SONY®

TRINITRON® COLOR VIDEO MONITOR

BVM-D9H1A
CHASSIS NO. SCC-P31C-A

BVM-D9H1E
CHASSIS NO. SCC-G10D-A

BVM-D9H1U
CHASSIS NO. SCC-G09F-A

BVM-D9H5A
CHASSIS NO. SCC-P31F-A

BVM-D9H5E
CHASSIS NO. SCC-G10G-A

BVM-D9H5U
CHASSIS NO. SCC-G09G-A

HR Trinitron

Multiformat

MAINTENANCE MANUAL
1st Edition
Serial No. 2000001 and Higher (ALL MODELS)

⚠ WARNING

This manual is intended for qualified service personnel only.
To reduce the risk of electric shock, fire or injury, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so. Refer all servicing to qualified service personnel.

⚠ WARNUNG

Die Anleitung ist nur für qualifiziertes Fachpersonal bestimmt.
Alle Wartungsarbeiten dürfen nur von qualifiziertem Fachpersonal ausgeführt werden. Um die Gefahr eines elektrischen Schlages, Feuergefahr und Verletzungen zu vermeiden, sind bei Wartungsarbeiten strikt die Angaben in der Anleitung zu befolgen. Andere als die angegeben Wartungsarbeiten dürfen nur von Personen ausgeführt werden, die eine spezielle Befähigung dazu besitzen.

⚠ AVERTISSEMENT

Ce manual est destiné uniquement aux personnes compétentes en charge de l'entretien. Afin de réduire les risques de décharge électrique, d'incendie ou de blessure n'effectuer que les réparations indiquées dans le mode d'emploi à moins d'être qualifié pour en effectuer d'autres. Pour toute réparation faire appel à une personne compétente uniquement.

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SONY®

TRINITRON® COLOR VIDEO MONITOR

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BVM-D14H5J/D14H5U/D14H5E/D14H5A

Trinitron

Multiformat

OPERATION MANUAL   Japanese/English
1st Edition
Serial No. 2000001 and Higher

This section is extracted from operation manual.

WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.

To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.

AVERTISSEMENT

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

Afin d'écarter tout risque d'électrocution, garder le coffret fermé. Ne confier l'entretien de l'appareil qu'à un personnel qualifié.

WARNUNG

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

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

ADVERTENCIA

Para evitar incendios o el riesgo de electrocución, no exponga la unidad a la lluvia ni a la humedad.

Para evitar descargas eléctricas, no abra la unidad. En caso de avería, solicite los servicios de personal cualificado.

ATTENZIONE

Per evitare incendi o cortocircuiti, l'apparecchio non deve essere esposto alla pioggia o all'umidità.

Per evitare scosse elettriche, non aprite l'apparecchio. Per le riparazioni rivolgetevi solo a personale qualificato.

CAUTION:
Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.

ATTENTION
Il y a un risque d'explosion si la pile est mal insérée.
Remplacer la pile uniquement par une pile de même type ou de type équivalent recommandé par le fabricant. Jeter les piles usées conformément aux instructions du fabricant.

VORSICHT:
Es besteht Explosionsgefahr, wenn die Batterie inkorrekt eingelegt wird.
Es darf nur eine identische oder eine vom Hersteller empfohlene Batterie des gleichen Typs eingesetzt werden. Entladene Batterien sind nach den Anweisungen des Herstellers zu entsorgen.

PRECAUCION
Peligro de explosión en caso de haberse instalado incorrectamente la betería.
Cambie sólo por una del mismo tipo o especificaciones equivalentes, de entre las recomendadas por el fabricante. Las baterías viejas se deben eliminar siguiendo las instrucciones del fabricante.

ATTENZIONE:
Pericolo di esplosione se la pila viene sostituita scorrettamente.
Sostituirla solo con un'altra uguale o di un tipo equivalente consigliato dal fabbricante. Gettare via le pile usate secondo le istruzioni del fabbricante.

Note
The socket-outlet should be installed near the equipment and be easily accessible.

Remarque
La prise doit être près de l'appareil et facile d'accès.

Hinweis
Zur Trennung vom Netz ist der Netzstecker aus der Steckdose zu ziehen, welche sich in der Nähe des Gerätes befinden muß und leicht zugänglich sein soll.

Nota
La toma mural debe estar instalada cerca del equipo y debe accederse a ésta con facilidad.

Nota
La presa di corrente deve essere situata vicino all'apparecchio e deve essere facilmente accessibile.

For customers in the USA
(BVM-D9H1U/D9H5U, BVM-D14H1U/D14H5U)
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.

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

The shielded interface cable recommended in this manual must be used with this equipment in order to comply with the limits for a digital device pursuant to Subpart B of Part 15 of FCC Rules.

Für Kunden in Deutschland
Entsorgungshinweis: Bitte werfen Sie nur entladene Batterien in die Sammelboxen beim Handel oder den Kommunen. Entladen sind Batterien in der Regel dann, wenn das Gerät abschaltet und signalisiert "Batterie leer" oder nach längerer Gebrauchsdauer der Batterien "nicht mehr einwandfrei funktioniert". Um sicherzugehen, kleben Sie die Batteriepole z.B. mit einem Klebestreifen ab oder geben Sie die Batterien einzeln in einen Plastikbeutel.

Voor de klanten in Nederland

Bij dit produkt zijn batterijen geleverd. Wanneer deze leeg zijn, moet u ze niet weggooien maar inleveren als KCA.

- Dit apparaat bevat een Li-ion batterij voor memory back-up.
- De batterij voor memory back-up is vastgesoldeerd op de MA printplaat BT1.
- Raadpleeg uw leverancier over de verwijdering van de batterij op het moment dat u het apparaat bij einde levensduur afdankt.
- Gooi de batterij niet weg, maar lever hem in als KCA.

För kunderna i Sverige
Apparaten ma kun tilkoples jordet stikkontakt

For kunder i Norge
Apparatet må kun tilkoples jordet stikkontakt

For the customers in Europe
(BVM-D9H1E/D9H1A/D9H5E/D9H5A, BVM-D14H1E/
D14H1A/D14H5E/D14H5A)
This product with the CE marking complies with both the EMC Directive (89/336/EEC) and the Low Voltage Directive (73/23/EEC) issued by the Commission of the European Community.
Compliance with these directives implies conformity to the following European standards:
• EN60950: Product Safety
• EN55103-1: Electromagnetic Interference (Emission)
• EN55103-2: Electromagnetic Susceptibility (Immunity)
This product is intended for use in the following Electromagnetic Environment(s):
E1 (residential), E2 (commercial and light industrial), E3 (urban outdoors) and E4 (controlled EMC environment, ex. TV studio).

Pour les clients européens
(BVM-D9H1E/D9H1A/D9H5E/D9H5A, BVM-D14H1E/
D14H1A/D14H5E/D14H5A)
Ce produit portant la marque CE est conforme à la fois à la Directive sur la compatibilité électromagnétique (EMC) (89/336/CEE) et à la Directive sur les basses tensions (73/23/CEE) émises par la Commission de la Communauté européenne.
La conformité à ces directives implique la conformité aux normes européennes suivantes:
• EN60950: Sécurité des produits
• EN55103-1: Interférences électromagnétiques (émission)
• EN55103-2: Sensibilité électromagnétique (immunité)
Ce produit est prévu pour être utilisé dans les environnements électromagnétiques suivants:
E1 (résidentiel), E2 (commercial et industrie légère), E3 (urbain extérieur) et E4 (environnement EMC contrôlé ex. studio de télévision).

Für Kunden in Europa
(BVM-D9H1E/D9H1A/D9H5E/D9H5A, BVM-D14H1E/
D14H1A/D14H5E/D14H5A)
Dieses Produkt besitzt die CE-Kennzeichnung und erfüllt sowohl die EMV-Direktive (89/336/EEC) als auch die Direktive Niederspannung (73/23/EEC) der EG-Kommission.
Die Erfüllung dieser Direktiven bedeutet Konformität für die folgenden Europäischen Normen:
• EN60950: Produktsicherheit
• EN55103-1: Elektromagnetische Interferenz (Emission)
• EN55103-2: Elektromagnetische Empfindlichkeit (Immunität)
Dieses Produkt ist für den Einsatz unter folgenden elektromagnetischen Bedingungen ausgelegt:
E1 (Wohnbereich), E2 (kommerzieller und in beschränktem Maße industrieller Bereich), E3 (Stadtbereich im Freien) und E4 (kontrollierter EMV-Bereich, z.B. Fernsehstudio)

ATTENTION - When the product is installed in a rack:

a) Elevated operating ambient temperature

If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient. Therefore, consideration should be given to installing the equipment in an environment compatible with the manufacture's maximum rated ambient temperature (Tmra: 0°C to 35°C (32°F to 95°F)).

b) Reduced air flow

Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised.

c) Mechanical loading

Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.

d) Circuit overloading

Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of circuits might have on overcurrent protection and supply wiring.
Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.

e) Reliable earthing

Reliable earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (e.g., use of power strips).

f) Gap keeping

Upper and lower gap of rack-mounted equipment should be kept at least 44 mm (1¾ inches).

For the customers in the United Kingdom (BVM-D9H1E/D9H1A/D9H5E/D9H5A, BVM-D14H1E/ D14H1A/D14H5E/D14H5A)

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 wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug proceed as follows:
The wire which is coloured green-and-yellow must be connected to the terminal in the plug which is marked by the letter E or by the safety earth symbol ⏚ or coloured green or green-and-yellow.
The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.
The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

Ensure that your equipment is connected correctly - if you are in any doubt consult a qualified electrician.

Achtung - bei Installation des Geräts in einem Gestell:

a) Erhöhte Umgebungstemperatur bei Betrieb

Wird das Gerät in einem geschlossenen Gestell oder einem Gestell mit mehreren anderen Geräten installiert, kann die Umgebungstemperatur um das Gestell höher sein als die normale Umgebungstemperatur im Raum. Achten Sie daher bitte besonders darauf, das Gerät in einer Umgebung zu installieren, in der die Temperatur nicht über die vom Hersteller angegebene Umgebungstemperatur von 0 bis 35 °C (32 °F bis 95 °F) ansteigt (Tmra).

b) Reduzierte Belüftung

Das Gerät muß so im Gestell installiert werden, daß eine Belüftung gewährleistet ist, die für den sicheren Betrieb des Geräts erforderlich ist.

c) Mechanische Belastung

Das Gerät muß so im Gestell installiert werden, daß nicht durch eine ungleichmäßige mechanische Belastung Unfallgefahr entsteht.

d) Überlastung der Stromkreise

Der Anschluß des Geräts an das Versorgungsnetz erfordert sorgfältige Planung. Bitte beachten Sie insbesondere die Auswirkungen, die eine Überlastung der Stromkreise im Hinblick auf den Überspannungsschutz und die physischen Komponenten des Versorgungsnetzes haben kann.
Beachten Sie in diesem Zusammenhang unbedingt die Angaben auf dem Typenschild am Gerät.

e) Zuverlässige Erdung

Geräte, die in einem Gestell installiert werden, benötigen eine zuverlässige Erdung. Achten Sie insbesondere auf Anschlüsse an das Versorgungsnetz, die nicht direkt an einen Abzweigstromkreis, sondern indirekt, zum Beispiel über Verlängerungskabel, erfolgen.

f) Erforderliche Abstände

Halten Sie zur Ober- und Unterseite eines in einem Gestell installierten Geräts einen Abstand von 44 mm (1 ³/₄ inches) ein.

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Precautions

On safety

- Operate the unit only with a power source as specified in "Specifications" section.
- The nameplate indicating operating voltage, power consumption, etc., is located at the rear.
- Should any solid object or liquid fall into the cabinet, unplug the unit and have it checked by qualified personnel before operating it any further.
- Do not drop or place heavy objects on the power cord. If the power cord is damaged, turn off the power immediately. It is dangerous to use the unit with a damaged power cord.
- Unplug the unit from the wall outlet if it is not to be used for several days or more.
- Disconnect the power cord from the AC outlet by grasping the plug, not by pulling the cord.
- The socket-outlet shall be installed near the equipment and shall be easily accessible.
- Use the supplied AC adaptor for the BVM-D9H1U/ D9H1E/D9H1A/D9H5U/D9H5E/D9H5A models only. It is dangerous to use the AC adaptor for models other than these.

On installation

- Allow adequate air circulation to prevent internal heat build-up.
  Do not place the unit on surfaces (rugs, blankets, etc.) or near materials (curtains, draperies) that may block the ventilation holes.
- Do not install the unit in a location near heat sources such as radiators or air ducts, or in a place subject to direct sunlight, excessive dust, mechanical vibration or shock.

On mounting the rack

When the monitor is mounted on the rack, the proximity of other equipment or a decrease in air circulation may cause heat to build up inside the monitor. Therefore, when mounting the monitor on the rack, ensure there is an adequate opening for ventilation or install a fan. The following operating conditions are needed:
Temperature: 0°C to 35°C (32°F to 95°F),
Optimum temperature: 20°C to 30°C (68°F to 86°F)

On the battery (BVM-D9H1U/D9H1E/D9H1A/ D9H5U/D9H5E/D9H5A only)

The MAIN POWER switch is not supplied with the above models. Therefore, when the power is turned off with a battery installed, the monitor is set to standby mode and a small amount of power is consumed. When the monitor is not used for a long period, remove the battery.

On cleaning

To keep the unit looking brand-new, periodically clean it with a mild detergent solution. Never use strong solvents such as thinner or benzine, or abrasive cleansers since they will damage the cabinet. As a safety precaution, unplug the unit before cleaning it.

On repacking

Do not throw away the carton and packing materials. They make an ideal container which to transport the unit.
If you have any questions about this unit, contact your authorized Sony dealer.

On magnetism

- Do not place the unit near any objects or pieces of equipment which generate magnetism, such as magnets, speakers, electric clocks, toys using magnets, health appliances, etc. Magnetism will cause picture bounce, oscillations or picture discoloration.
- Also, the picture may become fuzzy or the colors may not reproduce correctly due to earth magnetism. This depends on direction that the unit is installed. This is not equipment failure. In such a case, simply degauss the unit.

On the CRT

- Dust accumulates on the CRT easily. Clean the CRT when necessary with a soft cloth.
  The surface of the CRT is easily scratched; therefore, do not rub or touch the surface of the CRT unnecessarily since this may result in a scratched picture tube.
- If you touch the surface of the CRT, you may feel a weak electrical shock. This is simply static electricity that is generated on the surface of the CRT. It will not affect the human body.

On using as the monitor for 4:3 signals

The 16:9 mask is installed at the factory. When the display is set to the 4:3 aspect ratio, the upper and lower portions of the display are masked and you cannot view the upper and lower portions of the picture. Therefore, when you want to display the picture in 4:3 aspect ratio, install the supplied 4:3 mask.

Overview

The BVM-D9H1U/D9H1E/D9H1A/D9H5U/D9H5E/D9H5A are 9 -inch Trinitron®[1] Color Monitors. The BVM-D14H1U/D14H1E/D14H1A/D14H5U/D14H5E/D14H5A are 14-inch[2] Trinitron® Color Monitors.

Features

Multiformat

The monitor supports the principal format (480I/480P/720P/1080I) for the digital broadcasts, NTSC and PAL color systems, and a wide variety of signals[3] whose horizontal frequency is between 15 kHz and 45 kHz.

High resolution picture tube

The HR Trinitron picture tube produces a clear, high resolution image.

Model	Aperture grille pitch	Resolution at the center of the picture
BVM-D9H1U/ D9H1E/D9H1A/ D9H5U/D9H5E/ D9H5A	0.25 mm	450 TV lines (4:3) 340 TV lines (16:9)
BVM-D14H1U/ D14H1E/D14H1A/ D14H5U/D14H5E/ D14H5A	0.25 mm	800 TV lines (4:3) 600 TV lines (16:9)

Separate control unit (BVM-D9H1U/D9H1E/ D9H1A/D14H1U/D14H1E/D14H1A)

Using a separate control unit reduces the space needed for the equipment.
The monitor is controlled by a separate control unit, such as an optional BKM-10R/11R Monitor Control Unit or by daisy chain connections.

Controlling monitor groups

Up to 32 monitors can be controlled from one control unit by the RS-485 serial remote connections. You can control individual monitors or monitor groups simply by entering monitor address or group numbers. You can also execute the same operation on all connected monitors, or put all connected monitors into the same setup and adjustment state.

Auto chroma phase and white balance functions

The chroma and phase of the decoder are automatically adjusted with the auto chroma phase function and the color temperature is automatically adjusted with the auto white balance function by using the BKM-14L Auto Setup Probe, etc.

4:3 area marker

It is possible to check the 4:3 aspect area in the 16:9 picture by displaying the 4:3 marker.

Expandable input capability

You can obtain HD SDI signals, D1 SDI signals, NTSC/PAL signals or YP$_B$P$_R$/RGB signals by installing the optional input adaptors at the rear of the monitor. The input connector configuration can be easily modified and up to three adaptors can be installed. The BKM-129X Analog Component Input Adaptor is installed at SLOT 1 at the factory.

Stable color temperature

The beam current feedback circuit maintains a constant color temperature over long periods of time.

Blue-only mode convenient for monitoring noise

All three CRT cathodes can be driven with a blue signal, producing a monochrome display. This mode is convenient for chroma and phase adjustment, and for monitoring VTR noise.

Other features

- The monitor's various functions and operating conditions can be set with on-screen menus.
- Has both RS-485 serial remote and relay contact parallel remote control connectors.
- H delay and V delay functions for simultaneous checking of the horizontal and vertical synchronization signals. VITS (Vertical Interval Test Signal) checking is also possible.
- Auto and manual degaussing.
- The monitor may be mounted in an EIA-standard 19-inch rack, using an optional MB-520 (for 9-inch monitor) or BKM-30E14/31E14 (for 14-inch monitor) Rack Mount Kit.
- The appearance of the monitor can be changed to 16:9 or 4:3 display by the replacement of a mask.
- Operable by using a Sony lithium ion battery (BP-L60/L90A) or DC 12 V external power source. (BVM-D9H1U/D9H1E/D9H1A/D9H5U/D9H5E/D9H5A only)
- Built-in audio reproduce circuit and speaker. (BVM-D9H5U/D9H5E/D9H5A only)

Options

For external control

BKM-10R Monitor Control Unit

A controller for the BVM-D9H/D14H series video monitors, allowing you to control multiple monitors from one control unit.

BKM-11R Monitor Control Unit

A controller for the BVM-D9H/D14H and other BVM/HDM series video monitors, allowing you to control multiple monitors from one control unit.

BKM-14L Auto Setup Probe

A probe, allowing the automatic adjustment of this monitor's color temperature.

For installation

MB-520 Mounting Bracket

Mounting bracket to mount one or two BVM-D9H1U/D9H1E/D9H1A/D9H5U/D9H5E/D9H5A in a 19-inch EIA standard rack.

MB-519 Mounting Panel

Panel for the BVM-D9H1U/D9H1E/D9H1A to fill up the space created when mounting a video monitor to a rack with the MB-520 mounting bracket.

MB-509 Mounting Panel

Panel for the BVM-D9H5U/D9H5E/D9H5A to fill up the space created when mounting a video monitor to a rack with the MB-520 mounting bracket.

BKM-30E14 Rack Mount Kit

Rack mount kit for mounting the BVM-D14H5U/D14H5E/D14H5A in an EIA standard 19-inch rack.

BKM-31E14 Rack Mount Kit

Rack mount kit for mounting the BVM-D14H1U/D14H1E/D14H1A in an EIA standard 19-inch rack.

Others

VF-508 Monitor ENG Kit

Kit that includes a light intercepting hood which is mounted on the front of a monitor, and a connector protector which is mounted on the rear.

Input adaptors

The input connector panel is configured by sliding the optional input adaptor into the input option slot at the rear of the monitor. Up to three adaptors can be installed to the monitor.
The input signal type for each connector of the adaptor is set with the INPUT CONFIG menu, in accordance with the configuration of the connector panel.

Note

When installing the adaptor, be sure to perform the necessary input signal setup with the INPUT CONFIG menu. If the setup is not performed, the adaptors may not function correctly.

For information about the INPUT CONFIG menu, see "[C] Setting the Input Configuration — INPUT CONFIG Menu" on page 35(E).

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1) Trinitron® is a registered trademark of Sony Corporation.
2) 9-inch and 14-inch refer to the CRT size of the monitor.
   For effective picture size, see "Specifications" on page 47(E).
3) For details on the signal format, see "Available Signal Format" on page 53(E).

Overview

BKM-120D SDI 4:2:2 Input Adaptor
Includes a decoder for serial digital component signals.
D1 SDI input/output connectors for two serial digital
channels and active loop-through output connectors.

BKM-127W NTSC/PAL Input Adaptor
Includes decoders for analog composite NTSC and
PAL signals. Input/output connectors for two analog
channels and one YC channel.

BKM-129X Analog Component Input Adaptor
Includes input/output connectors for one analog
channel and EXT SYNC input/output connectors.

The BKM-129X is mounted to the monitor at the
factory.

BKM-142HD HD SDI Input Adaptor
Includes a decoder for HD serial digital signals and
input/output connectors for two serial digital signal
channels and monitor output connector.
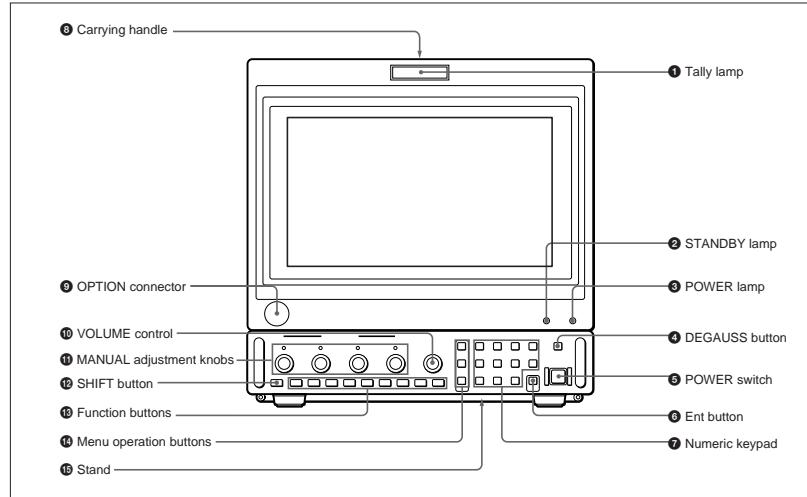
Notes
• The BKM-142HD uses two input option slots.
• The signal from MONITOR OUT connector does not
  satisfy the ON-LINE signal specifications.

Location and Function of Parts
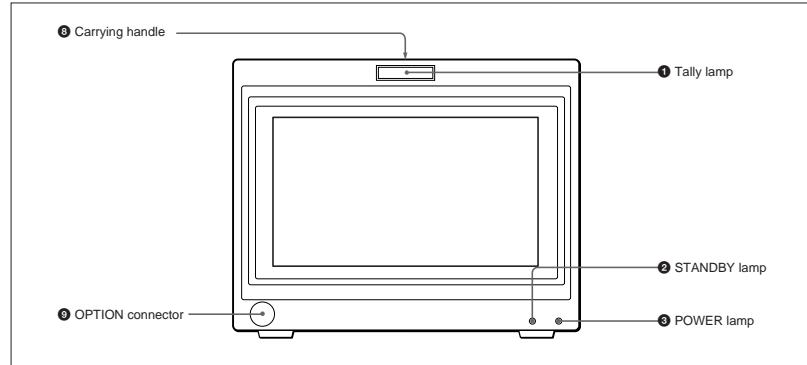
BVM-D9H1U/D9H1E/D9H1A/D9H5U/D9H5E/D9H5A Front Panel

For the BVM-D14H1U/D14H1E/D14H1A/D14H5U/D14H5E/D14H5A, see pages 16(E) to 20(E).

BVM-D9H1U/D9H1E/D9H1A

❽ Carrying handle
❾ OPTION connector
❿ VOLUME control
⓫ MANUAL adjustment knobs
⓬ SHIFT button
⓭ Function buttons
⓮ Menu operation buttons
⓯ Stand

❶ Tally lamp
❷ STANDBY lamp
❸ POWER lamp
❹ DEGAUSS button
❺ POWER switch
❻ Ent button
❼ Numeric keypad

BVM-D9H5U/D9H5E/D9H5A

❽ Carrying handle
❾ OPTION connector

❶ Tally lamp
❷ STANDBY lamp
❸ POWER lamp

Location and Function of Parts

This manual explains the location and function of parts and controls of the BVM-D9H5U/D9H5E/D9H5A. The explanation also applies to the optional BKM-10R/11R Monitor Control Unit.

❶ Tally lamp

With factory settings, the tally lamp lights as follows when the pins of the PARALLEL REMOTE ☐1 connector on the rear panel are shorted:
– in red, when pins No.3 and No.9 are shorted.
– in green, when pins No.4 and No.9 are shorted.
– in amber, when pins No.3, No.4 and No.9 are shorted.

The tally lamp lights as follows when the pins of the PARALLEL REMOTE ☐2 connector on the rear panel are shorted:
– in red, when pins No.3 and No.5 are shorted.
– in green, when pins No.4 and No.5 are shorted.
– in amber, when pins No.3, No.4 and No.5 are shorted.
By changing the setting in the REMOTE menu, different pins on the remote connector can be used to control the tally lamp.

For information about the REMOTE menu, see "☐D Assigning the Remote Control Functions — REMOTE Menu" on page 37(E).

❷ STANDBY lamp

Lights when the monitor is in standby mode. The monitor will be in standby mode under the following conditions:
• The AC adaptor or battery is attached to the monitor when the STANDBY MODE menu of the SYSTEM CONFIG menu is set to ON.
• The monitor is changed from operation mode to standby mode by external control.

For information about the SYSTEM CONFIG menu, see "☐E Setting the Power-Up Conditions and Data about the Screen Display — SYSTEM CONFIG Menu" on page 39(E).

❸ POWER lamp

Lights when the monitor is put into operation mode from standby mode (see STANDBY lamp ❷) by pressing the POWER switch ❺.

Note

When the STANDBY lamp ❷ is blinking, the monitor cannot be put into operation mode (internal data initialization is taking place). Wait until the STANDBY lamp ❷ is steadily lit.

❹ DEGAUSS button

Press to degauss the CRT (every time the monitor is turned on, the CRT is degaussed automatically). To degauss again, wait for more than five minutes.

❺ POWER switch

Press to turn on/off the monitor. By setting with the ADDRESS menu, it is possible to turn on/off the power of the specified monitors only, or of all monitors at the same time.

For information about the ADDRESS menu, see "Selecting the Monitor to Control — ADDRESS Menu" on page 45(E).

❻ Ent button

Use to confirm the items, values and characters entered.

❼ Numeric keypad

Use to designate the channel number for the input signal to be monitored, or to enter the setting values with the menus.

Del button: Deletes the values and characters entered.
Numeric buttons

❽ Carrying handle

Pull out to use for carrying the monitor.

❾ OPTION connector

Used to connect the BKM-11R Monitor Control Unit or Auto Setup Probe (BKM-14L, etc.)
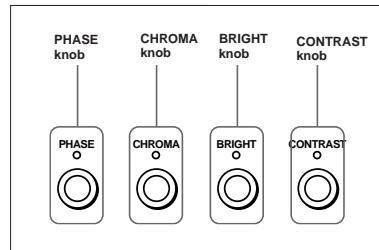
❿ VOLUME control

Adjusts the volume of the audio signals from the equipment connected to the AUDIO IN jacks at the rear of the monitor.

⓫ MANUAL adjustment knobs

Each press of one of these knobs turns the knob's green LED on or off. When the corresponding knob is on (lit), it is possible to manually adjust the contrast, brightness, chroma and phase by turning the corresponding knobs. The PHASE knob is also used to select the items or enter the setting values with the menus. It is possible to set the preset value for each adjusting item with the CONTROL PRESET ADJ menu.

For Information about the CONTROL PRESET ADJ menu, see " ☐A Preset Adjustment of the Picture Level Control Knobs — CONTROL PRESET ADJ menu" on page 31(E).

Note

The PHASE and CHROMA knobs may not be adjusted due to the signals. However, these knobs are used for selecting the items or entering the setting values with the menus.

⓬ SHIFT button

Press to select one of the two functions designated to the function buttons ⓭.
Each time the SHIFT button is pressed, the LED turns on (SHIFT ON: lits in umber) and off (SHIFT OFF.)
SHIFT OFF: The functions indicated above the function buttons can be used (the LED of the function button lits in green.)
SHIFT ON: The functions indicated below the function buttons can be used (the LED of the function button lits in amber.)

⓭ Function buttons

Change the operation conditions for the monitor. Each time the button is pressed, the LED turns on and turns off, and the operation conditions are changed. Each button has two functions. Select one of the two functions by pressing the SHIFT button ⓬. When the SHIFT button is set to ON, the LED lights in umber, and when the SHIFT button is set to OFF, the LED of each button lights in green.

For the functions of the function buttons in case of SHIFT OFF and SHIFT ON, see pages 10(E) and 11(E).

⓮ Menu operation buttons

MENU button: Press to display the monitor menus.

UP/DOWN buttons: Press to select the items and setting values.

For more information about menu operation, see "Basic Menu Operations" on page 25(E).

⓯ Stand

Pull out to use.

Using the Carrying Handle and Stand

Pull up.

Pull out toward front side.

Location and Function of Parts

Function buttons in SHIFT OFF mode (LEDs of function buttons in green)

(Underscan) button: When this button is pushed in (ON), the picture is underscanned by 3%, and four ends of the raster is displayed on the screen.

(H delay) button: When this button is pushed in (ON), the picture moves horizontally, and a horizontal sync signal appears approximately one quarter in the left edge of the screen.
• The brightness of the picture increases automatically, and it makes it easy to check the sync part.
• If it is pressed together with the ▬ button, a pulse cross picture is displayed.

(V delay) button: When this button is pushed in (ON), the picture moves vertically, and a vertical sync signal appears approximately in the center of the screen.
• The brightness of the picture increases automatically, and it makes it easy to check the sync part.
• If it is pressed together with the ▯ button, a pulse cross picture is displayed.

MONO button: When this button is pushed in (ON), a monochrome picture is displayed. When the buttons is off, the monitor switches automatically color mode.

Notes
• The MONO button does not function with the RGB signal input.
• When the NTSC or PAL color signals are received and color burst signals are not input, the monitor does not switch to color mode.

ADDRESS button: When this button is pushed in (ON), the ADDRESS menu appears on the screen. By using the ADDRESS menu, operation conditions for multiple monitors are set.
For more information about the ADDRESS menu, see "Selecting the Monitor to Control — ADDRESS Menu" on page 45(E).

F2 button: When this button is pushed in (ON), you can access directly the MANUAL menu of the level 1 of the COLOR TEMP ADJ menu, if the short-cut function is assigned to this button.

F1 button: When this button is pushed in (ON), the characters disappear from the monitor on the MANUAL menu of the level 1 of the CONTROL PRESET ADJ menu, the MANUAL menu of the level 1 of the COLOR TEMP ADJ menu, and the ALIGNMENT menu.

COMB button: This button does not function with this monitor. However, when the BKM-127W NTSC/PAL Input Adaptor (optional) is installed and the NTSC or PAL color signals are received, the monitor can be used with the comb filter turned on.

APT (aperture) button: When this button is pushed in (ON), the frequency response can be modified. The degree of modification is set with the menu. (When RGB signals are input, the button does not function.)

Buttons (left to right): 16:9 | SYNC | B ONLY | MONO/R | APT/G | COMB/B | F1/F3 | F2/F4 | ADDRESS/MARKER

Function buttons in SHIFT ON mode (LEDs of function buttons in amber)

16:9 button: When this button is pushed in (ON), the aspect ratio changes to 16:9, and when set to OFF, the aspect ratio changes to 4:3.
The aspect ratio is fixed to 16:9 when the signal other than 4:3 signal format is input. For details, see "Available Signal Format" on page 53(E).

SYNC button: When this button is pushed in (ON), the monitor synchronizes to the sync signal input to the SYNC connectors on the BKM-129X (EXT SYNC). When set to OFF, it synchronizes to the sync signal included in the signals being monitored (INT SYNC).

Notes
• When INT SYNC is selected, use a component including a sync signal on the Y signal, and use RGB signal including a sync signal on the G signal.
• When the BKM-129X is not installed to the monitor or serial digital signals are monitored, INT SYNC is automatically selected. You cannot select EXT SYNC.

B ONLY (blue only) button: When this button is pushed in (ON), red and green signals are cut, and only the blue signal is displayed as a monochrome picture. It makes it easy to adjust CHROMA and PHASE, and to check VTR noise.

R/G/B buttons: When these buttons are pushed in (ON), R(red), G(green), and B(blue) beams are cut respectively.

MARKER button: When this button is pushed in (ON), a 4:3 marker is displayed and it is possible to check the 4:3 aspect area in the 16:9 picture.

Note
The 4:3 marker is not displayed when the signals of the 4:3 aspect ratio are monitored or the monitor is in H/V delay mode

F3/F4 buttons: For future expansion.

Buttons (left to right): 16:9 | SYNC | B ONLY | MONO/R | APT/G | COMB/B | F1/F3 | F2/F4 | ADDRESS/MARKER

Location and Function of Parts

BVM-D9H1U/D9H1E/D9H1A/D9H5U/D9H5E/D9H5A Rear Panel

For the BVM-D14H1U/D14H1E/D14H1A/D14H5U/D14H5E/D14H5A, see pages 21(E) to 23(E).

BVM-D9H5U/D9H5E/D9H5A
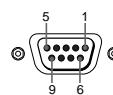
- ❻ Input option slots
- ❼ Analog input/output connectors
- ❽ AUDIO IN/OUT (input/output) jacks
- ❶ PARALLEL REMOTE 1/2 connectors
- ❷ DC 12V IN jack
- ❸ EJECT button
- ❹ AC adaptor/battery attachment place
- ❺ SERIAL REMOTE connectors

BVM-D9H1U/D9H1E/D9H1A

- ❻ Input option slots
- ❼ Analog input/output connectors
- ❶ PARALLEL REMOTE 1/2 connectors
- ❷ DC 12V IN jack
- ❸ EJECT button
- ❹ AC adaptor/battery attachment place
- ❺ SERIAL REMOTE connectors and SERIAL REMOTE/CTRL UNIT select switch

❶ **PARALLEL REMOTE 1/2 connectors**
(1: **female, D-sub 9-pin, 2: modular connector**)
Form a parallel switch and controls the monitor externally. The pin assignment and factory setting function assigned to each pin are given below.

1: **D-sub 9-pin**

Pin number	Functions
1	Set input signal channel 1 (numeric keypad function)
2	Set input signal channel 2 (numeric keypad function)
3	Set red tally lamp on or off
4	Set green tally lamp on or off
5	Select sync signal (SYNC button function)
6	Set underscan on or off
7	Set a 16:9 aspect ratio on or off
8	Set the 4:3 area marker display on or off
9	GND

2: **modular connector**

Pin number	Functions
1	Set input signal channel 1 (numeric keypad function)
2	Set input signal channel 2 (numeric keypad function)
3	Set red tally lamp on or off
4	Set green tally lamp on or off
5	GND
6	Set underscan on or off

All pin function assignments can be changed with the REMOTE menu.

For information about the REMOTE menu, see " D Assigning the Remote Control Functions — REMOTE Menu" on page 37(E).

To switch each function between on and off or between enable and disable, change pin connections in the following way.

ON or enabled: Short each pin and pin 9 together **for D-sub 9-pin**.
Short each pin and pin 5 together **for modular connector**.

OFF or disabled: Leave each pin open.

❷ **DC 12V IN jack (XLR-type, 4-pin)**
Connects the DC 12V external power source to use the monitor.

❸ **EJECT button**
While sliding this button, remove the AC adaptor or battery.

❹ **AC adaptor/battery attachment place**
Attach the AC adaptor or battery.
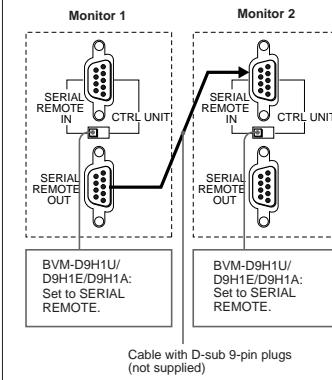
❺ **SERIAL REMOTE connectors (female, D-sub 9-pin), and SERIAL REMOTE/CTRL UNIT select switch (BVM-D9H1U/D9H1E/D9H1A only)**
These are RS-485 serial interface connectors, used for connecting two or more BVM-xxE/F/G, BVM-xxD and HDM-xxE series monitors. The IN and OUT connectors form a loop-through connection.
BVM-D9H1U/D9H1E/D9H1A only: The SERIAL REMOTE/CTRL UNIT select switch is set to SERIAL REMOTE at the factory.

For connecting the monitor (used for daisy chain connections)
Connect two monitors using a cable with D-sub 9-pin plugs such as an RCC-5G (not supplied) as follows:

Monitor 1 — Monitor 2

SERIAL REMOTE IN — CTRL UNIT
SERIAL REMOTE OUT

BVM-D9H1U/D9H1E/D9H1A: Set to SERIAL REMOTE.

Cable with D-sub 9-pin plugs (not supplied)
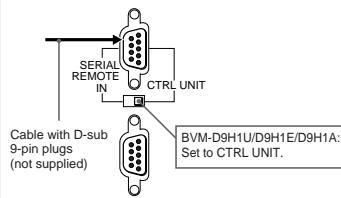
Location and Function of Parts

For connecting the BKM-10R Monitor Control Unit

Connect the monitor and control unit using a cable with D-sub 9-pin plugs such as an RCC-5G (not supplied) as follows:

SERIAL
REMOTE
IN CTRL UNIT

Cable with D-sub
9-pin plugs
(not supplied)

BVM-D9H1U/D9H1E/D9H1A:
Set to CTRL UNIT.

❻ **Input option slots (three slots)**
The monitor may be fitted with optional input adaptors up to three.
The BKM-129X is installed to the monitor at the factory.

Notes

• The BKM-142HD uses two input option slots.
• Each adaptor can also be installed into SLOT 1. Install any adaptor to SLOT 1.

❼ **Analog input/output connectors (BKM-129X)**

Y/G connectors (BNC)

P_B/B connectors (BNC)

P_R/R connectors (BNC)

SYNC connectors (BNC)

RGB signals or component signals (Y/P_B/P_R) can be fed in the IN connectors. The type of signal applied to each connector is set with the INPUT CONFIG menu. The OUT connectors are used for loop-through output of the input signal.

For information about the INPUT CONFIG menu, see " C Setting the Input Configuration — INPUT CONFIG Menu" on page 35(E).

❽ **AUDIO IN/OUT (input/output) jacks (BVM-D9H5U/D9H5E/D9H5A only)**
Connects to the audio output jacks of the VCR or microphone amplifier. The monitor is equipped with three input and output jacks. You can obtain the loop-through output from the OUT jacks.
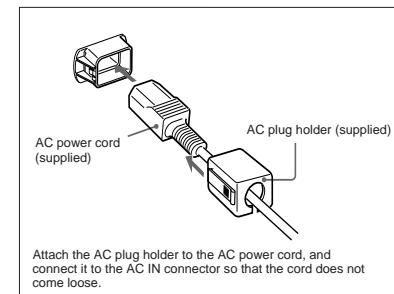
Attaching the AC adaptor or battery

Attaching

Removing the AC adaptor or battery

1   2

Note

Use the supplied AC adaptor for the BVM-D9H1U/ D9H1E/D9H1A/D9H5U/D9H5E/D9H5A models only. It is dangerous to use the AC adaptor for models other than these.
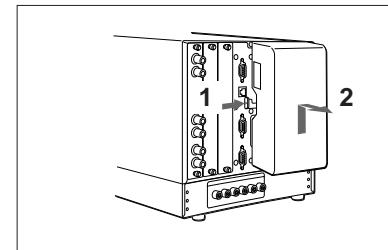
Connecting the AC power cord

Attach the AC adaptor to the monitor, and then connect the supplied AC power cord.

AC power cord
(supplied)

AC plug holder (supplied)
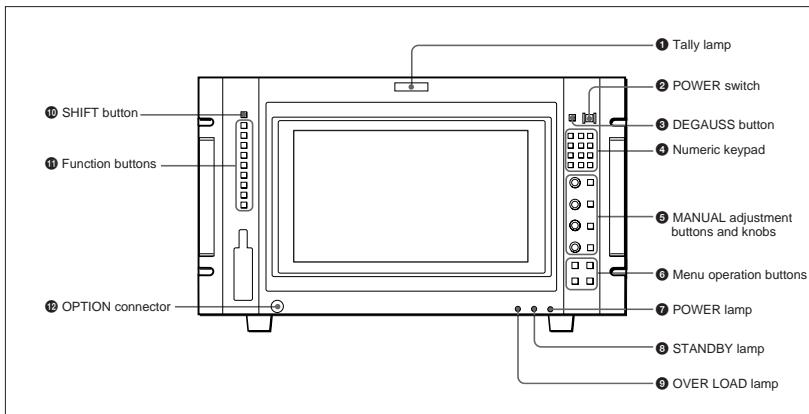
Attach the AC plug holder to the AC power cord, and connect it to the AC IN connector so that the cord does not come loose.
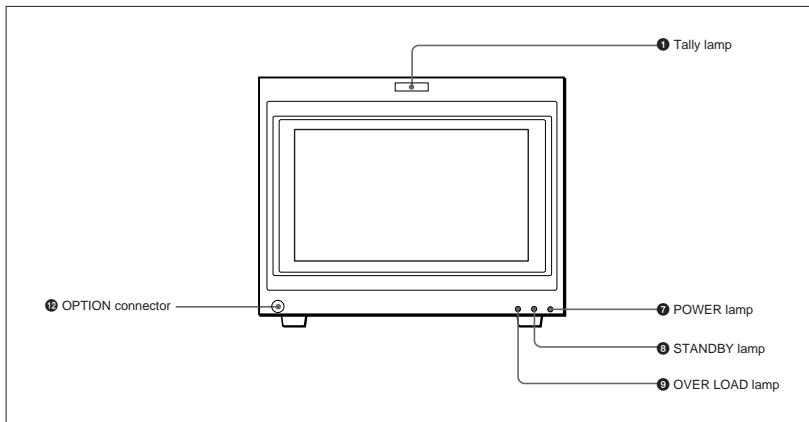
Location and Function of Parts

BVM-D14H1U/D14H1E/D14H1A/D14H5U/D14H5E/D14H5A Front Panel

BVM-D14H5U/D14H5E/D14H5A

⓿ SHIFT button
⓫ Function buttons
⓬ OPTION connector

❶ Tally lamp
❷ POWER switch
❸ DEGAUSS button
❹ Numeric keypad
❺ MANUAL adjustment buttons and knobs
❻ Menu operation buttons
❼ POWER lamp
❽ STANDBY lamp
❾ OVER LOAD lamp

BVM-D14H1U/D14H1E/D14H1A

⓬ OPTION connector

❶ Tally lamp
❼ POWER lamp
❽ STANDBY lamp
❾ OVER LOAD lamp

This manual explains the location and function of parts and controls of the BVM-D14H5U/D14H5E/D14H5A. The explanation also applies to the optional BKM-10R/11R Monitor Control Unit.

❶ **Tally lamp**

With factory settings, the tally lamp lights as follows when the pins of the PARALLEL REMOTE ① connector on the rear panel are shorted:
– in red, when pins No.3 and No.9 are shorted.
– in green, when pins No.4 and No.9 are shorted.
– in amber, when pins No.3, No.4 and No.9 are shorted.

The tally lamp lights as follows when the pins of the PARALLEL REMOTE ② connector on the rear panel are shorted:
– in red, when pins No.3 and No.5 are shorted.
– in green, when pins No.4 and No.5 are shorted.
– in amber, when pins No.3, No.4 and No.5 are shorted.
By changing the setting in the REMOTE menu, different pins on the remote connector can be used to control the tally lamp.

For information about the REMOTE menu, see "D Assigning the Remote Control Functions — REMOTE Menu" on page 37(E).

❷ **POWER switch**

Press to turn on/off the monitor. By setting with the ADDRESS menu, it is possible to turn on/off the power of the specified monitors only, or of all monitors at the same time.

For information about the ADDRESS menu, see "Selecting the Monitor to Control — ADDRESS Menu" on page 45(E).

❸ **DEGAUSS button**

Press to degauss the CRT (every time the monitor is turned on, the CRT is degaussed automatically). To degauss again, wait for more than five minutes.

❹ **Numeric keypad**

Use to designate the channel number for the input signal to be monitored, or to enter the setting values with the menus.

INPUT

Numeric buttons

Ent button: Confirms the values and characters entered (ENTER button of the menu operation buttons ❻ has the same function).

Del button: Deletes the values and characters entered.

❺ **MANUAL adjustment buttons and knobs**

Each press of one of these buttons turns the button's green LED on or off. When the corresponding button is on (lit), it is possible to manually adjust the contrast, brightness, chroma and phase by turning the corresponding knobs. The PHASE knob is also used to enter the setting values with the menus. It is possible to set the preset value for each adjusting item with the CONTROL PRESET ADJ menu.

For Information about the CONTROL PRESET ADJ menu, see "A Preset Adjustment of the Picture Level Control Knobs — CONTROL PRESET ADJ menu" on page 31(E).

CONTRAST MANUAL
CONTRAST button and knob

BRIGHT
BRIGHT button and knob

CHROMA
CHROMA button and knob

PHASE
PHASE button and knob
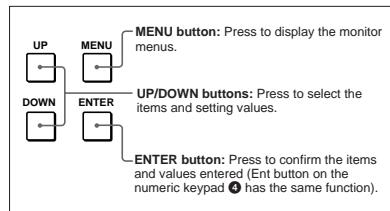
Note

The PHASE and CHROMA knobs may not be adjusted due to the signals. However, these knobs are used for selecting the items or entering the setting values with the menus.

(continued)

Location and Function of Parts

❻ **Menu operation buttons**

MENU button: Press to display the monitor menus.

UP/DOWN buttons: Press to select the items and setting values.

ENTER button: Press to confirm the items and values entered (Ent button on the numeric keypad ❹ has the same function).

For more information about menu operation, see "Basic Menu Operations" on page 25(E).

❼ **POWER lamp**

Lights when the monitor is put into operation mode from standby mode (see STANDBY lamp ❽) by pressing the POWER switch ❷.

Note

When the STANDBY lamp ❽ is blinking, the monitor cannot be put into operation mode (internal data initialization is taking place). Wait until the STANDBY lamp ❽ is steadily lit.

❽ **STANDBY lamp**

Lights when the monitor is in standby mode. The monitor will be in standby mode under the following conditions:

• The MAIN POWER switch (on the rear panel) is turned on when the STANDBY MODE menu of the SYSTEM CONFIG menu is set to ON (the STANDBY lamp will blink for a few moments after the switch is turned on, then will light).

• The monitor is changed from operation mode to standby mode by external control.

For information about the SYSTEM CONFIG menu, see "E Setting the Power-Up Conditions and Data about the Screen Display — SYSTEM CONFIG Menu" on page 39(E).

❾ **OVER LOAD lamp**

Lights when some malfunction has occured. When the OVER LOAD lamp is lit, consult your nearest Sony service facilities.

❿ **SHIFT button**

Press to select one of the two functions designated to the function buttons ⓫.

Each time the SHIFT button is pressed, the LED turns on (SHIFT ON: lits in umber) and off (SHIFT OFF.)

SHIFT OFF: The functions indicated above the function buttons can be used (the LED of the function button lits in green.)

SHIFT ON: The functions indicated below the function buttons can be used (the LED of the function button lits in amber.)

⓫ **Function buttons**

Change the operation conditions for the monitor. Each time the button is pressed, the LED turns on and turns off, and the operation conditions are changed. Each button has two functions. Select one of the two functions by pressing the SHIFT button ❿. When the SHIFT button is set to ON, the LED lights in umber, and when the SHIFT button is set to OFF, the LED of each button lights in green.

For the functions of the function buttons in case of SHIFT OFF and SHIFT ON, see pages 19(E) and 20(E).

⓬ **OPTION connector**

Used to connect the BKM-11R Monitor Control Unit or Auto Setup Probe (BKM-14L, etc.)

Function buttons in SHIFT OFF mode (LEDs of function buttons in green)

▭ **(Underscan) button:** When this button is pushed in (ON), the picture is underscanned by 3%, and four ends of the raster is displayed on the screen.

▮▮ **(H delay) button:** When this button is pushed in (ON), the picture moves horizontally, and a horizontal sync signal appears approximately one quarter in the left edge of the screen.
• The brightness of the picture increases automatically, and it makes it easy to check the sync part.
• If it is pressed together with the ▭ button, a pulse cross picture is displayed.

▬ **(V delay) button:** When this button is pushed in (ON), the picture moves vertically, and a vertical sync signal appears approximately in the center of the screen.
• The brightness of the picture increases automatically, and it makes it easy to check the sync part.
• If it is pressed together with ▮▮ button, a pulse cross picture is displayed.

MONO button: When this button is pushed in (ON), a monochrome picture is displayed. When the buttons is off, the monitor switches automatically color mode.

Notes

• The MONO button does not function with the RGB signal input.
• When the NTSC or PAL color signals are received and color burst signals are not input, the monitor does not switch to color mode.

APT (aperture) button: When this button is pushed in (ON), the frequency response can be modified. The degree of modification is set with the menu. (When RGB signals are input, the button does not function.)

COMB button: This button does not function with this monitor. However, when the BKM-127W NTSC/PAL Input Adaptor (optional) is installed and the NTSC or PAL color signals are received, the monitor can be used with the comb filter turned on.

F1 button: When this button is pushed in (ON), the characters disappear from the monitor on the MANUAL menu of the level 1 of the CONTROL PRESET ADJ menu, the MANUAL menu of the level 1 of the COLOR TEMP ADJ menu, and the ALIGNMENT menu.

F2 button: When this button is pushed in (ON), you can access directly the MANUAL menu of the level 1 of the COLOR TEMP ADJ menu, if the short-cut function is assigned to this button.

ADDRESS button: When this button is pushed in (ON), the ADDRESS menu appears on the screen. By using the ADDRESS menu, operation conditions for multiple monitors are set.
*For more information about the ADDRESS menu, see "Selecting the Monitor to Control — ADDRESS Menu" on page 45(E).*

Location and Function of Parts

Function buttons in SHIFT ON mode (LEDs of function buttons in amber)

16:9 button: When this button is pushed in (ON), the aspect ratio changes to 16:9, and when set to OFF, the aspect ratio changes to 4:3.
The aspect ratio is fixed to 16:9 when the signal other than 4:3 signal format is input. For details, see "Available Signal Format" on page 53(E).

SYNC button: When this button is pushed in (ON), the monitor synchronizes to the sync signal input to the SYNC connectors on the BKM-129X (EXT SYNC). When set to OFF, it synchronizes to the sync signal included in the signals being monitored (INT SYNC).

Notes

• When INT SYNC is selected, use a component including a sync signal on the Y signal, and use RGB signal including a sync signal on the G signal.
• When the BKM-129X is not installed to the monitor or serial digital signals are monitored, INT SYNC is automatically selected. You cannot select EXT SYNC.

BLUE ONLY button: When this button is pushed in (ON), red and green signals are cut, and only the blue signal is displayed as a monochrome picture. It makes it easy to adjust CHROMA and PHASE, and to check VTR noise.

R/G/B buttons: When these buttons are pushed in (ON), R(red), G(green), and B(blue) beams are cut respectively.

F3/F4 buttons: For future expansion.

MARKER button: When this button is pushed in (ON), a 4:3 marker is displayed and it is possible to check the 4:3 aspect area in the 16:9 picture.

Note

The 4:3 marker is not displayed when the signals of the 4:3 aspect ratio are monitored or the monitor is in H/V delay mode

BVM-D14H1U/D14H1E/D14H1A/D14H5U/D14H5E/D14H5A Rear Panel

BVM-D14H5U/D14H5E/D14H5A

❸ Input option slots

❹ Analog input/output connectors

❶ PARALLEL REMOTE 1/2 connectors

❷ SERIAL REMOTE connectors

❺ MAIN POWER switch

❻ AC IN connector

BVM-D14H1U/D14H1E/D14H1A

❸ Input option slots

❹ Analog input/output connectors

❶ PARALLEL REMOTE 1/2 connectors

❷ SERIAL REMOTE connectors

❺ MAIN POWER switch

❻ AC IN connector

❼ CONTROL UNIT connector

Location and Function of Parts

❶ PARALLEL REMOTE 1/2 connectors (1: female, D-sub 9-pin, 2: modular connector)
Form a parallel switch and controls the monitor externally. The pin assignment and factory setting function assigned to each pin are given below.

1: D-sub 9-pin

5   1

9   6

Pin number	Functions
1	Set input signal channel 1 (numeric keypad function)
2	Set input signal channel 2 (numeric keypad function)
3	Set red tally lamp on or off
4	Set green tally lamp on or off
5	Select sync signal (SYNC button function)
6	Set underscan on or off
7	Set a 16:9 aspect ratio on or off
8	Set the 4:3 area marker display on or off
9	GND

2: modular connector

1   6

Pin number	Functions
1	Set input signal channel 1 (numeric keypad function)
2	Set input signal channel 2 (numeric keypad function)
3	Set red tally lamp on or off
4	Set green tally lamp on or off
5	GND
6	Set underscan on or off

All pin function assignments can be changed with the REMOTE menu.

For information about the REMOTE menu, see " D Assigning the Remote Control Functions — REMOTE Menu" on page 37(E).

To switch each function between on and off or between enable and disable, change pin connections in the following way.

ON or enabled: Short each pin and pin 9 together **for D-sub 9-pin**.
Short each pin and pin 5 together **for modular connector**.

OFF or disabled: Leave each pin open.

❷ SERIAL REMOTE connectors (female, D-sub 9-pin)
These are RS-485 serial interface connectors, used for connecting two or more BVM-xxE/F/G, BVM-xxD and HDM-xxE series monitors.
The IN and OUT connectors form a loop-through connection.

Connect two monitors using a cable with D-sub 9-pin plugs such as an RCC-5G (not supplied) as shown in the figure on the next page.

Monitor 1   Monitor 2
SERIAL REMOTE   SERIAL REMOTE
IN   IN
OUT   OUT

Cable with D-sub 9-pin plugs (not supplied)

❸ Input option slots (three slots)
The monitor may be fitted with optional input adaptors up to three.
The BKM-129X is installed to the monitor at the factory.

Notes
• The BKM-142HD uses two input option slots.
• Each adaptor can also be installed into SLOT 1. Install any adaptor to SLOT 1.

❹ Analog input/output connectors (BKM-129X)

ANALOG
IN
Y/G
OUT — Y/G connectors (BNC)
IN
PB/B
OUT — PB/B connectors (BNC)
IN
PR/R
OUT — PR/R connectors (BNC)
IN
SYNC
OUT — SYNC connectors (BNC)
129X

RGB signals or component signals (Y/PB/PR) can be fed in the IN connectors. The type of signal applied to each connector is set with the INPUT CONFIG menu. The OUT connectors are used for loop-through output of the input signal.

For information about the INPUT CONFIG menu, see " C Setting the Input Configuration — INPUT CONFIG Menu" on page 35(E).

