

Service Manual

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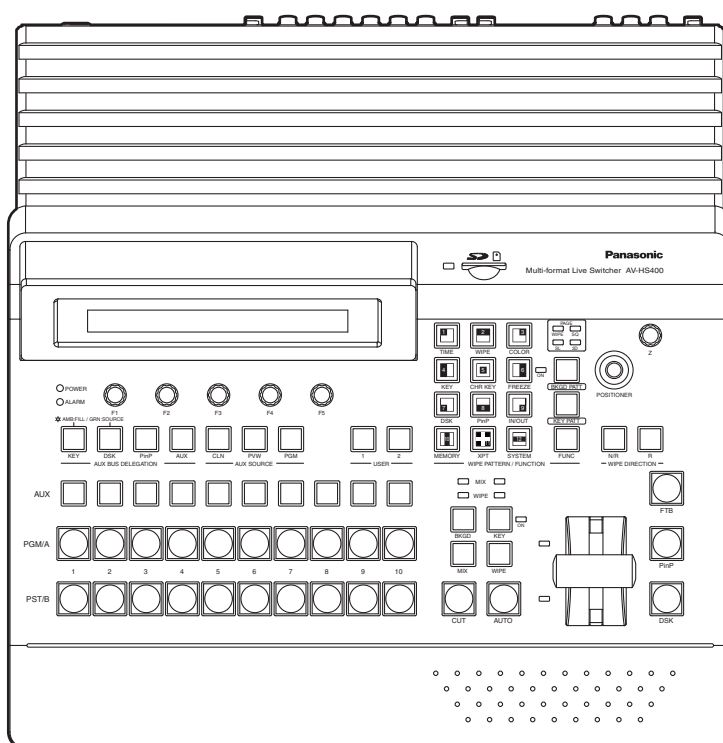
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Multi-format Live Switcher

Model No. **AV-HS400A N/E/MC**



Panasonic[®]

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Model No. AV-HS400AN

Specifications and Standard accessories

■ Specifications

Inputs	8 video input lines (maximum) 4 standard video input lines: SDI inputs ×4 Maximum of an additional 4 video input lines as options: SDI inputs ×2, analog component (HD/SD) inputs ×2, DVI inputs ×2, analog composite inputs ×2 Up to two optional boards from among the various optional input boards (incorporating two up-converter lines) can be additionally connected. Reference ×1
Outputs	7 video signal lines (maximum) 3 standard video output lines (SDI): PGM outputs ×2, OUTPUT1 output ×1, OUTPUT2 output ×1 Maximum of an additional 4 video output lines as options: OUTPUT3 to 6 ×1 output Up to two optional boards from among the analog component (HD/SD) ×2, DVI ×1/analog component ×1, and SDI ×2 (incorporating two down-converter lines) output boards can be additionally connected. * PGM, PVW, AUX, MULTI and KEYOUT can be assigned to OUTPUT1 to 6. Reference ×1
Signal formats	HD: 1080/59.94i, 1080/50i, 720/59.94p, 720/50p SD: 480/59.94i, 576/50i
Signal processing	Y:Cb:Cr 4: 2: 2, 10 bit RGB 4:4:4, 8 bit
ME number	1ME
SDI inputs	HD: Serial digital (SMPTE 292M) SD: Component digital (SMPTE 259M)
	BNC connector, IN1 to 8 (with active through), up to 8 lines * IN5 to 8 are optional inputs.
	HD [SMPTE 292M (BTA S-004B) standard complied with] • 0.8 Vp-p ±10 % (75 Ω) • Input return loss More than 15 dB (5 MHz to 750 MHz) More than 10 dB (750 MHz to 1.5 GHz) • Automatic equalizer 328 ft. (100 m) (when 5C-FB cable is used)
	SD [SMPTE 259M standard complied with] • 0.8 Vp-p ±10 % (75 Ω) • Input return loss More than 15 dB (5 MHz to 270 MHz) • Automatic equalizer 656 ft. (200 m) (when 5C-2V cable is used)

SDI outputs	HD: Serial digital (SMPTE 292M) SD: Component digital (SMPTE 259M)	
	BNC connector, PGM ×1 (2 outputs), OUTPUT 1 to 6, up to 6 lines * OUTPUT 3 to 6 are optional outputs.	
	HD [SMPTE 292M (BTA S-004B) standard complied with] • Output return loss More than 15 dB (5 MHz to 750 MHz) More than 10 dB (750 MHz to 1.5 GHz) • Output level 0.8 Vp-p ±10 % (75 Ω) • Rise time Less than 270 ps • Fall time Less than 270 ps • Difference between rise time and fall time Less than 100 ps • Alignment jitter Less than 0.2 UI (130 ps) • Timing jitter Less than 1.0 UI • Eye aperture ratio More than 90 % • DC offset 0 ±0.5 V	
	SD [SMPTE 259M standard complied with] • Output return loss More than 15 dB (5 MHz to 270 MHz) • Output level 0.8 Vp-p ±10 % (75 Ω) • Rise time Less than 1.5 ns • Fall time Less than 1.5 ns • Difference between rise time and fall time Less than 0.5 ns • Jitter Less than 0.2 UI	
Analog composite input (option)	Analog composite (1.0 Vp-p, 75 Ω)	
	BNC connector, IN5 to 8 (with loop-through), up to 4 lines	
Analog input (option)	SD/HD analog component Y/Pb/Pr (1.0 Vp-p, 75 Ω)	
	BNC connector, IN5 to 8, up to 4 lines	
Analog output (option)	SD/HD analog component Y/Pb/Pr (1.0 Vp-p, 75 Ω)	
	BNC connector, OUTPUT3 to 6, up to 4 lines (which can be assigned)	
DVI-I input (option)	XGA (1024×768), WXGA (1280×768), SXGA (1280×1024) Vertical frequency: 60 Hz	
	DVI-I connector, IN5 to 8, up to 4 lines	
DVI-I output (option)	XGA (1024×768), WXGA (1280×768), SXGA (1280×1024), WSXGA+* (1680×1050), UXGA* (1600×1200), WUXGA* (1920×1200) (*: Selectable only when digital signals are output) Vertical frequency: 60 Hz	
	DVI-I connector, OUTPUT3, OUTPUT5, up to 2 lines (which can be assigned)	
Key input	1 input from video inputs	
Downstream Key input	1 input from video inputs	
Reference input	BNC connector, Black burst or Tri-level Sync (with loop-through) ×1	
Reference output	In gen-lock mode: BNC connector, loop-through output ×1, In internal sync mode: BNC connector, black burst ×2	
Video delay time	Frame synchronizer OFF	1H
	Frame synchronizer ON	1F

Control I/O	LAN (10BASE-T)	10 Mbps ×1 (RJ-45)
	Serial communication interface	RS-422 ×1 (D-sub 9-pin, female, inch screw) • Pan-tilt head system (pan-tilt head and camera) control supported • GVG standard protocol subset supported
	Tally output	Open collector outputs (negative logic) 1 to 8 (D-sub 15-pin, male, inch screw)
	GPI	GPI ×2 (3.5 mm diameter stereo mini jack)
External media	SD memory cards	Memory size supported: Max. 2 GB Still image file transfer: 24-bit uncompressed bitmap, baseline JPEG (loading only)
Ambient operating temperature	32 °F to 104 °F (0 °C to 40 °C)	
Humidity	10 % to 90 % (no condensation)	
Power supply	AC 100 V - 120 V, 50/60 Hz	
	Power consumption	98 W
Dimensions (W × H × D)	16-9/16"×5-3/16"×16-1/16" (420×132×408 mm) [Excluding protrusions]	
Weight	14.1 lbs. (6.4 kg): when no options have been installed 15.9 lbs. (7.2 kg): when all the possible options have been installed	

■Standard accessories

Operating instructions	1
CD-ROM (Operating instructions/Image transmission software)	1
Power cord	1

■Optional boards (sold separately)

SDI Input Board:	AV-HS04M1
Analog Input Board:	AV-HS04M2
DVI Input Board:	AV-HS04M3
Analog Output Board:	AV-HS04M4
DVI/Analog Output Board:	AV-HS04M5
Analog Composite Input Board:	AV-HS04M6
SDI Output Board:	AV-HS04M7

Refer to the operating instructions that come with the optional board for details about the installation method.



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Model No. AV-HS400AE

Specifications and Standard accessories

■ Specifications

Inputs	8 video input lines (maximum) 4 standard video input lines: SDI inputs ×4 Maximum of an additional 4 video input lines as options: SDI inputs ×2, analogue component (HD/SD) inputs ×2, DVI inputs ×2, analogue composite inputs ×2 Up to two optional boards from among the various optional input boards (incorporating two up-converter lines) can be additionally connected. Reference ×1
Outputs	7 video signal lines (maximum) 3 standard video output lines (SDI): PGM outputs ×2, OUTPUT1 output ×1, OUTPUT2 output ×1 Maximum of an additional 4 video output lines as options: OUTPUT3 to 6 ×1 output Up to two optional boards from among the analogue component (HD/SD) ×2, DVI ×1/analogue component ×1, and SDI ×2 (incorporating two down-converter lines) output boards can be additionally connected. * PGM, PVW, AUX, MULTI and KEYOUT can be assigned to OUTPUT1 to 6. Reference ×1
Signal formats	HD: 1080/59.94i, 1080/50i, 720/59.94p, 720/50p SD: 480/59.94i, 576/50i
Signal processing	Y:Cb:Cr 4: 2: 2, 10 bit RGB 4:4:4, 8 bit
ME number	1ME
SDI inputs	HD: Serial digital (SMPTE 292M) SD: Component digital (SMPTE 259M)
	BNC connector, IN1 to 8 (with active through), up to 8 lines * IN5 to 8 are optional inputs.
	HD [SMPTE 292M (BTA S-004B) standard complied with] • 0.8 Vp-p ±10 % (75 Ω) • Input return loss More than 15 dB (5 MHz to 750 MHz) More than 10 dB (750 MHz to 1.5 GHz) • Automatic equalizer 100 m (when 5C-FB cable is used)
	SD [SMPTE 259M standard complied with] • 0.8 Vp-p ±10 % (75 Ω) • Input return loss More than 15 dB (5 MHz to 270 MHz) • Automatic equalizer 200 m (when 5C-2V cable is used)

SDI outputs	HD: Serial digital (SMPTE 292M) SD: Component digital (SMPTE 259M)	
	BNC connector, PGM ×1 (2 outputs), OUTPUT 1 to 6, up to 6 lines * OUTPUT 3 to 6 are optional outputs.	
	HD [SMPTE 292M (BTA S-004B) standard complied with] • Output return loss More than 15 dB (5 MHz to 750 MHz) More than 10 dB (750 MHz to 1.5 GHz) • Output level 0.8 Vp-p ±10 % (75 Ω) • Rise time Less than 270 ps • Fall time Less than 270 ps • Difference between rise time and fall time Less than 100 ps • Alignment jitter Less than 0.2 UI (130 ps) • Timing jitter Less than 1.0 UI • Eye aperture ratio More than 90 % • DC offset 0 ±0.5 V	
SDI outputs	SD [SMPTE 259M standard complied with] • Output return loss More than 15 dB (5 MHz to 270 MHz) • Output level 0.8 Vp-p ±10 % (75 Ω) • Rise time Less than 1.5 ns • Fall time Less than 1.5 ns • Difference between rise time and fall time Less than 0.5 ns • Jitter Less than 0.2 UI	
Analogue composite input (option)	Analogue composite (1.0 Vp-p, 75 Ω)	
	BNC connector, IN5 to 8 (with loop-through), up to 4 lines	
Analogue input (option)	SD/HD analogue component Y/Pb/Pr (1.0 Vp-p, 75 Ω)	
	BNC connector, IN5 to 8, up to 4 lines	
Analogue output (option)	SD/HD analogue component Y/Pb/Pr (1.0 Vp-p, 75 Ω)	
	BNC connector, OUTPUT3 to 6, up to 4 lines (which can be assigned)	
DVI-I input (option)	XGA (1024×768), WXGA (1280×768), SXGA (1280×1024) Vertical frequency: 60 Hz	
	DVI-I connector, IN5 to 8, up to 4 lines	
DVI-I output (option)	XGA (1024×768), WXGA (1280×768), SXGA (1280×1024), WSXGA+* (1680×1050), UXGA* (1600×1200), WUXGA* (1920×1200) (*: Selectable only when digital signals are output) Vertical frequency: 60 Hz	
	DVI-I connector, OUTPUT3, OUTPUT5, up to 2 lines (which can be assigned)	
Key input	1 input from video inputs	
Downstream Key input	1 input from video inputs	
Reference input	BNC connector, Black burst or Tri-level Sync (with loop-through) ×1	
Reference output	In gen-lock mode: BNC connector, loop-through output ×1, In internal sync mode: BNC connector, black burst ×2	
Video delay time	Frame synchronizer OFF	1H
	Frame synchronizer ON	1F

Control I/O	LAN (10BASE-T)	10 Mbps ×1 (RJ-45)
	Serial communication interface	RS-422 ×1 (D-sub 9-pin, female, inch screw) • Pan-tilt head system (pan-tilt head and camera) control supported • GVG standard protocol subset supported
	Tally output	Open collector outputs (negative logic) 1 to 8 (D-sub 15-pin, male, inch screw)
	GPI	GPI ×2 (3.5 mm diameter stereo mini jack)
External media	SD memory cards	Memory size supported: Max. 2 GB Still image file transfer: 24-bit uncompressed bitmap, baseline JPEG (loading only)
Ambient operating temperature	0 °C to 40 °C	
Humidity	10 % to 90 % (no condensation)	
Power supply	AC 220 V - 240V, 50/60 Hz	
	Power consumption	98 W
Dimensions (W × H × D)	420×132×408 mm [Excluding protrusions]	
Weight	6.4 kg: when no options have been installed	
	7.2 kg: when all the possible options have been installed	

■Standard accessories

Operating instructions	1
CD-ROM (Operating instructions/Image transmission software)	1
Power cord	2

■Optional boards (sold separately)

SDI Input Board:	AV-HS04M1
Analogue Input Board:	AV-HS04M2
DVI Input Board:	AV-HS04M3
Analogue Output Board:	AV-HS04M4
DVI/Analogue Output Board:	AV-HS04M5
Analogue Composite Input Board:	AV-HS04M6
SDI Output Board:	AV-HS04M7

Refer to the operating instructions that come with the optional board for details about the installation method.



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Model No. AV-HS400AMC

Specifications and Standard accessories

规格和标准附件

■ 规格

输入	8 路视频输入（最多） 4 路标准视频输入： SDI 输入 ×4 另外最多有 4 路可选视频输入： SDI 输入 ×2，模拟分量 (HD/SD) 输入 ×2，DVI 输入 ×2，模拟复合输入 ×2 在不同选购输入板（包括两路上转换器）中，可以另行连接最多两块选购板。 基准 ×1
输出	7 路视频信号（最多） 3 路标准视频输出 (SDI)： PGM 输出 ×2、OUTPUT1 输出 ×1、OUTPUT2 输出 ×1 另外最多有 4 路可选视频输出： OUTPUT3 至 6×1 输出 在模拟分量 (HD/SD)×2 输出板，DVI×1/ 模拟分量 ×1 输出板和 SDI 输出板 ×2（包括两路下转换器）中，可以另行连接最多两块选购板。 * PGM、PVW、AUX、MULTI 和 KEYOUT 可以分配给 OUTPUT1 至 6。 基准 ×1
信号格式	HD:1080/59.94i, 1080/50i, 720/59.94p, 720/50p SD:480/59.94i, 576/50i
信号处理	Y:Cb:Cr 4:2:2, 10 位 RGB 4:4:4, 8 位
ME 数	1ME
SDI 输入	HD: 串行数字 (SMPTE 292M)
	SD: 分量数字 (SMPTE 259M)
	BNC 接口, IN1 至 8 (active through), 最多 8 路
	* IN5 至 8 为可选输入。
	HD [符合 SMPTE 292M (BTA S-004B) 标准] · 0.8 Vp-p ±10 % (75 Ω) · 输入反射损失 大于 15 dB (5 MHz 至 750 MHz) - 大于 10 dB (750 MHz 至 1.5 GHz) · 自动均衡器 100 m (当使用 5C-FB 线缆时)
	SD [符合 SMPTE 259M 标准]
	· 0.8 Vp-p ±10 % (75 Ω)
	· 输入反射损失 大于 15 dB (5 MHz 至 270 MHz)
	· 自动均衡器 200 m (当使用 5C-2V 线缆时)

SDI 输出	HD: 串行数字 (SMPTE 292M) SD: 分量数字 (SMPTE 259M)
	BNC 接口, PGM ×1 (2 输出), OUTPUT 1 至 6, 最多 6 路 * OUTPUT 3 至 6 为可选输出。
	HD [符合 SMPTE 292M (BTA S-004B) 标准] · 输出反射损失 大于 15 dB (5 MHz 至 750 MHz) 大于 10 dB (750 MHz 至 1.5 GHz) · 输出电平 0.8 Vp-p ±10 % (75 Ω) · 上升时间 小于 270 ps · 下降时间 小于 270 ps · 升降时间差 小于 100 ps · 校准抖动 小于 0.2 UI (130 ps) · 时序抖动 小于 1.0 UI · 目视孔径比 大于 90 % · DC 偏移 0 ±0.5 V
	SD [符合 SMPTE 259M 标准] · 输出反射损失 大于 15 dB (5 MHz 至 270 MHz) · 输出电平 0.8 Vp-p ±10 % (75 Ω) · 上升时间 小于 1.5 ns · 下降时间 小于 1.5 ns · 升降时间差 小于 0.5 ns · 抖动 小于 0.2 UI
模拟复合输入 (选购件)	模拟复合 (1.0 Vp-p, 75 Ω)
	BNC 接口, IN5 至 8 (环通), 最多 4 路
模拟输入 (选购件)	SD/HD 模拟分量 Y/Pb/Pr (1.0 Vp-p, 75 Ω)
	BNC 接口, IN5 至 8, 最多 4 路
模拟输出 (选购件)	SD/HD 模拟分量 Y/Pb/Pr (1.0 Vp-p, 75 Ω)
	BNC 接口, OUTPUT3 至 6, 最多 4 路 (可以分配)
DVI-I 输入 (选购件)	XGA (1024×768), WXGA (1280×768), SXGA (1280×1024) 垂直频率: 60 Hz
	DVI-I 接口, IN5 至 8, 最多 4 路
DVI-I 输出 (选购件)	XGA (1024×768), WXGA (1280×768), SXGA (1280×1024), WSXGA+* (1680×1050), UXGA* (1600×1200), WUXGA* (1920×1200) (*: 只有当数字信号输出时才可以选择) 垂直频率: 60 Hz
	DVI-I 接口, OUTPUT3, OUTPUT5, 最多 2 路 (可以分配)
键输入	视频输入当中 1 路输入
下游键输入	视频输入当中 1 路输入
基准输入	BNC 接口, 黑场或三级同步 (环通) ×1
基准输出	同步锁相模式中: BNC 接口, 环通输出 ×1, 内部同步模式中: BNC 接口, 黑场 ×2

视频延迟时间	帧同步器 OFF	1H
	帧同步器 ON	1F
控制 I/O	网络 (10BASE-T)	10 Mbps × 1 (RJ-45)
	串行通信接口	RS-422 × 1 (D-sub 9 针, 内凹, 英制螺钉) • 支持旋转云台系统 (旋转云台和摄像机) 控制 • 支持 GVG 标准协议子集
	Tally 输出	开集极输出 (负逻辑) 1 至 8 (D-sub 15 针, 外凸, 英制螺钉)
	GPI	GPI × 2 (3.5 mm 直径立体声微型插口)
外部介质	SD 存储卡	支持的存储容量大小: 最大 2GB 静止图像文件传输: 24 位无压缩位图, 基线 JPEG (仅可载入)
环境操作温度	0 °C 至 40 °C	
操作湿度	10 % 到 90 % (无结露)	
电 源	220 V – 240 V ~, 50/60 Hz	
	电力消耗	98 W
尺寸 (宽 × 高 × 深)	420 × 132 × 408 mm (突出部位除外)	
重 量	6.4 kg: 没有安装选购件时	
	7.2 kg: 安装了所有的可选选购件时	

■ 标准附件

使用说明书	1
CD-ROM (使用说明书 / 图像传输软件)	1
电源线	1

■ 选购板 (另售)

SDI 输入板:	AV-HS04M1MC
模拟输入板:	AV-HS04M2MC
DVI 输入板:	AV-HS04M3MC
模拟输出板:	AV-HS04M4MC
DVI/ 模拟输出板:	AV-HS04M5MC
模拟复合输入板:	AV-HS04M6MC
SDI 输出板:	AV-HS04M7MC

有关安装方法的详情, 请参阅选购板附带的使用说明书。

SAFETY PRECAUTIONS

GENERAL GUIDELINES

1. When servicing, observe the original lead dress. If a short circuit is found, replace all parts which have been over-heated or damaged by the short circuit.
2. After servicing, see to it that all the protective devices such as insulation barriers, insulation papers shields are properly installed.
3. After servicing, make the following leakage current checks to prevent the customer from being exposed to shock hazards.

LEAKAGE CURRENT COLD CHECK

1. Unplug the AC cord and connect a jumper between the two prongs on the plug.
2. Measure the resistance value, with an ohm meter, between the jumpered AC plug and each exposed metallic cabinet part on the equipment such as screwheads, connectors, control shafts, etc. The resistance value must be more than 5MW.

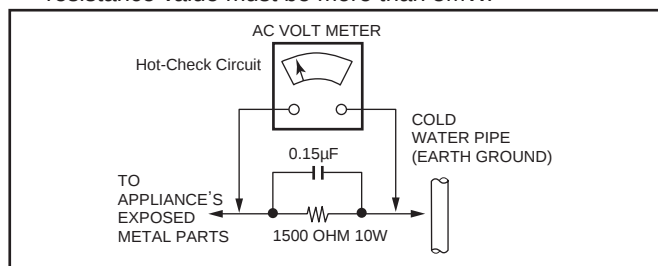


Figure1

LEAKAGE CURRENT HOT CHECK (See Figure 1)

1. Plug the AC cord directly into the AC outlet. Do not use an isolation transformer for this check.
2. Connect a 1.5KW, 10W resistor, in parallel with a 0.15m F capacitor, between each exposed metallic part on the set and a good earth ground such as a water pipe, as shown in Figure1.
3. Use an AC voltmeter, with 1000 ohms/volt or more sensitivity, to measure the potential across the resistor.
4. Check each exposed metallic part, and measure the voltage at each point.
5. Reverse the AC plug in the AC outlet repeat each of the above measurements.
6. The potential at any point should not exceed 0.15 volts RMS. A leakage current tester (Simpson Model 229 equivalent) may be used to make the hot checks, leakage current must not exceed 0.1 milliamp. In case a measurement is outside of the limits specified, there is a possibility of a shock hazard, and the equipment should be repaired and rechecked before it is returned to the customer.

ABOUT LEAD FREE SOLDER (PbF)

Distinction of PbF PCB:

PCBs (manufactured) using lead free solder will have a PbF stamp on the PCB.

Caution:

1. Pb free solder has a higher melting point than standard solder; Typically the melting point is 50 – 70°F (30 – 40°C) higher. Please use a high temperature soldering iron. In case of the soldering iron with temperature control, please set it to 700 ± 20°F (370 ± 10°C).
2. Pb free solder will tend to splash when heated too high (about 1100°F/600°C).

ELECTROSTATICALLY SENSITIVE (ES) DEVICES

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically sensitive (ED) Devices. Examples of typical ES devices are integrated circuits and some field-effect transistors and semiconductor “chip” components. The following techniques should be used to help reduce the incidence of component damage caused by static electricity.

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any electrostatic charge on your body by touching a known earth ground.
Alternatively, obtain and wear a commercially available discharging wrist trap device, which should be removed for potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge build-up or exposure of the assembly.
3. Use only a grounded tip soldering iron to solder or unsolder ES devices.
4. Use only an anti-static solder removal device classified as “anti-static” can generate electrical charges sufficient to damage ES devices.
5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it.
(most replacement ES devices are package with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive material).
7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.
CAUTION : Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.
8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity sufficient to damage an ES device).

X-RADIATION

WARNING

1. The potential source of X-radiation in EVF sets is the High Voltage section and the picture tube.
2. When using a picture tube test jig for service, ensure that jig is capable of handling 10kV without causing X-Radiation.

Note : It is important to use an accurate periodically calibrated high voltage meter.

3. Measure the High Voltage. The meter (electric type) reading should indicate 2.5kV, ±0.15kV. If the meter indication is out of tolerance, immediate service and correction is required to prevent the possibility of premature component failure. To prevent an X-Radiation possibility, it is essential to use the specified picture tube.



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 TO 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 (service) instructions in the literature accompanying the appliance.

WARNING:

■ THIS APPARATUS MUST BE EARTHED

To ensure safe operation, the three-pin plug must be inserted only into a standard three-pin power point which is effectively earthed through the normal household wiring.

Extension cords used with the apparatus must have three cores and be correctly wired to provide connection to the earth. Wrongly wired extension cords are a major cause of fatalities.

The fact that the apparatus operates satisfactorily does not imply that the power point is earthed or that the installation is completely safe. For your safety, if you are in any doubt about the effective earthing of the power point, please consult a qualified electrician.

— For CANADA —

This class A digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

WARNING:

- TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPARATUS TO RAIN OR MOISTURE.
- THE APPARATUS SHALL NOT BE EXPOSED TO DRIPPING OR SPLASHING AND THAT NO OBJECTS FILLED WITH LIQUIDS, SUCH AS VASES, SHALL BE PLACED ON THE APPARATUS.

CAUTION:

TO REDUCE THE RISK OF FIRE OR SHOCK HAZARD AND ANNOYING INTERFERENCE, USE THE RECOMMENDED ACCESSORIES ONLY.

FCC Note:

This equipment has 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. This equipment 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 this equipment 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:

To assure continued FCC emission limit compliance, the user must use only shielded interface cables when connecting to external units. Also, any unauthorized changes or modifications to this equipment could void the user's authority to operate it.

CAUTION:

In order to maintain adequate ventilation, do not install or place this unit in a bookcase, built-in cabinet or any other confined space. To prevent risk of electric shock or fire hazard due to overheating, ensure that curtains and any other materials do not obstruct the ventilation.

The socket outlet shall be installed near the equipment and easily accessible or the mains plug or a power switch shall remain readily operable.

A warning that an apparatus with CLASS I construction shall be connected to a MAINS socket outlet with a protective earthing connection.

 indicates safety information.

Safety precautions

IMPORTANT SAFETY INSTRUCTIONS

Read these operating instructions carefully before using the unit. Follow the safety instructions on the unit and the applicable safety instructions listed below. Keep these operating instructions handy for future reference.

- 1) Read these instructions.
- 2) Keep these instructions.
- 3) Heed all warnings.
- 4) Follow all instructions.
- 5) Do not use this apparatus near water.
- 6) Clean only with dry cloth.
- 7) Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- 8) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- 9) Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- 10) Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- 11) Only use attachments/accessories specified by the manufacturer.
- 12) Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over. 
- 13) Unplug this apparatus during lightning storms or when unused for long periods of time.
- 14) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

 indicates safety information.

<For USA-California Only>

This product contains a CR Coin Cell Lithium Battery which contains Perchlorate Material – special handling may apply.

See www.dtsc.ca.gov/hazardouswaste/perchlorate.

Model No. AV-HS400AE

Safety precautions

FOR YOUR SAFETY PLEASE READ THE FOLLOWING TEXT CAREFULLY

	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 TO 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 (service) instructions in the literature accompanying the appliance.

WARNING:

■ THIS APPARATUS MUST BE EARTHED

To ensure safe operation, the three-pin plug must be inserted only into a standard three-pin power point which is effectively earthed through the normal household wiring.

Extension cords used with the apparatus must have three cores and be correctly wired to provide connection to the earth. Wrongly wired extension cords are a major cause of fatalities.

The fact that the apparatus operates satisfactorily does not imply that the power point is earthed or that the installation is completely safe. For your safety, if you are in any doubt about the effective earthing of the power point, please consult a qualified electrician.

WARNING:

- TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPARATUS TO RAIN OR MOISTURE.
- THE APPARATUS SHALL NOT BE EXPOSED TO DRIPPING OR SPLASHING AND THAT NO OBJECTS FILLED WITH LIQUIDS, SUCH AS VASES, SHALL BE PLACED ON THE APPARATUS.

CAUTION:

TO REDUCE THE RISK OF FIRE OR SHOCK HAZARD AND ANNOYING INTERFERENCE, USE THE RECOMMENDED ACCESSORIES ONLY.

CAUTION:

In order to maintain adequate ventilation, do not install or place this unit in a bookcase, built-in cabinet or any other confined space. To prevent risk of electric shock or fire hazard due to overheating, ensure that curtains and any other materials do not obstruct the ventilation.

The socket outlet shall be installed near the equipment and easily accessible or the mains plug or a power switch shall remain readily operable.

A warning that an apparatus with CLASS I construction shall be connected to a MAINS socket outlet with a protective earthing connection.

 indicates safety information.

Safety precautions

Caution for AC Mains Lead

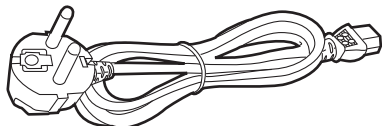
FOR YOUR SAFETY PLEASE READ THE FOLLOWING TEXT CAREFULLY.

This product is equipped with 2 types of AC mains cable. One is for continental Europe, etc. and the other one is only for U.K.

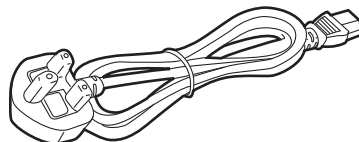
Appropriate mains cable must be used in each local area, since the other type of mains cable is not suitable.

FOR CONTINENTAL EUROPE, ETC.

Not to be used in the U.K.



FOR U.K. ONLY



FOR U.K. ONLY

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 amps 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.

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 the plug must not be used until a replacement cover is obtained.

A replacement fuse cover can be purchased from your local Panasonic Dealer.

IF THE FITTED MOULDED PLUG IS UNSUITABLE FOR THE SOCKET OUTLET IN YOUR HOME THEN THE FUSE SHOULD BE REMOVED AND THE PLUG CUT OFF AND DISPOSED OF SAFELY. THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT OFF PLUG IS INSERTED INTO ANY 13 AMP SOCKET.

If a new plug is to be fitted please observe the wiring code as shown below.

If in any doubt please consult a qualified electrician.

WARNING: This apparatus must be earthed.

IMPORTANT

The wires in this mains lead are coloured in accordance with the following code.

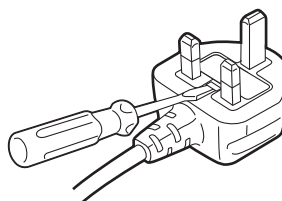
Green-and-Yellow:	Earth
Blue:	Neutral
Brown:	Live

As the colours of the wire in the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows.

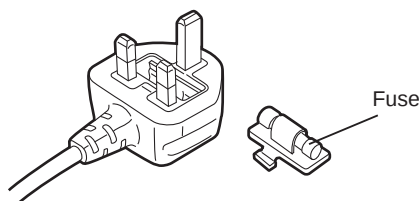
- The wire which is coloured **green-and-yellow** must be connected to the terminal in the plug which is marked with the letter **E** or by the earth symbol  or coloured **green** or **green-and-yellow**.
- The wire which is coloured **blue** must be connected to the terminal in the plug which is marked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

How to replace the fuse

1. Open the fuse compartment with a screwdriver.



2. Replace the fuse.



 indicates safety information.

Safety precautions

Information for Users on Collection and Disposal of Old Equipment and used Batteries



These symbols on the products, packaging, and/or accompanying documents mean that used electrical and electronic products and batteries should not be mixed with general household waste.

For proper treatment, recovery and recycling of old products and used batteries, please take them to applicable collection points, in accordance with your national legislation and the Directives 2002/96/EC and 2006/66/EC.



By disposing of these products and batteries correctly, you will help to save valuable resources and prevent any potential negative effects on human health and the environment which could otherwise arise from inappropriate waste handling.

For more information about collection and recycling of old products and batteries, please contact your local municipality, your waste disposal service or the point of sale where you purchased the items.

Penalties may be applicable for incorrect disposal of this waste, in accordance with national legislation.



For business users in the European Union

If you wish to discard electrical and electronic equipment, please contact your dealer or supplier for further information.

[Information on Disposal in other Countries outside the European Union]

These symbols are only valid in the European Union. If you wish to discard these items, please contact your local authorities or dealer and ask for the correct method of disposal.



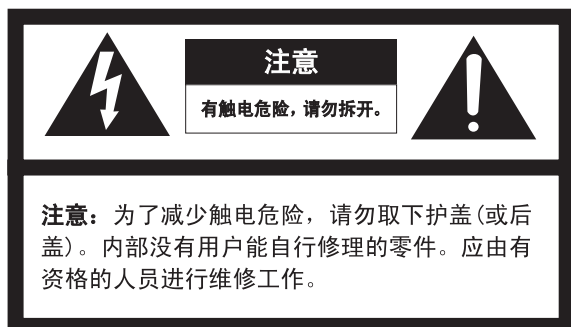
Note for the battery symbol (bottom two symbol examples):

This symbol might be used in combination with a chemical symbol. In this case it complies with the requirement set by the Directive for the chemical involved.

