.

5. Components identified by the ⚠ symbol have special characteristics for safety.

There critical safety components are designed to "fail safe" under abnormal conditions. The failure of any one component often causes stress in other components which could lead to smoke of fire or other hazards. Because of this, components are selected and tested under actual fault conditions to ensure safe operation. Replacement with anything other than the identical kegami part may present a hazard.

SPECIFICATIONS

PICTURE TUBE	23 cm (9") diagonal Implosion protected Type 230BLB4 or equivalent
VIDEO INPUT LEVEL	VS 1.0 Vp-p
VIDEO INPUT IMPEDANCE	75 or high (switchable)
VIDEO OUTPUT LEVEL	30 Vp-p
SCANNING RATES	
HORIZONTAL	15.75 kHz or 15.625 kHz
VERTICAL	60 Hz or 50 Hz
VIDEO FREQUENCY RESPONSE	8 MHz (+1 dB, −3 dB)
HORIZONTAL RESOLUTION	700 lines or better (at center)
SIGNAL-TO-NOISE RATIO	60 dB or better (except synchronous noise)
STABILITY	±10% of rated voltage
SPOT KILLER	Prevents spot burn-in of CRT with loss power.
ISOLATION	More than 50 MΩ between AC input terminal and Cabinet
BRIGHTNESS	More than 30FL continuously variable against rated input white signal
VIDEO AMPLIFIER CIRCUIT	
MAXIMUM GAIN	More than 33 dB
FREQUENCY CHARACTERISTIC	Refer to 100 kHz 60 Hz ∼ 8 MHz: within +1, −3 dB below 60 Hz, over 8 MHz: falling down characteristic
WAVEFORM DISTORTION	Sag: less than 10% (against 60 Hz square wave) Overshoot: Under 10% (against 15 kHz square wave) Rise time: less than 35 nS (against 250 kHz square wave)
SIGNAL-TO-NOISE RATIO	Refer to input signal, output signal is as follows: Hum noise: less than −55 dB Synchronous noise: less than −40 dB
DEFLECTION CIRCUIT	
SYNC STABILITY	Operation stable within input signal range of VS 0.5 ∼ 2.0 Vp-p
LINEARLTY	2% or less of picture height (refer to ballchart)
BLANKING DURATION	H within 18% V within 6%
ENVIRONMENTAL TEMPERATURE	−10°C ∼ +45°C
CONNECTOR	BNC connector
POWER REQUIREMENT	100 V 50/60 Hz or 120 V 60 Hz or 220/240 V 50 Hz
POWER CONSUMPTION	100 V 50/60 Hz, 220/240 V 50 Hz Less than 26 W 120 V 60 Hz Less than 30 W
DIMENSIONS (W.H.D)	219.5 (W) x 219.5 (H) x 240 (D) mm. 8-41/64" (W) x 8-41/64" (H) x 9-29/64" (D)
WEIGHT	5 kg (11.02 lbs.) approximately

Design and specifications are subject to change for improvement.

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Ikegami

Ikegami Tsushinki Co., Ltd. 5-6-16 Ikegami, Ohta-ku, Tokyo, Japan TEL.03-754-2121/TLX.2466738 IKETSU J
Ikegami Electronics (Europe) GmbH Ikegami Strasse 1, 4040 Neuss 1, F.R. Germany TEL.02101-123-0/TLX.8517960 ITC D
Ikegami Electronics (Europe) GmbH U.K. Branch 61High Street, Kingston-upon-Thames, Surrey KT1 1LQ, England
TEL.01-546-7772/TLX.897005 ITC G