❺ MAIN POWER switch
When turned on, the monitor enters operation mode. By setting in the SYSTEM CONFIG menu, the monitor can also be set to enter standby mode when the MAIN POWER switch is turned on.

For information about the SYSTEM CONFIG menu, see " E Setting the Power-Up Conditions and Data about the Screen Display — SYSTEM CONFIG Menu" on page 39(E).

❻ AC IN connector (3-pin)
Connects the monitor to an AC power source, via the supplied AC power cord.

AC plug holder (supplied)
AC power cord (supplied)

Attach the AC plug holder to the AC power cord, and connect it to the AC IN connector so that the cord does not come loose.

❼ CONTROL UNIT connector (female, D-sub 9-pin) (BVM-D14H1U/D14H1E/D14H1A only)
Connects a monitor control unit such as the BKM-10R using a cable with D-sub 9-pin plugs such as an RCC-5G (not supplied).
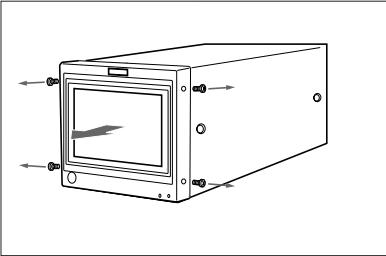
Installation of the 4:3 Mask

When the aspect ratio is switched from 16:9 to 4:3, replace the 16:9 mask with the supplied 4:3 mask.

BVM-D9H1U/D9H1E/D9H1A/D9H5U/D9H5E/D9H5A

Installing the 4:3 mask

1 Remove four screws from both sides of the monitor and then remove the16:9 mask.

2 Install the 4:3 mask (supplied) and fix both sides with four screws.
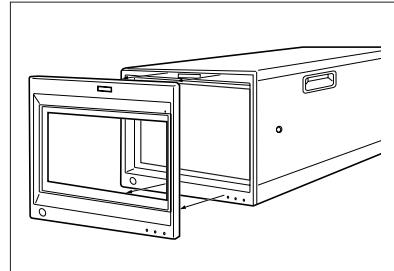
Replacing the 16:9 mask

Remove the 4:3 mask and replace the 16:9 mask using the same procedures as those for installing the 4:3 mask.
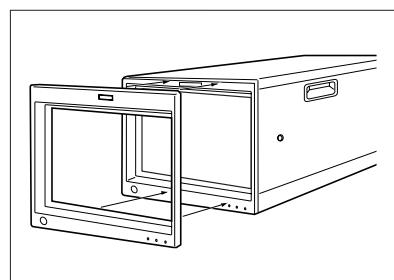
BVM-D14H1U/D14H1E/D14H1A/D14H5U/D14H5E/D14H5A

Installing the 4:3 mask

1 Remove the 16:9 mask.

2 Install the 4:3 mask (supplied).
① Attach the lower portion of the mask.
② Attach the upper portion of the mask by pressing it until the click.

Replacing the 16:9 mask
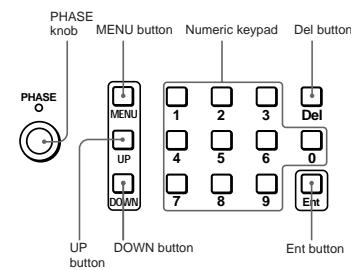
Remove the 4:3 mask and replace the 16:9 mask using the same procedures as those for installing the 4:3 mask.

Basic Menu Operations
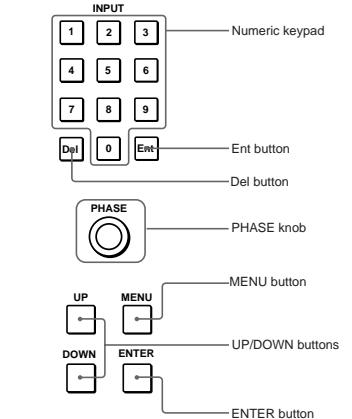
Menu Operation Buttons

The menus are operated using the menu operation buttons on the front panel of the monitor or BKM-10R/11R Monitor Control Unit.
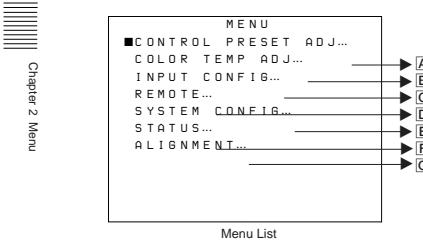
The functions of the menu operation buttons are described below.

Button	Function
UP button	Moves the cursor upward. In setting mode, increases the setting and adjustment values.
DOWN button	Moves the cursor downward. In setting mode, decreases the setting and adjustment values.
MENU button	Displays the Menus. Goes back to the menu of the upper level (on the Main Menu, goes back to the normal picture).
ENTER button/ Ent button	Executes the items selected and settings.
PHASE knob	By turning this knob clockwise, the cursor moves upward. In setting mode, increases the setting and adjustment values (has the same function as UP button). By turning this knob counterclockwise, the cursor moves downward. In setting mode, decreases the setting and adjustment values (has the same function as DOWN button).
Numeric keypad	Enters the numerical values.
Del button	Deletes the values and characters entered.

Basic Menu Operations

Displaying the Menus

Press the MENU button.
The menu list is displayed on the screen.

```
           MENU
■CONTROL PRESET ADJ…
 COLOR TEMP ADJ…              →A
 INPUT CONFIG…                →B
 REMOTE…                      →C
 SYSTEM CONFIG…               →D
 STATUS…                      →E
 ALIGNMENT…                   →F
                             →G
```

Menu List

When you select one item on the main menu, the level 1 menu corresponding to the selected item on the main menu appears.
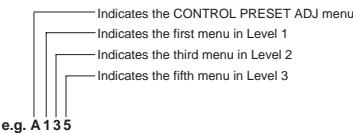
For information about the items on the main menu, see "Menu Structure" on page 30(E).

Note

Menu settings that cannot be changed are displayed in blue.

About menu numbers

For purposes of explanation in this manual, each menu is preceded by menu numbers. The alphabet determines the classification of menus on the Menu List (Main Menu), and the numbers determine the level and the order. These menu numbers are not shown on the screen.

Indicates the CONTROL PRESET ADJ menu
Indicates the first menu in Level 1
Indicates the third menu in Level 2
Indicates the fifth menu in Level 3

e.g. A 1 3 5
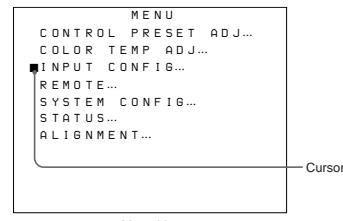
Note

Only the menus which require explanation are preceded by menu numbers. Thus, the menu number is counted without menus which do not require explanation.
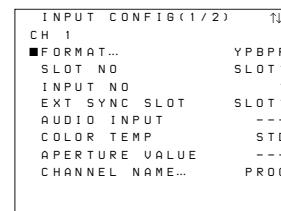
Menu Operation

Follow the steps described below to display the menu and perform the adjustment or setup you wish.

1 Press the MENU button.
The Menu List is displayed.

2 Using the UP/DOWN buttons or PHASE knob, move the cursor to the desired item. (Example: select the INPUT CONFIG menu by pressing the DOWN button.)

```
           MENU
 CONTROL PRESET ADJ…
 COLOR TEMP ADJ…
■INPUT CONFIG…
 REMOTE…
 SYSTEM CONFIG…
 STATUS…
 ALIGNMENT…
```
                                              Cursor

Menu List
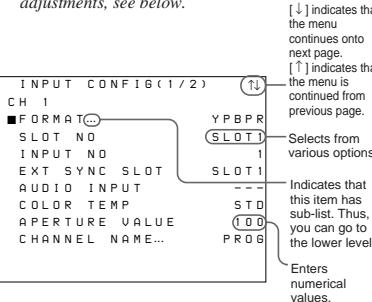
3 Press the ENTER button or Ent button.
The Level 1 of the selected menu is displayed.

```
 INPUT CONFIG(1/2)        ↑↓
 CH 1
■FORMAT…               YPBPR
 SLOT NO               SLOT1
 INPUT NO                  1
 EXT SYNC SLOT         SLOT1
 AUDIO INPUT             ---
 COLOR TEMP              STD
 APERTURE VALUE          ---
 CHANNEL NAME…          PROG
```

(continued)

4 Repeat steps **2** and **3** until the desired menu is displayed.
For more information about setting and adjustments, see below.

```
 INPUT CONFIG(1/2)        ↑↓
 CH 1
■FORMAT…               YPBPR
 SLOT NO              (SLOT1)
 INPUT NO                  1
 EXT SYNC SLOT         SLOT1
 AUDIO INPUT             ---
 COLOR TEMP              STD
 APERTURE VALUE        (100)
 CHANNEL NAME…          PROG
```

[↓] indicates that the menu continues onto next page.
[↑] indicates that the menu is continued from previous page.

Selects from various options.

Indicates that this item has sub-list. Thus, you can go to the lower level.

Enters numerical values.

To abort menu operation
Press the MENU button. The menu of the upper level is displayed.
The setting or adjustment being performed is canceled, and data loading or saving is aborted.
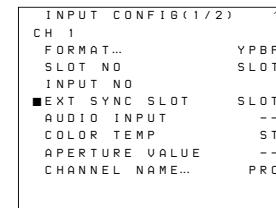
If "NG" or "ERROR" appears during menu operation
Press the MENU button to return to the menu in use.

Choosing one of two or more selections

Selecting in setting mode

1 Using the UP/DOWN buttons or PHASE knob, move the cursor to the desired item and press the ENTER or Ent button.
The selected item is displayed in yellow text and set to setting mode.

```
 INPUT CONFIG(1/2)        ↑↓
 CH 1
 FORMAT…               YPBPR
 SLOT NO               SLOT1
 INPUT NO                  1
■EXT SYNC SLOT         SLOT1
 AUDIO INPUT             ---
 COLOR TEMP              STD
 APERTURE VALUE          ---
 CHANNEL NAME…          PROG
```
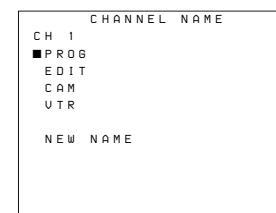
2 Using the UP/DOWN buttons or PHASE knob, change the setting.

3 Press the ENTER or Ent button.
The setting is confirmed (The item is displayed in white text again).

Selecting from the setting list

1 Using the UP/DOWN buttons or PHASE knob, move the cursor to the desired item in the setting list.

```
         CHANNEL NAME
 CH 1
■PROG
 EDIT
 CAM
 VTR

 NEW NAME
```
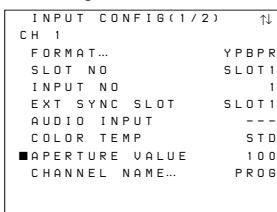
2 Press the ENTER or Ent button.
The display returns to the menu of the upper level, and the selected setting is executed.

Basic Menu Operations

Entering a numerical value
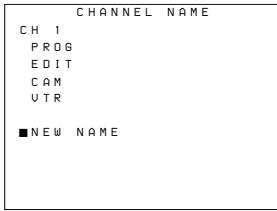
1 Using the UP/DOWN buttons or PHASE knob, move the cursor to the desired item and press the ENTER or Ent button.
The selected item is displayed in yellow text and set to setting mode.

```
    INPUT CONFIG(1/2)      ⇅
 CH 1
   FORMAT…             YPBPR
   SLOT NO             SLOT1
   INPUT NO                1
   EXT SYNC SLOT       SLOT1
   AUDIO INPUT           ---
   COLOR TEMP            STD
 ■APERTURE VALUE         100
   CHANNEL NAME…        PROG
```
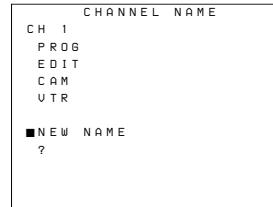
2 Set the value in one of the following three ways:
 • Enter the value directly using the numeric keypad and press the ENTER or Ent button
 • Select the value using the UP/DOWN buttons
 • Select the value using the PHASE knob

3 Press the ENTER or Ent button.
The setting is confirmed (The item is displayed in white text again).

Entering characters

1 Display the setting menu and set the cursor to NEW NAME using the UP/DOWN buttons or PHASE knob.

```
        CHANNEL NAME
 CH 1
   PROG
   EDIT
   CAM
   VTR

 ■NEW NAME
```

2 Press the ENTER or Ent button.
"?" is displayed in yellow. The "?" indicates the position where character input is possible.

```
        CHANNEL NAME
 CH 1
   PROG
   EDIT
   CAM
   VTR

 ■NEW NAME
   ?
```
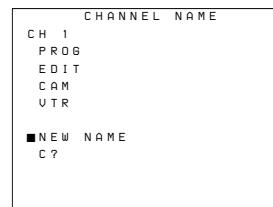
3 Select the character you wish to enter using the UP/DOWN buttons or PHASE knob.
When you press the UP button, or turn the PHASE knob clockwise, the characters and symbols appear in the order shown below.

A B ....Y Z 0 1 ....8 9 (,) : ; .
- + / & (space) ?

If you press the UP/DOWN button or turn the PHASE knob counterclockwise, the characters and symbols appear in the reverse order described above.

4 Press the ENTER or Ent button.
The selected character is entered.

```
        CHANNEL NAME
 CH 1
   PROG
   EDIT
   CAM
   VTR

 ■NEW NAME
   C?
```

5 Repeat steps **3** and **4** until all the characters are entered, then press the ENTER or Ent button.
The selected characters are confirmed, and the display returns to the menu of the previous level.

To correct the entered character
Press the Del button on the numeric keypad. The character on the left side of the "?"(in yellow) is deleted.

ADDRESS Menu

In addition to the menus displayed on the menu list, the ADDRESS menu is provided. This ADDRESS menu is used to select the monitor or the monitor group, so that when several monitors are connected together via serial remote ports, the control panel can select which monitor to control.
To display or exit the ADDRESS menu, press the ADDRESS button. The method of choosing menu items and changing settings is the same as with the other menus.

Menu Structure

Menus consist of one to three levels.

Detailed information on the levels of menus is described at the top of explanation of each menu.

	Main Menu	Functions
A	**CONTROL PRESET ADJ menu**	Sets the preset values for the input signal's chroma, contrast, phase, and brightness. (page 31(E))
B	**COLOR TEMP ADJ menu**	Sets the color temperature. (page 33(E))
C	**INPUT CONFIG menu**	Sets the input channel. (page 35(E))
D	**REMOTE menu**	Sets the remote control functionality. (page 37(E))
E	**SYSTEM CONFIG menu**	Sets the power-up conditions and data about the screen display. (page 39(E))
F	**STATUS menu**	Displays the information about the monitor or options installed in the monitor. (page 42(E))
G	**ALIGNMENT menu**	Adjusts the position, size and geometry of the picture. (page 43(E))

A Preset Adjustment of the Picture Level Control Knobs — CONTROL PRESET ADJ Menu

Overview

The preliminary adjustments of chroma, phase, contrast and brightness are carried out with the CONTROL PRESET ADJ menu to set the preset values to the knobs for the above-mentioned adjustments.

Preset values can be set in the following two ways:
• **Adjustment with the MANUAL adjustment knobs (MANUAL menu)**
• **Automatic adjustment (AUTO menu)**
  An external color bar signal is necessary.
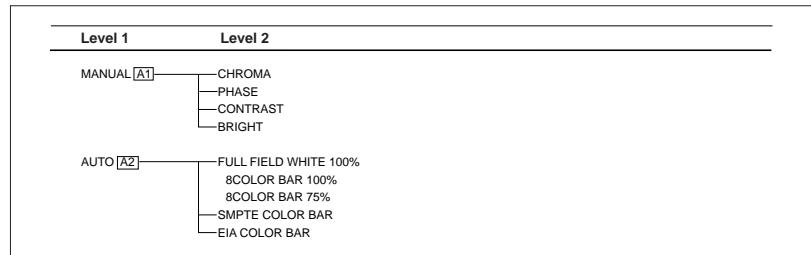
Note

After installing the optional board, carry out AUTO adjustment.

Structure of the CONTROL PRESET ADJ Menu

```
Level 1              Level 2

MANUAL A1 ———————— CHROMA
                 ├— PHASE
                 ├— CONTRAST
                 └— BRIGHT

AUTO A2 —————————— FULL FIELD WHITE 100%
                 ├— 8COLOR BAR 100%
                 ├— 8COLOR BAR 75%
                 ├— SMPTE COLOR BAR
                 └— EIA COLOR BAR
```

Setting Lists in the CONTROL PRESET ADJ Menu

This section explains the setting lists displayed in the menu.

How to read the setting lists
• For purposes of explanation, each setting list is preceded by a menu number. These numbers are not displayed on the screen.
For more information about the menu number, see "About menu numbers" on page 26(E).

• The arrow mark (⇒) refers you to another setting list that appears after you make the setting, or to an operation that is carried out as a result of the setting. When there is no arrow mark, the menu does not have any sub-list.

A Preset Adjustment of the Picture Level Control Knobs — CONTROL PRESET ADJ Menu

A CONTROL PRESET ADJ menu
Select the setting method.
MANUAL... : Set with the MANUAL adjustment
    knobs. ⇒A1
AUTO... : Set by automatic adjustment. ⇒A2

A1 MANUAL menu
Adjust values by turning the CHROMA, PHASE,
CONTRAST, and/or BRIGHT knobs. After the
adjustment, press the ENTER or Ent button to confirm
the adjusted values.
The setting value is 0 to 200.
CHROMA: xxx
PHASE: xxx
CONTRAST: xxx
BRIGHT: xxx

**When you want to erase characters from the screen
while adjusting manually**
Press the F1 button. The characters disappear. To
display characters, press the F1 button again.

To reset the setting to the default
Press the corresponding MANUAL adjustment button
(BVM-D14H5U/D14H5E/D14H5A) or knob (BVM-
D9H5U/D9H5E/D9H5A.) The adjusted value is reset
to 100 (default).

A2 AUTO menu
You can adjust the CHROMA and PHASE levels
automatically. Input the color bar signals to the board
to be adjusted and select the required color bar signals.
⇒Adjustment is carried out.
8COLOR BAR 100%: 100% full-field 8-color bar
    (white, yellow, cyan, green. magenta, red, blue,
    black)
8COLOR BAR 75%: 75% full-field color bar (with
    100% white signal)
SMPTE COLOR BAR: SMPTE standard color bar
EIA COLOR BAR: EIA standard color bar

Note
When you execute the AUTO menu, SYNC button
should be set to OFF (INT SYNC).
EXT SYNC will cause an error abortion of auto
adjustment procedure.

B Adjusting the Color Temperature — COLOR TEMP ADJ Menu

Overview

The monitor can memorize the data for up to three
color temperatures (STD, COL1, COL2.) The data for
each color temperature is adjusted with the COLOR
TEMP ADJ menu. The data of the color temperature
selected in the INPUT CONFIG menu is adjusted.
Color temperature adjustment can be made in the
following three ways:

• Knob adjustment (MANUAL menu)
    You can adjust the color temperature with the bias
    and gain knobs.
**• Automatic adjustment using a probe
    (PROBE menu)**
    You can use the following probes for automatic
    adjustment of color temperature. Except for the Sony
    BKM-14L, a cable is required to connect the color
    analyzer to the monitor.

Manufacturer	Probe Model Name
SONY	BKM-14L (no cable required)
GRASEBY	SLS 9400
MINOLTA	CA-100
PHILIPS	PM 5639
THOMA	TF6

*For more information about the cable specification required
and about the connection, see "Connection Cable
Specifications for Color Temperature Probes" on page
54(E).*
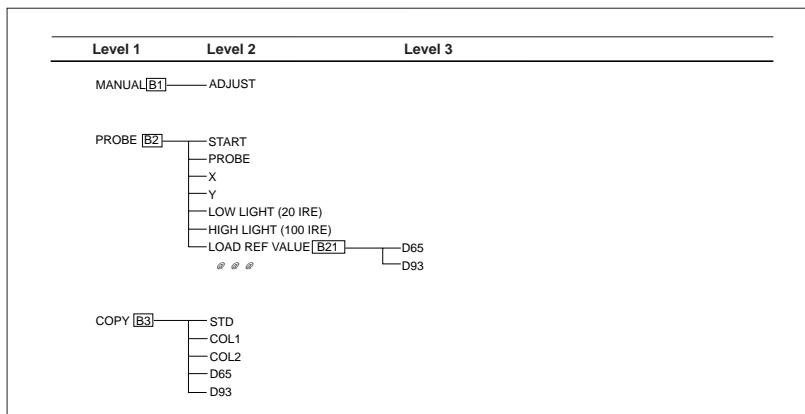
Notes
• The CRT size of the BVM-D9H1U/D9H1E/D9H1A/
    D9H5U/D9H5E/D9H5A is small. So, when a probe
    other than the Sony BKM-14L is used, use the probe
    closely to the CRT screen.
• After the color temperature is adjusted by automatic
    adjustment, carry out the AUTO adjustment of the
    CONTROL PRESET ADJ menu (AUTO CHROMA
    PHASE adjustment.)

**• Copying other color temperature data (COPY
    menu)**
    You can copy the memorized color temperature data
    (STD/COL1/COL2/D65/D93.) Use the factory
    setting value or the adjusted value as an original
    value to shorten the adjustment time.

Structure of the COLOR TEMP ADJ Menu

Level 1	Level 2	Level 3
MANUAL B1 —— ADJUST		
PROBE B2 —— START		
	PROBE	
	X	
	Y	
	LOW LIGHT (20 IRE)	
	HIGH LIGHT (100 IRE)	
	LOAD REF VALUE B21 —— D65	
	@ @ @	D93
COPY B3 —— STD		
	COL1	
	COL2	
	D65	
	D93	

B Adjusting the Color Temperature — COLOR TEMP ADJ Menu

Setting Lists in the COLOR TEMP ADJ Menu

This section explains the setting lists displayed in the menu.

How to read the setting lists
- For purposes of explanation, each setting list is preceded by a menu number. These numbers are not displayed on the screen.
  For more information about the menu number, see "About menu numbers" on page 26(E).
- The arrow mark (⇨) refers you to another setting list that appears after you make the setting, or to an operation that is carried out as a result of the setting. When there is no arrow mark, the menu does not have any sub-list.

B COLOR TEMP ADJ menu
Select the adjustment method.
MANUAL... : Set with the MANUAL adjustment knob. ⇨ B1
PROBE... : Set using a probe. ⇨ B2
COPY... : Copy data from elsewhere. ⇨ B3

B1 MANUAL menu
Adjust the gain and bias with the MANUAL adjustment knob.
ADJUST... : Adjust the gain and bias. To shift between gain adjustment and bias adjustment, press UP/DOWN buttons. Use appropriate knobs in each adjustment as described below. After the adjustment, press the ENTER or Ent button to confirm the adjusted values.
  RED: CONTRAST KNOB (Adjust the R gain or bias with the CONTRAST knob.)
  GREEN: BRIGHT KNOB (Adjust the G gain or bias with the BRIGHT knob.)
  BLUE: CHROMA KNOB (Adjust the B gain or bias with the CHROMA knob.)
  LUMINANCE: PHASE KNOB (Adjust luminance with the PHASE knob.)

To reset RED/GREEN/BLUE to the value before adjustment
When you are adjusting the gain or bias using the MANUAL adjustment knobs, you can reset the setting to the one before adjustment by pressing the corresponding MANUAL adjustment button (BVM-D14H5U/D14H5E/D14H5A) or knob (BVM-D9H5U/D9H5E/D9H5A).
To reset all of settings at the same time, press the PHASE button or knob.

Note
You cannot reset the setting after you press the ENTER or Ent button.

To access the MANUAL menu directly
When the F2 button is assigned as the short-cut key to the MANUAL menu, you can directly access the MANUAL menu that corresponds to the color temperature setting (STD/COL1/COL2) set to the image on the screen.
For details of how to assign the short-cut key, see " E Setting the Power-Up Conditions and Data about the Screen Display — SYSTEM CONFIG Menu" on page 39(E).

B2 PROBE menu
Select the probe for color temperature adjustment.
START: Start adjustment.
PROBE: Select the probe.
X: Enter the x coordinate.
Y: Enter the y coordinate.
LOW LIGHT (20IRE): Enter the luminance (cd/m^2) for low light.
HIGH LIGHT (100IRE): Enter the luminance (cd/m^2) for high light.
LOAD REF VALUE: Select the standard settings of the x and y coordinates. ⇨ B21

B21 LOAD REF VALUE
Select one of the followings:
D65: Use D65 setting (x and y coordinates and standard luminance).
D93: Use D93 setting (x and y coordinates and standard luminance).

B3 COPY menu
Select one of followings: ⇨ The current data, which is used for adjusting, is copied.
STD: Copy STD data (factory setting: D65).
COL1: Copy COL 1 data (factory setting: D93).
COL2: Copy COL 2 data (factory setting: D65).
D65: Copy the color temperature of D65.
D93: Copy the color temperature of D93.

Note
The current data which is used for adjusting (selected in the INPUT CONFIG menu) is displayed in blue letters and you can not select it.

C Setting the Input Configuration — INPUT CONFIG Menu

Overview

You can set up to nine input channels.
Data pertaining to the input signals are set with the INPUT CONFIG menu.
When a channel number (1 to 9) is entered with the numeric keypad, it is then possible to set which input connector on the rear panel will be assigned to that channel number, and select the type of signal that will be connected.
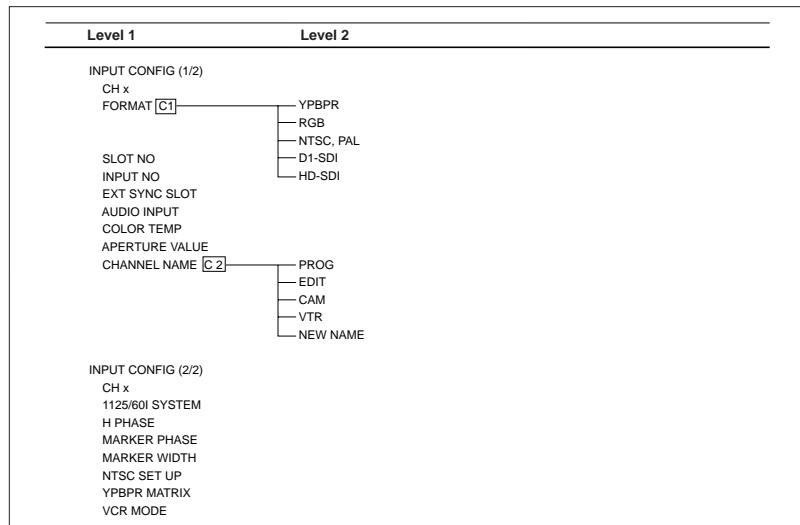
Assigning slot and connector numbers

Set which input connector on which slot will be assigned to the current channel.

Assigning the signal type and format

The signal type and format which can be assigned to each channel number vary, depending on what adaptors are installed in the rear panel.

To assign D1 serial digital signals
Serial digital signals can be assigned to the slot where the BKM-120D is installed.

To assign analog composite signals
Analog composite signals can be assigned to the slot where the BKM-127W is installed.

To assign HD serial digital signals
HD serial digital signals can be assigned to the slots where the BKM-142HD is installed.

To assign analog component or RGB signals
Analog component or RGB signals can be assigned to the slot where BKM-129X is installed.

Structure of the INPUT CONFIG Menu

Level 1	Level 2
INPUT CONFIG (1/2)	
CH x	
FORMAT C1	YPBPR
	RGB
	NTSC, PAL
	D1-SDI
	HD-SDI
SLOT NO	
INPUT NO	
EXT SYNC SLOT	
AUDIO INPUT	
COLOR TEMP	
APERTURE VALUE	
CHANNEL NAME C2	PROG
	EDIT
	CAM
	VTR
	NEW NAME
INPUT CONFIG (2/2)	
CH x	
1125/60I SYSTEM	
H PHASE	
MARKER PHASE	
MARKER WIDTH	
NTSC SET UP	
YPBPR MATRIX	
VCR MODE	

C Setting the Input Configuration — INPUT CONFIG Menu

Setting Lists in the INPUT CONFIG Menu

This section explains the setting lists displayed in the menu.

How to read the setting lists
• For purposes of explanation, each setting list is preceded by a menu number. These numbers are not displayed on the screen.
 For more information about the menu number, see "About menu numbers" on page 26(E).
• The arrow mark (⇨) refers you to another setting list that appears after you make the setting, or to an operation that is carried out as a result of the setting. When there is no arrow mark, the menu does not have any sub-list.

C (1/2) INPUT CONFIG (1/2) menu
Set input signal data for each channel.
CH x: Current channel is indicated. To change the channel, enter a channel number with the numeric keypad. The settings below will be stored as information of this channel.
FORMAT... : Select the input signal type. ⇨ C1
SLOT NO: Select the slot number.
INPUT NO: Select the input connector number.
EXT SYNC SLOT: Select the slot when the external sync signal is used.
AUDIO INPUT (BVM-D9H5U/D9H5E/D9H5A only): Select the audio input number.
COLOR TEMP: Select the color temperature.
APERTURE VALUE: Enter the aperture adjustment value (0 to 200).
CHANNEL NAME: Give the channel a name. ⇨ C2

C (2/2) INPUT CONFIG (2/2) menu
Set input signal data for each channel.
CH x: Current channel is indicated. To change the channel, enter a channel number with the numeric keypad. The settings below will be stored as information of this channel.
1125/60I SYSTEM: Select the number of active scanning lines per frame for 1125/60I input signals. When the HD SDI signal is input, the number of active scanning lines is selected automatically.
 1035: The active scanning lines are 1035 lines.
 1080: The active scanning lines are 1080 lines

H PHASE: Set the horizontal picture position (–128 to +127).
MARKER PHASE: Set the 4:3 marker position.
MARKER WIDTH: Set the 4:3 marker width.
NTSC SET UP: Set the setup level when the BKM-127W is installed. SETUP 7.5 or 0.
YPBPR MATRIX: Select the matrix when YPBPR signals of the signal format 480/60I or 480/60P (TV lines 525) are input.
VCR MODE: Compensate for a distorted picture when the input signals from the VCR are not typical. This mode is effective when the signal formats 480/60I or 575/50I are input.
 ON: Operates when the signal formats 480/60I or 575/50I are input.
 OFF: Does not operate.

C1 FORMAT menu
Select the signal format.
YPBPR: Select the component signals when the BKM-129X is installed. SPMTE, BETACAM 7.5 or 0.
RGB: Select when the BKM-129X is installed.
NTSC, PAL: Selects when the BKM-127W is installed.
D1-SDI: Select when the BKM-120D is installed.
HD-SDI: Select when the BKM-142D is installed.

C2 CHANNEL NAME menu
Give the channel a name. Enter a name after a preset one or a new one.
PROG: Program signal.
EDIT: Signal from an editor.
CAM: Camera signal.
VTR: Signal from a VTR.
NEW NAME: Enter a new name. (Up to 20 characters can be entered and up to six characters from the head of the name are displayed in the INPUT CONFIG menu (C 1/2).)

D Assigning the Remote Control Functions — REMOTE Menu

Overview

The remote control functions are set with the REMOTE menu. With this monitor, both serial remote control (SERIAL REMOTE) and parallel remote control (PARALLEL REMOTE) are possible.
• **Settings for the serial remote control (SERIAL REMOTE)**
 An address number (MONITOR ADDRESS) and group number (GROUP ADDRESS) can be assigned to the monitor connected to the SERIAL REMOTE connector.
• **ON/OFF setting for the parallel remote control (PARALLEL REMOTE)**
• **Settings for the parallel remote control (PARALLEL REMOTE)**
 Functions can be assigned to the pins of the PARALLEL REMOTE connector.

Priority order of the remote control functions
It is possible to simultaneously use the BKM-10R/11R Monitor Control Unit, SERIAL REMOTE, and PARALLEL REMOTE for control, but commands from PARALLEL REMOTE have priority. Therefore, it is impossible for the BKM-10R/11R or SERIAL REMOTE to change items set by PARALLEL REMOTE.
There is no priority order between commands from SERIAL REMOTE and the BKM-10R/11R control panel.

PARALLEL REMOTE 1 and 2 are connected parallel inside the unit, therefore, there is no priority order between them.

About monitor address and group numbers

It is possible to control up to 32 monitors connected via serial remote connector (using the SERIAL REMOTE connector). By giving each monitor a monitor address and group number, it is possible to control just a specific monitor or monitor group. With the SERIAL REMOTE menu, each monitor can be set with a monitor address and group number, between 1 and 99.
The ADDRESS menu is used to control the monitors which are connected by the serial remote connectors.
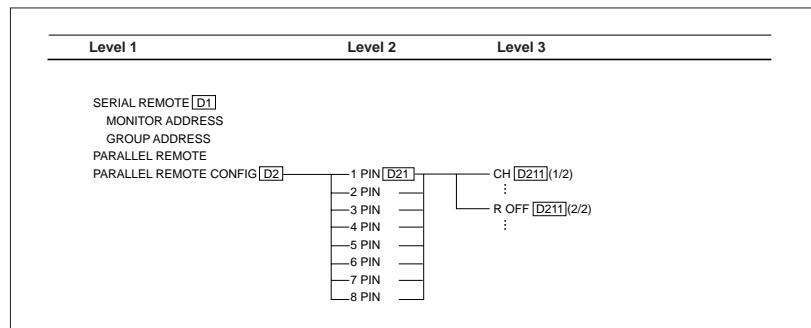
For information about the ADDRESS menu, see "Selecting the Monitor to Control — ADDRESS Menu" on page 45(E).

Note
The address number must differ from one monitor to another. If two or more monitors have the same address number, an operation error occurs.

Structure of the REMOTE Menu

Level 1	Level 2	Level 3
SERIAL REMOTE D1		
MONITOR ADDRESS		
GROUP ADDRESS		
PARALLEL REMOTE		
PARALLEL REMOTE CONFIG D2	1 PIN D21	CH D211 (1/2)
	2 PIN	⋮
	3 PIN	R OFF D211 (2/2)
	4 PIN	⋮
	5 PIN	
	6 PIN	
	7 PIN	
	8 PIN	

D Assigning the Remote Control Functions — REMOTE Menu

Setting Lists of the REMOTE Menu

This section explains the setting lists displayed in the menu.

How to read the setting lists
• For purposes of explanation, each setting list is preceded by a menu number. These numbers are not displayed on the screen.
For more information about the menu number, see "About menu numbers" on page 26(E).
• The arrow mark (⇨) refers you to another setting list that appears after you make the setting, or to an operation that is carried out as a result of the setting. When there is no arrow mark, the menu does not have any sub-list.

D REMOTE menu
Select the type of remote control.
SERIAL REMOTE : Set the address and group number of the monitor controlled via the SERIAL REMOTE connector. ⇨ D1
PARALLEL REMOTE: Select whether parallel remote control will be used or not (ON or OFF.)
PARALLEL REMOTE CONFIG : Set the pin assignments for the PARALLEL REMOTE connector. ⇨ D2

D1 SERIAL REMOTE menu
Set the monitor address and group number.
MONITOR ADDRESS: Enter a number.
GROUP ADDRESS: Enter a number.

D2 PARALLEL REMOTE CONFIG menu
Select the PARALLEL REMOTE connector pins for which you want to change the function. The factory settings for each pin are given below. ⇨ D211
PINs 1 to 4, and PIN 6 of the PARALLEL REMOTE 1 and 2 are common settings.
 1 PIN: CH01
2 PIN: CH02
3 PIN: TALLY RED
4 PIN: TALLY GREEN
5 PIN: EXT SYNC (PARALLEL REMOTE 1)
       GND (PARALLEL REMOTE 2)
6 PIN: UNDERSCAN
7 PIN: 16:9
8 PIN: 4:3 MARKER

Note
PINs 1 to 4, and PIN 6 of the PARALLEL REMOTE 1 and 2 are connected inside the unit, therefore different functions cannot be assigned to those pins.

D211 (1/2) 1-8 PIN menu (1/2)
Assign a function to the selected pin.
CH: Select a channel number. Enter the desired channel number with the numeric keypad.
----: Set to unused.
UNDER SCAN: Set underscan on or off.
16:9: Set a 16:9 aspect ratio on or off.
H DELAY: Set the horizontal sync display on or off.
V DELAY: Set the vertical sync display on or off.
EXT SYNC: Set the synchronization to external sync signals enabled or disabled.
APERTURE: Set the correction of frequency characteristics enabled or disabled.
MONO: Set monochrome display on or off.
BLUE ONLY: Set the blue signal pictures display (monochrome) on or off.

D211 (2/2) 1-8 PIN menu (2/2)
Assign a function to the selected pin.
R OFF: Set cutting red beams enabled or disabled.
G OFF: Set cutting green beams enabled or disabled.
B OFF: Set cutting blue beams enabled or disabled.
4:3 MARKER: Set the 4:3 marker display on or off.
CAPTION VISION: Set Caption Vision on or off.
TALLY RED: Set tally red on or off.
TALLY GREEN: Set tally green on or off.
DEGAUSS: Set degaussing on or off.
POWER OFF: Set the monitor power on or off.

For the pin assignment, see "PARALLEL REMOTE 1/2 connectors" in the Location and Function of Parts on page 13(E) for BVM-D9H1U/D9H1E/D9H1A/D9H5U/D9H5E/D9H5A or page 22(E) for BVM-D14H1U/D14H1E/D14H1A/D14H5U/D14H5E/D14H5A.

E Setting the Power-Up Conditions and Data about the Screen Display — SYSTEM CONFIG Menu

Overview

The SYSTEM CONFIG menu is displayed on the two pages.
The SYSTEM CONFIG (1/2) menu is used for the following settings:
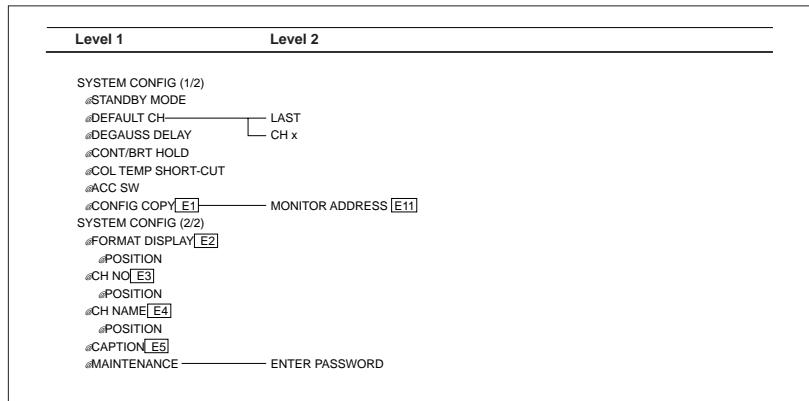
• **Power-up condition (STANDBY MODE menu)**
This menu sets the condition of the monitor when the MAIN POWER switch on the rear panel is switched on (BVM-D14H1U/D14H1E/D14H1A/D14H5U/D14H5E/D14H5A) or when the battery is installed (BVM-D9H1U/D9H1E/D9H1A/D9H5U/D9H5E/D9H5A.)
• **Power-up input channel (DEFAULT CH menu)**
This menu sets the power-up input channel.
• **Time from power-up until degauss (DEGAUSS DELAY menu)**
If several monitors are turned on at the same time and all start degaussing at the same time, there will be a very large current draw on the power supply for a few moments. To prevent this, the delay time between power-up and degaussing can be set for each monitor independently.
• **Setting of the contrast and brightness after adjusting the white balance (CONT/BRT HOLD menu)**
Selects if the adjusted contrast and brightness are retained or they are reset to the center values, when the color temperature is adjusted in the COLOR TEMP ADJ menu.
• **Assigning shortcut to the COLOR TEMP ADJ menu to the F2 key (COL TEMP SHORT-CUT menu)**
Assigns the shortcut to the MANUAL menu of the COLOR TEMP ADJ menu to the F2 key. This allows you to jump directly to the MANUAL menu corresponding to the color temperature set to the currently displayed image (STD/COL 1/COL 2.)
• **Auto color control (ACC SW menu) (when using the BKM-127W)**
Selects if the ACC (Auto Color Control) circuit is turned on or off.
• **Selecting the monitor to copy the original data (CONFIG COPY menu)**
Setting data of the INPUT CONFIG and SYSTEM CONFIG (except the DEGAUSS DELAY data) menus can be copied from the serial connected monitor.

The SYSTEM CONFIG (2/2) menu is used for the following settings:

• **Display mode and position of the signal format (FORMAT DISPLAY and POSITION menus)**
• **Display mode and position of the channel number (CH NO and POSITION menus)**
• **Display mode and position of the channel name (CH NAME and POSITION menus)**
• **Display mode of the caption (CAPTION menu)**

• **Maintenance (MAINTENANCE menu)**
This is for a service qualified personnel.

E **Setting the Power-Up Conditions and Data about the Screen Display — SYSTEM CONFIG Menu**

Structure of the SYSTEM CONFIG Menu

Level 1	Level 2
SYSTEM CONFIG (1/2)	
STANDBY MODE	
DEFAULT CH ————————	LAST
DEGAUSS DELAY	CH x
CONT/BRT HOLD	
COL TEMP SHORT-CUT	
ACC SW	
CONFIG COPY E1 ————————	MONITOR ADDRESS E11
SYSTEM CONFIG (2/2)	
FORMAT DISPLAY E2	
POSITION	
CH NO E3	
POSITION	
CH NAME E4	
POSITION	
CAPTION E5	
MAINTENANCE ————————	ENTER PASSWORD

Setting Lists of the SYSTEM CONFIG Menu

This section explains the setting lists displayed in the menu.

How to read the setting lists
- For purposes of explanation, each setting list is preceded by a menu number. These numbers are not displayed on the screen.
  For more information about the menu number, see "About menu numbers" on page 26(E).
- The arrow mark (⇨) refers you to another setting list that appears after you make the setting, or to an operation that is carried out as a result of the setting. When there is no arrow mark, the menu does not have any sub-list.
- The factory setting is shown in the brackets.

E (1/2) SYSTEM CONFIG (1/2) menu
Set each of the following items.
STANDBY MODE: Select the power-up condition when the MAIN POWER switch is turned on (BVM-D14H1U/D14H1E/D14H1A/D14H5U/ D14H5E/D14H5A) or when the battery is installed (BVM-D9H1U/D9H1E/D9H1A/D9H5U/D9H5E/ D9H5A.)
  ON: Standby mode
  [OFF]: Operation mode
DEFAULT CH: Select the power-up input channel (LAST or CH x).
  [LAST]: Set the channel to the channel that was selected at the time the power was last turned off.
  CH x: Set the channel to a specific channel number.
DEGAUSS DELAY: Set the time between power-up and the beginning of degaussing. Enter the desired time (in seconds, 0 to 255).

CONT/BRT HOLD: Select the contrast and brightness settings to the center or adjusted value after adjusting the white balance or auto adjustment of CONTROL PRESET ADJ (OFF or ON).
  ON: The contrast and brightness are set to the value before adjusting.
  [OFF]: The contrast and brightness are set to the center value (100) after adjusting.
COL TEMP SHORT-CUT: Assign the shortcut function to the MANUAL menu of the COLOR TEMP ADJ menu to F2 key (OFF or F2).
  F2: Assigns the shortcut to the MANUAL menu of the COLOR TEMP ADJ menu.
  [OFF]: Does not assign the shortcut to the MANUAL menu of the COLOR TEMP ADJ menu.
ACC SW: Set the automatic color control switch (OFF or ON).
CONFIG COPY...: Copy setting data of the INPUT CONFIG and SYSTEM CONFIG (except the DEGAUSS DELAY data) menus from the serial connected BVM-D9H/D14H monitor. ⇨E11

E11 MONITOR ADDRESS menu
Set the address number of the monitor to be copied.

E (2/2) SYSTEM CONFIG (2/2) menu
Select items to be displayed on the screen.
FORMAT DISPLAY: Select the display mode of the signal format. ⇨E2 (2/2)
  POSITION: Select the display position of the signal format. ⇨E2 (2/2)
CH NO: Select the display mode of the channel number. ⇨E3 (2/2)
  POSITION: Select the display position of the channel number. ⇨E3 (2/2)
CH NAME: Select the display mode of the channel name. ⇨E4 (2/2)
  POSITION: Select the display position of the channel name. ⇨E4 (2/2)
CAPTION: Select the caption display mode. ⇨E5 (2/2)
MAINTENANCE...: Menu for service personnel.

E2 (2/2) FORMAT DISPLAY and POSITION menus
FORMAT DISPLAY menu
Select the display mode of the signal format.

  [AUTO]: Disappears after displayed for a while.
  ON: Displayed.
  OFF: Not displayed.
POSITION menu
Select the display position.
  [BOTTOM LEFT]
  BOTTOM CENTER
  BOTTOM RIGHT
  TOP LEFT
  TOP CENTER
  TOP RIGHT

E3 (2/2) CH NO and POSITION menus
CH NO menu
Select the display mode of the channel number.
  [AUTO]: Disappears after displayed for a while.
  ON: Displayed.
  OFF: Not displayed.
POSITION menu
Select the display position.
  BOTTOM LEFT
  BOTTOM CENTER
  [BOTTOM RIGHT]
  TOP LEFT
  TOP CENTER
  TOP RIGHT

E4 (2/2) CH NAME and POSITION menus
CH NAME menu
Select the display mode of the channel name.
  [AUTO]: Disappears after displayed for a while.
  ON: Displayed.
  OFF: Not displayed.
POSITION menu
Select the display position.
  BOTTOM LEFT
  BOTTOM CENTER
  BOTTOM RIGHT
  [TOP LEFT]
  TOP CENTER
  TOP RIGHT

E5 (2/2) CAPTION menu
Select the caption display mode.
[OFF]: Not displayed
CAPTION 1: Displayed in CAPTION 1 mode.
CAPTION 2: Displayed in CAPTION 2 mode.
TEXT 1: Displayed in TEXT 1 mode.
TEXT 2: Displayed in TEXT 2 mode.
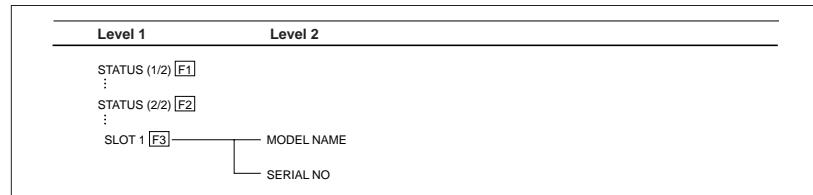
F Displaying Information About the Monitor — STATUS Menu

Overview

The STATUS menu is used to view general data about the monitor and information about signals assigned to the slots in the rear panel.

The following information is displayed on the two pages of the STATUS menu.

• **Data about the current channel (STATUS menu (1/2))**
• **Data about the monitor in use and data about the input adaptors installed into the slots on the rear panel (STATUS menu (2/2))**

Structure of the STATUS Menu

```
Level 1              Level 2

STATUS (1/2) F1
     ⋮
STATUS (2/2) F2
     ⋮
    SLOT 1 F3 ────────── MODEL NAME
             └────────── SERIAL NO
```

Setting Lists of the STATUS Menu

This section explains the setting lists displayed in the menu.

How to read the setting lists
• For purposes of explanation, each setting list is preceded by a menu number. These numbers are not displayed on the screen.
  For more information about the menu number, see "About menu numbers" on page 26(E).
• The arrow mark (⇨) refers you to another setting list that appears after you make the setting, or to an operation that is carried out as a result of the setting. When there is no arrow mark, the menu does not have any sub-list.

F **STATUS menu**
Select the STATUS menu 1/2 or 2/2. ⇨ F1

F1 **STATUS (1/2) menu**
Data about the current channel is displayed.
CH: channel number
SL: slot number
IN: input connector number
FORMAT: format of the input signal
NAME: channel name

F2 **STATUS (2/2) menu**
Data about the monitor is displayed at the upper half of the display.
MODEL NAME: model name
SERIAL NO: serial number
OPERATION TIME: operation time (in hours)
SOFTWARE VERSION: software version

Data about the input adaptors installed into the respective slots in the rear panel is displayed at the lower half of the display.
When the BKM-129X is installed in SLOT 1, the following is displayed. When any optional boards are not installed, EMPTY is displayed for SLOT 2 and SLOT 3.
SLOT1: COMPONENT ⇨ F3
SLOT2: EMPTY ⇨ F3
SLOT3: EMPTY ⇨ F3

F3 **SLOT 1 to 3 menu**
Select the desired slot. Data about the optional board installed in the selected slot is displayed.
MODEL NAME: Model name of that optional board
SERIAL NO: Serial number of that circuit board
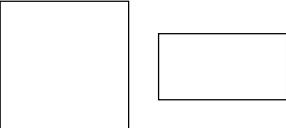
G Adjusting the Position, Size and Geometry of the Picture — ALIGNMENT Menu

Overview

The ALIGNMENT menu is used for adjusting the position, size and geometry of the picture.

Structure of the ALIGNMENT Menu

```
Level 1

V SIZE
V CENTER
H SIZE
H PHASE
H PIN
H KEY
```

Setting Lists of the ALIGNMENT Menu

This section explains the setting lists displayed in the menu.

How to read the setting lists
• For purposes of explanation, each setting list is preceded by a menu number. These numbers are not displayed on the screen.
  For more information about the menu number, see "About menu numbers" on page 26(E).

G Adjusting the Position, Size and Geometry of the Picture — ALIGNMENT Menu

G ALIGNMENT menu

Adjust the position, size or geometry of the picture with the UP and DOWN buttons or PHASE knob.

V SIZE: Adjust the height of the picture.

V CENTER: Adjust the vertical picture position.

H SIZE: Adjust the width of the picture.

H PHASE: Adjust the horizontal picture position.

H PIN: Correct side pincushion distortion.

H KEY: Correct trapezoid distortion.

Selecting the Monitor to Control — ADDRESS Menu

Overview

When multiple monitors are connected by a serial remote connection, the ADDRESS menu is used to choose whether one particular monitor or monitor group will be controlled, or whether operations are to be performed on all monitors together.

Displaying the ADDRESS Menu

Press the ADDRESS button.
The ADDRESS menu is displayed on the screen.
By pressing the ENTER or Ent button after selecting the item, serial remote operation becomes activated.

```
            ADDRESS
                        - - -
SINGLE                  * * *
GROUP                   * * *
ALL

ALL POWER ON
ALL POWER OFF

DISPLAY MONITOR ADDRESS
DISPLAY GROUP ADDRESS
```

ADDRESS Menu

Settings made with the menu items are as follows:
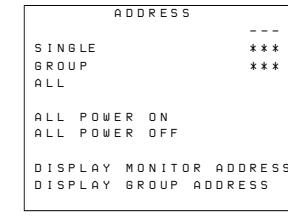
Item	Function
SINGLE	Controls only a specified monitor. Enter the monitor address number.
GROUP	Controls only a specified monitor group. Enter the group address number.
ALL	Controls all monitors.
ALL POWER ON	Turns all connected monitors on.
ALL POWER OFF	Turns all connected monitors off.
DISPLAY MONITOR ADDRESS	When this item is selected, each connected monitor displays its monitor address on its screen.
DISPLAY GROUP ADDRESS	When this item is selected, each connected monitor displays its group address on its screen.

Notes

• To remotely control monitors connected in serial, MONITOR ADDRESS or GROUP ADDRESS of monitors should be correctly set in the REMOTE menu.
For details of the REMOTE menu, see "D Assigning the Remote Control Functions – REMOTE Menu" on page 37(E).

- In GROUP or ALL mode, the LEDs of the function buttons will not light with controlled from the menu. (LEDs light only when you press the function button.)
- In GROUP or ALL mode, LEDs of controlled monitor will light as follows.

• **In case of SHIFT OFF before remote control operation:** LEDs light in green when the SHIFT button is remotely set to OFF.
For details, see "SHIFT button" on page10(E) for BVM-D9H5U/D9H5E/D9H5A or on page 19(E) for BVM-D14H5U/D14H5E/D14H5A.

• **In case of SHIFT ON before remote control operation:** LEDs light in amber when the SHIFT button is remotely set to ON.
For details, see "SHIFT button" on page11(E) for BVM-D9H5U/D9H5E/D9H5A or on page 20(E) for BVM-D14H5U/D14H5E/D14H5A.

(continued)

Selecting the Monitor to Control — ADDRESS Menu

Cancelling the Remote Control Mode

To cancel the remote control mode, press the ADDRESS button.

Exiting the ADDRESS Menu

To exit the ADDRESS menu, press the ADDRESS button or the MENU button.

Short-cut Function in the ADDRESS Menu

When selecting the monitor, short-cut function will enable to select the target monitor without using the items in the ADDRESS menu. The operation procedure is as follows.

To select the monitor in the SINGLE mode

1 Press the ADDRESS button.

2 Press the address number of the target monitor. Press one digit address number on the numeric keypad when it is from 1 to 9. Press three digits address number (press 0 button and then press the two-digit address number) when it is from 10 to 99.

To select the monitors in the GROUP mode

1 Press the ADDRESS button.

2 Press the F1 button.

3 Press the group number of the target monitor. Press one digit group address number when it is from 1 to 9. Press three digits group address number (press 0 button and then press the two-digit group number) when it is from 10 to 99.

To select all the monitors in the ALL mode

1 Press the ADDRESS button.

2 Press the F2 button.

Specifications

General

System   15.625 kHz – 45 kHz
                (For details, see "Available Signal Format" on page 53(E).)