Cd

Model No. AV-HS400AMC

Safety precautions



在正三角形中带箭头的闪电符号，用以提醒用户在本装置附近出现较大的非绝缘“危险电压”足以使人体产生触电。



在正三角形中的感叹号，用以提醒用户参考有关本装置的重要操作与维修的文字说明。

断开电源。当电源线接通电源时，无论本装置有无ON-OFF开关均为本装置供电。然而，仅在ON-OFF开关处于ON位置时，本装置才能操作。电源线是断开所有本装置电源的总开关。

警告：

- 本装置必须接地。
- 设备应当连接到有接地保护连接的电源插座上。
- 电源插头或者设备耦合器应当保持完好随时可用。
- 请勿将本装置置于雨水、潮湿的环境中，以免发生火灾或触电。为防止水滴溅入，请不要将盛有液体的容器（如花瓶）放置在本装置上。
- 有关本装置的一切安装工作都必须由有资格的维修人员或者系统安装人员进行。
- 连接应当符合当地的电气规定。

注意：

- 为了充分通风，设备周围的最小间隙。
- 通风孔不应覆盖诸如报纸、桌布和窗帘等物品而妨碍通风。
- 电源配线时需连接到接点间距在3.0 mm以上的配电盘的电流断路器。此时需使用能够断开了除了保护接地导体以外的主电源的所有各极的电流断路器。

安全事项

为安全起见，请仔细阅读以下内容

■ **不要开启面板盖。**

为了减少电击的危险，不要打开面板盖。里面没有用户能维修的部件。
有关维修问题，请与合格的维修人员联系。

警告：

■ **本装置必须接地**

为了保证本机操作安全，必须将三插脚的电源插头插入标准的三孔插座，而此插座是通过普通的住宅线路妥善接地的。
本装置使用的延长电线必须是三芯的，正确布线与接地。延长电线的错误连接是产生致命性事故的主要原因。
本装置工作得令人满意并不能说明电源已接地或者安装是十分安全的。为了您的安全，如果对本装置和电源的有效接地有任何怀疑，请向合格的电工咨询。

警告：

- 为减少火灾或电击的危险，请不要使本设备淋雨或暴露于潮湿的环境中。
- 请避免液体滴入或溅入本设备，也不要将花瓶等装满液体的物体置放在本设备之上。

注意事项：

为了减少起火或电击的危险以及烦人的干扰，请只使用推荐的附件。

注意事项：

为了保持良好的通风条件，请不要将本机安装或置放于书橱、壁柜或其他密封空间中。确保窗帘或其他织物不会阻碍通风条件，防止因过热而发生电击或起火。

电源插座应安装在靠近设备并易于接近的位置，电源插头或电源开关应保持便于操作的状态。

警告：一类结构设备必须连接到带有保护性接地的电源插座上。

 显示安全信息。

重要安全须知

- 1) 请阅读本说明书。
- 2) 请妥善保存本说明书。
- 3) 请注意每项警告。
- 4) 请遵照所有说明。
- 5) 本装置请勿在靠近水的地方使用。
- 6) 只能用干布清洁。
- 7) 请勿堵塞任何通风孔。请按照生产厂商的指示进行安装。
- 8) 请勿安装在散热器、热记录器、火炉或其他发热的器具（包括放大器）等热源近旁。
- 9) 请勿使极性插头和接地型插头的安全性无效。极性插头有两个刀型插脚，一长一短。接地型插头有两个刀型插脚和一个第三接地插脚。设有长刀型插脚和第三接地插脚是出于安全之目的。如果提供的插头与您的电源插座不符合，请与销售店联系将不能使用的插座更换为符合要求的插座。
- 10) 请保护电源软线免受踩踏或紧压，特别是在插头、电源插座和从装置引出的接点处。
- 11) 只能使用生产厂商规定的配件/附件。
- 12) 只能与生产厂商规定或随机附送的手推车、台架、三脚架、托架或桌子一起使用。使用手推车移动本装置时要特别注意，不要因倾翻而受伤。



- 13) 雷电交加的暴风雨天气或长期不使用本装置时，请拔下插头。
- 14) 本装置遭到损坏，比如发生电源线或插头受损、液体溅入或异物落入装置内、淋雨、受潮、不能正常工作或装置坠落等情况时，请尽快与经销商或维修服务中心联系。

Panasonic[®]

SECTION 1

SERVICE INFORMATION

CONTENTS

1.	DIP SWITCH SETTING	INF-1
2.	METHOD OF UPDATING FPGA PROGRAM.....	INF-3

1. DIP SWITCH SETTING

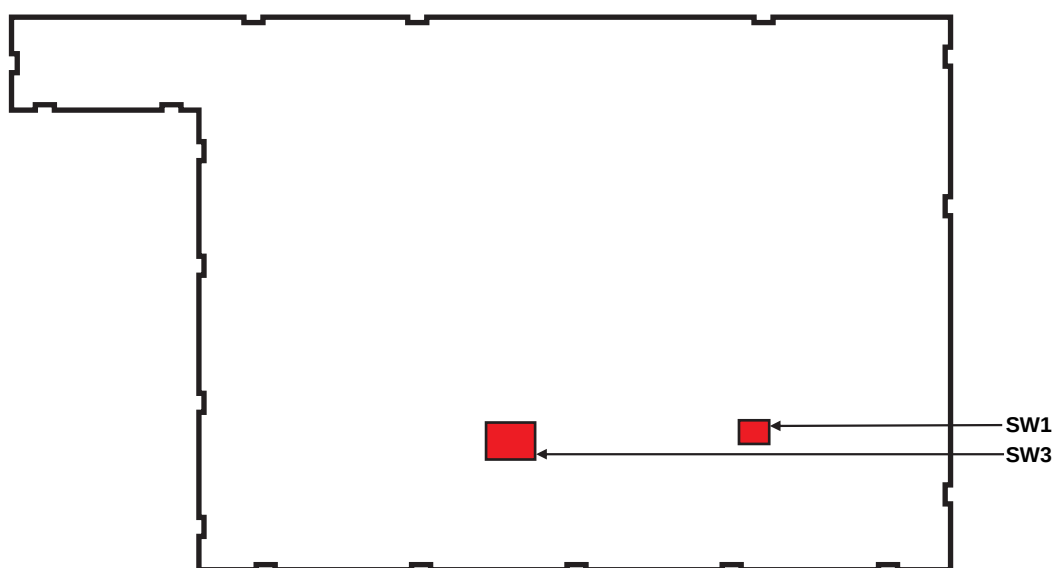
For ON/OFF of switches, see the silk-screen printing on the printed circuit board.

[MAIN P.C.BOARD]

MODE	DESCRIPTION	SW1			
		1	2	3	4
Initial setting	Normally application start	OFF	OFF	OFF	OFF
Test mode 1	Panel check test	OFF	OFF	OFF	OFF
Test mode 2	Memory-Video bus test	OFF	OFF	OFF	OFF
Test mode 3	External I/F connection test	OFF	OFF	OFF	OFF
EDIT writing	EDIT writing of DVI	OFF	OFF	OFF	OFF

MODE	DESCRIPTION	SW3							
		1	2	3	4	5	6	7	8
Initial setting	Normally application start	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
Test mode 1	Panel check test	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF
Test mode 2	Memory-Video bus test	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF
Test mode 3	External I/F connection test	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF
EDIT writing	EDIT writing of DVI	OFF	OFF	OFF	ON	OFF	OFF	OFF	OFF

<DIP switch layout (MAIN P.C.BOARD)>



2. FPGA AND PROGRAM UPDATE TOOL

- (1) To use the Update Menu, put the version update files (***.hsd) in the "SYSTEM" folder under the "HS400" folder of the SD card.

*For the SD card, use the one that was initialized by the AV-HS400A.

(See the Operating Instruction)

*Up to five version update files can be recognized. Only five files are recognized even if more than five files are put in.

- (2) After starting the AV-HS400, select SD Card of MEM Menu (3/4).

- (3) Select "LOAD" MODE with F2, and press the F2 to confirm

If F3 is pressed for a long time, the version update file name will be displayed as the file name.

(*The display remains unchanged if no version update file exists.)

(*If "SELECT" is operated with F3, the display will return to normal display.)

- (4) If two or more files exist, select target version update file with F4.

- (5) Press the F5, and the program writing will start in the sequence shown below.

*During the writing, do not turn off the power switch, remove the SD card, nor operate the AV-HS400A.

[SOFT Downloading] → [Programming] → [Verify]

[CONTROL-FPGA Downloading] → [Programming] → [Verify]

[PANEL-FPGA Downloading] → [Programming] → [Verify]

[INPUT-FPGA Downloading] → [Programming] → [Verify]

[ME-FPGA Downloading] → [Programming] → [Verify]

[SDIIN-FPGA Downloading] → [Programming] → [Verify]

[ANAIN-FPGA Downloading] → [Programming] → [Verify]

[DVIIN-FPGA Downloading] → [Programming] → [Verify]

[DVIOUT-FPGA Downloading] → [Programming] → [Verify]

[Version Programming] → [Verify]

Upon successful completion, "Version Up Completed" will be displayed.

The result display will disappear if F1 is pressed.

- (6) Restart the AV-HS400A and check the version.

When "Version Up Error" is displayed:

If nothing is displayed in lower part, the version update files could be unauthorized files.

If anything is displayed in lower part, AV-HS400A could not start again if the power switch is turned off.

In this case, retry program updating without turning off the power switch.

NOTE:

Concerning the recommended SD memory cards

Use of the following SD memory cards made by Panasonic Corporation is recommended.

RP-SD128B, RP-SD256B, RP-SDR512,

RP-SDR01G, RP-SDM02G

SECTION 2

ELECTRICAL ADJUSTMENT

CONTENTS

1. MEASURING INSTRUMENTS AND TOOLS	ELE-1
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3. ADJUSTMENT LOCATIONS.....	ELE-16

1.MEASURING INSTRUMENTS AND TOOLS

1. Signal generator (equivalent to TG700/TG15C6 (analog HD signal))
2. Serial input waveform monitor (equivalent to WFM700)
3. Video analyzer (equivalent to VM700A)
4. Color monitor (HD/SD multi-format)
5. Oscilloscope (digital sampling/400MHz)
6. Multi-meter
7. Writing tool (ALTERA, SH2)

[Precautions]

- (1) When adjusting and checking the AV-HS400A, make sure that a missing of part, wrong arrangement or wiring, soldering failure, or a defect of printed circuit board such as a crack is not found in the AV-HS400A.
- (2) Before adjusting and checking the AV-HS400A, the Z (impedance) check must be completed to check for a short or open circuit.
- (3) When performing a soldering work for part replacement of the AV-HS400A, control the temperature of a soldering iron in accordance with the standard.
- (4) The machine checker must have already been finished in a soldering check to the parts including chips.
- (5) This adjustment procedure is prepared based on the premise of using the sets of which operation has already been verified, but equivalent jigs may be used.

2.ADJUSTMENT PROCEDURE

2-1.MAIN SET

2-1-1. Power supply check of main set

1. Input conditions

Prepare the Main and Panel boards of which operations have already been checked.

Input AC power, and turn on/off the power switch.

2. Check points

Fan

POWER LED

3. Adjustment/Checking method

Check that:

ON: POWER LED comes on.

Fan rotates.

OFF: POWER LED goes off.

Fan stops.

2-1-2. Alarm check(1)

1. Input conditions

Prepare the Main and Panel boards of which operations have already been checked.

Input AC power, and turn on/off the power switch.

Disconnect the fan cable, and then turn on the power switch.

2. Check points

ALARM LED

LCD

3. Adjustment/Checking method

Check that:

ALARM LED comes on.

Alarm is displayed on LCD.

2-1-3. Alarm check (2)

1. Input conditions

Prepare the Main and Panel boards of which operations have already been checked.

Input DC12V by stabilizing supply, and turn on the power switch.

2. Check points

ALARM LED

LCD

3. Adjustment/Checking method

Lower the regulated power voltage to below 10.3V, and check that:

ALARM LED comes on.

Alarm is displayed on LCD.

4. Specification/Checking

“Supply voltage lowers = Current increases”, thus requiring attention to supply voltage range.

Range: 9V - 14V

2-1-4. Power P.C.Board check (E/MC MODEL ONLY)

1. Input conditions

Prepare the Main and Panel boards of which operations have already been checked.

Input AC power, and turn on/off the power switch.

Prepare the slidax, etc. to vary input voltage.

2. Check points

POWER LED

POWER SW (circuit protector)

3. Adjustment/Checking method

Vary AC input up to 220V~300V.

Adjust VR3001 so that the POWER SW turns off at $AC275\pm5V$.

Note: Raise the voltage gradually from low voltage.

4. Specification/Checking

Set value: $275\pm5V$

POWER SW must be turned off at the voltage above 280V.

POWER SW must not be turned off at the voltage below 270V.

2-2.MAIN P.C.BOARD

2-2-1. Voltage check

1. Input conditions

Prepare the Main and Panel boards of which operations have already been checked, and connect them with respective cables.

Input AC power and turn on the power switch.

2. Check points

TP141: +12V (Main voltage, OP 1/2)

TP145: +12V (Main voltage, OP 3/4)

TP143: +3.3V (DCDC output)

TP144: +1.8V (DCDC output)

TP146: +2.5V (DCDC output)

TP147: +1.2V (DCDC output)

TP148: +5.0V (DCDC output, OP 1/2)

TP149: +6.0V (DCDC output, OP 3/4)

TP151: A+5.V (Reg output)

3. Adjustment/Checking method

TP141,145: 11.5-12.5V

TP143: 3.20-3.40V

TP144: 1.75-1.84V

TP146: 2.40-2.60V

TP147: 1.15-1.25V

TP148: 4.90-5.10V

TP149,150: 5.80-6.25V

TP151: 4.90-5.10V

Free from part overheating.

Free from other abnormality such as odor.

2-2-2 Memory, video bus (FMEM) check

1. Input conditions

Prepare the Main and Panel boards of which operations have already been checked, and connect them with respective cables.

Input AC power and turn on the power switch.

[Test mode 2 start]

Set SW3, and turn on the power switch.

2. Check points

LCD display

3. Adjustment/Checking method

After the self test, check that OK is displayed on the LCD.

If an error occurred during the test, press any key on the panel to proceed to the next test.

2-2-3. RS422 check

1. Input conditions

Prepare the Main and Panel boards of which operations have already been checked, and connect them with respective cables.

Input AC power and turn on the power switch. Connect PC and MainP.C.Board with RS422 straight cable.

2. Check points

PGM (SDI) monitor

PC monitor

3. Adjustment/Checking method

Check that:

A cross point can be switched from the RS422 control software (PC).

ACK is returned.

*First press "Break+Dx30" button, and then check.

2-2-4. LAN check

1. Input conditions

Prepare the Main and Panel boards of which operations have already been checked, and connect them with respective cables.

Input AC power and turn on the power switch.
Connect PC and Main board with LAN cross cable.

2. Check points

PC monitor

3. Adjustment/Checking method

Set PC's IP to 192. 168. 0. 9 and input "ping 192. 168. 0. 10 (ret)" with the DOS prompt, and check that ACK is returned.

4. Specification/Checking

ACK: Replay from 192.168.0.10

2-2-5. External I/F check (TALLY, GPI)

1. Input conditions

Prepare the Main and Panel boards of which operations have already been checked, and connect them with respective cables.

Input AC power and turn on the power switch.
[Test mode 3 start]

Set SW3, and turn on the power switch.

The test is executed in the following order.

If any switch is pressed, the test proceeds to the next one.

(1) TALLY lighting test →(2) GPI test →(1)

2. Check points

LCD display

3. Adjustment/Checking method

(1) TALLY

Turn on Enable of TALLY lighting jig, and check that LEDs come on sequentially.

Turn off Enable of TALLY lighting jig, and check that no LEDs come on.

(2) GPI

Press the switch on GPI input jig and check that the status is displayed on the LCD.

2-2-6. SDI I/O signal check

1. Input conditions

Prepare the Main and Panel boards of which operations have already been checked, and connect them with respective cables.

Input AC power and turn on the power switch.

Input SDI signal to IN1-4 (HD1080/59.94i).

IN4 is a key signal.

2. Check points

- (1) VR1-4
- (2) Active through (SDI)
- (3) PGM (SDI), WFM, monitor
LED
- (4) OUT1 (SDI), WFM, monitor
LED
- (5) OUT2 (SDI), WFM, monitor
LED

3. Adjustment/Checking method

- (1) Check that VRs are in mechanical center.
- (2) Check that the signals entered to IN1-IN4 are outputted.
- (3) Switching the cross points, check that the signals entered to IN1-4 are outputted to the PGM.
Check that LEDs in each system light in green.
(D2, D5, D8, D11)
- (4) Set OUT1 to PVW and check the output.
- (5) Set OUT2 to AUX and check the output.
Check that LED lights in green. (D14)

4. Specification/Checking

Follow the Specification.

Free from noise, skipped bit, or CRC error.

2-2-7. Built-in signal check

1. Input conditions

Prepare the Main and Panel boards of which operations have already been checked, and connect them with respective cables.

Input AC power and turn on the power switch.

Input SDI signal to IN1-4 (HD1080/59.94i).

IN4 is a key signal.

2. Check points

PGM (SDI), WFM, monitor

3. Adjustment/Checking method

Switch the built-in signal, and check the following signals:

BLK
CBGD
CBAR (75%)

4. Specification/Checking

Follow the Specification.

Free from noise, skipped bit, or CRC error.

2-2-8. Function check (1)

1. Input conditions

Prepare the Main and Panel boards of which operations have already been checked, and connect them with respective cables.

Input AC power and turn on the power switch.

Input SDI signal to IN1-4 (HD1080/59.94i).

IN4 is a Wipe signal.

2. Check points

PGM (SDI), WFM, monitor

3. Adjustment/Checking method

Check the wipe operation (one wave), border (ON/OFF), and software (ON/OFF).

4. Specification/Checking

Follow the Specification.

Free from noise, skipped bit, etc.

2-2-9.Function check (2)

1. Input conditions

Prepare the Main and Panel boards of which operations have already been checked, and connect them with respective cables.

Input AC power and turn on the power switch.

Input SDI signal to IN1-4 (HD1080/59.94i).

IN4 is a Mix signal.

2. Check points

PGM (SDI), WFM, monitor

3. Adjustment/Checking method

Check the mix operation.

4. Specification/Checking

Follow the Specification.

Free from noise, skipped bit, etc.

2-2-10.Function check (3)

1. Input conditions

Prepare the Main and Panel boards of which operations have already been checked, and connect them with respective cables.

Input AC power and turn on the power switch.

Input SDI signal to IN1-4 (HD1080/59.94i).

IN4 is a DVE (SQ,SL,3D) signal.

2. Check points

PGM (SDI), WFM, monitor

3. Adjustment/Checking method

Check the DVE (SQ,SL,3D).

4. Specification/Checking

Follow the Specification.

Free from noise, skipped bit, etc.

2-2-11.Function check (4)

1. Input conditions

Prepare the Main and Panel boards of which operations have already been checked, and connect them with respective cables.

Input AC power and turn on the power switch.

Input SDI signal to IN1-4 (HD1080/59.94i).

IN4 is a key signal.

2. Check points

PGM (SDI), WFM, monitor

3. Adjustment/Checking method

Check the key (luminance key,chroma key), key wipe and edgekey.

4. Specification/Checking

Follow the Specification.

Free from noise, skipped bit, etc.

2-2-12.Function check (5)

1. Input conditions

Prepare the Main and Panel boards of which operations have already been checked, and connect them with respective cables.

Input AC power and turn on the power switch.

Input SDI signal to IN1-4 (HD1080/59.94i).

IN4 is a P in P signal.

2. Check points

PGM (SDI), WFM, monitor

3. Adjustment/Checking method

Check the P in P operation, (ON/OFF, positioner, size).

4. Specification/Checking

Follow the Specification.

Free from noise, skipped bit, etc.

2-2-13.Function check (6)

1. Input conditions

Prepare the Main and Panel boards of which operations have already been checked, and connect them with respective cables.

Input AC power and turn on the power switch.

Input SDI signal to IN1-4 (HD1080/59.94i).

IN4 is a DSK signal.

2. Check points

PGM (SDI), WFM, monitor

3. Adjustment/Checking method

Check the DSK operation (ON/OFF, edge).

4. Specification/Checking

Follow the Specification.

Free from noise, skipped bit, etc.

2-2-14.Function check (7)

1. Input conditions

Prepare the Main and Panel boards of which operations have already been checked, and connect them with respective cables.

Input AC power and turn on the power switch.

Input SDI signal to IN1-4 (HD1080/59.94i).

IN4 is a FTB signal.

2. Check points

PGM (SDI), WFM, monitor

3. Adjustment/Checking method

Check the FTB operation (ON/OFF).

4. Specification/Checking

Follow the Specification.

Free from noise, skipped bit, etc.

2-2-15.Function check (8)

1. Input conditions

Prepare the Main and Panel boards of which operations have already been checked, and connect them with respective cables.

Input AC power and turn on the power switch.

Input SDI signal to IN1-4 (HD1080/59.94i).

IN4 is a FS,FRZ signal.

FS, FRZ operation

2. Check points

PGM (SDI), WFM, monitor

3. Adjustment/Checking method

Asynchronous signal must be outputted normally by FS ON.

Must be frozen by FRZ ON.

(It is acceptable only in either of INPUT.)

4. Specification/Checking

Follow the Specification.

Free from noise, skipped bit, etc.

2-2-16.Function check (9)

1. Input conditions

Prepare the Main and Panel boards of which operations have already been checked, and connect them with respective cables.

Input AC power and turn on the power switch.

Input SDI signal in each format:

1080/50i
720/59.94p
720/50p
480/59.94i
576/50i

2. Check points

PGM (SDI), WFM, monitor

3. Adjustment/Checking method

Check that each format operates normally.

(HD1080/59.94i is omitted because it was already checked in 2-2-6)

4. Specification/Checking

Follow the Specification.

Free from noise, skipped bit, or CRC error.

No error on WFM, normal on screen, XPT switch, unquestionable in the confirmation of the representative operation of the fader operation.

2-2-17.REF I/O check (1)

1. Input conditions

Prepare the Main and Panel boards of which operations have already been checked, and connect them with respective cables.

Input AC power and turn on the power switch.

Input SDI signal to IN1-4 (HD1080/59.94i).

IN4 is a key signal.

Input BB signal.

2. Check points

PGM (SDI), WFM, monitor
LED

3. Adjustment/Checking method

Check that:

The generator is locked to the BB signal in the BBST mode.

LEDs light in green. (D19, D20)

4. Specification/Checking

SDI output timing and alignment jitter must be within the specification.

2-2-18.REF I/O check (2)

1. Input conditions

Prepare the Main and Panel boards of which operations have already been checked, and connect them with respective cables.

Input AC power and turn on the power switch.

Input SDI signal to IN1-4 (HD1080/59.94i).

IN4 is a key signal.

Input TRI signal.

2. Check points

PGM (SDI), WFM, monitor
LED

3. Adjustment/Checking method

Check that:

The generator is locked to the TRI signal in the TRI mode.

LEDs light in green. (D19, D20)

4. Specification/Checking

SDI output timing and alignment jitter must be within the specification.

2-2-19.REF I/O check (3)

1. Input conditions

Prepare the Main and Panel boards of which operations have already been checked, and connect them with respective cables.

Input AC power and turn on the power switch.

Input SDI signal to IN1-4 (HD1080/59.94i).

IN4 is a key signal.

2. Check points

REF out, WFM

3. Adjustment/Checking method

Check that BB is outputted in the INT mode.

Adjust sync signal level with VR6.

(NTSC=40 IRE $\pm$ 2 IRE)

4. Specification/Checking

Follow the Specification.

Free from abnormality such as an oscillation.

2-2-20.REF I/O check (4)

1. Input conditions

Prepare the Main and Panel boards of which operations have already been checked, and connect them with respective cables.

Input AC power and turn on the power switch.

Input SDI signal to IN1-4 (HD1080/59.94i).

IN4 is a key signal.

2. Check points

REF out, WFM

3. Adjustment/Checking method

Check that BB is outputted in the INT mode.

Rotate the VR5 to adjust the frequency at TP108 (CLK).

($f = 27.0\text{MHz} \pm 5\text{Hz}$)

4. Specification/Checking

Follow the Specification.

Free from abnormality such as an oscillation.

2-2-21.Reset check

1. Input conditions

Prepare the Main and Panel boards of which operations have already been checked, and connect them with respective cables.

Input AC power and turn on the power switch.

Input SDI signal to IN1-4 (HD1080/59.94i).

IN4 is a key signal.

2. Check points

Reset switch (SW2)

3. Adjustment/Checking method

Press the Reset switch (SW2) and check that it returns.

4. Specification/Checking

Must operate normally.

2-2-22.Output phase check

1. Input conditions

Prepare the Main and Panel boards of which operations have already been checked, and connect them with respective cables.

Input AC power and turn on the power switch.

Input SDI signal to IN1-4 (HD1080/59.94i).

IN4 is a key signal.

Input BB (or TRI) to the reference signal

2. Check points

PGM (SDI4), WFM, monitor

3. Adjustment/Checking method

Switch the output phase between 1H and 0H (video delays by maximum one frame) and check that it meets the specified phase.

Check that the output phase varies by changing H and V phases.

4. Specification/Checking

Follow the Specification.

Free from noise, error, or alarm.

2-2-23.Input optional board I/F check

1. Input conditions

Prepare the Main and Panel boards of which operations have already been checked, and connect them with respective cables.

Input AC power and turn on the power switch.

Connect SDI IN board of which operation has already been checked.

2. Check points

(1) PGM (SDI), WFM, monitor

(2) PGM (SDI), WFM, monitor

3. Adjustment/Checking method

(1) Connect an optional board to the SLOT 1, switch the cross point, and check that input signals of IN5 and 6 are output to the PGM.

(2) Connect an optional board to the slot 2, switch the cross point, and check that input signals of IN7 and 8 are output to the PGM, and also check PVM output.

4. Specification/Checking

Follow the Specification.

Free from noise, skipped bit, etc.

2-2-24.Output optional board I/F check

1. Input conditions

Prepare the Main and Panel boards of which operations have already been checked, and connect them with respective cables.

Input AC power and turn on the power switch.

Connect analog output board of which operation has already been checked.

2. Check points

(1) PGM (Analog), WFM, monitor

(2) PGM (Analog), WFM, monitor

3. Adjustment/Checking method

(1) Connect an optional board to the SLOT 1, set OUT3, 4 to the PGM, and check the output signals.

(2) Connect an optional board to the SLOT 2, set OUT5, 6 to the PGM, and check the output signals.

4. Specification/Checking

Follow the Specification.

Free from noise, skipped bit, etc.

2-2-25.Total check

1. Input conditions

Prepare the Main and Panel boards of which operations have already been checked, and connect them with respective cables.

Input AC power and turn on the power switch.

Input analog signals to IN1-4. (HD1080/59.94i)

IN4 is a key signal.

2. Check points

PGM (SDI/analog), WFM, monitor

LED

3. Adjustment/Checking method

Check the system version on the initial screen at the startup.

Check that "AV-HS400 VER*.**" is displayed.

The condition must be resumed by turning off and on the power.

No problem must arise in operation.

Set the SW1 and SW2 to the initial setting

4. Specification/Checking

Follow the Specification and test data sheet.

2-2-26.Others 1 (Troubleshooting)

1. Input conditions

SDI input error

2. Checking method

- Check the LED and voltage in SDI input system.
 - For the voltage, for instance in IN1 system, check the TP9 (3.3V) and TP8 (1.8V).
 - Check the soldering and position (mechanical center) of VR for EQ adjustment.
- When the cable length is less than specification, adjust with VR.

2-2-27.Others 2 (Troubleshooting)

1. Input conditions

SDI output error

2. Checking method

- Check the LED and voltage in SDI input system.
- For the voltage, for instance in PGMOUT system, check the TP39 (3.3V) and TP38 (1.8V).

2-2-28.Others 3 (Troubleshooting)

1. Input conditions

Ref lock error

2. Checking method

- Check the LED and voltage of the Ref circuit.
- For the voltage, check the TP151 (A+5V), TP99 (3.3V_SG), and TP100 (1.8V_SG).
- Check the pulse after sync separation: TP104 (FP), TP105 (VP), TP106 (HP).
- Check the reference output pulse after PLL lock: TP120 (FP), TP121 (VP), TP122 (HP)
- Check if the clock is locked after PLL lock: TP123.

2-3.PANEL P.C.BOARD

2-3-1. Each voltage check

1. Input conditions

Prepare main set and Main board of which operations have already been checked, and connect them with respective cables.

Input AC power and turn on the power switch.

2. Check points

TP601 (TP602)

TP603 (TP604)

TP605 (TP607)

3. Adjustment/Checking method

TP601 (TP602): 5 V

TP603 (TP604): 3.3 V

TP605 (TP607): 1.2 V

4. Specification/Checking

TP601 (TP602): 4.90-5.10 V

TP603 (TP604): 3.20-3.40 V

TP605 (TP607): 1.15-1.25 V

Free from part overheating.

Free from other abnormality such as odor.

2-3-2.LCD contrast adjustment

1. Input conditions

Prepare main set and Main board of which operations have already been checked, and connect them with respective cables.

Input AC power and turn on the power switch.

2. Check points

Contrast adjusting VR (VR602)

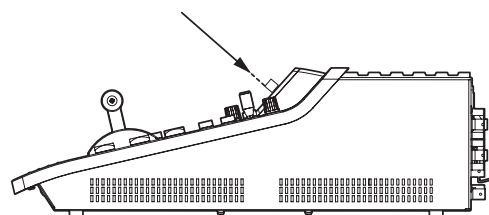
3. Adjustment/Checking method

Rotate the VR602 to adjust the contrast.

1) With the angle $\theta = 5$ to 10° (see below figure), adjust visually so as to attain the most visible contrast.

* Stop the rotation of VR501 just before the background becomes black.

2) With the main unit placed on the desk, check that the characters on the LCD are legible (no problem in visibility) when you are sitting, and then standing.



2-3-3.Panel check

1. Input conditions

Prepare main set and Main board of which operations have already been checked, and connect them with respective cables.

Input AC power and turn on the power switch.

[Test mode 3 start]

Set the SW and turn on the power switch.

The tests are executed in the following order.

If any switch is pressed, the test proceeds to the next one.

However, for transition from (3) to (4), PGM/A-1 switch and PST/B-10 switch must be pressed at the same time.

(1) LCD display test

→(2) LED lighting test

→(3) Switch ON/OFF test

→(4) Rotary encoder test

→(5) Fader test

→(6) Positioner test → (1)

2. Check points

- (1) LCD display
- (2) Each LED on Panel board
- (3) Each switch on Panel P.C.Board
- (4) LCD display
- (5) LCD display
- (6) LCD display

3. Adjustment/Checking method

(1) LCD display and backlight (BL) ON/OFF

Check that:

- “ * ” is displayed in all areas of 20 characters x 2 lines.
- BL ON/OFF is executed automatically.

(2) LED lighting

Check that each switch LED, fader LED, KEYON_LED, and FRZ_LED, Patteern page indicator LED, MIX/WIPE selection LED light up.

(3) Switch ON/OFF

Check that the LED comes on when each switch is pressed, and goes off when it is released.

(5) Rotary encoder

Rotating F1-F4, check that the value displayed on the LCD varies.

(5) Fader

Operating the fader, check that the value display on the LCD varies.

(6) Positioner

Operating the positioner, check that the value displayed on the LCD varies.

4. Specification/Checking

(2) Switch (2 color lighting): Red,Green,Amber

Switch (1 color lighting): Amber

KEYON_LED, FRZ_LED: Red

Patteern indicator LED: Green

MIX/WIPE selection LED: Green

(4) Clockwise one click: +1

Counterclockwise one click: -1

(5) Upper limit: 1210

Lower limit: 136

(6) Right side: X value increase

Left side: X value decrease

Upper side: Y value increase

Lower side: Y value decrease

2-4. SD CARD P.C.BOARD

2-4-1. SD card operation check (1)

1. Input conditions

Prepare the main unit and main board of which operation has already been checked, and connect with respective cables.

Input AC power and turn on the power switch.

Insert SD card that saves a BMP file for test into the SD card slot.

(SD card is made of Panasonic)

2. Check points

PGM (ADI/Analog), monitor, LCD

3. Adjustment/Checking method

LOAD test

Load the BMP file saved on the SD card into the FMEM of main unit to check that the contents of file can be loaded normally. ("Complete" will be displayed on the LCD)

D3001 must light (or blink) during loading.

Also, check the image with PGM output.

Check of only 1080/59i format is also possible.

4. Specification/Checking

Noise or skipped bit must not be observed.

2-4-2. SD card operation check (2)

1. Input conditions

Prepare the main unit and main board of which operation has already been checked, and connect with respective cables.

Input AC power and turn on the power switch.

Insert SD card for test into the SD card slot.

(SD card is made of Panasonic)

2. Check points

PC, PC monitor, LCD

3. Adjustment/Checking method

SAVE test

Save the image of FMEM loaded in 2-5-2 on the SD card to check that it can be saved normally.

("Complete" will be displayed on the LCD)

D3001 must light (or blink) during saving.

Also, check the image with PGM output.

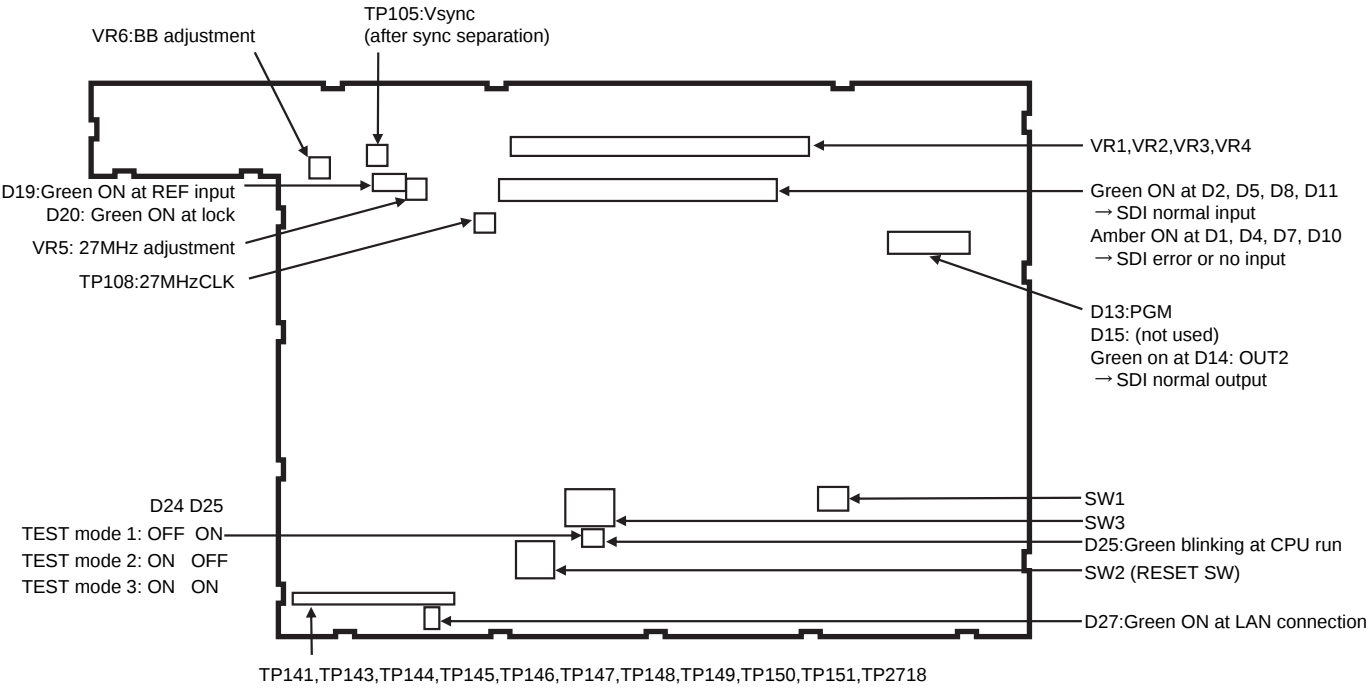
Check of only 1080/59i format is also possible.