CRT

BVM-D9H1U/D9H1E/D9H1A/D9H5U/D9H5E/D9H5A

HR Trinitron, 4:3 aspect ratio
Aperture grille pitch: 0.25 mm 90 degree deflection, 21.6 mm diameter in-line gun
Effective picture size with 16:9 aspect ratio:
  155.4 × 87.4 mm (6 $^1/_8$ × 3 $^1/_2$ inches) (w/h)
  178 mm (7 inches) (diagonal size)
Effective picture size with 4:3 aspect ratio:
  155.4 × 115 mm (6 $^1/_8$ × 4 $^5/_8$ inches) (w/h)
  190.7 mm (7 $^1/_2$ inches) (diagonal size)
CRT protection: EHT (extremely high tension) protection type
Warm-up time: approx. 30 minutes
Anode voltage: 15 kV with no beam current

BVM-D14H1U/D14H1E/D14H1A/D14H5U/D14H5E/D14H5A

HR Trinitron, 4:3 aspect ratio
Aperture grille pitch: 0.25 mm 90 degree deflection, 29.4 mm diameter in-line gun
Effective picture size with 16:9 aspect ratio:
  267.5 × 150.5 mm (10 $^5/_8$ × 6 inches) (w/h)
  306.9 mm (12 $^1/_8$ inches) (diagonal size)
Effective picture size with 4:3 aspect ratio:
  267.5 × 200.6 mm (10 $^5/_8$ × 8 inches) (w/h)
  331.6 mm (13 $^1/_8$ inches) (diagonal size)
CRT protection: EHT (extremely high tension) protection type
Warm-up time: approx. 30 minutes
Anode voltage: 23 kV with no beam current

Nominal chromaticity coordinates:

EBU phosphor

	x	y
R	0.640	0.330
G	0.290	0.600
B	0.150	0.060

Dimensions (w/h/d)

BVM-D9H1U/D9H1E/D9H1A:
  approx. 217 × 174 × 364.5mm
  (8 $^5/_8$ × 6 $^7/_8$ × 14 $^3/_8$ inches)
  when the AC adaptor is installed:
  approx. 217 × 174 × 419.5mm
  (8 $^5/_8$ × 6 $^7/_8$ × 16 $^5/_8$ inches)
BVM-D9H5U/D9H5E/D9H5A:
  approx. 217 × 218 × 364.5mm
  (8 $^5/_8$ × 8 $^5/_8$ × 14 $^3/_8$ inches)
  when the AC adaptor is installed:
  approx. 217 × 218 × 419.5mm
  (8 $^5/_8$ × 8 $^5/_8$ × 16 $^5/_8$ inches)
BVM-D14H1U/D14H1E/D14H1A:
  approx. 346 × 280 × 519mm
  (13 $^5/_8$ × 11 $^1/_8$ × 20 $^1/_2$ inches)
BVM-D14H5U/D14H5E/D14H5A:
  approx. 482 × 280 × 519mm
  (19 × 11 $^1/_8$ × 20 $^1/_2$ inches)
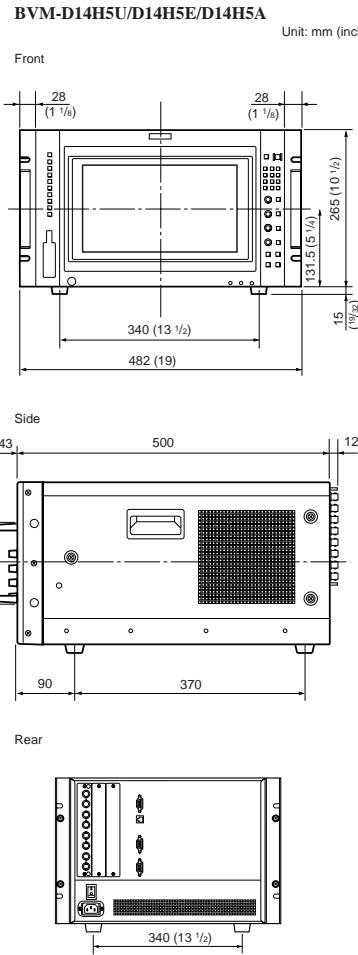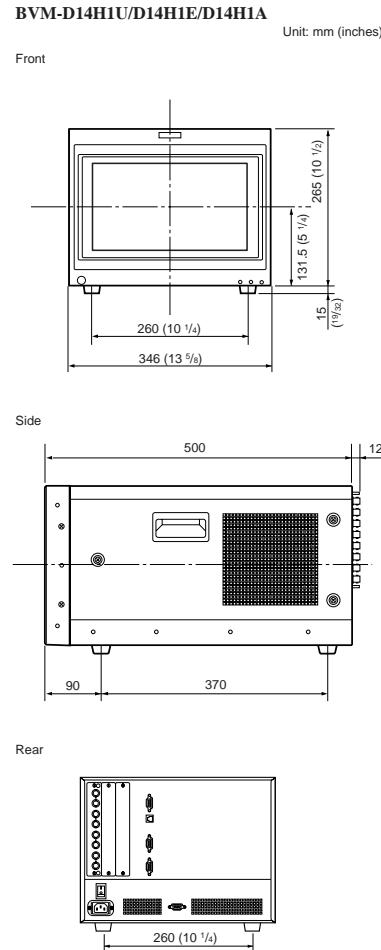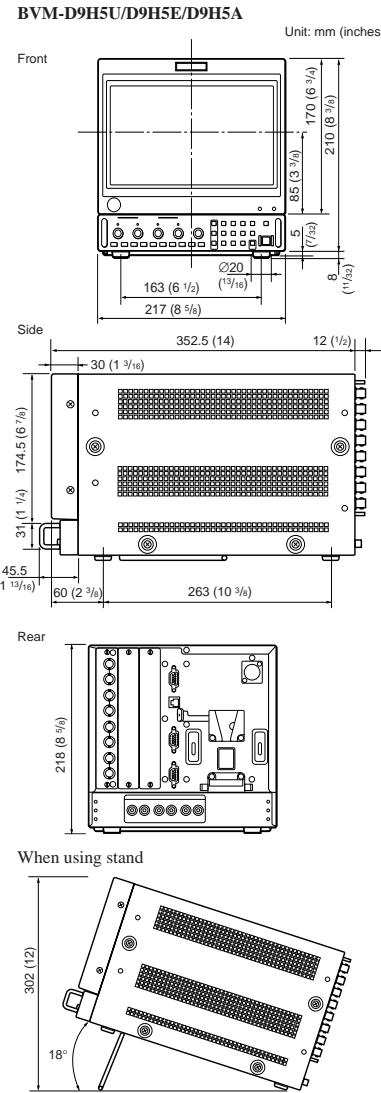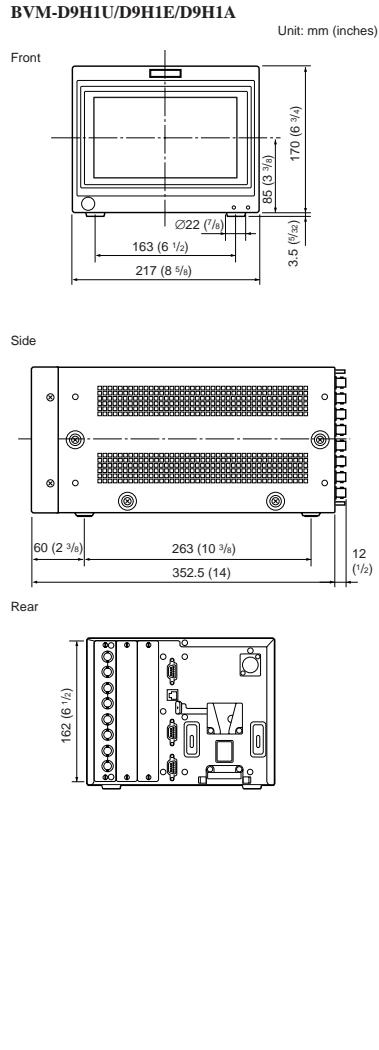
Specifications

Dimensional drawing

BVM-D9H1U/D9H1E/D9H1A

Unit: mm (inches)

Front

Side

Rear

BVM-D9H5U/D9H5E/D9H5A

Unit: mm (inches)

Front

Side

Rear

When using stand

BVM-D14H1U/D14H1E/D14H1A

Unit: mm (inches)

Front

Side

Rear

BVM-D14H5U/D14H5E/D14H5A

Unit: mm (inches)

Front

Side

Rear

Specifications

Mass
BVM-D9H1U/D9H1E/D9H1A:
approx. 8.1 kg (17 lb 14 oz)
when the AC adaptor is installed:
approx. 8.9 kg (19 lb 10 oz)
BVM-D9H5U/D9H5E/D9H5A:
approx. 9.3 kg (20 lb 8 oz)
when the AC adaptor is installed:
approx. 10.1 kg (22 lb 4 oz)
BVM-D14H1U/D14H1E/D14H1A:
approx. 21 kg (46 lb 5 oz)
BVM-D14H5U/D14H5E/D14H5A:
approx. 23 kg (50 lb 11 oz)

Power consumption
BVM-D9H1U/D9H1E/D9H1A/
D9H5U/D9H5E/D9H5A:
85 W max. (an optional BKM-
142HD or BKM-120D is
installed)
60 W typical (the supplied analog
component input adaptor is
installed)
BVM-D14H1U/D14H1E/D14H1A/
D14H5U/D14H5E/D14H5A:
115 W max. (an optional BKM-
142HD or BKM-120D is
installed)
100 W typical (the supplied
analog component input adaptor
is installed)

Peak inrush current
(1) Power ON, current probe
method: 80 A (240 V) (BVM-
D9H1U/D9H1E/D9H1A/
D9H5U/D9H5E/D9H5A),
45 A (240 V) (BVM-D14H1U/
D14H1E/D14H1A/D14H5U/
D14H5E/D14H5A)
(2) Hot switching inrush current,
measured in accordance with
European standard
EN55103-1: 10 A (230 V)
(BVM-D9H1U/D9H1E/D9H1A/
D9H5U/D9H5E/D9H5A),
20 A (230 V) (BVM-D14H1U/
D14H1E/D14H1A/D14H5U/
D14H5E/D14H5A)

Power requirements
BVM-D9H1U/D9H1E/D9H1A/
D9H5U/D9H5E/D9H5A:
AC 100 to 240 V, 50/60 Hz, DC
$12V^{+5}_{-1}$ V
BVM-D14H1U/D14H1E/D14H1A/
D14H5U/D14H5E/D14H5A:
AC 100 to 240 V, 50/60 Hz

Input/output connectors

Video input/output BNC type × 3 (with loop-through
outputs, 75-ohm automatic
termination)
R/G/B: 1 Vp-p ±6 dB, positive,
high impedance
Y: 1 Vp-p ±6 dB, high impedance
PB/PR: 0.7 Vp-p ±6 dB, high
impedance
Sync input/output BNC type × 1 (with loop-through
output, 75-ohm automatic
termination)
Composite sync: 0.3 to 8 Vp-p,
positive/negative tri-level sync
signal input or negative bi-level
sync signal input, high impedance
Return loss More than 40 dB (10 MHz, with
75-ohm termination)
Remote control OPTION: Mini-DIN 8-pin × 1
CONTROL UNIT:
D-sub 9-pin × 1 (BVM-D9H1U/
D9H1E/D9H1A[1]), BVM-
D14H1U/D14H1E/D14H1A
only)
PARALLEL REMOTE [1]:
D-sub 9-pin × 1
PARALLEL REMOTE [2]:
Modular connector 6-pin
SERIAL REMOTE: D-sub 9-pin ×
2[1]) (with loop-through output)
Audio input (BVM-D9H5U/D9H5E/D9H5A only)
Phono jack × 3 (with loop-through
output)

---

1) BVM-D9H1U/D9H1E/D9H1A is swithced to REMOTE
or CTRL UNIT with the select switch.

Video signal

Frequency response
575/50I, 480/60I component inputs
BVM-D9H1U/D9H1E/D9H1A/
D9H5U/D9H5E/D9H5A/
D14H1U/D14H1E/D14H1A/
D14H5U/D14H5E/D14H5A:
50Hz to 10MHz (0 dB/–3 dB)
Models other than the above or
RGB inputs
BVM-D9H1U/D9H1E/D9H1A/
D9H5U/D9H5E/D9H5A:
48 Hz to 17 MHz, (1 dB/ –3 dB)
BVM-D14H1U/D14H1E/
D14H1A/D14H5U/D14H5E/
D14H5A:
48 Hz to 24 MHz, (0 dB/ –3 dB)
Aperture compensation[2]
OFF: 0 dB
ON: 2 dB to 6 dB
575/50I, 480/60I inputs: 5 MHz
Input other than the above: 16 MHz

Picture performance

Normal scan 5% overscan of CRT effective
screen area (adjustable range
greater than ±15%)
Underscan 3% underscan of CRT effective
screen area (adjustable range
greater than ±15%)
Linearity Within a central area bounded by a
circle with a diameter equal to the
picture height, less than 1.0 % of
the picture height, and outside the
same area, about 2.0 % of the
picture height
Color temperature
D93, D65 (adjustable to other color
temperatures)

Convergence error
Within a central area bounded by a
circle with a diameter equal to the
picture height.
Less than 0.4 mm with a central
area bounded by a circle and less
than 0.7 mm at any other point.
Standard luminescence
120 cd/m² (at standard 1 Vp-p
100% white signal)
Raster size stability
Less than 1% of picture height (at
120 cd/m² peak luminescence, 10
to 90% APL)
Resolution (at screen center, 120 cd/m² luminescence)
BVM-D9H1U/D9H1E/D9H1A/
D9H5U/D9H5E/D9H5A:
340 TV lines (16:9)
450 TV lines (4:3)
BVM-D14H1U/D14H1E/D14H1A/
D14H5U/D14H5E/D14H5A:
600 TV lines (16:9)
800 TV lines (4:3)

Operating conditions

Temperature 0°C to 35°C (32°F to 95°F)
Optimum temperature
20°C to 30°C (68°F to 86°F)
Humidity 0% to 90% (no condensation)
Pressure 700 hPa to 1060 hPa

Storage and transport conditions

Temperature –10°C to 40°C (14°F to 104°F)
Humidity 0% to 90%
Pressure 700 hPa to 1060 hPa

---

2) The aperture cannot be compensated for RGB input signals.

Specifications

Accessories supplied

AC power cord (1)
AC adaptor (1) (BVM-D9H1U/D9H1E/D9H1A/
            D9H5U/D9H5E/D9H5A only)
AC plug holder (1)
Tally plate (1)
4:3 mask (1)
Operation manual (1)

Acquired safety regulations

UL1950, CSA950
FCC Class A, IC Class A
DHHS, DNHW
TÜV (EN60950), PTB
CE-Marking, C-tick Mark

Design and specifications are subject to change
without notice.

Available Signal Format

System	Total lines per frame	Active lines per frame	** Frame rate (Hz)	Scanning format	Aspect	Standard
575/50I (*PAL)	625	575	25	2:1 interlace	16:9/4:3	ITU 601
480/60I (*NTSC)	525	483	30	2:1 interlace	16:9/4:3	ITU 601
575/50P	625	575	50	Progressive	16:9/4:3	–
480/60P	525	483	60	Progressive	16:9/4:3	SMPTE 293M
1080/48I	1125	1080	24	2:1 interlace	16:9	–
1080/50I	1125	1080	25	2:1 interlace	16:9	SMPTE 294M
1035/60I	1125	1035	30	2:1 interlace	16:9	BTA S-001B
1080/60I	1125	1080	30	2:1 interlace	16:9	SMPTE 274M/BTA S-001B
720/60P	750	720	60	Progressive	16:9	SMPTE 296M

* Available when the optional adaptor is installed.
** Also compatible with $1/1.001$.

Specifications
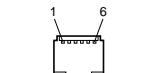
Connection Cable Specifications for Color Temperature Probes

Special cables are required to connect color temperature probes other than the Sony BKM-14L to the monitor.

The following diagrams show specifications and pin assignments for the required cables.
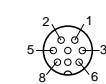
Connection cable for GRASEBY SLS 9400 probe

Modular connector   Mini DIN 8-pin connector (male)

Signal	Pin Number
N.C.	1
GND	2
RXD	3
TXD	4
GND	5
N.C.	6
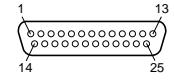
Pin Number	Signal
1	NC
2	NC
3	RTS
4	GND
5	N.C.
6	TXD
7	+5V
8	RXD
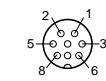
Connection cable for MINOLTA CA-100 probe

D-sub 25-pin connector (male)   Mini DIN 8-pin connector (male)

Signal	Pin Number
N.C.	1
TXD	2
RXD	3
RTS	4
CTS	5
N.C.	6
GND	7
N.C.	8 to 25

Pin Number	Signal
1	NC
2	NC
3	RTS
4	GND
5	N.C.
6	TXD
7	+5V
8	RXD
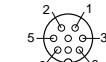
Connection cable for PHILIPS PM 5639 probe (corresponds to PHILIPS PM 5639/64 cable)

Modular connector   Mini DIN 8-pin connector (male)

Signal	Pin Number
+5V	1
N.C.	2
RXD	3
TXD	4
N.C.	5
GND	6

Pin Number	Signal
1	NC
2	NC
3	RTS
4	GND
5	N.C.
6	TXD
7	+5V
8	RXD
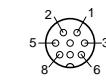
Connection cable for THOMA TF6 probe

D-sub 15-pin connector (female)   Mini DIN 8-pin connector (male)

Signal	Pin Number
N.C.	1
RXD	2
TXD	3
N.C.	4
N.C.	5
N.C.	6
GND	7
N.C.	8 to 15

Pin Number	Signal
1	NC
2	NC
3	RTS
4	GND
5	N.C.
6	TXD
7	+5V
8	RXD
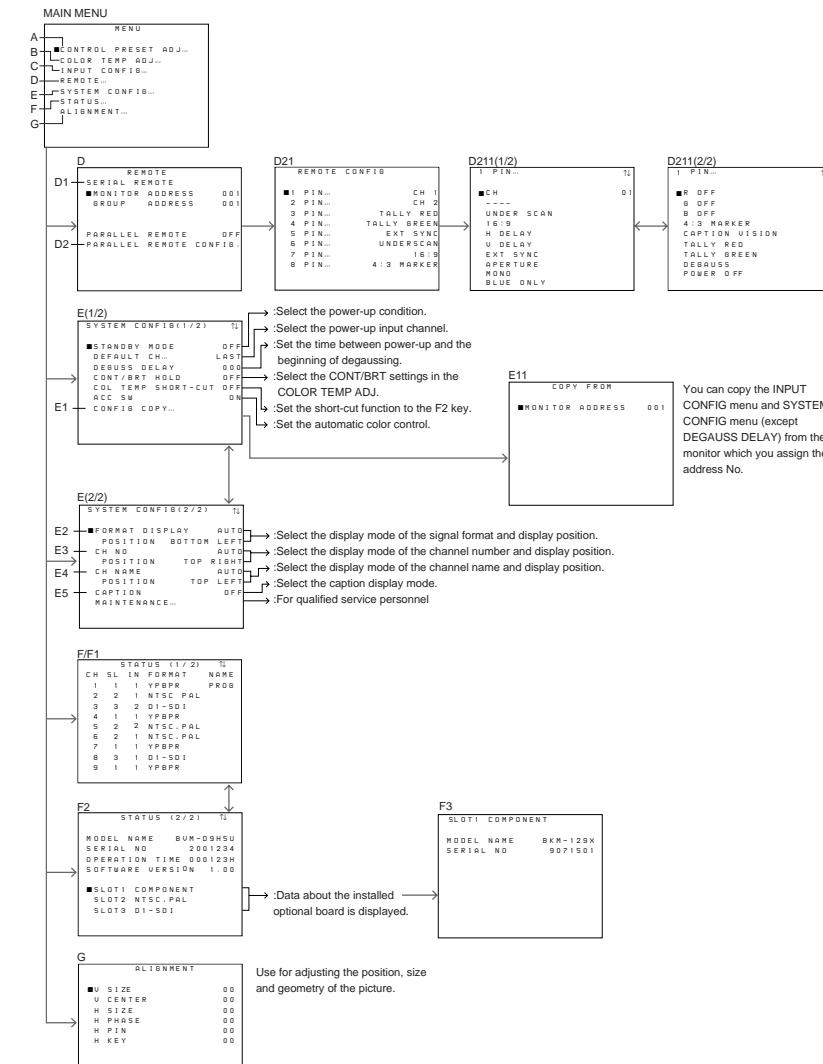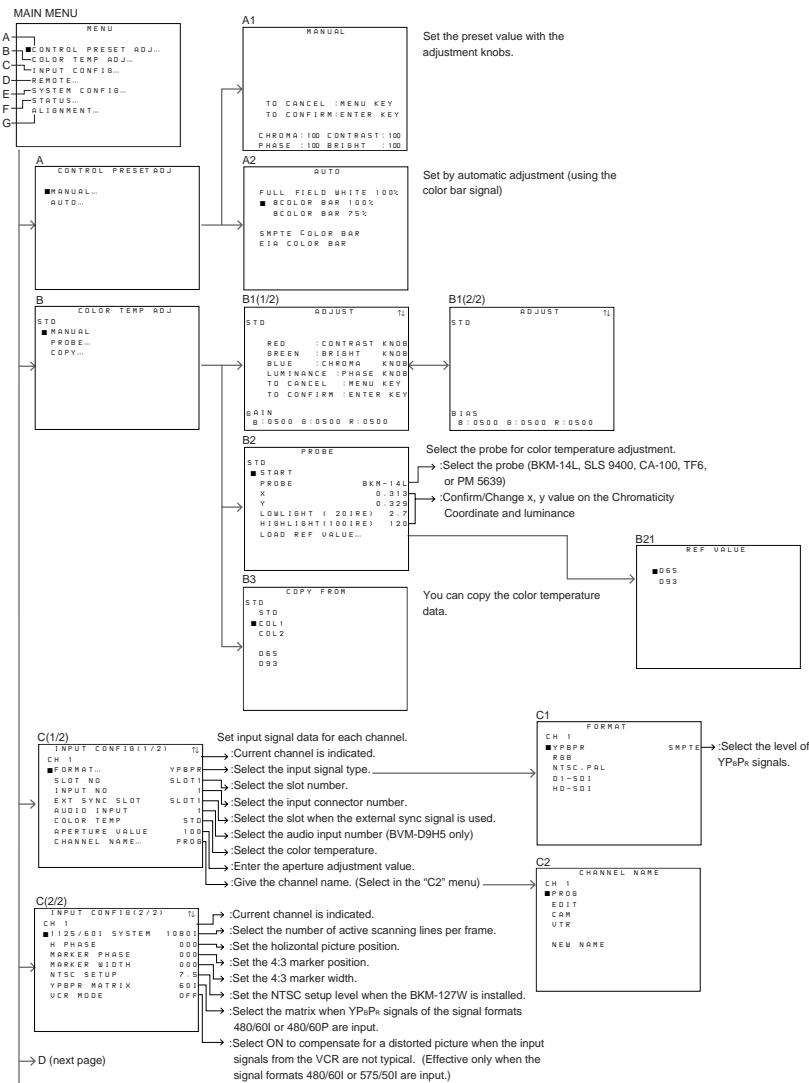
Menu Index

The menu index shows the menu items provided with this monitor in alphabetical order. For you reference, each menu item is followed by the page of this manual on which the item is explained, its menu number, and the Main Menu that the item belongs to.

Menu Configuration

MAIN MENU

```
            MENU
A ─■CONTROL PRESET ADJ...
B ──COLOR TEMP ADJ...
C ──INPUT CONFIG...
D ──REMOTE...
E ──SYSTEM CONFIG...
F ──STATUS...
G ──ALIGNMENT...
```

A1
```
         MANUAL



   TO CANCEL :MENU KEY
   TO CONFIRM :ENTER KEY

   CHROMA :100  CONTRAST:100
   PHASE :100   BRIGHT :100
```
Set the preset value with the adjustment knobs.

A
```
     CONTROL PRESET ADJ

  ■MANUAL...
   AUTO...
```

A2
```
          AUTO

   FULL FIELD WHITE 100%
  ■ECOLOR BAR 100%
   ECOLOR BAR 75%

   SMPTE Color Bar
   EIA COLOR BAR
```
Set by automatic adjustment (using the color bar signal)

B
```
     COLOR TEMP ADJ
   STD
  ■MANUAL
   PROBE...
   COPY...
```

B1(1/2)
```
         ADJUST          ↑↓
   STD

    RED    :CONTRAST KNOB
    GREEN  :BRIGHT KNOB
    BLUE   :CHROMA KNOB
    LUMINANCE :PHASE KNOB
    TO CANCEL :MENU KEY
    TO CONFIRM :ENTER KEY

   GAIN
    B:0500 G:0500 R:0500
```

B1(2/2)
```
         ADJUST          ↑↓
   STD




   BIAS
    B:0500 G:0500 R:0500
```

B2
```
          PROBE
   STD
  ■START
   PROBE          BKM-14L
   X               0.313
   Y               0.329
   LOWLIGHT ( 20IRE)  2.7
   HIGHLIGHT(100IRE)  120
   LOAD REF VALUE...
```
Select the probe for color temperature adjustment.
:Select the probe (BKM-14L, SLS 9400, CA-100, TF6, or PM 5639)
:Confirm/Change x, y value on the Chromaticity Coordinate and luminance

B21
```
        REF VALUE


  ■D65
   D93
```

B3
```
        COPY FROM
   STD
   STD
  ■COL1
   COL2

   D65
   D93
```
You can copy the color temperature data.

C(1/2)
```
    INPUT CONFIG(1/2)    ↑↓
   CH 1
  ■FORMAT...        YPBPR
   SLOT NO          SLOT1
   INPUT NO
   EXT SYNC SLOT    SLOT1
   AUDIO INPUT
   COLOR TEMP        STD
   APERTURE VALUE     100
   CHANNEL NAME...    PROB
```
Set input signal data for each channel.
:Current channel is indicated.
:Select the input signal type.
:Select the slot number.
:Select the input connector number.
:Select the slot when the external sync signal is used.
:Select the audio input number (BVM-D9H5 only)
:Select the color temperature.
:Enter the aperture adjustment value.
:Give the channel name. (Select in the "C2" menu)

C1
```
         FORMAT
   CH 1
  ■YPBPR
   RGB            SMPTE
   NTSC.PAL
   D1-SDI
   HD-SDI
```
:Select the level of YPBPR signals.

C2
```
      CHANNEL NAME
   CH 1
  ■PROB
   EDIT
   CAM
   VTR


   NEW NAME
```

C(2/2)
```
    INPUT CONFIG(2/2)    ↑↓
   CH 1
  ■I125/60I SYSTEM  1080I
   H PHASE           000
   MARKER PHASE      000
   MARKER WIDTH      000
   NTSC SETUP        7.5
   YPBPR MATRIX      60I
   VCR MODE          OFF
```
:Current channel is indicated.
:Select the number of active scanning lines per frame.
:Set the horizontal picture position.
:Set the 4:3 marker position.
:Set the 4:3 marker width.
:Set the NTSC setup level when the BKM-127W is installed.
:Select the matrix when YPBPR signals of the signal formats 480/60I or 480/60P are input.
:Select ON to compensate for a distorted picture when the input signals from the VCR are not typical. (Effective only when the signal formats 480/60I or 575/50I are input.)

→ D (next page)

MAIN MENU

```
            MENU
A ─■CONTROL PRESET ADJ...
B ──COLOR TEMP ADJ...
C ──INPUT CONFIG...
D ──REMOTE...
E ──SYSTEM CONFIG...
F ──STATUS...
G ──ALIGNMENT...
```

D
```
          REMOTE
D1  SERIAL REMOTE
   ■MONITOR ADDRESS   001
    GROUP   ADDRESS   001


    PARALLEL REMOTE    OFF
D2  PARALLEL REMOTE CONFIG...
```

D21
```
      REMOTE CONFIG
  ■1 PIN...          CH 1
   2 PIN...          CH 2
   3 PIN...      TALLY RED
   4 PIN...    TALLY GREEN
   5 PIN...     EXT SYNC
   6 PIN...     UNDERSCAN
   7 PIN...        16:9
   8 PIN...     4:3 MARKER
```

D211(1/2)
```
    ↑ PIN            ↑↓
  ■CH              D1
   ────
   UNDER SCAN
   16:9
   H DELAY
   V DELAY
   EXT SYNC
   APERTURE
   MONO
   BLUE ONLY
```

D211(2/2)
```
    ↑ PIN            ↑↓
  ■R OFF
   G OFF
   B OFF
   4:3 MARKER
   CAPTION VISION
   TALLY RED
   TALLY GREEN
   DEGAUSS
   POWER OFF
```

E(1/2)
```
    SYSTEM CONFIG(1/2)   ↑↓

  ■STANDBY MODE      OFF
   DEFAULT CH...     LAST
   DEGAUSS DELAY     000
   CONT/BRT HOLD     OFF
   COL TEMP SHORT-CUT OFF
   ACC SW             ON
   CONFIG COPY...
```
:Select the power-up condition.
:Select the power-up input channel.
:Set the time between power-up and the beginning of degaussing.
:Select the CONT/BRT settings in the COLOR TEMP ADJ.
:Set the short-cut function to the F2 key.
:Set the automatic color control.

E11
```
        COPY FROM


  ■MONITOR ADDRESS   001
```
You can copy the INPUT CONFIG menu and SYSTEM CONFIG menu (except DEGAUSS DELAY) from the monitor which you assign the address No.

E(2/2)
```
    SYSTEM CONFIG(2/2)   ↑↓

  ■FORMAT DISPLAY    AUTO
    POSITION    BOTTOM LEFT
   CH NO             AUTO
    POSITION   TOP RIGHT
   CH NAME           AUTO
    POSITION    TOP LEFT
   CAPTION           OFF
   MAINTENANCE...
```
:Select the display mode of the signal format and display position.
:Select the display mode of the channel number and display position.
:Select the display mode of the channel name and display position.
:Select the caption display mode.
:For qualified service personnel

F/F1
```
      STATUS (1/2)      ↑↓
  CH SL IN FORMAT   NAME
   1  1  1 YPBPR     PROB
   2  2  1 NTSC PAL
   3  3  1 D1-SDI
   4  1  1 YPBPR
   5  2  2 NTSC.PAL
   6  2  1 NTSC.PAL
   7  1  1 YPBPR
   8  3  1 D1-SDI
   9  1  1 YPBPR
```

F2
```
      STATUS (2/2)      ↑↓

   MODEL NAME   BVM-D9H5U
   SERIAL NO     2001234
   OPERATION TIME 000123H
   SOFTWARE VERSION 1.00

  ■SLOT1 COMPONENT
   SLOT2 NTSC.PAL
   SLOT3 D1-SDI
```

F3
```
      SLOT1 COMPONENT

   MODEL NAME   BKM-129X
   SERIAL NO     9071501
```
:Data about the installed optional board is displayed.

G
```
        ALIGNMENT

  ■V SIZE           00
   V CENTER         00
   H SIZE           00
   H PHASE          00
   H PIN            00
   H KEY            00
```
Use for adjusting the position, size and geometry of the picture.

Section 2
Service Informations

2-1.   Circuit Boards Location (1/2)
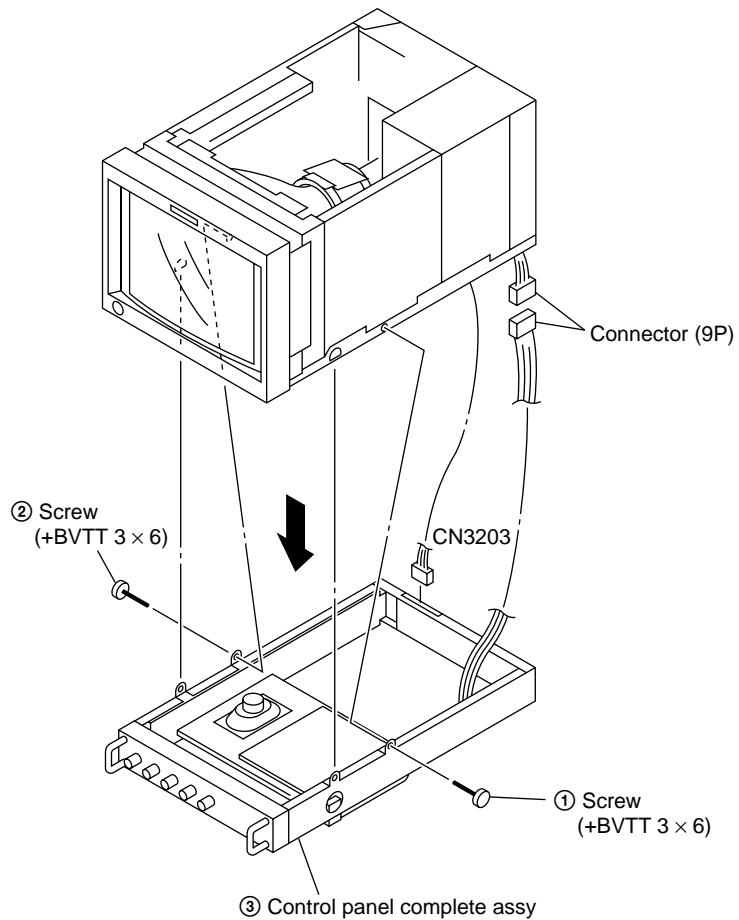
2-1.   Circuit Boards Location (2/2)

2-2-1. Cabinet Assy Removal

⑤ Screw
(+B 3 × 8)

⑥ Cabinet assy

④ Four screws
(Case screw OS)

③ Four screws
(Case screw OS)

Ⓑ

Ⓐ

① Push lever in the
direction shown by the arrow Ⓐ.

② Remove power unit
complete assy in the
direction shown by the arrow Ⓑ.

2-2-2. Control Panel Complete Assy Removal (D9H5)

② Screw
(+BVTT 3 × 6)

Connector (9P)

CN3203

① Screw
(+BVTT 3 × 6)
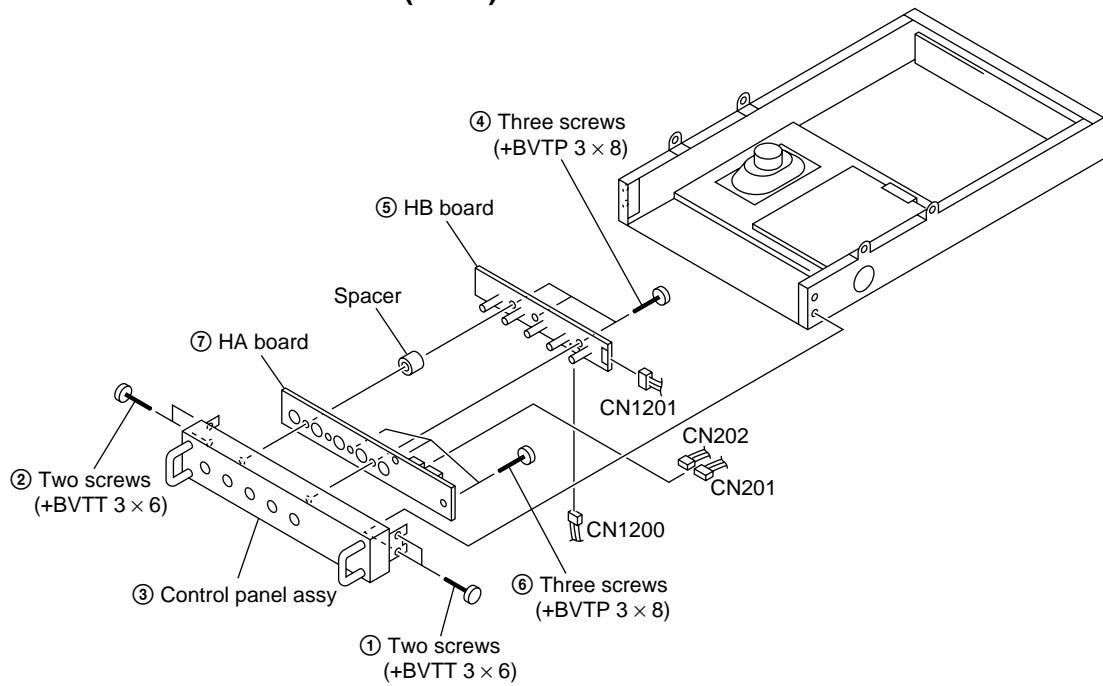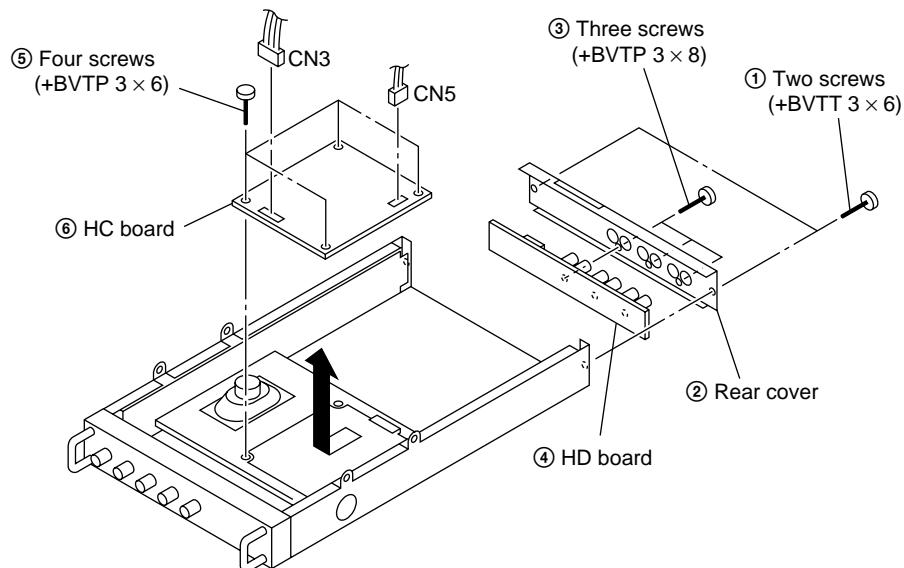
③ Control panel complete assy
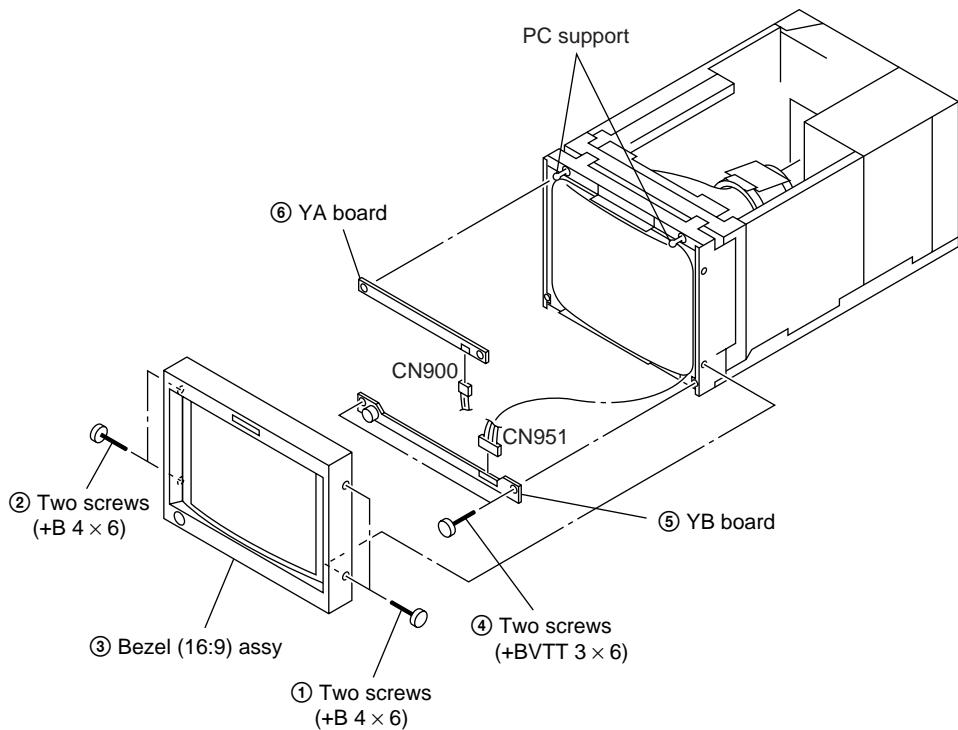
2-2-3. HA and HB Boards Removal (D9H5)

④ Three screws
(+BVTP 3 × 8)

⑤ HB board

Spacer

⑦ HA board

② Two screws
(+BVTT 3 × 6)

③ Control panel assy

① Two screws
(+BVTT 3 × 6)

⑥ Three screws
(+BVTP 3 × 8)

CN1201

CN202

CN201

CN1200
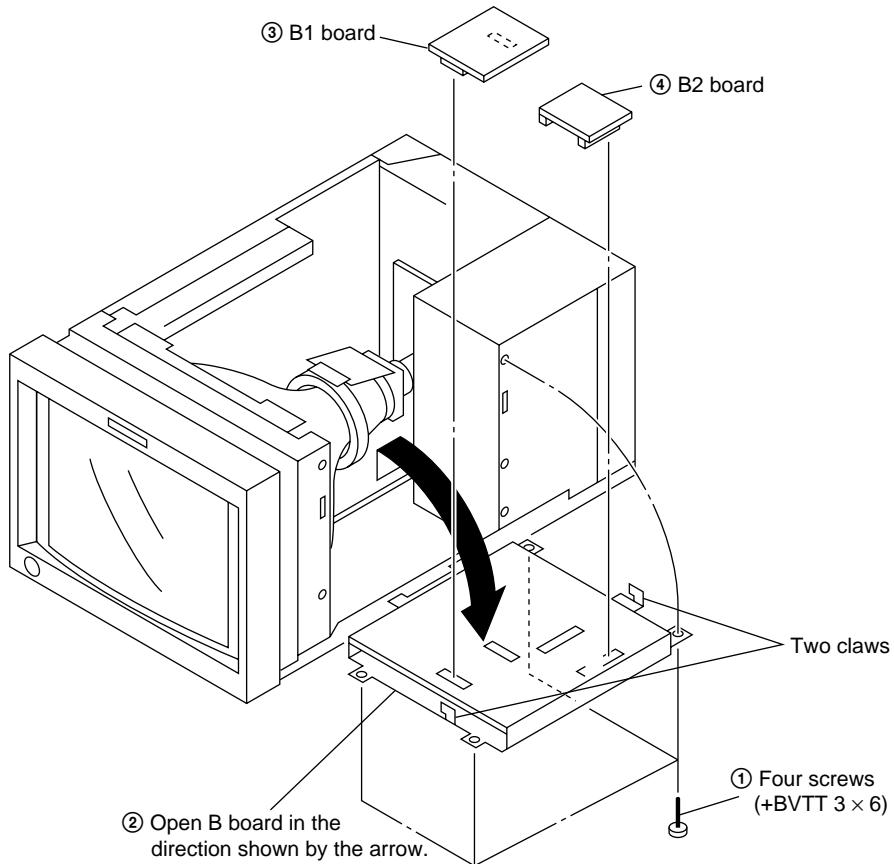
2-2-4. HC and HD Boards Removal (D9H5)

⑤ Four screws
(+BVTP 3 × 6)

CN3

CN5

③ Three screws
(+BVTP 3 × 8)

① Two screws
(+BVTT 3 × 6)

⑥ HC board

② Rear cover
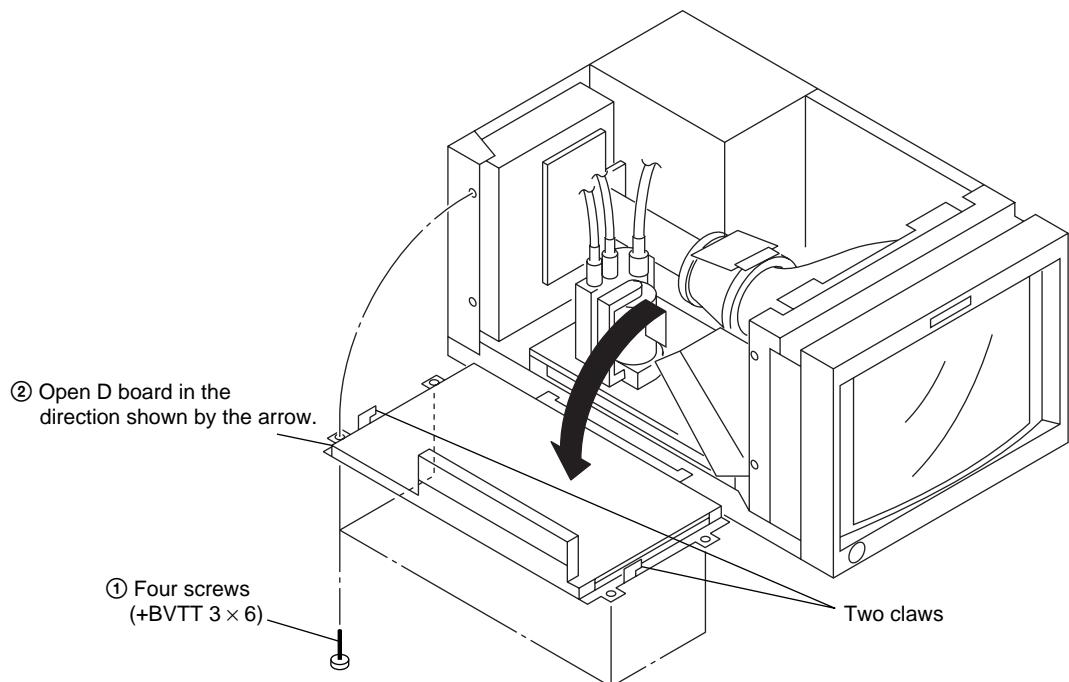
④ HD board

2-2-5. YA and YB Boards Removal

PC support

⑥ YA board

CN900

② Two screws
(+B 4 × 6)

CN951

⑤ YB board

③ Bezel (16:9) assy

④ Two screws
(+BVTT 3 × 6)

① Two screws
(+B 4 × 6)
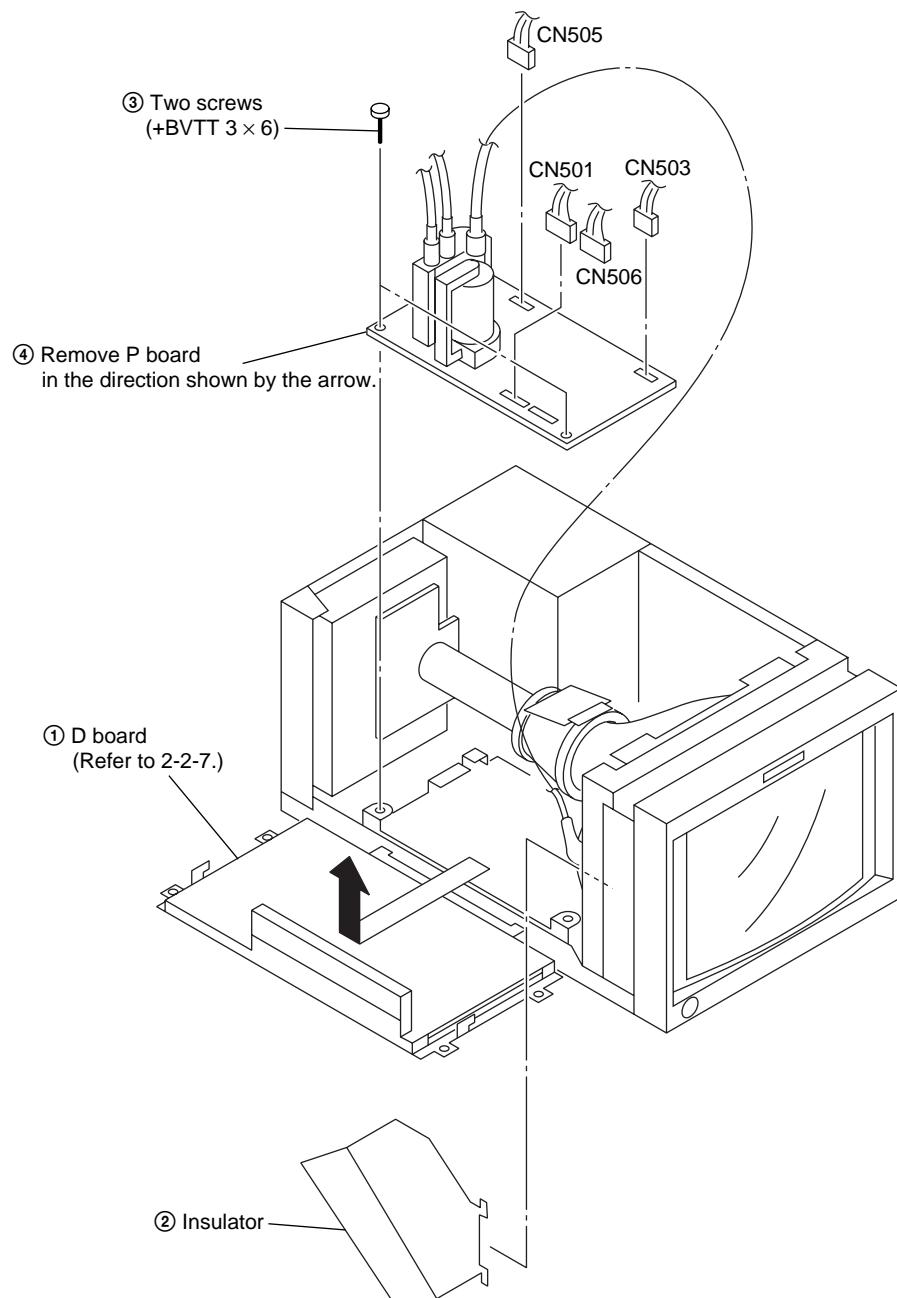
2-2-6. B, B1 and B2 Boards Removal

③ B1 board

④ B2 board

Two claws

① Four screws
(+BVTT 3 × 6)

② Open B board in the
direction shown by the arrow.

2-2-7. How to Open D Board

② Open D board in the
direction shown by the arrow.

① Four screws
(+BVTT 3 × 6)

Two claws

2-2-8. P Board Removal

③ Two screws
(+BVTT 3 × 6)

CN505

CN501

CN503

CN506

④ Remove P board
in the direction shown by the arrow.

① D board
(Refer to 2-2-7.)

② Insulator
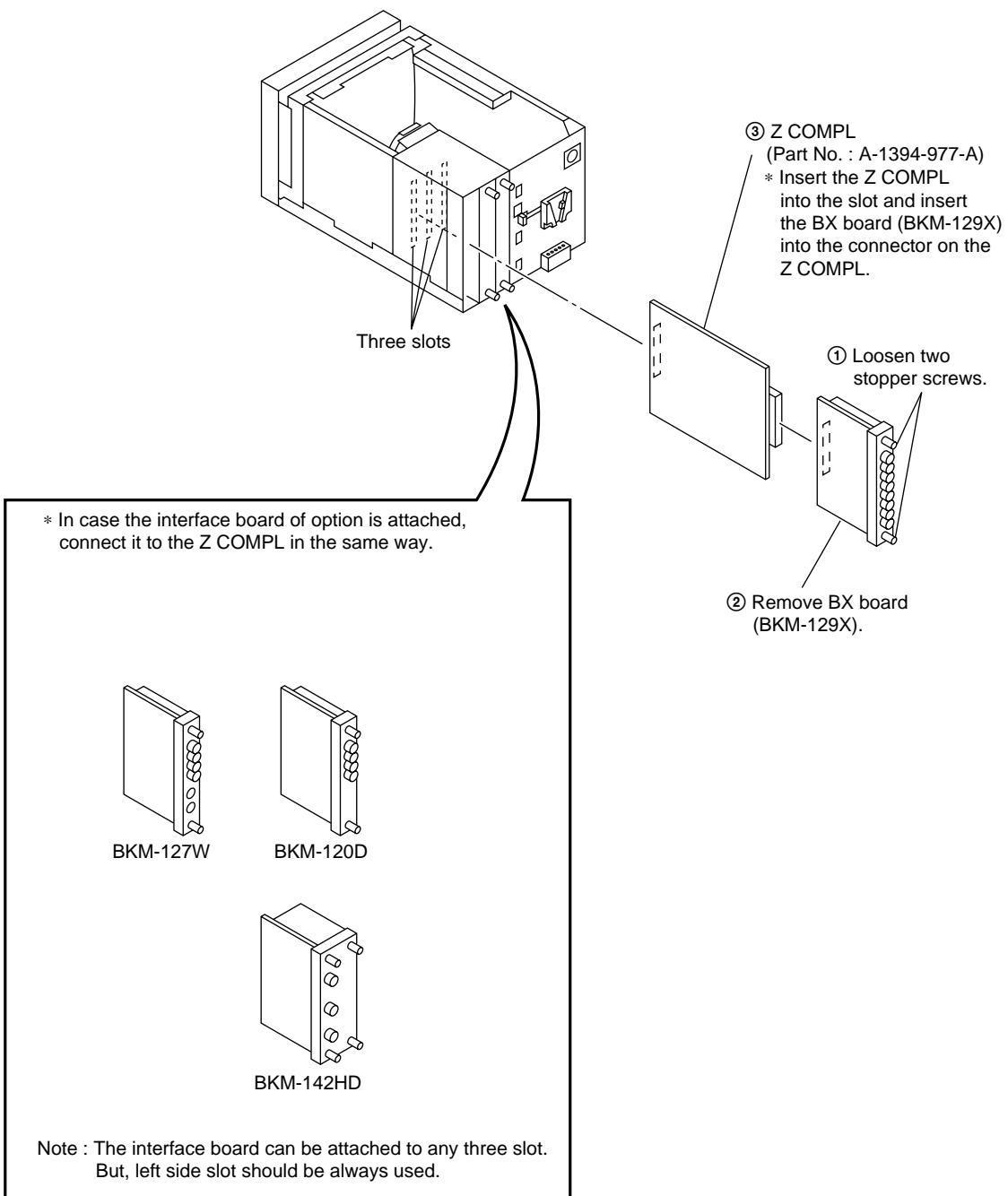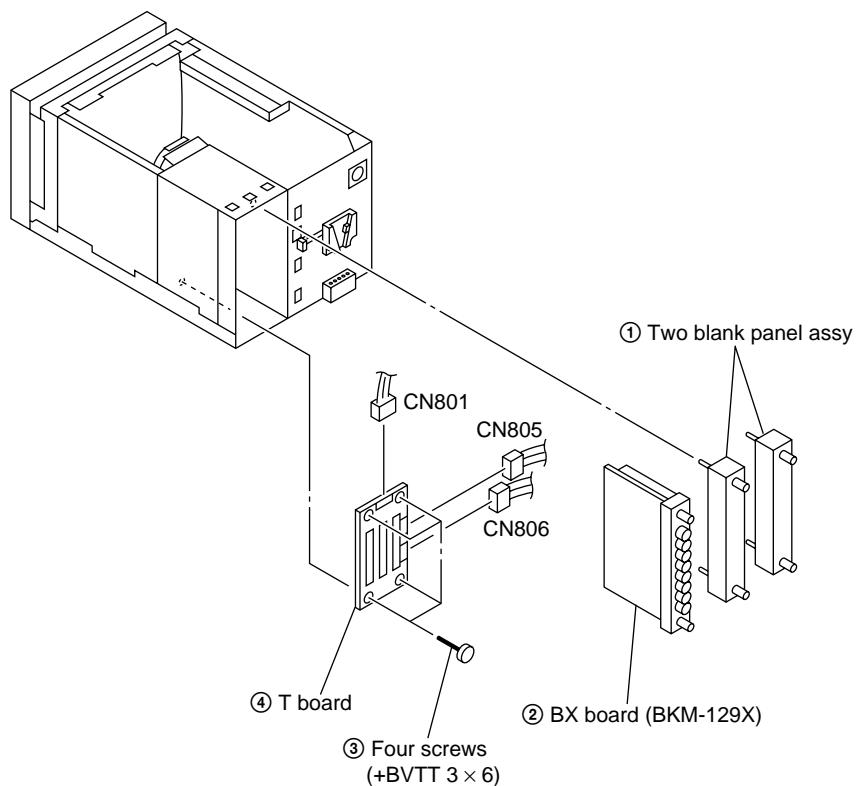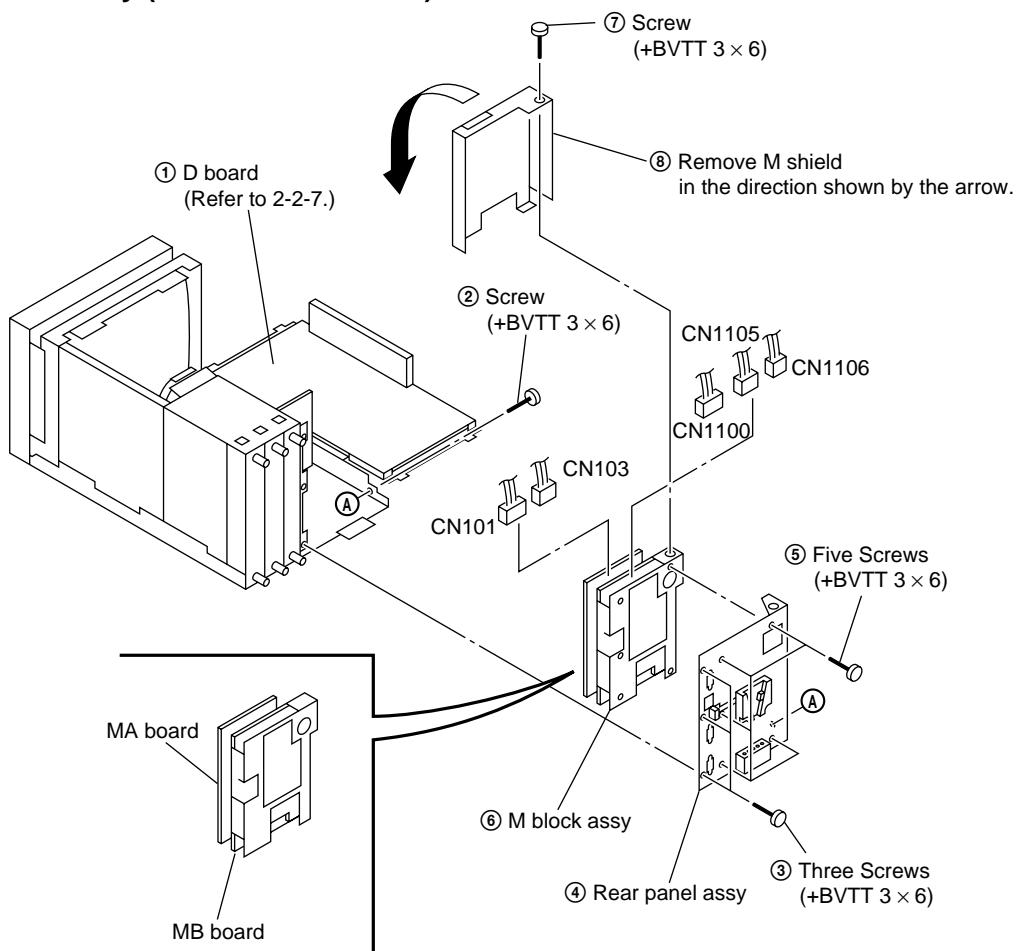
2-2-9. BX Board (BKM-129X) Removal and Check

③ Z COMPL
(Part No. : A-1394-977-A)
∗ Insert the Z COMPL
into the slot and insert
the BX board (BKM-129X)
into the connector on the
Z COMPL.

① Loosen two
stopper screws.

② Remove BX board
(BKM-129X).

Three slots

∗ In case the interface board of option is attached,
connect it to the Z COMPL in the same way.

BKM-127W   BKM-120D

BKM-142HD

Note : The interface board can be attached to any three slot.
But, left side slot should be always used.

2-2-10. T Board Removal

① Two blank panel assy

CN801

CN805

CN806

④ T board

③ Four screws
(+BVTT 3 × 6)

② BX board (BKM-129X)

2-2-11. M Block Assy (MA and MB Boards) Removal

⑦ Screw
(+BVTT 3 × 6)

① D board
(Refer to 2-2-7.)

⑧ Remove M shield
in the direction shown by the arrow.

② Screw
(+BVTT 3 × 6)

CN1105

CN1106

CN1100

CN103

Ⓐ

CN101

⑤ Five Screws
(+BVTT 3 × 6)

Ⓐ

MA board

MB board

⑥ M block assy

④ Rear panel assy

③ Three Screws
(+BVTT 3 × 6)
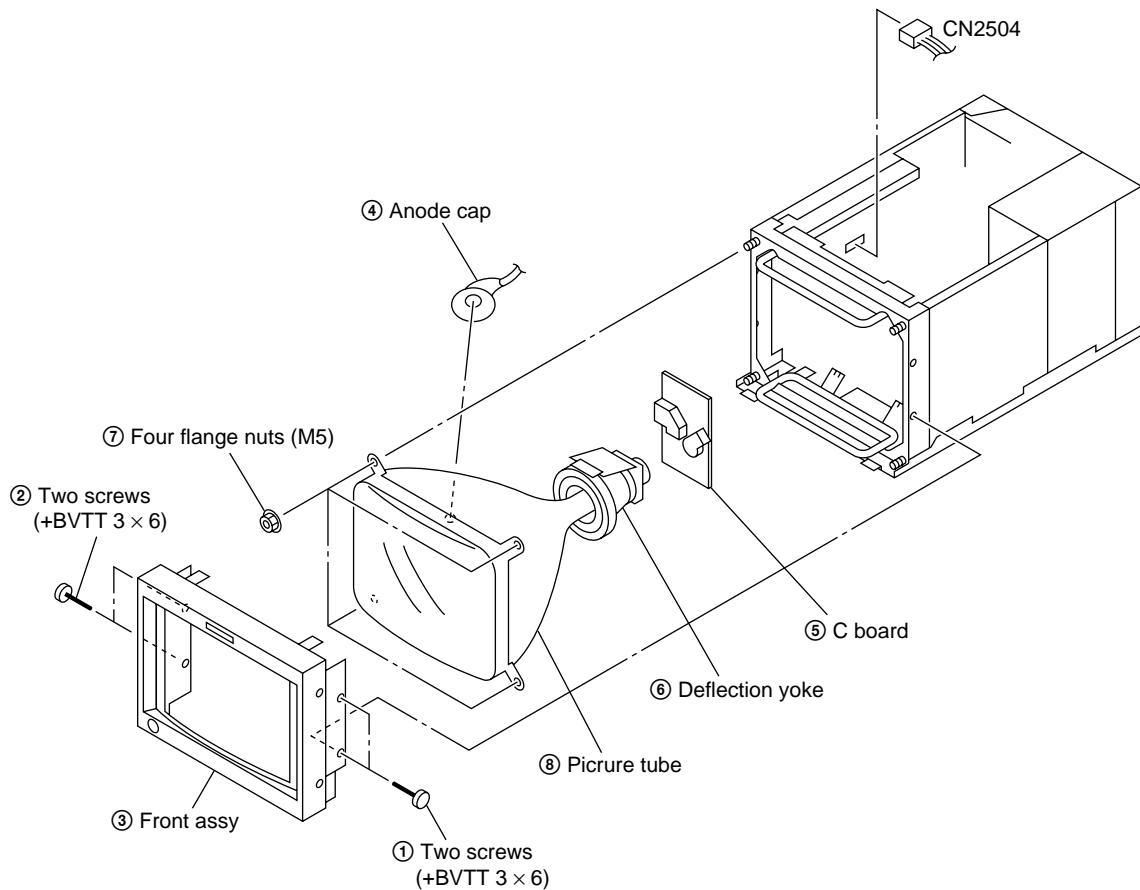
2-2-12. G Board Removal

* Remove the power unit complete assy. (Refer to 2-2-1.)

① Three screws
(+K 3 × 6)

② Power case (Top) assy

③ Four screws
(+PSW 3 × 8)

④ G board

⑤ Insulated sheet (Bottom)

Power case (Bottom) assy
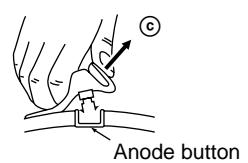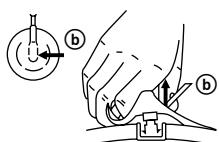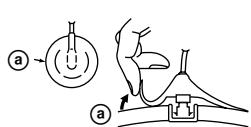
2-2-13. Picture Tube Removal

④ Anode cap

⑦ Four flange nuts (M5)

② Two screws
(+BVTT 3 × 6)

③ Front assy

① Two screws
(+BVTT 3 × 6)

CN2504

⑤ C board

⑥ Deflection yoke

⑧ Picrure tube

• REMOVAL OF ANODE CAP

Note: To eliminate electric shock hazard, when replacing the picture tube, short-circuit the anode of the picture tube and the high-voltage terminal of anode cap to the picture tube shield or carbon painted on the picture tube, after removing the anode.

• Removal Procedure
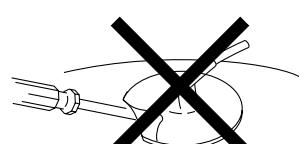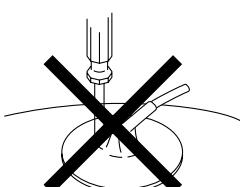
Anode button

(1) Turn up one side of the rubber cap in the direction indicated by arrow ⓐ.

(2) Using a thumb, pull up the rubber cap firmly in the direction indicated by arrow ⓑ.

(3) When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling up it in the direction of the arrow ⓒ.

• Handling Precautions
(1) Do not scratch the surface of anode cap with a sharp object.
(2) Do not press the rubber so hard that it damages the inside of anode caps. A shatter-hook terminal is built into the rubber.
(3) Do not turn the foot of the rubber over.
The shatter-hook terminal will stick out or damage the rubber.

Section 3
Set-Up Adjustments

3-1. Set-Up Adjustment When CRT is Replaced

This section describes the adjustments to be performed when the CRT is replaced.

[Preparations]
- Required tools and measuring instruments
1. Signal generator
   YPBYPR signal generator
   - 1080/60i (1125) : SMPTE274M standard/
                         BTA S-001 standard
   - 1035/60i (1125) : BTA S-001 standard or
                         SMPTE240M standard
   - 720/60p   : SMPTE296M standard
   - 480/60p (525p)   : BTA T-1004 standard or
                         SMPTE293M standard
   - 480/60i (525)   : ITU601
   - 1080/48i (1125) : —
   - 1080/50i (1125) : SMPTE274M standard
   - 720/50p   : —
   - 575/50p (625p)   : —
   - 575/50i (625)   : ITU601
   NTSC analog composite signal generator
   HD SDI signal generator
   D1 SDI signal generator
2. BKM-127W (NTSC/PAL input adapter)
3. BKM-142HD (HD SDI input adapter)
4. BKM-120D (D1 SDI input adapter)
5. Oscilloscope
6. Luminance meter
7. Color analyzer (Minolta CA-100)
8. Cable of the following specifications to connect the RS-232C terminal of the CA-100 and the OPTION terminal of the monitor.

- Setting the INPUT CONFIGURATION menu
Set the INPUT CONFIGURATION menu of the SETUP menu as shown below unless otherwise specified.

FORMAT .... YPBPR
SLOT NO 1
INPUT NO 1
SYNC MODE .... INT
APEARTURE VALUE 100
CHANNEL NAME .... PROG
COLOR TEMP .... STD
H PHASE 000
MARKER PHASE.................. 000
MARKER WIDTH 000

- Operate the SYSTEM CONFIG menu as follows.
Use the SYSTEM menu to select ALL SYSTEM with the RE-LOAD FACTORY DATA, and execute it.

BVM-D9H1/D9H5
control panel

BRIGHT VR   CONTRAST VR

SHIFT button   Function buttons

HDM option connector side   CA-100 RS-232C connector side
   Mini DIN 8-pin   D Sub 25-pin (male)

H SYNC	1
V SYNC	2
RTS	3
GND	4
NC	5
TXD	6
+5V	7
RXD	8

1	FG
2	TXD
3	RXD
4	RTS
5	CTS
6	NC
7	GND
8	NC
9 – 19	NC
20	DTR
21 – 25	NC

• **Connection diagram**

Y/G terminal
PB/B terminal
PR/R terminal
SYNC terminal

SLOT No. 1

Component signal generator

BKM-129X (BX Board)

BVM-D9H1U/D9H5U/D9H1E/D9H5E/D9H1A/D9H5A

[Focus Adjustment]

1. Connect the 1080/60i cross-hatch signal (see note) to the ANALOG Y/G input connector.

Note: This is the 1125 (1080) cross-hatch signal.

2. Set the initial (default) value to the following DF adjustment data.

   FOCUS AMP : 00
   FOCUS KEY : 07

Note: This menu is located in the directory under the DEFLECTION menu of the MAINTENANCE menu.

3. Obtain the optimum focus at the center of the screen by adjusting the FOUCS adjustment control.

4. Connect the 1080/60i monoscope signal to the ANALOG Y/G input connector.

5. Check that the horizontal resolution higher than the specifications can be recognized.
   Specifications: 320 TV lines or more
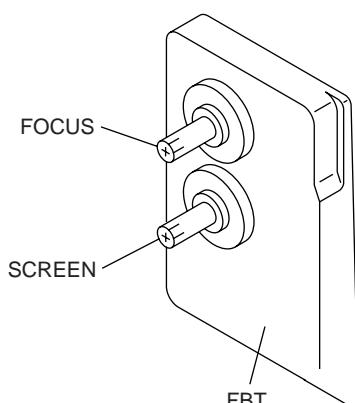
Fig. 1-1

[Landing Adjustment]

1. Connect the 480/60i entire-white signal (see note) to the ANALOG Y/G input connector.

Note: This is the NTSC entire-white signal.

2. Press the SHIFT button to ON. [The LED (orange) on top of the button turns on.]

3. Press the 16:9 button to the OFF position to set the 4:3 mode. [The LED (orange) on top of the button turns off.]

4. Direct the CRT screen toward east (or west). Press the DEGAUSS button.

5. Set the Purity knob in the mechanical center.
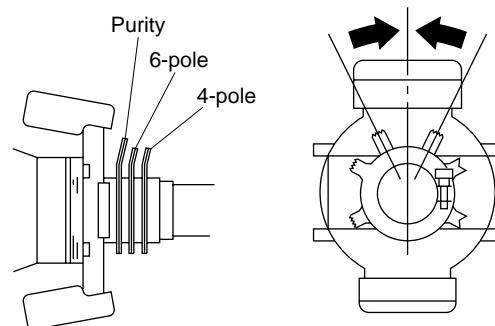
Fig. 1-2

6. Push the DY (deflection yoke) to the front as far as it can go.

7. Change the screen display to all green only as follows. [While the SFHIT is ON (the orange LED on the SHIFT button turns on), press the R and B button to ON. (The orange LED on the SHIFT button turns on.)]

8. Adjust the Purity knob until green comes to the center of the display.
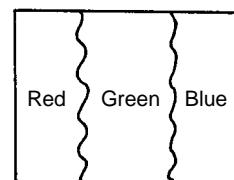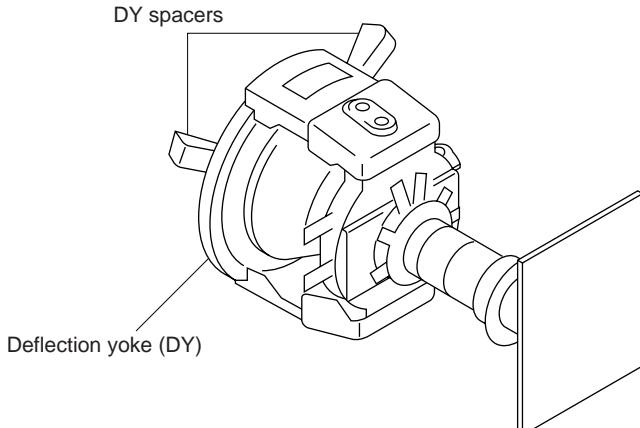
Fig. 1-3

9. Move back the DY so that the entire screen shows the green only.

10. Connect the 480/60i cross-hatch signal (see note) to the ANALOG Y/G input connector.
    Note: This is the NTSC cross-hatch signal.
11. Adjust the DY inclination. After DY inclination adjustment is complete, tighten the DY fixing screw.
12. Fix the deflection yoke (DY) using the three DY spacers.

DY spacers

Deflection yoke (DY)

Fig. 1-4

• Final adjustment
  When the adjustment is complete, check that mis-landing (landing error) does not occur even when the monitor is directed in all directions of east, west, south and north.

[H. Blanking Adjustment]

• Preparation
1. Connect the monoscope signal of the signal formats that are shown in the following table, to the ANALOG Y/G input connector. Perform the H. blanking adjustment in the respective screen modes using the respective signal formats.

60 Hz system

Mode	Signal format		Screen mode
MODE1	1080/60i	16 : 9	NORMAL
MODE2	(1125)		UNDER SCAN
MODE3	1035/60i	16 : 9	NORMAL
MODE4	(1125)		UNDER SCAN
MODE5	720/60p	16 : 9	NORMAL
MODE6			UNDER SCAN
MODE7	480/60p	16 : 9	NORMAL
MODE8	(525)		UNDER SCAN
MODE9		4 : 3	NORMAL
MODE10			UNDER SCAN
MODE11	480/60i	16 : 9	NORMAL
MODE12	(525)		UNDER SCAN
MODE13		4 : 3	NORMAL
MODE14			UNDER SCAN

50 Hz system

Mode	Signal format		Screen mode
MODE15	1080/48i	16 : 9	NORMAL
MODE16	(1125)		UNDER SCAN
MODE17	1080/50i	16 : 9	NORMAL
MODE18	(1125)		UNDER SCAN
MODE19	720/50p	16 : 9	NORMAL
MODE20			UNDER SCAN
MODE21	575/50P	16 : 9	NORMAL
MODE22	(625)		UNDER SCAN
MODE23		4 : 3	NORMAL
MODE24			UNDER SCAN
MODE25	575/50i	16 : 9	NORMAL
MODE26	(625)		UNDER SCAN
MODE27		4 : 3	NORMAL
MODE28			UNDER SCAN

2. Increase the brightness by adjusting the BRIGHT control so that blanking becomes visible on screen.
   Note: The following adjustment menus are located in the directory under the DEFLECTION menu of the MAINTENANCE menu.

   H BLK LEFT   H CENT
   H BLK RIGHT   H PHASE
   H SIZE

• H. Blanking Adjustment

1. Press the SHIFT button to ON. [The LED (orange) on top of the button turns on.]

2. To select the 4:3 mode of the adjustment, press the 16:9 OFF button [to turn off the LED (orange)] to select the 4:3 mode.
   To select the 16:9 mode of the adjustment, press the 16:9 ON button [to turn on the LED (orange)] to select the 16:9 mode.

3. Press the SHIFT button to OFF. [The LED (orange) on top of the button turns off.]

4. To select the NORMAL mode of adjustment, press the UNDER SCAN button (▣) to its OFF position to select the normal mode. [The green LED turns off.]
   To select the UNDER SCAN mode of adjustment, press the UNDER SCAN button (▣) to its ON position to select the under scan mode. [The green LED turns on.]

5. Set the following data to maximum.
   H BLK LEFT   : 255
   H BLK RIGHT   : 255

6. Adjust the H. SIZE data so that the entire raster area is visible on screen.

7. Adjust the H. CENTER data so that the raster is position just in the center of the screen (so that A ≒ B). (Fig. 1-5)
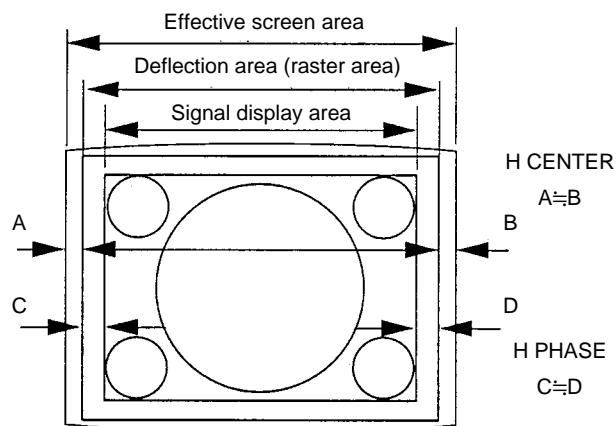
8. Adjust the H. PHASE data so that the monoscope picture is position just in the center of the raster (so that C ≒ D).

9. Adjust the H. BLK. RIGHT data so that the horizontal blanking is position 0 to 2 mm outside the right end of the monoscope signal display area. (Fig. 1-6)

10. Adjust the H. BLK. LEFT data so that the horizontal blanking is position 0 to 2 mm outside the left end of the monoscope signal display area. (Fig. 1-6)

11. Return the H. SIZE data to the original data size.
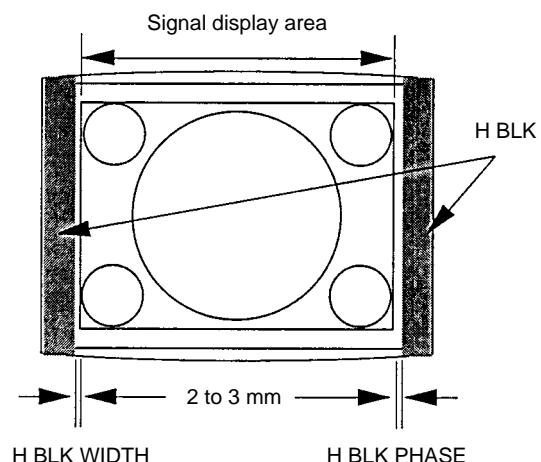
Fig. 1-6

Fig. 1-5

[V. Blanking Adjustment]

• Preparation

1. Connect the monoscope signal of the signal formats that are shown in the following table, to the ANALOG Y/G input connector. Perform the V. blanking adjustment in the respective screen modes using the respective signal formats.

60 Hz system

Mode	Signal format		Screen mode
MODE9	480/60p (525)	4 : 3	NORMAL
MODE13	480/60i (525)	4 : 3	NORMAL

50 Hz system

Mode	Signal format		Screen mode
MODE23	575/50p(625)	4 : 3	NORMAL
MODE27	575/50i(625)	4 : 3	NORMAL
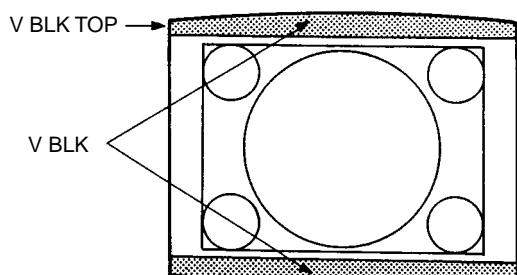
2. Increase the brightness by adjusting the BRIGHT control so that blanking becomes visible on screen.
   Note: The following adjustment menus are located in the directory under the DEFLECTION menu of the MAINTENANCE menu.
   - V BLK TOP
   - V SIZE
   - V CENT

• V. Blanking Adjustment

1. Press the SHIFT button to ON. [The LED (orange) on top of the button turns on.]
2. Press the 16:9 OFF button [to turn off the LED (orange)] to select the 4:3 mode.
3. Press the SHIFT button to set the SHIFT OFF. [The LED (orange) on top of the button turns off.]
4. Press the UNDER SCAN button (▭) to its OFF position to select the normal mode. [The green LED turns off.]
5. Adjust the V. SIZE data so that the 5% over-scan is obtained.
6. Take note of the present V. CENT data. After noting, adjust the V. CENT data so that the top of the raster becomes visible.
7. Adjust the V. BLK. TOP data so that the vertical blanking on top of the screen is positioned as closest as possible to the signal display area.
8. Return the V. CENT data to the original data.

Fig. 1-7

[Linearity Adjustment]

• Linearity Adjustment (1)

1. Connect the 1080/60i (1125) cross-hatch signal to the ANALOG Y/G input connector.
2. Press the SHIFT button to ON. [The LED (orange) on top of the button turns on.]
3. Press the 16:9 ON button [to turn on the LED (orange)] to select the 16:9 mode.
4. Press the SHIFT button to OFF. [The LED (orange) on top of the button turns off.]
5. Press the UNDER SCAN button (▭) to its OFF position to select the normal mode. [The green LED turns off.]
6. Check that the picture is not slanted, that there are no top and bottom PIN distortion and horizontal trapezoidal distortion.
   Slanted picture :
   Adjust inclination of the DY.
   Horizontal PIN distortion :
   Adjust upper and lower neck twist of the DY.

• Linearity Adjustment (2)

Note 1) Connect the monoscope signal or the cross-hatch signal having the following signal formats as shown in the table below, to the ANALOG Y/G input connector. Perform the linearity adjustment (2) in the respective screen modes using the respective signal formats.

60 Hz system

MODE	Signal format		Screen mode
MODE1	1080/60i	16 : 9	NORMAL
MODE2	(1125)		UNDER SCAN
MODE3	1035/60i	16 : 9	NORMAL
MODE4	(1125)		UNDER SCAN
MODE5	720/60p	16 : 9	NORMAL
MODE6			UNDER SCAN
MODE7	480/60p	16 : 9	NORMAL
MODE8	(525)		UNDER SCAN
MODE9		4 : 3	NORMAL
MODE10			UNDER SCAN
MODE11	480/60i	16 : 9	NORMAL
MODE12	(525)		UNDER SCAN
MODE13		4 : 3	NORMAL
MODE14			UNDER SCAN

50 Hz system

MODE	Signal format		Screen mode
MODE15	1080/48i	16 : 9	NORMAL
MODE16	(1125)		UNDER SCAN
MODE17	1080/50i	16 : 9	NORMAL
MODE18	(1125)		UNDER SCAN
MODE19	720/50p	16 : 9	NORMAL
MODE20			UNDER SCAN
MODE21	575/50P	16 : 9	NORMAL
MODE22	(625)		UNDER SCAN
MODE23		4 : 3	NORMAL
MODE24			UNDER SCAN
MODE25	575/50i	16 : 9	NORMAL
MODE26	(625)		UNDER SCAN
MODE27		4 : 3	NORMAL
MODE28			UNDER SCAN

Note 2) The following adjustment menus are located in the directory under the DEFLECTION menu of the MAINTENANCE menu.
  H SIZE
  H CENTER
  H KEY BAL
  H KEY
  H PIN BAL
  H PIN
  H COR S
  H COR PIN
  H PIN
  V SIZE
  V CENTER
  V LIN AMP
  V LIN BAL

1. Connect the monoscope signal to the ANALOG Y/G input connector.
2. Press the SHIFT button to ON. [The LED (orange) on top of the button turns on.]
3. To adjust the 4:3 mode of adjustment, press the 16:9 OFF button [to turn off the LED (orange)] to select the 4:3 mode.
4. Press the SHIFT button to OFF. [The LED (orange) on top of the button turns off.]
5. To select the NORMAL mode of adjustment, press the UNDER SCAN button (▱) to its OFF position to select the normal mode. [The green LED turns off.] To select the UNDER SCAN mode of adjustment, press the UNDER SCAN button (▱) to its ON position to select the under scan mode. [The green LED turns on.]
6. Adjust the H CENTER data so that the horizontal center of the picture comes to the horizontal center of the screen.
7. Adjust the V CENTER data so that the vertical center of the picture comes to the vertical center of the screen.
8. Connect the cross-hatch signal to the ANALOG Y/G input connector.
9. Adjust the respective V SIZE, V LIN BAL, V LIN AMP and H SIZE data so that the optimum picture is obtained as shown in Fig. 1-8.
Note: Do not adjust the V SIZE data when adjusting the MODEs 9, 13, 23 and 27.
10. Adjust the trapezoidal distortion and PIN distortion on both sides of picture using the H KEY BAL, H KEY, H PIN BAL and H PIN data respectively as shown in Fig. 1-9.
11. Adjust the corner "S" distortion and the corner PIN distortion on both sides of picture using the H CORS and H COR PIN data respectively as shown in Fig. 1-10.
12. Repeat the above-described steps of the linearity adjustment(2) until the optimum horizontal linearity and vertical linearity are obtained.

Fig. 1-8

V LIN BAL

V LIN AMP

H KEY BAL

H KEY

H PIN BAL

H PIN

Fig. 1-9

H COR S

H COR PIN

Fig. 1-10
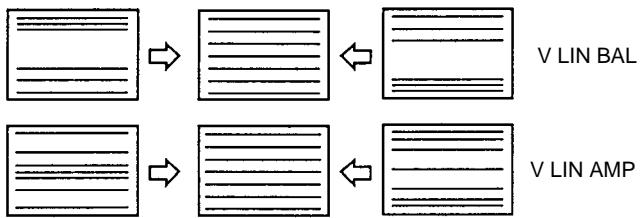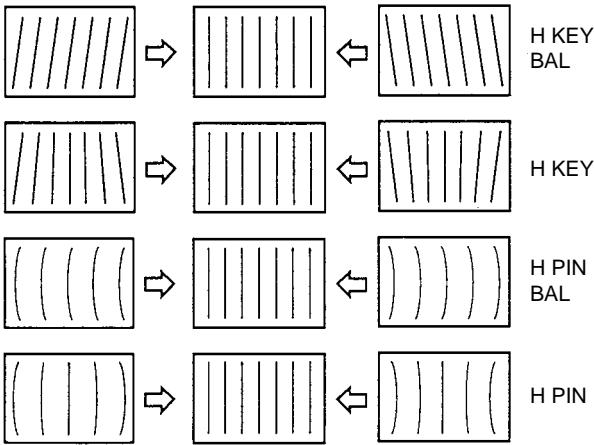
[Convergence Adjustment]

• Preparation

1. Connect the 480/60p cross-hatch signal to the ANA-LOG Y/G input connector.
2. Press the SHIFT button to ON. [The LED (orange) on top of the button turns on.]
3. Press the 16:9 OFF button [to turn off the LED (orange)] to select the 4:3 mode.
4. Press the SHIFT button to OFF. [The LED (orange) on top of the button turns off.]
5. Press the UNDER SCAN button (▫) to its OFF position to select the NORMAL mode.
   [The green LED turns off.]

Purity
6-pole
4-pole
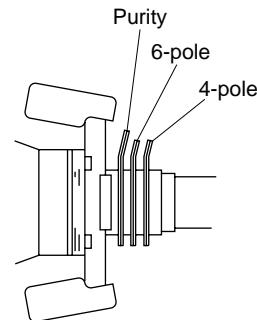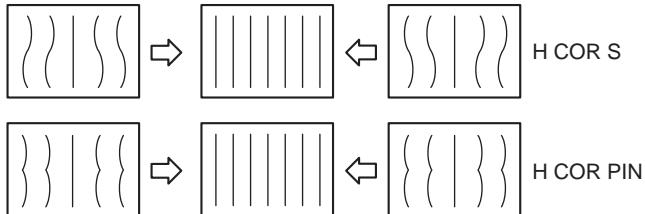
Fig. 1-11

[Static Convergence Adjustment]

• Horizontal Static Convergence Adjustment
1. Adjust RV701 on the C board so that the red dots and the green dots are correctly converged.
2. When the blue dot is mis-converged with respect to the red and green dots, implement the HMC (horizontal misconvergence) correction by adjusting the 4-pole magnet and the 6-pole magnet of the DY.

• Vertical Static Convergence Adjustment
1. Implement the VMC (vertical misconvergence) correction by adjusting the 4-pole magnet and the 6-pole magnet of the DY.
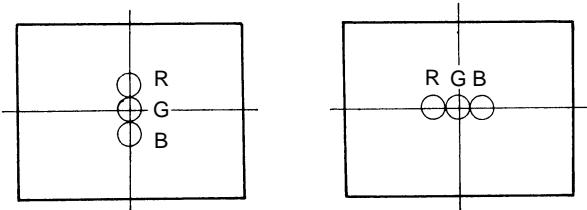
Fig. 1-12
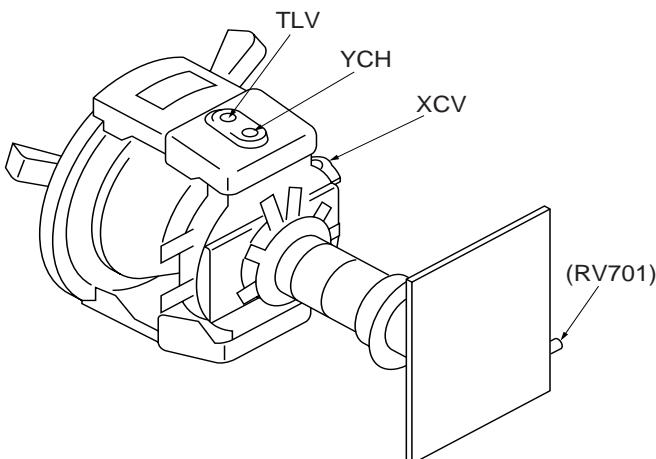
Fig. 1-13

[Dynamic Convergence Adjustment]

1. Minimize the vertical misconvergence in the left-most end of the center of a screen and in the right-most end of the center of a screen by the DY correction reactor XCV as shown in Fig. 1-14.
2. Minimize the vertical misconvergence in the top of a screen and in the bottom of a screen by the DY correction reactor TLV as shown in Fig. 1-14.
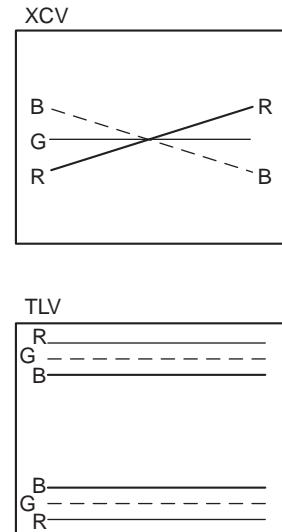
Fig. 1-14

[G2 Adjustment]

1. Turn off the POWER switch.
2. Disconnect the connector CN701 from the C board.
3. Apply the following DC voltage to pin-1, pin-3 and pin-5 of CN701 on the C board respectively.
   100 ± 2 V
4. Turn on the POWER switch.
5. Adjust the SCREEN control of FBT to the point of immediately before the blanking lines disappear on screen.
6. Turn off the POWER switch.
7. Remove the DC voltages that are applied in step 3, from the C board
8. Re-connect the connector CN701 to the C board.

[White Balance Adjustment]
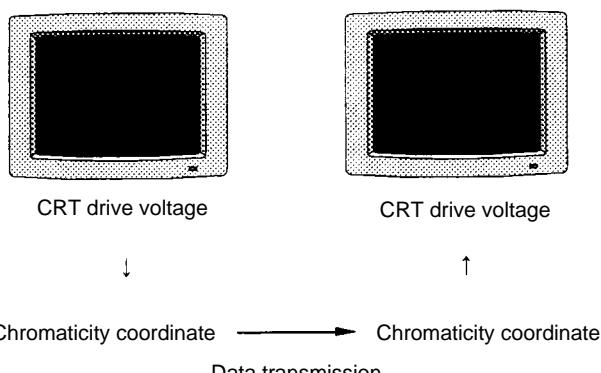
1. Outline of the white balance adjustment and calibration of the color analyzer that is used for the white balance adjustment are described first.
1.1 The parameter that converts the RGB drive voltage of a CRT to the chromaticity coordinate is acquired.

This monitor has the copy function of the color temperature data between two or more monitors.

However, the CRT drive voltage are unique in every monitor because it is different depending on each CRT. Therefore, the same color temperature cannot be obtained in multiple monitors even though the same drive voltage is given to them. It means that the data that is used to copy the color temperature, must be the xyY chromaticity coordinate or similar data that does not depend on each CRT, unlike the CRT drive that depends on each CRT.

When the D93 MANUAL adjustment is implemented using the MAINTENANCE/SYSTEM/COLOR TEMP menu of the SYSTEM CONFIG menu, the parameter that converts the CRT drive voltage to the chromaticity coordinate is created while the adjustment is implemented. This parameter is used when copying the color temperature data to other monitors as shown.

CRT drive voltage   CRT drive voltage

↓   ↑

Chromaticity coordinate ——————▶ Chromaticity coordinate

Data transmission

Fig. 1-15

1.2 D65 color temperature adjustment
1.3 Copying the color temperature data to the STD color temperature, COLOR1 color temperature and COLOR2 color temperature.

- On calibration of the color analyzer

  When color temperature of any monitor is measured by two or more color analyzers, these color analyzers show different measurement values even though the object of measurement is the same. Also the measurement value of color analyzer changes as time elapses.

  Therefore, any color analyzer must be calibrated so that it shows the correct measurement value of the following chromaticity coordinate before using the analyzer.

	x	y	y (cd/m²)
D65	0.313	0.329	2.7
	0.313	0.329	120
D93	0.283	0.297	2.7
	0.283	0.297	120

2. Preparation for Adjustment

2.1 Connect the 480/60i (525) WINDOW signal to the ANALOG Y/G input connector.

2.2 Connect the RS-232C connector of a color analyzer CA-100 with the OPTION connector of a monitor using the cable that is shown by section "3-1. Set-Up Adjustment When CRT is Replaced - Required tools and measuring instruments, item 8".

2.3 Set up the CA-100 as described below. Attach the measurement probe of the CA-100 to the center of the CRT screen.

    Display mode   xyY mode
    Baud rate   9600

3. White Balance Adjustment

3.1 White Balance Adjustment (1)

1. Press the SHIFT ON button [to turn on the LED (orange) on top of the SHIFT button]. Press the 16:9 ON button [to turn on the LED (orange)] to select the 16:9 mode.

2. Press the MONO ON button to select the B/W mode. [The green LED turns on.]

3. Select MAINTENANCE menu of the SYSTEM CONFIG menu.

4. Select VIDEO menu of the MAINTENANCE menu.

5. Take note of the SUB CONTRAST data. Then set 100 to the SUB CONTRAST data.

6. Select SYSTEM/COLOR TEMP menu of the MAINTENANCE menu.

7. Select D93 of the SYSTEM/COLOR TEMP menu. Then cover the entire CRT screen surface with a black blind cloth. Select the MANUAL adjustment item and adjust the white balance until the following value is obtained.
    $x = 0.283$
    $y = 0.297$

8. Select D65 of the SYSTEM/COLOR TEMP menu. Then cover the entire CRT screen surface with a black blind cloth. Select the MANUAL adjustment item and adjust the white balance until the following value is obtained.
    $x = 0.313$
    $y = 0.329$

9. Select the SYSTEM/COLOR TEMP/COPY/OTHER VALUE menu.

10. After selecting the STD item of the COLOR TEMP menu, select D93. Copy the D93 color temperature data to STD.

11. After selecting the COLOR1 item of the COLOR TEMP menu, select D65. Copy the D65 color temperature data to COLOR1.

12. After selecting the COLOR2 item of the COLOR TEMP menu, select D93. Copy the D93 color temperature data to COLOR2.

13. Select VIDEO menu of the MAINTENANCE menu.

14. Return the SUB CONTRAST data to the original data.

15. Press the MONO button to the OFF position to cancel the B/W mode. [The green LED turns off.]

3.2 Sub Contrast Adjustment

1. Connect the 480/60i (525) WINDOW signal to the ANALOG Y/G input connector.

2. Attach the luminance meter to the center of the CRT screen.

3. Select STD using the COLOR TEMP menu of the INPUT CONFIG menu.

4. Select MAINTENANCE menu of the SYSTEM CONFIG menu.

5. Select SUB CONTRAST menu of the VIDEO menu.

6. Press the SHIFT ON button [to turn on the LED (orange) on top of the SHIFT button]. Press the 16:9 OFF button [to turn off the LED (orange)] to select the 4:3 mode.

7. Press the SHIFT OFF button [to turn off the LED (orange) on top of the SHIFT button].
Press the UNDER SCAN button (▢) to its ON position to select the under scan mode. [The green LED turns on.]

8. Adjust SUB CONTRAST so that luminance becomes $120\,cd/m^2$.

9. Press the SHIFT ON button [to turn on the LED (orange) on top of the SHIFT button]. Press the 16:9 ON button [to turn on the LED (orange)] to select the 16:9 mode.

10. Adjust SUB CONTRAST so that luminance becomes $120\,cd/m^2$.

11. Press the SHIFT OFF button [to turn off the LED (orange) on top of the SHIFT button].
Press the UNDER SCAN button (▢) to its ON position to select the under scan mode. [The green LED turns on.]

12. Adjust SUB CONTRAST so that luminance becomes $120\,cd/m^2$.

13. Press the UNDER SCAN button (▢) to its ON position to select the under scan mode. [The green LED turns on.]

14. Press the SHIFT ON button [to turn on the LED (orange) on top of the SHIFT button]. Press the 16:9 OFF button [to turn off the LED (orange)] to select the 4:3 mode.

15. Connect the 1080/60i 100 IRE WINDOW signal to the ANALOG Y/G input connector.
16. Adjust SUB CONTRAST so that luminance becomes 120 cd/m^2.
17. Press the SHIFT OFF button [to turn off the LED (orange) on top of the SHIFT button].
Press the UNDER SCAN button (▢) to its ON position to select the under scan mode. [The green LED turns on.]
18. Adjust SUB CONTRAST so that luminance becomes 120 cd/m^2.
19. Press the UNDER SCAN button (▢) to its OFF position to select the normal mode. [The green LED turns off.]
20. Connect the 480/60p (525P) 100IRE WINDOW signal to the to ANALOG Y/G input connector.
21. Press the SHIFT ON button [to turn on the LED (orange) on top of the SHIFT button]. Press the 16:9 OFF button [to turn off the LED (orange)] to select the 4:3 mode.
22. Press the SHIFT OFF button [to turn off the LED (orange) on top of the SHIFT button].
Press the UNDER SCAN button (▢) to its OFF position to select the normal mode. [The green LED turns off.]
23. Adjust SUB CONTRAST so that luminance becomes 120 cd/m^2.
24. Press the UNDER SCAN button (▢) to its OFF position to select the normal mode. [The green LED turns off.]
25. Adjust SUB CONTRAST so that luminance becomes 120 cd/m^2.
26. Press the UNDER SCAN button (▢) to its OFF position to select the normal mode. [The green LED turns off.]

3.3 White Balance Adjustment (2)
1. Connect the 480/60i (525) 20 IRE WINDOW color difference signal to the ANALOG Y/G input connector.
2. Select STD using the COLOR TEMP menu of the INPUT CONFIG menu.
3. Select MAINTENANCE menu of the SYSTEM CONFIG menu.
4. Select the VIDEO menu.
5. Increase the CHROMA control to its maximum.
6. Adjust white balance by adjusting the PR/R. BLACK and PB/B. BLACK menus of the VIDEO menu.
   x = 0.283
   y = 0.297

3.4 White Balance Adjustment (3)
1. Connect the 1080/60i (1125) 20 IRE WINDOW color difference signal to the ANALOG Y/G input connector.
2. Select STD using the COLOR TEMP menu of the INPUT CONFIG menu.
3. Select MAINTENANCE menu of the SYSTEM CONFIG menu.
4. Select the VIDEO menu.
5. Increase the CHROMA control to its maximum.
6. Adjust white balance by adjusting the PR/R. BLACK and PB/B. BLACK menus of the VIDEO menu.
   x = 0.283
   y = 0.297

3.5 White Balance Adjustment (4)
1. Turn off the main POWER switch.
2. Insert the BKM-142HD into the SLOT 2.
3. Connect the HD-SDI 20 IRE WINDOW signal to the BKM-142HD.
4. Turn on the main POWER switch.
5. Select HD-SDI using the FORMAT menu of the INPUT CONFIG menu.
6. Select MAINTENANCE menu of the SYSTEM CONFIG menu.
7. Select the VIDEO menu.
8. Increase the CHROMA control to its maximum.
9. Adjust white balance by adjusting the PR/R. BLACK and PB/B. BLACK menus of the VIDEO menu.
   x = 0.283
   y = 0.297

3.6 White Balance Adjustment (5)
1. Turn off the main POWER switch.
2. Insert the BKM-120D into the SLOT 2.
3. Connect the D1-SDI 20 IRE WINDOW signal to the BKM-120D.
4. Turn on the main POWER switch.
5. Select D1-SDI using the FORMAT menu of the INPUT CONFIG menu.
6. Select MAINTENANCE menu of the SYSTEM CONFIG menu.
7. Select the VIDEO menu.
8. Increase the CHROMA control to its maximum.
9. Adjust white balance by adjusting the PR/R BLACK and PB/B BLACK menus of the VIDEO menu.
   $x = 0.283$
   $y = 0.297$

3.7 White Balance Adjustment (6)
1. Turn off the main POWER switch.
2. Insert the BKM-127W into the SLOT 2.
3. Connect the NTSC 20 IRE WINDOW signal to the BKM-127W.
4. Turn on the main POWER switch.
5. Select NTSC, PAL using the FORMAT menu of the INPUT CONFIG menu.
6. Select MAINTENANCE menu of the SYSTEM CONFIG menu.
7. Select the VIDEO menu.
8. Increase the CHROMA control to its maximum.
9. Adjust white balance by adjusting the PR/R BLACK and PB/B BLACK menus of the VIDEO menu.
   $x = 0.283$
   $y = 0.297$

Section 4
Safety Related Adjustments
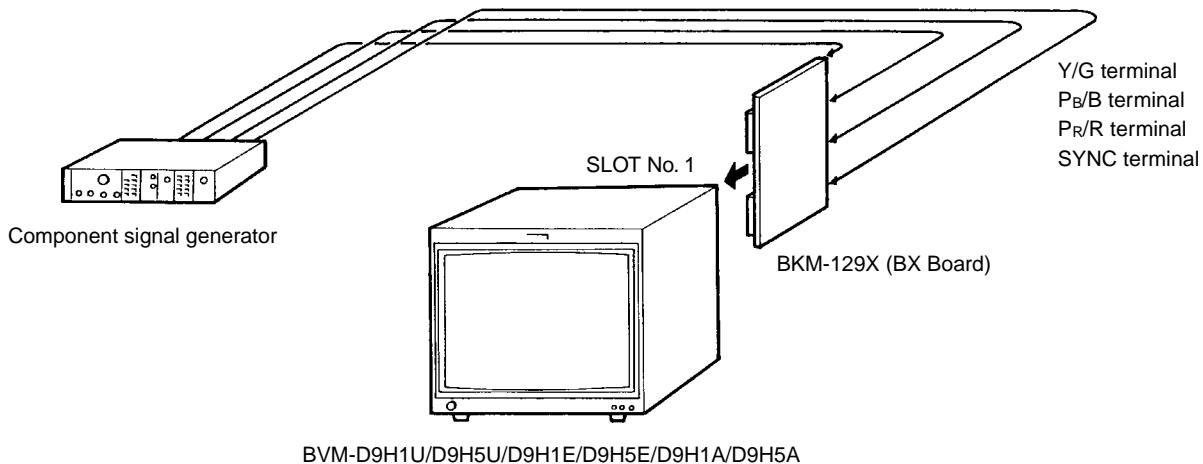
This section describes the adjustment procedure that is required when the safety related parts are replaced.

[Preparation]
• Required tools and measuring equipment
1. Signal generator
    YPBYPR signal generator
    • 1080/60i (1125)   : SMPTE274M standard
    • 480/60i (525)   : ITU601 (Refer to page 1-29)
2. Electrostatic voltmeter: Singer ESH-27X or ESH-23X or equivalent
3. Digital voltmeter
4. 200 kΩ variable resistor
5. 50 kΩ variable resistor
6. Ammeter

• Set the INPUT CONFIGURATION menu
Set the INPUT CONFIGURATION menu of the SETUP menu as shown below unless otherwise specified.

FORMAT .... YPBPR
SLOT NO 1
INPUT NO 1
SYNC MODE .... INT
APEARTURE VALUE 100
CHANNEL NAME .... PROG
COLOR TEMP .... STD
H PHASE 000
MARKER PHASE.................. 000
MARKER WIDTH 000

Component signal generator

SLOT No. 1

Y/G terminal
P$_B$/B terminal
P$_R$/R terminal
SYNC terminal

BKM-129X (BX Board)

BVM-D9H1U/D9H5U/D9H1E/D9H5E/D9H1A/D9H5A

+B (12 V) Voltage Check

When the following parts (the parts to which the ◢ mark is attached on the schematic diagram) are replaced, be sure to perform the following checks.

◢ G board IC666, IC603, IC690, PH601, T602, T604

1. Connect a digital voltmeter between pin-1 and pin-2 (GND) of CN1602 on the D board.
2. Turn on the main power.
3. Connect the 1080/60i monoscope signal (see note) to input connector.
   Note: 1125 (1080) monoscope signal
4. Push the BRIGHTNESS and CONTRAST buttons to their MANUAL positions (to turn the green LEDs on the buttons.)
5. Set the BRIGHTNESS and CONTRAST buttons to their mechanical center positions.
6. Check that the following DC voltage appears.
   13.0 ± 1.0 V
7. Turn off the main power.
8. Disconnect the digital voltmeter.

High Voltage Regulator Check
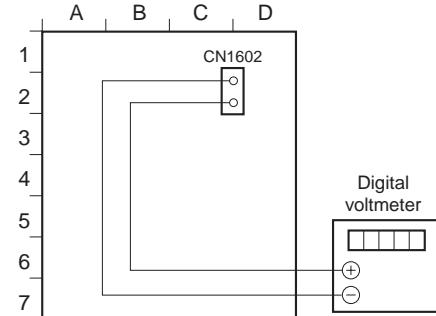
When the following parts (the parts to which the ◢ mark is attached on the schematic diagram) are replaced, be sure to perform the following checks.

◢ P board IC502, IC508, R540, R541, R543, R544, R549, R550, R555, R599

1. Turn off the main power.
2. Connect an electrostatic voltmeter to the anode cap of CRT tube.
   • Electrostatic voltmeter: It must have already been calibrated to have the input impedance of $2 \times 10^9 \ \Omega$ or more.
3. Turn on the main power.
4. Connect the 1080/60i monoscope signal (see note) to input connector.
   Note: HD 1125 signal
5. Push the BRIGHTNESS and CONTRAST buttons to their MANUAL positions (to turn the green LEDs on the buttons.)
6. Set the BRIGHTNESS and CONTRAST buttons to their mechanical center positions.
7. Check that the following high voltage appears.
   15.5 ± 0.4 kV
8. Turn off the main power.
9. Disconnect the electrostatic voltmeter.

[Connection]
D board (A SIDE)

High Voltage Hold-Down Check
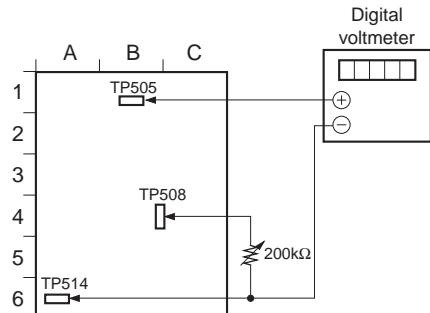
When the following parts (the parts to which the ◢ mark is attached on the schematic diagram) are replaced, be sure to perform the following checks.

◢ P board IC509, IC511, D527, R539, R577, R578, R579, R580, R592, R588, R587

1. Turn off the main power.
2. Connect a digital voltmeter between TP505 and TP514 (GND) of P board.
3. Connect a 200 kΩ variable resistor between TP508 and TP514 (GND) of P board.
   [Adjust the 200 kΩ variable resistor to its maximum resistance value.]
4. Turn on the main power.
5. Connect the 480/60i all black signal (see note) to input connector.
   Note: NTSC all black signal
6. Push the BRIGHTNESS and CONTRAST buttons to their MANUAL positions (to turn the green LEDs on the buttons.)
7. Set the BRIGHTNESS and CONTRAST buttons to their MIN positions.
8. Confirm that the raster disappears from the CRT screen when the DC voltage at TP505 reaches the following voltage as the 200 kΩ variable resistor is turned to decrease its resistance value gradually.
   4.90 to 5.10 V
9. Turn off the main power.
10. Remove the 200 kΩ variable resistor from TP508.
11. Turn on the main power.
12. Confirm that the DC voltage at TP505 is as follows.
    3.95 ± 0.15 V
13. Connect the 480/60i entire white signal to input connector.
14. Set the BRIGHTNESS and CONTRAST buttons to their MAXIMUM positions.
15. Confirm that the DC voltage at TP505 is as follows.
    4.25 ± 0.20 V
16. Disconnect the digital voltmeter.

[Connection]
P board (Side A)

ABL Check

When the following parts (the parts to which the ◢ mark is attached on the schematic diagram) are replaced, be sure to perform the following checks.
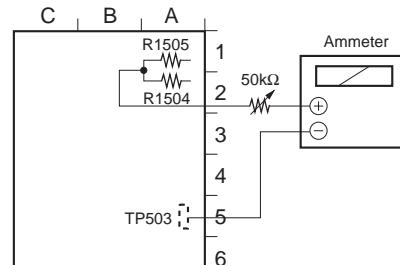
◢ P board R1507, R1508, R1509
◢ B board R1461, R1464, R1467, R1469, R1470, R1471

1. Turn off the main power.
2. Disconnect the CN504 connector from the P board.
3. Connect a DC ammeter between pin-1 and pin-3 of CN504 on the P board
   [Pin-3 is the positive (+) side.]
4. Turn on the main power.
5. Connect the 1080/60i all white signal (see note) to input connector.
   Note: 1125 (1080) entire white signal
6. Push the BRIGHTNESS and CONTRAST buttons to their MANUAL positions (to turn the green LEDs on the buttons.)
7. Check to see that ABL operates when the BRIGHTNESS and CONTRAST buttons are turned from their MIN positions toward the MAX positions. [Check that the maximum value of the DC ammeter reading is within the range as shown below.]
   0.50 to 0.60 mA
8. Turn off the main power.
9. Disconnect the DC ammeter.
10. Connect CN504 connector to the P board again.

[Connection]
P board (Side B)

Beam Current Protector Check

When the following parts (the parts to which the ◩ mark is attached on the schematic diagram) are replaced, be sure to perform the following checks.

◩ P board R582, R583, R584, R585, R586, R1504,
R1505, R1506

1. Turn off the main power.
2. Connect a DC ammeter and a 50 kΩ variable resistor in series between the junction point of R1504 and R1505, and TP513 (GND) on the P board.
   [The junction point of R1504 and R1505 is the positive (+) side. Adjust the 50 kΩ variable resistor to its maximum resistance beforehand.]
3. Turn on the main power.
4. Connect the 1080/60i entire black signal (see note) to input connector.
   Note: 1125 (1080) entire black signal
5. Push the BRIGHTNESS and CONTRAST buttons to their MANUAL positions (to turn the green LEDs on the buttons.)
6. Set the BRIGHTNESS and CONTRAST buttons to their mechanical center positions.
7. Confirm that the raster disappears from the CRT screen when the DC ammeter reaches the following value as the 50 kΩ variable resistor is turned to decrease its resistance value gradually.
   $550 \mu A$
8. Turn off the main power.
9. Remove a 50 kΩ variable resistor and a DC ammeter.

Section 5
Circuit Adjustments

5-1. B Board Adjustments

This section describes the following adjustments that are required when the parts are replaced or maintenance is performed in the B board.

1. RGB signal adjustment
2. 15k YPBPR SMPTE (709) signal adjustment
3. 15k YPBPR SMPTE (601) signal adjustment
4. 15k YPBPR BETACAM SETUP 0 (601) signal adjustment
5. 15k YPBPR BETACAM SETUP 7.5 (601) signal adjustment
6. 33k YPBPR SMPTE (709) Signal Adjustment
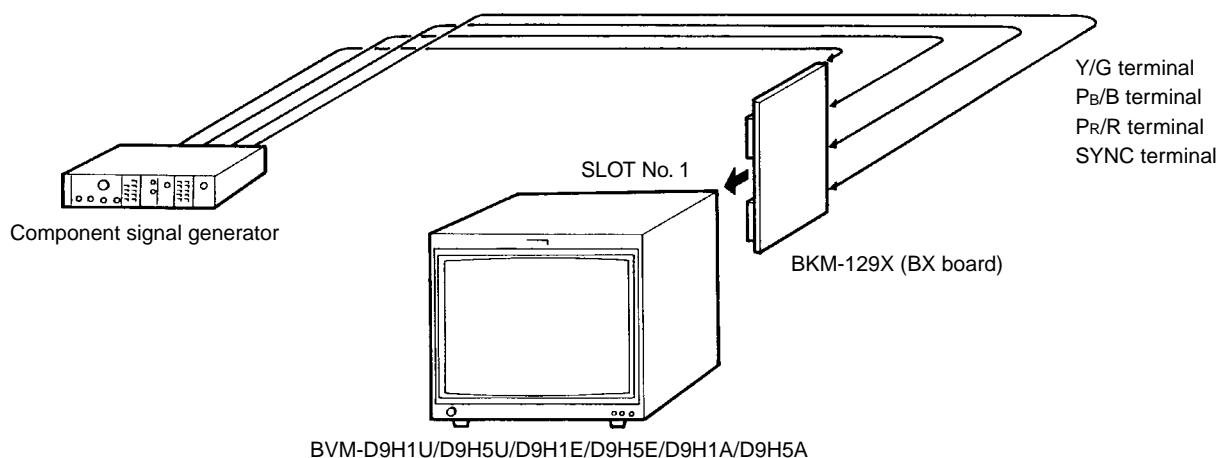
Control Settings
• Set the INPUT CONFIGURATION menu of the SETUP menu as shown below.
FRMAT .... YPBPR
SLOT NO 1
INPUT NO 1

• Set "128" to the CHROMA data using the CHROMA control knob.