4. Specification/Checking

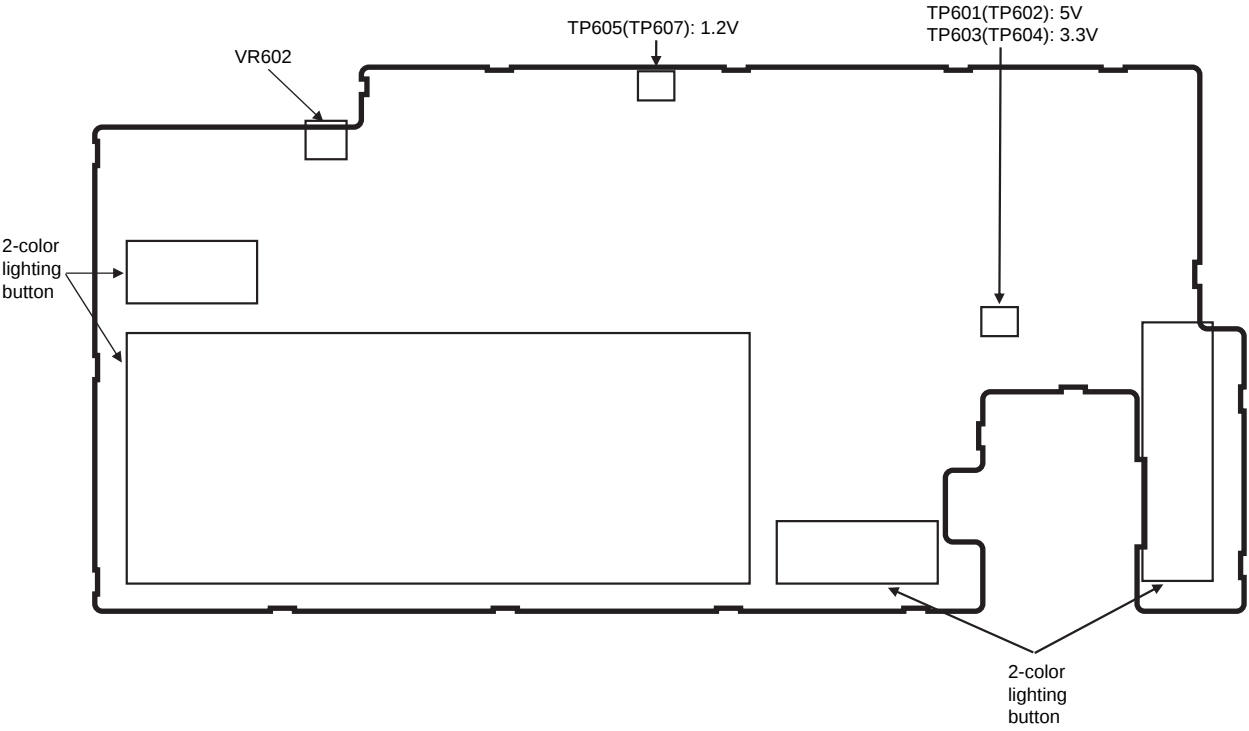
Noise or skipped bit must not be observed.

3.ADJUSTMENT LOCATIONS

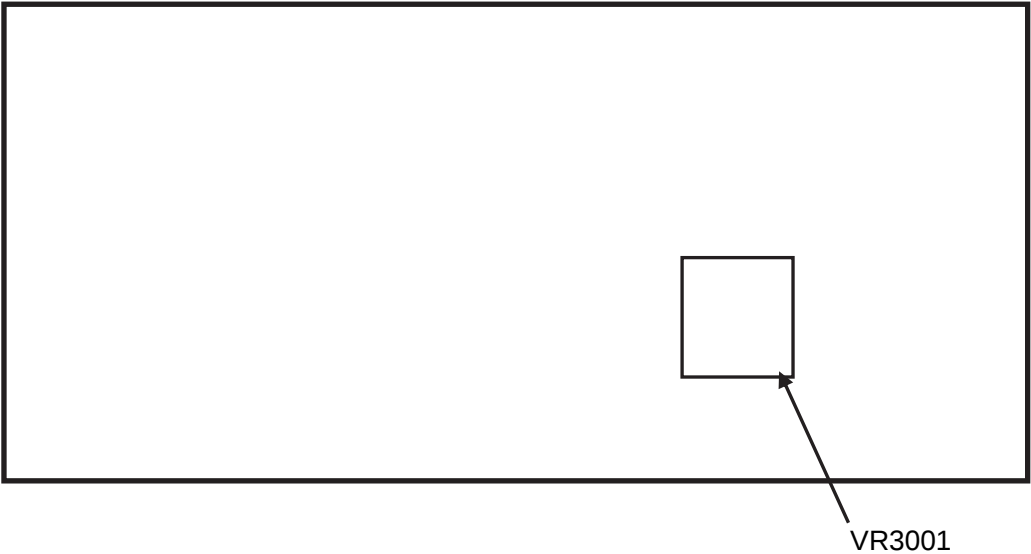
MAIN P.C.BOARD



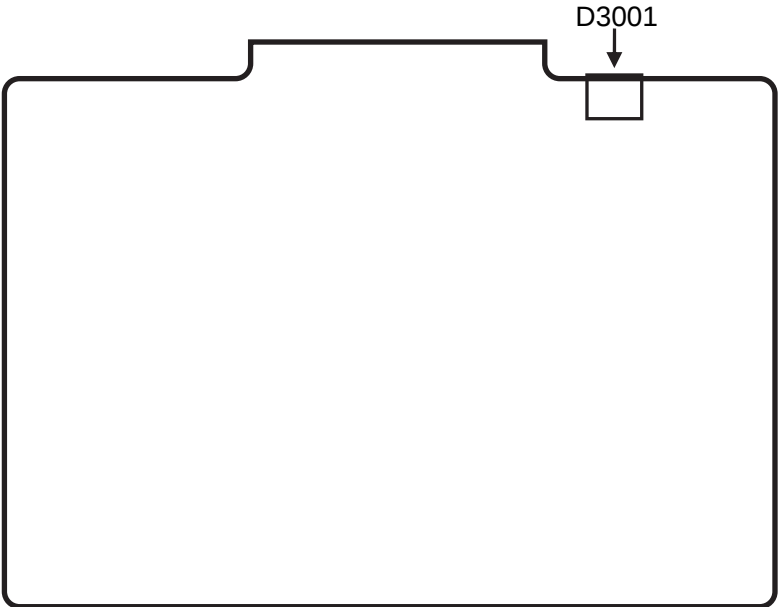
PANEL P.C.BOARD



POWER P.C.BOARD (E/MC MODEL ONLY)



SD CARD P.C.BOARD



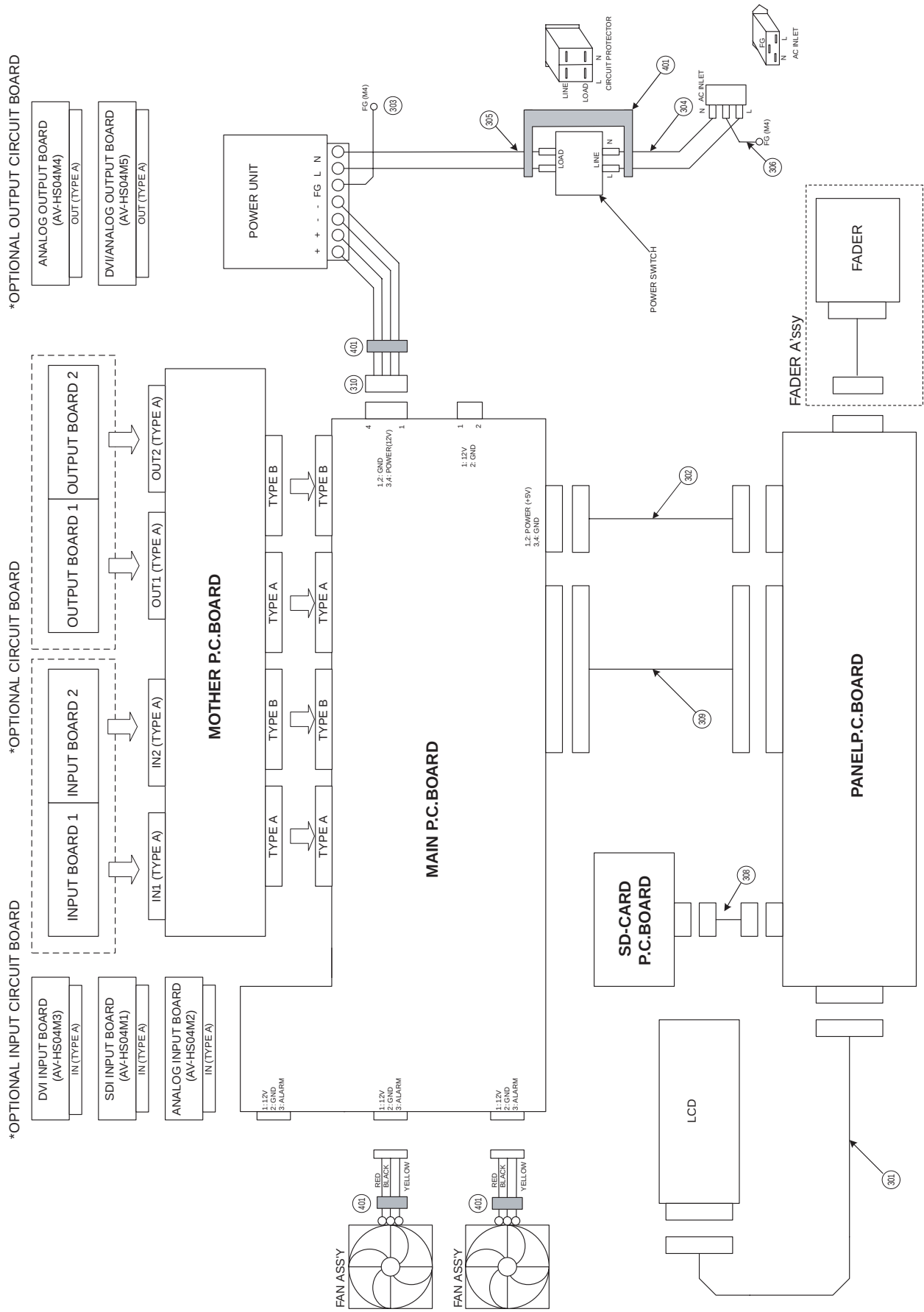
SECTION 3

BLOCK DIAGRAMS

CONTENTS

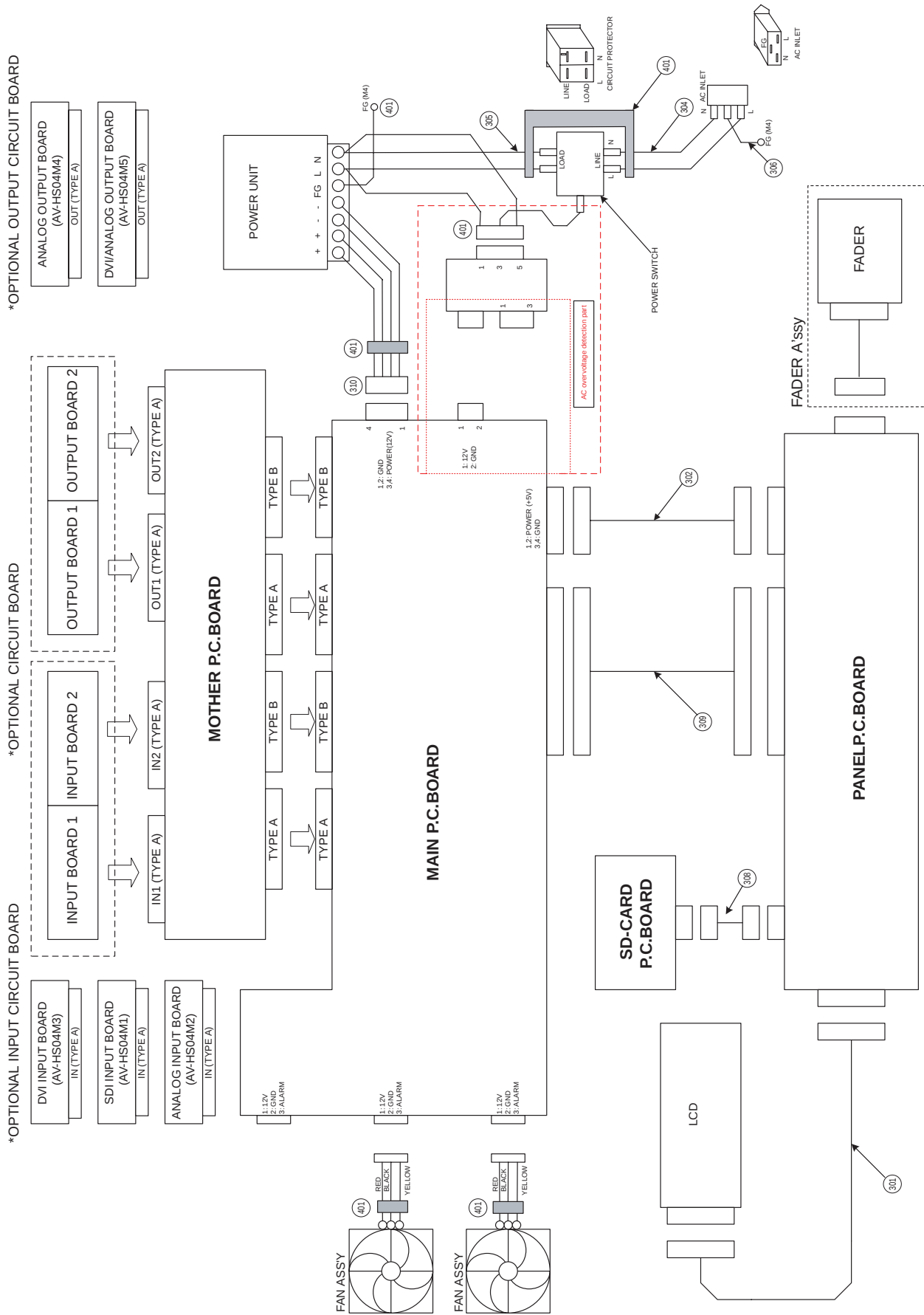
WIRING DIAGRAM [AV-HS400AN]	BLK-1
WIRING DIAGRAM [AV-HS400AE/AMC]	BLK-2

WIRING DIAGRAM [AV-HS400AN]



Note: (301) ~ (310), (401) Refer to Replacement Parts List. (See Page PRT-2)

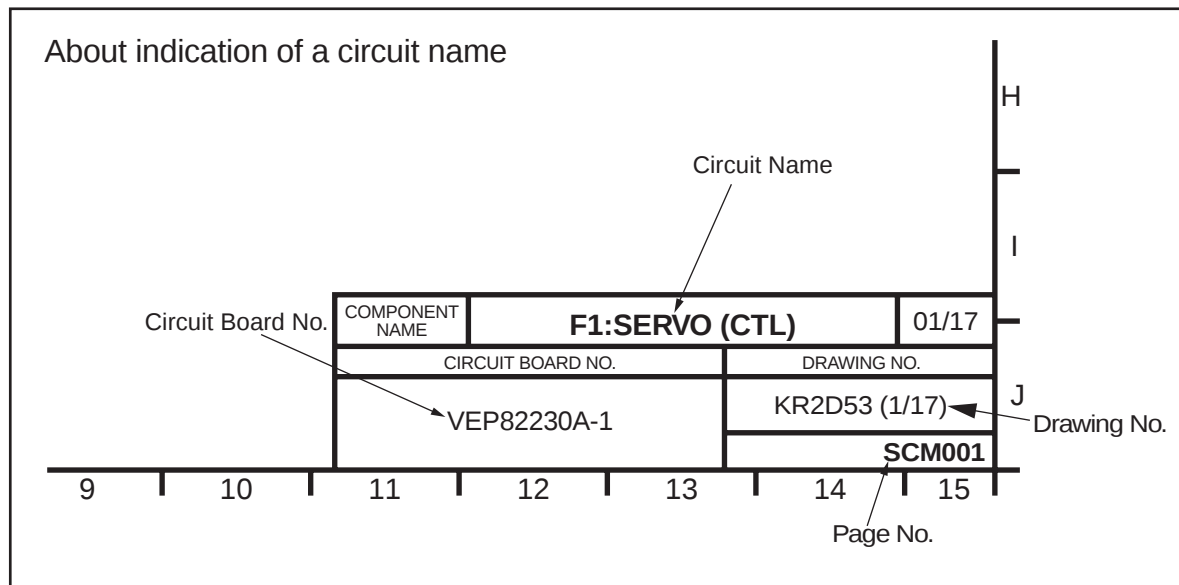
WIRING DIAGRAM [AV-HS400AE/AMC]



Note: (301) - (302), (401) Refer to Replacement Parts List. (See Page PRT-2)

SECTION 4

SCHEMATIC DIAGRAMS



NOTE:

BE SURE TO MAKE YOUR ORDERS OF REPLACEMENT PARTS ACCORDING TO PARTS LIST, SECTION 5.

CAUTION

THE  MARK INDICATES THE PRIMARY CIRCUIT TO DISTINGUISH THE PRIMARY FROM THE SECONDARY CIRCUIT.
PAY ATTENTION NOT TO RECEIVE AN ELECTRIC SHOCK DURING REPAIR AND SERVICE OF THE PRODUCTS.

IMPORTANT SAFETY NOTICE:

COMPONENTS IDENTIFIED WITH THE MARK  HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

CONTENTS

PANEL

PANEL (1/7).....	SCM001
PANEL (2/7).....	SCM002
PANEL (3/7).....	SCM003
PANEL (4/7).....	SCM004
PANEL (5/7).....	SCM005
PANEL (6/7).....	SCM006
PANEL (7/7).....	SCM007

MAIN PROCESS

MAIN (1/34).....	SCM008
MAIN (2/34).....	SCM009
MAIN (3/34).....	SCM010
MAIN (4/34).....	SCM011
MAIN (5/34).....	SCM012
MAIN (6/34).....	SCM013
MAIN (7/34).....	SCM014
MAIN (8/34).....	SCM015
MAIN (9/34).....	SCM016
MAIN (10/34).....	SCM017
MAIN (11/34).....	SCM018
MAIN (12/34).....	SCM019
MAIN (13/34).....	SCM020
MAIN (14/34).....	SCM021
MAIN (15/34).....	SCM022
MAIN (16/34).....	SCM023
MAIN (17/34).....	SCM024
MAIN (18/34).....	SCM025
MAIN (19/34).....	SCM026
MAIN (20/34).....	SCM027
MAIN (21/34).....	SCM028
MAIN (22/34).....	SCM029
MAIN (23/34).....	SCM030
MAIN (24/34).....	SCM031
MAIN (25/34).....	SCM032
MAIN (26/34).....	SCM033
MAIN (27/34).....	SCM034
MAIN (28/34).....	SCM035
MAIN (29/34).....	SCM036
MAIN (30/34).....	SCM037
MAIN (31/34).....	SCM038
MAIN (32/34).....	SCM039
MAIN (33/34).....	SCM040
MAIN (34/34).....	SCM041

MOTHER

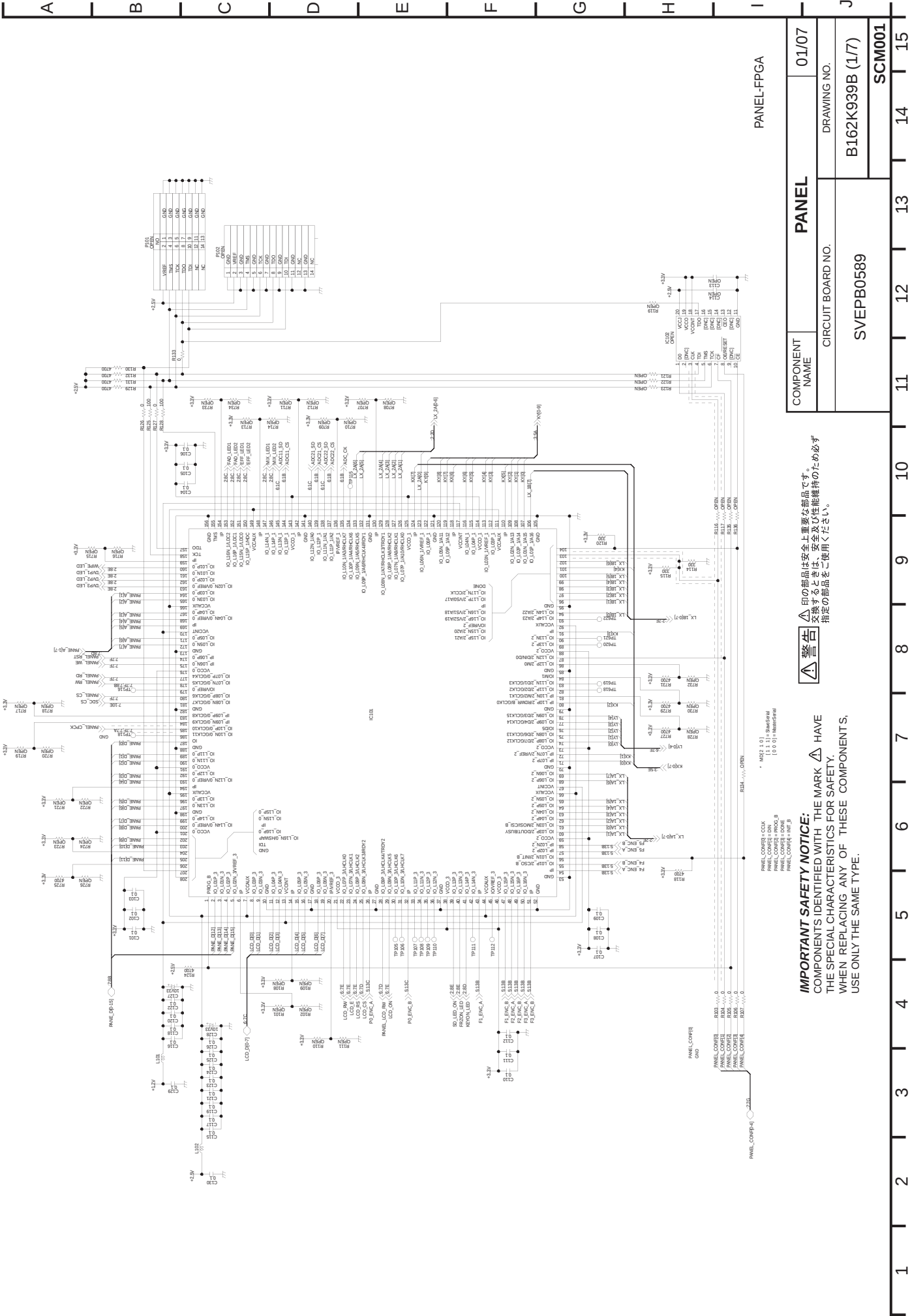
MOTHER (1/4).....	SCM042
MOTHER (2/4).....	SCM043
MOTHER (3/4).....	SCM044
MOTHER (4/4).....	SCM045

SD-CARD

SD-CARD (1/1).....	SCM046
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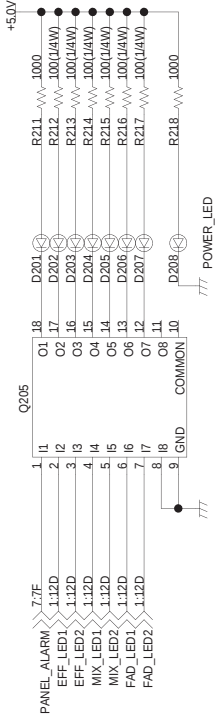
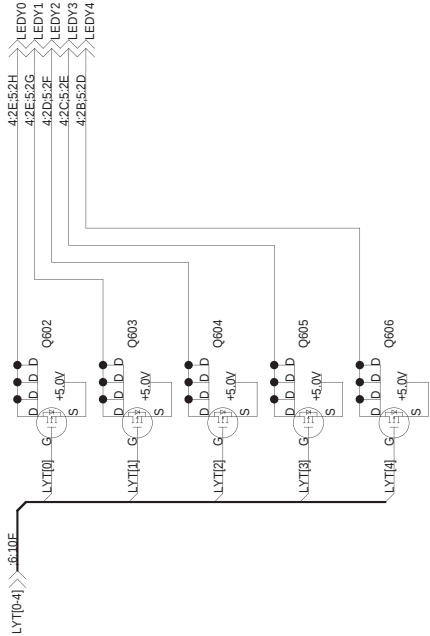
POWER [E/MC ONLY]

POWER (1/1).....	SCM047
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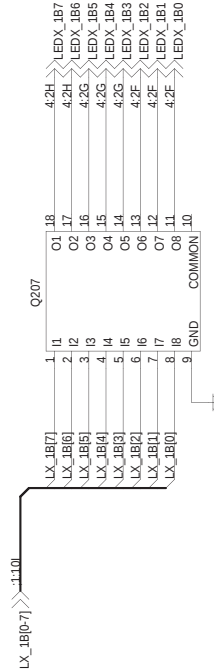
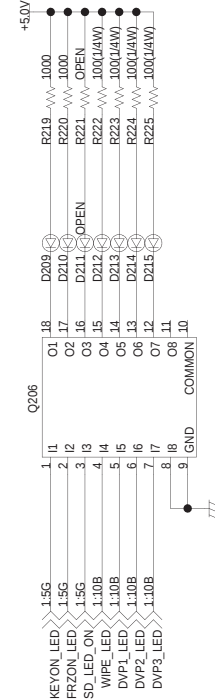
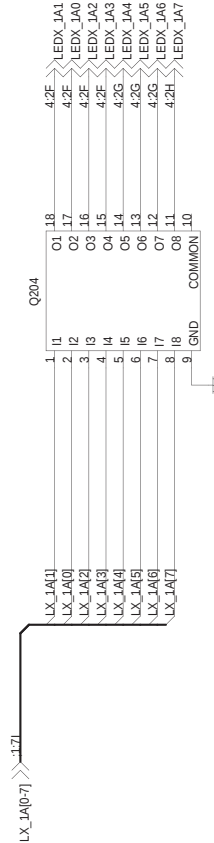
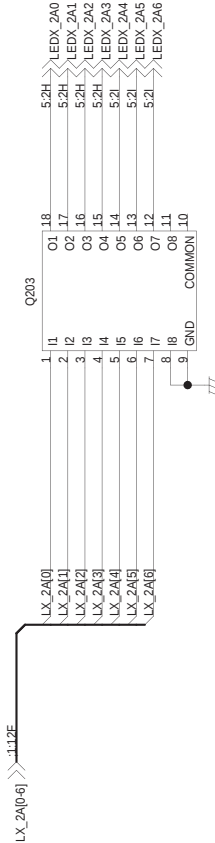


警告 印の部品は安全上重要な部品です。交換するときは、安全及び性能維持のため必ず指定の部品をご使用ください。

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.



POWER_LED



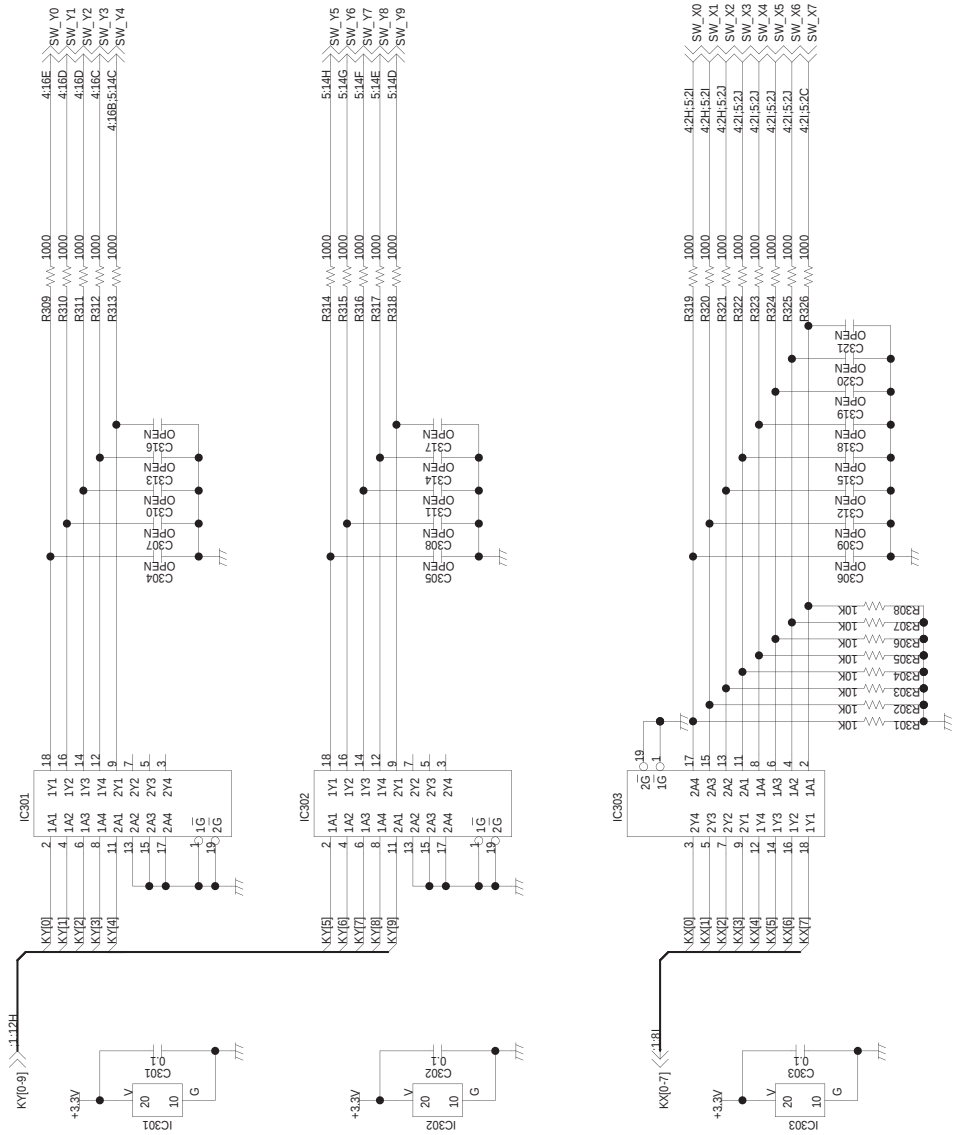
LED DRIVE

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK  HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

警告  印の部品は安全上重要な部品です。交換するときは、安全及び性能維持のため必ず指定の部品をご使用ください。

COMPONENT NAME	PANEL	02/07
CIRCUIT BOARD NO.		
SVEPB0589		
DRAWING NO.		
B162K939B (2/7)		
SCM002		

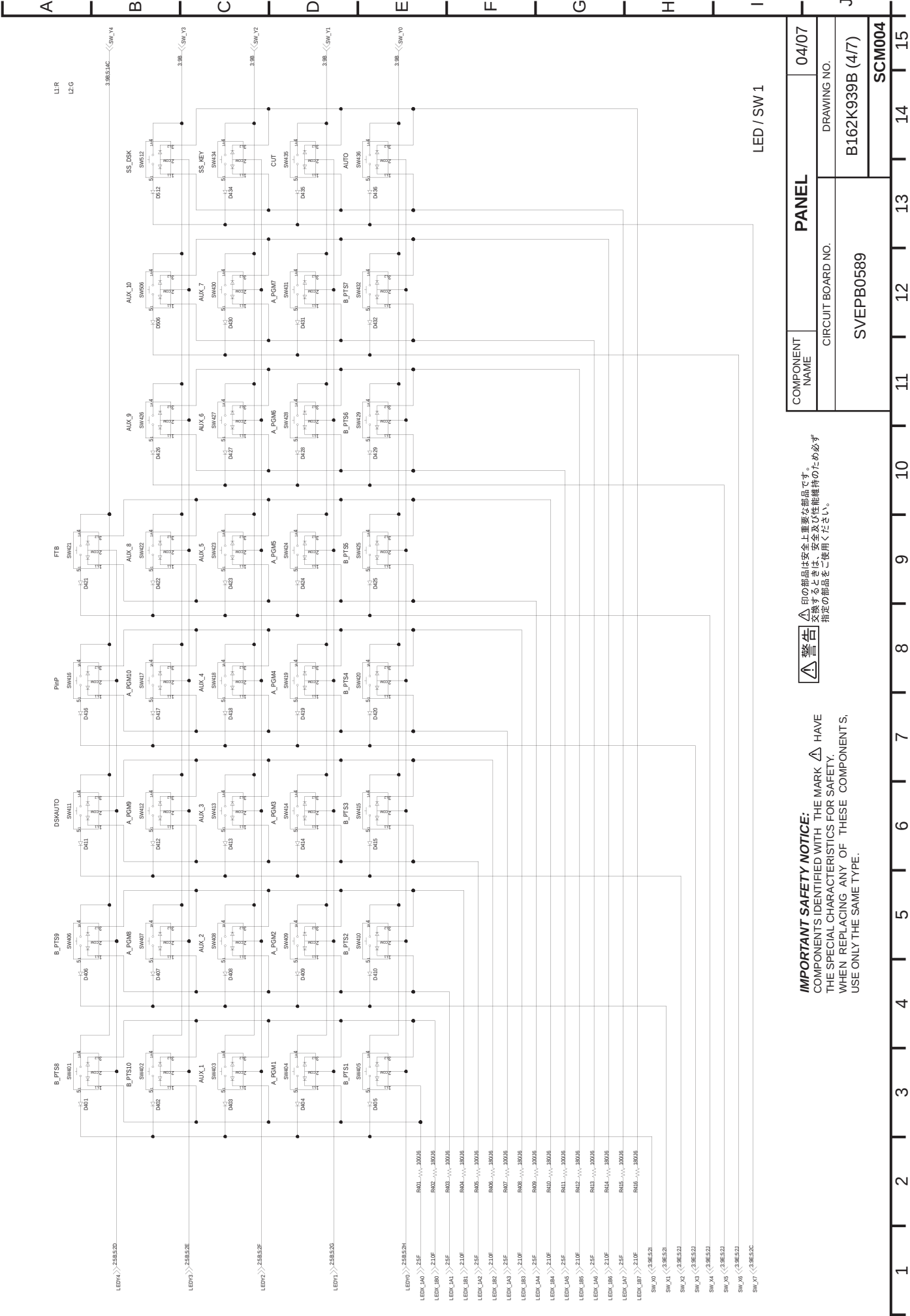
	X0	X1	X2	X3	X4	X5	X6	X7
Y9	FUNC	KY_PAT	BG_PAT	N/R	R	-	-	P0_ENC
Y8	EF_KEY	EF_CHR	EF_FRZ	EF_TIME	EF_EFF	EF_COL	-	F5_ENC
Y7	EF_MEM	EF_XPT	EF_SYS	EF_DSK	EF_PnP	EF_INOUT	-	F4_ENC
Y6	MIX	EFFECT	BKGD	KEY	USER1	USER2	-	F3_ENC
Y5	-	-	SS_PnP	SS_AUX	N_CLN	NR_PWV	R_PGM	F2_ENC
Y4	B_PST8	B_PST9	DSKAUTO	PinP	FTB	-	-	F1_ENC
Y3	B_PTS10	A_PGM8	A_PGM9	A_PGM10	AUX_8	AUX_9	AUX_10	SS_DSK
Y2	AUX_1	AUX_2	AUX_3	AUX_4	AUX_5	AUX_6	AUX_7	SS_KEY
Y1	A_PGM1	A_PGM2	A_PGM3	A_PGM4	A_PGM5	A_PGM6	A_PGM7	CUT
Y0	B_PTS1	B_PTS2	B_PTS3	B_PTS4	B_PTS5	B_PTS6	B_PTS7	AUTO



IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK  HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

警告  印の部品は安全上重要な部品です。
交換するときは、安全及び性能維持のため必ず
指定の部品をご使用ください。

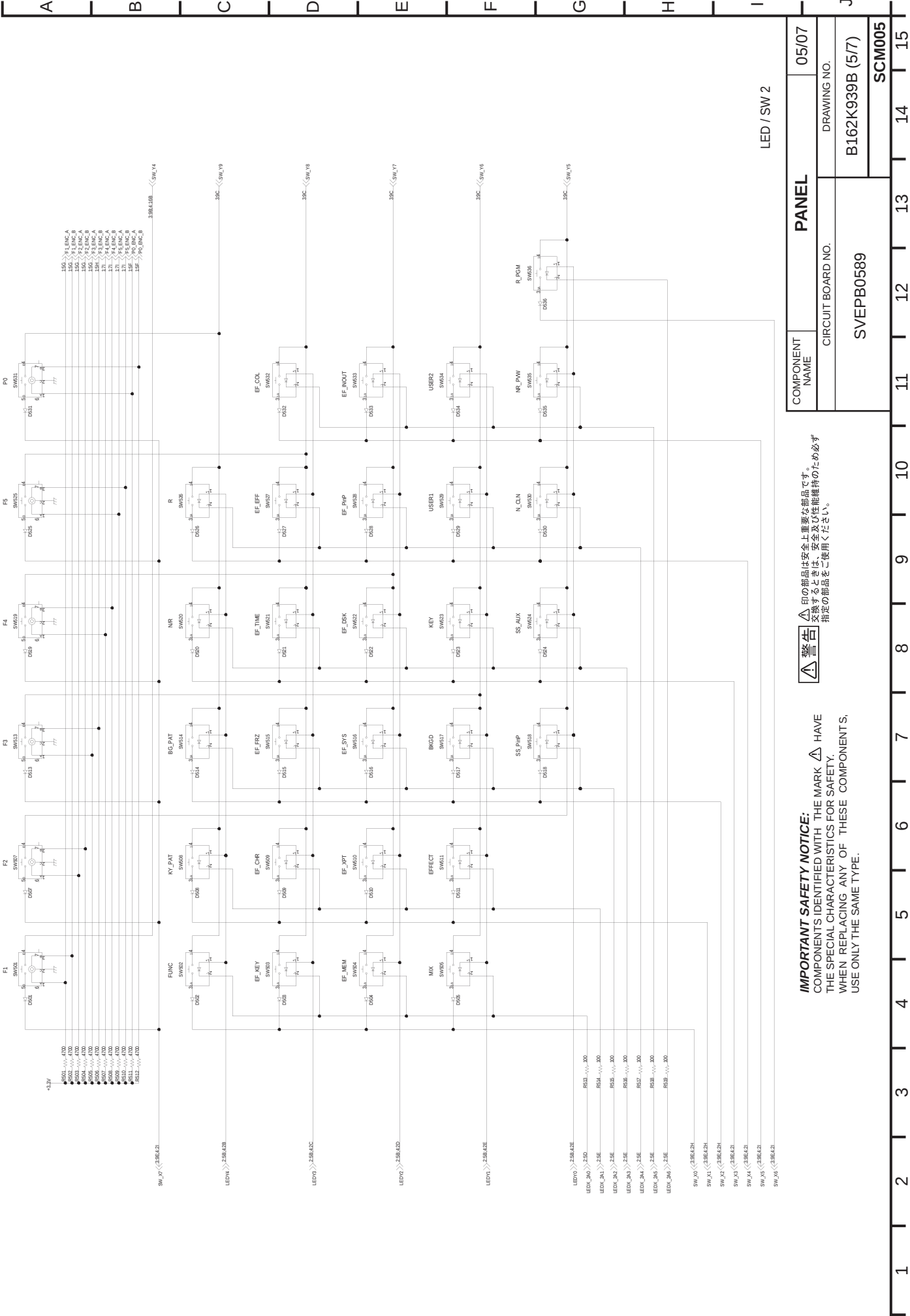
COMPONENT NAME	PANEL	03/07
CIRCUIT BOARD NO.		
SVEPB0589		
B162K939B (3/7)		
SCM003		



警告 印の部品は安全上重要な部品です。
交換するときは、安全及び性能維持のため必ず
指定の部品をご使用ください。

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK  HAVE
THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS,
USE ONLY THE SAME TYPE.