• Perform the following operaion using the SYSTEM CONFIG menu.
Select the B BOARD using the RE-LOAD FACTORY DATA of the SYSTEM menu.

Equipment Required
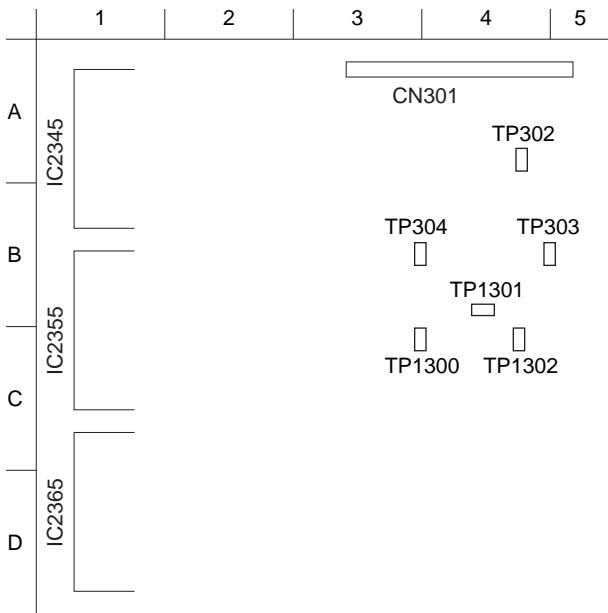
Name	Main Specifications	Model Name
Signal generator	15 kHz/60 Hz RGB	VG-854 or equivalent
	15 kHz/60 Hz YPBPR SMPTE (709)	
	15 kHz/60 Hz YPBPR SMPTE (601)	
	15 kHz/60 Hz YPBPR BETACAM SETUP 7.5 (601)	
	33 kHz/60 Hz YPBPR SMPTE (709)	
Oscilloscope	Frequency: DC to 150 MHz or more	TEKTORONIX 2445A
	Dual trace	or equivalent

Connection (1)

Y/G terminal
P$_B$/B terminal
P$_R$/R terminal
SYNC terminal

SLOT No. 1

BKM-129X (BX board)

Component signal generator

BVM-D9H1U/D9H5U/D9H1E/D9H5E/D9H1A/D9H5A

Connection (2)
B Board -side A-
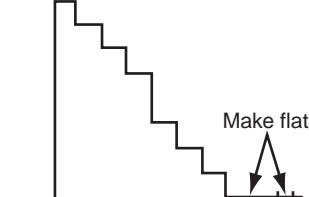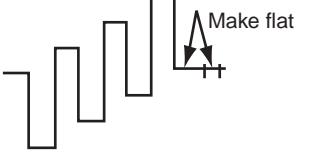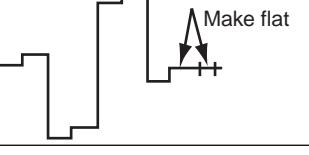
Adjustment Procedure
1. RGB Signal Adjustment

Status During Adjustment	Specifications	Adjustment Point
Step 1 • Input the 15 kHz/60 Hz RGB 100% color bar signal. • Use the FORMAT item of the INPUT CONFIG menu to select RGB. • Connect an oscilloscope to TP302.	Adjust the GREEN waveforms to have the same amplitude at TP302. Level difference: 0 ±10 mV Make flat	Use the adjustment menu Y/G BLACK (40H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.
Step 2 • Connect an oscilloscope to TP303.	Make flat the pedestal portion of the BLUE waveform at TP303. Level difference: 0 ±10 mV Make flat	Use the adjustment menu PB/B BLACK (30H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.
Step 3 • Connect an oscilloscope to TP304.	Make flat the pedestal portion of the RED waveform at TP304. Level difference: 0 ±10 mV Make flat	Use the adjustment menu PR/R BLACK (20H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.

2. 15k YPBPR SMPTE (709) Signal Adjustment

2-1. BLACK Level Adjustment

Status During Adjustment	Specifications	Adjustment Point
Step 1 • Input the 15 kHz/60 Hz YPBPR SMPTE (709) 100% color bar signal. • Use the FORMAT item of the INPUT CONFIG menu to select YPBPR SMPTE. Set 709 for YPBPR MATRIX. • Connect an oscilloscope to TP302.	Make flat the pedestal portion of the Y-signal waveform at TP302. Level difference: 0 ± 10 mV Make flat	Use the adjustment menu Y/G BLACK (41H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.
Step 2 • Connect an oscilloscope to TP303.	Make flat the pedestal portion of the PB waveform at TP303. Level difference: 0 ± 10 mV Make flat	Use the adjustment menu PB/B BLACK (32H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.
Step 3 • Connect an oscilloscope to TP304.	Make flat the pedestal portion of the PR waveform at TP304. Level difference: 0 ± 10 mV Make flat	Use the adjustment menu PR/R BLACK (22H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.
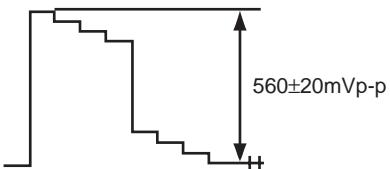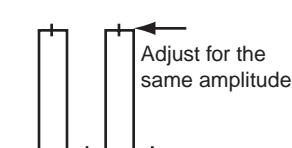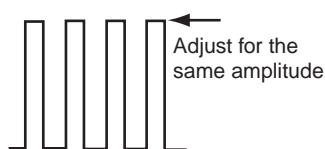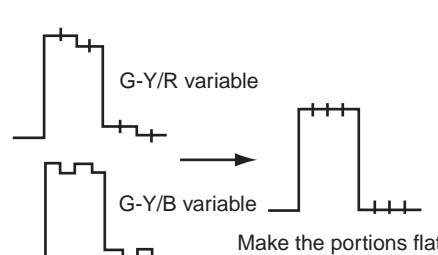
2-2. CHROMA Leak Adjustment

Status During Adjustment	Specifications	Adjustment Point
Step 1 • Input the 15 kHz/60 Hz YPBPR SMPTE (709) 100% color bar signal. • Use the FORMAT item of the INPUT CONFIG menu to select YPBPR SMPTE. Set 709 for YPBPR MATRIX. • Use the CHROMA knob to set "0" to the CHROMA data. • Connect an oscilloscope to TP303.	Make flat the PB waveform at TP303. Level difference: 0 ± 20 mV Make the signal amplitude as flat as possible.	Use the adjustment menu CHROMA PB (11H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.
Step 2 • Connect an oscilloscope to TP304.	Make flat the PR waveform at TP304. Level difference: 0 ± 20 mV Make the signal amplitude as flat as possible.	Use the adjustment menu CHROMA PR (10H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.
Step 3 • Set "128" to the CHROMA data using the CHROMA control knob.		
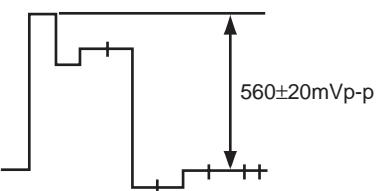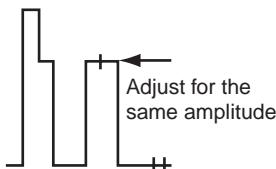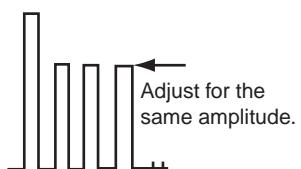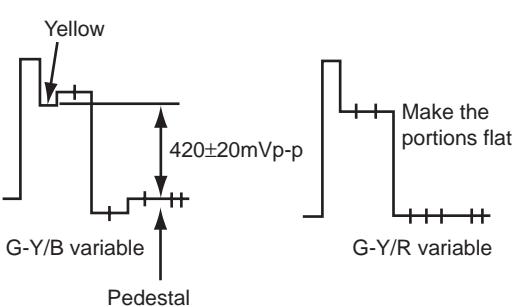
2-3. MATRIX Adjustment

Status During Adjustment	Specifications	Adjustment Point
Step 1 • Input the 15 kHz/60 Hz YPBPR SMPTE (709) 100% color bar signal. • Use the FORMAT item of the INPUT CONFIG menu to select YPBPR SMPTE. Set 709 for YPBPR MATRIX. • Connect an oscilloscope to TP1301.	GREEN waveform amplitude at TP1301: 560 ± 20 mVp-p 560±20mVp-p	Use the adjustment menu Y LEVEL (50H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.
Step 2 • Connect an oscilloscope to TP1300.	Adjust the RED waveforms to have the same amplitude at TP1300. Level difference: 0 ± 20 mV Adjust for the same amplitude	Use the adjustment menu PR LEVEL (60H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.
Step 3 • Connect an oscilloscope to TP1302.	Adjust the BLUE waveforms to have the same amplitude at TP1302. Level difference: 0 ± 20 mV Adjust for the same amplitude	Use the adjustment menu PB LEVEL (80H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.
Step 4 • Connect an oscilloscope to TP1301.	Make flat the GREEN waveform at TP1301 Level difference: 0 ± 20 mV G-Y/R variable G-Y/B variable Make the portions flat	Use the adjustment menu G-Y/R (70H) and G-Y/B (90H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.
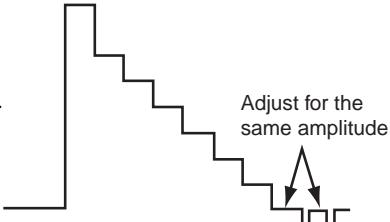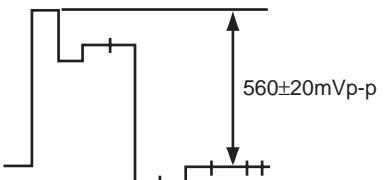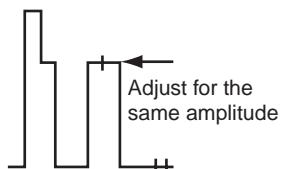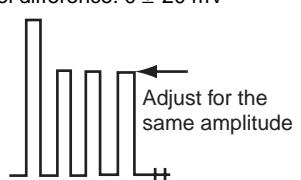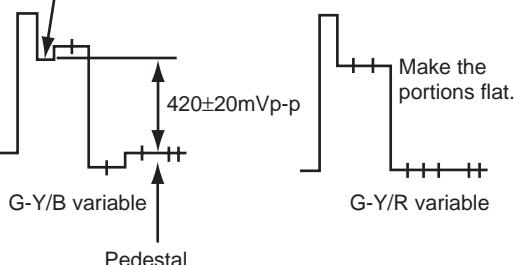
3. 15k YPBPR SMPTE (601) Signal Adjustment

Status During Adjustment	Specifications	Adjustment Point
Step 1 • Input the 15 kHz/60 Hz YPBPR SMPTE (601) 100% color bar signal. • Use the FORMAT item of the INPUT CONFIG menu to select YPBPR SMPTE. Set 601 for YPBPR MATRIX. • Connect an oscilloscope to TP1301.	GREEN waveform amplitude at TP1301: 560 ± 20 mVp-p 560±20mVp-p	Use the adjustment menu Y LEVEL (51H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.
Step 2 • Connect an oscilloscope to TP1300.	Adjust the RED waveforms to have the same amplitude at TP1300. Level difference: 0 ± 20 mV Adjust for the same amplitude	Use the adjustment menu PR LEVEL (62H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.
Step 3 • Connect an oscilloscope to TP1302	Adjust the BLUE waveforms to have the same amplitude at TP1302. Level difference: 0 ± 20 mV Adjust for the same amplitude	Use the adjustment menu PB LEVEL (82H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.
Step 4 • Connect an oscilloscope to TP1301.	Make flat the GREEN waveform at TP1301 : Level difference: 0 ± 20 mV G-Y/R variable G-Y/B variable Make the portions flat	Use the adjustment menu G-Y/R (71H) and G-Y/B (91H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.
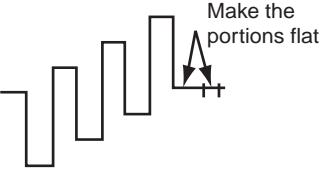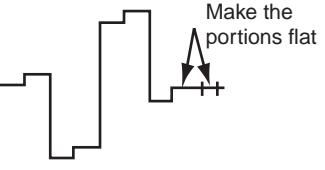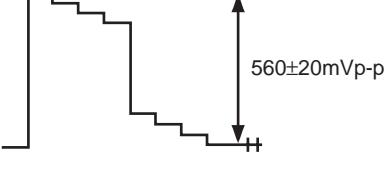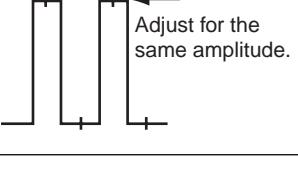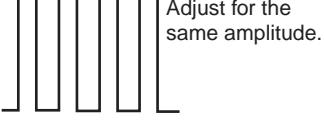
4. 15k YPBPR BETACAM SETUP 0 (601) Signal Adjustment

Status During Adjustment	Specifications	Adjustment Point
Step 1 • Input the 15 kHz/60 Hz YPBPR BETACAM SETUP 0 (601) 75% color bar signal. • Use the FORMAT item of the INPUT CONFIG menu to select YPBPR BETA 0. • Connect an oscilloscope to TP1301.	GREEN waveform amplitude at TP1301: 560 ± 20 mVp-p 560±20mVp-p	Use the adjustment menu Y LEVEL (52H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.
Step 2 • Connect an oscilloscope to TP1300.	Adjust the RED waveforms to have the same amplitude at TP1300. Level difference: 0 ± 20 mV Adjust for the same amplitude	Use the adjustment menu PR LEVEL (64H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.
Step 3 • Connect an oscilloscope to TP1302.	Adjust the BLUE waveforms to have the same amplitude at TP1302. Level difference: 0 ± 20 mV Adjust for the same amplitude.	Use the adjustment menu PB LEVEL (84H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.
Step 4 • Connect an oscilloscope to TP1301.	Make flat the GREEN waveform at TP1301. Amplitude between YELLOW and pedestal: 420 ± 20 mVp-p Make flat the waveform: Level difference: 0 ± 20 mV Yellow 420±20mVp-p Make the portions flat G-Y/B variable G-Y/R variable Pedestal	Use the adjustment menu G-Y/R (72H) and G-Y/B (92H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.

5. 15k YPBPR BETACAM SETUP 7.5 (601) Signal Adjustment

Status During Adjustment	Specifications	Adjustment Point
Step 1 • Input the 15 kHz/60 Hz YPBPR BETACAM SETUP 7.5 (601) 75% color bar signal. • Use the FORMAT item of the INPUT CONFIG menu to select YPBPR BETA 7.5. • Connect an oscilloscope to TP302.	Make flat the pedestal portion of the Y-signal waveform at TP302. Level difference: 0 ± 10 mV Adjust for the same amplitude	Use the adjustment menu Y/G BLACK (42H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.
Step 2 • Connect an oscilloscope to TP1301.	GREEN waveform amplitude at TP1301: 560 ± 20 mVp-p 560±20mVp-p	Use the adjustment menu Y LEVEL (53H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.
Step 3 • Connect an oscilloscope to TP1300.	Adjust the RED waveforms to have the same amplitude at TP1300. Level difference: 0 ± 20 mV Adjust for the same amplitude	Use the adjustment menu PR LEVEL (65H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.
Step 4 • Connect an oscilloscope to TP1302.	Adjust the BLUE waveforms to have the same amplitude at TP1302. Level difference: 0 ± 20 mV Adjust for the same amplitude	Use the adjustment menu PB LEVEL (85H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.
Step 5 • Connect an oscilloscope to TP1301.	Make flat the GREEN waveform at TP1301. Amplitude between YELLOW and pedestal: 420 ± 20 mVp-p Make flat the waveform: Level difference: 0 ± 20 mV Yellow 420±20mVp-p Make the portions flat. G-Y/B variable G-Y/R variable Pedestal	Use the adjustment menu G-Y/R (73H) and G-Y/B (93H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.

6. 33k YPBPR SMPTE (709) Signal Adjustment

Status During Adjustment	Specifications	Adjustment Point
Step 1 • Input the 33 kHz/60 Hz YPBPR SMPTE (709) 100% color bar signal. • Use the FORMAT item of the INPUT CONFIG menu to select YPBPR SMPTE. • Connect an oscilloscope to TP303.	Make flat the PB waveform at TP303. Level difference: 0 ± 10 mV Make the portions flat	Use the adjustment menu PB/B BLACK (33H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.
Step 2 • Connect an oscilloscope to TP304.	Make flat the PR waveform at TP304. Level difference: 0 ± 10 mV Make the portions flat	Use the adjustment menu PR/R BLACK (23H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.
Step 3 • Connect an oscilloscope to TP1301.	Check amplitude of the GREEN waveform at TP1301: 560 ± 20 mVp-p 560±20mVp-p	
Step 4 • Connect an oscilloscope to TP1300.	Adjust the RED waveforms to have the same amplitude at TP1300. Level difference: 0 ± 20 mV Adjust for the same amplitude.	Use the adjustment menu PR LEVEL (61H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.
Step 5 • Connect an oscilloscope to TP1302.	Adjust the BLUE waveforms to have the same amplitude at TP1302. Level difference: 0 ± 20 mV Adjust for the same amplitude.	Use the adjustment menu PB LEVEL (81H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.

Section 6
Circuit Descriptions

This section describes the circuit operations of the following boards used in the BVM-D9H1/D9H5.

6-1.   G board
6-2.   B board
6-3.   MA board
6-4.   MB board
6-5.   D board P1 and P2
6-6.   P board
6-7.   HA, HB and HC boards
6-8.   HD board

6-1. G Board

Power supply of this monitor consists of the following two switching regulators.
1. The power factor improvement regulator that is used to comply with the power supply high frequency harmonics regulations.
2. The main regulator that supplies the power to the signal system, the deflection circuit and high voltage circuit.

1.   Power Factor Improvement Circuit

The power factor improvement circuit of this monitor uses the active filter IC module (IC601) of the current-threshold type boost-chopper system to comply with the power supply high frequency harmonics regulations. In this monitor, the output voltage Vpfc becomes always higher than the peak value of the input voltage to the power circuit. The output voltage Vpfc of this monitor is set to about 370 V.

The power factor improvement circuit consists of IC666, T602, C630 and C615.

IC666 is a module IC in which the control IC, the switching FET, the boost diode and input/output voltage detectors are built in.

Basic operation of the power factor improvement block is as follows. When the Vcc power is supplied to IC666, the FET inside the module IC666 is turned on and an electric current starts to flow in the primary winding of T602 and the FET. This current increases with the slope of Vin (rms)/L where L is the primary side's inductance of T602. This FET current is monitored by the source current detection resistor that is connected between pin-4 and pin-7 of IC666. When this FET current reaches the set value that is specified by the multiplier inside the control IC, the

FET is turned off. Then an electric current flows through the boost diode where the current decreases with the slope of -(Vpfc - Vin (rms))/L. When this current reaches 0, the FET is turned on. The current-threshold operation is thus realized by the above described circuit operations.

In other words, the circuit operations that are described, are performed as one-operation-cycle all the time while the power is on. When you observe the circuit operations as described above, during only the half-wave period of commercial power line frequency, you will notice that ON/OFF timing of the FET is controlled by the control IC so that the envelope of the peak values of the choke current is proportional to the half-wave of the sine waveform of the power line frequency. As the result of this control, waveform of the input voltage and that of the output voltage become similar so that the power factor is improved.

2. Main Regulator

The separately excited current composite resonance system is used for the main regulator. The power regulation with high efficiency and low noise is thus realized. The main regulator consists of IC603, IC690, T604, C644, C623 and the secondary side rectifier circuit of T604. IC603 is a multiple chip module in which the four chips of the control block, the FET drive block and the switching FET block (high side and low side) are connected by bonding wire inside the IC. The main regulator has the following circuit configuration. A half-bridge rectifier is constructed by the two FET switches, the two capacitors C644 and C623, and the transformer T604 for the input voltage Vpfc. The secondary side of the transformer has the full wave rectifier having the center tap.

IC603 receives the control signal from IC690 that performs the constant voltage control over the +13 V line through the isolator PH601. The control signal changes the oscillating frequency of IC603 so that the constant voltage control is realized.

6-2. B board

1. Clamp Circuit (1)

The signal that is selected by the option board is input to CN301.

IC300 (1/3) (analog switch) is turned ON by the Y-CLP-P pulse. As a result, the pedestal voltage of the Y/G signal is sampled-and-held. In IC303, the sampled-and-held voltage and the reference voltage (Y/G BLACK voltage) are compared so that the error voltage is used to control the bias current of the Y/G signal clamp amplifier (Q300 to Q302) so that the pedestal voltage of the Y/G signal is clamped to a fixed voltage.

The same clamp operation is performed for the PB/B and PR/R signals but the C-CLP-P pulse is used as the clamp pulse.

2. Matrix Circuit

The Y, R-Y and B-Y signals are converted to the R, G and B signals by the matrix circuit during the Y/PB/PR mode. IC306 is the Y-level adjustment amplifier. IC307 and IC308 are the chroma level adjustment amplifier. The R-signal is generated by adding the Y-signal to the R-Y signal that has passed IC400 (PR gain control amplifier). The G-signal is generated by adding the R-Y signal that has passed IC400 (PR gain control amplifier), the B-Y signal that has passed IC401 (PB gain control amplifier) and the Y-signal that is inverted and amplified. These signals are added at Q463. The B-signal is generated by adding the Y-signal to the B-Y signal that has passed IC401 (PB gain control amplifier).

3. RGB Selector Switch

IC1300 (1/3), IC1302 (1/3) and IC1303 (1/3) are the selector switch selecting either the RGB signal or the YPBPR signal (matrix circuit). Output of the selector switch is R, G and B signals.

4. Clamp Circuit (2)

The R-signal is sampled-and-held by the timing pulse of the deflection system.

IC1305 compares the sampled R-signal with the reference signal. The error voltage of the comparator controls the DC bias of the R-signal amplifiers (Q1300 to Q1302) so that the pedestal level is kept to a constant DC level all the time. The same clamp operation is performed in the G and B signals in the same way.

5. OSD Insertion Circuit

The on-screen display of the R-signal is realized by inserting the OSD blanking with IC1300 (2/3) and by inserting the OSD characters with IC1304 (1/3). The WINDOW signal that is used during the AUTO W/B adjustment is also created by the character generator, and uses the same signal line in the same way of the character display. The same insertion operation is performed in the G and B signals in the same way.

6. CUT-OFF Circuit

Cut-off of the R-signal is performed by IC1304 (2/3, 3/3). The same cut-off operation is performed in the G and B signals in the same way.

7. CXA1739 Peripheral Circuit

The RGB signal is input during the normal operation and the color difference signal is input during the blue-only mode.

8. ABL Circuit

The ABL circuit consists of Q1460 for ABL, and Q1461 for BRT ABL.

The ABL voltage from the deflection block is input the respective emitters of Q1460 and Q1461. The voltage-divided DC voltage of the ABL signal is input the respective bases of Q1460 and Q1461. Their collectors are connected to IC1401 pin-46 (PIC CONT) and pin-7 (BRT CONT) respectively. When these transistors are turned on, the ABL operation can be performed by decreasing their respective control voltages.

9. AUTO CHROMA PHASE

The signals that are output from IC1401 are selected by IC2380. Only the sample pulse portion of the selected signal is sampled by IC2381 and is compared with the output by IC2382. The error signal from the comparator is fed back to DAC through IC2383 and automatically controls the PB LEVEL or the R LEVEL until the output agrees with the sampled level.

10. B1 Board

The B1 board is an aperture correction circuit.

The aperture correction performs the frequency compensation at 5 MHz when the input signal is 480/60i and 575/501 with DL400/DL401. It performs the frequency compensation at 16 MHz with DL402 and DL403 when any other signals are input.

DL404 and DL405 are the delay lines that correct the delay amount of the Y-signal. The PB and PR signals are corrected of their delay by DL501, DL502, DL503 and DL504.

Amount of compensation can be varied by 2 to 6 dB when the APT is ON using the IC450 aperture correction amplifier.

11. Sync Separator Circuit/B2 Board

The sync separator circuit consists of the sync AGC circuit and the B2 board.

Either the input sync signal in the modes of 480/60i and 575/50i or that in any other modes, is selected by IC3301 (2/3), (3/3), Q3302 and Q3303. The sync signal is separated by the SYNC AGC circuit of Q3304 to Q3319.

Either INT sync or EXT sync is selected by IC3301 (1/3). In the B2 board, the equalizing pulses are extracted by IC3901, the H. sync pulse is separated by the H. SYNC SEP circuit consisting of IC3904, IC3905, IC3906 and IC3907. The V. sync pulse is separated by the V. SYNC SEP. circuit consisting of Q3905, Q3907, Q3908.

The switch IC3902 is the selector switch that selects either the internal sync separator output or the already separated H. and V. sync signals that are input when the SDI signal is used.

12. Drive circuit

IC2345 is the R-signal drive circuit.

Q2377 is the auto cut-off circuit. Output pulse form Q2377 flows through R3363 through Q2346 when Q2377 is turned ON.

The reference pulse that is current-to-voltage converted by R3363 is input to IC1401 pin-25 through a buffer in the B board in order to activate the auto cut-off circuit.

The same circuit operation is applied to the G-signal circuit and the B-signal circuit.

6-3. MA board

1. System Control

IC106 (system control CPU) controls the monitor in accordance with the program that is installed in IC108 (flash EEPROM). The program in IC108 can be re-written by the boot loader program in IC106. Various settings are saved in the SRAM (IC111) that is backed up by battery.

2. Internal Bus inside Monitor

Most blocks of the deflection circuit and the signal circuit are controlled by the I2C bus that is driven by IC103 (5/6), (6/6). The I2C bus is controlled of its operation by controlling the general purpose port of IC106 by software. IC112 is an expansion I/O unit that is used to control the internal bus and the TALLY LED.

3. Connection to Options

The respective option boards are controlled by IC101 (1/4), (2/4), (3/4), IC103 (1/6), (2/6), (3/6), (4/6) and IC104. The data communication between the monitor and the option slot bus uses the strobe/hand-shake method using the SLOT ID signal. Data is transferred by MISO/MOSI/SCLK. The MISO/MOSI/SCLK signal is also used for communication between the MA board and the MB board. IC112 is the RS-422 driver that establishes communication to read the key data or knob information of the internal controller or of the control unit and to turn on/off the LEDs.

6-4. MB board

1. Character Display and Internal Signal Generator

IC1107 is the character generator IC such as menu characters. IC1110 generates the 4:3 marker and the various signals for automatic adjustments.

Outputs of the two ICs are mixed by IC1100 and are output.

2. Serial Communication Driver

IC1105 is the communication controller for the serial remote control. It performs the transmission and reception of the serial remote communication data together with the RS-485 driver of IC1103 and IC1106.

IC1108 (communication controller) and IC1109 (RS-232 driver) perform the transmission and reception of the OPTION terminals.

3. Parallel Remote Control

IC1112 reads out the status of the parallel remote terminal and transfers it to the CPU in the MA board.

6-5. D Board P1 and P2

1. D board - P1

The P1 block of the D board is the DC-DC converter circuit that generates the following power voltages to be used in the monitor: Standby 5 V (abbreviated as ST5 hereafter), +/- 12 V, +/- 6 V, +/- 5 V, + 24 V and the floating power source (HC+, HC-, HC N) for the H. CENTER circuit.

The DC-DC converter receives the DC power input (the DC input voltage line is called DC. IN) from various sources such as the DC input that is generated by the external power supply board (G board) or the DC input from lithium-ion battery or the DC input that is directly supplied from any external DC power supplies. The acceptable range of the DC. IN input voltage is from 11 V to 17 V. The DC. IN input voltage is compared with the output of the shunt regulator IC1601 by the comparator Q1601. When the DC voltage of 11 V or less or 17 V or higher is input, the relay RY1601 that is inserted in the input line, is activated to turn off the DC power input in order to protect the subsequent circuit from being damaged. The DC voltage that is supplied from the power supply board is 13 V.ST5V is generated by the PWM controller consisting of IC1602 and FET Q1604 that is a regulator. The output voltage from the regulator is voltage-divided and is compared with the reference voltage that is created by IC1601, by the comparator IC1602. The error output from the comparator controls the ON time of the pulse amplitude (frequency of the pulse is about 66 kHz) that is applied to Q1604 gate. ST5V is always output whenever the DC. IN voltage is input, and does not depends upon the POWER switch operation. The circuit Q1608 to Q1610 is the switch that turns off the PWM IC output when the DC. IN input voltage is outside the operating range of this regulator circuit. Q1611 to Q1613 are the transistors to drive Q1614.

+6 V power is generated by the PWM controller IC2601 and the regulator FET Q2607. -6 V power is generated by the PWM controller IC2601 and the regulator FET Q2612. ± 6 V power depends on the POWER switch. Output of the ± V power is controlled by the control signal that is supplied from microprocessor. When the POWER switch is turned off, output from IC2601 is turned off by Q1617, Q2601 to Q2603 so that ± 6 V power output is turned off. ± 5 V power is generated by the 3-terminal regulator IC2602 and IC2603 from the ± 6 V input power. ± 12 V power is generated by the PWM controller IC3601 and regulator FET Q3607, Q3609 and Q3613.

This output is also controlled by the output signal from microprocessor in the same manner as in the case of ± 6 V power.

The floating power voltages (HC+, HC− and HC N) are generated by rectifying and smoothing out the output voltage form the secondary winding of the transformer T3601 that receives the DC. IN voltage to its primary winding after the DC. IN voltage is switched by the +12 V regulator FET.

24 V power is generated by rectifying and smoothing out the voltage that is induced across pin-5 and pin-6 of T3601 that receives the input power at its primary winding pin-7.

2. D board - P2

The P2 block of the D board consists of the horizontal and vertical sync signal processing, sync signal delay processing, deflection system control, BLKG signal processing, +B power supply circuit for horizontal output, horizontal and vertical output circuits and the H. CENTER circuit.

- Sync Signal Processing, Sync Signal Delay Processing and Deflection System Control Circuits
  The horizontal and vertical sync signals that are input from CN2501 (pins-1/-2) are sent to the H/V DELAY timing circuit consisting of IC2513, IC2512, IC2509 and IC2519. The H/V DELAY timing circuit outputs the signal that repeats H/L at every half-cycle of the H. and V. input signals. This output signal is shaped of its pulse-width by IC2505 and is sent to IC2503 that is the deflection system signal processing IC. During normal operation of the monitor, the H/V DELAY timing circuit outputs the sync signals that have the same phase as those of the input signal. However, during the H. DELAY mode and the V. DELAY mode, the signal that is inverted of its phase by IC2517 and IC2516 is input to IC2505, the output sync signals are generated from the edges that correspond to the half-cycle of both horizontal and vertical periods. Thus the H. DELAY and the V. DELAY are realized.
  The deflection signal processor IC2503 (TDA9106) outputs the various signals that are required for deflection, such as horizontal drive signal, parabola signal for dynamic focusing, parabola signal for picture distortion correction, vertical drive signal and H/V blanking signals. These output signals are controlled directly by the microprocessor in the MA board through I2C bus.
  The horizontal free-running frequency is set for about 18 kHz. The pull-in range of the input signal frequency is from 15 kHz to 45 kHz.

The deflection signal processor IC2503 has the built-in protector for X-ray irradiation. When its pin-15 is raised to 8 V or higher, the X-ray protection circuit starts working to stop the horizontal and vertical outputs. The X-ray protector circuit can be reset by turning off the main power once then back on.

There can be a case that the monitor receives the non-standard TV signal such as the output signal from VTR. In order to reduce the skew effect on screen caused by irregular timing of the input sync signal, the PLL circuit inside the IC2503 is stopped using the PLL stop signal that is output from IC2523 during the vertical blanking period. This function is effective when the horizontal frequency of the input signal is 15 kHz (480/60i, 575/50i ,etc.) Because this circuit produces an ill effect when the standard TV signal is input, use or not-use of this circuit can be selected from the on-screen menu.

- BLK Signal Processing
  The H. blanking circuit consists of IC2513, IC2521, IC2506 and the peripheral circuit. The timing reference signal for the horizontal blanking is the H. DF signal (parabola waveform of horizontal cycle) that is output from IC2503 pin-17. The start position of the horizontal blanking period is determined by creating a pulse by comparing the parabola waveform with a certain DC level at IC2506, and by comparing the output pulse with the waveform that is output form IC2503 pin-22 (H. BLKG). IC2513 determines the end position of the horizontal blanking.
  The V. blanking circuit consists of IC2509, IC2522 and the peripheral circuit. The start position of the V. blanking is determined by the fall-down edge of the VD-signal that is output from IC2503 pin-29. The end position of the V. blanking is determined by IC2509. The H/V blanking signal are controlled of its timing by the control voltage that is output from IC2501 (D/A converter).

- +B Power Supply Circuit for Horizontal Output
  The +B power supply circuit for horizontal output consists of Q2509, L2503, D2505, C2542 and other devices.
  This circuit uses the step-up chopper circuit in order to produce the + B power in which the DC. IN input voltage is stepped up by switching. When Q2509 is turned on, a current flows from drain to source of Q2509 through L2503. When Q2509 is turned off, a counter electromotive force is generated across L2503 that charges C2542 through D2505 and generates the +B

voltage. Relationship between DC. IN and +B voltage is shown below.

$$V\ (+B) = DC.\ IN + V\ (L2503)$$

It means that the output voltage can be changed in accordance with the amount of energy that is stored in L2503. In the other words, the output voltage can be controlled by controlling the ON time of Q2509.

The +B power for the horizontal deflection system is controlled by the PWM IC IC502.

The H. size control DC voltage is super-imposed upon the horizontal PIN distortion correction signal that is output from IC2503 pin-31. The super-imposed signal is compared with the signal that is fed back from the horizontal output circuit. The error signal of the comparator is the PWM control signal (H. PWM) that is output from IC502 pin-11. The PWM control output signal is amplified by Q2507 and Q2508, then is sent to Q2509 gate so that it drives Q2509.

- Horizontal Output Circuit
  The drive signal (HD) for the horizontal output signal is output form IC2503 pin-21, amplified by Q2512, Q2513, Q2535 and drives T2503 (HDT). The HD signal that is current-amplified by HDT, drives Q2514 and generates the collector pulse by the resonance of the horizontal winding of DY, the S-shape capacitor C2562, C2563 and C2564. The collector pulse generates the AGC pulse having 5 Vp-p with C2556, C2557, C2558, IC2508 and the peripheral circuit. The AGC pulse is sent to the deflection system control IC (IC2503), signal system B board, microprocessor control system MA board.
  The horizontal deflection current that flows through the DY is detected of its peak value as the voltage data by T2502 and is sent to IC502 that is the horizontal deflection control PWM IC on the P board. For the linearity compensation of the screen, the right half of a screen is compensated by the S-shape capacitors (C2562 to C2564) and the left half of a screen is compensated by HLC (L2505, L2509). When the video signal having the horizontal frequency of 45 kHz (33.75 kHz < Fh ≤ 45 kHz), compensation is applied by L2509 and C2562. When the horizontal frequency of 30 kHz (15.75 kHz < Fh ≤ 33.75 kHz), compensation is applied by L2509, C2562 and C2563. When the horizontal frequency of 15 kHz (15.625 kHz ≤ Fh ≤ 15.75 kHz), the relay RY2501 is turned off by Q2521 and compensation is applied by L2505, L2509, T2504 and C2562 to C2564. T2504 is a

choke coil that is inserted to raise the +B voltage during 15 kHz input mode. Q2519 is the switch to add the S-shape capacitor for 15 k and 30 k to the circuit, and is driven by Q2522 and Q2523. The control signal for switching these horizontal frequencies is supplied from IC2502 (D/A converter).

• Vertical Output Circuit

The vertical output circuit consists of IC2504 and its peripheral circuit.

The vertical output signal is generated by inputting the V. drive signal that is output form IC2503 pin-29, to IC2504 pin-1 where it is amplified. The V. center position is controlled by inputting the V. DC signal that is supplied from IC2503 pin-28, to IC2504 pin-7. The vertical deflection amplitude and the vertical center position are controlled by IC2503.

The vertical feedback pulse is generated by wave-shaping the V. flyback pulse with R3505, R3506 and D2524, and by inputting it to IC IC2503 pin-30.

• H CENTER Circuit

The H CENTER control is performed by converting the DC voltage level of IC2502 (D/A converter) pin-7 to electric current by IC2518, Q2516, amplified by IC2507, and by super-imposing an appropriate DC current upon the horizontal deflection current through L2504 (HCC). The power supply for IC2507 uses the floating power supplies that are HC+, HC- and HC N as described before.

• Protector Circuit

The D board (P2) has the three protectors that are H. PROT, V. PROT and H+B OVP. The H. PROT is the protector that is activated when the horizontal deflection is stopped. It detects existence of the collector pulse with IC2514, IC2515, D2519 and C576 after the collector pulse is divided by C2556 and C2557.

V. PROT is the protector that is activated when the vertical deflection is stopped. It detects existence of the V. out waveform after the V. out waveform is rectified and smoothed out by D2523 and C2578.

H+B OVP is the protector that is activated when the + B power voltage has increased by some defects. It detects the + B voltage after it is divided by R2552 and R2553. Operating point of the protector is about 65 V.

6-6.   P Board

The P board consists of the PWM circuit for horizontal deflection system and for high voltage system, the + B power supply for high voltage output, protector circuit, degauss circuit and heater circuit.

1.   PWM Circuit for Horizontal Deflection and High Voltage Systems

The PWM circuit for horizontal deflection system has already been described. The PWM circuit for high voltage system controls length of the ON period of the high voltage PWM output that is output from IC504 pin-13. The ON period is controlled by the error output that is obtained by comparing the reference voltage that is generated by the shunt regulator IC504 with the high voltage detected output that is output from FBT pin-12 which is the voltage obtained by dividing the high voltage (HV) with resistors.

For your reference, the input signal that is used as the reference of horizontal defection and the high voltage systems is the HD signal that is output from IC2503 pin-21. The HD signal is locked to the input signal of the monitor. (When there is no input signal to the monitor, it synchronized with the free-run frequency.)

There can be a case that the horizontal output circuit and the high voltage output circuit are damaged because they cannot follow the sharp change of input frequency when frequency of the input signal is changed or when input channel is switched. In order to prevent the horizontal output circuit and the high voltage output circuit from damage, IC502 reduces the ON period of the horizontal and high voltage PWM output to their minimum (by decreasing the + B voltage so that the horizontal deflection size is reduced to minimum and high voltage is decreased to the lowest voltage) when IC502 receives the frequency change information from IC2503 pin-37 (DTC: Dead Time Control) in the D board. The ON period is controlled until these circuits are locked o the input frequency slowly with some time constant in order to prevent these circuits from damage.

IC502 also has the built-in HD drive output circuit that receives the HD input signal and is locked to the input HD frequency. Phase and ON time of the HD output signal is determined by the voltages that are applied to pin-22 and pin-21 respectively. In this monitor, this HD drive signal is also used as the drive signal of te high voltage output circuit.

2. + B Power Supply for High Voltage Output

The + B power supply for high voltage output consists of Q515, L501, D520, C535, C583 and other devices. This circuit uses the step-up chopper circuit in order to produce the + B power in which the DC. IN input voltage is stepped up by switching the transistor Q515. When Q515 is turned on, a current flows from drain to source of Q515 through L501. When Q515 is turned off, a counter electromotive force is generated across L501 that charges C535 and C583 through D520 and generates the +B voltage. Relationship between DC. IN and +B voltage is shown below.

$$V (+B) = DC. IN + V (L501)$$

It means that the output voltage can be changed in accordance with the amount of energy that is stored in L501. In the other words, the output voltage can be controlled by controlling the ON time of Q515.

The +B power for the horizontal deflection system is controlled by the PWM IC IC502.

The PWM control signal (HV +B PWM) is output from IC502 pin-13. The PWM control output signal is amplified by Q506, Q509 and Q510, then is sent to Q515 gate.

3.   High Voltage Output Circuit

The input drive signal to the high voltage output circuit is output from IC502 pin-23 and is sent to an input of the NAND gate IC505. The other input terminal of the NAND gate is the protector detection terminal (staying at the "L" level when the protector works) that cuts off the drive signal to the high voltage circuit when the protector works. The drive signal that is output from IC505 is sent to the HV OUT: Q520 gate through the inverter (Q511) and the drive circuit (Q513, Q514).

The flyback pulse is generated at the Q520 drain by the resonance of T502 (FBT), T501, C539, C542 when Q520 is switched and is turned off by the HV. DRV pulse.

As the CRT current increases and the high tension voltage decreases, the voltage at the high tension voltage detection pin pin-12 of FBT decreases so that Q515's ON time is prolonged by IC502. As the result of the longer ON time, +B voltage increases, the Q520 drain pulse becomes larger and the high tension voltage increases. The high tension voltage is thus regulated.

Q527 is the switch that selects the resonance capacitors. The switch Q527 is turned on and capacitance of the resonance capacitor is increased when 15 kHz signal is input by shorting C542. This shorting is performed in order to stabilize the high voltage circuit by widening the pulse width of the drain pulse.

T502 is the flyback transformer that generates the high

tension voltage of the monitor, focus voltage, G2 voltage, heater voltage and high voltage protector detected output voltage. The circuit consisting of L504, C544 and R581 is the filter circuit in order to absorb the FBT damping. For your reference, the filter side of C545 that is T501 pin-2 receives the voltage that is equivalent to the + B voltage. The 120 V power voltage that is used for VIDEO OUT is generated by retracing and rectifying the voltage generated across the secondary winding of T501.

4.   Protector Circuits

The P board has the following protector circuits that hold down the horizontal deflection circuit and the high voltage output circuit when any of the protector circuit is activated.

· HV Protector

The HV protector is the circuit that holds down the high voltage when the high voltage (HV) that is applied to CRT exceeds the set value due to any abnormality or trouble.

The output signal from pin-5 of FTB that is the tertiary winding of FBT, is retrace-rectified by D527 and C554 to generated the detected output voltage of the high voltage protector. The high voltage output thus detected, is adjusted of its signal level, buffered by IC511 and is sent to the negative (-) input terminal of the comparator IC509 pin-3. The positive (+) input terminal of the comparator is connected to the reference voltage of the high voltage protector that is generated by the shunt regulator IC507. When the detected high voltage goes higher than the reference voltage, the comparator works so that the protector output terminal is latched to the "L" level by Q507 and Q508. The operating point of the HV protector is HV = 18.2 kV.

· Ik Protector

The Ik protector is the circuit that holds down the high voltage when the current Ik that flows through the CRT exceeds the set value due to any abnormality or trouble. The current flowing through the ABL signal line is detected in the form of voltage by the resistors R1504 to R1506. The detected current Ik is sent to the positive (+) input terminal of the comparator IC509 pin-5. The negative (−) input terminal of the comparator is connected to the reference voltage of the Ik protector that is generated by the voltage-division with R583 and R584. When the detected Ik voltage goes lower than the reference voltage, the comparator works so that the protector output terminal is latched to the "L" level by the circuit of Q521 to Q523. C538 is inserted in order to

pull up the Ik detection terminal to 12 V in order to prevent the protector circuit from erroneous operation. The operating point of the Ik protector is ABL current = 630 μA.

· HV +B OCP Protector

The HV +B OCP protector is the circuit that holds down the high voltage when the current flowing through the DC. IN line exceeds the set value due to any abnormality or trouble.

The DC IN line voltage is voltage-divided by the resistors R1522 to R1524 that is sent to Q512 emitter. The Q512 base receives the following voltage.

$Vb (Q512) = DC. IN − R568 × 1 (DC. IN) − Vf (D536)$

When the relation of Ve_Vb ≥= Vbe (Q512) is established, Q512 turns on so that the protector output terminal is latched to the "L" level by the circuit of Q516 and Q519. D536 is inserted in order to cancel the temperature characteristics of the Vbe voltage. The operating point of the HV +B OCP protector is I current (DC. IN) = about 2.4 [A].

· HV +B OVP Protector

The HV +B OVP protector is the circuit that holds down the high voltage when the HV +B line voltage exceeds the set value or when HV voltage abnormally decreases due to any abnormality or trouble.

The HV +B line voltage is voltage-divided by the resistors R1514 and R1513 to activate the protector. The operating point of the HV +B OVP protector is about 120 [V]. On the other hand, the detected output of the high voltage of the FBT is compared with the voltage level that is voltage-divided by R1532 and R1533 so that the abnormally low voltage from the FBT high voltage output can be detected in such a case of FBT layer short, and the protector is activated in such an error. However, this protector has a longer time constant that prevents the protector circuit from erroneous operation. The operating point of this protector is HV voltage ≤ 6 [kV].

· Degauss Circuit

The degauss circuit consists of the PWM controller IC503, the high withstand voltage FET driver IC506, the drive FET Q517 and the peripheral circuit.

When the main power is turned on or when the manual degauss is turned on, the control signal "DEGAUSS ON" that is sent to CN501 pin-8 is detected at its rise-up edge that sets "L" to IC503 DTC and to start oscillating the PWM output. (Length of the oscillating period is determined by the time constant of R518, R519 and

C518.) The signal that is output from IC503 pins-9 and -10 is sent to IC506 pins-10 and -12 to generate the signal that drives the FET in the subsequent circuit. The FET gate receives the signal that repeats High and Low only during the period when the PWM output is oscillating so that the FET is turned on and off repeatedly. When the FET is turned on, a current flows from the 120 V line to the degauss line so that the CRT is degaussed.

· Heater circuit

The heater circuit consists of the DC-DC converter IC510 and the peripheral circuit. The voltage that is obtained by rectifying the pin-8 "H1" using the FBT pin-7 output "H2" as the reference, is used as the power supply of IC510. The voltage that is obtained by rectifying the IC output with D530 and L505, is voltage-divided by resistors. The voltage that is obtained by the resistor-division is returned to IC510 as the feedback. The heater circuit uses the step-down converter circuit as its circuit configuration. The heater voltage that is applied to CRT is 4.5 Vrms.

6-7. HA, HB and HC boards

Key scan and turning on and off the LEDs
The SUB CPU (IC on the HC board) sends out the LED on signal and the key scan output signal using the serial signal (MISO, MOSI, SCLK). It receives the key scan input signal.
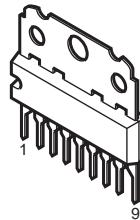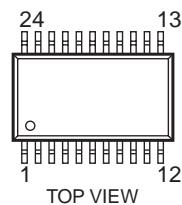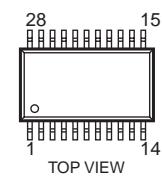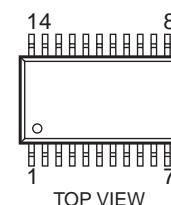
6-8. HD board

An input signal is selected from the various input signals that are connected to the AUDIO INPUT connectors (1, 2 and 3). It amplifies the selected audio signal and outputs the audio signal to speakers.
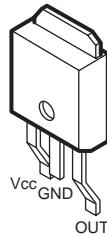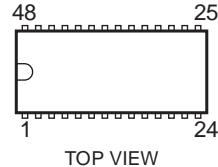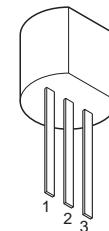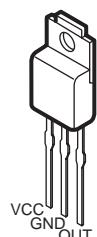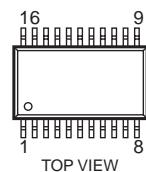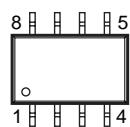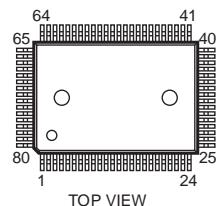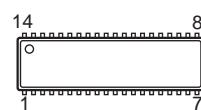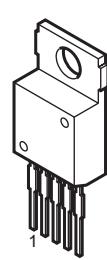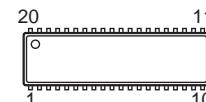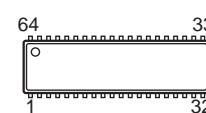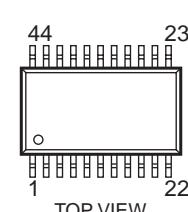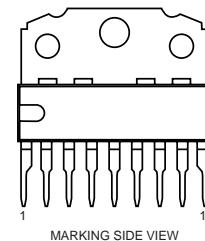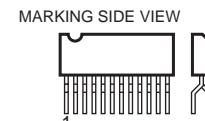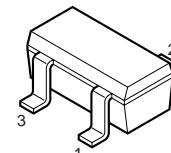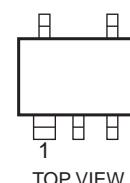
Section 7
Semiconductors

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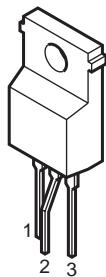
CXA1544M-T6
NJU3716M-T2

24   13

1   12

TOP VIEW

LC35256DM-70-TLM
MB90096PF-178
MB90096PF-G-127-BND-ER

28   15

1   14

TOP VIEW

MC74HC00AFEL
MC74HC08AF
MC74HC589AFEL
TC74HC30AF
TC74VHC02F
TC74VHC04F
TC74VHC125F
TC74VHC138F
TC74VHC14F

14   8

1   7

TOP VIEW

BA05FP-E2

Vcc GND

OUT

CXA1739S

48   25

1   24

TOP VIEW

LM2990SX-5.0

1   2   3

MCR5102

1   19

MARKING SIDE VIEW
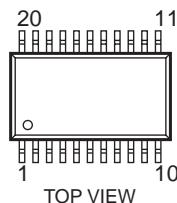
BA05T
BA09T

VCC GND OUT

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MAX202CSE
MAX3100CEE-TG068
MC74HC4053F
MC74HC4538AF
TC74HC4053AFT (EL)
TC74HC4538AF
TL1451ACPWR
TL494CNS

16   9

1   8

TOP VIEW

LM2990T-5.0

1   2   3

M62399FP-TE2

20   11

1   10

TOP VIEW

MZ1530

MARKING SIDE VIEW

PST529CMT

2

3

1

CXA1211M
CXA1521M
LM358M
LM393M
LM393PS
LTC490CS8
M24C02-MN6T
MAX487CSA-TE2
MAX490ECSA
MM1026BFB
NJM2360AM (TE2)
TC4W53FU
TC7W08F
TC7W32FU
TC7W74FU
TL082M
UPC4558G2
X25040SI

8   5

1   4

TOP VIEW

HD6435368AX06M

65   64   41   40

80   25

1   24

TOP VIEW

MB89613R-651

64   33

1   32

TOP VIEW

MBM29F400BC-90PF

44   23

1   22

TOP VIEW

SC7S02F
TC-4S30F
TC4S11F
TC4S71F
TC7S08F
TC7S14F

1

TOP VIEW

IR2112
SN74HC05ANS

14   8

1   7

TOP VIEW

LA6500-FA
MC14052BF

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5

IC, TRANSISTOR, DIODE

SE-012N

1
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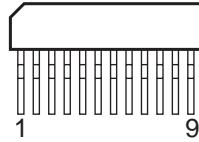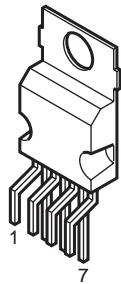
TC74VHC244F
TC74VHC574F

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1   10
TOP VIEW

TDA6111Q/N4

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TDA8172

1

7

TDA9106

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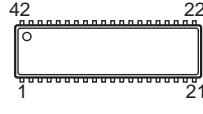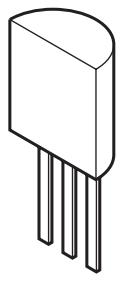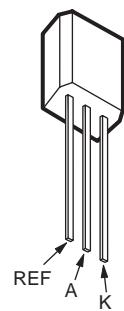
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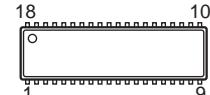
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UPC1093J-1-T

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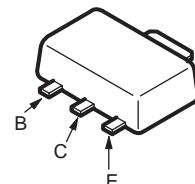
1   9
TOP VIEW

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2SA1037AK-T146-R
2SA1330-06
2SA1338-5-TB
2SA1462-T1Y33
2SA1462-Y33
2SC1623-L5L6
2SC3326N-A
2SC3360-N16
2SC3392-5-TB
2SC3545-T43
DTA114EKA-T146
DTA144EKA-T146
DTC114EK
DTC114GKA
DTC144EKA-T146

C
B
E

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2SD1834

B
C
E

2SC2362K-G

E   C   B
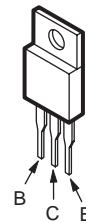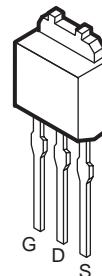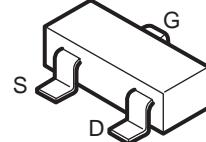
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2SD2578-CA
IRFI640

B   C   E

2SJ377 (TE16L)
2SK2231-TP

G   D   S

2SK520K44K45-T1B

G
S
D

IMT2

4
5
6
3
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4
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IMX2-T109

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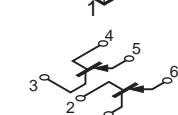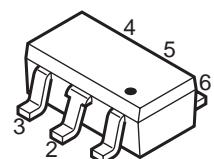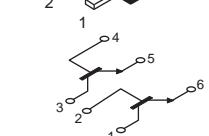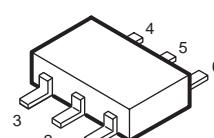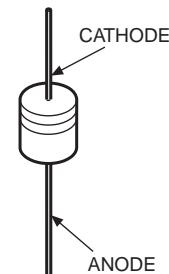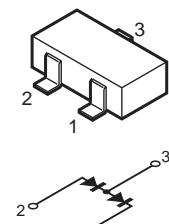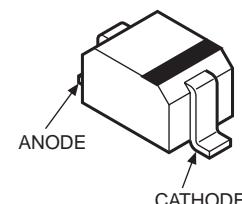
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RD27ESB2
RD5.1SB3-T2
RD6.8SB2-T1
RD7.5ESB1

CATHODE

ANODE

1SS226

3
2
1

3
2
1
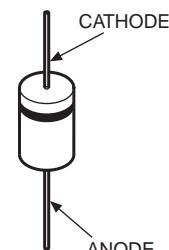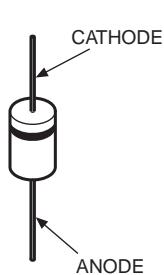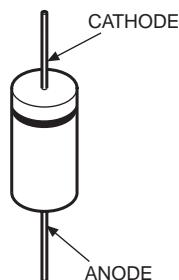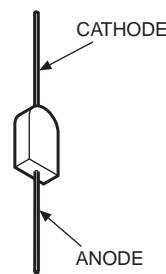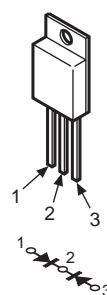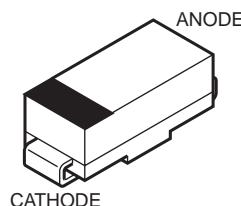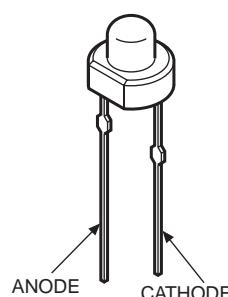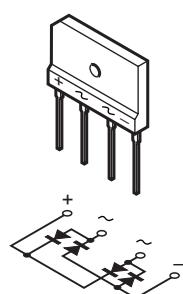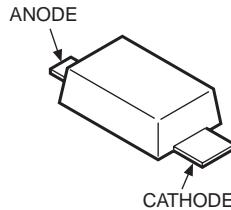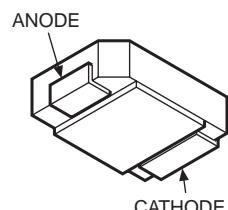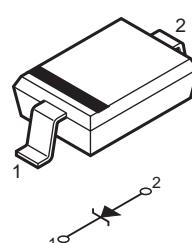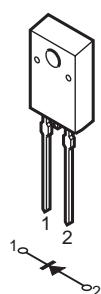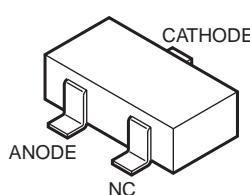
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DTZ-TT11-5.6A
RD12SB2
RD18SB2-T1
RD27SB-T1
RD3.3SB
RD6.2SB
RD6.2SB2-T1

ANODE

CATHODE

1SS83
EL1Z
RD12SB-T1

CATHODE

ANODE

D1NL20U-TR
ERA91-02

CATHODE

ANODE

DTZ-TT11-2.4B

CATHODE

ANODE

RM11C

CATHODE

ANODE

D30SC4M

1
2   3

1   2
3

D4SB60L

+

+   ~
~

D5L60

1   2

1   2

EC10QS-06
SC311-6-TE12RA
SC802-04
SC802-06

ANODE

CATHODE

MA111-(K8).S0

ANODE

CATHODE

RD10SB1
RD4.7SB1-T1
RD6.2SB (D9H5)

2

1

1   2

RD18M-T1B2
RD22M-B

CATHODE

ANODE

NC

SLR-325MCT31
SLR-325VCT31

ANODE   CATHODE

SML-020MLTT87

ANODE

CATHODE

Section 8
Exploded Views

NOTE :

The components identified marked ⚠ are critical for safety.
Replace only with the part number specified.
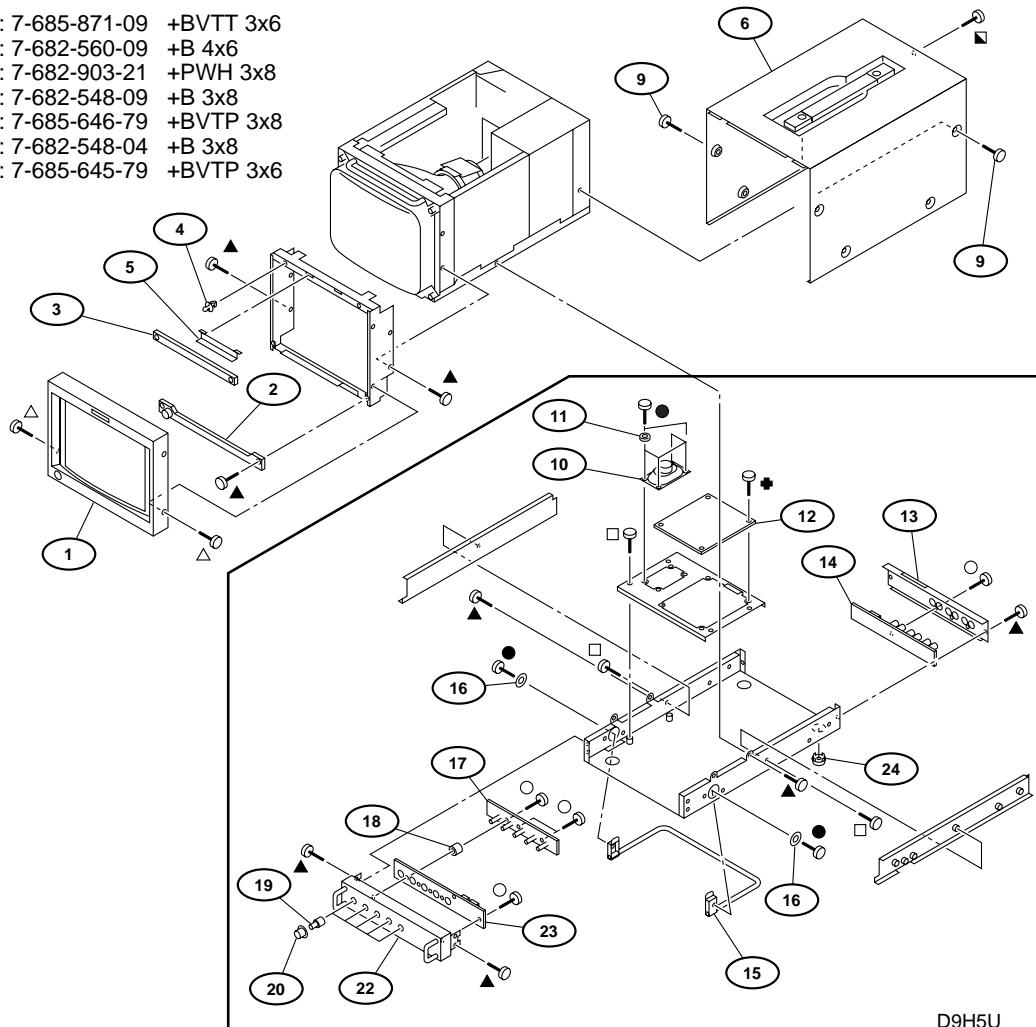
Les composants identifiés par la marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

• Items marked " ∗ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

• Items with no part number and no description are not stocked because they are seldom required for routine service.

• The construction parts of an assembled part are indicated with a collation number in the remarks column.

Note: In case the handle is defective, only handle can not be replaced. Replace the cabinet assy.

8-1. CHASSIS

▲ : 7-685-871-09 +BVTT 3x6
△ : 7-682-560-09 +B 4x6
● : 7-682-903-21 +PWH 3x8
□ : 7-682-548-09 +B 3x8
○ : 7-685-646-79 +BVTP 3x8
◥ : 7-682-548-04 +B 3x8
✚ : 7-685-645-79 +BVTP 3x6
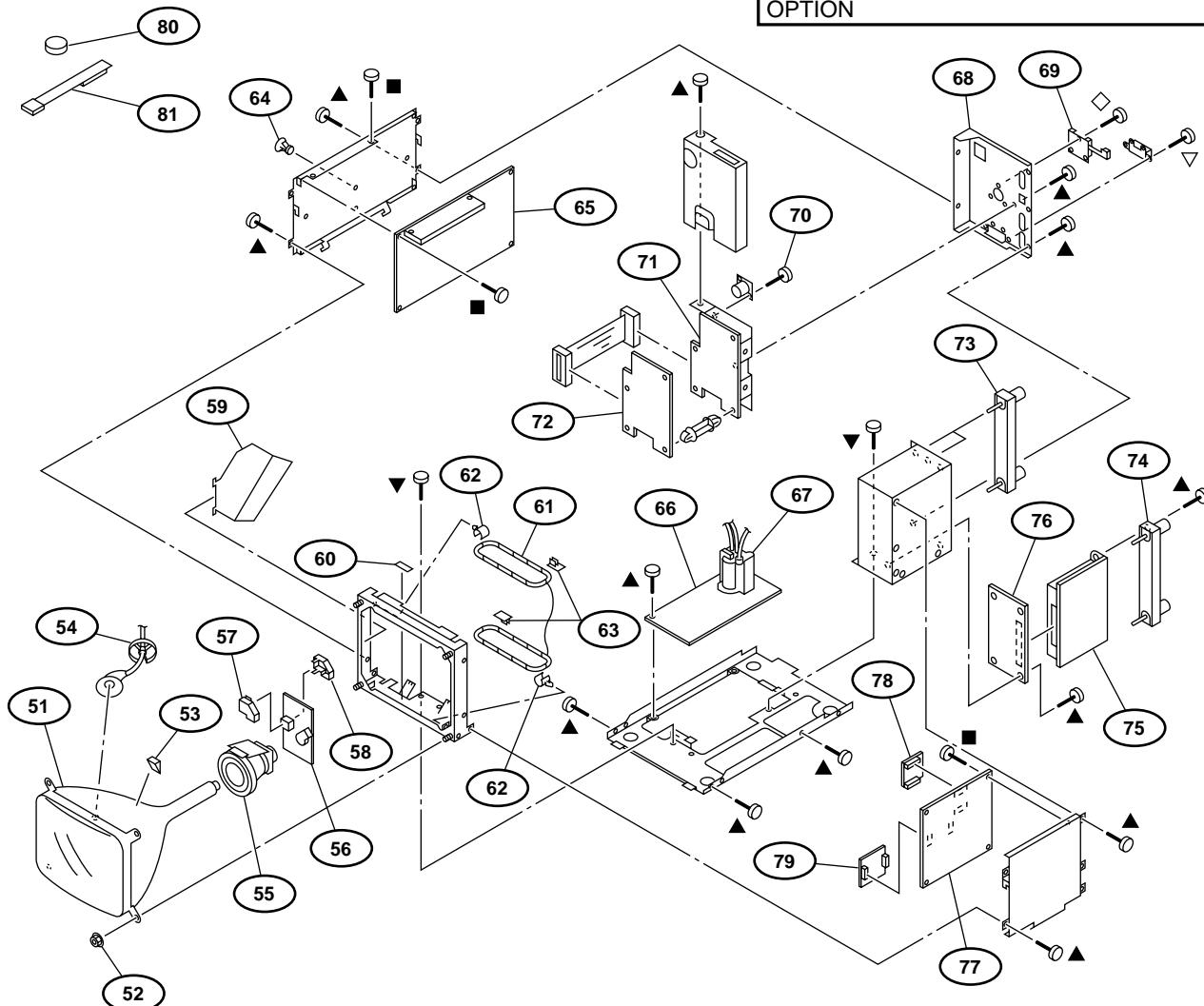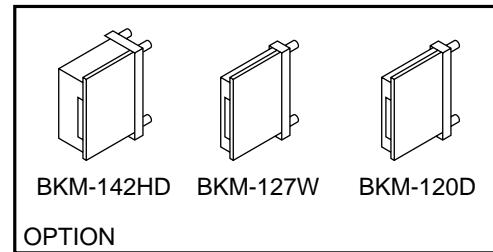
D9H5U

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
1	X-4037-176-1	BEZEL (16:9) ASSY		12	∗ A-1375-186-A	HC COMPL (D9H5)	
2	∗ A-1373-750-A	YB MOUNT		13	∗ 4-072-761-01	COVER, REAR (D9H5)	
3	∗ A-1373-751-A	YA MOUNT		14	∗ A-1372-677-A	HD MOUNT (D9H5)	
4	∗ 4-303-473-00	SUPPORT, PC		15	∗ X-4036-829-1	STAND ASSY (D9H5)	
5	∗ 4-073-708-01	PLATE, LIGHT INTERCEPTION		16	3-701-444-21	WASHER, 6 (D9H5)	
6	X-4037-295-2	CABINET ASSY (D9H1A, D9H1E)		17	∗ A-1372-676-A	HB MOUNT (D9H5)	
	X-4037-295-1	CABINET ASSY (D9H1U)		18	∗ 4-072-755-01	SPACER (D9H5)	
	X-4037-296-1	CABINET ASSY (D9H5U)		19	4-072-754-01	SHAFT (D9H5)	
	X-4037-296-2	CABINET ASSY (D9H5A, D9H5E)					
9	4-063-969-21	SCREW (OS), CASE, CLAW		20	4-072-756-01	BUTTON, VOLUME (D9H5)	
				22	X-4037-180-1	PANEL ASSY, CONTROL (D9H5)	
10	1-544-063-12	SPEAKER (D9H5)		23	∗ A-1372-675-A	HA MOUNT (D9H5)	
11	∗ 4-038-987-01	CUSHION, SPEAKER (D9H5)		24	∗ X-4037-179-1	FOOT ASSY (D9H5)	

8-2. PICTURE TUBE
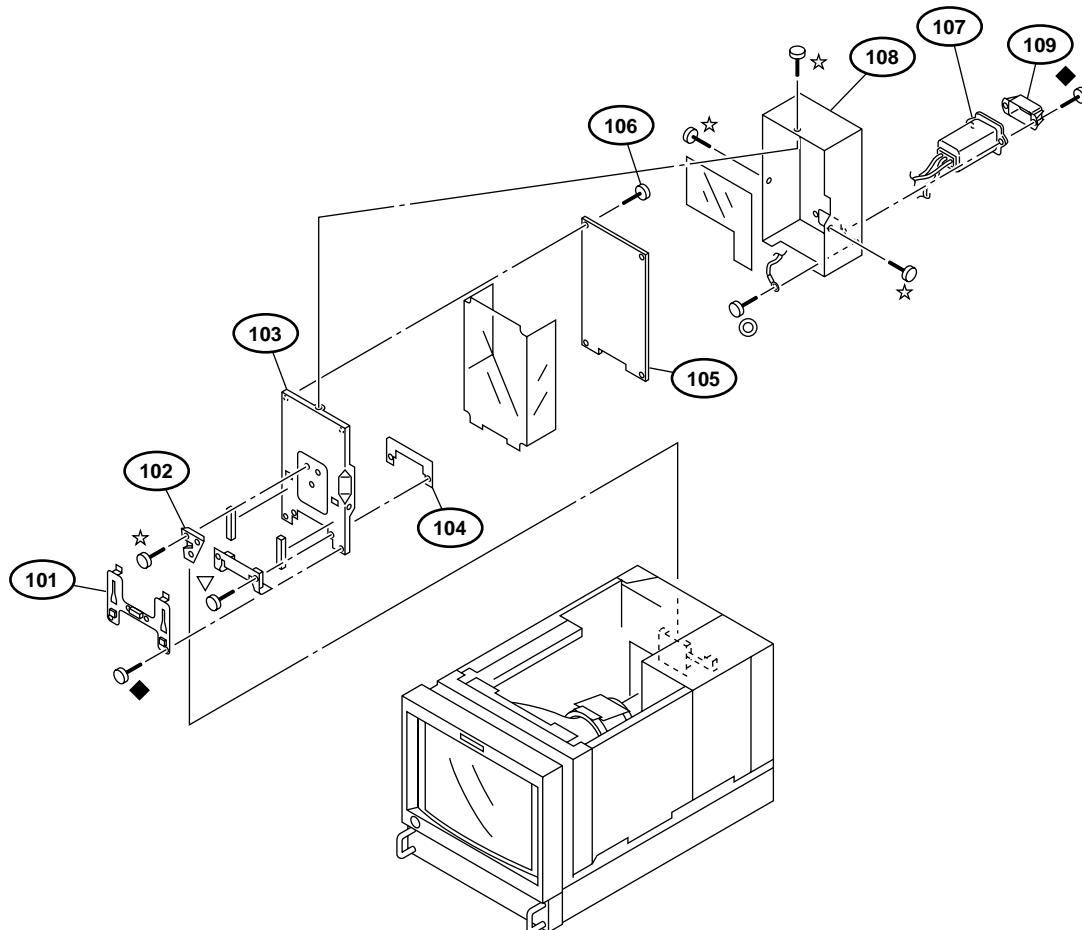
▼ : 7-682-946-09   +PSW 3x5
■ : 7-682-948-09   +PSW 3x8
▲ : 7-685-871-09   +BVTT 3x6
◇ : 7-682-547-09   +B 3x6
▽ : 7-627-556-58   +P 2.6x5

BKM-142HD	BKM-127W	BKM-120D

OPTION

Ref.No.	Part No.	Description	Remark
51	⚠ 8-737-658-05	PICTURE TUBE 09FX (DTV SPEC)	
52	4-304-511-00	NUT (M5), FLANGE	
53	4-309-369-00	SPACER, DEFLECTION YOKE	
54	* 4-034-856-01	HOLDER, HV CABLE	
55	⚠ 1-451-507-11	DEFLECTION YOKE	
56	* A-1331-957-A	C MOUNT	
57	* 4-376-133-11	COVER (MAIN), CV VOL	
58	* 4-376-132-11	COVER (REAR LID), CV VOL	
59	* 4-073-712-01	INSULATOR (ANODE)	
60	3-840-486-02	CUSHION, SPEAKER	
61	⚠ 1-419-306-11	COIL, DEGAUSSING	
62	* 4-072-725-01	HOLDER, DEGAUSE COIL	
63	4-380-534-01	CAP, DGC	
64	4-052-842-01	HOLDER, PWB	
65	* A-1335-118-A	D COMPL	
66	* A-1195-156-A	P COMPL	67
67	⚠ 1-439-526-21	TRANSFORMER ASSY, FLYBACK	

Ref.No.	Part No.	Description	Remark
68	(* X-4037-178-1	PANEL ASSY, REAR (D9H1)	
	(* X-4037-178-2	PANEL ASSY, REAR (D9H5)	
69	A-8278-025-C	MOUNT V ASSY	
70	4-035-802-01	SCREW (M2.6X6)	
71	(* A-1306-575-A	MB COMPL (D9H1)	
	(* A-1306-576-A	MB COMPL (D9H5)	
72	(* A-1306-574-A	MA COMPL (D9H1)	
	(* A-1306-581-A	MA COMPL (D9H5)	
73	* X-4037-166-1	PANEL ASSY, BLANK	
74	* X-4037-154-1	PANEL ASSY, CONNECTOR	
75	* A-1136-013-A	BX COMPL	
76	* A-1390-942-A	T MOUNT	
77	* A-1136-024-A	B COMPL	78, 79
78	* A-1131-464-A	B2 MOUNT	
79	* A-1131-463-A	B1 MOUNT	
80	* 1-452-884-11	MAGNET	
81	4-051-735-22	PIECE A(75), CONV. CORRECT	

8-3. POWER UNIT

◆ : 7-682-549-09　+B 3x10
☆ : 7-682-247-09　+K 3x6
◎ : 7-682-961-01　+PSW 4x8
▽ : 7-627-556-58　+P 2.6x5

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
101	4-072-743-01	BRACKET, POWER					
102	* 4-628-904-02	SHOE, V					
103	* X-4037-169-1	CASE (BOTTOM) ASSY, POWER					
104	4-072-700-01	NUT, PLATE					
105	* A-1316-460-A	G COMPL					
106	4-382-854-01	SCREW (M3X8), P, SW (+)					
107	⚠ 1-251-382-11	INLET, AC 3P(WITH NOISE FILTER)					
108	* X-4037-170-1	CASE (TOP) ASSY, POWER					
109	2-990-241-02	HOLDER (A), PLUG					

Section 9
Electrical Parts List

NOTE :

The components identified marked ⚠ are critical for safety.
Replace only with the part number specified.

Les composants identifiés par la marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

- Items marked " ∗ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.

RESISTORS
- All resistors are in ohms.
- F: nonflammable
- METAL: Metal-film resistor
- METAL OXIDE: Metal oxide-film resistor

Ref.No.	Part No.	Description			Remark
	∗ A-1136-024-A	B COMPL			
		*********			
	7-682-947-01	SCREW +PSW 3X6			
		<CAPACITOR>			
C300	1-163-031-11	CERAMIC CHIP 0.01µF			50V
C301	1-163-031-11	CERAMIC CHIP 0.01µF			50V
C304	1-104-760-11	CERAMIC CHIP 0.047µF	10%		50V
C305	1-163-021-91	CERAMIC CHIP 0.01µF	10%		50V
C306	1-163-031-11	CERAMIC CHIP 0.01µF			50V
C307	1-164-505-11	CERAMIC CHIP 2.2µF			16V
C308	1-115-152-11	ELECT CHIP 22µF	20%		6.3V
C309	1-163-031-11	CERAMIC CHIP 0.01µF			50V
C310	1-163-031-11	CERAMIC CHIP 0.01µF			50V
C311	1-163-031-11	CERAMIC CHIP 0.01µF			50V
C312	1-126-390-11	ELECT CHIP 22µF	20%		6.3V
C332	1-104-760-11	CERAMIC CHIP 0.047µF	10%		50V
C333	1-163-021-91	CERAMIC CHIP 0.01µF	10%		50V
C334	1-163-031-11	CERAMIC CHIP 0.01µF			50V
C335	1-164-505-11	CERAMIC CHIP 2.2µF			16V
C336	1-163-031-11	CERAMIC CHIP 0.01µF			50V
C337	1-163-031-11	CERAMIC CHIP 0.01µF			50V
C338	1-115-152-11	ELECT CHIP 22µF	20%		6.3V
C339	1-164-505-11	CERAMIC CHIP 2.2µF			16V
C340	1-163-031-11	CERAMIC CHIP 0.01µF			50V
C341	1-163-031-11	CERAMIC CHIP 0.01µF			50V
C367	1-104-760-11	CERAMIC CHIP 0.047µF	10%		50V
C368	1-163-021-91	CERAMIC CHIP 0.01µF	10%		50V
C369	1-163-031-11	CERAMIC CHIP 0.01µF			50V
C370	1-164-505-11	CERAMIC CHIP 2.2µF			16V
C371	1-163-031-11	CERAMIC CHIP 0.01µF			50V
C372	1-163-031-11	CERAMIC CHIP 0.01µF			50V
C373	1-115-152-11	ELECT CHIP 22µF	20%		6.3V
C374	1-164-505-11	CERAMIC CHIP 2.2µF			16V
C375	1-163-031-11	CERAMIC CHIP 0.01µF			50V
C376	1-163-031-11	CERAMIC CHIP 0.01µF			50V
C377	1-126-396-11	ELECT CHIP 47µF	20%		16V
C378	1-126-396-11	ELECT CHIP 47µF	20%		16V
C386	1-126-916-11	ELECT 1000µF	20%		6.3V
C387	1-126-916-11	ELECT 1000µF	20%		6.3V
C450	1-126-394-11	ELECT CHIP 10µF	20%		16V
C451	1-163-031-11	CERAMIC CHIP 0.01µF			50V
C452	1-163-031-11	CERAMIC CHIP 0.01µF			50V

Ref.No.	Part No.	Description			Remark
C454	1-126-396-11	ELECT CHIP 47µF	20%		16V
C460	1-126-390-11	ELECT CHIP 22µF	20%		6.3V
C461	1-126-390-11	ELECT CHIP 22µF	20%		6.3V
C462	1-163-031-11	CERAMIC CHIP 0.01µF			50V
C463	1-163-031-11	CERAMIC CHIP 0.01µF			50V
C464	1-163-031-11	CERAMIC CHIP 0.01µF			50V
C465	1-126-394-11	ELECT CHIP 10µF	20%		16V
C466	1-126-394-11	ELECT CHIP 10µF	20%		16V
C467	1-163-031-11	CERAMIC CHIP 0.01µF			50V
C468	1-163-031-11	CERAMIC CHIP 0.01µF			50V
C485	1-126-390-11	ELECT CHIP 22µF	20%		6.3V
C486	1-126-390-11	ELECT CHIP 22µF	20%		6.3V
C487	1-163-031-11	CERAMIC CHIP 0.01µF			50V
C488	1-163-031-11	CERAMIC CHIP 0.01µF			50V
C489	1-163-031-11	CERAMIC CHIP 0.01µF			50V
C490	1-126-394-11	ELECT CHIP 10µF	20%		16V
C491	1-163-031-11	CERAMIC CHIP 0.01µF			50V
C492	1-163-031-11	CERAMIC CHIP 0.01µF			50V
C494	1-126-396-11	ELECT CHIP 47µF	20%		16V
C1300	1-163-031-11	CERAMIC CHIP 0.01µF			50V
C1301	1-163-031-11	CERAMIC CHIP 0.01µF			50V
C1302	1-163-227-91	CERAMIC CHIP 10PF	0.5PF		50V
C1304	1-104-760-11	CERAMIC CHIP 0.047µF	10%		50V
C1305	1-163-021-91	CERAMIC CHIP 0.01µF	10%		50V
C1306	1-109-982-11	CERAMIC CHIP 1µF	10%		10V
C1307	1-163-031-11	CERAMIC CHIP 0.01µF			50V
C1308	1-163-031-11	CERAMIC CHIP 0.01µF			50V
C1309	1-164-505-11	CERAMIC CHIP 2.2µF			16V
C1320	1-163-031-11	CERAMIC CHIP 0.01µF			50V
C1321	1-163-031-11	CERAMIC CHIP 0.01µF			50V
C1322	1-163-227-91	CERAMIC CHIP 10PF	0.5PF		50V
C1324	1-104-760-11	CERAMIC CHIP 0.047µF	10%		50V
C1325	1-163-021-91	CERAMIC CHIP 0.01µF	10%		50V
C1326	1-163-031-11	CERAMIC CHIP 0.01µF			50V
C1327	1-163-031-11	CERAMIC CHIP 0.01µF			50V
C1330	1-164-346-91	CERAMIC CHIP 1µF			16V
C1340	1-163-031-11	CERAMIC CHIP 0.01µF			50V
C1341	1-163-031-11	CERAMIC CHIP 0.01µF			50V
C1342	1-163-227-91	CERAMIC CHIP 10PF	0.5PF		50V
C1344	1-104-760-11	CERAMIC CHIP 0.047µF	10%		50V
C1345	1-163-021-91	CERAMIC CHIP 0.01µF	10%		50V
C1346	1-163-031-11	CERAMIC CHIP 0.01µF			50V
C1347	1-163-031-11	CERAMIC CHIP 0.01µF			50V
C1348	1-163-251-11	CERAMIC CHIP 100PF	5%		50V

Ref.No.	Part No.	Description		Remark
C1400	1-163-035-00	CERAMIC CHIP 0.047µF		50V
C1401	1-163-035-00	CERAMIC CHIP 0.047µF		50V
C1402	1-163-035-00	CERAMIC CHIP 0.047µF		50V
C1404	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1405	1-163-035-00	CERAMIC CHIP 0.047µF		50V
C1406	1-163-809-11	CERAMIC CHIP 0.047µF	10%	25V
C1407	1-163-809-11	CERAMIC CHIP 0.047µF	10%	25V
C1408	1-163-809-11	CERAMIC CHIP 0.047µF	10%	25V
C1409	1-164-489-11	CERAMIC CHIP 0.22µF	10%	16V
C1410	1-164-004-91	CERAMIC CHIP 0.1µF	10%	25V
C1411	1-164-004-91	CERAMIC CHIP 0.1µF	10%	25V
C1412	1-164-004-91	CERAMIC CHIP 0.1µF	10%	25V
C1413	1-163-251-11	CERAMIC CHIP 100PF	5%	50V
C1414	1-163-275-11	CERAMIC CHIP 0.001µF	5%	50V
C1415	1-163-038-91	CERAMIC CHIP 0.1µF		25V
C1416	1-164-004-91	CERAMIC CHIP 0.1µF	10%	25V
C1417	1-164-004-91	CERAMIC CHIP 0.1µF	10%	25V
C1418	1-164-004-91	CERAMIC CHIP 0.1µF	10%	25V
C1419	1-163-251-11	CERAMIC CHIP 100PF	5%	50V
C1420	1-163-275-11	CERAMIC CHIP 0.001µF	5%	50V
C1421	1-163-038-91	CERAMIC CHIP 0.1µF		25V
C1422	1-164-004-91	CERAMIC CHIP 0.1µF	10%	25V
C1423	1-164-004-91	CERAMIC CHIP 0.1µF	10%	25V
C1424	1-163-251-11	CERAMIC CHIP 100PF	5%	50V
C1425	1-163-275-11	CERAMIC CHIP 0.001µF	5%	50V
C1426	1-163-038-91	CERAMIC CHIP 0.1µF		25V
C1427	1-163-038-91	CERAMIC CHIP 0.1µF		25V
C1428	1-164-004-91	CERAMIC CHIP 0.1µF	10%	25V
C1429	1-163-038-91	CERAMIC CHIP 0.1µF		25V
C1430	1-126-390-11	ELECT CHIP 22µF	20%	6.3V
C1431	1-163-005-11	CERAMIC CHIP 470PF	10%	50V
C1450	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1451	1-163-251-11	CERAMIC CHIP 100PF	5%	50V
C1460	1-164-005-11	CERAMIC CHIP 0.47µF		25V
C1461	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1462	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1464	1-164-005-11	CERAMIC CHIP 0.47µF		25V
C1465	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1466	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1467	1-126-935-11	ELECT 470µF	20%	16V
C1468	1-126-396-11	ELECT CHIP 47µF	20%	16V
C1469	1-126-396-11	ELECT CHIP 47µF	20%	16V
C2310	1-126-396-11	ELECT CHIP 47µF	20%	16V
C2311	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C2345	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C2346	1-163-220-11	CERAMIC CHIP 3PF	0.25PF	50V
C2347	1-107-364-11	MYLAR 0.01µF	10%	200V
C2348	1-163-251-11	CERAMIC CHIP 100PF	5%	50V
C2350	1-107-746-11	ELECT 10µF	20%	200V
C2351	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C2352	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C2353	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C2355	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C2356	1-163-087-00	CERAMIC CHIP 4PF	0.25PF	50V
C2357	1-107-364-11	MYLAR 0.01µF	10%	200V
C2358	1-163-251-11	CERAMIC CHIP 100PF	5%	50V
C2360	1-107-746-11	ELECT 10µF	20%	200V
C2361	1-126-396-11	ELECT CHIP 47µF	20%	16V
C2362	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C2363	1-126-396-11	ELECT CHIP 47µF	20%	16V
C2364	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C2365	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C2366	1-163-087-00	CERAMIC CHIP 4PF	0.25PF	50V
C2367	1-107-364-11	MYLAR 0.01µF	10%	200V
C2368	1-163-251-11	CERAMIC CHIP 100PF	5%	50V
C2370	1-107-746-11	ELECT 10µF	20%	200V
C2371	1-163-021-91	CERAMIC CHIP 0.01µF	10%	50V
C2372	1-163-021-91	CERAMIC CHIP 0.01µF	10%	50V
C2373	1-163-021-91	CERAMIC CHIP 0.01µF	10%	50V
C2374	1-126-394-11	ELECT CHIP 10µF	20%	16V
C2375	1-126-394-11	ELECT CHIP 10µF	20%	16V
C2376	1-126-394-11	ELECT CHIP 10µF	20%	16V
C2380	1-163-005-11	CERAMIC CHIP 470PF	10%	50V
C2381	1-163-005-11	CERAMIC CHIP 470PF	10%	50V
C2382	1-163-005-11	CERAMIC CHIP 470PF	10%	50V
C2383	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C2384	1-163-009-11	CERAMIC CHIP 0.001µF	10%	50V
C2385	1-163-009-11	CERAMIC CHIP 0.001µF	10%	50V
C2386	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C2387	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C2388	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C2389	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C2390	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C3301	1-126-394-11	ELECT CHIP 10µF	20%	16V
C3302	1-163-251-11	CERAMIC CHIP 100PF	5%	50V
C3303	1-163-251-11	CERAMIC CHIP 100PF	5%	50V
C3304	1-163-257-11	CERAMIC CHIP 180PF	5%	50V
C3305	1-163-251-11	CERAMIC CHIP 100PF	5%	50V
C3306	1-163-257-11	CERAMIC CHIP 180PF	5%	50V
C3307	1-163-251-11	CERAMIC CHIP 100PF	5%	50V
C3308	1-164-346-11	CERAMIC CHIP 1µF		16V
C3309	1-126-390-11	ELECT CHIP 22µF	20%	6.3V
C3311	1-163-038-91	CERAMIC CHIP 0.1µF		25V
C3312	1-163-038-91	CERAMIC CHIP 0.1µF		25V
C3313	1-163-263-11	CERAMIC CHIP 330PF	5%	50V
C3314	1-163-038-91	CERAMIC CHIP 0.1µF		25V
C3316	1-163-038-91	CERAMIC CHIP 0.1µF		25V
C3332	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C3333	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C3339	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C3341	1-163-251-11	CERAMIC CHIP 100PF	5%	50V
C3344	1-164-004-11	CERAMIC CHIP 0.1µF	10%	25V
C3350	1-164-005-11	CERAMIC CHIP 0.47µF		25V
C3402	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C3403	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C3405	1-163-038-91	CERAMIC CHIP 0.1µF		25V
C3406	1-164-182-11	CERAMIC CHIP 0.0033µF	10%	50V
C3407	1-164-344-11	CERAMIC CHIP 0.068µF	10%	25V
C3408	1-126-394-11	ELECT CHIP 10µF	20%	16V
C3410	1-164-004-11	CERAMIC CHIP 0.1µF	10%	25V
C3411	1-163-259-91	CERAMIC CHIP 220PF	5%	50V
C3412	1-164-004-11	CERAMIC CHIP 0.1µF	10%	25V
C3432	1-163-035-00	CERAMIC CHIP 0.047µF		50V
C3433	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C4300	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C4302	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C4303	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C4350	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C4351	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C4352	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C4353	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C4354	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C4355	1-126-396-11	ELECT CHIP 47µF	20%	16V

<CONNECTOR>

Ref.No.	Part No.	Description
CN301	1-764-334-11	PLUG, CONNECTOR 11P
CN302	* 1-564-511-11	PLUG, CONNECTOR 8P
CN303	* 1-564-510-11	PLUG, CONNECTOR 7P
CN305	* 1-564-509-11	PLUG, CONNECTOR 6P
CN307	* 1-564-512-11	PLUG, CONNECTOR 9P

BVM-D9H1U/D9H5U/D9H1E/D9H5E/D9H1A/D9H5A

Ref.No.	Part No.	Description	Remark
CN308	* 1-564-512-11	PLUG, CONNECTOR 9P	
CN411	* 1-506-611-11	PIN, CONNECTOR 8P	
CN412	* 1-506-611-11	PIN, CONNECTOR 8P	
CN421	* 1-779-070-21	PIN, CONNECTOR 12P	
CN422	* 1-779-070-21	PIN, CONNECTOR 12P	
		<DIODE>	
D1400	8-719-073-01	DIODE MA111-(K8).S0	
D1401	8-719-073-01	DIODE MA111-(K8).S0	
D1402	8-719-073-01	DIODE MA111-(K8).S0	
D1403	8-719-073-01	DIODE MA111-(K8).S0	
D1404	8-719-037-17	DIODE RD10SB3-T1	
D1405	8-719-073-01	DIODE MA111-(K8).S0	
D2345	8-719-157-72	DIODE RD22M-B	
D2346	8-719-901-83	DIODE 1SS83	
D2347	8-719-901-83	DIODE 1SS83	
D2348	8-719-073-01	DIODE MA111-(K8).S0	
D2349	8-719-073-01	DIODE MA111-(K8).S0	
D2355	8-719-157-72	DIODE RD22M-B	
D2356	8-719-901-83	DIODE 1SS83	
D2357	8-719-901-83	DIODE 1SS83	
D2358	8-719-073-01	DIODE MA111-(K8).S0	
D2359	8-719-073-01	DIODE MA111-(K8).S0	
D2365	8-719-157-72	DIODE RD22M-B	
D2366	8-719-901-83	DIODE 1SS83	
D2367	8-719-901-83	DIODE 1SS83	
D2369	8-719-073-01	DIODE MA111-(K8).S0	
D2370	8-719-073-01	DIODE MA111-(K8).S0	
D3301	8-719-016-74	DIODE 1SS352	
D3302	8-719-016-74	DIODE 1SS352	
D3307	8-719-800-76	DIODE 1SS226	
D3308	8-719-800-76	DIODE 1SS226	
D4401	8-719-036-88	DIODE RD4.7SB1-T1	
		<IC>	
IC300	8-759-011-65	IC MC74HC4053F	
IC301	8-759-011-65	IC MC74HC4053F	
IC302	8-759-011-65	IC MC74HC4053F	
IC303	8-759-981-48	IC TL082M	
IC304	8-759-981-48	IC TL082M	
IC305	8-759-981-48	IC TL082M	
IC306	8-752-054-80	IC CXA1521M	
IC307	8-752-054-80	IC CXA1521M	
IC308	8-752-054-80	IC CXA1521M	
IC400	8-752-053-21	IC CXA1211M	
IC401	8-752-053-21	IC CXA1211M	
IC1300	8-759-011-65	IC MC74HC4053F	
IC1302	8-759-011-65	IC MC74HC4053F	
IC1303	8-759-011-65	IC MC74HC4053F	
IC1304	8-759-011-65	IC MC74HC4053F	
IC1305	8-759-981-48	IC TL082M	
IC1306	8-759-981-48	IC TL082M	
IC1307	8-759-981-48	IC TL082M	
IC1308	8-759-011-65	IC MC74HC4053F	
IC1309	8-759-011-65	IC MC74HC4053F	
IC1400	8-759-038-15	IC MC74HC4538AF	
IC1401	8-752-067-05	IC CXA1739S	
IC2345	8-759-360-83	IC TDA6111Q/N4	
IC2355	8-759-360-83	IC TDA6111Q/N4	
IC2365	8-759-360-83	IC TDA6111Q/N4	
IC2380	8-759-523-02	IC TC74HC4053AFT(EL)	
IC2381	8-759-523-02	IC TC74HC4053AFT(EL)	
IC2382	8-759-988-13	IC LM393PS	
IC2383	8-759-083-94	IC TC7W74FU	
IC3301	8-759-523-02	IC TC74HC4053AFT(EL)	

Ref.No.	Part No.	Description	Remark
IC3400	8-759-424-13	IC MC74HC00AFEL	
IC3401	8-759-032-14	IC MC74HC08AF	
IC3403	8-759-328-12	IC Z8622812PSC	
IC3404	8-759-527-74	IC M24C02-MN6T	
IC3406	8-759-084-79	IC TC7S14F	
IC3407	8-759-242-76	IC TC7W08F	
IC4300	8-752-072-94	IC CXA1875AM-T4	
IC4301	8-752-072-94	IC CXA1875AM-T4	
IC4302	8-752-072-94	IC CXA1875AM-T4	
IC4350	8-752-072-94	IC CXA1875AM-T4	
IC4351	8-759-482-47	IC M62399FP-TE2	
IC4352	8-759-482-47	IC M62399FP-TE2	
		<COIL>	
L300	1-406-669-11	INDUCTOR 470µH	
		<TRANSISTOR>	
Q300	8-729-112-65	TRANSISTOR 2SA1462-Y33	
Q301	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q302	8-729-920-59	TRANSISTOR IMX2-T109	
Q303	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q304	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q330	8-729-112-65	TRANSISTOR 2SA1462-Y33	
Q331	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q332	8-729-920-59	TRANSISTOR IMX2-T109	
Q333	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q334	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q365	8-729-112-65	TRANSISTOR 2SA1462-Y33	
Q366	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q367	8-729-920-59	TRANSISTOR IMX2-T109	
Q368	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q369	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q450	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q451	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q452	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q453	8-729-112-65	TRANSISTOR 2SA1462-Y33	
Q460	8-729-112-65	TRANSISTOR 2SA1462-Y33	
Q461	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q462	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q463	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q464	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q465	8-729-026-50	TRANSISTOR 2SA1037AK-T146-QR	
Q466	8-729-026-50	TRANSISTOR 2SA1037AK-T146-QR	
Q485	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q486	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q487	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1300	8-729-112-65	TRANSISTOR 2SA1462-Y33	
Q1301	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q1302	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1303	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1304	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1305	8-729-026-50	TRANSISTOR 2SA1037AK-T146-QR	
Q1320	8-729-112-65	TRANSISTOR 2SA1462-Y33	
Q1321	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q1322	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1323	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1340	8-729-112-65	TRANSISTOR 2SA1462-Y33	
Q1341	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q1342	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1343	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1400	1-801-806-11	TRANSISTOR DTC144EKA-T146	
Q1401	8-729-120-28	TRANSISTOR 2SC1623-L5L6	

Ref.No.	Part No.	Description			Remark	Ref.No.	Part No.	Description			Remark
Q1402	8-729-026-50	TRANSISTOR 2SA1037AK-T146-QR				R306	1-216-025-91	RES,CHIP	100	5%	1/10W
Q1410	8-729-026-50	TRANSISTOR 2SA1037AK-T146-QR				R307	1-216-653-11	METAL CHIP	1.2K	0.50%	1/10W
Q1411	8-729-120-28	TRANSISTOR 2SC1623-L5L6				R308	1-216-025-91	RES,CHIP	100	5%	1/10W
Q1412	8-729-026-50	TRANSISTOR 2SA1037AK-T146-QR				R309	1-216-049-91	RES,CHIP	1K	5%	1/10W
Q1413	8-729-120-28	TRANSISTOR 2SC1623-L5L6				R310	1-216-049-91	RES,CHIP	1K	5%	1/10W
Q1414	8-729-120-28	TRANSISTOR 2SC1623-L5L6				R311	1-216-029-00	RES,CHIP	150	5%	1/10W
Q1420	8-729-026-50	TRANSISTOR 2SA1037AK-T146-QR				R312	1-216-675-91	METAL CHIP	10K	0.50%	1/10W
Q1421	8-729-120-28	TRANSISTOR 2SC1623-L5L6				R313	1-218-776-11	METAL CHIP	1M	0.50%	1/10W
Q1422	8-729-026-50	TRANSISTOR 2SA1037AK-T146-QR				R314	1-216-675-91	METAL CHIP	10K	0.50%	1/10W
Q1423	8-729-120-28	TRANSISTOR 2SC1623-L5L6				R315	1-218-764-11	METAL CHIP	330K	0.50%	1/10W
Q1424	8-729-120-28	TRANSISTOR 2SC1623-L5L6				R316	1-216-033-00	RES,CHIP	220	5%	1/10W
Q1430	8-729-026-50	TRANSISTOR 2SA1037AK-T146-QR				R317	1-216-025-91	RES,CHIP	100	5%	1/10W
Q1431	8-729-120-28	TRANSISTOR 2SC1623-L5L6				R318	1-216-053-00	RES,CHIP	1.5K	5%	1/10W
Q1432	8-729-026-50	TRANSISTOR 2SA1037AK-T146-QR				R319	1-216-685-11	METAL CHIP	27K	0.50%	1/10W
Q1433	8-729-120-28	TRANSISTOR 2SC1623-L5L6				R320	1-216-679-11	METAL CHIP	15K	0.50%	1/10W
Q1434	8-729-120-28	TRANSISTOR 2SC1623-L5L6				R321	1-216-089-91	RES,CHIP	47K	5%	1/10W
Q1460	8-729-120-28	TRANSISTOR 2SC1623-L5L6				R322	1-216-681-11	METAL CHIP	18K	0.50%	1/10W
Q1461	8-729-120-28	TRANSISTOR 2SC1623-L5L6				R323	1-216-025-91	RES,CHIP	100	5%	1/10W
Q1463	8-729-900-53	TRANSISTOR DTC114EK				R324	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
Q2303	8-729-026-50	TRANSISTOR 2SA1037AK-T146-QR				R325	1-216-037-00	RES,CHIP	330	5%	1/10W
Q2318	8-729-026-50	TRANSISTOR 2SA1037AK-T146-QR				R330	1-216-049-91	RES,CHIP	1K	5%	1/10W
Q2333	8-729-026-50	TRANSISTOR 2SA1037AK-T146-QR				R331	1-216-025-91	RES,CHIP	100	5%	1/10W
Q2345	8-729-033-31	TRANSISTOR 2SK520K44K45-T1B				R332	1-216-657-11	METAL CHIP	1.8K	0.50%	1/10W
Q2346	8-729-105-08	TRANSISTOR 2SA1330-06				R333	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W
Q2355	8-729-033-31	TRANSISTOR 2SK520K44K45-T1B				R335	1-216-651-11	METAL CHIP	1K	0.50%	1/10W
Q2356	8-729-105-08	TRANSISTOR 2SA1330-06				R336	1-216-025-91	RES,CHIP	100	5%	1/10W
Q2365	8-729-033-31	TRANSISTOR 2SK520K44K45-T1B				R337	1-216-653-11	METAL CHIP	1.2K	0.50%	1/10W
Q2366	8-729-105-08	TRANSISTOR 2SA1330-06				R338	1-216-025-91	RES,CHIP	100	5%	1/10W
Q2375	8-729-105-37	TRANSISTOR 2SC3360-N16				R339	1-216-049-91	RES,CHIP	1K	5%	1/10W
Q2375	8-729-105-37	TRANSISTOR 2SC3360-N16				R340	1-216-049-91	RES,CHIP	1K	5%	1/10W
Q2376	8-729-105-37	TRANSISTOR 2SC3360-N16				R341	1-216-025-91	RES,CHIP	100	5%	1/10W
Q2376	8-729-105-37	TRANSISTOR 2SC3360-N16				R342	1-216-675-91	METAL CHIP	10K	0.50%	1/10W
Q2377	8-729-105-37	TRANSISTOR 2SC3360-N16				R343	1-218-776-11	METAL CHIP	1M	0.50%	1/10W
Q2377	8-729-105-37	TRANSISTOR 2SC3360-N16				R344	1-216-675-91	METAL CHIP	10K	0.50%	1/10W
Q2380	8-729-120-28	TRANSISTOR 2SC1623-L5L6				R345	1-218-770-11	METAL CHIP	560K	0.50%	1/10W
Q2381	8-729-120-28	TRANSISTOR 2SC1623-L5L6				R346	1-216-033-00	RES,CHIP	220	5%	1/10W
Q2382	8-729-120-28	TRANSISTOR 2SC1623-L5L6				R347	1-216-025-91	RES,CHIP	100	5%	1/10W
Q2383	8-729-120-28	TRANSISTOR 2SC1623-L5L6				R348	1-216-053-00	RES,CHIP	1.5K	5%	1/10W
Q3301	8-729-026-50	TRANSISTOR 2SA1037AK-T146-QR				R349	1-216-683-11	METAL CHIP	22K	0.50%	1/10W
Q3302	8-729-026-50	TRANSISTOR 2SA1037AK-T146-QR				R350	1-218-759-11	METAL CHIP	200K	0.50%	1/10W
Q3303	8-729-026-50	TRANSISTOR 2SA1037AK-T146-QR				R351	1-216-693-11	METAL CHIP	56K	0.50%	1/10W
Q3304	8-729-920-59	TRANSISTOR IMX2-T109				R353	1-216-089-91	RES,CHIP	47K	5%	1/10W
Q3305	8-729-920-59	TRANSISTOR IMX2-T109				R354	1-216-025-91	RES,CHIP	100	5%	1/10W
Q3306	8-729-120-28	TRANSISTOR 2SC1623-L5L6				R355	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
Q3307	8-729-026-50	TRANSISTOR 2SA1037AK-T146-QR				R356	1-216-033-00	RES,CHIP	220	5%	1/10W
Q3308	8-729-107-31	TRANSISTOR 2SC3545-T43				R365	1-216-049-91	RES,CHIP	1K	5%	1/10W
Q3309	8-729-120-28	TRANSISTOR 2SC1623-L5L6				R366	1-216-025-91	RES,CHIP	100	5%	1/10W
Q3310	8-729-925-42	TRANSISTOR IMT2				R367	1-216-657-11	METAL CHIP	1.8K	0.50%	1/10W
Q3311	8-729-120-28	TRANSISTOR 2SC1623-L5L6				R368	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W
Q3312	8-729-026-50	TRANSISTOR 2SA1037AK-T146-QR				R370	1-216-651-11	METAL CHIP	1K	0.50%	1/10W
Q3313	8-729-120-28	TRANSISTOR 2SC1623-L5L6				R371	1-216-025-91	RES,CHIP	100	5%	1/10W
Q3314	8-729-920-59	TRANSISTOR IMX2-T109				R372	1-216-653-11	METAL CHIP	1.2K	0.50%	1/10W
Q3315	8-729-112-65	TRANSISTOR 2SA1462-Y33				R373	1-216-025-91	RES,CHIP	100	5%	1/10W
Q3316	8-729-120-28	TRANSISTOR 2SC1623-L5L6				R374	1-216-049-91	RES,CHIP	1K	5%	1/10W
Q3317	8-729-925-42	TRANSISTOR IMT2				R375	1-216-049-91	RES,CHIP	1K	5%	1/10W
Q3318	8-729-026-50	TRANSISTOR 2SA1037AK-T146-QR				R376	1-216-025-91	RES,CHIP	100	5%	1/10W
Q3319	8-729-120-28	TRANSISTOR 2SC1623-L5L6				R377	1-216-675-91	METAL CHIP	10K	0.50%	1/10W
Q3402	1-801-806-11	TRANSISTOR DTC144EKA-T146				R378	1-218-776-11	METAL CHIP	1M	0.50%	1/10W
						R379	1-216-675-91	METAL CHIP	10K	0.50%	1/10W
						R380	1-218-770-11	METAL CHIP	560K	0.50%	1/10W
		<RESISTOR>				R381	1-216-033-00	RES,CHIP	220	5%	1/10W
R300	1-216-049-91	RES,CHIP	1K	5%	1/10W	R382	1-216-025-91	RES,CHIP	100	5%	1/10W
R301	1-216-025-91	RES,CHIP	100	5%	1/10W	R383	1-216-053-00	RES,CHIP	1.5K	5%	1/10W
R302	1-216-657-11	METAL CHIP	1.8K	0.50%	1/10W	R384	1-216-683-11	METAL CHIP	22K	0.50%	1/10W
R303	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W	R385	1-218-759-11	METAL CHIP	200K	0.50%	1/10W
R305	1-216-651-11	METAL CHIP	1K	0.50%	1/10W						

Ref.No.	Part No.	Description			Remark	Ref.No.	Part No.	Description			Remark
R386	1-216-693-11	METAL CHIP	56K	0.50%	1/10W	R1312	1-216-073-00	RES,CHIP	10K	5%	1/10W
R388	1-216-089-91	RES,CHIP	47K	5%	1/10W	R1313	1-216-025-91	RES,CHIP	100	5%	1/10W
R389	1-216-025-91	RES,CHIP	100	5%	1/10W	R1314	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R390	1-216-057-00	RES,CHIP	2.2K	5%	1/10W	R1315	1-216-295-91	SHORT	0		
R391	1-216-033-00	RES,CHIP	220	5%	1/10W	R1316	1-216-675-91	METAL CHIP	10K	0.50%	1/10W
R450	1-216-025-91	RES,CHIP	100	5%	1/10W	R1317	1-216-689-11	METAL CHIP	39K	0.50%	1/10W
R451	1-216-049-91	RES,CHIP	1K	5%	1/10W	R1318	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R452	1-216-647-11	METAL CHIP	680	0.50%	1/10W	R1319	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R453	1-216-649-11	METAL CHIP	820	0.50%	1/10W	R1320	1-216-025-91	RES,CHIP	100	5%	1/10W
R454	1-216-645-11	METAL CHIP	560	0.50%	1/10W	R1321	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W
R455	1-216-647-11	METAL CHIP	680	0.50%	1/10W	R1322	1-216-657-11	METAL CHIP	1.8K	0.50%	1/10W
R456	1-216-065-91	RES,CHIP	4.7K	5%	1/10W	R1323	1-216-651-11	METAL CHIP	1K	0.50%	1/10W
R457	1-216-025-91	RES,CHIP	100	5%	1/10W	R1325	1-216-025-91	RES,CHIP	100	5%	1/10W
R458	1-216-025-91	RES,CHIP	100	5%	1/10W	R1326	1-216-653-11	METAL CHIP	1.2K	0.50%	1/10W
R459	1-216-057-00	RES,CHIP	2.2K	5%	1/10W	R1327	1-216-025-91	RES,CHIP	100	5%	1/10W
R460	1-216-671-11	METAL CHIP	6.8K	0.50%	1/10W	R1328	1-216-049-91	RES,CHIP	1K	5%	1/10W
R461	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	R1329	1-218-776-11	METAL CHIP	1M	0.50%	1/10W
R462	1-216-671-11	METAL CHIP	6.8K	0.50%	1/10W	R1330	1-216-675-91	METAL CHIP	10K	0.50%	1/10W
R463	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	R1331	1-216-025-91	RES,CHIP	100	5%	1/10W
R464	1-216-660-11	METAL CHIP	2.4K	0.50%	1/10W	R1332	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R465	1-216-668-11	METAL CHIP	5.1K	0.50%	1/10W	R1333	1-216-295-91	SHORT	0		
R466	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W	R1334	1-216-073-00	RES,CHIP	10K	5%	1/10W
R467	1-216-649-11	METAL CHIP	820	0.50%	1/10W	R1335	1-216-073-00	RES,CHIP	10K	5%	1/10W
R468	1-216-049-91	RES,CHIP	1K	5%	1/10W	R1340	1-216-025-91	RES,CHIP	100	5%	1/10W
R469	1-216-049-91	RES,CHIP	1K	5%	1/10W	R1341	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W
R470	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	R1342	1-216-657-11	METAL CHIP	1.8K	0.50%	1/10W
R471	1-216-061-00	RES,CHIP	3.3K	5%	1/10W	R1343	1-216-651-11	METAL CHIP	1K	0.50%	1/10W
R472	1-216-025-91	RES,CHIP	100	5%	1/10W	R1345	1-216-025-91	RES,CHIP	100	5%	1/10W
R473	1-216-049-91	RES,CHIP	1K	5%	1/10W	R1346	1-216-653-11	METAL CHIP	1.2K	0.50%	1/10W
R474	1-216-647-11	METAL CHIP	680	0.50%	1/10W	R1347	1-216-025-91	RES,CHIP	100	5%	1/10W
R475	1-216-647-11	METAL CHIP	680	0.50%	1/10W	R1348	1-216-049-91	RES,CHIP	1K	5%	1/10W
R476	1-216-647-11	METAL CHIP	680	0.50%	1/10W	R1349	1-218-776-11	METAL CHIP	1M	0.50%	1/10W
R477	1-216-645-11	METAL CHIP	560	0.50%	1/10W	R1350	1-216-675-91	METAL CHIP	10K	0.50%	1/10W
R478	1-216-065-91	RES,CHIP	4.7K	5%	1/10W	R1351	1-216-025-91	RES,CHIP	100	5%	1/10W
R479	1-216-065-91	RES,CHIP	4.7K	5%	1/10W	R1352	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R480	1-216-025-91	RES,CHIP	100	5%	1/10W	R1353	1-216-295-91	SHORT	0		
R481	1-216-057-00	RES,CHIP	2.2K	5%	1/10W	R1354	1-216-685-11	METAL CHIP	27K	0.50%	1/10W
R482	1-216-025-91	RES,CHIP	100	5%	1/10W	R1355	1-216-691-11	METAL CHIP	47K	0.50%	1/10W
R483	1-216-645-11	METAL CHIP	560	0.50%	1/10W	R1357	1-216-073-00	RES,CHIP	10K	5%	1/10W
R484	1-216-021-91	RES,CHIP	68	5%	1/10W	R1358	1-216-073-00	RES,CHIP	10K	5%	1/10W
R485	1-216-671-11	METAL CHIP	6.8K	0.50%	1/10W	R1400	1-216-025-91	RES,CHIP	100	5%	1/10W
R486	1-216-661-11	METAL CHIP	2.7K	0.50%	1/10W	R1402	1-216-073-00	RES,CHIP	10K	5%	1/10W
R487	1-216-671-11	METAL CHIP	6.8K	0.50%	1/10W	R1405	1-216-025-91	RES,CHIP	100	5%	1/10W
R488	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	R1406	1-216-025-91	RES,CHIP	100	5%	1/10W
R489	1-216-025-91	RES,CHIP	100	5%	1/10W	R1407	1-216-025-91	RES,CHIP	100	5%	1/10W
R490	1-216-049-91	RES,CHIP	1K	5%	1/10W	R1408	1-216-049-91	RES,CHIP	1K	5%	1/10W
R491	1-216-647-11	METAL CHIP	680	0.50%	1/10W	R1409	1-216-049-91	RES,CHIP	1K	5%	1/10W
R492	1-216-647-11	METAL CHIP	680	0.50%	1/10W	R1410	1-216-025-91	RES,CHIP	100	5%	1/10W
R493	1-216-647-11	METAL CHIP	680	0.50%	1/10W	R1411	1-216-085-00	RES,CHIP	33K	5%	1/10W
R494	1-216-645-11	METAL CHIP	560	0.50%	1/10W	R1412	1-216-089-91	RES,CHIP	47K	5%	1/10W
R495	1-216-065-91	RES,CHIP	4.7K	5%	1/10W	R1413	1-216-085-00	RES,CHIP	33K	5%	1/10W
R497	1-216-025-91	RES,CHIP	100	5%	1/10W	R1414	1-216-295-91	SHORT	0		
R498	1-216-057-00	RES,CHIP	2.2K	5%	1/10W	R1415	1-216-113-00	RES,CHIP	470K	5%	1/10W
R499	1-216-025-91	RES,CHIP	100	5%	1/10W	R1416	1-216-025-91	RES,CHIP	100	5%	1/10W
R1300	1-216-025-91	RES,CHIP	100	5%	1/10W	R1417	1-216-073-00	RES,CHIP	10K	5%	1/10W
R1301	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W	R1418	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1302	1-216-657-11	METAL CHIP	1.8K	0.50%	1/10W	R1419	1-216-073-00	RES,CHIP	10K	5%	1/10W
R1303	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	R1420	1-216-095-00	RES,CHIP	82K	5%	1/10W
R1305	1-216-025-91	RES,CHIP	100	5%	1/10W	R1421	1-216-041-00	RES,CHIP	470	5%	1/10W
R1306	1-216-653-11	METAL CHIP	1.2K	0.50%	1/10W	R1422	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1307	1-216-025-91	RES,CHIP	100	5%	1/10W	R1423	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1308	1-216-049-91	RES,CHIP	1K	5%	1/10W	R1424	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1309	1-218-776-11	METAL CHIP	1M	0.50%	1/10W	R1425	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R1310	1-216-675-91	METAL CHIP	10K	0.50%	1/10W	R1426	1-216-025-91	RES,CHIP	100	5%	1/10W
R1311	1-216-073-00	RES,CHIP	10K	5%	1/10W	R1427	1-216-073-00	RES,CHIP	10K	5%	1/10W