COMPONENT NAME	PANEL	04/07
CIRCUIT BOARD NO.		
SVEPB0589		
B162K939B (4/7)		
SCM004		

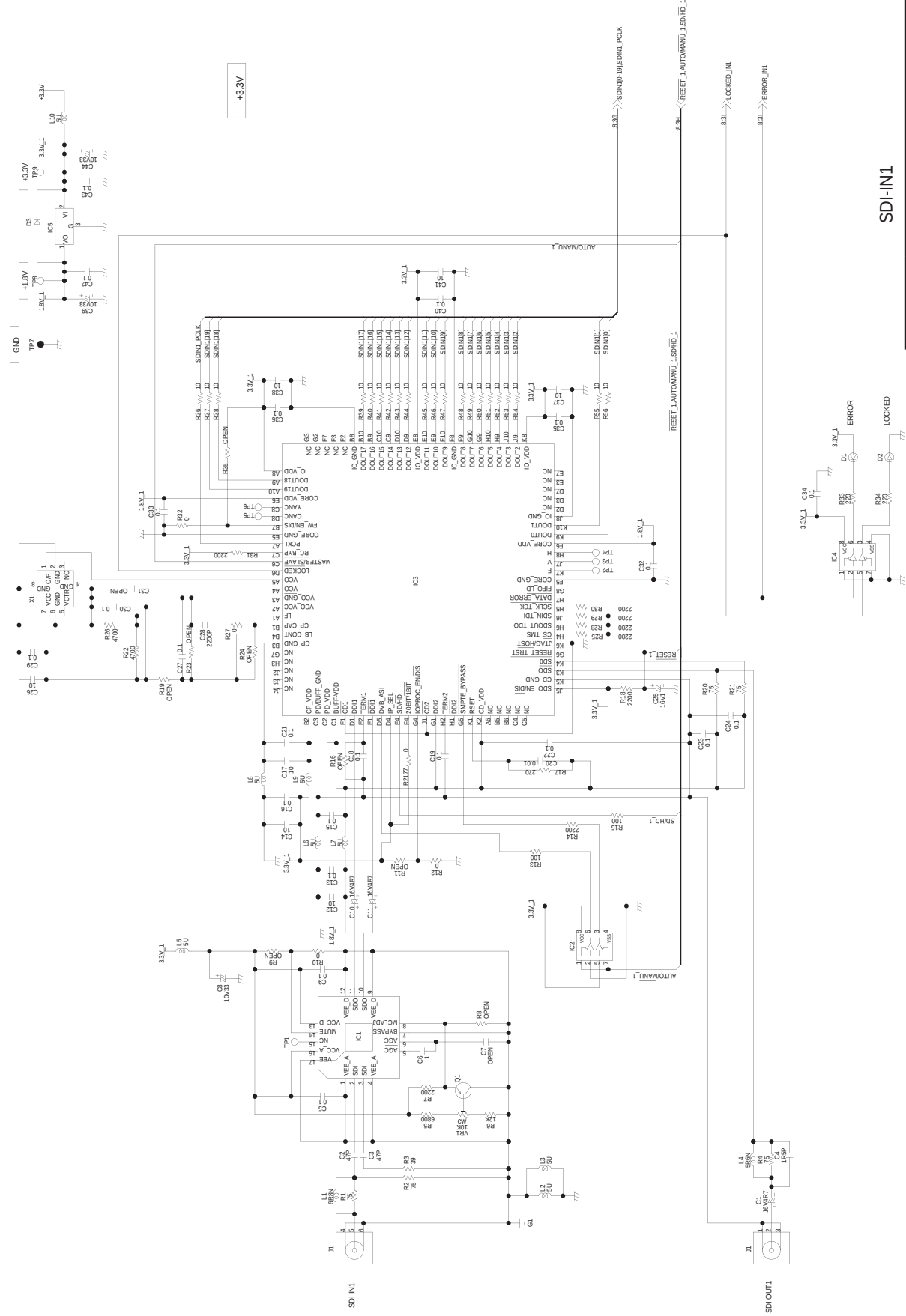


警告 印の部品は安全上重要な部品です。交換するときは、安全及び性能維持のため必ず指定の部品をご使用ください。

IMPORTANT SAFETY NOTICE: COMPONENTS IDENTIFIED WITH THE MARK  HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

COMPONENT NAME	PANEL	05/07
CIRCUIT BOARD NO.		
B162K939B (5/7)		
SVEPB0589		
SCM005		

LED / SW 2

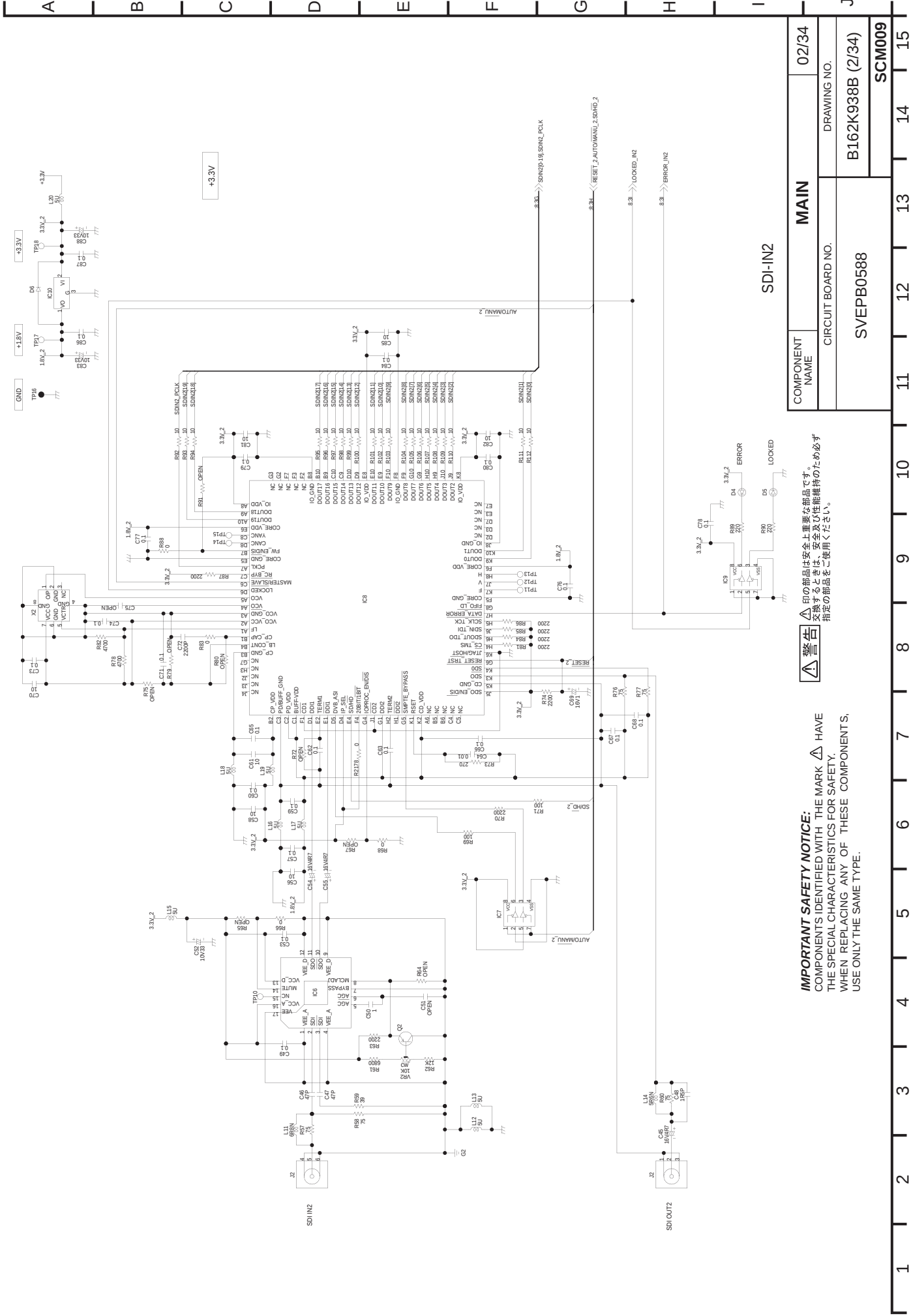


IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK  HAVE
THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS,
USE ONLY THE SAME TYPE.

警告  印の部品は安全上重要な部品です。
交換するときは、安全及び性能維持のため必ず
指定の部品をご使用ください。

COMPONENT NAME	MAIN	01/34
CIRCUIT BOARD NO.		
SVEPB0588		
B162K938B (1/34)		
SCM008		

SDI-IN1

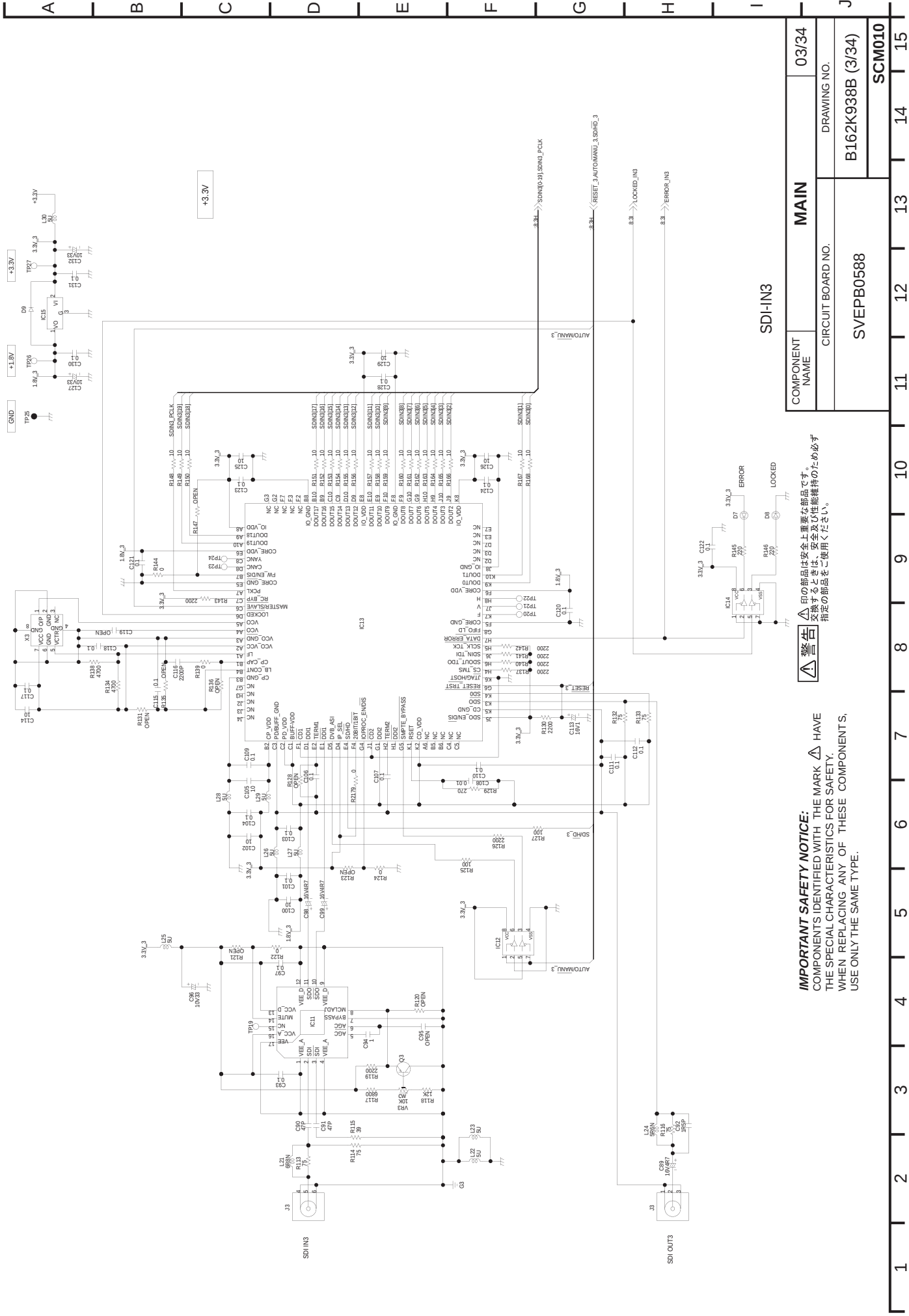


IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK  HAVE
THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS,
USE ONLY THE SAME TYPE.

警告  印の部品は安全上重要な部品です。
交換するときは、安全及び性能維持のため必ず
指定の部品をご使用ください。

COMPONENT NAME	MAIN	
	CIRCUIT BOARD NO.	DRAWING NO.
SVEPB0588		B162K938B (2/34)
		SCM009

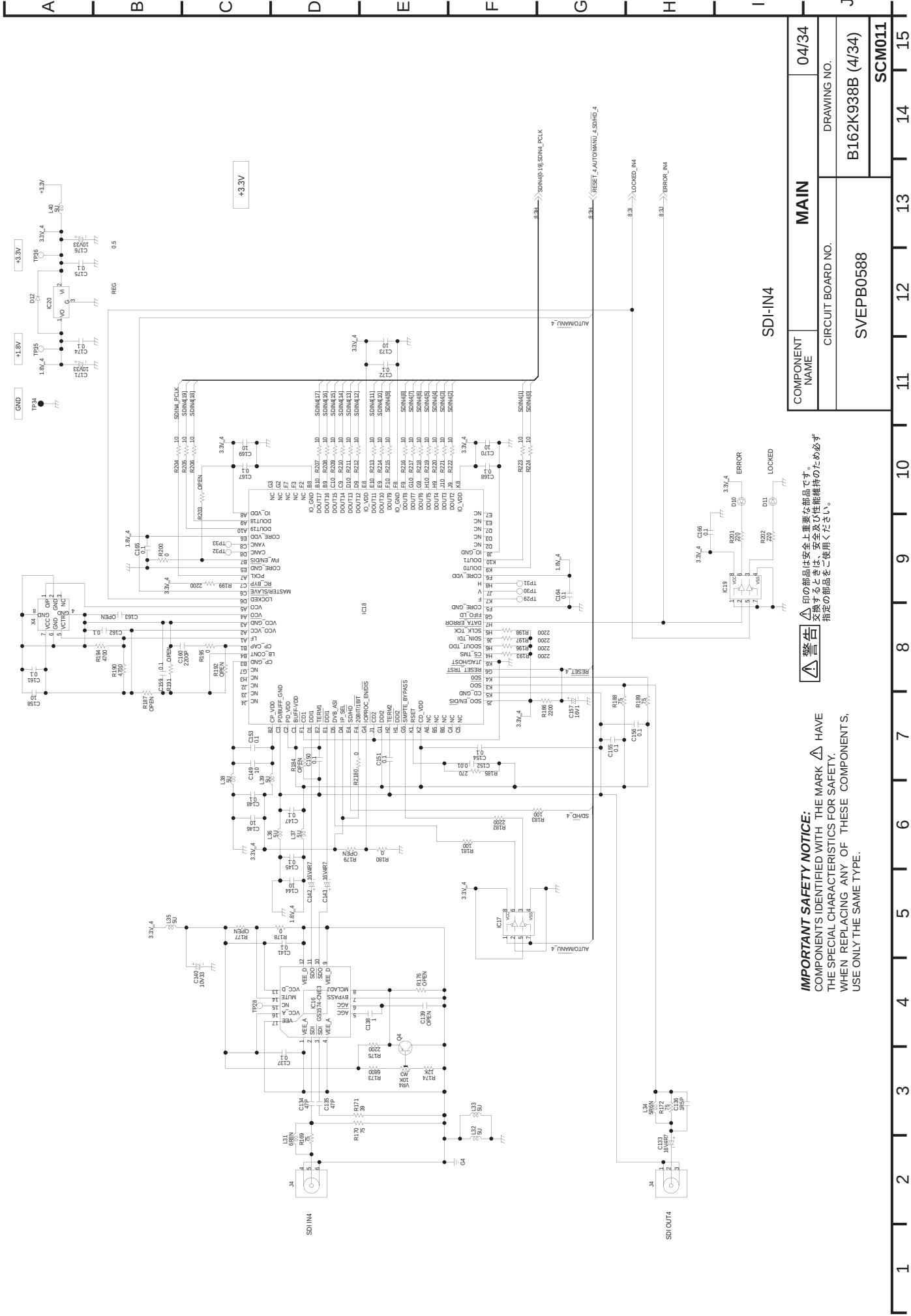
SDI-IN2



IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK  HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

警告  印の部品は安全上重要な部品です。交換するときは、安全及び性能維持のため必ず指定の部品をご使用ください。

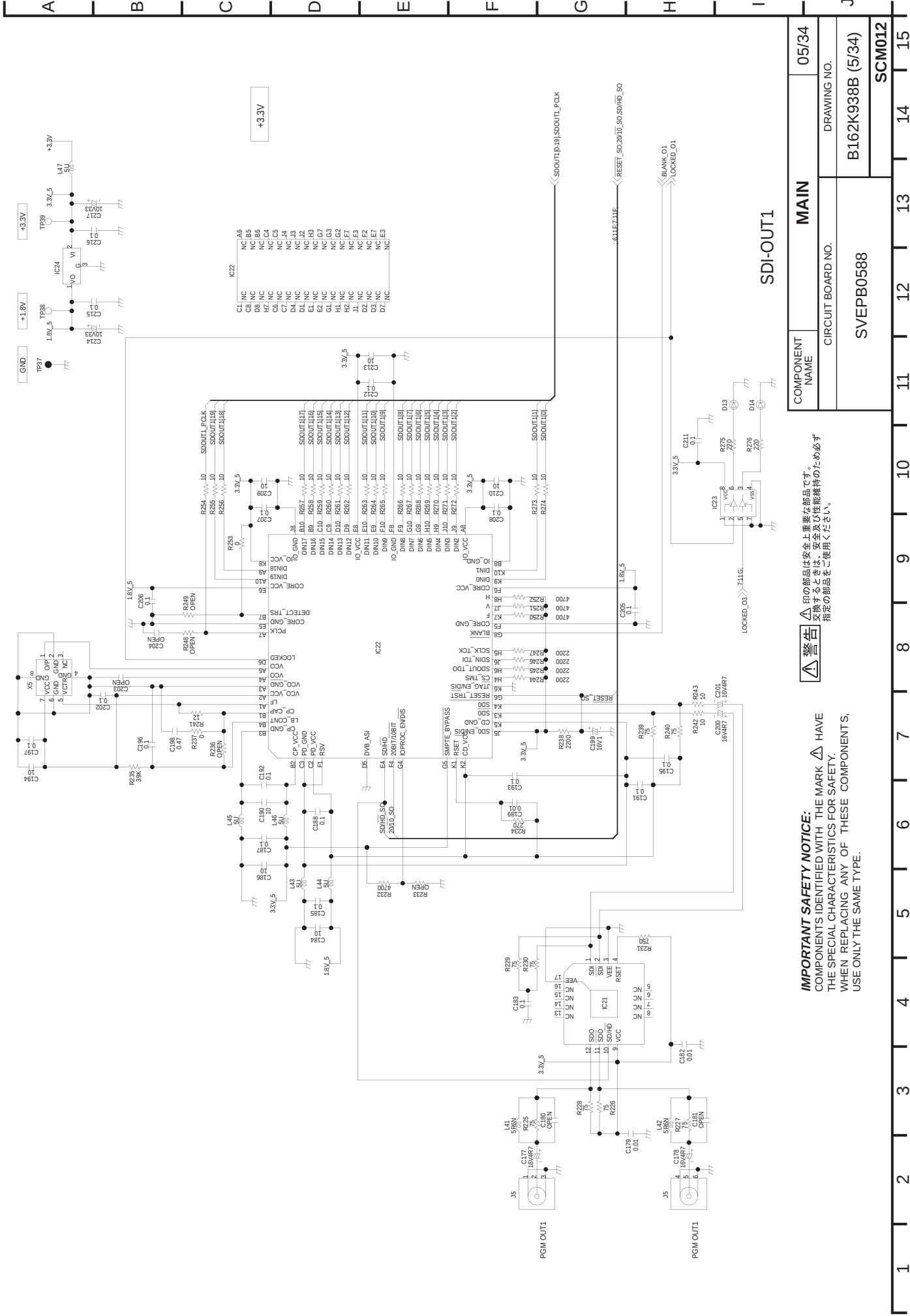
COMPONENT NAME		MAIN		03/34	
CIRCUIT BOARD NO.		DRAWING NO.			
SVEPB0588		B162K938B (3/34)			
		SCM010			



IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK  HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

警告  印の部品は安全上重要な部品です。交換するときは、安全及び性能維持のため必ず指定の部品をご使用ください。

COMPONENT NAME		MAIN	04/34
CIRCUIT BOARD NO.		DRAWING NO.	
SVEPB0588		B162K938B (4/34)	
		SCM011	

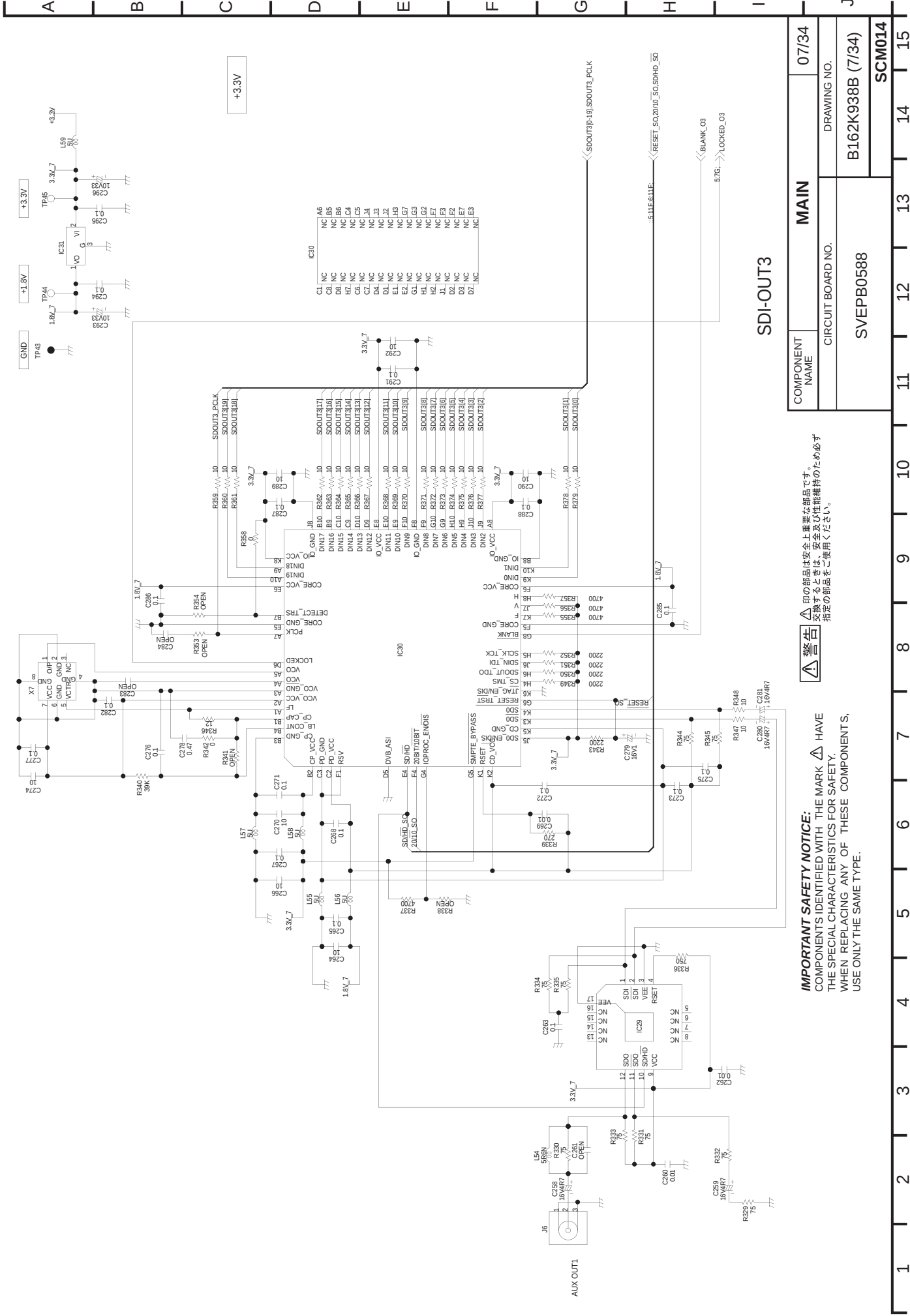


IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK  HAVE
THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS,
USE ONLY THE SAME TYPE.

警告  印の部品は安全上重要な部品です。
交換するときは、安全及び性能維持のため必ず
指定の部品をご使用ください。

COMPONENT NAME	MAIN	05/34
CIRCUIT BOARD NO.		
SVEPB0588		
DRAWING NO.		
B162K938B (5/34)		
SCM012		

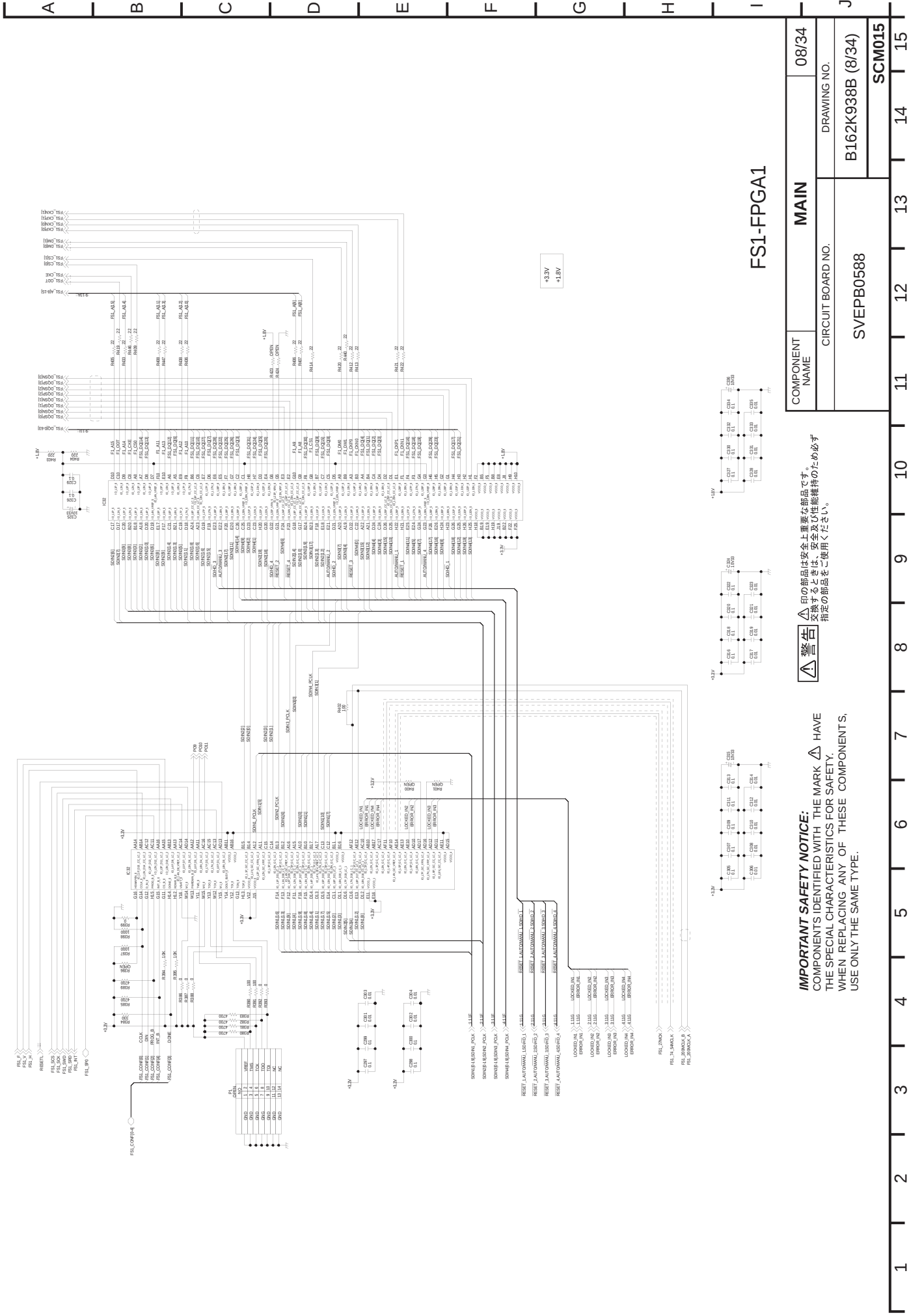
SDI-OUT1



IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK  HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

警告  印の部品は安全上重要な部品です。交換するときは、安全及び性能維持のため必ず指定の部品をご使用ください。

COMPONENT NAME	MAIN	07/34
CIRCUIT BOARD NO.		
SVEPB0588		
DRAWING NO.		
B162K938B (7/34)		
SCM014		

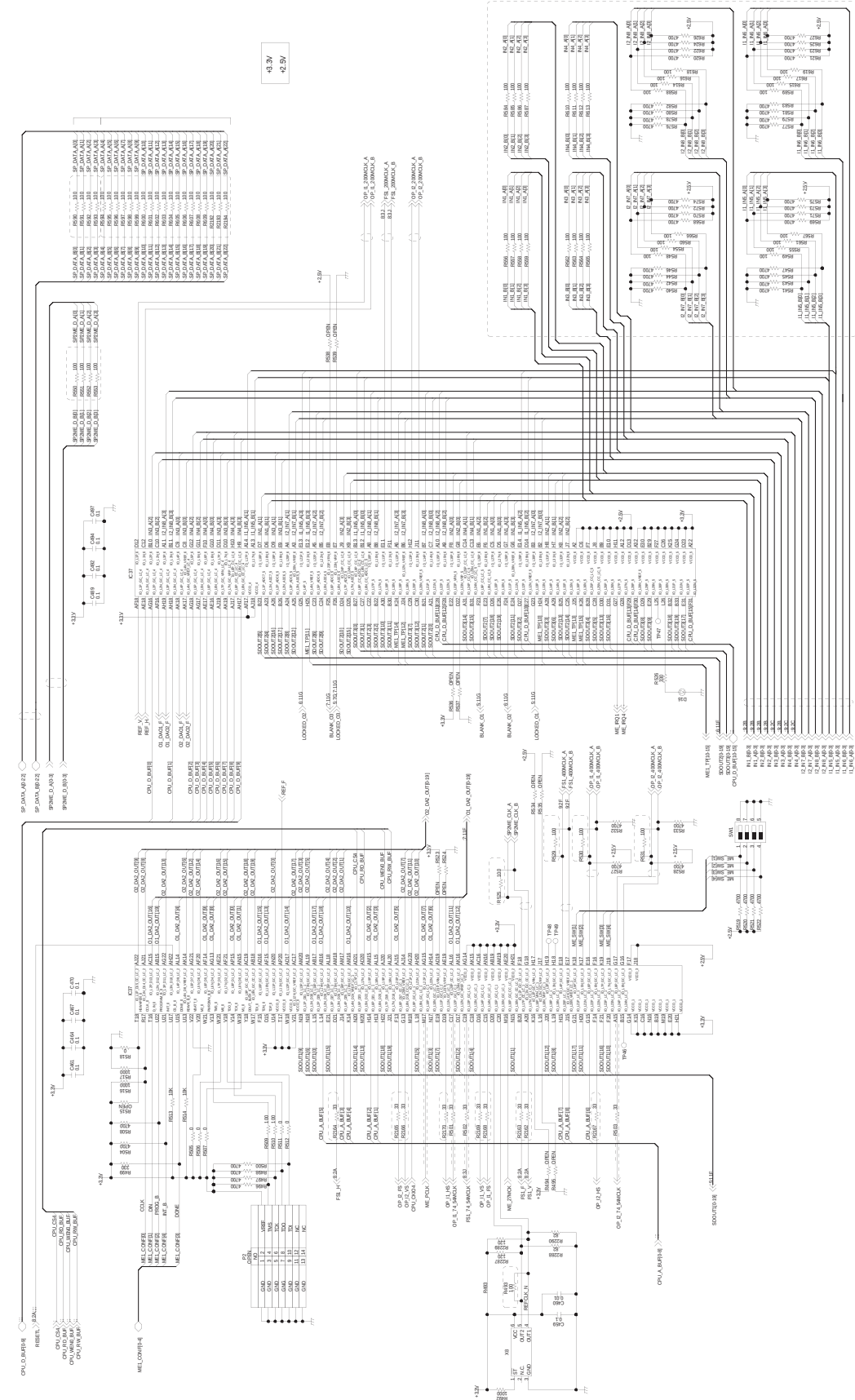


FS1-FPGA1

COMPONENT NAME	MAIN	08/34
CIRCUIT BOARD NO.		
SVEPB0588		
B162K938B (8/34)		
SCM015		

警告 印の部品は安全上重要な部品です。
交換するときは、安全及び性能維持のため必ず
指定の部品をご使用ください。

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK  HAVE
THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS,
USE ONLY THE SAME TYPE.