Ref.No.	Part No.	Description			Remark	Ref.No.	Part No.	Description			Remark
R1428	1-216-049-91	RES,CHIP	1K	5%	1/10W	R2350	1-216-689-11	RES,CHIP	39K	5%	1/10W
R1429	1-216-073-00	RES,CHIP	10K	5%	1/10W	R2351	1-219-743-11	CARBON	100	5%	1/2W
R1430	1-216-095-00	RES,CHIP	82K	5%	1/10W	R2352	1-216-085-00	RES,CHIP	33K	5%	1/10W
R1431	1-216-041-00	RES,CHIP	470	5%	1/10W	R2353	1-216-085-00	RES,CHIP	33K	5%	1/10W
R1432	1-216-049-91	RES,CHIP	1K	5%	1/10W	R2354	1-216-653-11	METAL CHIP	1.2K	0.50%	1/10W
R1433	1-216-049-91	RES,CHIP	1K	5%	1/10W	R2355	1-216-675-91	METAL CHIP	10K	0.50%	1/10W
R1434	1-216-049-91	RES,CHIP	1K	5%	1/10W	R2356	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W
R1435	1-216-065-91	RES,CHIP	4.7K	5%	1/10W	R2357	1-216-653-11	METAL CHIP	1.2K	0.50%	1/10W
R1436	1-216-025-91	RES,CHIP	100	5%	1/10W	R2358	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1437	1-216-073-00	RES,CHIP	10K	5%	1/10W	R2359	1-214-899-81	METAL	27K	1%	1/2W
R1438	1-216-049-91	RES,CHIP	1K	5%	1/10W	R2360	1-216-689-11	RES,CHIP	39K	5%	1/10W
R1439	1-216-073-00	RES,CHIP	10K	5%	1/10W	R2361	1-219-743-11	CARBON	100	5%	1/2W
R1440	1-216-095-00	RES,CHIP	82K	5%	1/10W	R2362	1-216-085-00	RES,CHIP	33K	5%	1/10W
R1441	1-216-041-00	RES,CHIP	470	5%	1/10W	R2363	1-216-085-00	RES,CHIP	33K	5%	1/10W
R1442	1-216-049-91	RES,CHIP	1K	5%	1/10W	R2364	1-216-653-11	METAL CHIP	1.2K	0.50%	1/10W
R1443	1-216-049-91	RES,CHIP	1K	5%	1/10W	R2365	1-216-675-91	METAL CHIP	10K	0.50%	1/10W
R1444	1-216-049-91	RES,CHIP	1K	5%	1/10W	R2366	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W
R1445	1-216-065-91	RES,CHIP	4.7K	5%	1/10W	R2367	1-216-653-11	METAL CHIP	1.2K	0.50%	1/10W
R1446	1-216-097-91	RES,CHIP	100K	5%	1/10W	R2368	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1447	1-216-097-91	RES,CHIP	100K	5%	1/10W	R2369	1-214-899-81	METAL	27K	1%	1/2W
R1450	1-216-675-91	METAL CHIP	10K	0.50%	1/10W	R2370	1-216-689-11	RES,CHIP	39K	5%	1/10W
R1451	1-216-089-91	RES,CHIP	47K	5%	1/10W	R2371	1-219-743-11	CARBON	100	5%	1/2W
R1452	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	R2372	1-216-085-00	RES,CHIP	33K	5%	1/10W
R1453	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	R2373	1-216-085-00	RES,CHIP	33K	5%	1/10W
R1454	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	R2374	1-216-653-11	METAL CHIP	1.2K	0.50%	1/10W
R1455	1-216-085-00	RES,CHIP	33K	5%	1/10W	R2375	1-216-073-00	RES,CHIP	10K	5%	1/10W
R1456	1-216-085-00	RES,CHIP	33K	5%	1/10W	R2376	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R1457	1-216-085-00	RES,CHIP	33K	5%	1/10W	R2380	1-216-025-91	RES,CHIP	100	5%	1/10W
R1460	1-216-113-00	RES,CHIP	470K	5%	1/10W	R2381	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R1461	1-216-085-00	RES,CHIP	33K	5%	1/10W	R2382	1-216-025-91	RES,CHIP	100	5%	1/10W
R1464	1-216-689-11	METAL CHIP	39K	0.50%	1/10W	R2383	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R1466	1-216-113-00	RES,CHIP	470K	5%	1/10W	R2384	1-216-025-91	RES,CHIP	100	5%	1/10W
R1467	1-216-083-00	RES,CHIP	27K	5%	1/10W	R2385	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R1469	1-216-653-11	METAL CHIP	1.2K	0.50%	1/10W	R2386	1-216-025-91	RES,CHIP	100	5%	1/10W
R1470	1-216-675-91	METAL CHIP	10K	0.50%	1/10W	R2387	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R1471	1-216-690-11	METAL CHIP	43K	0.50%	1/10W	R2388	1-216-073-00	RES,CHIP	10K	5%	1/10W
R1474	1-249-419-11	RES	1.5K	5%	1/4W	R2389	1-216-073-00	RES,CHIP	10K	5%	1/10W
R1475	1-249-419-11	RES	1.5K	5%	1/4W	R2390	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R1476	1-249-419-11	RES	1.5K	5%	1/4W	R2391	1-216-073-00	RES,CHIP	10K	5%	1/10W
R1480	1-216-091-00	RES,CHIP	56K	5%	1/10W	R2392	1-216-073-00	RES,CHIP	10K	5%	1/10W
R1482	1-216-073-00	RES,CHIP	10K	5%	1/10W	R2393	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R1483	1-216-089-91	RES,CHIP	47K	5%	1/10W	R3299	1-216-025-91	RES,CHIP	100	5%	1/10W
R1484	1-216-085-00	RES,CHIP	33K	5%	1/10W	R3300	1-216-025-91	RES,CHIP	100	5%	1/10W
R1485	1-216-073-00	RES,CHIP	10K	5%	1/10W	R3301	1-216-053-00	RES,CHIP	1.5K	5%	1/10W
R2294	1-216-073-00	RES,CHIP	10K	5%	1/10W	R3302	1-216-079-00	RES,CHIP	18K	5%	1/10W
R2295	1-216-065-91	RES,CHIP	4.7K	5%	1/10W	R3303	1-216-091-00	RES,CHIP	56K	5%	1/10W
R2296	1-216-073-00	RES,CHIP	10K	5%	1/10W	R3304	1-216-013-00	RES,CHIP	33	5%	1/10W
R2297	1-216-065-91	RES,CHIP	4.7K	5%	1/10W	R3305	1-216-013-00	RES,CHIP	33	5%	1/10W
R2300	1-216-025-91	RES,CHIP	100	5%	1/10W	R3306	1-216-013-00	RES,CHIP	33	5%	1/10W
R2310	1-216-065-91	RES,CHIP	4.7K	5%	1/10W	R3307	1-216-049-91	RES,CHIP	1K	5%	1/10W
R2312	1-216-295-91	SHORT	0			R3308	1-216-049-91	RES,CHIP	1K	5%	1/10W
R2313	1-216-017-91	RES,CHIP	47	5%	1/10W	R3309	1-216-049-91	RES,CHIP	1K	5%	1/10W
R2315	1-216-025-91	RES,CHIP	100	5%	1/10W	R3310	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R2325	1-216-065-91	RES,CHIP	4.7K	5%	1/10W	R3311	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R2327	1-216-295-91	SHORT	0			R3312	1-216-049-91	RES,CHIP	1K	5%	1/10W
R2328	1-216-017-91	RES,CHIP	47	5%	1/10W	R3313	1-216-063-91	RES,CHIP	3.9K	5%	1/10W
R2330	1-216-025-91	RES,CHIP	100	5%	1/10W	R3314	1-216-053-00	RES,CHIP	1.5K	5%	1/10W
R2340	1-216-065-91	RES,CHIP	4.7K	5%	1/10W	R3315	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R2342	1-216-295-91	SHORT	0			R3316	1-216-687-11	METAL CHIP	33K	0.50%	1/10W
R2343	1-216-017-91	RES,CHIP	47	5%	1/10W	R3317	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W
R2345	1-216-675-91	METAL CHIP	10K	0.50%	1/10W	R3318	1-216-651-11	METAL CHIP	1K	0.50%	1/10W
R2346	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W	R3319	1-216-083-00	RES,CHIP	27K	5%	1/10W
R2347	1-216-653-11	METAL CHIP	1.2K	0.50%	1/10W	R3320	1-216-037-00	RES,CHIP	330	5%	1/10W
R2348	1-216-049-91	RES,CHIP	1K	5%	1/10W	R3321	1-216-679-11	METAL CHIP	15K	0.50%	1/10W
R2349	1-214-899-81	METAL	27K	1%	1/2W	R3322	1-216-097-91	RES,CHIP	100K	5%	1/10W

BVM-D9H1U/D9H5U/D9H1E/D9H5E/D9H1A/D9H5A

Ref.No.	Part No.	Description			Remark
R3323	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W
R3324	1-216-655-11	METAL CHIP	1.5K	0.50%	1/10W
R3325	1-216-041-00	RES,CHIP	470	5%	1/10W
R3326	1-216-029-00	RES,CHIP	150	5%	1/10W
R3327	1-216-111-00	RES,CHIP	390K	5%	1/10W
R3328	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W
R3329	1-216-681-11	METAL CHIP	18K	0.50%	1/10W
R3330	1-216-676-11	METAL CHIP	11K	0.50%	1/10W
R3331	1-216-059-00	RES,CHIP	2.7K	5%	1/10W
R3332	1-216-075-00	RES,CHIP	12K	5%	1/10W
R3333	1-216-669-11	METAL CHIP	5.6K	0.50%	1/10W
R3334	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W
R3335	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W
R3336	1-216-640-11	METAL CHIP	360	0.50%	1/10W
R3337	1-216-069-00	RES,CHIP	6.8K	5%	1/10W
R3338	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R3339	1-216-037-00	RES,CHIP	330	5%	1/10W
R3340	1-216-693-11	METAL CHIP	56K	0.50%	1/10W
R3341	1-218-768-11	METAL CHIP	470K	0.50%	1/10W
R3342	1-216-097-91	RES,CHIP	100K	5%	1/10W
R3343	1-216-696-11	METAL CHIP	75K	0.50%	1/10W
R3344	1-216-661-11	METAL CHIP	2.7K	0.50%	1/10W
R3345	1-216-073-00	RES,CHIP	10K	5%	1/10W
R3346	1-216-099-00	RES,CHIP	120K	5%	1/10W
R3347	1-216-687-11	METAL CHIP	33K	0.50%	1/10W
R3351	1-216-295-91	SHORT	0		
R3353	1-216-033-00	RES,CHIP	220	5%	1/10W
R3355	1-216-295-91	SHORT	0		
R3357	1-216-033-00	RES,CHIP	220	5%	1/10W
R3359	1-216-295-91	SHORT	0		
R3361	1-216-033-00	RES,CHIP	220	5%	1/10W
R3362	1-216-017-91	RES,CHIP	47	5%	1/10W
R3363	1-216-097-91	RES,CHIP	100K	5%	1/10W
R3364	1-216-041-00	RES,CHIP	470	5%	1/10W
R3365	1-216-041-00	RES,CHIP	470	5%	1/10W
R3366	1-216-041-00	RES,CHIP	470	5%	1/10W
R3381	1-216-683-11	METAL CHIP	22K	0.50%	1/10W
R3382	1-216-031-00	RES,CHIP	180	5%	1/10W
R3385	1-216-049-91	RES,CHIP	1K	5%	1/10W
R3400	1-216-097-91	RES,CHIP	100K	5%	1/10W
R3401	1-216-097-91	RES,CHIP	100K	5%	1/10W
R3402	1-216-097-91	RES,CHIP	100K	5%	1/10W
R3403	1-216-097-91	RES,CHIP	100K	5%	1/10W
R3410	1-216-049-91	RES,CHIP	1K	5%	1/10W
R3411	1-216-025-91	RES,CHIP	100	5%	1/10W
R3412	1-216-025-91	RES,CHIP	100	5%	1/10W
R3413	1-216-025-91	RES,CHIP	100	5%	1/10W
R3414	1-216-049-91	RES,CHIP	1K	5%	1/10W
R3416	1-216-049-91	RES,CHIP	1K	5%	1/10W
R3417	1-216-049-91	RES,CHIP	1K	5%	1/10W
R3418	1-216-069-00	RES,CHIP	6.8K	5%	1/10W
R3419	1-216-049-91	RES,CHIP	1K	5%	1/10W
R3421	1-216-025-91	RES,CHIP	100	5%	1/10W
R3422	1-216-025-91	RES,CHIP	100	5%	1/10W
R3423	1-216-025-91	RES,CHIP	100	5%	1/10W
R3424	1-216-073-00	RES,CHIP	10K	5%	1/10W
R3425	1-216-073-00	RES,CHIP	10K	5%	1/10W
R3426	1-216-025-91	RES,CHIP	100	5%	1/10W
R3427	1-216-025-91	RES,CHIP	100	5%	1/10W
R3428	1-216-025-91	RES,CHIP	100	5%	1/10W
R3429	1-216-025-91	RES,CHIP	100	5%	1/10W
R3430	1-216-049-91	RES,CHIP	1K	5%	1/10W
R3431	1-216-295-91	SHORT	0		
R3433	1-216-025-91	RES,CHIP	100	5%	1/10W
R3434	1-216-025-91	RES,CHIP	100	5%	1/10W
R4300	1-216-073-00	RES,CHIP	10K	5%	1/10W
R4301	1-216-073-00	RES,CHIP	10K	5%	1/10W
R4302	1-216-073-00	RES,CHIP	10K	5%	1/10W
R4303	1-216-073-00	RES,CHIP	10K	5%	1/10W
R4304	1-216-033-00	RES,CHIP	220	5%	1/10W
R4305	1-216-033-00	RES,CHIP	220	5%	1/10W
R4306	1-216-073-00	RES,CHIP	10K	5%	1/10W
R4307	1-216-073-00	RES,CHIP	10K	5%	1/10W
R4308	1-216-073-00	RES,CHIP	10K	5%	1/10W
R4309	1-216-073-00	RES,CHIP	10K	5%	1/10W
R4310	1-216-033-00	RES,CHIP	220	5%	1/10W
R4311	1-216-033-00	RES,CHIP	220	5%	1/10W
R4312	1-216-073-00	RES,CHIP	10K	5%	1/10W
R4313	1-216-073-00	RES,CHIP	10K	5%	1/10W
R4314	1-216-073-00	RES,CHIP	10K	5%	1/10W
R4315	1-216-073-00	RES,CHIP	10K	5%	1/10W
R4316	1-216-033-00	RES,CHIP	220	5%	1/10W
R4317	1-216-033-00	RES,CHIP	220	5%	1/10W
R4320	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R4417	1-216-073-00	RES,CHIP	10K	5%	1/10W
R4420	1-216-033-00	RES,CHIP	220	5%	1/10W
R4423	1-216-073-00	RES,CHIP	10K	5%	1/10W
R4426	1-216-033-00	RES,CHIP	220	5%	1/10W
R4434	1-216-049-91	RES,CHIP	1K	5%	1/10W
R4435	1-216-073-00	RES,CHIP	10K	5%	1/10W
R4436	1-216-677-11	METAL CHIP	12K	0.50%	1/10W
R4437	1-216-668-11	METAL CHIP	5.1K	0.50%	1/10W
R4438	1-216-073-00	RES,CHIP	10K	5%	1/10W
R4439	1-216-073-00	RES,CHIP	10K	5%	1/10W
R4440	1-216-073-00	RES,CHIP	10K	5%	1/10W
R4441	1-216-073-00	RES,CHIP	10K	5%	1/10W
R4442	1-216-073-00	RES,CHIP	10K	5%	1/10W
R4443	1-216-033-00	RES,CHIP	220	5%	1/10W
R4444	1-216-033-00	RES,CHIP	220	5%	1/10W
R4445	1-216-071-00	RES,CHIP	8.2K	5%	1/10W
R4446	1-216-131-11	RES,CHIP	2.7M	5%	1/10W
R4447	1-216-071-00	RES,CHIP	8.2K	5%	1/10W
R4448	1-216-071-00	RES,CHIP	8.2K	5%	1/10W
R4449	1-216-131-11	RES,CHIP	2.7M	5%	1/10W
R4450	1-216-131-11	RES,CHIP	2.7M	5%	1/10W
R4451	1-216-071-00	RES,CHIP	8.2K	5%	1/10W
R4452	1-216-131-11	RES,CHIP	2.7M	5%	1/10W
R4453	1-216-073-00	RES,CHIP	10K	5%	1/10W
R4454	1-216-033-00	RES,CHIP	220	5%	1/10W
R4455	1-216-033-00	RES,CHIP	220	5%	1/10W
R4456	1-216-073-00	RES,CHIP	10K	5%	1/10W
R4457	1-216-071-00	RES,CHIP	8.2K	5%	1/10W
R4458	1-216-073-00	RES,CHIP	10K	5%	1/10W
R4459	1-216-131-11	RES,CHIP	2.7M	5%	1/10W
R4460	1-216-069-00	RES,CHIP	6.8K	5%	1/10W
R4461	1-216-071-00	RES,CHIP	8.2K	5%	1/10W
R4462	1-216-131-11	RES,CHIP	2.7M	5%	1/10W
R4471	1-216-025-91	RES,CHIP	100	5%	1/10W
R4472	1-216-025-91	RES,CHIP	100	5%	1/10W

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* A-1131-463-A   B1 MOUNT
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<CAPACITOR>

Ref.No.	Part No.	Description			Remark
C401	1-126-396-11	ELECT CHIP	47µF	20%	16V
C402	1-126-396-11	ELECT CHIP	47µF	20%	16V
C403	1-163-031-11	CERAMIC CHIP	0.01µF		50V

Ref.No.	Part No.	Description			Remark
C404	1-163-031-11	CERAMIC CHIP 0.01μF			50V
C407	1-163-038-91	CERAMIC CHIP 0.1μF			25V
C410	1-163-038-91	CERAMIC CHIP 0.1μF			25V
C411	1-165-319-11	CERAMIC CHIP 0.1μF			50V
C412	1-163-031-11	CERAMIC CHIP 0.01μF			50V
C502	1-163-031-11	CERAMIC CHIP 0.01μF			50V
C503	1-163-031-11	CERAMIC CHIP 0.01μF			50V
		\<CONNECTOR\>			
CN401	* 1-568-015-11	SOCKET, CONNECTOR 8P			
CN402	* 1-568-015-11	SOCKET, CONNECTOR 8P			
		\<DELAY LINE\>			
DL400	1-411-450-11	DELAY LINE			
DL401	1-411-450-11	DELAY LINE			
DL402	1-234-455-21	DELAY LINE			
DL403	1-234-455-21	DELAY LINE			
DL404	1-411-451-11	DELAY LINE			
DL405	1-234-456-21	DELAY LINE			
DL501	1-402-770-11	DELAY LINE			
DL502	1-416-476-21	DELAY LINE			
DL503	1-402-770-11	DELAY LINE			
DL504	1-416-476-21	DELAY LINE			
		\<IC\>			
IC410	8-759-011-65	IC MC74HC4053F			
IC450	8-752-053-21	IC CXA1211M			
IC501	8-759-011-65	IC MC74HC4053F			
		\<TRANSISTOR\>			
Q400	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q401	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q402	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q403	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q404	8-729-026-50	TRANSISTOR 2SA1037AK-T146-QR			
Q405	8-729-112-65	TRANSISTOR 2SA1462-T1Y33			
Q406	8-729-112-65	TRANSISTOR 2SA1462-T1Y33			
Q407	8-729-112-65	TRANSISTOR 2SA1462-T1Y33			
Q408	8-729-107-31	TRANSISTOR 2SC3545-T43			
Q409	8-729-107-31	TRANSISTOR 2SC3545-T43			
Q410	1-801-806-11	TRANSISTOR DTC144EKA-T146			
Q411	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q412	8-729-107-31	TRANSISTOR 2SC3545-T43			
Q413	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q414	8-729-107-31	TRANSISTOR 2SC3545-T43			
Q501	8-729-026-50	TRANSISTOR 2SA1037AK-T146-QR			
Q502	8-729-107-31	TRANSISTOR 2SC3545-T43			
Q503	8-729-112-65	TRANSISTOR 2SA1462-T1Y33			
Q504	8-729-026-50	TRANSISTOR 2SA1037AK-T146-QR			
Q505	8-729-107-31	TRANSISTOR 2SC3545-T43			
Q506	8-729-112-65	TRANSISTOR 2SA1462-T1Y33			
Q511	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q512	8-729-107-31	TRANSISTOR 2SC3545-T43			
Q513	8-729-112-65	TRANSISTOR 2SA1462-T1Y33			
Q514	8-729-107-31	TRANSISTOR 2SC3545-T43			
Q515	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q516	8-729-107-31	TRANSISTOR 2SC3545-T43			
Q517	8-729-112-65	TRANSISTOR 2SA1462-T1Y33			
Q518	8-729-107-31	TRANSISTOR 2SC3545-T43			

Ref.No.	Part No.	Description				Remark
		\<RESISTOR\>				
R400	1-216-025-91	RES,CHIP	100		5%	1/10W
R401	1-216-057-00	RES,CHIP	2.2K		5%	1/10W
R402	1-216-651-11	METAL CHIP	1K	0.50%		1/10W
R403	1-216-025-91	RES,CHIP	100		5%	1/10W
R404	1-216-057-00	RES,CHIP	2.2K		5%	1/10W
R405	1-216-651-11	METAL CHIP	1K	0.50%		1/10W
R406	1-216-025-91	RES,CHIP	100		5%	1/10W
R407	1-216-057-00	RES,CHIP	2.2K		5%	1/10W
R408	1-216-057-00	RES,CHIP	2.2K		5%	1/10W
R409	1-216-089-91	RES,CHIP	47K		5%	1/10W
R410	1-216-025-91	RES,CHIP	100		5%	1/10W
R411	1-216-057-00	RES,CHIP	2.2K		5%	1/10W
R412	1-216-643-11	METAL CHIP	470	0.50%		1/10W
R413	1-216-025-91	RES,CHIP	100		5%	1/10W
R414	1-216-057-00	RES,CHIP	2.2K		5%	1/10W
R415	1-216-643-11	METAL CHIP	470	0.50%		1/10W
R416	1-216-025-91	RES,CHIP	100		5%	1/10W
R417	1-216-057-00	RES,CHIP	2.2K		5%	1/10W
R418	1-216-057-00	RES,CHIP	2.2K		5%	1/10W
R419	1-216-085-00	RES,CHIP	33K		5%	1/10W
R420	1-216-025-91	RES,CHIP	100		5%	1/10W
R421	1-216-651-11	METAL CHIP	1K	0.50%		1/10W
R422	1-216-025-91	RES,CHIP	100		5%	1/10W
R423	1-216-025-91	RES,CHIP	100		5%	1/10W
R424	1-216-643-11	METAL CHIP	470	0.50%		1/10W
R425	1-216-643-11	METAL CHIP	470	0.50%		1/10W
R426	1-216-025-91	RES,CHIP	100		5%	1/10W
R427	1-216-651-11	METAL CHIP	1K	0.50%		1/10W
R428	1-216-057-00	RES,CHIP	2.2K		5%	1/10W
R429	1-216-057-00	RES,CHIP	2.2K		5%	1/10W
R430	1-216-025-91	RES,CHIP	100		5%	1/10W
R431	1-216-025-91	RES,CHIP	100		5%	1/10W
R432	1-216-061-00	RES,CHIP	3.3K		5%	1/10W
R433	1-216-075-00	RES,CHIP	12K		5%	1/10W
R434	1-216-065-91	RES,CHIP	4.7K		5%	1/10W
R435	1-216-051-00	RES,CHIP	1.2K		5%	1/10W
R436	1-216-065-91	RES,CHIP	4.7K		5%	1/10W
R437	1-216-057-00	RES,CHIP	2.2K		5%	1/10W
R438	1-216-073-00	RES,CHIP	10K		5%	1/10W
R439	1-216-057-00	RES,CHIP	2.2K		5%	1/10W
R440	1-216-049-91	RES,CHIP	1K		5%	1/10W
R441	1-216-295-91	SHORT	0			
R442	1-216-025-91	RES,CHIP	100		5%	1/10W
R443	1-216-025-91	RES,CHIP	100		5%	1/10W
R444	1-216-025-91	RES,CHIP	100		5%	1/10W
R501	1-216-025-91	RES,CHIP	100		5%	1/10W
R502	1-216-057-00	RES,CHIP	2.2K		5%	1/10W
R503	1-216-651-11	METAL CHIP	1K	0.50%		1/10W
R504	1-216-651-11	METAL CHIP	1K	0.50%		1/10W
R505	1-216-025-91	RES,CHIP	100		5%	1/10W
R506	1-216-025-91	RES,CHIP	100		5%	1/10W
R507	1-216-057-00	RES,CHIP	2.2K		5%	1/10W
R508	1-216-025-91	RES,CHIP	100		5%	1/10W
R509	1-216-037-00	RES,CHIP	330		5%	1/10W
R510	1-216-631-11	METAL CHIP	150	0.50%		1/10W
R511	1-216-631-11	METAL CHIP	150	0.50%		1/10W
R512	1-216-025-91	RES,CHIP	100		5%	1/10W
R513	1-216-025-91	RES,CHIP	100		5%	1/10W
R514	1-216-057-00	RES,CHIP	2.2K		5%	1/10W
R515	1-216-651-11	METAL CHIP	1K	0.50%		1/10W
R516	1-216-651-11	METAL CHIP	1K	0.50%		1/10W
R517	1-216-025-91	RES,CHIP	100		5%	1/10W
R518	1-216-025-91	RES,CHIP	100		5%	1/10W
R519	1-216-057-00	RES,CHIP	2.2K		5%	1/10W
R520	1-216-025-91	RES,CHIP	100		5%	1/10W

Ref.No.	Part No.	Description			Remark
R521	1-216-037-00	RES,CHIP	330	5%	1/10W
R522	1-216-631-11	METAL CHIP	150	0.50%	1/10W
R523	1-216-631-11	METAL CHIP	150	0.50%	1/10W
R524	1-216-025-91	RES,CHIP	100	5%	1/10W
R531	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R532	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R533	1-216-061-00	RES,CHIP	3.3K	5%	1/10W
R534	1-216-069-00	RES,CHIP	6.8K	5%	1/10W
R535	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R536	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R537	1-216-025-91	RES,CHIP	100	5%	1/10W
R538	1-216-051-00	RES,CHIP	1.2K	5%	1/10W
R541	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R542	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R543	1-216-061-00	RES,CHIP	3.3K	5%	1/10W
R544	1-216-069-00	RES,CHIP	6.8K	5%	1/10W
R545	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R546	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R547	1-216-025-91	RES,CHIP	100	5%	1/10W
R548	1-216-051-00	RES,CHIP	1.2K	5%	1/10W

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	* A-1131-464-A	B2 MOUNT

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<CAPACITOR>

C3901	1-163-031-11	CERAMIC CHIP	0.01μF		50V
C3902	1-164-161-11	CERAMIC CHIP	0.0022μF	10%	50V
C3903	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C3904	1-163-017-00	CERAMIC CHIP	0.0047μF	10%	50V
C3905	1-164-161-11	CERAMIC CHIP	0.0022μF	10%	100V
C3906	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C3907	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C3908	1-164-346-11	CERAMIC CHIP	1μF		16V
C3909	1-163-259-91	CERAMIC CHIP	220PF	5%	50V
C3910	1-163-031-11	CERAMIC CHIP	0.01μF		50V
C3912	1-163-127-00	CERAMIC CHIP	270PF	5%	50V
C3913	1-163-031-11	CERAMIC CHIP	0.01μF		50V
C3914	1-163-031-11	CERAMIC CHIP	0.01μF		50V
C3915	1-163-259-91	CERAMIC CHIP	220PF	5%	50V
C3916	1-163-031-11	CERAMIC CHIP	0.01μF		50V
C3917	1-163-031-11	CERAMIC CHIP	0.01μF		50V
C3918	1-163-031-11	CERAMIC CHIP	0.01μF		50V
C3919	1-163-031-11	CERAMIC CHIP	0.01μF		50V
C3920	1-163-031-11	CERAMIC CHIP	0.01μF		50V
C3921	1-164-489-11	CERAMIC CHIP	0.22μF	10%	16V
C3922	1-164-489-11	CERAMIC CHIP	0.22μF	10%	16V
C3923	1-163-031-11	CERAMIC CHIP	0.01μF		50V
C3924	1-163-031-11	CERAMIC CHIP	0.01μF		50V

<CONNECTOR>

CN3901	* 1-573-896-11	SOCKET, CONNECTOR 12P
CN3902	* 1-573-896-11	SOCKET, CONNECTOR 12P

<DIODE>

D3901	8-719-016-74	DIODE 1SS352
D3902	8-719-016-74	DIODE 1SS352
D3903	8-719-016-74	DIODE 1SS352
D3904	8-719-016-74	DIODE 1SS352

Ref.No.	Part No.	Description			Remark
		<IC>			
IC3901	8-759-239-34	IC TC74HC4538AF			
IC3902	8-759-523-02	IC TC74HC4053AFT(EL)			
IC3904	8-759-239-34	IC TC74HC4538AF			
IC3905	8-759-100-96	IC UPC4558G2			
IC3906	8-759-234-20	IC TC7S08F			
IC3907	8-759-035-90	IC SC7S02F			
IC3908	8-759-082-61	IC TC4W53FU			

<TRANSISTOR>

Q3901	8-729-027-38	TRANSISTOR DTA144EKA-T146
Q3902	8-729-027-38	TRANSISTOR DTA144EKA-T146
Q3903	8-729-026-50	TRANSISTOR 2SA1037AK-T146-QR
Q3905	8-729-026-50	TRANSISTOR 2SA1037AK-T146-QR
Q3906	8-729-027-38	TRANSISTOR DTA144EKA-T146
Q3907	8-729-120-28	TRANSISTOR 2SC1623-L5L6
Q3908	8-729-026-50	TRANSISTOR 2SA1037AK-T146-QR
Q3909	8-729-026-50	TRANSISTOR 2SA1037AK-T146-QR
Q3910	8-729-026-50	TRANSISTOR 2SA1037AK-T146-QR
Q3911	1-801-806-11	TRANSISTOR DTC144EKA-T146
Q3912	8-729-202-38	TRANSISTOR 2SC3326N-A
Q3913	8-729-202-38	TRANSISTOR 2SC3326N-A
Q3914	8-729-120-28	TRANSISTOR 2SC1623-L5L6
Q3915	8-729-026-50	TRANSISTOR 2SA1037AK-T146-QR
Q3916	8-729-120-28	TRANSISTOR 2SC1623-L5L6

<RESISTOR>

R3901	1-216-025-91	RES,CHIP	100	5%	1/10W
R3902	1-216-025-91	RES,CHIP	100	5%	1/10W
R3903	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W
R3904	1-216-025-91	RES,CHIP	100	5%	1/10W
R3905	1-218-754-11	METAL CHIP	120K	0.50%	1/10W
R3906	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W
R3907	1-218-753-11	METAL CHIP	110K	0.50%	1/10W
R3908	1-216-059-00	RES,CHIP	2.7K	5%	1/10W
R3909	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W
R3910	1-216-753-11	METAL CHIP	110K	0.50%	1/10W
R3912	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R3913	1-216-655-11	METAL CHIP	1.5K	0.50%	1/10W
R3914	1-216-025-91	RES,CHIP	100	5%	1/10W
R3915	1-216-674-11	METAL CHIP	9.1K	0.50%	1/10W
R3916	1-216-025-91	RES,CHIP	100	5%	1/10W
R3917	1-216-097-91	RES,CHIP	100K	5%	1/10W
R3918	1-216-049-91	RES,CHIP	1K	5%	1/10W
R3919	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R3920	1-216-049-91	RES,CHIP	1K	5%	1/10W
R3922	1-216-689-11	METAL CHIP	39K	0.50%	1/10W
R3923	1-216-025-91	RES,CHIP	100	5%	1/10W
R3924	1-216-681-11	METAL CHIP	18K	0.50%	1/10W
R3925	1-216-697-91	METAL CHIP	82K	0.50%	1/10W
R3926	1-216-049-91	RES,CHIP	1K	5%	1/10W
R3927	1-216-699-91	METAL CHIP	100K	0.50%	1/10W
R3928	1-216-025-91	RES,CHIP	100	5%	1/10W
R3929	1-216-681-11	METAL CHIP	18K	0.50%	1/10W
R3930	1-216-675-91	METAL CHIP	10K	0.50%	1/10W
R3931	1-216-049-91	RES,CHIP	1K	5%	1/10W
R3932	1-216-653-11	METAL CHIP	1.2K	0.50%	1/10W
R3933	1-216-651-11	METAL CHIP	1K	0.50%	1/10W
R3934	1-216-025-91	RES,CHIP	100	5%	1/10W
R3935	1-216-049-91	RES,CHIP	1K	5%	1/10W
R3936	1-216-097-91	RES,CHIP	100K	5%	1/10W
R3937	1-216-025-91	RES,CHIP	100	5%	1/10W

Ref.No.	Part No.	Description			Remark
R3938	1-216-073-00	RES,CHIP	10K	5%	1/10W
R3939	1-216-097-91	RES,CHIP	100K	5%	1/10W
R3940	1-216-073-00	RES,CHIP	10K	5%	1/10W
R3941	1-216-049-91	RES,CHIP	1K	5%	1/10W
R3942	1-216-081-00	RES,CHIP	22K	5%	1/10W
R3943	1-216-055-00	RES,CHIP	1.8K	5%	1/10W
R3944	1-216-049-91	RES,CHIP	1K	5%	1/10W
R3945	1-216-079-00	RES,CHIP	18K	5%	1/10W
R3946	1-216-059-00	RES,CHIP	2.7K	5%	1/10W
R3947	1-216-089-91	RES,CHIP	47K	5%	1/10W
R3948	1-216-295-91	SHORT	0		

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* A-1136-013-A BX COMPL
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<CAPACITOR>

Ref.No.	Part No.	Description			Remark
C010	1-128-526-11	ELECT	100μF	20%	16V
C011	1-163-038-91	CERAMIC CHIP 0.1μF			25V
C012	1-128-526-11	ELECT	100μF	20%	16V
C013	1-163-038-91	CERAMIC CHIP 0.1μF			25V
C014	1-128-526-11	ELECT	100μF	20%	16V
C015	1-163-038-91	CERAMIC CHIP 0.1μF			25V
C016	1-163-038-91	CERAMIC CHIP 0.1μF			25V
C017	1-163-038-91	CERAMIC CHIP 0.1μF			25V
C018	1-163-038-91	CERAMIC CHIP 0.1μF			25V
C019	1-163-038-91	CERAMIC CHIP 0.1μF			25V
C020	1-163-038-91	CERAMIC CHIP 0.1μF			25V
C021	1-163-038-91	CERAMIC CHIP 0.1μF			25V
C022	1-163-038-91	CERAMIC CHIP 0.1μF			25V
C050	1-128-526-11	ELECT	100μF	20%	16V
C051	1-163-038-91	CERAMIC CHIP 0.1μF			25V
C052	1-128-526-11	ELECT	100μF	20%	16V
C053	1-163-038-91	CERAMIC CHIP 0.1μF			25V
C054	1-128-526-11	ELECT	100μF	20%	16V
C055	1-163-038-91	CERAMIC CHIP 0.1μF			25V
C056	1-163-038-91	CERAMIC CHIP 0.1μF			25V
C057	1-163-038-91	CERAMIC CHIP 0.1μF			25V
C058	1-163-038-91	CERAMIC CHIP 0.1μF			25V
C059	1-163-038-91	CERAMIC CHIP 0.1μF			25V
C060	1-163-038-91	CERAMIC CHIP 0.1μF			25V
C061	1-163-038-91	CERAMIC CHIP 0.1μF			25V
C062	1-163-038-91	CERAMIC CHIP 0.1μF			25V
C101	1-163-227-11	CERAMIC CHIP 10PF	0.5PF		50V
C102	1-163-235-11	CERAMIC CHIP 22PF	5%		50V
C103	1-107-701-11	ELECT	47μF	20%	16V
C104	1-107-725-11	CERAMIC CHIP 0.1μF	10%		16V
C106	1-163-021-91	CERAMIC CHIP 0.01μF	10%		50V
C201	1-163-227-11	CERAMIC CHIP 10PF	0.5PF		50V
C202	1-163-235-11	CERAMIC CHIP 22PF	5%		50V
C203	1-107-701-11	ELECT	47μF	20%	16V
C204	1-107-725-11	CERAMIC CHIP 0.1μF	10%		16V
C206	1-163-021-91	CERAMIC CHIP 0.01μF	10%		50V
C301	1-163-227-11	CERAMIC CHIP 10PF	0.5PF		50V
C302	1-163-235-11	CERAMIC CHIP 22PF	5%		50V
C303	1-107-701-11	ELECT	47μF	20%	16V
C304	1-107-725-11	CERAMIC CHIP 0.1μF	10%		16V
C306	1-163-021-91	CERAMIC CHIP 0.01μF	10%		50V
C401	1-163-091-00	CERAMIC CHIP 8PF	0.25PF		50V
C402	1-163-235-11	CERAMIC CHIP 22PF	5%		50V
C403	1-107-701-11	ELECT	47μF	20%	16V
C404	1-107-725-11	CERAMIC CHIP 0.1μF	10%		16V

Ref.No.	Part No.	Description			Remark
C501	1-128-526-11	ELECT	100μF	20%	16V
C502	1-163-038-91	CERAMIC CHIP 0.1μF			25V
C503	1-163-038-91	CERAMIC CHIP 0.1μF			25V

<CONNECTOR>

Ref.No.	Part No.	Description
CN001	* 1-774-523-11	PIN, CONNECTOR (PC BOARD) 64P

<DIODE>

Ref.No.	Part No.	Description
D101	8-719-073-01	DIODE MA111-(K8).S0
D102	8-719-073-01	DIODE MA111-(K8).S0
D201	8-719-073-01	DIODE MA111-(K8).S0
D202	8-719-073-01	DIODE MA111-(K8).S0
D301	8-719-073-01	DIODE MA111-(K8).S0
D302	8-719-073-01	DIODE MA111-(K8).S0
D401	8-719-073-01	DIODE MA111-(K8).S0
D402	8-719-073-01	DIODE MA111-(K8).S0
D501	8-719-158-19	DIODE RD6.2SB

<FILTER>

Ref.No.	Part No.	Description
FL501	1-239-183-11	FILTER, EMI
FL502	1-239-480-11	FILTER, EMI
FL503	1-239-480-11	FILTER, EMI

<IC>

Ref.No.	Part No.	Description
IC010	8-759-460-74	IC BA05FP-E2
IC050	8-759-539-89	IC LM2990SX-5.0
IC501	8-759-594-41	IC MB89613R-651
IC502	8-759-186-44	IC TC74VHC125F
IC503	8-759-156-54	IC X25040SI

<TRANSISTOR>

Ref.No.	Part No.	Description
Q101	8-729-112-65	TRANSISTOR 2SA1462-Y33
Q102	8-729-027-38	TRANSISTOR DTA144EKA-T146
Q103	8-729-107-31	TRANSISTOR 2SC3545-T43
Q201	8-729-112-65	TRANSISTOR 2SA1462-Y33
Q202	8-729-027-38	TRANSISTOR DTA144EKA-T146
Q203	8-729-107-31	TRANSISTOR 2SC3545-T43
Q301	8-729-112-65	TRANSISTOR 2SA1462-Y33
Q302	8-729-027-38	TRANSISTOR DTA144EKA-T146
Q303	8-729-107-31	TRANSISTOR 2SC3545-T43
Q401	8-729-120-28	TRANSISTOR 2SC1623-L5L6
Q402	1-801-806-11	TRANSISTOR DTC144EKA-T146
Q403	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R
Q404	8-729-027-38	TRANSISTOR DTA144EKA-T146
Q501	1-801-806-11	TRANSISTOR DTC144EKA-T146

<RESISTOR>

Ref.No.	Part No.	Description			Remark
R101	1-214-837-11	METAL	75	1%	1/2W
R102	1-216-089-91	RES,CHIP	47K	5%	1/10W
R103	1-216-025-91	RES,CHIP	100	5%	1/10W
R104	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R105	1-216-097-91	RES,CHIP	100K	5%	1/10W
R106	1-216-009-91	RES,CHIP	22	5%	1/10W
R107	1-216-025-91	RES,CHIP	100	5%	1/10W
R108	1-216-097-91	RES,CHIP	100K	5%	1/10W
R109	1-216-013-00	RES,CHIP	33	5%	1/10W
R201	1-214-837-11	METAL	75	1%	1/2W
R202	1-216-089-91	RES,CHIP	47K	5%	1/10W
R203	1-216-025-91	RES,CHIP	100	5%	1/10W
R204	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R205	1-216-097-91	RES,CHIP	100K	5%	1/10W
R206	1-216-009-91	RES,CHIP	22	5%	1/10W

Ref.No.	Part No.	Description			Remark
R207	1-216-025-91	RES,CHIP	100	5%	1/10W
R208	1-216-097-91	RES,CHIP	100K	5%	1/10W
R209	1-216-013-00	RES,CHIP	33	5%	1/10W
R301	1-214-837-11	METAL	75	1%	1/2W
R302	1-216-089-91	RES,CHIP	47K	5%	1/10W
R303	1-216-025-91	RES,CHIP	100	5%	1/10W
R304	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R305	1-216-097-91	RES,CHIP	100K	5%	1/10W
R306	1-216-009-91	RES,CHIP	22	5%	1/10W
R307	1-216-025-91	RES,CHIP	100	5%	1/10W
R308	1-216-097-91	RES,CHIP	100K	5%	1/10W
R309	1-216-013-00	RES,CHIP	33	5%	1/10W
R401	1-214-837-11	METAL	75	1%	1/2W
R402	1-216-089-91	RES,CHIP	47K	5%	1/10W
R403	1-216-049-91	RES,CHIP	1K	5%	1/10W
R404	1-216-097-91	RES,CHIP	100K	5%	1/10W
R405	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R406	1-216-009-91	RES,CHIP	22	5%	1/10W
R407	1-216-025-91	RES,CHIP	100	5%	1/10W
R408	1-216-097-91	RES,CHIP	100K	5%	1/10W
R409	1-216-013-00	RES,CHIP	33	5%	1/10W
R410	1-216-097-91	RES,CHIP	100K	5%	1/10W
R501	1-216-097-91	RES,CHIP	100K	5%	1/10W
R502	1-216-025-91	RES,CHIP	100	5%	1/10W
R503	1-216-025-91	RES,CHIP	100	5%	1/10W
R504	1-216-097-91	RES,CHIP	100K	5%	1/10W
R505	1-216-025-91	RES,CHIP	100	5%	1/10W
R506	1-216-097-91	RES,CHIP	100K	5%	1/10W
R507	1-216-025-91	RES,CHIP	100	5%	1/10W
R508	1-216-097-91	RES,CHIP	100K	5%	1/10W
R509	1-216-097-91	RES,CHIP	100K	5%	1/10W
R510	1-216-097-91	RES,CHIP	100K	5%	1/10W
R511	1-216-097-91	RES,CHIP	100K	5%	1/10W
R512	1-216-097-91	RES,CHIP	100K	5%	1/10W
R513	1-216-097-91	RES,CHIP	100K	5%	1/10W
R514	1-216-097-91	RES,CHIP	100K	5%	1/10W
R515	1-216-097-91	RES,CHIP	100K	5%	1/10W
R516	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R517	1-216-097-91	RES,CHIP	100K	5%	1/10W
R518	1-216-097-91	RES,CHIP	100K	5%	1/10W

<TERMINAL BOARD>

TB001	1-694-601-11	TERMINAL BOARD ASSY, I/O	

<TEST PIN>

TP001	* 1-537-864-11	PIN, POST	
TP010	* 1-537-864-11	PIN, POST	

<CRYSTAL>

X501	1-578-689-21	VIBRATOR (8 MHz)	

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	* A-1331-957-A	C MOUNT	
		**********	
	* 4-376-132-11	COVER(REAR LID), CV VOL	
	* 4-376-133-11	COVER(MAIN), CV VOL	

Ref.No.	Part No.	Description			Remark
		<CAPACITOR>			
C701	1-162-114-00	CERAMIC	0.0047µF		2KV
C702	1-104-665-11	ELECT	100µF	20%	25V
C703	1-162-114-00	CERAMIC	0.0047µF		2KV
C710	1-161-830-00	CERAMIC	0.0047µF		500V

<CONNECTOR>

CN701	* 1-564-509-11	PLUG, CONNECTOR 6P	
CN702	* 1-508-784-00	PIN, CONNECTOR (5MM PITCH) 1P	
CN703	* 1-564-509-11	PLUG, CONNECTOR 6P	

<COMPOSITION CIRCUIT BLOCK>

CP701	1-453-105-11	CR PACK, HIGH-VOLTAGE	

<DIODE>

D701	8-719-911-19	DIODE 1SS119-25	

<JACK>

J701	1-251-244-11	SOCKET, CRT	

<COIL>

L701	1-408-608-31	INDUCTOR	27µH
L702	1-408-601-31	INDUCTOR	6.8µH
L703	1-408-601-31	INDUCTOR	6.8µH
L704	1-408-601-31	INDUCTOR	6.8µH

<TRANSISTOR>

Q701	8-729-020-07	TRANSISTOR 2SC4686A(LBSONY)	

<RESISTOR>

R701	1-219-747-91	CARBON	2.2K	5%	1/2W
R702	1-219-747-91	CARBON	2.2K	5%	1/2W
R703	1-219-747-91	CARBON	2.2K	5%	1/2W
R704	1-219-752-11	CARBON	100K	5%	1/2W
R706	1-219-753-11	CARBON	220K	5%	1/2W
R707	1-219-752-11	CARBON	100K	5%	1/2W
R708	1-249-429-11	CARBON	10K	5%	1/4W
R709	1-249-417-11	CARBON	1K	5%	1/4W

<VARIABLE RESISTOR>

RV701	⚠1-230-164-00	RES, ADJ, METAL GLAZE 55M	

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	* A-1335-118-A	D COMPL	
		**********	
	4-048-257-01	HOLDER (C), TR	
	4-381-907-01	INSULATOR (A)	
	4-382-854-11	SCREW(M3X10), P, SW (+)	

<CAPACITOR>

C1600	1-107-914-11	ELECT	1000µF	20%	25V
C1601	1-128-526-11	ELECT	100µF	20%	25V
C1602	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C1603	1-126-096-11	ELECT	10µF	20%	35V
C1604	1-124-589-11	ELECT	47µF	20%	16V

Ref.No.	Part No.	Description			Remark
C1605	1-124-589-11	ELECT	47μF	20%	16V
C1606	1-126-096-11	ELECT	10μF	20%	35V
C1607	1-163-031-11	CERAMIC CHIP	0.01μF		50V
C1608	1-163-037-11	CERAMIC CHIP	0.022μF	10%	50V
C1609	1-164-505-11	CERAMIC CHIP	2.2μF		16V
C1610	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C1611	1-163-131-00	CERAMIC CHIP	390PF	5%	50V
C1612	1-163-031-11	CERAMIC CHIP	0.01μF		50V
C1615	1-128-077-11	ELECT	22μF	20%	25V
C1616	1-165-319-11	CERAMIC CHIP	0.1μF		50V
C1617	1-126-096-11	ELECT	10μF	20%	35V
C1618	1-107-914-11	ELECT	1000μF	20%	25V
C1619	1-163-031-11	CERAMIC CHIP	0.01μF		50V
C1620	1-128-339-11	ELECT	2200μF	20%	6.3V
C1621	1-163-031-11	CERAMIC CHIP	0.01μF		50V
C1622	1-104-653-11	ELECT	220μF	20%	6.3V
C1623	1-163-031-11	CERAMIC CHIP	0.01μF		50V
C1625	1-164-004-11	CERAMIC CHIP	0.1μF	10%	25V
C2501	1-107-889-11	ELECT	220μF	20%	25V
C2502	1-163-021-91	CERAMIC CHIP	0.01μF	10%	50V
C2503	1-163-031-11	CERAMIC CHIP	0.01μF		50V
C2504	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C2505	1-125-838-91	CERAMIC CHIP	2.2μF	10%	6.3V
C2506	1-163-021-91	CERAMIC CHIP	0.01μF	10%	50V
C2507	1-163-031-11	CERAMIC CHIP	0.01μF		50V
C2508	1-163-037-11	CERAMIC CHIP	0.022μF	10%	50V
C2509	1-107-909-11	ELECT	47μF	20%	16V
C2510	1-163-021-91	CERAMIC CHIP	0.01μF	10%	50V
C2511	1-163-017-00	CERAMIC CHIP	0.0047μF	10%	50V
C2512	1-163-017-00	CERAMIC CHIP	0.0047μF	10%	50V
C2513	1-163-275-11	CERAMIC CHIP	0.001μF	5%	50V
C2514	1-163-809-11	CERAMIC CHIP	0.047μF	10%	25V
C2515	1-107-906-11	ELECT	10μF	20%	50V
C2516	1-164-222-11	CERAMIC CHIP	0.22μF		25V
C2517	1-164-346-11	CERAMIC CHIP	1μF		16V
C2518	1-107-910-11	ELECT	100μF	20%	50V
C2519	1-107-823-11	CERAMIC CHIP	0.47μF	10%	16V
C2520	1-163-139-00	CERAMIC CHIP	820PF	5%	50V
C2522	1-127-820-91	CERAMIC	4.7μF	0	16V
C2523	1-125-827-91	CERAMIC CHIP	1μF	10%	25V
C2524	1-163-009-11	CERAMIC CHIP	0.001μF	10%	50V
C2525	1-163-021-91	CERAMIC CHIP	0.01μF	10%	50V
C2526	1-164-344-11	CERAMIC CHIP	0.068μF	10%	25V
C2527	1-127-820-91	CERAMIC	4.7μF	0	16V
C2528	1-126-163-11	ELECT	4.7μF	20%	25V
C2529	1-125-838-91	CERAMIC CHIP	2.2μF		6.3V
C2530	1-163-021-91	CERAMIC CHIP	0.01μF	10%	50V
C2531	1-163-021-91	CERAMIC CHIP	0.01μF	10%	50V
C2532	1-107-884-11	ELECT	1000μF	20%	16V
C2533	1-107-884-11	ELECT	1000μF	20%	16V
C2534	1-107-910-11	ELECT	100μF	20%	50V
C2535	1-106-228-00	MYLAR	0.22μF	10%	100V
C2536	1-164-161-11	CERAMIC CHIP	0.0022μF	10%	50V
C2537	1-126-964-11	ELECT	10μF	20%	50V
C2538	1-164-004-11	CERAMIC CHIP	0.1μF	10%	25V
C2539	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C2540	1-162-318-11	CERAMIC	0.001μF	10%	500V
C2541	1-107-364-11	MYLAR	0.01μF	10%	200V
C2542	1-124-628-11	ELECT	220μF	20%	100V
C2543	1-107-906-11	ELECT	10μF	20%	50V
C2544	1-163-021-91	CERAMIC CHIP	0.01μF	10%	50V
C2545	1-162-129-91	CERAMIC	150PF	10%	2KV
C2546	1-117-828-31	FILM	3300PF	3%	1.5KV
C2549	1-163-031-11	CERAMIC CHIP	0.01μF		50V
C2550	1-164-004-11	CERAMIC CHIP	0.1μF	10%	25V
C2551	1-163-809-11	CERAMIC CHIP	0.047μF	10%	25V
C2552	1-164-346-11	CERAMIC CHIP	1μF		16V
C2553	1-164-004-11	CERAMIC CHIP	0.1μF	10%	25V
C2554	1-126-176-11	ELECT	220μF	20%	10V
C2556	1-162-558-11	CERAMIC	100PF	10%	2KV
C2557	1-130-061-91	FILM	0.0015μF	5%	630V
C2558	1-162-558-11	CERAMIC	100PF	10%	2KV
C2559	1-163-031-11	CERAMIC CHIP	0.01μF		50V
C2560	1-163-021-91	CERAMIC CHIP	0.01μF	10%	50V
C2561	1-107-746-11	ELECT	10μF	20%	200V
C2562	1-115-522-11	FILM	1μF	5%	250V
C2563	1-117-673-11	FILM	1.5μF	5%	250V
C2564	1-117-674-11	FILM	1.8μF	5%	250V
C2565	1-163-021-91	CERAMIC CHIP	0.01μF	10%	50V
C2566	1-163-021-91	CERAMIC CHIP	0.01μF	10%	50V
C2567	1-107-909-11	ELECT	47μF	20%	16V
C2568	1-163-031-11	CERAMIC CHIP	0.01μF		50V
C2569	1-128-954-11	ELECT	1000μF	20%	25V
C2570	1-163-031-11	CERAMIC CHIP	0.01μF		50V
C2571	1-107-909-11	ELECT	47μF	20%	16V
C2572	1-163-021-91	CERAMIC CHIP	0.01μF	10%	50V
C2575	1-163-031-11	CERAMIC CHIP	0.01μF		50V
C2576	1-107-902-11	ELECT	1μF	20%	50V
C2577	1-125-898-91	CERAMIC CHIP	0.22μF	10%	50V
C2578	1-107-905-11	ELECT	4.7μF	20%	50V
C2579	1-128-526-11	ELECT	100μF	20%	16V
C2580	1-125-838-91	CERAMIC CHIP	2.2μF		6.3V
C2582	1-107-909-11	ELECT	47μF	20%	16V
C2583	1-163-021-91	CERAMIC CHIP	0.01μF	10%	50V
C2584	1-163-021-91	CERAMIC CHIP	0.01μF	10%	50V
C2586	1-164-489-11	CERAMIC CHIP	0.22μF	10%	16V
C2587	1-163-021-91	CERAMIC CHIP	0.01μF	10%	50V
C2588	1-107-909-11	ELECT	47μF	20%	16V
C2589	1-107-823-11	CERAMIC CHIP	0.47μF	10%	16V
C2592	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C2593	1-124-589-11	ELECT	47μF	20%	16V
C2594	1-163-021-91	CERAMIC CHIP	0.01μF	10%	50V
C2595	1-104-555-11	FILM CHIP	0.022μF	5%	16V
C2601	1-163-031-11	CERAMIC CHIP	0.01μF		50V
C2602	1-163-037-11	CERAMIC CHIP	0.022μF	10%	50V
C2603	1-164-505-11	CERAMIC CHIP	2.2μF		16V
C2604	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C2605	1-163-131-00	CERAMIC CHIP	390PF	5%	50V
C2606	1-163-031-11	CERAMIC CHIP	0.01μF		50V
C2607	1-163-037-11	CERAMIC CHIP	0.022μF	10%	50V
C2608	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C2609	1-128-077-11	ELECT	22μF	20%	25V
C2610	1-165-319-11	CERAMIC CHIP	0.1μF		50V
C2611	1-126-096-11	ELECT	10μF	20%	35V
C2612	1-107-914-11	ELECT	1000μF	20%	25V
C2613	1-163-031-11	CERAMIC CHIP	0.01μF		50V
C2614	1-128-339-11	ELECT	2200μF	20%	10V
C2616	1-163-031-11	CERAMIC CHIP	0.01μF		50V
C2617	1-107-889-11	ELECT	220μF	20%	10V
C2618	1-163-031-11	CERAMIC CHIP	0.01μF		50V
C2619	1-104-653-11	ELECT	220μF	20%	6.3V
C2620	1-107-914-11	ELECT	1000μF	20%	25V
C2621	1-163-031-11	CERAMIC CHIP	0.01μF		50V
C2622	1-128-339-11	ELECT	2200μF	20%	10V
C2623	1-163-031-11	CERAMIC CHIP	0.01μF		50V
C2624	1-107-889-11	ELECT	220μF	20%	10V
C2625	1-163-031-11	CERAMIC CHIP	0.01μF		50V
C2626	1-104-653-11	ELECT	220μF	20%	6.3V
C2627	1-164-004-11	CERAMIC CHIP	0.1μF	10%	25V
C2628	1-164-004-11	CERAMIC CHIP	0.1μF	10%	25V