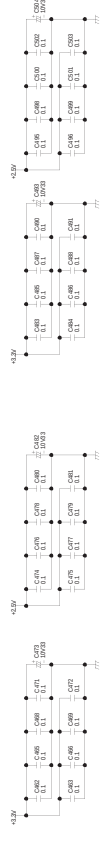


ME1-FPGA1

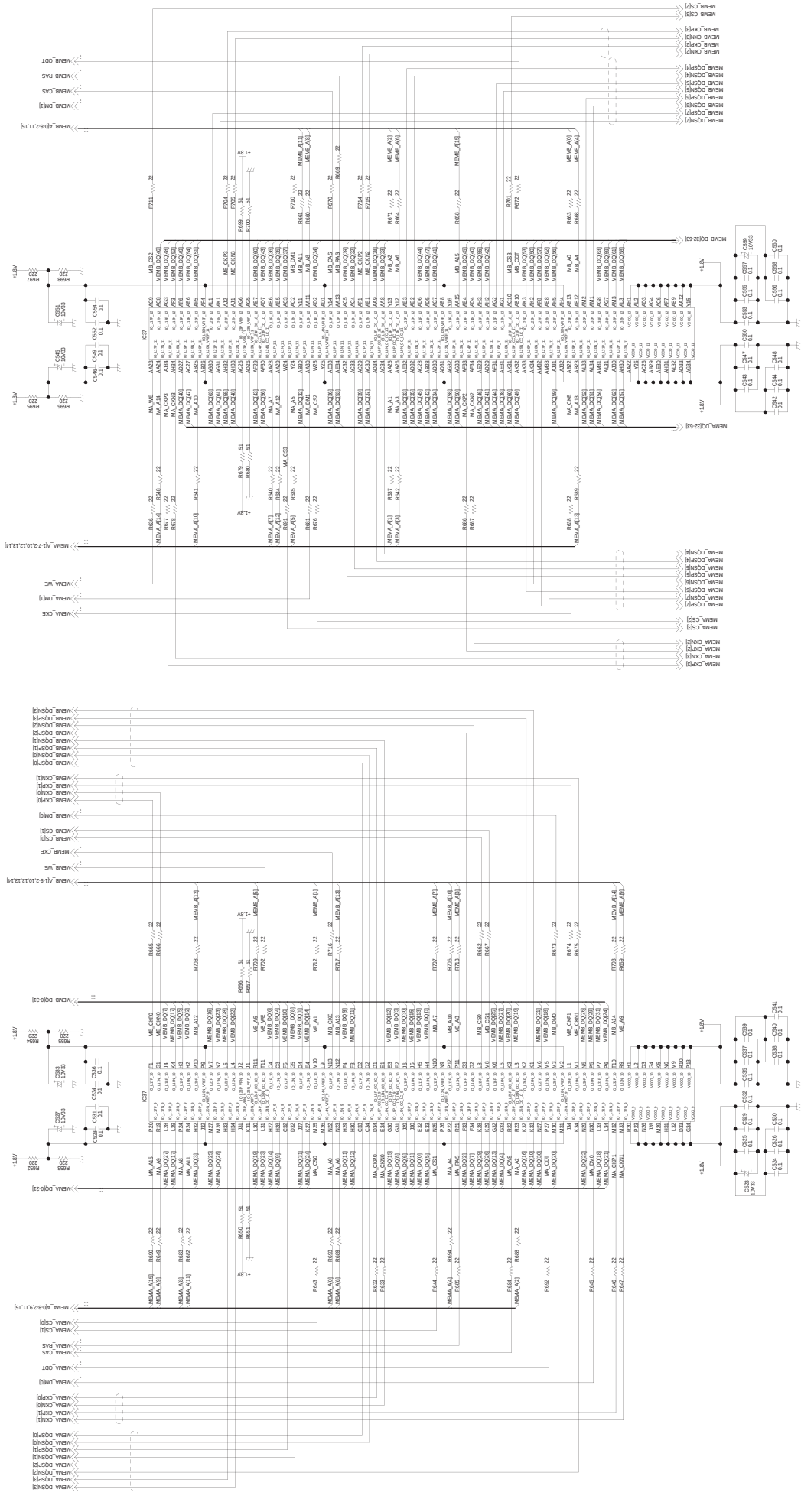
COMPONENT NAME		MAIN				13/34	
		CIRCUIT BOARD NO.				DRAWING NO.	
		SVEPB0588				B162K938B (13/34)	
						SCM020	
11	12	13	14	15			

警告 印の部品は安全上重要な部品です。交換するときは、安全及び性能維持のため必ず指定の部品をご使用ください。

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK  HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.



+1.8V

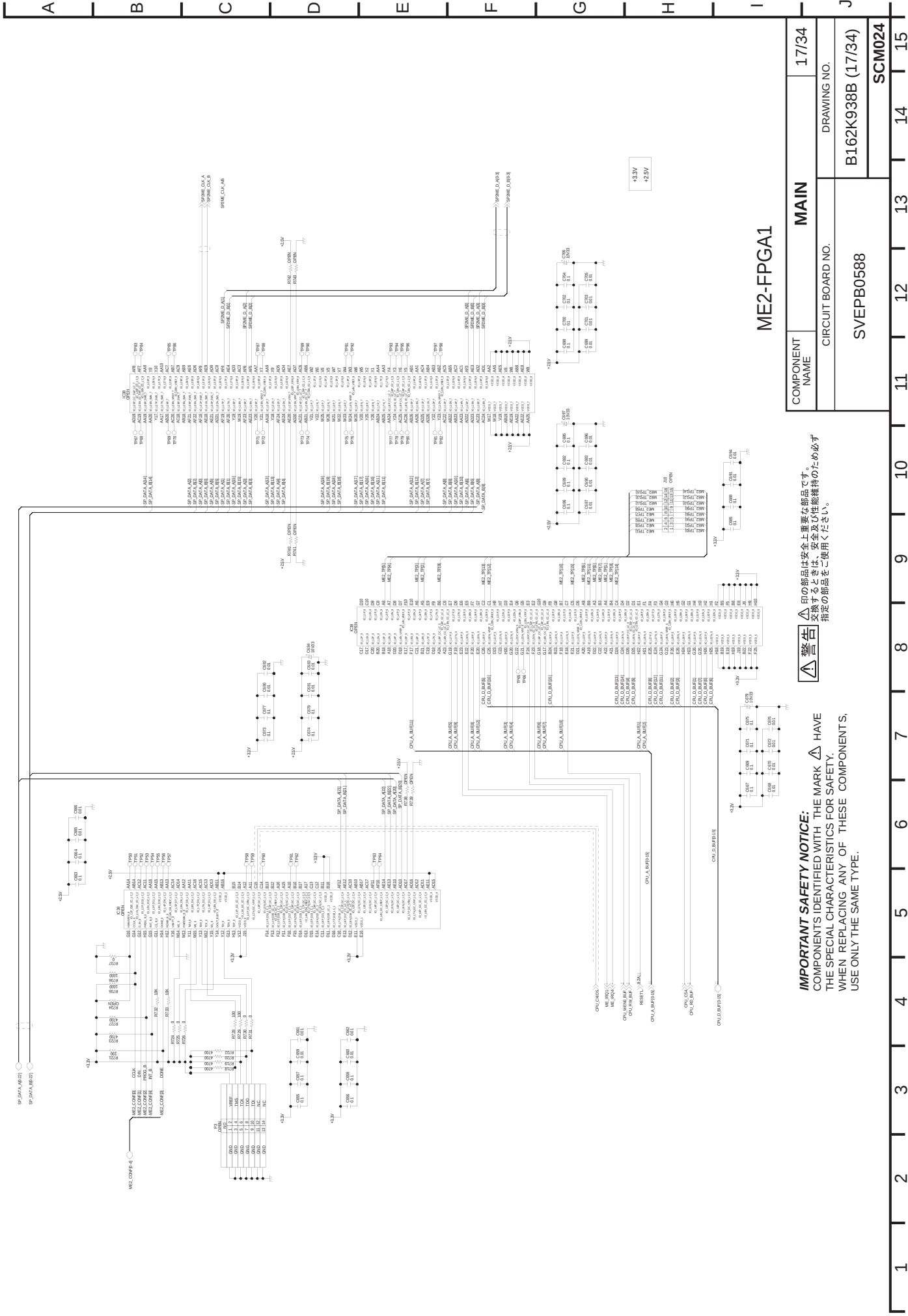


ME1-FPGA3

COMPONENT NAME		MAIN				15/34	
CIRCUIT BOARD NO.		DRAWING NO.					
SVEPB0588		B162K938B (15/34)					
		SCM022					
11	12	13	14	15			

警告 印の部品は安全上重要な部品です。交換するときは、安全及び性能維持のため必ず指定の部品をご使用ください。

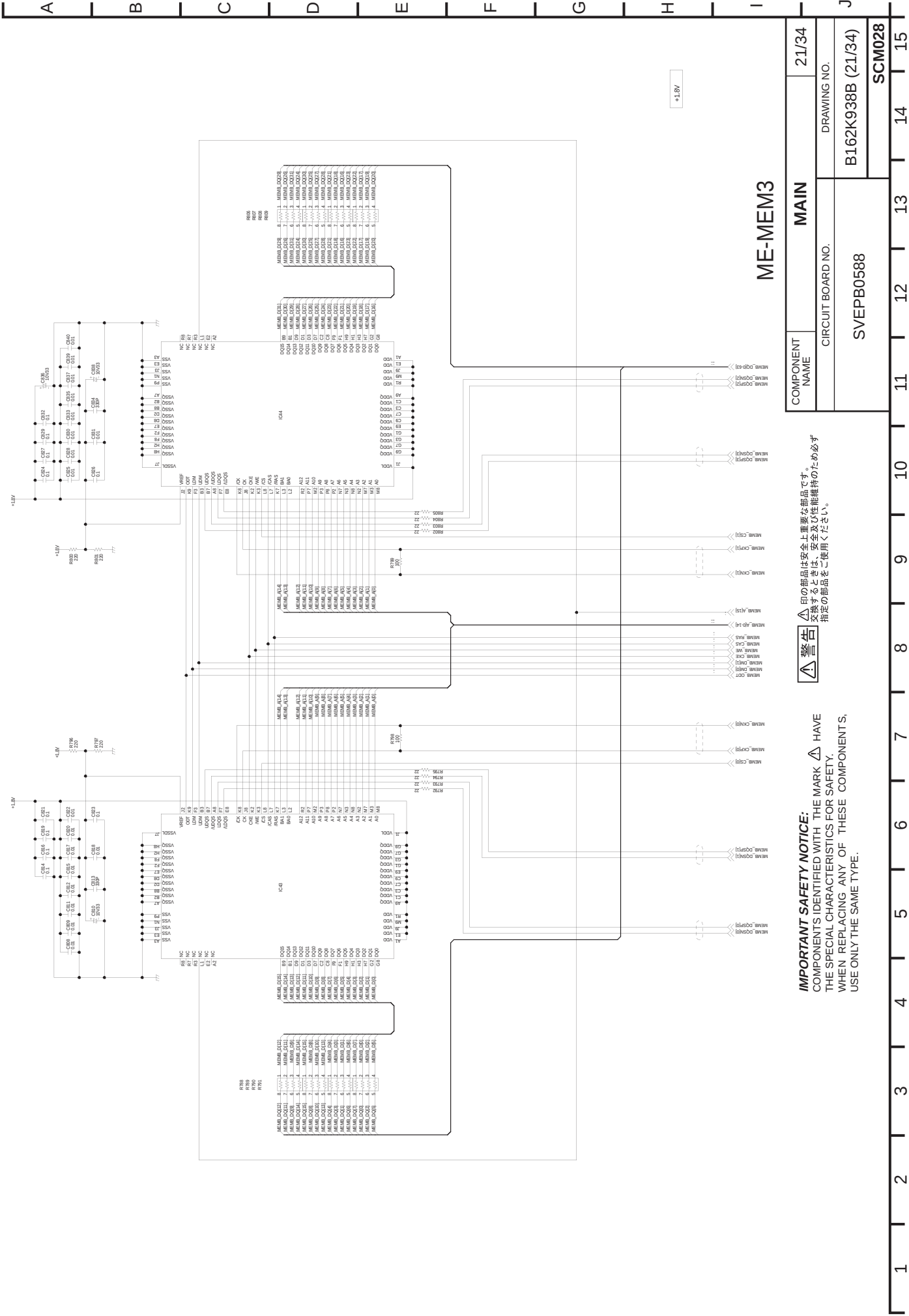
IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK  HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.



警告 印の部品は安全上重要な部品です。
交換するときは、安全及び性能維持のため必ず
指定の部品をご使用ください。

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK  HAVE
THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS,
USE ONLY THE SAME TYPE.

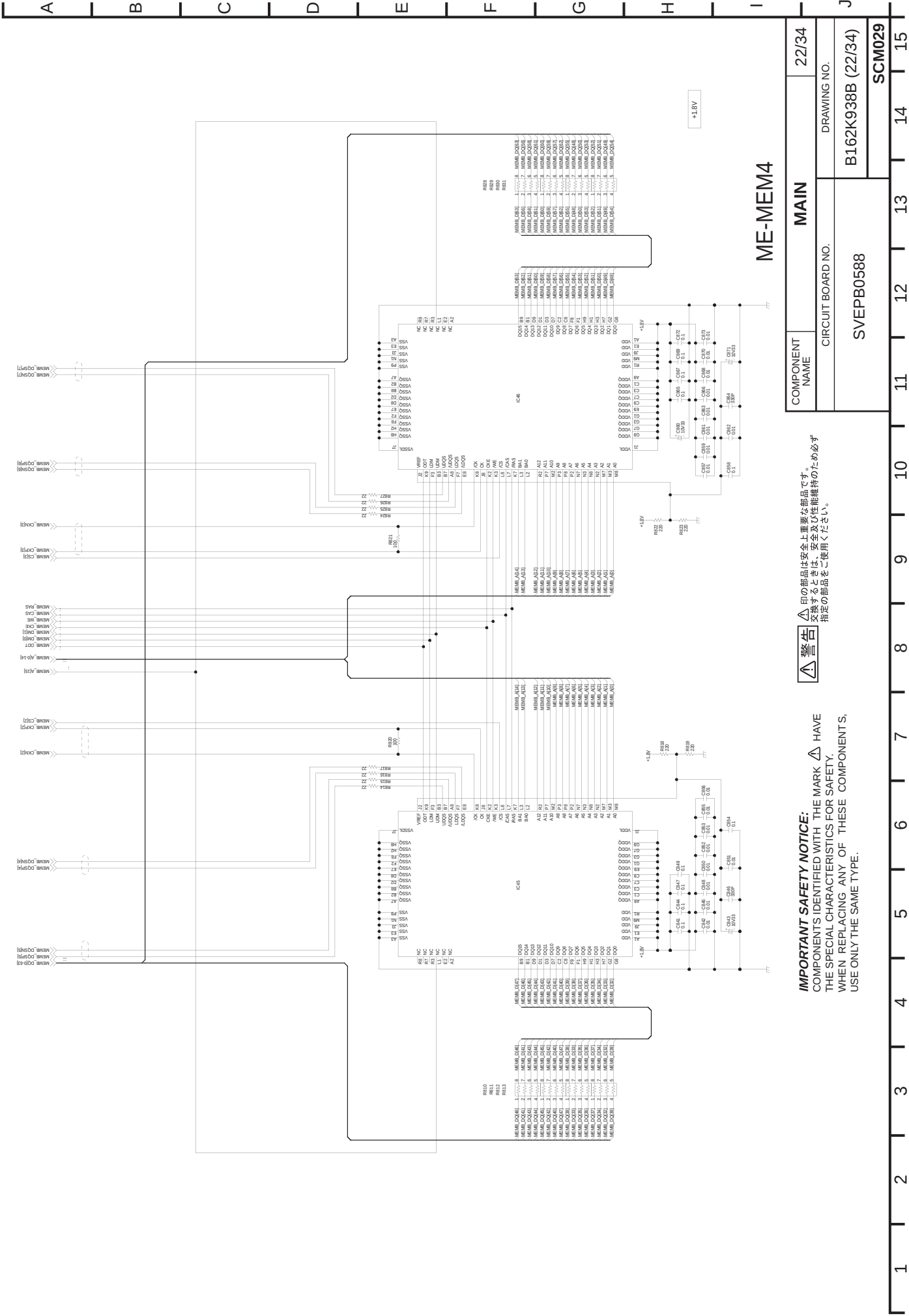
COMPONENT NAME		MAIN	
CIRCUIT BOARD NO.		DRAWING NO.	
SVEPB0588		B162K938B (17/34)	
		SCM024	



IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK  HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

警告  印の部品は安全上重要な部品です。交換するときは、安全及び性能維持のため必ず指定の部品をご使用ください。

COMPONENT NAME		MAIN	21/34
CIRCUIT BOARD NO.		DRAWING NO.	
SVEPB0588		B162K938B (21/34)	
		SCM028	

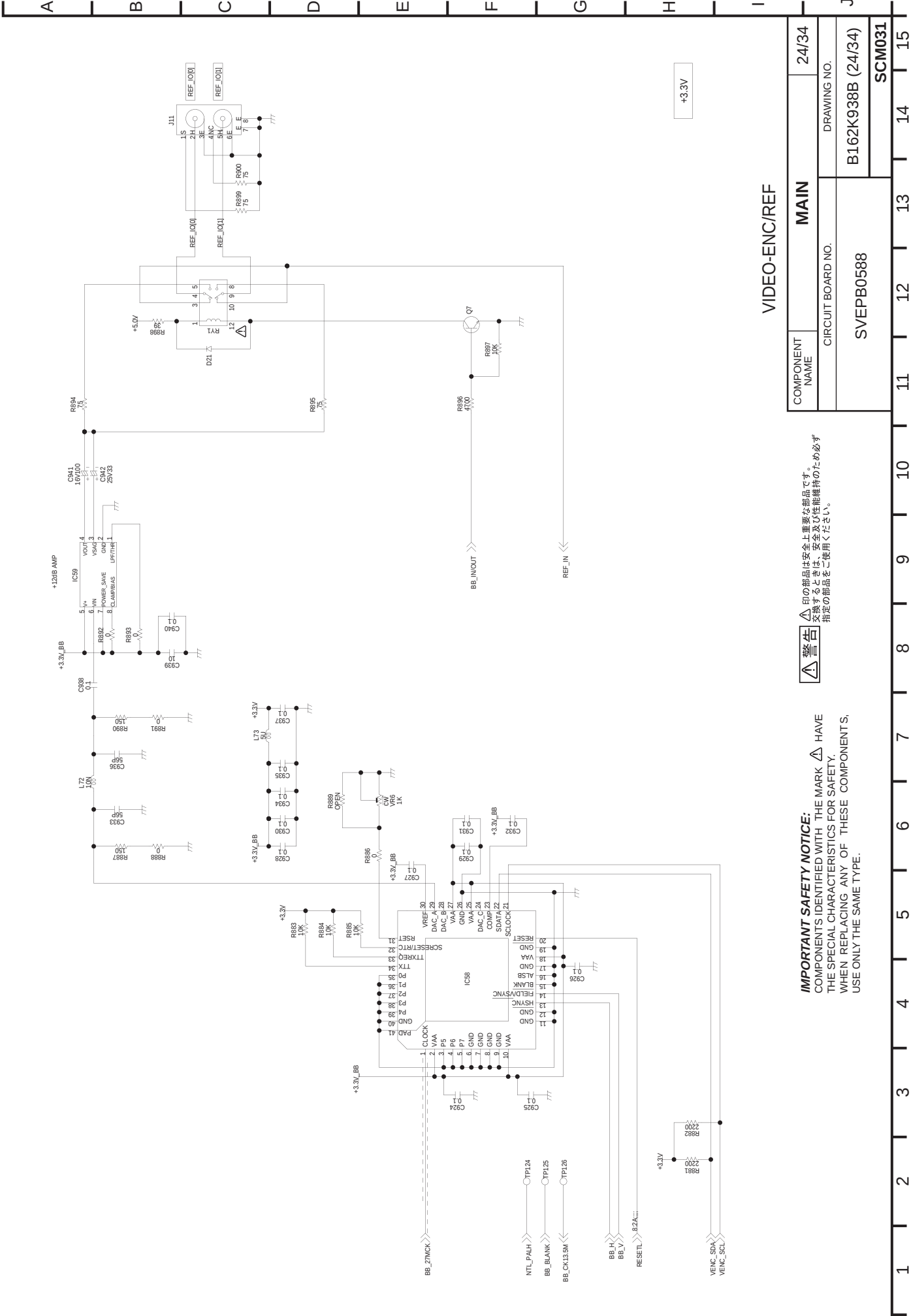


ME-MEM4

COMPONENT NAME		MAIN	22/34
CIRCUIT BOARD NO.		DRAWING NO.	
SVEPB0588		B162K938B (22/34)	
		SCM029	

警告 印の部品は安全上重要な部品です。
交換するときは、安全及び性能維持のため必ず
指定の部品をご使用ください。

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK  HAVE
THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS,
USE ONLY THE SAME TYPE.

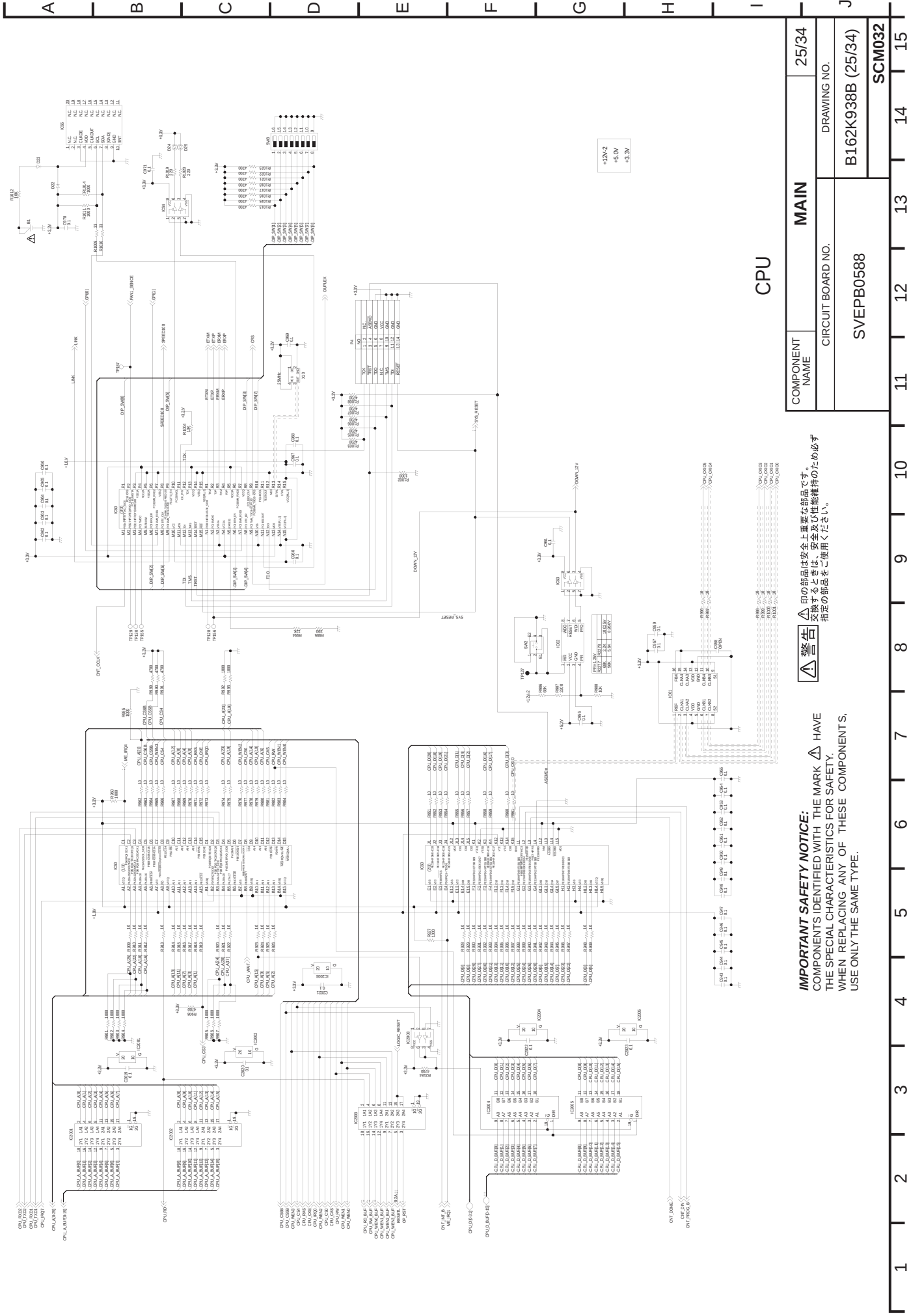


警告 印の部品は安全上重要な部品です。交換するときは、安全及び性能維持のため必ず指定の部品をご使用ください。

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK  HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

VIDEO-ENC/REF

COMPONENT NAME	MAIN	24/34
CIRCUIT BOARD NO.		
SVEPB0588		
DRAWING NO.		
B162K938B (24/34)		
SCM031		



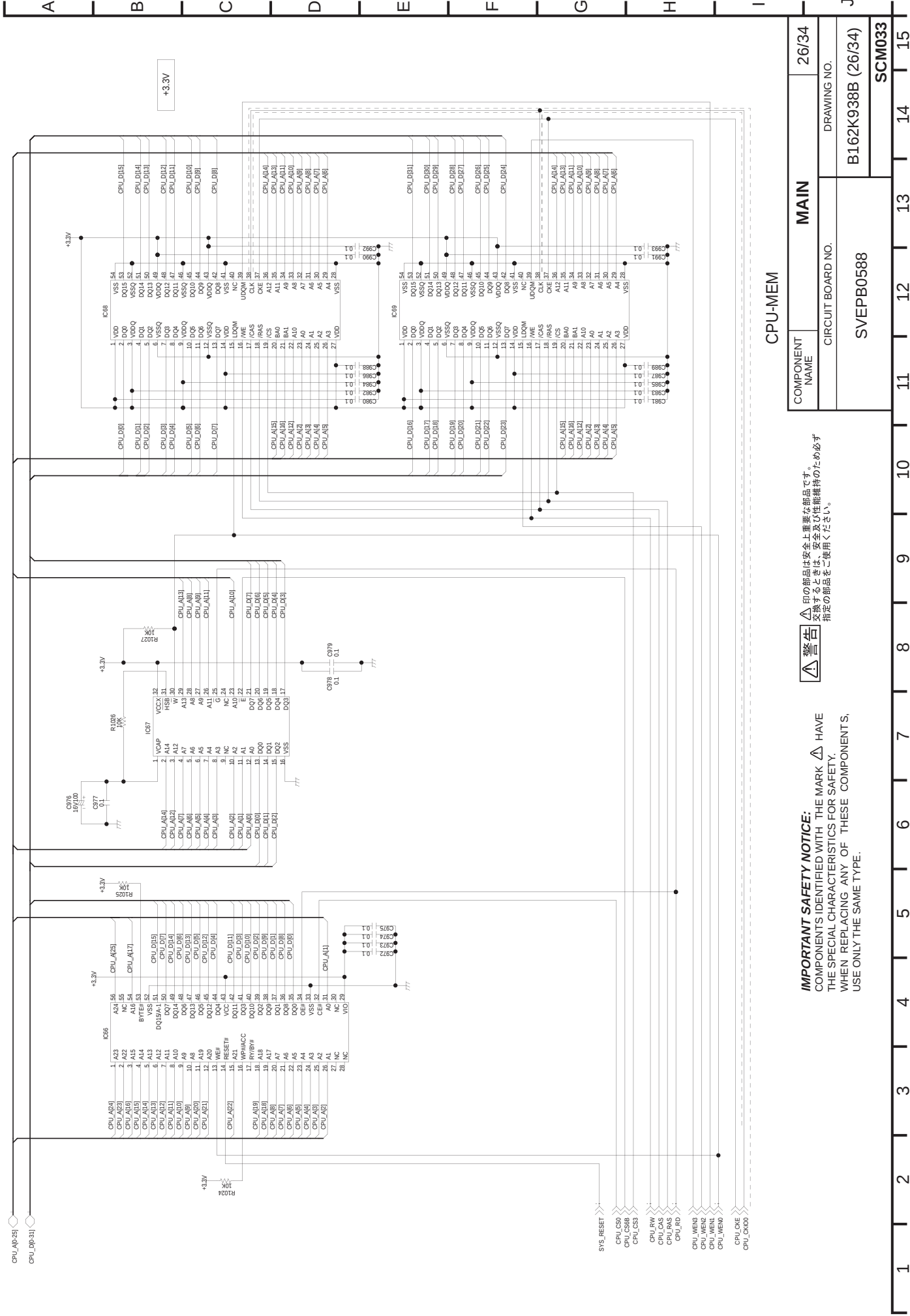
CPU

COMPONENT NAME	MAIN	25/34
CIRCUIT BOARD NO.		
SVEPB0588		
DRAWING NO.		
B162K938B (25/34)		
SCM032		

警告 印の部品は安全上重要な部品です。交換するときは、安全及び性能維持のため必ず指定の部品をご使用ください。

IMPORTANT SAFETY NOTICE: COMPONENTS IDENTIFIED WITH THE MARK  HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

+1.2V
+5.0V
+3.3V

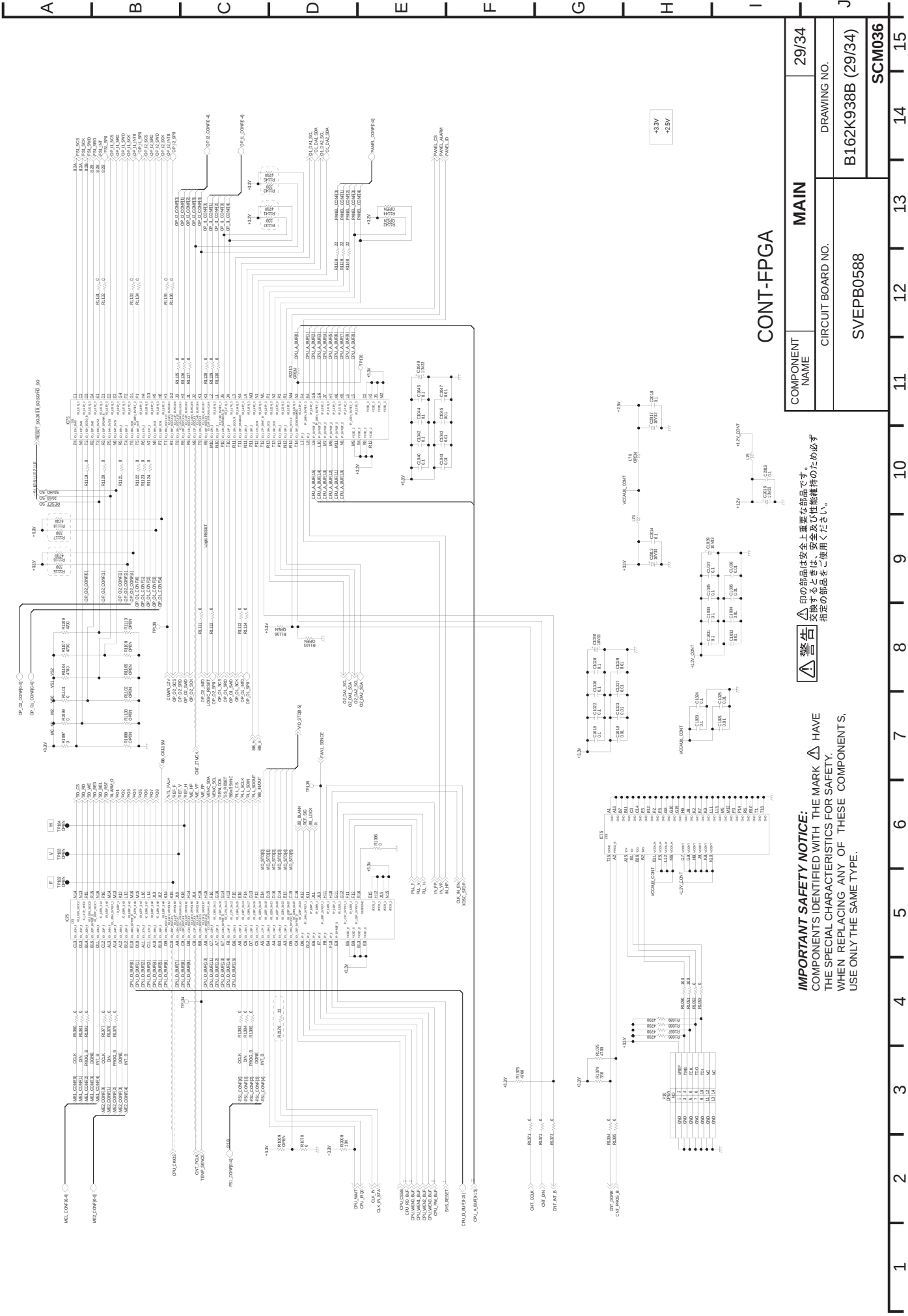


CPU-MEM

COMPONENT NAME	MAIN	26/34
CIRCUIT BOARD NO.	DRAWING NO.	
SVEPB0588	B162K938B (26/34)	
	SCM033	

警告 印の部品は安全上重要な部品です。交換するときは、安全及び性能維持のため必ず指定の部品をご使用ください。

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK  HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

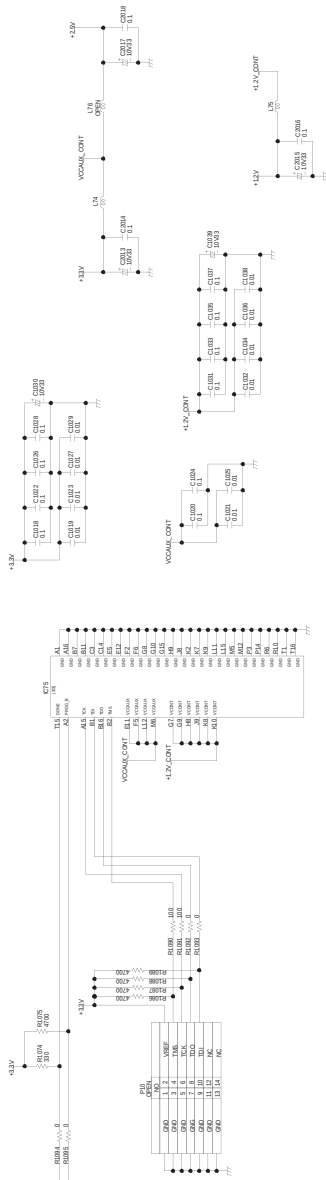


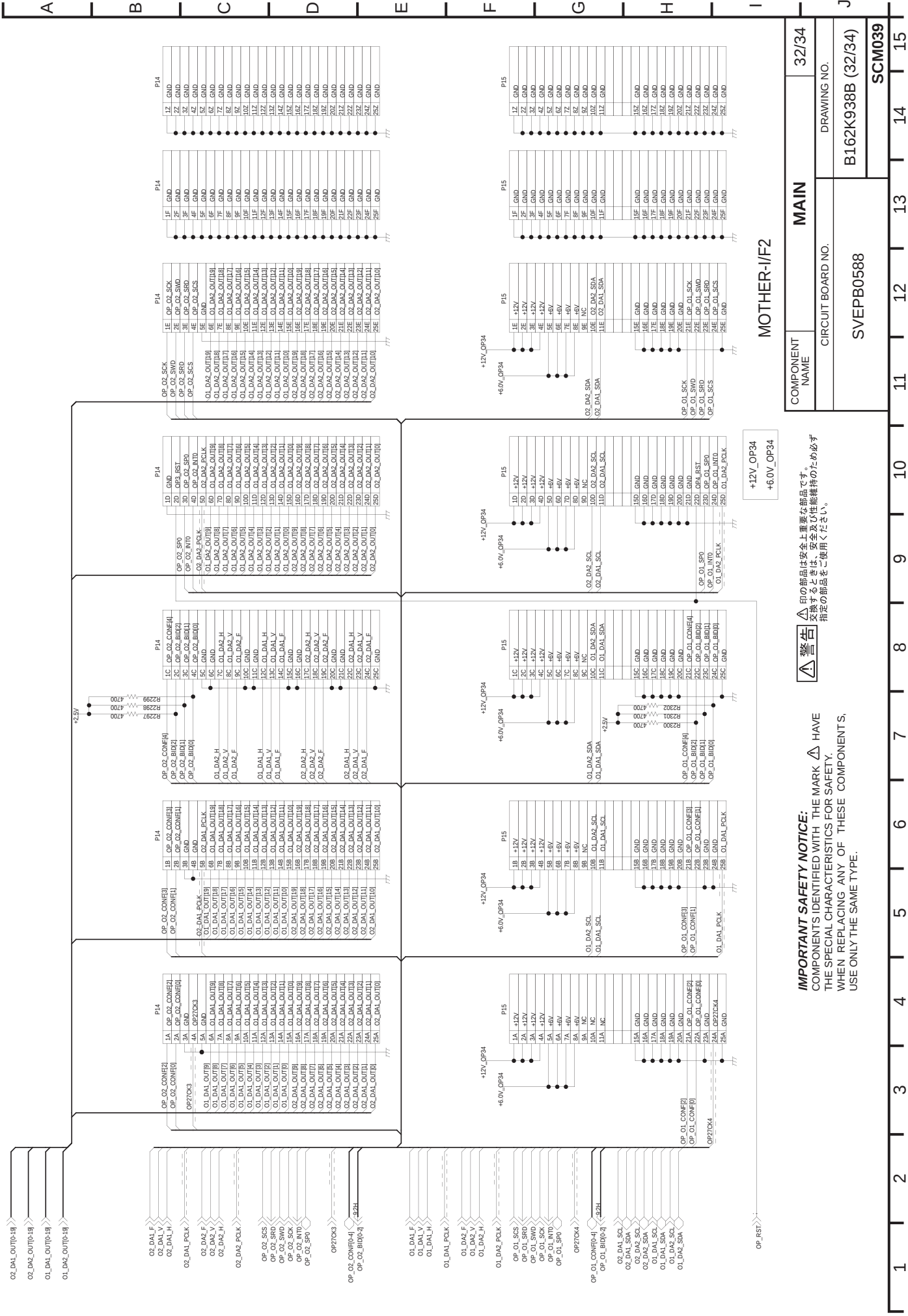
CONT-FPGA

COMPONENT NAME	MAIN	29/34
CIRCUIT BOARD NO.	B162K938B (29/34)	DRAWING NO.
SVEPB0588		SCM036

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK  HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

警告  印の部品は安全上重要な部品です。交換するときは、安全及び性能維持のため必ず指定の部品をご使用ください。





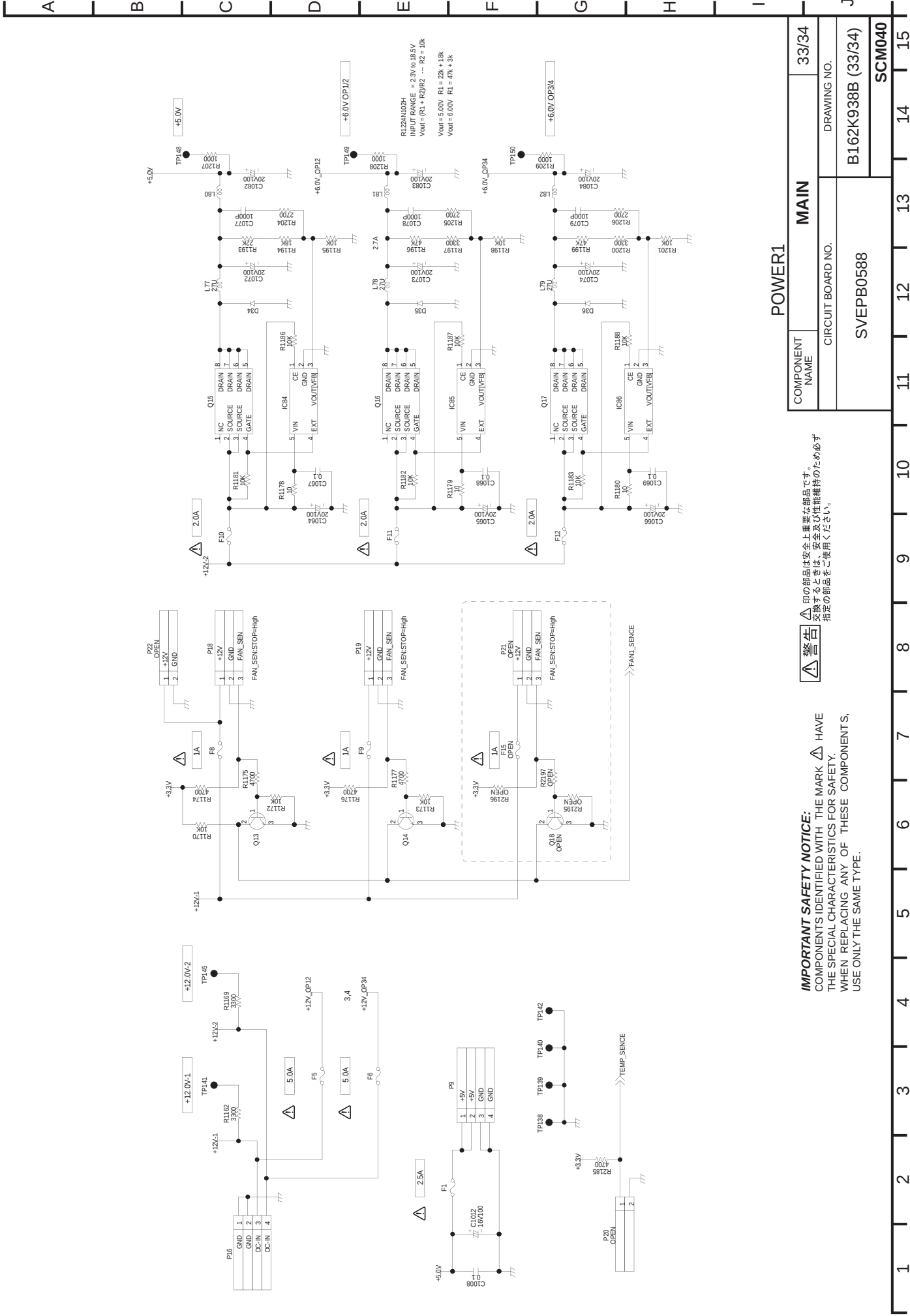
IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK  HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

警告  印の部品は安全上重要な部品です。
交換するときは、安全及び性能維持のため必ず
指定の部品をご使用ください。

+12V_OP34
+6V_OP34

MOTHER-I/F2

MAIN		32/34
COMPONENT NAME		DRAWING NO.
CIRCUIT BOARD NO.		B162K938B (32/34)
SVEPB0588		SCM039

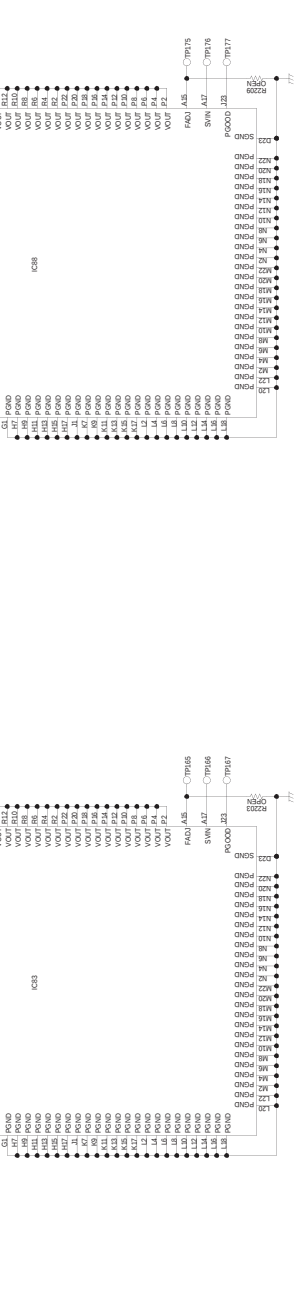
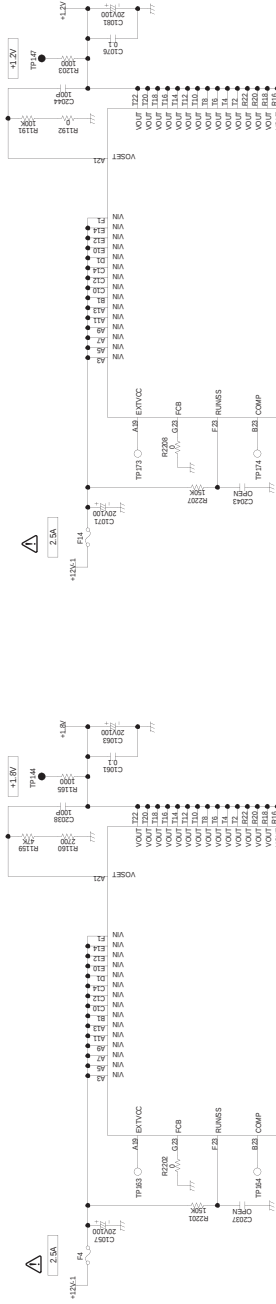
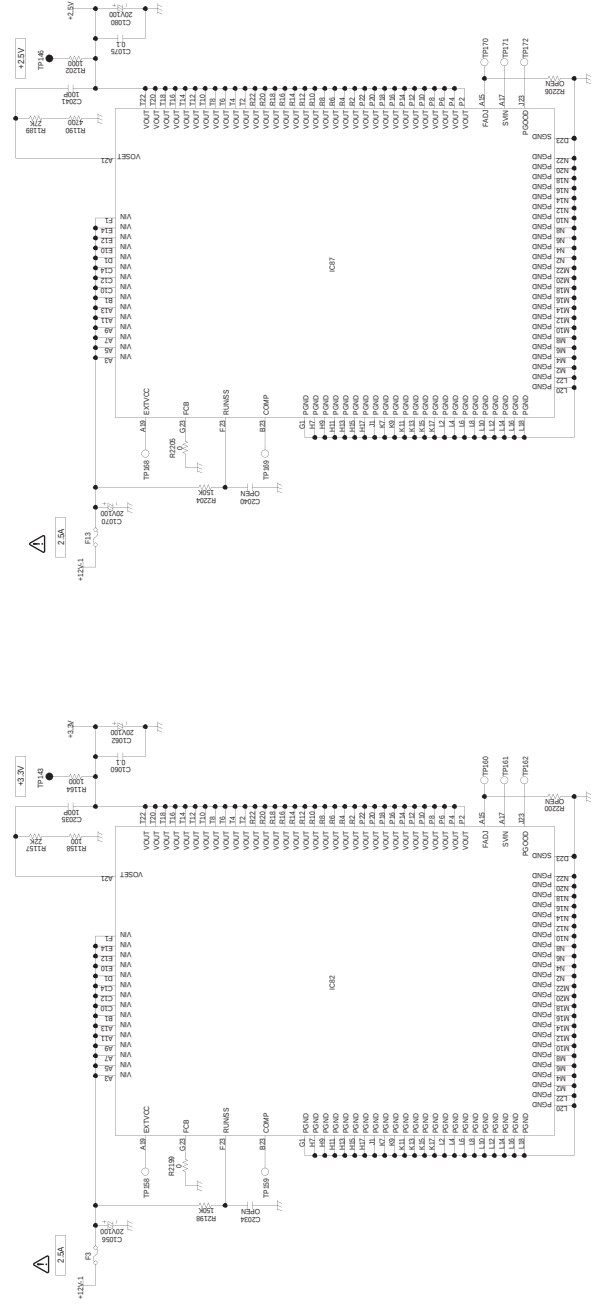


IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK  HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

警告  印の部品は安全上重要な部品です。
交換するときは、安全及び性能維持のため必ず
指定の部品をご使用ください。

POWER1

COMPONENT NAME	MAIN	33/34
CIRCUIT BOARD NO.		
SVEPB0588		
DRAWING NO.		
B162K938B (33/34)		
SCM040		



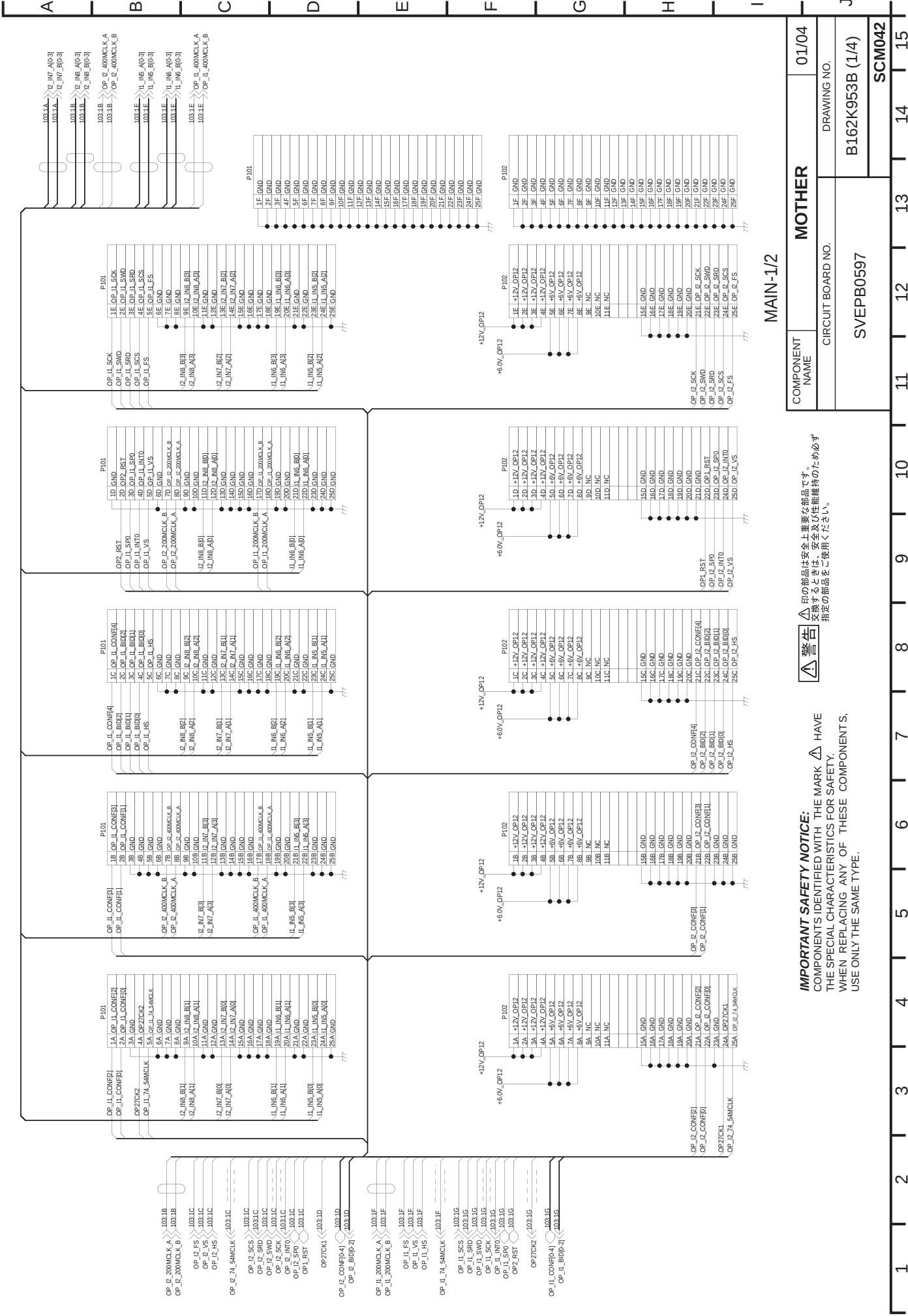
POWER2

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK  HAVE
THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS,
USE ONLY THE SAME TYPE.

警告  印の部品は安全上重要な部品です。
交換するときは、安全及び性能維持のため必ず
指定の部品をご使用ください。

MAIN		34/34
COMPONENT NAME		DRAWING NO.
CIRCUIT BOARD NO.		B162K938B (34/34)
SVEPB0588		SCM041

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
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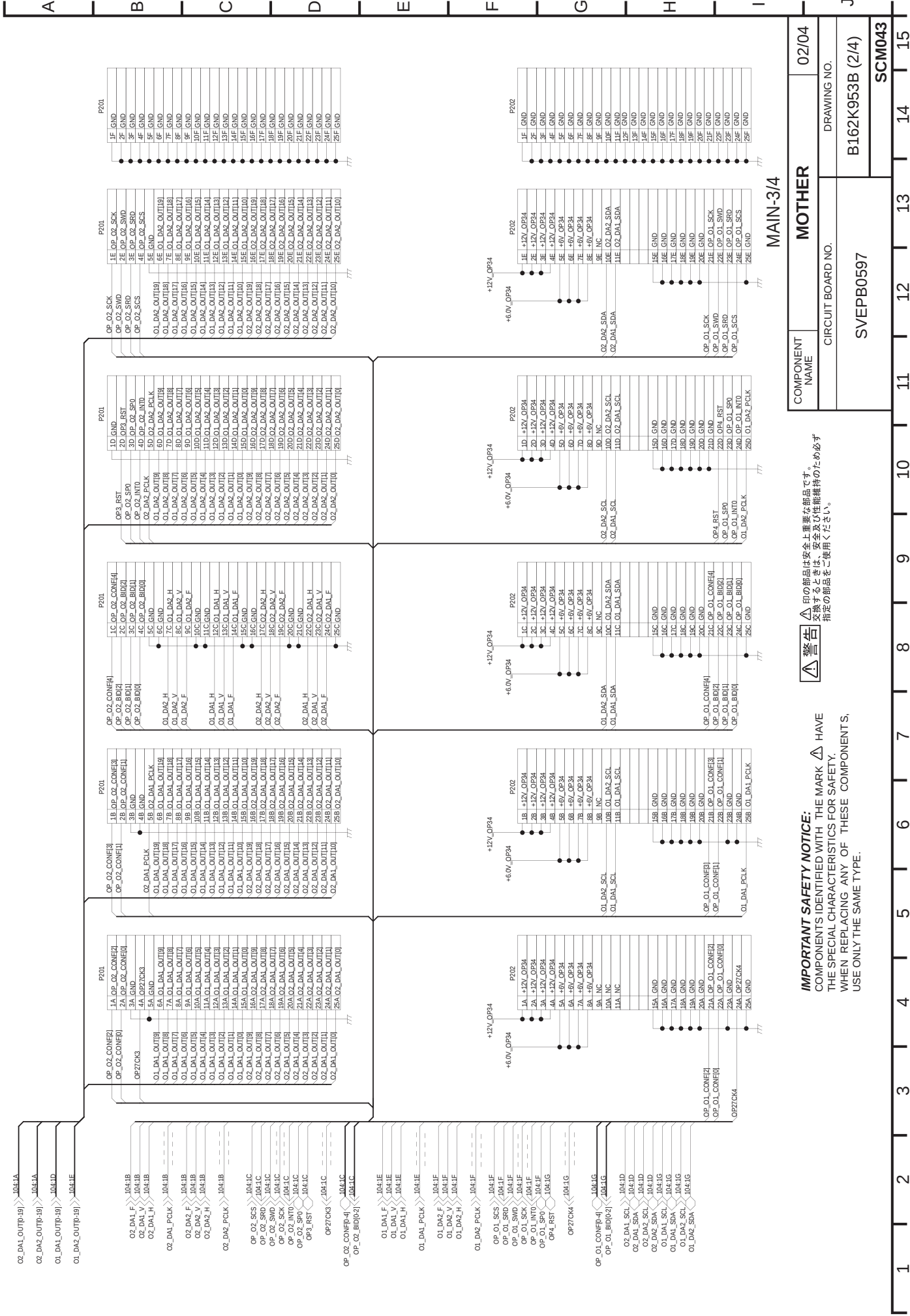
IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK  HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

警告
△印の部品は安全上重要な部品です。
交換するときは、安全及び性能維持のため必ず
指定の部品をご使用ください。

COMPONENT NAME	MOTHER	01/04
CIRCUIT BOARD NO.	B162K953B (1/4)	DRAWING NO.
SVEPB0597		

SCM042	14	15
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MAIN-1/2

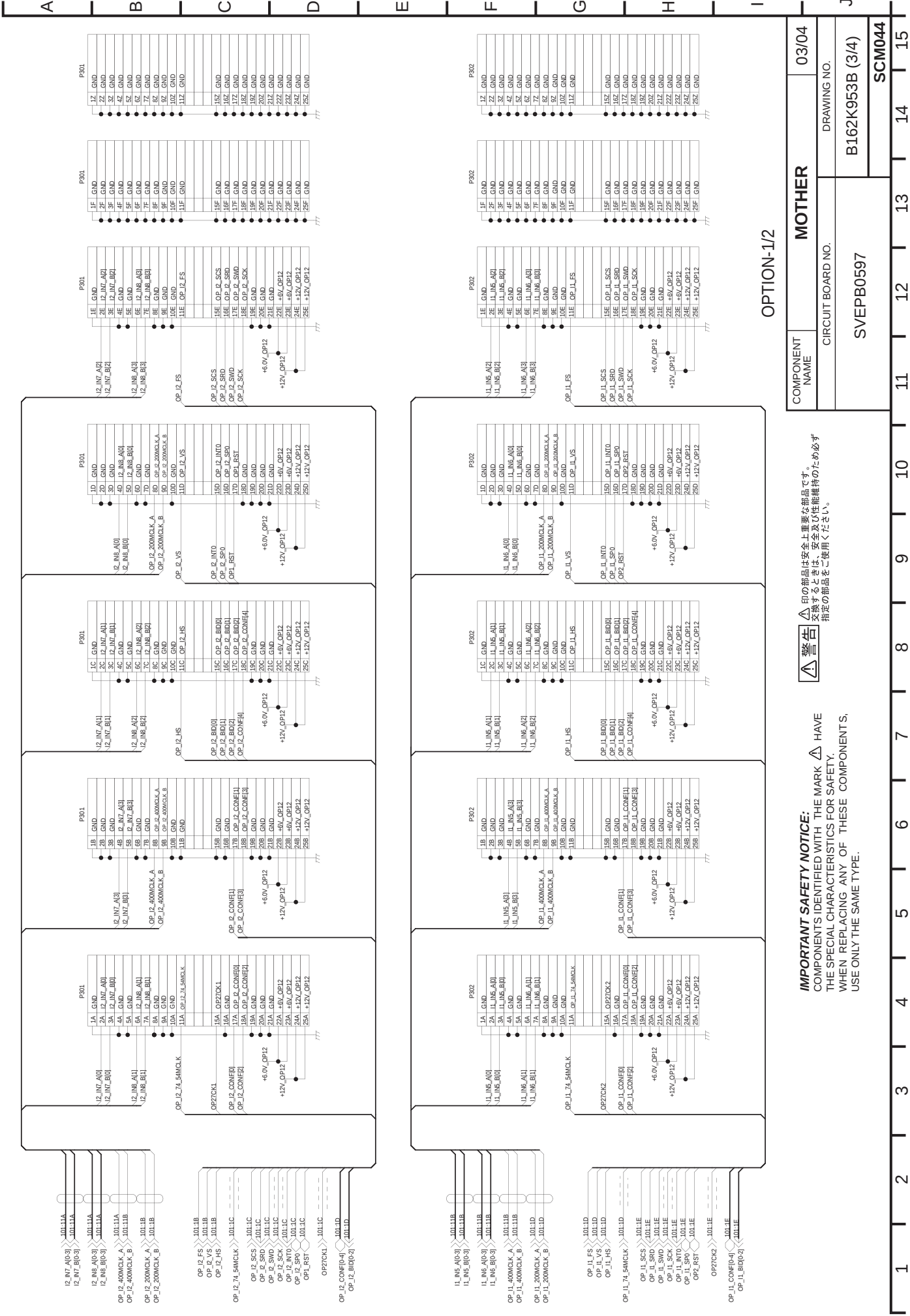


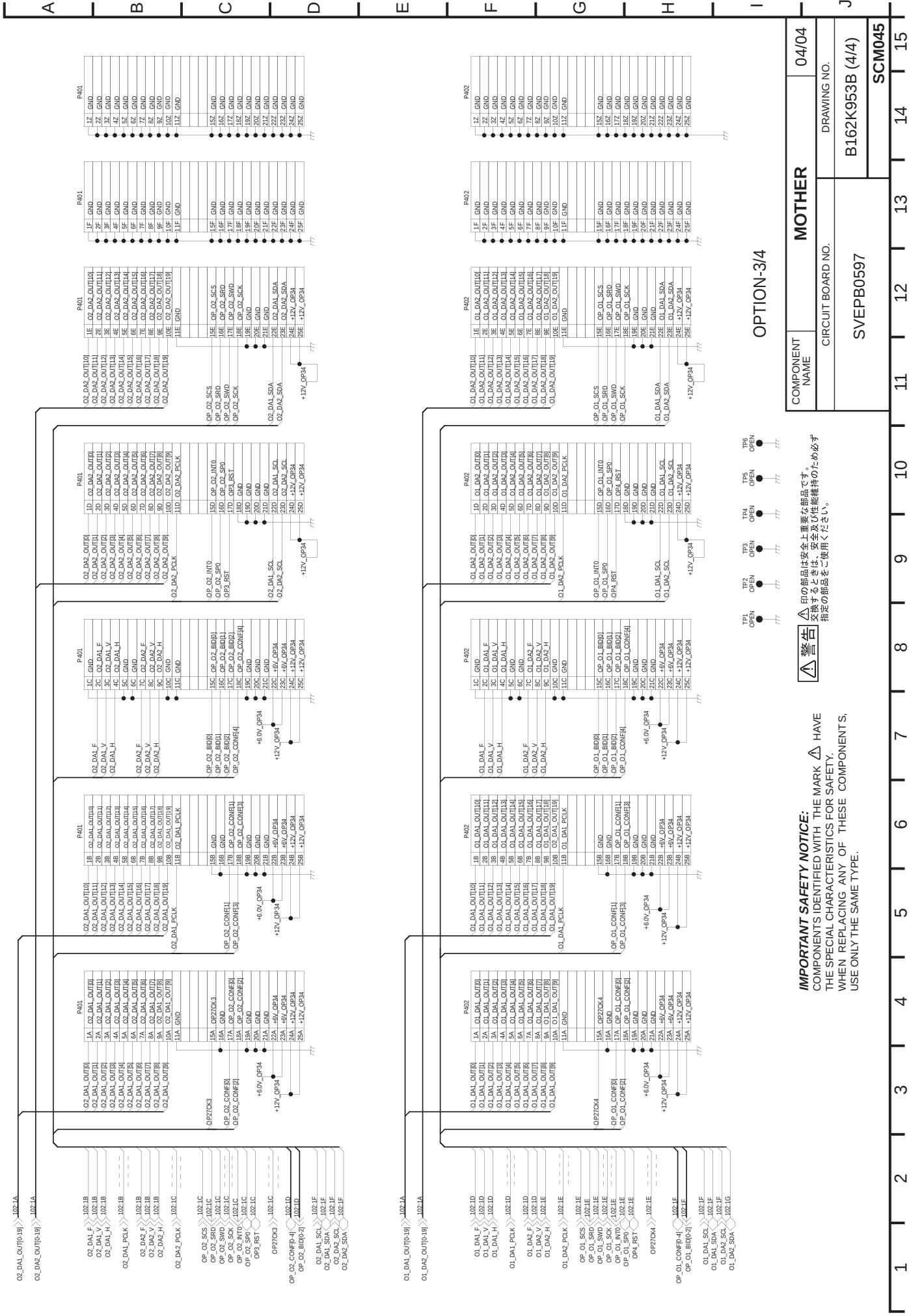
警告 印の部品は安全上重要な部品です。
交換するときは、安全及び性能維持のため必ず
指定の部品をご使用ください。

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK  HAVE
THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS,
USE ONLY THE SAME TYPE.

MAIN-3/4

COMPONENT NAME		MOTHER	
CIRCUIT BOARD NO.		DRAWING NO.	
SVEPB0597		B162K953B (2/4)	
		SCM043	



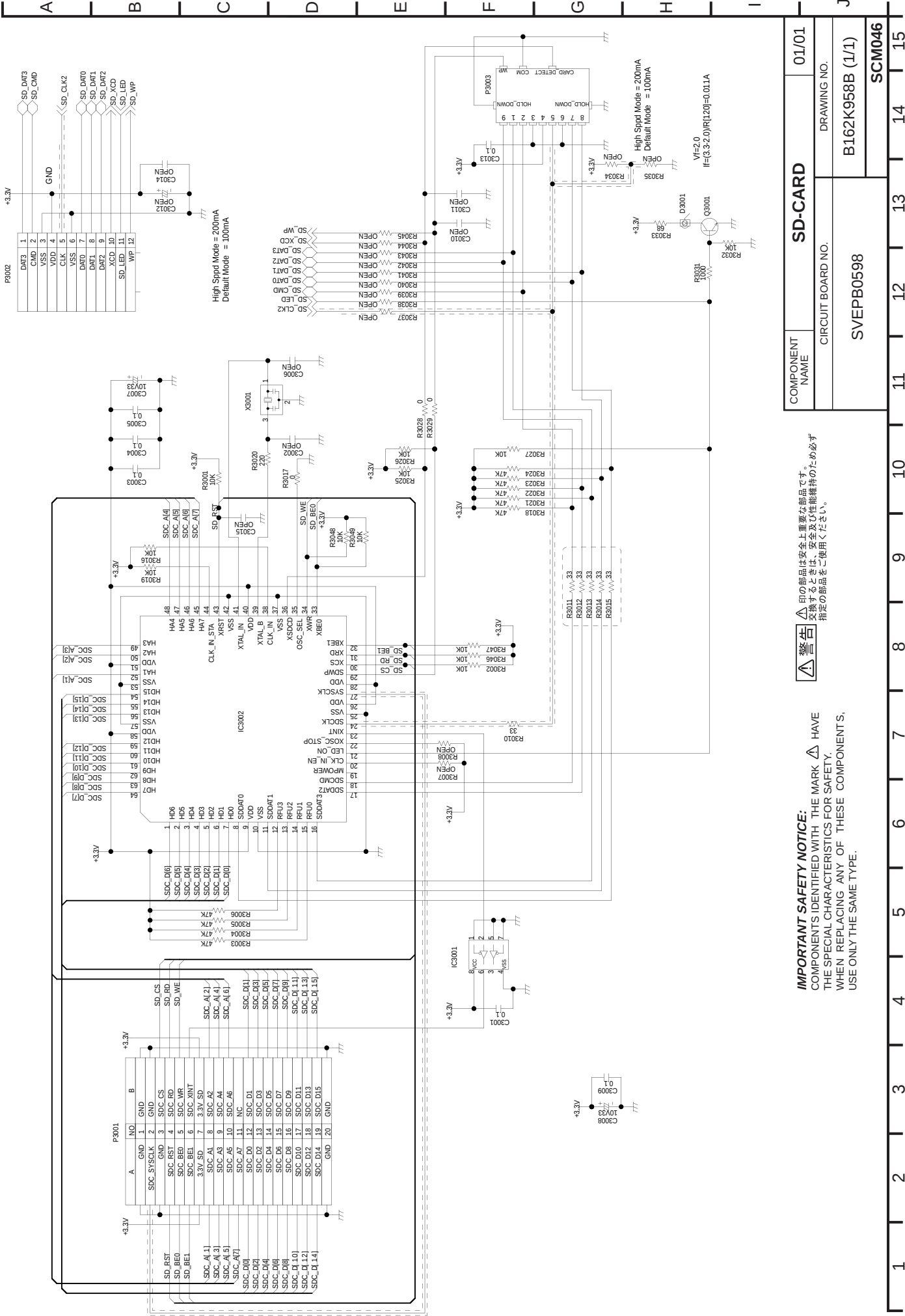


OPTION-3/4

△ 警告 印の部品は安全上重要な部品です。交換するときは、安全及び性能維持のため必ず指定の部品をご使用ください。

IMPORTANT SAFETY NOTICE: COMPONENTS IDENTIFIED WITH THE MARK △ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

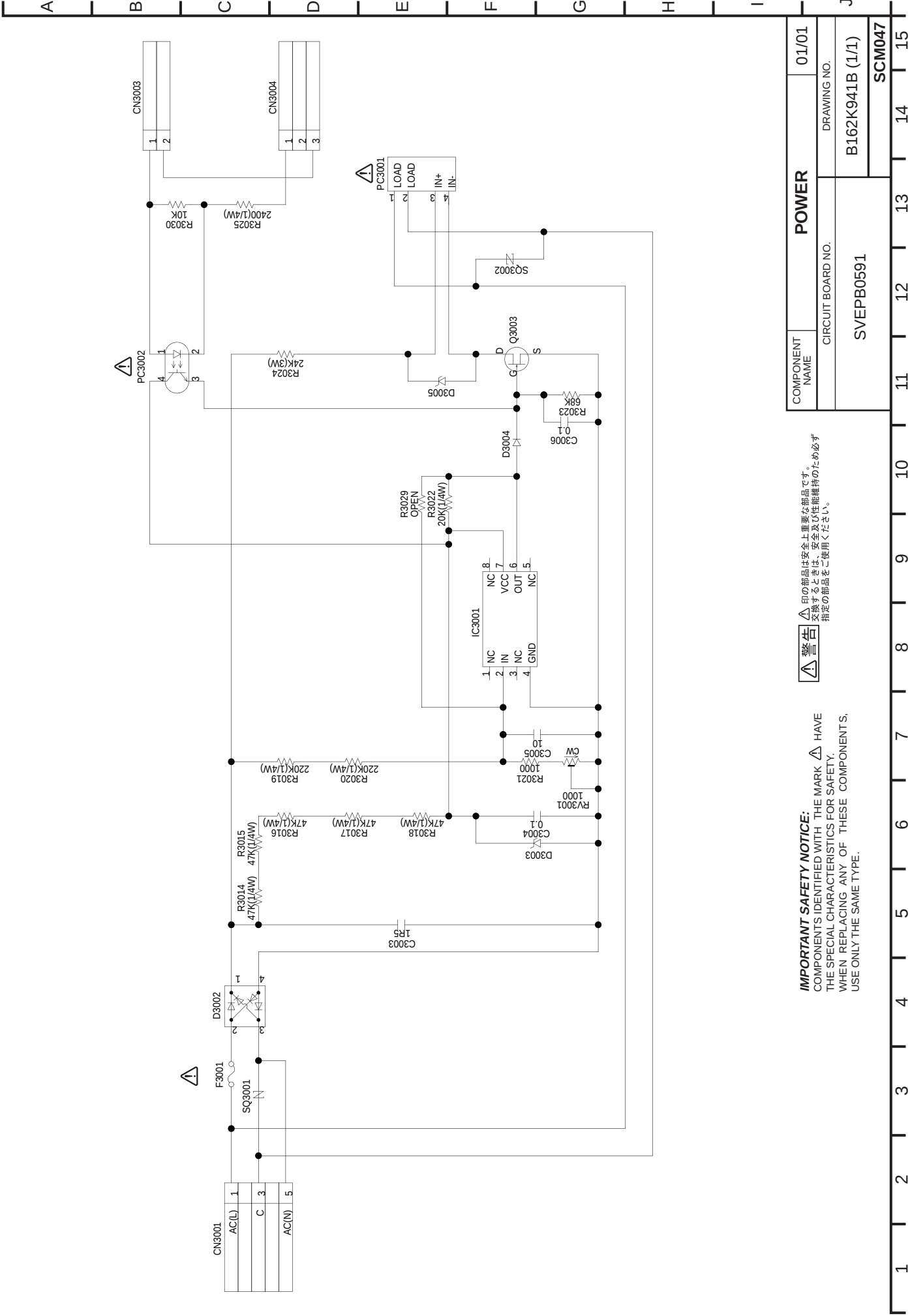
COMPONENT NAME	MOTHER	04/04
CIRCUIT BOARD NO.		
SVEPB0597		
B162K953B (4/4)		
SCM045		



IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK  HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

警告  印の部品は安全上重要な部品です。交換するときは、安全及び性能維持のため必ず指定の部品をご使用ください。

COMPONENT NAME	SD-CARD	01/01
	CIRCUIT BOARD NO.	DRAWING NO.
SVEPB0598	B162K958B (1/1)	SCM046



IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK  HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

警告  印の部品は安全上重要な部品です。交換するときは、安全及び性能維持のため必ず指定の部品をご使用ください。

POWER		01/01
CIRCUIT BOARD NO.		DRAWING NO.
SVEPB0591		B162K941B (1/1)
		SCM047

SECTION 5

EXPLODED VIEWS & REPLACEMENT PARTS LIST

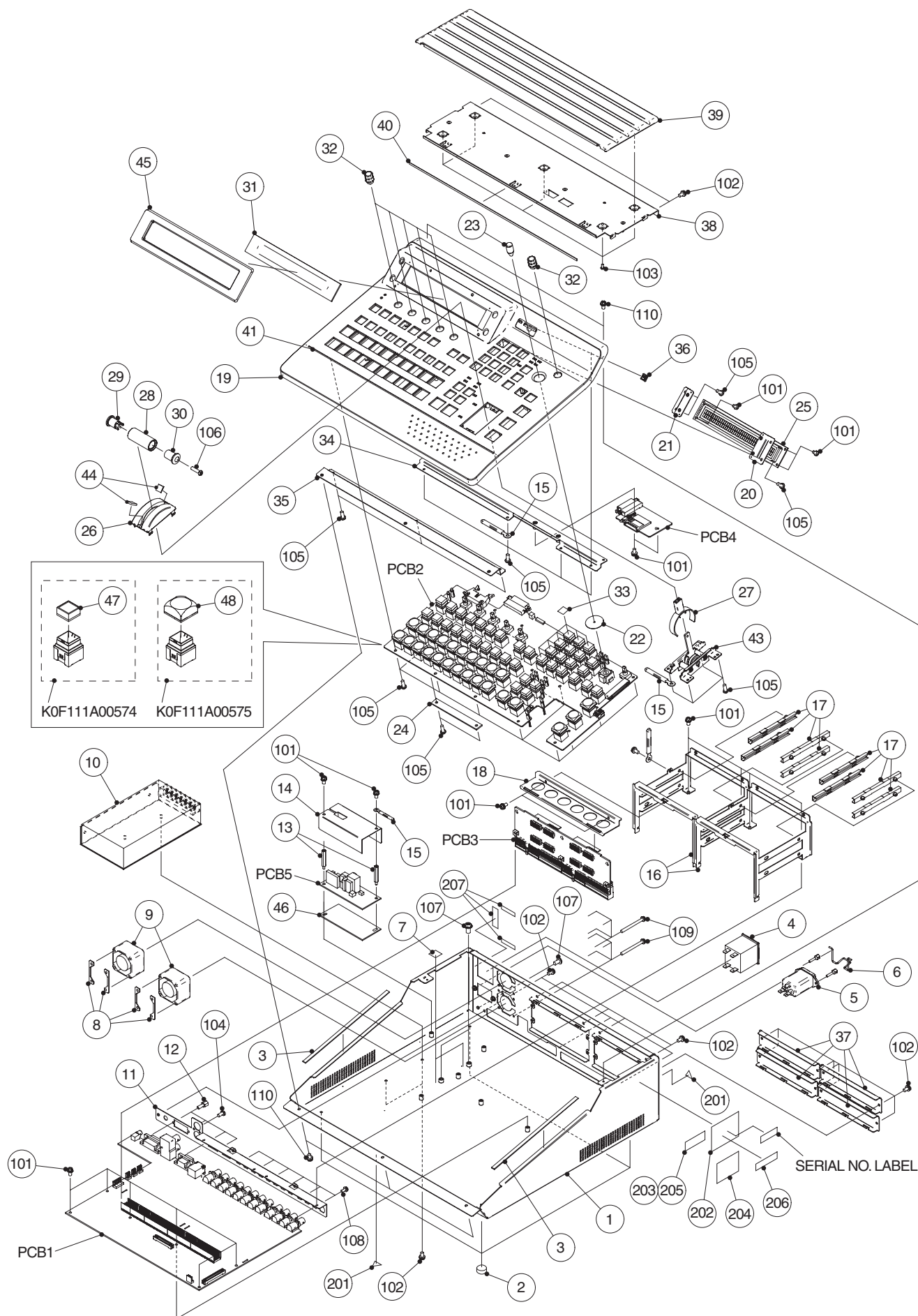
Note:

1. *Be sure to make your orders of replacement parts according to this list.
2. Unless otherwise specified, all resistors are in OHMS, K=1,000 OHMS, all capacitors are in MICROFARADS (μ F), P= μ μ F,
3. The P.C.Board unit marked with "■" shown below the main assembled parts.
4. The parts marked with (E) on the exploded view show the electric parts.
5. IMPORTANT SAFETY NOTICE
Components identified with the mark $\triangle$ have the special characteristics for safety. When replacing any of these components, use only the same type.
6. The marking (RTL) indicates the retention time is limited for this item.
After the discontinuation of this assembly in production, it will no longer be available.
7. "M" in Remark column indicates needed in the periodical maintenance.

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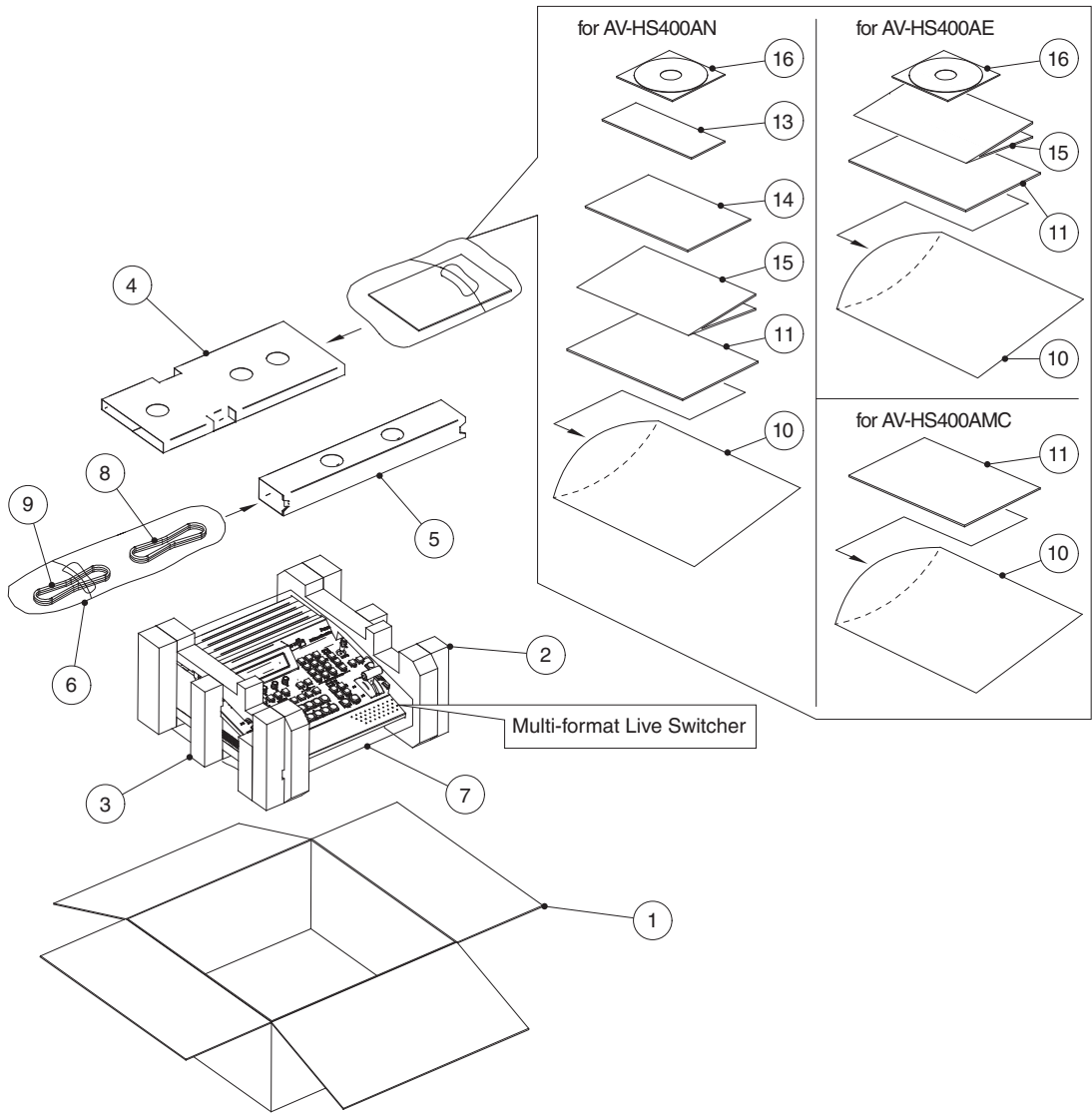
CHASSIS FRAME ASSEMBLY



CHASSIS FRAME ASSEMBLY

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks	Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
1	1L2G217E	CHASSIS	1		301	WC2A229A	CONNECTOR CABLE	1	SEE PAGE BLK-1,2
2	9A2A340A	RUBBER CUSHION	4		302	WC2A551A	CONNECTOR CABLE	1	SEE PAGE BLK-1,2
3	8Z2A050AA	GASKET	2		303	WC2A552A	CONNECTOR CABLE	1	SEE PAGE BLK-1,2
△ 4	K5JYB000069	BRAKER	1	(AN)	304	WC2A554A	CONNECTOR CABLE	1	SEE PAGE BLK-1,2
△ 4	K5JYB000063	BRAKER	1	(AE,AMC)	305	WC2A555A	CONNECTOR CABLE	1	SEE PAGE BLK-1,2
△ 5	K2AH3H000026	AC INLET	1		306	WC2A556A	CONNECTOR CABLE	1	SEE PAGE BLK-1,2
6	9A10914BA	CORD CLAMP	1	(AN)	307	WC2A557A	CONNECTOR CABLE	1	SEE PAGE BLK-2(AE,AMC)
6	9A2A130AE	CORD CLAMP	1	(AE,AMC)	308	K1PY40Y00002	CONNECTOR CABLE	1	SEE PAGE BLK-1,2
△ 7	7G2A495B	GROUND LABEL	2		309	K1PY50Y00004	CONNECTOR CABLE	1	SEE PAGE BLK-1,2
8	V1FA0066B4	NUT	4		310	WC2A553B	CONNECTOR CABLE	1	SEE PAGE BLK-1,2
△ 9	VEKB1617	FAN ASSY	2						
10	N0AE1EJ00009	AC/DC CONVERTER	1		401	J0KF00000014	LC FILTER	4	SEE PAGE BLK-1,2
11	1L2G218B	CONNECTOR BRACKET	1						
12	K1YE25000008	LOCK SCREW	2		■ PCB1	SVEPB0588A	MAIN P.C.BOARD	1	(RTL)
13	9A2A796AH	SPACER	1	(AN)	■ PCB2	SVEPB0589A	PANEL P.C.BOARD	1	(RTL)
13	9A2A796AH	SPACER	2	(AE,AMC)	■ PCB3	SVEPB0597A	MOTHER P.C.BOARD	1	(RTL)
14	3CZ001273AAA	BARRIER	1	(AE,AMC)	■ PCB4	SVEPB0598A	SD CARD P.C.BOARD	1	(RTL)
15	VJR1120	COATING CLIP	3		■ PCB5	SVEPB0591A	POWER P.C.BOARD	1	(RTL) (AE,AMC)
16	1L2G222C	RAIL BRACKET	2						
17	K9ZZ00001807	GUIDE RAIL	8						
18	1L2G219B	STOPPER	1						
△ 19	5M2A011E	PANEL	1						
20	1L2G203BB	LCD BRACKET(R)	1						
21	1L2G203BA	LCD BRACKET(L)	1						
22	5K2A161A	SPACER	1						
23	5K2A163B	POSITIONER KNOB	1						
24	5K2A159B	INSULATOR	1						
25	SVEKB1666	LCD MODULE	1						
26	3CG001118AAA	FADER PANEL COVER	1						
27	V5EA1151A3	FADER SHAFT COVER	1						
28	VGU9111	FADER GRIP	1						
29	VGU9110	FADER CAP (B)	1						
30	VGU9109	FADER CAP (A)	1						
31	5B2B196C	LCD COVER	1						
32	5R2A003D	KNOB	6						
33	7K2B229A	SWITCH INSERT	1						
34	1L2G220B	REAR BRACKET	1						
35	1L2G221A	FRONT BRACKET	1						
36	5Y2A012A	LED LENS	1						
37	1L2G231A	BLANK PANEL	4						
38	1L2G223C	COVER BRACKET	1						
39	5M2A012B	TOP COVER	1						
40	8Z2A050AB	GASKET	1						
41	3EZ001362BAA	LINE SEAL	1						
42	K4DYD0000134	TERMINAL	6						
43	VEQB2922	FADER ASSY	1						
44	VMF0557-1	SPONGE	2						
45	5C2A038B	FRAME ORNAMENT	1						
46	3CZ001274AAA	BARRIER	1	(AE,AMC)					
47	KP01-DCN	SWITCH COVER (SMALL)	10	FOR K0F111A00574					
48	KP01-CCN	SWITCH COVER (LARGE)	25	FOR K0F111A00575					
101	XYN3+J6FN	STANDARD SCREW	14	(AN)					
101	XYN3+J6FN	STANDARD SCREW	16	(AE,AMC)					
102	XSB3+6FJK	STANDARD SCREW	19						
103	XTB3+6GFN	STANDARD SCREW	5						
104	XTB3+8GFJK	STANDARD SCREW	1						
105	XTB3+8GFN	STANDARD SCREW	32						
106	XTN3+12GFN	STANDARD SCREW	1						
107	XYM4+E8V	STANDARD SCREW	3						
108	XYN25+J6FN	OTHERS PARTS(M)	16						
109	XYN3+J35FN	OTHERS PARTS(M)	8						
110	XYN3+J6FJK	STANDARD SCREW	5						
△ 201	V7MB0103A4	SAFETY LABEL	2						
△ 202	3PA004825AAA	MAIN LABEL	1	(AN)					
△ 202	3PA004826BAA	MAIN LABEL	1	(AE)					
△ 202	3PA004827AAA	MAIN LABEL	1	(AMC)					
△ 203	V7MA0099B4	SAFETY LABEL	1	(AN,AE)					
204	VQL1B22	FCC LABEL	1	(AN)					
△ 205	3PC001356AAA	SAFETY LABEL	1	(AMC)					
△ 206	3PD003497AAA	PRODUCT DATE LABEL	1	(AMC)					
△ 207	3PD003733AAA	POWER LABEL	1	(AMC)					

PACKAGING PARTS ASSEMBLY



Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
1	3RA001960AAA	MASTER CARTON	1	(AN)
1	3RA001961AAA	MASTER CARTON	1	(AE)
1	3RA001962AAA	MASTER CARTON	1	(AMC)
2	3RD002134BAA	CUSHIONING(RIGHT)	1	
3	3RD002135CAA	CUSHIONING(LEFT)	1	
4	3RM001199AAA	PACKAGING CASE	1	
5	3RM001200AAA	PACKAGING CASE	1	
6	PE20X35C05B	POLYETHYLENE BAG	1	
7	PE55X71C05C	POLYETHYLENE BAG	1	
△	K2CG3Y00027	POWER CABLE	1	(AN)
△	K2CK3FH00001	POWER CABLE	1	(AMC)
△	K2CN2FH00001	POWER CABLE	1	(AE)
△	K2CT3FH00002	POWER CABLE	1	(AE)
10	PE25X35C05B	POLYETHYLENE BAG	1	
△	VQTB0342	OPERATING INSTRUCTIONS	1	(AN)
△	VQTB0343	OPERATING INSTRUCTIONS	1	(AE)
△	VQTB0344	OPERATING INSTRUCTIONS	1	(AMC)
12	3TU001959AAA	PRINTED MATTERS	1	(AE)
13	VQA0892	WARRANTY CARD	1	(AN) NORTH AMERICA
14	A8UA0550F2	WARRANTY CARD	1	(AN) JAPAN
15	VQC3614	AREA SHEET	1	(AE)
16	VFVB0011	CD-ROM	1	(AN,AE)
16	VFVB0012	CD-ROM	1	(AMC)

ELECTRICAL REPLACEMENT PARTS LIST

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks	Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
■ PCB1	SVEPB0588A	MAIN P.C.BOARD	1	(RTL)	C62	F1H1E104A030	C.CAPACITOR 25V 0.1U	1	
■ PCB2	SVEPB0589A	PANEL P.C.BOARD	1	(RTL)	C63	F1H1E104A030	C.CAPACITOR 25V 0.1U	1	
■ PCB3	SVEPB0597A	MOTHER P.C.BOARD	1	(RTL)	C64	F1H1H103A219	C.CAPACITOR 50V 0.01U	1	
■ PCB4	SVEPB0598A	SD CARD P.C.BOARD	1	(RTL)	C65	F1H1E104A030	C.CAPACITOR 25V 0.1U	1	
■ PCB5	SVEPB0591A	POWER P.C.BOARD	1	(RTL) (AE,AMC)	C66	F1H1E104A030	C.CAPACITOR 25V 0.1U	1	
					C67	F1H1E104A030	C.CAPACITOR 25V 0.1U	1	
					C68	F1H1E104A030	C.CAPACITOR 25V 0.1U	1	
					C69	F3F1C105A045	T.CAPACITOR 16V 1U	1	
■ PCB1	SVEPB0588A	MAIN P.C.BOARD	1	(RTL)	C70	F1J1A106A043	C.CAPACITOR 10V 10U	1	
					C71	F1H1E104A030	C.CAPACITOR 25V 0.1U	1	
B1	N9ZZ0000178	BATTERY HOLDER	1		C72	F1H1H222A190	C.CAPACITOR 50V 2200P	1	
					C73	F1H1E104A030	C.CAPACITOR 25V 0.1U	1	
C1	F3F1C475A045	T.CAPACITOR 16V 4.7U	1		C74	F1H1E104A030	C.CAPACITOR 25V 0.1U	1	
C2	F1H1H470A231	C.CAPACITOR 50V 47P	1		C76	F1H1E104A030	C.CAPACITOR 25V 0.1U	1	
C3	F1H1H470A231	C.CAPACITOR 50V 47P	1		C77	F1H1E104A030	C.CAPACITOR 25V 0.1U	1	
C4	F1H1H1R5A259	C.CAPACITOR 50V 1.5P	1		C78	F1H1E104A030	C.CAPACITOR 25V 0.1U	1	
C5	F1H1E104A030	C.CAPACITOR 25V 0.1U	1		C79	F1H1E104A030	C.CAPACITOR 25V 0.1U	1	
C6	F1H1A105A004	C.CAPACITOR 10V 1U	1		C80	F1H1E104A030	C.CAPACITOR 25V 0.1U	1	
C8	F4Z1A3360002	E.CAPACITOR 10V 33U	1		C81	F1J1A106A043	C.CAPACITOR 10V 10U	1	
C9	F1H1E104A030	C.CAPACITOR 25V 0.1U	1		C82	F1J1A106A043	C.CAPACITOR 10V 10U	1	
C10	F3F1C475A045	T.CAPACITOR 16V 4.7U	1		C83	F4Z1A3360002	E.CAPACITOR 10V 33U	1	
C11	F3F1C475A045	T.CAPACITOR 16V 4.7U	1		C84	F1H1E104A030	C.CAPACITOR 25V 0.1U	1	
C12	F1J1A106A043	C.CAPACITOR 10V 10U	1		C85	F1J1A106A043	C.CAPACITOR 10V 10U	1	
C13	F1H1E104A030	C.CAPACITOR 25V 0.1U	1		C86	F1H1E104A030	C.CAPACITOR 25V 0.1U	1	
C14	F1J1A106A043	C.CAPACITOR 10V 10U	1		C87	F1H1E104A030	C.CAPACITOR 25V 0.1U	1	
C15	F1H1E104A030	C.CAPACITOR 25V 0.1U	1		C88	F4Z1A3360002	E.CAPACITOR 10V 33U	1	
C16	F1H1E104A030	C.CAPACITOR 25V 0.1U	1		C89	F3F1C475A045	T.CAPACITOR 16V 4.7U	1	
C17	F1J1A106A043	C.CAPACITOR 10V 10U	1		C90	F1H1H470A231	C.CAPACITOR 50V 47P	1	
C18	F1H1E104A030	C.CAPACITOR 25V 0.1U	1		C91	F1H1H470A231	C.CAPACITOR 50V 47P	1	
C19	F1H1E104A030	C.CAPACITOR 25V 0.1U	1		C92	F1H1H1R5A259	C.CAPACITOR 50V 1.5P	1	
C20	F1H1H103A219	C.CAPACITOR 50V 0.01U	1		C93	F1H1E104A030	C.CAPACITOR 25V 0.1U	1	
C21	F1H1E104A030	C.CAPACITOR 25V 0.1U	1		C94	F1H1A105A004	C.CAPACITOR 10V 1U	1	
C22	F1H1E104A030	C.CAPACITOR 25V 0.1U	1		C96	F4Z1A3360002	E.CAPACITOR 10V 33U	1	
C23	F1H1E104A030	C.CAPACITOR 25V 0.1U	1		C97	F1H1E104A030	C.CAPACITOR 25V 0.1U	1	
C24	F1H1E104A030	C.CAPACITOR 25V 0.1U	1		C98	F3F1C475A045	T.CAPACITOR 16V 4.7U	1	
C25	F3F1C105A045	T.CAPACITOR 16V 1U	1		C99	F3F1C475A045	T.CAPACITOR 16V 4.7U	1	
C26	F1J1A106A043	C.CAPACITOR 10V 10U	1		C100	F1J1A106A043	C.CAPACITOR 10V 10U	1	
C27	F1H1E104A030	C.CAPACITOR 25V 0.1U	1		C101	F1H1E104A030	C.CAPACITOR 25V 0.1U	1	
C28	F1H1H222A190	C.CAPACITOR 50V 2200P	1		C102	F1J1A106A043	C.CAPACITOR 10V 10U	1	
C29	F1H1E104A030	C.CAPACITOR 25V 0.1U	1		C103	F1H1E104A030	C.CAPACITOR 25V 0.1U	1	
C30	F1H1E104A030	C.CAPACITOR 25V 0.1U	1		C104	F1H1E104A030	C.CAPACITOR 25V 0.1U	1	
C32	F1H1E104A030	C.CAPACITOR 25V 0.1U	1		C105	F1J1A106A043	C.CAPACITOR 10V 10U	1	
C33	F1H1E104A030	C.CAPACITOR 25V 0.1U	1		C106	F1H1E104A030	C.CAPACITOR 25V 0.1U	1	
C34	F1H1E104A030	C.CAPACITOR 25V 0.1U	1		C107	F1H1E104A030	C.CAPACITOR 25V 0.1U	1	
C35	F1H1E104A030	C.CAPACITOR 25V 0.1U	1		C108	F1H1H103A219	C.CAPACITOR 50V 0.01U	1	
C36	F1H1E104A030	C.CAPACITOR 25V 0.1U	1		C109	F1H1E104A030	C.CAPACITOR 25V 0.1U	1	
C37	F1J1A106A043	C.CAPACITOR 10V 10U	1		C110	F1H1E104A030	C.CAPACITOR 25V 0.1U	1	
C38	F1J1A106A043	C.CAPACITOR 10V 10U	1		C111	F1H1E104A030	C.CAPACITOR 25V 0.1U	1	
C39	F4Z1A3360002	E.CAPACITOR 10V 33U	1		C112	F1H1E104A030	C.CAPACITOR 25V 0.1U	1	
C40	F1H1E104A030	C.CAPACITOR 25V 0.1U	1		C113	F3F1C105A045	T.CAPACITOR 16V 1U	1	
C41	F1J1A106A043	C.CAPACITOR 10V 10U	1		C114	F1J1A106A043	C.CAPACITOR 10V 10U	1	
C42	F1H1E104A030	C.CAPACITOR 25V 0.1U	1		C115	F1H1E104A030	C.CAPACITOR 25V 0.1U	1	
C43	F1H1E104A030	C.CAPACITOR 25V 0.1U	1		C116	F1H1H222A190	C.CAPACITOR 50V 2200P	1	
C44	F4Z1A3360002	E.CAPACITOR 10V 33U	1		C117	F1H1E104A030	C.CAPACITOR 25V 0.1U	1	
C45	F3F1C475A045	T.CAPACITOR 16V 4.7U	1		C118	F1H1E104A030	C.CAPACITOR 25V 0.1U	1	
C46	F1H1H470A231	C.CAPACITOR 50V 47P	1		C120	F1H1E104A030	C.CAPACITOR 25V 0.1U	1	
C47	F1H1H470A231	C.CAPACITOR 50V 47P	1		C121	F1H1E104A030	C.CAPACITOR 25V 0.1U	1	
C48	F1H1H1R5A259	C.CAPACITOR 50V 1.5P	1		C122	F1H1E104A030	C.CAPACITOR 25V 0.1U	1	
C49	F1H1E104A030	C.CAPACITOR 25V 0.1U	1		C123	F1H1E104A030	C.CAPACITOR 25V 0.1U	1	
C50	F1H1A105A004	C.CAPACITOR 10V 1U	1		C124	F1H1E104A030	C.CAPACITOR 25V 0.1U	1	
C52	F4Z1A3360002	E.CAPACITOR 10V 33U	1		C125	F1J1A106A043	C.CAPACITOR 10V 10U	1	
C53	F1H1E104A030	C.CAPACITOR 25V 0.1U	1		C126	F1J1A106A043	C.CAPACITOR 10V 10U	1	
C54	F3F1C475A045	T.CAPACITOR 16V 4.7U	1		C127	F4Z1A3360002	E.CAPACITOR 10V 33U	1	
C55	F3F1C475A045	T.CAPACITOR 16V 4.7U	1		C128	F1H1E104A030	C.CAPACITOR 25V 0.1U	1	
C56	F1J1A106A043	C.CAPACITOR 10V 10U	1		C129	F1J1A106A043	C.CAPACITOR 10V 10U	1	
C57	F1H1E104A030	C.CAPACITOR 25V 0.1U	1		C130	F1H1E104A030	C.CAPACITOR 25V 0.1U	1	
C58	F1J1A106A043	C.CAPACITOR 10V 10U	1		C131	F1H1E104A030	C.CAPACITOR 25V 0.1U	1	
C59	F1H1E104A030	C.CAPACITOR 25V 0.1U	1		C132	F4Z1A3360002	E.CAPACITOR 10V 33U	1	
C60	F1H1E104A030	C.CAPACITOR 25V 0.1U	1		C133	F3F1C475A045	T.CAPACITOR 16V 4.7U	1	
C61	F1J1A106A043	C.CAPACITOR 10V 10U	1		C134	F1H1H470A231	C.CAPACITOR 50V 47P	1	
					C135	F1H1H470A231	C.CAPACITOR 50V 47P	1	
					C136	F1H1H1R5A259	C.CAPACITOR 50V 1.5P	1	
					C137	F1H1E104A030	C.CAPACITOR 25V 0.1U	1	
					C138	F1H1A105A004	C.CAPACITOR 10V 1U	1	
					C140	F4Z1A3360002	E.CAPACITOR 10V 33U	1	
					C141	F1H1E104A030	C.CAPACITOR 25V 0.1U	1	
					C142	F3F1C475A045	T.CAPACITOR 16V 4.7U	1	
					C143	F3F1C475A045	T.CAPACITOR 16V 4.7U	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
D10	B3ACB0000008	LED	1	
D11	B3ABB00000010	LED	1	
D12	B0ECKR0000026	DIODE	1	
D13	B3ABB00000010	LED	1	
D14	B3ABB00000010	LED	1	
D15	B3ABB00000010	LED	1	
D16	B3ABB00000010	LED	1	
D17	B0ECKR0000026	DIODE	1	
D18	B0ECKR0000026	DIODE	1	
D19	B3ABB00000010	LED	1	
D20	B3ABB00000010	LED	1	
D21	B0ECKR0000026	DIODE	1	
D22	B0JCCE0000014	DIODE	1	
D23	B0JCCE0000014	DIODE	1	
D24	B3ABB00000010	LED	1	
D25	B3ABB00000010	LED	1	
D26	B3ABB00000010	LED	1	
D27	B3ABB00000010	LED	1	
D28	B3ABB00000010	LED	1	
D29	B3ABB00000010	LED	1	
D34	B0JCPD0000032	DIODE	1	
D35	B0JCPD0000032	DIODE	1	
D36	B0JCPD0000032	DIODE	1	
D37	B0ECKR0000026	DIODE	1	
D2001	B0ECKR0000026	DIODE	1	
D2002	B0ECKR0000026	DIODE	1	
D3003	B0BC013A0235	DIODE	1	
D3004	B0ACDL0000006	DIODE	1	
△ F1	K5H252AA0011	CURRENT FUSE 2.5A	1	
△ F3	K5H252AA0011	CURRENT FUSE 2.5A	1	
△ F4	K5H252AA0011	CURRENT FUSE 2.5A	1	
△ F5	K5H502AA0010	CURRENT FUSE 5A	1	
△ F6	K5H502AA0010	CURRENT FUSE 5A	1	
△ F8	K5H102B00004	CURRENT FUSE 1A	1	
△ F9	K5H102B00004	CURRENT FUSE 1A	1	
△ F10	K5H202AA0010	CURRENT FUSE 2A	1	
△ F11	K5H202AA0010	CURRENT FUSE 2A	1	
△ F12	K5H202AA0010	CURRENT FUSE 2A	1	
△ F13	K5H252AA0011	CURRENT FUSE 2.5A	1	
△ F14	K5H252AA0011	CURRENT FUSE 2.5A	1	
IC1	C1AB00002673	LINEAR INTEGRATED IC	1	
IC2	C0JBAZ002217	LOGIC IC	1	
IC3	C1AB00002207	LINEAR INTEGRATED IC	1	
IC4	C0JBAZ002217	LOGIC IC	1	
IC5	C0CBAAE00023	REGULATOR IC	1	
IC6	C1AB00002673	LINEAR INTEGRATED IC	1	
IC7	C0JBAZ002217	LOGIC IC	1	
IC8	C1AB00002207	LINEAR INTEGRATED IC	1	
IC9	C0JBAZ002217	LOGIC IC	1	
IC10	C0CBAAE00023	REGULATOR IC	1	
IC11	C1AB00002673	LINEAR INTEGRATED IC	1	
IC12	C0JBAZ002217	LOGIC IC	1	
IC13	C1AB00002207	LINEAR INTEGRATED IC	1	
IC14	C0JBAZ002217	LOGIC IC	1	
IC15	C0CBAAE00023	REGULATOR IC	1	
IC16	C1AB00002673	LINEAR INTEGRATED IC	1	
IC17	C0JBAZ002217	LOGIC IC	1	
IC18	C1AB00002207	LINEAR INTEGRATED IC	1	
IC19	C0JBAZ002217	LOGIC IC	1	
IC20	C0CBAAE00023	REGULATOR IC	1	
IC21	C1AB00002621	LINEAR INTEGRATED IC	1	
IC22	GS1531CBE2ME	LINEAR INTEGRATED IC	1	
IC23	C0JBAZ002217	LOGIC IC	1	
IC24	C0CBAAE00023	REGULATOR IC	1	
IC25	C1AB00002621	LINEAR INTEGRATED IC	1	
IC26	GS1531CBE2ME	LINEAR INTEGRATED IC	1	
IC28	C0CBAAE00023	REGULATOR IC	1	
IC29	C1AB00002621	LINEAR INTEGRATED IC	1	
IC30	GS1531CBE2ME	LINEAR INTEGRATED IC	1	
IC31	C0CBAAE00023	REGULATOR IC	1	
IC32	C1ZB00003323	LINEAR INTEGRATED IC	1	
IC33	C3ABSY0000027	DRAM	1	
IC34	C3ABSY0000027	DRAM	1	
IC35	C3ABSY0000027	DRAM	1	
IC36	C3ABSY0000027	DRAM	1	
IC37	C1ZB00003205	LINEAR INTEGRATED IC	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
IC39	C3ABSY0000027	DRAM	1	
IC40	C3ABSY0000027	DRAM	1	
IC41	C3ABSY0000027	DRAM	1	
IC42	C3ABSY0000027	DRAM	1	
IC43	C3ABSY0000027	DRAM	1	
IC44	C3ABSY0000027	DRAM	1	
IC45	C3ABSY0000027	DRAM	1	
IC46	C3ABSY0000027	DRAM	1	
IC47	C0CBABG000019	REGULATOR IC	1	
IC48	C1AB00000155	LINEAR INTEGRATED IC	1	
IC49	C0CBAAE000023	REGULATOR IC	1	
IC50	C0JBCZ0000513	LOGIC IC	1	
IC51	C1AB000002380	LINEAR INTEGRATED IC	1	
IC52	C1AB000002334	LINEAR INTEGRATED IC	1	
IC53	C0JBCZ0000513	LOGIC IC	1	
IC54	C0JBAZ0000622	LOGIC IC	1	
IC55	C0JBAZ001632	LOGIC IC	1	
IC56	C0JBAZ0000622	LOGIC IC	1	
IC57	C1AB000002595	LINEAR INTEGRATED IC	1	
IC58	C1AB000002768	LINEAR INTEGRATED IC	1	
IC59	C1AB000002715	LINEAR INTEGRATED IC	1	
IC60	C2DBYY000178	MICRO CONTROLLER	1	
IC61	C0JBZZ0000336	LOGIC IC	1	
IC62	C0EBF0000404	LINEAR INTEGRATED IC	1	
IC63	C0JBAZ002217	LOGIC IC	1	
IC64	C0JBAZ002217	LOGIC IC	1	
IC65	C9ZB00000475	IC	1	
IC66	C3FBRG0000011	FLASH MEMORY	1	
IC67	C3ZBF00000015	MEMORY DEVICE	1	
IC68	C3ABRY0000032	DRAM	1	
IC69	C3ABRY0000032	DRAM	1	
IC70	G5BYC00000020	OSCILLATOR TRANSFORMER	1	
IC71	C1CB000002677	LINEAR INTEGRATED IC	1	
IC72	C1CB000002588	LINEAR INTEGRATED IC	1	
IC73	C0JBAZ002217	LOGIC IC	1	
IC75	C1ZB000003719	LINEAR INTEGRATED IC	1	
IC77	C0JBAZ001632	LOGIC IC	1	
IC78	C0JBZZ0000070	LOGIC IC	1	
IC79	C0JBZZ0000070	LOGIC IC	1	
IC80	C0JBAZ001632	LOGIC IC	1	
IC82	C0DBAYY00336	REGULATOR IC	1	
IC83	C0DBAYY00336	REGULATOR IC	1	
IC84	C0DBAFB000030	REGULATOR IC	1	
IC85	C0DBAFB000030	REGULATOR IC	1	
IC86	C0DBAFB000030	REGULATOR IC	1	
IC87	C0DBAYY00336	REGULATOR IC	1	
IC88	C0DBAYY00336	REGULATOR IC	1	
IC89	C0CBADE000034	REGULATOR IC	1	
IC2001	C0JBAZ001632	LOGIC IC	1	
IC2002	C0JBAZ001632	LOGIC IC	1	
IC2003	C0JBAZ001632	LOGIC IC	1	
IC2004	C0JBZZ0000070	LOGIC IC	1	
IC2005	C0JBZZ0000070	LOGIC IC	1	
IC2008	C0JBAZ002217	LOGIC IC	1	
IC2010	C0JBAZ002067	LOGIC IC	1	
IC2016	C0JBAZ001632	LOGIC IC	1	
IC3001	C0EBY00000377	LINEAR INTEGRATED IC	1	
J1	K1QBB2BB0008	CONNECTOR	1	
J2	K1QBB2BB0008	CONNECTOR	1	
J3	K1QBB2BB0008	CONNECTOR	1	
J4	K1QBB2BB0008	CONNECTOR	1	
J5	K1QBB2BB0008	CONNECTOR	1	
J6	K1QBB2BB0008	CONNECTOR	1	
J8	K1NC16A00001	CONNECTOR	1	
J9	K1NC16A00001	CONNECTOR	1	
J11	K1QBB2AB00002	CONNECTOR	1	
J12	K2HC103B0031	JACK	1	
L1	G1C6N8G00001	COIL	1	
L2	J0JDC00000016	LC FILTER	1	
L3	J0JDC00000016	LC FILTER	1	
L4	G1C5N6GA0032	COIL	1	
L5	J0JDC00000016	LC FILTER	1	
L6	J0JDC00000016	LC FILTER	1	
L7	J0JDC00000016	LC FILTER	1	
L8	J0JDC00000016	LC FILTER	1	
L9	J0JDC00000016	LC FILTER	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
L10	J0JDC0000016	LC FILTER	1	
L11	G1C6N8G00001	COIL	1	
L12	J0JDC0000016	LC FILTER	1	
L13	J0JDC0000016	LC FILTER	1	
L14	G1C5N6GA0032	COIL	1	
L15	J0JDC0000016	LC FILTER	1	
L16	J0JDC0000016	LC FILTER	1	
L17	J0JDC0000016	LC FILTER	1	
L18	J0JDC0000016	LC FILTER	1	
L19	J0JDC0000016	LC FILTER	1	
L20	J0JDC0000016	LC FILTER	1	
L21	G1C6N8G00001	COIL	1	
L22	J0JDC0000016	LC FILTER	1	
L23	J0JDC0000016	LC FILTER	1	
L24	G1C5N6GA0032	COIL	1	
L25	J0JDC0000016	LC FILTER	1	
L26	J0JDC0000016	LC FILTER	1	
L27	J0JDC0000016	LC FILTER	1	
L28	J0JDC0000016	LC FILTER	1	
L29	J0JDC0000016	LC FILTER	1	
L30	J0JDC0000016	LC FILTER	1	
L31	G1C6N8G00001	COIL	1	
L32	J0JDC0000016	LC FILTER	1	
L33	J0JDC0000016	LC FILTER	1	
L34	G1C5N6GA0032	COIL	1	
L35	J0JDC0000016	LC FILTER	1	
L36	J0JDC0000016	LC FILTER	1	
L37	J0JDC0000016	LC FILTER	1	
L38	J0JDC0000016	LC FILTER	1	
L39	J0JDC0000016	LC FILTER	1	
L40	J0JDC0000016	LC FILTER	1	
L41	G1C5N6GA0032	COIL	1	
L42	G1C5N6GA0032	COIL	1	
L43	J0JDC0000016	LC FILTER	1	
L44	J0JDC0000016	LC FILTER	1	
L45	J0JDC0000016	LC FILTER	1	
L46	J0JDC0000016	LC FILTER	1	
L47	J0JDC0000016	LC FILTER	1	
L48	G1C5N6GA0032	COIL	1	
L49	J0JDC0000016	LC FILTER	1	
L50	J0JDC0000016	LC FILTER	1	
L51	J0JDC0000016	LC FILTER	1	
L52	J0JDC0000016	LC FILTER	1	
L53	J0JDC0000016	LC FILTER	1	
L54	G1C5N6GA0032	COIL	1	
L55	J0JDC0000016	LC FILTER	1	
L56	J0JDC0000016	LC FILTER	1	
L57	J0JDC0000016	LC FILTER	1	
L58	J0JDC0000016	LC FILTER	1	
L59	J0JDC0000016	LC FILTER	1	
L60	J0JHC0000006	LC FILTER	1	
L61	J0JHC0000006	LC FILTER	1	
L62	J0JHC0000006	LC FILTER	1	
L63	J0JHC0000007	LC FILTER	1	
L64	J0JHC0000006	LC FILTER	1	
L65	J0JHC0000006	LC FILTER	1	
L66	J0JDC0000016	LC FILTER	1	
L67	J0JDC0000016	LC FILTER	1	
L68	J0JDC0000016	LC FILTER	1	
L69	J0JDC0000016	LC FILTER	1	
L70	J0JDC0000016	LC FILTER	1	
L71	J0JDC0000016	LC FILTER	1	
L72	G1C10NJA0075	COIL	1	
L73	J0JDC0000016	LC FILTER	1	
L74	J0JHC0000006	LC FILTER	1	
L75	J0JHC0000006	LC FILTER	1	
L77	G1A270HA0032	COIL	1	
L78	G1A270HA0032	COIL	1	
L79	G1A270HA0032	COIL	1	
L80	J0JHC0000006	LC FILTER	1	
L81	J0JHC0000006	LC FILTER	1	
L82	J0JHC0000006	LC FILTER	1	
L2001	J0JDC0000016	LC FILTER	1	
L2002	J0JDC0000015	LC FILTER	1	
L2003	J0JDC0000015	LC FILTER	1	
L2004	J0JDC0000015	LC FILTER	1	
L2005	J0JDC0000015	LC FILTER	1	
L2006	J0JDC0000015	LC FILTER	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
L2007	J0JDC0000015	LC FILTER	1	
L2008	J0JDC0000015	LC FILTER	1	
L2009	J0JDC0000015	LC FILTER	1	
L2010	J0JDC0000015	LC FILTER	1	
L2011	J0JDC0000015	LC FILTER	1	
L2012	J0JDC0000015	LC FILTER	1	
L2013	J0JDC0000015	LC FILTER	1	
L2014	J0JDC0000015	LC FILTER	1	
L2015	J0JDC0000015	LC FILTER	1	
L2016	J0JDC0000015	LC FILTER	1	
L2017	J0JDC0000015	LC FILTER	1	
L2018	J0JDC0000015	LC FILTER	1	
P4	K1KA14AA0279	CONNECTOR	1	
P5	K2LC108B0075	JACK	1	
P6	K1KA04AA0051	CONNECTOR	1	
P7	K1FB109B0076	CONNECTOR	1	
P8	K1FY115B0015	CONNECTOR	1	
P9	K1KA04A00032	CONNECTOR	1	
P11	K1KA50A00209	CONNECTOR	1	
P12	K1KYH5A00001	CONNECTOR	1	
P13	K1KYB0A00002	CONNECTOR	1	
P14	K1KYH5A00001	CONNECTOR	1	
P15	K1KYB0A00002	CONNECTOR	1	
P16	K1KA04A00629	CONNECTOR	1	
P18	K1KA03A00023	CONNECTOR	1	
P19	K1KA03A00023	CONNECTOR	1	
△ PC1	B3PBA0000010	OPT ELECTRONIC DEVICE	1	
Q1	2SA10220CL	TRANSISTOR	1	
Q2	2SA10220CL	TRANSISTOR	1	
Q3	2SA10220CL	TRANSISTOR	1	
Q4	2SA10220CL	TRANSISTOR	1	
Q5	2SA10220CL	TRANSISTOR	1	
Q6	2SA10220CL	TRANSISTOR	1	
Q7	2SD11190LL	TRANSISTOR	1	
Q8	B1HBGFG00018	TRANSISTOR ARRAY	1	
Q9	B1HBGFG00018	TRANSISTOR ARRAY	1	
Q13	2SD11190LL	TRANSISTOR	1	
Q14	2SD11190LL	TRANSISTOR	1	
Q15	B1CHRC000003	FET	1	
Q16	B1CHRC000003	FET	1	
Q17	B1CHRC000003	FET	1	
R1	ERJ3GEYJ750V	RESISTOR 1/10W 75	1	
R2	ERJ3GEYJ750V	RESISTOR 1/10W 75	1	
R3	ERJ3GEYJ390V	RESISTOR 1/10W 39	1	
R4	ERJ3GEYJ750V	RESISTOR 1/10W 75	1	
R5	ERJ3GEYJ682V	RESISTOR 1/10W 6.8K	1	
R6	ERJ3GEYJ123V	RESISTOR 1/10W 12K	1	
R7	ERJ3GEYJ222V	RESISTOR 1/10W 2.2K	1	
R10	ERJ3GEY0R00V	RESISTOR 1/10W 0	1	
R12	ERJ3GEY0R00V	RESISTOR 1/10W 0	1	
R13	ERJ3GEYJ101V	RESISTOR 1/10W 100	1	
R14	ERJ3GEYJ222V	RESISTOR 1/10W 2.2K	1	
R15	ERJ3GEYJ101V	RESISTOR 1/10W 100	1	
R17	ERJ3GEYJ271V	RESISTOR 1/10W 270	1	
R18	ERJ3GEYJ222V	RESISTOR 1/10W 2.2K	1	
R20	ERJ3GEYJ750V	RESISTOR 1/10W 75	1	
R21	ERJ3GEYJ750V	RESISTOR 1/10W 75	1	
R22	ERJ3GEYJ472V	RESISTOR 1/10W 4.7K	1	
R25	ERJ3GEYJ222V	RESISTOR 1/10W 2.2K	1	
R26	ERJ3GEYJ472V	RESISTOR 1/10W 4.7K	1	
R27	ERJ3GEY0R00V	RESISTOR 1/10W 0	1	
R28	ERJ3GEYJ222V	RESISTOR 1/10W 2.2K	1	
R29	ERJ3GEYJ222V	RESISTOR 1/10W 2.2K	1	
R30	ERJ3GEYJ222V	RESISTOR 1/10W 2.2K	1	
R31	ERJ3GEYJ222V	RESISTOR 1/10W 2.2K	1	
R32	ERJ3GEY0R00V	RESISTOR 1/10W 0	1	
R33	ERJ3GEYJ221V	RESISTOR 1/10W 220	1	
R34	ERJ3GEYJ221V	RESISTOR 1/10W 220	1	
R36	ERJ3GEYJ100V	RESISTOR 1/10W 10	1	
R37	ERJ3GEYJ100V	RESISTOR 1/10W 10	1	
R38	ERJ3GEYJ100V	RESISTOR 1/10W 10	1	
R39	ERJ3GEYJ100V	RESISTOR 1/10W 10	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R725	ERJ3GEY0R00V	RESISTOR 1/10W 0	1	
R726	ERJ3GEY0R00V	RESISTOR 1/10W 0	1	
R727	ERJ3GEYJ472V	RESISTOR 1/10W 4.7K	1	
R728	ERJ3GEYJ101V	RESISTOR 1/10W 100	1	
R729	ERJ3GEYJ101V	RESISTOR 1/10W 100	1	
R730	ERJ3GEY0R00V	RESISTOR 1/10W 0	1	
R731	ERJ3GEY0R00V	RESISTOR 1/10W 0	1	
R732	ERJ3GEYJ103V	RESISTOR 1/10W 10K	1	
R733	ERJ3GEYJ103V	RESISTOR 1/10W 10K	1	
R735	ERJ3GEYJ102V	RESISTOR 1/10W 1K	1	
R736	ERJ3GEYJ102V	RESISTOR 1/10W 1K	1	
R737	ERJ3GEY0R00V	RESISTOR 1/10W 0	1	
R744	EXB28V220JX	BLOCK RESISTOR 22	1	
R745	EXB28V220JX	BLOCK RESISTOR 22	1	
R746	EXB28V220JX	BLOCK RESISTOR 22	1	
R747	EXB28V220JX	BLOCK RESISTOR 22	1	
R748	ERJ2GEJ220X	RESISTOR 1/16W 22	1	
R749	ERJ2GEJ220X	RESISTOR 1/16W 22	1	
R750	ERJ2GEJ220X	RESISTOR 1/16W 22	1	
R751	ERJ2GEJ220X	RESISTOR 1/16W 22	1	
R752	ERJ3RBD221V	RESISTOR 1/16W 220	1	
R753	ERJ3RBD221V	RESISTOR 1/16W 220	1	
R754	ERJ3GEYJ101V	RESISTOR 1/10W 100	1	
R755	ERJ3GEYJ101V	RESISTOR 1/10W 100	1	
R756	ERJ3RBD221V	RESISTOR 1/16W 220	1	
R757	ERJ3RBD221V	RESISTOR 1/16W 220	1	
R758	ERJ2GEJ220X	RESISTOR 1/16W 22	1	
R759	ERJ2GEJ220X	RESISTOR 1/16W 22	1	
R760	ERJ2GEJ220X	RESISTOR 1/16W 22	1	
R761	ERJ2GEJ220X	RESISTOR 1/16W 22	1	
R762	EXB28V220JX	BLOCK RESISTOR 22	1	
R763	EXB28V220JX	BLOCK RESISTOR 22	1	
R764	EXB28V220JX	BLOCK RESISTOR 22	1	
R765	EXB28V220JX	BLOCK RESISTOR 22	1	
R766	EXB28V220JX	BLOCK RESISTOR 22	1	
R767	EXB28V220JX	BLOCK RESISTOR 22	1	
R768	EXB28V220JX	BLOCK RESISTOR 22	1	
R769	EXB28V220JX	BLOCK RESISTOR 22	1	
R770	ERJ2GEJ220X	RESISTOR 1/16W 22	1	
R771	ERJ2GEJ220X	RESISTOR 1/16W 22	1	
R772	ERJ2GEJ220X	RESISTOR 1/16W 22	1	
R773	ERJ2GEJ220X	RESISTOR 1/16W 22	1	
R774	ERJ3RBD221V	RESISTOR 1/16W 220	1	
R775	ERJ3RBD221V	RESISTOR 1/16W 220	1	
R776	ERJ3GEYJ101V	RESISTOR 1/10W 100	1	
R777	ERJ3GEYJ101V	RESISTOR 1/10W 100	1	
R778	ERJ3RBD221V	RESISTOR 1/16W 220	1	
R779	ERJ3RBD221V	RESISTOR 1/16W 220	1	
R780	ERJ2GEJ220X	RESISTOR 1/16W 22	1	
R781	ERJ2GEJ220X	RESISTOR 1/16W 22	1	
R782	ERJ2GEJ220X	RESISTOR 1/16W 22	1	
R783	ERJ2GEJ220X	RESISTOR 1/16W 22	1	
R784	EXB28V220JX	BLOCK RESISTOR 22	1	
R785	EXB28V220JX	BLOCK RESISTOR 22	1	
R786	EXB28V220JX	BLOCK RESISTOR 22	1	
R787	EXB28V220JX	BLOCK RESISTOR 22	1	
R788	EXB28V220JX	BLOCK RESISTOR 22	1	
R789	EXB28V220JX	BLOCK RESISTOR 22	1	
R790	EXB28V220JX	BLOCK RESISTOR 22	1	
R791	EXB28V220JX	BLOCK RESISTOR 22	1	
R792	ERJ2GEJ220X	RESISTOR 1/16W 22	1	
R793	ERJ2GEJ220X	RESISTOR 1/16W 22	1	
R794	ERJ2GEJ220X	RESISTOR 1/16W 22	1	
R795	ERJ2GEJ220X	RESISTOR 1/16W 22	1	
R796	ERJ3RBD221V	RESISTOR 1/16W 220	1	
R797	ERJ3RBD221V	RESISTOR 1/16W 220	1	
R798	ERJ3GEYJ101V	RESISTOR 1/10W 100	1	
R799	ERJ3GEYJ101V	RESISTOR 1/10W 100	1	
R800	ERJ3RBD221V	RESISTOR 1/16W 220	1	
R801	ERJ3RBD221V	RESISTOR 1/16W 220	1	
R802	ERJ2GEJ220X	RESISTOR 1/16W 22	1	
R803	ERJ2GEJ220X	RESISTOR 1/16W 22	1	
R804	ERJ2GEJ220X	RESISTOR 1/16W 22	1	
R805	ERJ2GEJ220X	RESISTOR 1/16W 22	1	
R806	EXB28V220JX	BLOCK RESISTOR 22	1	
R807	EXB28V220JX	BLOCK RESISTOR 22	1	
R808	EXB28V220JX	BLOCK RESISTOR 22	1	
R809	EXB28V220JX	BLOCK RESISTOR 22	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R810	EXB28V220JX	BLOCK RESISTOR 22	1	
R811	EXB28V220JX	BLOCK RESISTOR 22	1	
R812	EXB28V220JX	BLOCK RESISTOR 22	1	
R813	EXB28V220JX	BLOCK RESISTOR 22	1	
R814	ERJ2GEJ220X	RESISTOR 1/16W 22	1	
R815	ERJ2GEJ220X	RESISTOR 1/16W 22	1	
R816	ERJ2GEJ220X	RESISTOR 1/16W 22	1	
R817	ERJ2GEJ220X	RESISTOR 1/16W 22	1	
R818	ERJ3RBD221V	RESISTOR 1/16W 220	1	
R819	ERJ3RBD221V	RESISTOR 1/16W 220	1	
R820	ERJ3GEYJ101V	RESISTOR 1/10W 100	1	
R821	ERJ3GEYJ101V	RESISTOR 1/10W 100	1	
R822	ERJ3RBD221V	RESISTOR 1/16W 220	1	
R823	ERJ3RBD221V	RESISTOR 1/16W 220	1	
R824	ERJ2GEJ220X	RESISTOR 1/16W 22	1	
R825	ERJ2GEJ220X	RESISTOR 1/16W 22	1	
R826	ERJ2GEJ220X	RESISTOR 1/16W 22	1	
R827	ERJ2GEJ220X	RESISTOR 1/16W 22	1	
R828	EXB28V220JX	BLOCK RESISTOR 22	1	
R829	EXB28V220JX	BLOCK RESISTOR 22	1	
R830	EXB28V220JX	BLOCK RESISTOR 22	1	
R831	EXB28V220JX	BLOCK RESISTOR 22	1	
R832	ERJ3GEYJ101V	RESISTOR 1/10W 100	1	
R833	ERJ3GEYJ105V	RESISTOR 1/10W 1M	1	
R835	ERJ3GEYJ222V	RESISTOR 1/10W 2.2K	1	
R836	ERJ3GEYJ681V	RESISTOR 1/10W 680	1	
R837	ERJ3GEYJ681V	RESISTOR 1/10W 680	1	
R838	ERJ3GEYJ105V	RESISTOR 1/10W 1M	1	
R839	ERJ3GEYJ222V	RESISTOR 1/10W 2.2K	1	
R840	ERJ3GEYJ102V	RESISTOR 1/10W 1K	1	
R842	ERJ3GEYJ102V	RESISTOR 1/10W 1K	1	
R843	ERJ3GEYJ101V	RESISTOR 1/10W 100	1	
R844	ERJ3GEYJ101V	RESISTOR 1/10W 100	1	
R845	ERJ3GEYJ103V	RESISTOR 1/10W 10K	1	
R846	ERJ3GEYJ103V	RESISTOR 1/10W 10K	1	
R847	ERJ3GEYJ103V	RESISTOR 1/10W 10K	1	
R848	ERJ3GEYJ224V	RESISTOR 1/10W 220K	1	
R849	ERJ3GEYJ103V	RESISTOR 1/10W 10K	1	
R850	ERJ3GEYJ202V	RESISTOR 1/10W 2K	1	
R851	ERJ3GEYJ202V	RESISTOR 1/10W 2K	1	
R852	ERJ3GEYJ331V	RESISTOR 1/10W 330	1	
R853	ERJ3GEYJ331V	RESISTOR 1/10W 330	1	
R854	ERJ3GEYJ330V	RESISTOR 1/10W 33	1	
R855	ERJ3GEY0R00V	RESISTOR 1/10W 0	1	
R856	ERJ3GEYJ330V	RESISTOR 1/10W 33	1	
R857	ERJ3GEYJ330V	RESISTOR 1/10W 33	1	
R858	ERJ3GEYJ330V	RESISTOR 1/10W 33	1	
R859	ERJ3GEYJ330V	RESISTOR 1/10W 33	1	
R860	ERJ3GEYJ330V	RESISTOR 1/10W 33	1	
R861	ERJ3GEYJ330V	RESISTOR 1/10W 33	1	
R862	ERJ3GEYJ330V	RESISTOR 1/10W 33	1	
R863	ERJ3GEYJ330V	RESISTOR 1/10W 33	1	
R864	ERJ3GEYJ330V	RESISTOR 1/10W 33	1	
R865	ERJ3GEYJ330V	RESISTOR 1/10W 33	1	
R867	ERJ3GEYJ330V	RESISTOR 1/10W 33	1	
R868	ERJ3GEY0R00V	RESISTOR 1/10W 0	1	
R869	ERJ3GEYJ330V	RESISTOR 1/10W 33	1	
R870	ERJ3GEYJ330V	RESISTOR 1/10W 33	1	
R871	ERJ3GEYJ330V	RESISTOR 1/10W 33	1	
R872	ERJ3GEYJ330V	RESISTOR 1/10W 33	1	
R873	ERJ3GEYJ330V	RESISTOR 1/10W 33	1	
R874	ERJ3GEYJ330V	RESISTOR 1/10W 33	1	
R875	ERJ3GEYJ330V	RESISTOR 1/10W 33	1	
R876	ERJ3GEYJ330V	RESISTOR 1/10W 33	1	
R877	ERJ3GEYJ330V	RESISTOR 1/10W 33	1	
R878	ERJ3GEYJ330V	RESISTOR 1/10W 33	1	
R879	ERJ3GEY0R00V	RESISTOR 1/10W 0	1	
R880	ERJ3GEY0R00V	RESISTOR 1/10W 0	1	
R881	ERJ3GEYJ222V	RESISTOR 1/10W 2.2K	1	
R882	ERJ3GEYJ222V	RESISTOR 1/10W 2.2K	1	
R883	ERJ3GEYJ103V	RESISTOR 1/10W 10K	1	
R884	ERJ3GEYJ103V	RESISTOR 1/10W 10K	1	
R885	ERJ3GEYJ103V	RESISTOR 1/10W 10K	1	
R886	ERJ3GEY0R00V	RESISTOR 1/10W 0	1	
R887	ERJ3GEYJ151V	RESISTOR 1/10W 150	1	
R888	ERJ3GEY0R00V	RESISTOR 1/10W 0	1	
R890	ERJ3GEYJ151V	RESISTOR 1/10W 150	1	
R891	ERJ3GEY0R00V	RESISTOR 1/10W 0	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C633	F2H1D1010001	E.CAPACITOR 20V 100U	1	
C634	F2H1D1010001	E.CAPACITOR 20V 100U	1	
C635	EEEFK1C470UR	E.CAPACITOR 16V 47U	1	
C636	F1H1E104A030	C.CAPACITOR 25V 0.1U	1	
C637	F1H1E104A030	C.CAPACITOR 25V 0.1U	1	
C638	F1H1E104A030	C.CAPACITOR 25V 0.1U	1	
C639	F1H1E104A030	C.CAPACITOR 25V 0.1U	1	
C640	F1H1E104A030	C.CAPACITOR 25V 0.1U	1	
C641	F1H1E104A030	C.CAPACITOR 25V 0.1U	1	
C642	F1H1E104A030	C.CAPACITOR 25V 0.1U	1	
C643	F1H1E104A030	C.CAPACITOR 25V 0.1U	1	
C703	F1H1E104A030	C.CAPACITOR 25V 0.1U	1	
C704	F1H1E104A030	C.CAPACITOR 25V 0.1U	1	
C705	F1H1E104A030	C.CAPACITOR 25V 0.1U	1	
C706	F1H1E104A030	C.CAPACITOR 25V 0.1U	1	
C2047	F1H1E104A030	C.CAPACITOR 25V 0.1U	1	
C2048	F1H1E104A030	C.CAPACITOR 25V 0.1U	1	
C2049	F1H1E104A030	C.CAPACITOR 25V 0.1U	1	
C2050	F1H1E104A030	C.CAPACITOR 25V 0.1U	1	
C2052	F1H1E104A030	C.CAPACITOR 25V 0.1U	1	
C2053	F2H1D1010001	E.CAPACITOR 20V 100U	1	
D201	LN28RPX	LED	1	
D202	B3ABA0000025	LED	1	
D203	B3ABA0000025	LED	1	
D204	B3ABA0000025	LED	1	
D205	B3ABA0000025	LED	1	
D206	B3ABA0000025	LED	1	
D207	B3ABA0000025	LED	1	
D208	LN38GPX	LED	1	
D209	B3AAA0000253	LED	1	
D210	B3AAA0000253	LED	1	
D212	B3ABA0000025	LED	1	
D213	B3ABA0000025	LED	1	
D214	B3ABA0000025	LED	1	
D215	B3ABA0000025	LED	1	
D401	B0JCCE000014	DIODE	1	
D402	B0JCCE000014	DIODE	1	
D403	B0JCCE000014	DIODE	1	
D404	B0JCCE000014	DIODE	1	
D405	B0JCCE000014	DIODE	1	
D406	B0JCCE000014	DIODE	1	
D407	B0JCCE000014	DIODE	1	
D408	B0JCCE000014	DIODE	1	
D409	B0JCCE000014	DIODE	1	
D410	B0JCCE000014	DIODE	1	
D411	B0JCCE000014	DIODE	1	
D412	B0JCCE000014	DIODE	1	
D413	B0JCCE000014	DIODE	1	
D414	B0JCCE000014	DIODE	1	
D415	B0JCCE000014	DIODE	1	
D416	B0JCCE000014	DIODE	1	
D417	B0JCCE000014	DIODE	1	
D418	B0JCCE000014	DIODE	1	
D419	B0JCCE000014	DIODE	1	
D420	B0JCCE000014	DIODE	1	
D421	B0JCCE000014	DIODE	1	
D422	B0JCCE000014	DIODE	1	
D423	B0JCCE000014	DIODE	1	
D424	B0JCCE000014	DIODE	1	
D425	B0JCCE000014	DIODE	1	
D426	B0JCCE000014	DIODE	1	
D427	B0JCCE000014	DIODE	1	
D428	B0JCCE000014	DIODE	1	
D429	B0JCCE000014	DIODE	1	
D430	B0JCCE000014	DIODE	1	
D431	B0JCCE000014	DIODE	1	
D432	B0JCCE000014	DIODE	1	
D434	B0JCCE000014	DIODE	1	
D435	B0JCCE000014	DIODE	1	
D436	B0JCCE000014	DIODE	1	
D501	B0JCCE000014	DIODE	1	
D502	B0JCCE000014	DIODE	1	
D503	B0JCCE000014	DIODE	1	
D504	B0JCCE000014	DIODE	1	
D505	B0JCCE000014	DIODE	1	
D506	B0JCCE000014	DIODE	1	
D507	B0JCCE000014	DIODE	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
D508	B0JCCE000014	DIODE	1	
D509	B0JCCE000014	DIODE	1	
D510	B0JCCE000014	DIODE	1	
D511	B0JCCE000014	DIODE	1	
D512	B0JCCE000014	DIODE	1	
D513	B0JCCE000014	DIODE	1	
D514	B0JCCE000014	DIODE	1	
D515	B0JCCE000014	DIODE	1	
D516	B0JCCE000014	DIODE	1	
D517	B0JCCE000014	DIODE	1	
D518	B0JCCE000014	DIODE	1	
D519	B0JCCE000014	DIODE	1	
D520	B0JCCE000014	DIODE	1	
D521	B0JCCE000014	DIODE	1	
D522	B0JCCE000014	DIODE	1	
D523	B0JCCE000014	DIODE	1	
D524	B0JCCE000014	DIODE	1	
D525	B0JCCE000014	DIODE	1	
D526	B0JCCE000014	DIODE	1	
D527	B0JCCE000014	DIODE	1	
D528	B0JCCE000014	DIODE	1	
D529	B0JCCE000014	DIODE	1	
D530	B0JCCE000014	DIODE	1	
D531	B0JCCE000014	DIODE	1	
D532	B0JCCE000014	DIODE	1	
D533	B0JCCE000014	DIODE	1	
D534	B0JCCE000014	DIODE	1	
D535	B0JCCE000014	DIODE	1	
D536	B0JCCE000014	DIODE	1	
△ F16	K5H102B00004	CURRENT FUSE 1A	1	
IC101	C1ZBZ0003732	LINEAR INTEGRATED IC	1	
IC301	C0JBAZ001632	LOGIC IC	1	
IC302	C0JBAZ001632	LOGIC IC	1	
IC303	C0JBAZ001632	LOGIC IC	1	
IC601	C0FBAY000039	LINEAR INTEGRATED IC	1	
IC602	C0FBAY000039	LINEAR INTEGRATED IC	1	
IC603	C0FBAY000039	LINEAR INTEGRATED IC	1	
IC604	C0CBAYG00023	REGULATOR IC	1	
IC605	C0DBGYY00454	REGULATOR IC	1	
IC606	C0DBGYY00454	REGULATOR IC	1	
IC607	C0JBAZ002129	LOGIC IC	1	
IC608	C0JBAZ002129	LOGIC IC	1	
IC609	C0JBAZ001632	LOGIC IC	1	
IC701	C0JBZZ000070	LOGIC IC	1	
IC702	C0JBZZ000070	LOGIC IC	1	
IC703	C0JBAZ001632	LOGIC IC	1	
IC704	C0JBAZ001632	LOGIC IC	1	
IC2011	C0JBZZ000070	LOGIC IC	1	
IC2012	C0JBZZ000070	LOGIC IC	1	
IC2013	C0JBAZ001632	LOGIC IC	1	
IC2014	C0JBAZ001632	LOGIC IC	1	
IC2015	C0JBAZ002067	LOGIC IC	1	
L101	J0JHC0000006	LC FILTER	1	
L102	J0JHC0000006	LC FILTER	1	
P24	K1KA40BA0280	CONNECTOR	1	
P601	K1KA04B00018	CONNECTOR	1	
P602	K1KA03B00012	CONNECTOR	1	
P603	K1KA16BA0161	CONNECTOR	1	
P702	K1KY50BA0100	CONNECTOR	1	
Q203	B1HBGFG00018	TRANSISTOR ARRAY	1	
Q204	B1HBGFG00018	TRANSISTOR ARRAY	1	
Q205	B1HBGFG00018	TRANSISTOR ARRAY	1	
Q206	B1HBGFG00018	TRANSISTOR ARRAY	1	
Q207	B1HBGFG00018	TRANSISTOR ARRAY	1	
Q601	2SD11190LL	TRANSISTOR	1	
Q602	B1CHNC000010	FET	1	
Q603	B1CHNC000010	FET	1	
Q604	B1CHNC000010	FET	1	
Q605	B1CHNC000010	FET	1	
Q606	B1CHNC000010	FET	1	
R103	ERJ3GEY0R00V	RESISTOR 1/10W 0	1	
R104	ERJ3GEY0R00V	RESISTOR 1/10W 0	1	