Ref.No.	Part No.	Description			Remark
C2631	1-127-573-91	CERAMIC CHIP	1µF	10%	16V
C3501	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C3502	1-107-877-11	ELECT	1000µF	20%	10V
C3503	1-163-021-91	CERAMIC CHIP	0.01µF		50V
C3504	1-163-021-91	CERAMIC CHIP	0.01µF		50V
C3505	1-125-838-91	CERAMIC CHIP	2.2µF	10%	6.3V
C3506	1-125-838-91	CERAMIC CHIP	2.2µF	10%	6.3V
C3509	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C3510	1-125-838-91	CERAMIC CHIP	2.2µF	10%	6.3V
C3511	1-163-021-91	CERAMIC CHIP	0.01µF		50V
C3512	1-125-838-91	CERAMIC CHIP	2.2µF	10%	6.3V
C3513	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C3515	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C3516	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C3517	1-125-838-91	CERAMIC CHIP	2.2µF	10%	6.3V
C3518	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C3519	1-125-838-91	CERAMIC CHIP	2.2µF	10%	6.3V
C3520	1-125-838-91	CERAMIC CHIP	2.2µF	10%	6.3V
C3521	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C3522	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C3523	1-127-820-91	CERAMIC	4.7µF	0	16V
C3524	1-104-664-11	ELECT	47µF	20%	16V
C3526	1-128-526-11	ELECT	100µF	20%	16V
C3527	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C3529	1-137-374-11	MYLAR	0.047µF	5%	50V
C3531	1-163-275-11	CERAMIC	0.001µF	5%	50V
C3601	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C3602	1-163-037-11	CERAMIC CHIP	0.022µF	10%	50V
C3603	1-164-505-11	CERAMIC CHIP	2.2µF		16V
C3604	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C3605	1-163-131-00	CERAMIC CHIP	390PF	5%	50V
C3606	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C3607	1-163-037-11	CERAMIC CHIP	0.022µF	10%	50V
C3608	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C3609	1-128-077-11	ELECT	22µF	20%	25V
C3610	1-165-319-11	CERAMIC CHIP	0.1µF		50V
C3611	1-126-096-11	ELECT	10µF	20%	35V
C3612	1-107-914-11	ELECT	1000µF	20%	25V
C3613	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C3614	1-107-884-11	ELECT	1000µF	20%	16V
C3615	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C3616	1-128-526-11	ELECT	100µF	20%	16V
C3617	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C3618	1-107-909-11	ELECT	47µF	20%	35V
C3619	1-107-914-11	ELECT	1000µF	20%	25V
C3620	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C3621	1-128-528-11	ELECT	470µF	20%	16V
C3622	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C3623	1-104-653-11	ELECT	220µF	20%	16V
C3624	1-104-653-11	ELECT	220µF	20%	16V
C3625	1-128-526-11	ELECT	100µF	20%	16V
C3626	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C3627	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C3628	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C3629	1-107-884-11	ELECT	1000µF	20%	16V
C3630	1-128-526-11	ELECT	100µF	20%	16V
C3631	1-127-573-91	CERAMIC CHIP	1µF	10%	16V
C3632	1-128-526-11	ELECT	100µF	20%	16V

\<CONNECTOR\>

Ref.No.	Part No.	Description
CN1601	* 1-766-175-11	PIN, CONNECTOR (PC BOARD) 5P
CN1602	* 1-580-843-11	PIN, CONNECTOR (POWER)
CN2501	* 1-564-714-11	PIN, CONNECTOR (SMALL TYPE)12P
CN2502	* 1-564-510-11	PLUG, CONNECTOR 7P
CN2503	* 1-564-712-11	PIN, CONNECTOR (SMALL TYPE)10P
CN2504	* 1-793-239-11	PIN, CONNECTOR (PC BOARD) 6P
CN2505	* 1-564-507-11	PLUG, CONNECTOR 4P
CN2506	* 1-564-711-11	PIN, CONNECTOR (SMALL TYPE) 9P
CN2601	* 1-564-710-11	PIN, CONNECTOR (SMALL TYPE) 8P
CN2602	* 1-564-710-11	PIN, CONNECTOR (SMALL TYPE) 8P

\<DIODE\>

Ref.No.	Part No.	Description
D1601	8-719-210-43	DIODE EC10QS-06
D1602	8-719-073-01	DIODE MA111-(K8).S0
D1603	8-719-978-24	DIODE DTZ-TT11-5.6A
D1604	8-719-158-57	DIODE RD15SB2
D1605	8-719-037-00	DIODE RD6.2SB2-T1
D1606	8-719-037-00	DIODE RD6.2SB2-T1
D1607	8-719-073-01	DIODE MA111-(K8).S0
D1608	8-719-073-01	DIODE MA111-(K8).S0
D1609	8-719-073-01	DIODE MA111-(K8).S0
D1610	8-719-037-39	DIODE RD18SB2-T1
D1611	8-719-059-22	DIODE NSQ03A06-TE16L
D2501	8-719-988-72	DIODE SC802-06
D2504	8-719-073-01	DIODE MA111-(K8).S0
D2505	8-719-029-04	DIODE D5L60
D2506	8-719-073-01	DIODE MA111-(K8).S0
D2507	8-719-073-01	DIODE MA111-(K8).S0
D2509	8-719-977-95	DIODE DTZ-TT11-2.4B
D2511	8-719-158-49	DIODE RD12SB2
D2512	8-719-158-49	DIODE RD12SB2
D2513	8-719-073-01	DIODE MA111-(K8).S0
D2515	8-719-073-01	DIODE MA111-(K8).S0
D2516	8-719-158-49	DIODE RD12SB2
D2517	8-719-073-01	DIODE MA111-(K8).S0
D2519	8-719-073-01	DIODE MA111-(K8).S0
D2520	8-719-073-01	DIODE MA111-(K8).S0
D2521	8-719-073-01	DIODE MA111-(K8).S0
D2522	8-719-158-49	DIODE RD12SB2
D2523	8-719-988-72	DIODE SC802-06
D2524	8-719-073-01	DIODE MA111-(K8).S0
D2525	8-719-073-01	DIODE MA111-(K8).S0
D2526	8-719-073-01	DIODE MA111-(K8).S0
D2527	8-719-159-13	DIODE RD5.1SB3-T2
D2528	8-719-073-01	DIODE MA111-(K8).S0
D2529	8-719-073-01	DIODE MA111-(K8).S0
D2530	8-719-073-01	DIODE MA111-(K8).S0
D2532	8-719-033-53	DIODE RD6.8SB2-T1
D2533	8-719-951-30	DIODE ERA91-02
D2601	8-719-059-22	DIODE NSQ03A06-TE16L
D2602	8-719-037-39	DIODE RD18SB2-T1
D2604	8-719-059-22	DIODE NSQ03A06-TE16L
D2605	8-719-037-39	DIODE RD18SB2-T1
D3601	8-719-059-22	DIODE NSQ03A06-TE16L
D3603	8-719-210-43	DIODE EC10QS-06
D3604	8-719-059-22	DIODE NSQ03A06-TE16L
D3605	8-719-210-43	DIODE EC10QS-06
D3606	8-719-210-43	DIODE EC10QS-06
D3607	8-719-059-22	DIODE NSQ03A06-TE16L
D3608	8-719-037-39	DIODE RD18SB2-T1
D3609	8-719-037-39	DIODE RD18SB2-T1

\<FUSE\>

Ref.No.	Part No.	Description
F1601	⚠ 1-576-048-11	FUSE, GLASS TUBE 10A/125V
F1602	⚠ 1-576-048-11	FUSE, GLASS TUBE 10A/125V

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<FUSE HOLDER>

Ref.No.	Part No.	Description	Remark
FH1	⚠1-533-183-11	HOLDER, FUSE	
FH2	⚠1-533-183-11	HOLDER, FUSE	
FH3	⚠1-533-183-11	HOLDER, FUSE	
FH4	⚠1-533-183-11	HOLDER, FUSE	

<IC>

Ref.No.	Part No.	Description
IC1601	8-759-908-15	IC TL431CLP
IC1602	8-759-261-48	IC TL1451ACPWR
IC2501	8-752-072-94	IC CXA1875AM-T4
IC2502	8-752-072-94	IC CXA1875AM-T4
IC2503	8-759-593-29	IC TDA9106
IC2504	8-759-980-58	IC TDA8172
IC2505	8-759-239-34	IC TC74HC4538AF
IC2506	8-759-981-48	IC TL082M
IC2507	8-759-803-42	IC LA6500-FA
IC2508	8-759-209-90	IC TC4S71F
IC2509	8-759-239-34	IC TC74HC4538AF
IC2510	8-759-981-48	IC TL082M
IC2512	8-759-981-48	IC TL082M
IC2513	8-759-239-34	IC TC74HC4538AF
IC2514	8-759-209-69	IC TC4S11F
IC2515	8-759-209-69	IC TC4S11F
IC2516	8-759-231-30	IC TC-4S30F
IC2517	8-759-231-30	IC TC-4S30F
IC2518	8-759-100-96	IC UPC4558G2
IC2519	8-759-981-48	IC TL082M
IC2521	8-759-209-69	IC TC4S11F
IC2522	8-759-209-69	IC TC4S11F
IC2523	8-759-239-34	IC TC74HC4538AF
IC2601	8-759-261-48	IC TL1451ACPWR
IC2602	8-759-450-47	IC BA05T
IC2603	8-759-247-67	IC LM2990T-5.0
IC3601	8-759-261-48	IC TL1451ACPWR

<COIL>

Ref.No.	Part No.	Description	
L1601	1-419-396-11	INDUCTOR	47μH
L1603	1-469-563-11	INDUCTOR	5.6μH
L1604	1-406-660-41	INDUCTOR	15μH
L2501	1-410-482-31	INDUCTOR	100μH
L2502	1-410-482-31	INDUCTOR	100μH
L2503	1-406-975-21	INDUCTOR	47μH
L2504	1-419-437-11	CHOKE	
L2505	1-419-307-11	COIL, HORIZONTAL LINEARITY	
L2506	1-408-623-31	INDUCTOR	470μH
L2509	1-419-305-11	COIL, HORIZONTAL LINEARITY	
L2510	1-410-067-21	INDUCTOR	4.7mH
L2511	1-406-661-11	INDUCTOR	22μH
L2601	1-419-397-11	INDUCTOR	68μH
L2603	1-406-660-41	INDUCTOR	15μH
L2604	1-419-397-11	INDUCTOR	68μH
L2605	1-406-660-41	INDUCTOR	15μH
L3601	1-406-665-11	INDUCTOR	100μH
L3602	1-419-398-11	INDUCTOR	220μH
L3603	1-406-667-41	INDUCTOR	220μH

<TRANSISTOR>

Ref.No.	Part No.	Description
Q1601	8-729-920-59	TRANSISTOR IMX2-T109
Q1602	8-729-027-23	TRANSISTOR DTA114EKA-T146
Q1603	8-729-027-23	TRANSISTOR DTA114EKA-T146
Q1604	1-801-806-11	TRANSISTOR DTC144EKA-T146
Q1605	8-729-027-38	TRANSISTOR DTA144EKA-T146
Q1608	1-801-806-11	TRANSISTOR DTC144EKA-T146
Q1609	1-801-806-11	TRANSISTOR DTC144EKA-T146
Q1610	1-801-806-11	TRANSISTOR DTC144EKA-T146
Q1611	8-729-120-28	TRANSISTOR 2SC1623-L5L6
Q1612	8-729-824-24	TRANSISTOR 2SA1338-5-TB
Q1613	8-729-019-85	TRANSISTOR 2SC3392-5-TB
Q1614	8-729-041-37	TRANSISTOR 2SJ377(TE16L)
Q1617	8-729-027-38	TRANSISTOR DTA144EKA-T146
Q2502	8-729-925-42	TRANSISTOR IMT2
Q2503	8-729-925-42	TRANSISTOR IMT2
Q2507	8-729-019-85	TRANSISTOR 2SC3392-5-TB
Q2508	8-729-824-24	TRANSISTOR 2SA1338-5-TB
Q2509	8-729-926-77	TRANSISTOR IRFI640
Q2510	8-729-026-50	TRANSISTOR 2SA1037AK-T146-QR
Q2511	8-729-033-25	TRANSISTOR DTC114GKA
Q2512	8-729-019-85	TRANSISTOR 2SC3392-5-TB
Q2513	8-729-824-24	TRANSISTOR 2SA1338-5-TB
Q2514	8-729-048-07	TRANSISTOR 2SD2578-CA
Q2516	8-729-800-32	TRANSISTOR 2SC2362K-G
Q2517	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R
Q2519	8-729-050-72	TRANSISTOR 2SK2231-TP
Q2520	8-729-050-72	TRANSISTOR 2SK2231-TP
Q2521	8-729-900-53	TRANSISTOR DTC114EK
Q2522	1-801-806-11	TRANSISTOR DTC144EKA-T146
Q2523	1-801-806-11	TRANSISTOR DTC144EKA-T146
Q2524	8-729-027-38	TRANSISTOR DTA144EKA-T146
Q2525	8-729-120-28	TRANSISTOR 2SC1623-L5L6
Q2526	1-801-806-11	TRANSISTOR DTC144EKA-T146
Q2527	8-729-120-28	TRANSISTOR 2SC1623-L5L6
Q2528	1-801-806-11	TRANSISTOR DTC144EKA-T146
Q2529	8-729-027-38	TRANSISTOR DTA144EKA-T146
Q2530	1-801-806-11	TRANSISTOR DTC144EKA-T146
Q2531	8-729-027-38	TRANSISTOR DTA144EKA-T146
Q2532	1-801-806-11	TRANSISTOR DTC144EKA-T146
Q2533	1-801-806-11	TRANSISTOR DTC144EKA-T146
Q2534	1-801-806-11	TRANSISTOR DTC144EKA-T146
Q2535	8-729-050-72	TRANSISTOR 2SK2231-TP
Q2601	1-801-806-11	TRANSISTOR DTC144EKA-T146
Q2602	1-801-806-11	TRANSISTOR DTC144EKA-T146
Q2603	1-801-806-11	TRANSISTOR DTC144EKA-T146
Q2604	8-729-120-28	TRANSISTOR 2SC1623-L5L6
Q2605	8-729-824-24	TRANSISTOR 2SA1338-5-TB
Q2606	8-729-019-85	TRANSISTOR 2SC3392-5-TB
Q2607	8-729-041-37	TRANSISTOR 2SJ377(TE16L)
Q2609	8-729-120-28	TRANSISTOR 2SC1623-L5L6
Q2610	8-729-824-24	TRANSISTOR 2SA1338-5-TB
Q2611	8-729-019-85	TRANSISTOR 2SC3392-5-TB
Q2612	8-729-041-37	TRANSISTOR 2SJ377(TE16L)
Q3601	1-801-806-11	TRANSISTOR DTC144EKA-T146
Q3602	1-801-806-11	TRANSISTOR DTC144EKA-T146
Q3603	1-801-806-11	TRANSISTOR DTC144EKA-T146
Q3604	8-729-120-28	TRANSISTOR 2SC1623-L5L6
Q3605	8-729-824-24	TRANSISTOR 2SA1338-5-TB
Q3606	8-729-019-85	TRANSISTOR 2SC3392-5-TB
Q3607	8-729-041-37	TRANSISTOR 2SJ377(TE16L)
Q3609	8-729-050-72	TRANSISTOR 2SK2231-TP
Q3610	8-729-120-28	TRANSISTOR 2SC1623-L5L6
Q3611	8-729-824-24	TRANSISTOR 2SA1338-5-TB
Q3612	8-729-019-85	TRANSISTOR 2SC3392-5-TB
Q3613	8-729-041-37	TRANSISTOR 2SJ377(TE16L)

<RESISTOR>

Ref.No.	Part No.	Description			
R1601	1-216-677-11	METAL CHIP	12K	0.50%	1/10W
R1602	1-216-682-11	METAL CHIP	20K	0.50%	1/10W

Ref.No.	Part No.	Description			Remark	Ref.No.	Part No.	Description			Remark
R1603	1-216-677-11	METAL CHIP	12K	0.50%	1/10W	R2542	1-216-359-00	METAL OXIDE	6.8	5%	1W F
R1605	1-216-065-91	RES,CHIP	4.7K	5%	1/10W	R2543	1-216-359-00	METAL OXIDE	6.8	5%	1W F
R1606	1-216-055-00	RES,CHIP	1.8K	5%	1/10W	R2545	1-202-933-61	FUSIBLE	0.1	10%	1/2W F
R1607	1-216-073-00	RES,CHIP	10K	5%	1/10W	R2550	1-216-073-00	RES,CHIP	10K	5%	1/10W
R1608	1-216-057-00	RES,CHIP	2.2K	5%	1/10W	R2551	1-216-001-00	RES,CHIP	10	5%	1/10W
R1609	1-216-057-00	RES,CHIP	2.2K	5%	1/10W	R2552	1-216-699-91	METAL CHIP	100K	0.50%	1/10W
R1611	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	R2553	1-216-679-91	RES,CHIP	15K	5%	1/10W
R1612	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	R2554	1-216-067-00	RES,CHIP	5.6K	5%	1/10W
R1613	1-216-099-00	RES,CHIP	120K	5%	1/10W	R2555	1-216-073-00	RES,CHIP	10K	5%	1/10W
R1614	1-216-073-00	RES,CHIP	10K	5%	1/10W	R2556	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R1615	1-216-093-91	RES,CHIP	68K	5%	1/10W	R2557	1-216-001-00	RES,CHIP	10	5%	1/10W
R1616	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	R2558	1-216-073-00	RES,CHIP	10K	5%	1/10W
R1617	1-216-685-11	METAL CHIP	27K	0.50%	1/10W	R2559	1-216-073-00	RES,CHIP	10K	5%	1/10W
R1618	1-216-677-11	METAL CHIP	12K	0.50%	1/10W	R2560	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W
R1619	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W	R2561	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R1620	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	R2562	1-216-053-00	RES,CHIP	1.5K	5%	1/10W
R1621	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	R2563	1-216-073-00	RES,CHIP	10K	5%	1/10W
R1624	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	R2564	1-216-369-00	METAL OXIDE	1	5%	2W F
R1625	1-216-089-91	RES,CHIP	47K	5%	1/10W	R2565	1-249-381-11	CARBON	1	5%	1/4W F
R1626	1-216-065-91	RES,CHIP	4.7K	5%	1/10W	R2566	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1627	1-216-065-91	RES,CHIP	4.7K	5%	1/10W	R2568	1-216-037-00	RES,CHIP	330	5%	1/10W
R1628	1-216-009-91	RES,CHIP	22	5%	1/10W	R2569	1-249-429-11	CARBON	10K	5%	1/4W
R1629	1-216-065-91	RES,CHIP	4.7K	5%	1/10W	R2570	1-216-069-00	RES,CHIP	6.8K	5%	1/10W
R1630	1-249-377-11	CARBON	0.47	5%	1/4W F	R2571	1-216-073-00	RES,CHIP	10K	5%	1/10W
R1631	1-249-377-11	CARBON	0.47	5%	1/4W F	R2572	1-216-097-91	RES,CHIP	100K	5%	1/10W
R1632	1-216-065-91	RES,CHIP	4.7K	5%	1/10W	R2573	1-215-887-00	METAL OXIDE	150	5%	2W F
R2501	1-216-073-00	RES,CHIP	10K	5%	1/10W	R2575	1-249-403-11	CARBON	68	5%	1/4W F
R2502	1-216-073-00	RES,CHIP	10K	5%	1/10W	R2576	1-216-482-11	METAL OXIDE	1.8K	5%	3W F
R2503	1-216-073-00	RES,CHIP	10K	5%	1/10W	R2577	1-216-425-11	METAL OXIDE	56	5%	1W F
R2504	1-216-073-00	RES,CHIP	10K	5%	1/10W	R2578	1-216-424-11	METAL OXIDE	39	5%	1W F
R2505	1-216-025-91	RES,CHIP	100	5%	1/10W	R2579	1-216-089-91	RES,CHIP	47K	5%	1/10W
R2506	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	R2580	1-216-089-91	RES,CHIP	47K	5%	1/10W
R2507	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	R2581	1-216-089-91	RES,CHIP	47K	5%	1/10W
R2508	1-216-001-00	RES,CHIP	10	5%	1/10W	R2582	1-216-089-91	RES,CHIP	47K	5%	1/10W
R2509	1-216-673-11	METAL CHIP	8.2K	0.50%	1/10W	R2584	1-216-049-91	RES,CHIP	1K	5%	1/10W
R2510	1-216-043-91	RES,CHIP	560	5%	1/10W	R2589	1-249-429-11	CARBON	10K	5%	1/4W
R2511	1-216-073-00	RES,CHIP	10K	5%	1/10W	R2590	1-216-081-00	RES,CHIP	22K	5%	1/10W
R2512	1-216-049-91	RES,CHIP	1K	5%	1/10W	R2591	1-216-097-91	RES,CHIP	100K	5%	1/10W
R2513	1-216-079-00	RES,CHIP	18K	5%	1/10W	R2592	1-216-089-91	RES,CHIP	47K	5%	1/10W
R2514	1-216-041-00	RES,CHIP	470	5%	1/10W	R2593	1-249-435-11	CARBON	33K	5%	1/4W
R2515	1-216-073-00	RES,CHIP	10K	5%	1/10W	R2594	1-249-417-11	CARBON	1K	5%	1/4W
R2516	1-216-073-00	RES,CHIP	10K	5%	1/10W	R2595	1-216-089-91	RES,CHIP	47K	5%	1/10W
R2517	1-216-049-91	RES,CHIP	1K	5%	1/10W	R2596	1-216-073-00	RES,CHIP	10K	5%	1/10W
R2518	1-216-041-00	RES,CHIP	470	5%	1/10W	R2597	1-216-097-91	RES,CHIP	100K	5%	1/10W
R2519	1-216-073-00	RES,CHIP	10K	5%	1/10W	R2598	1-216-089-91	RES,CHIP	47K	5%	1/10W
R2520	1-216-693-11	METAL CHIP	56K	0.50%	1/10W	R2599	1-216-089-91	RES,CHIP	47K	5%	1/10W
R2521	1-215-863-11	METAL OXIDE	100	5%	1W F	R2601	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W
R2524	1-216-085-00	RES,CHIP	33K	5%	1/10W	R2602	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W
R2525	1-216-677-11	METAL CHIP	12K	0.50%	1/10W	R2603	1-216-099-00	RES,CHIP	120K	5%	1/10W
R2526	1-216-069-00	RES,CHIP	6.8K	5%	1/10W	R2604	1-216-073-00	RES,CHIP	10K	5%	1/10W
R2527	1-216-073-00	RES,CHIP	10K	5%	1/10W	R2605	1-216-093-91	RES,CHIP	68K	5%	1/10W
R2528	1-216-111-00	RES,CHIP	390K	5%	1/10W	R2606	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W
R2529	1-216-113-00	RES,CHIP	470K	5%	1/10W	R2607	1-216-685-11	METAL CHIP	27K	0.50%	1/10W
R2530	1-216-073-00	RES,CHIP	10K	5%	1/10W	R2608	1-216-662-11	METAL CHIP	3K	0.50%	1/10W
R2531	1-216-077-91	RES,CHIP	15K	5%	1/10W	R2609	1-216-679-11	METAL CHIP	15K	0.50%	1/10W
R2532	1-216-077-91	RES,CHIP	15K	5%	1/10W	R2610	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W
R2533	1-216-097-91	RES,CHIP	100K	5%	1/10W	R2611	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W
R2534	1-249-393-11	CARBON	10	5%	1/4W F	R2612	1-216-073-00	RES,CHIP	10K	5%	1/10W
R2535	1-249-393-11	CARBON	10	5%	1/4W F	R2613	1-216-684-91	METAL CHIP	24K	0.50%	1/10W
R2536	1-216-676-11	METAL CHIP	11K	0.50%	1/10W	R2614	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W
R2537	1-216-067-00	RES,CHIP	5.6K	5%	1/10W	R2615	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W
R2538	1-249-383-11	CARBON	1.5	5%	1/4W F	R2616	1-216-089-91	RES,CHIP	47K	5%	1/10W
R2539	1-216-067-00	RES,CHIP	5.6K	5%	1/10W	R2617	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R2540	1-216-676-11	METAL CHIP	11K	0.50%	1/10W	R2618	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R2541	1-216-431-11	METAL OXIDE	560	5%	1W F	R2619	1-216-009-91	RES,CHIP	22	5%	1/10W

Ref.No.	Part No.	Description			Remark		Ref.No.	Part No.	Description			Remark
R2620	1-216-065-91	RES,CHIP	4.7K	5%	1/10W		R3613	1-216-691-11	METAL CHIP	47K	0.50%	1/10W
R2625	1-216-065-91	RES,CHIP	4.7K	5%	1/10W		R3614	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W
R2626	1-216-065-91	RES,CHIP	4.7K	5%	1/10W							
							R3615	1-216-662-11	METAL CHIP	3K	0.50%	1/10W
R2627	1-216-009-91	RES,CHIP	22	5%	1/10W		R3616	1-216-089-91	RES,CHIP	47K	5%	1/10W
R2628	1-216-065-91	RES,CHIP	4.7K	5%	1/10W		R3617	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R2629	1-249-377-11	CARBON	0.47	5%	1/4W F		R3618	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R2630	1-249-377-11	CARBON	0.47	5%	1/4W F		R3619	1-216-009-91	RES,CHIP	22	5%	1/10W
R3500	1-216-675-91	METAL CHIP	10K	0.50%	1/10W							
							R3620	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R3501	1-216-053-00	RES,CHIP	1.5K	5%	1/10W		R3621	1-216-009-91	RES,CHIP	22	5%	1/10W
R3502	1-216-673-11	METAL CHIP	8.2K	0.50%	1/10W		R3622	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R3503	1-216-695-11	METAL CHIP	68K	0.50%	1/10W		R3627	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R3504	1-218-754-11	METAL CHIP	120K	0.50%	1/10W		R3628	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R3505	1-249-431-11	CARBON	15K	5%	1/4W							
							R3629	1-216-009-91	RES,CHIP	22	5%	1/10W
R3506	1-216-065-91	RES,CHIP	4.7K	5%	1/10W		R3630	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R3507	1-216-073-00	RES,CHIP	10K	5%	1/10W		R3631	1-249-425-11	CARBON	4.7K	5%	1/4W F
R3508	1-216-073-00	RES,CHIP	10K	5%	1/10W		R3632	1-249-413-11	CARBON	470	5%	1/4W F
R3509	1-216-049-91	RES,CHIP	1K	5%	1/10W		R3633	1-249-413-11	CARBON	470	5%	1/4W F
R3510	1-216-025-91	RES,CHIP	100	5%	1/10W							
							R3634	1-249-377-11	CARBON	0.47	5%	1/4W F
R3511	1-216-025-91	RES,CHIP	100	5%	1/10W		R3635	1-249-377-11	CARBON	0.47	5%	1/4W F
R3512	1-216-685-11	METAL CHIP	27K	0.50%	1/10W		R3636	1-249-393-11	CARBON	10	5%	1/4W F
R3513	1-216-049-91	RES,CHIP	1K	5%	1/10W		R3637	1-249-381-11	CARBON	1	5%	1/4W F
R3514	1-216-065-91	RES,CHIP	4.7K	5%	1/10W		R3638	1-249-381-11	CARBON	1	5%	1/4W F
R3515	1-216-025-91	RES,CHIP	100	5%	1/10W							
R3516	1-216-073-00	RES,CHIP	10K	5%	1/10W				<RELAY>			
R3517	1-216-073-00	RES,CHIP	10K	5%	1/10W							
R3518	1-216-073-00	RES,CHIP	10K	5%	1/10W		RY1601	1-755-018-11	RELAY			
R3519	1-216-059-00	RES,CHIP	2.7K	5%	1/10W		RY2501	1-755-198-11	RELAY, AC POWER			
R3520	1-216-073-00	RES,CHIP	10K	5%	1/10W							
R3521	1-216-113-00	RES,CHIP	470K	5%	1/10W				<TRANSFORMER>			
R3522	1-216-073-00	RES,CHIP	10K	5%	1/10W							
R3525	1-216-025-91	RES,CHIP	100	5%	1/10W		T2501	1-419-437-11	CHOKE			
R3526	1-216-025-91	RES,CHIP	100	5%	1/10W		T2502	1-431-443-11	TRANSFORMER, FERRITE (HST)			
R3527	1-216-113-00	RES,CHIP	470K	5%	1/10W		T2503	1-433-978-11	TRANSFORMER, HORIZONTAL DRIVE			
							T2504	1-419-438-11	CHOKE			
R3528	1-216-049-91	RES,CHIP	1K	5%	1/10W		T3601	1-435-157-11	TRANSFORMER, DC-DC CONVERTER			
R3529	1-216-697-91	METAL CHIP	82K	0.50%	1/10W							
R3530	1-216-679-11	METAL CHIP	15K	0.50%	1/10W							
R3531	1-216-049-91	RES,CHIP	1K	5%	1/10W		**					
R3532	1-216-089-91	RES,CHIP	47K	5%	1/10W							
R3533	1-216-065-91	RES,CHIP	4.7K	5%	1/10W		* A-1316-460-A		G COMPL			
R3534	1-216-049-91	RES,CHIP	1K	5%	1/10W				**********			
R3535	1-216-057-00	RES,CHIP	2.2K	5%	1/10W							
R3545	1-216-057-00	RES,CHIP	2.2K	5%	1/10W		4-382-854-01		SCREW(M3X8), P, SW (+)			
R3546	1-216-081-00	RES,CHIP	22K	5%	1/10W							
R3547	1-216-091-00	RES,CHIP	56K	5%	1/10W				<CAPACITOR>			
R3548	1-216-049-91	RES,CHIP	1K	5%	1/10W							
R3550	1-216-093-91	RES,CHIP	68K	5%	1/10W		C601	⚠1-113-900-11	CERAMIC	470PF	10%	250V
R3551	1-216-453-00	METAL OXIDE	270	5%	2W F		C602	⚠1-104-708-11	MYLAR	0.47µF	20%	250V
R3552	1-216-475-11	METAL OXIDE	120	5%	3W F		C603	⚠1-104-706-11	MYLAR	0.22µF	20%	250V
							C604	⚠1-113-926-11	CERAMIC	0.0047µF		250V
R3553	1-216-346-00	METAL OXIDE	0.56	5%	1W F		C605	⚠1-113-900-11	CERAMIC	470PF	10%	250V
R3554	1-215-861-00	METAL OXIDE	47	5%	1W F							
R3556	1-216-107-00	RES,CHIP	270K	5%	1/10W		C606	⚠1-113-926-11	CERAMIC	0.0047µF		250V
R3557	1-216-073-00	RES,CHIP	10K	5%	1/10W		C611	1-107-907-11	ELECT	22µF	20%	50V
R3558	1-216-061-00	RES,CHIP	3.3K	5%	1/10W		C613	1-107-905-11	ELECT	4.7µF	20%	50V
							C614	1-107-910-11	ELECT	100µF	20%	50V
R3560	1-216-073-00	RES,CHIP	10K	5%	1/10W		C615	1-131-913-11	ELECT	150µF	20%	450V
R3601	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W							
R3602	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W		C616	1-130-495-00	MYLAR	0.1µF	5%	50V
R3603	1-216-099-00	RES,CHIP	120K	5%	1/10W		C618	1-131-876-91	CAPACITOR	000000000	0	0
R3604	1-216-073-00	RES,CHIP	10K	5%	1/10W		C620	1-107-910-11	ELECT	100µF	20%	50V
							C621	1-107-906-11	ELECT	10µF	20%	50V
R3605	1-216-093-91	RES,CHIP	68K	5%	1/10W		C622	1-107-909-11	ELECT	47µF	20%	50V
R3606	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W							
R3607	1-216-685-11	METAL CHIP	27K	0.50%	1/10W		C623	1-127-825-11	FILM	0.0033µF	3%	1KV
R3608	1-216-689-11	METAL CHIP	39K	0.50%	1/10W		C629	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
R3609	1-216-655-11	METAL CHIP	1.5K	0.50%	1/10W		C630	1-137-479-71	MYLAR	1µF	10%	400V
							C631	1-115-340-11	CERAMIC CHIP	0.22µF	10%	25V
R3610	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W		C632	1-107-910-11	ELECT	100µF	20%	50V
R3611	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W							
R3612	1-216-073-00	RES,CHIP	10K	5%	1/10W							

Ref.No.	Part No.	Description			Remark		
C637	1-107-910-11	ELECT	100μF	20%	50V		
C644	1-127-825-11	FILM	0.0033μF	3%	1KV		
C651	1-163-021-91	CERAMIC CHIP	0.01μF	10%	50V		
C690	1-111-074-11	ELECT	0.0039F	20%	25V		
C691	1-111-074-11	ELECT	0.0039F	20%	25V		
C693	1-126-942-61	ELECT	1000μF	20%	25V		

<CONNECTOR>

Ref.No.	Part No.	Description
CN601	* 1-691-960-11	PIN, CONNECTOR (PC BOARD) 3P
CN690	* 1-580-843-11	PIN, CONNECTOR (POWER)
CN691		1-695-915-11 TAB (CONTACT)

<DIODE>

Ref.No.	Part No.	Description
D601	8-719-510-53	DIODE D4SB60L
D602	8-719-304-63	DIODE RM11C
D604	8-719-989-76	DIODE SC802-04
D605	8-719-989-21	DIODE SC311-6-TE12RA
D606	8-719-989-21	DIODE SC311-6-TE12RA
D607	8-719-989-21	DIODE SC311-6-TE12RA
D620	8-719-063-73	DIODE D1NL20U-TR
D661	8-719-158-53	DIODE RD13SB2
D662	8-719-063-73	DIODE D1NL20U-TR
D663	8-719-063-73	DIODE D1NL20U-TR
D668	8-719-063-73	DIODE D1NL20U-TR
D669	8-719-110-67	DIODE RD27ESB2
D690	8-719-988-30	DIODE D30SC4M

<FUSE>

Ref.No.	Part No.	Description
F601	⚠1-576-231-11	FUSE (H.B.C.) 4A/250V

<FUSE HOLDER>

Ref.No.	Part No.	Description
FH1	1-533-223-11	CLIP, FUSE
FH2	1-533-223-11	CLIP, FUSE

<IC>

Ref.No.	Part No.	Description
IC603	8-749-013-78	IC MCR5102
IC666	8-749-015-89	IC MZ1530
IC690	8-749-920-44	IC SE-012N

<COIL>

Ref.No.	Part No.	Description	
L601	1-406-977-21	INDUCTOR	100μH
L690	1-469-563-11	INDUCTOR	5.6μH

<PHOTO COUPLER>

Ref.No.	Part No.	Description
PH601	8-749-010-64	PHOTO COUPLER PC123F2

<RESISTOR>

Ref.No.	Part No.	Description			Remark
R601	⚠1-220-825-11	CARBON	330K	5%	1/2W
R604	1-215-424-00	METAL	1.3K	1%	1/4W
R605	1-202-933-61	FUSIBLE	0.1	10%	1/2W
R608	1-216-346-00	METAL OXIDE	0.56	5%	1W F
R610	1-216-675-91	METAL CHIP	10K	0.50%	1/10W
R615	1-249-413-11	CARBON	470	5%	1/4W
R621	⚠1-202-727-00	SOLID	4.7M	20%	1/2W
R622	⚠1-202-727-00	SOLID	4.7M	20%	1/2W
R644	1-215-485-00	METAL	470K	1%	1/4W
R645	1-215-481-91	METAL	330K	1%	1/4W

Ref.No.	Part No.	Description			Remark	
R653	1-215-485-00	METAL	470K	1%	1/4W	
R657	1-216-677-11	METAL CHIP	12K	0.50%	1/10W	
R658	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R668	⚠1-242-803-11	CEMENTED	1.5	5%	7W	
R669	⚠1-242-803-11	CEMENTED	1.5	5%	7W	
R670	1-217-192-21	METAL	0.22	10%	2W	
R671	1-217-192-21	METAL	0.22	10%	2W	
R672	1-215-926-00	METAL OXIDE	33K	5%	3W	F
R673	1-215-926-00	METAL OXIDE	33K	5%	3W	F
R674	1-249-377-11	CARBON	0.47	5%	1/4W	F
R675	1-216-073-00	RES,CHIP	10K	5%	1/10W	
R677	1-216-346-00	METAL OXIDE	0.56	5%	1W	F
R678	1-260-135-11	CARBON	1M	5%	1/2W	
R679	1-260-135-11	CARBON	1M	5%	1/2W	
R680	1-260-135-11	CARBON	1M	5%	1/2W	
R681	1-260-135-11	CARBON	1M	5%	1/2W	
R688	1-215-926-00	METAL OXIDE	33K	5%	3W	F
R690	1-249-410-11	CARBON	270	5%	1/4W	F
R691	1-216-057-00	RES,CHIP	2.2K	5%	1/10W	
R692	1-216-049-91	RES,CHIP	1K	5%	1/10W	
R693	1-249-401-11	CARBON	47	5%	1/4W	F

<TRANSFORMER>

Ref.No.	Part No.	Description
T601	⚠1-435-155-11	TRANSFORMER, LINE FILTER
T602	1-435-154-11	TRANSFORMER, FERRITE (PFT)
T604	1-435-153-11	TRANSFORMER, CONVERTER (PIT)

<VARISTOR>

Ref.No.	Part No.	Description
VDR602	⚠1-801-073-31	VARISTOR TNR14V471K660

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Ref.No.	Part No.	Description
	* A-1372-675-A	HA MOUNT (D9H5)

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<CAPACITOR>

Ref.No.	Part No.	Description			Remark
C220	1-163-031-11	CERAMIC CHIP	0.01μF		50V
C221	1-163-031-11	CERAMIC CHIP	0.01μF		50V
C222	1-163-031-11	CERAMIC CHIP	0.01μF		50V
C223	1-163-031-11	CERAMIC CHIP	0.01μF		50V
C224	1-163-031-11	CERAMIC CHIP	0.01μF		50V
C225	1-163-031-11	CERAMIC CHIP	0.01μF		50V
C226	1-163-031-11	CERAMIC CHIP	0.01μF		50V
C227	1-163-031-11	CERAMIC CHIP	0.01μF		50V
C228	1-163-031-11	CERAMIC CHIP	0.01μF		50V
C229	1-163-031-11	CERAMIC CHIP	0.01μF		50V
C230	1-163-031-11	CERAMIC CHIP	0.01μF		50V
C231	1-126-206-11	ELECT CHIP	100μF	20%	6.3V
C232	1-126-206-11	ELECT CHIP	100μF	20%	6.3V
C233	1-126-206-11	ELECT CHIP	100μF	20%	6.3V
C234	1-163-031-11	CERAMIC CHIP	0.01μF		50V

<CONNECTOR>

Ref.No.	Part No.	Description
CN201	1-785-728-21	PIN (PC BOARD), CONNECTOR 7P
CN202	* 1-770-470-21	PIN, CONNECTOR (PC BOARD) 6P
CN203	1-779-993-11	PIN, CONNECTOR (PWB) 5P

<DIODE>

Ref.No.	Part No.	Description
D201	8-719-073-01	DIODE MA111-(K8).S0
D202	8-719-073-01	DIODE MA111-(K8).S0

Ref.No.	Part No.	Description			Remark
D203	8-719-073-01	DIODE MA111-(K8).S0			
D204	8-719-073-01	DIODE MA111-(K8).S0			
D205	8-719-073-01	DIODE MA111-(K8).S0			
D206	8-719-073-01	DIODE MA111-(K8).S0			
D207	8-719-073-01	DIODE MA111-(K8).S0			
D208	8-719-073-01	DIODE MA111-(K8).S0			
D209	8-719-073-01	DIODE MA111-(K8).S0			
D210	8-719-073-01	DIODE MA111-(K8).S0			
D211	8-719-073-01	DIODE MA111-(K8).S0			
D212	8-719-073-01	DIODE MA111-(K8).S0			
D213	8-719-073-01	DIODE MA111-(K8).S0			
D219	8-719-073-01	DIODE MA111-(K8).S0			
D220	8-719-073-01	DIODE MA111-(K8).S0			
D221	8-719-073-01	DIODE MA111-(K8).S0			
D222	8-719-073-01	DIODE MA111-(K8).S0			
D223	8-719-054-22	DIODE SML-020MLTT87			
D224	8-719-054-22	DIODE SML-020MLTT87			
D225	8-719-054-22	DIODE SML-020MLTT87			
D226	8-719-054-22	DIODE SML-020MLTT87			
D227	8-719-158-19	DIODE RD6.2SB			
D232	8-719-073-01	DIODE MA111-(K8).S0			
D233	8-719-073-01	DIODE MA111-(K8).S0			
D234	8-719-073-01	DIODE MA111-(K8).S0			
D235	8-719-073-01	DIODE MA111-(K8).S0			
D242	8-719-073-01	DIODE MA111-(K8).S0			
D243	8-719-073-01	DIODE MA111-(K8).S0			
D244	8-719-073-01	DIODE MA111-(K8).S0			
D245	8-719-073-01	DIODE MA111-(K8).S0			
D246	8-719-073-01	DIODE MA111-(K8).S0			
D247	8-719-073-01	DIODE MA111-(K8).S0			

<IC>

Ref.No.	Part No.	Description
IC201	8-759-342-19	IC NJU3716M-T2
IC202	8-759-342-19	IC NJU3716M-T2
IC203	8-759-342-19	IC NJU3716M-T2
IC204	8-759-342-19	IC NJU3716M-T2

<TRANSISTOR>

Ref.No.	Part No.	Description
Q201	1-801-806-11	TRANSISTOR DTC144EKA-T146
Q202	8-729-921-12	TRANSISTOR 2SD1834
Q203	8-729-921-12	TRANSISTOR 2SD1834
Q204	1-801-806-11	TRANSISTOR DTC144EKA-T146
Q205	8-729-921-12	TRANSISTOR 2SD1834
Q206	8-729-921-12	TRANSISTOR 2SD1834

<RESISTOR>

Ref.No.	Part No.	Description			Remark
R201	1-216-051-00	RES,CHIP	1.2K	5%	1/10W
R202	1-216-051-00	RES,CHIP	1.2K	5%	1/10W
R203	1-216-051-00	RES,CHIP	1.2K	5%	1/10W
R204	1-216-051-00	RES,CHIP	1.2K	5%	1/10W
R205	1-216-097-91	RES,CHIP	100K	5%	1/10W
R206	1-216-049-91	RES,CHIP	1K	5%	1/10W
R207	1-216-049-91	RES,CHIP	1K	5%	1/10W
R208	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R209	1-216-049-91	RES,CHIP	1K	5%	1/10W
R210	1-216-097-91	RES,CHIP	100K	5%	1/10W
R211	1-216-085-00	RES,CHIP	33K	5%	1/10W
R212	1-216-095-00	RES,CHIP	82K	5%	1/10W
R213	1-216-085-00	RES,CHIP	33K	5%	1/10W
R214	1-216-095-00	RES,CHIP	82K	5%	1/10W
R215	1-216-089-91	RES,CHIP	47K	5%	1/10W
R216	1-216-089-91	RES,CHIP	47K	5%	1/10W
R217	1-216-089-91	RES,CHIP	47K	5%	1/10W

Ref.No.	Part No.	Description			Remark
R218	1-216-089-91	RES,CHIP	47K	5%	1/10W
R219	1-216-089-91	RES,CHIP	47K	5%	1/10W
R220	1-216-089-91	RES,CHIP	47K	5%	1/10W
R221	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R222	1-216-049-91	RES,CHIP	1K	5%	1/10W
R223	1-216-049-91	RES,CHIP	1K	5%	1/10W
R224	1-216-049-91	RES,CHIP	1K	5%	1/10W
R225	1-216-097-91	RES,CHIP	100K	5%	1/10W
R226	1-216-035-00	RES,CHIP	270	5%	1/10W
R227	1-216-035-00	RES,CHIP	270	5%	1/10W
R228	1-216-095-00	RES,CHIP	82K	5%	1/10W
R229	1-216-095-00	RES,CHIP	82K	5%	1/10W
R230	1-216-035-00	RES,CHIP	270	5%	1/10W
R231	1-216-035-00	RES,CHIP	270	5%	1/10W
R232	1-216-085-00	RES,CHIP	33K	5%	1/10W
R233	1-216-085-00	RES,CHIP	33K	5%	1/10W
R234	1-216-097-91	RES,CHIP	100K	5%	1/10W
R235	1-216-035-00	RES,CHIP	270	5%	1/10W
R236	1-216-035-00	RES,CHIP	270	5%	1/10W
R237	1-216-035-00	RES,CHIP	270	5%	1/10W
R238	1-216-035-00	RES,CHIP	270	5%	1/10W
R239	1-216-035-00	RES,CHIP	270	5%	1/10W
R240	1-216-035-00	RES,CHIP	270	5%	1/10W

<SWITCH>

Ref.No.	Part No.	Description
S201	1-692-037-31	SWITCH, KEY BOARD (POWER)
S202	1-692-037-31	SWITCH, KEY BOARD (DEGAUSS)
S203	1-692-037-31	SWITCH, KEY BOARD (NUM-1)
S204	1-692-037-31	SWITCH, KEY BOARD (NUM-2)
S205	1-692-037-31	SWITCH, KEY BOARD (NUM-3)
S206	1-692-037-31	SWITCH, KEY BOARD ((DEL)
S207	1-692-037-31	SWITCH, KEY BOARD (NUM-4)
S208	1-692-037-31	SWITCH, KEY BOARD (NUM-5)
S209	1-692-037-31	SWITCH, KEY BOARD (NUM-6)
S210	1-692-037-31	SWITCH, KEY BOARD (NUM-0)
S211	1-692-037-31	SWITCH, KEY BOARD (NUM-7)
S212	1-692-037-31	SWITCH, KEY BOARD (NUM-8)
S213	1-692-037-31	SWITCH, KEY BOARD (NUM-9)
S214	1-692-037-31	SWITCH, KEY BOARD (MENU)
S215	1-692-037-31	SWITCH, KEY BOARD (ENTER)
S216	1-62-037-31	SWITCH, KEY BOARD (UP)
S217	1-692-037-31	SWITCH, KEY BOARD (DOWN)
S218	1-771-804-11	SWITCH, TACTILE (COMB
S219	1-771-804-11	SWITCH, TACTILE (F1)
S220	1-771-804-11	SWITCH, TACTILE (F2)
S221	1-771-804-11	SWITCH, TACTILE (ADDRESS)
S222	1-771-804-11	SWITCH, TACTILE (SHIFT)
S223	1-771-804-11	SWITCH, TACTILE (U/S)
S224	1-771-804-11	SWITCH, TACTILE (H DLAY)
S225	1-771-804-11	SWITCH, TACTILE (V DLAY)
S226	1-771-804-11	SWITCH, TACTILE (MONO)
S227	1-771-804-11	SWITCH, TACTILE (APT)SW

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* A-1372-676-A   HB MOUNT (D9H5)
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<CAPACITOR>

Ref.No.	Part No.	Description			
C1200	1-163-031-11	CERAMIC CHIP	0.01μF		50V
C1201	1-163-031-11	CERAMIC CHIP	0.01μF		50V
C1202	1-163-031-11	CERAMIC CHIP	0.01μF		50V
C1203	1-163-031-11	CERAMIC CHIP	0.01μF		50V
C1204	1-163-031-11	CERAMIC CHIP	0.01μF		50V

Ref.No.	Part No.	Description			Remark
C1205	1-163-031-11	CERAMIC CHIP 0.01μF			50V
C1206	1-163-031-11	CERAMIC CHIP 0.01μF			50V
C1207	1-163-031-11	CERAMIC CHIP 0.01μF			50V

<CONNECTOR>

CN1200	* 1-564-719-11	PIN, CONNECTOR (SMALL TYPE) 3P			
CN1201	* 1-564-726-11	PIN, CONNECTOR (SMALL TYPE)10P			
CN1203	1-564-721-11	PIN, CONNECTOR (SMALL TYPE) 5P			

<DIODE>

D1200	8-719-158-19	DIODE RD6.2SB			
D1201	8-719-073-01	DIODE MA111-(K8).S0			
D1202	8-719-073-01	DIODE MA111-(K8).S0			
D1203	8-719-073-01	DIODE MA111-(K8).S0			
D1204	8-719-073-01	DIODE MA111-(K8).S0			

<CHIP CONDUCTOR>

JR1200	1-216-295-91	SHORT	0		

<RESISTOR>

R1200	1-216-081-00	RES,CHIP	22K	5%	1/10W
R1201	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R1202	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R1203	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R1204	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R1205	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R1206	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R1207	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R1208	1-216-065-91	RES,CHIP	4.7K	5%	1/10W

<VARIABLE RESISTOR>

RV1200	1-223-504-21	RES, VAR, CARBON 20K			

<SWITCH>

S1200	1-418-651-11	ENCODER, ROTARY (PHASE)			
S1201	1-418-651-11	ENCODER, ROTARY (CHROMA)			
S1202	1-418-651-11	ENCODER, ROTARY (BRIGHT)			
S1203	1-418-651-11	ENCODER, ROTARY (CONTRAST)SW			

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	* A-1375-186-A	HC COMPL (D9H5)			

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	1-540-044-11	SOCKET, IC			
	4-382-854-01	SCREW(M3X8), P, SW (+)			

<CAPACITOR>

C1	1-163-227-11	CERAMIC CHIP 10PF	0.5PF	50V
C2	1-163-227-11	CERAMIC CHIP 10PF	0.5PF	50V
C4	1-163-031-11	CERAMIC CHIP 0.01μF		50V
C50	1-163-031-11	CERAMIC CHIP 0.01μF		50V
C52	1-163-031-11	CERAMIC CHIP 0.01μF		50V
C53	1-163-031-11	CERAMIC CHIP 0.01μF		50V
C54	1-163-031-11	CERAMIC CHIP 0.01μF		50V
C55	1-163-031-11	CERAMIC CHIP 0.01μF		50V
C56	1-126-941-11	ELECT	470μF	20%	25V
C57	1-126-786-11	ELECT	47μF	20%	16V

Ref.No.	Part No.	Description			Remark
C60	1-163-031-11	CERAMIC CHIP 0.01μF			50V
C61	1-163-031-11	CERAMIC CHIP 0.01μF			50V
C62	1-163-031-11	CERAMIC CHIP 0.01μF			50V
C63	1-163-031-11	CERAMIC CHIP 0.01μF			50V
C64	1-163-031-11	CERAMIC CHIP 0.01μF			50V
C65	1-163-031-11	CERAMIC CHIP 0.01μF			50V
C67	1-163-031-11	CERAMIC CHIP 0.01μF			50V
C68	1-163-031-11	CERAMIC CHIP 0.01μF			50V
C81	1-126-206-11	ELECT CHIP	100μF	20%	6.3V
C82	1-124-635-00	ELECT	220μF	20%	6.3V
C83	1-126-206-11	ELECT CHIP	100μF	20%	6.3V
C84	1-126-206-11	ELECT CHIP	100μF	20%	6.3V
C85	1-126-206-11	ELECT CHIP	100μF	20%	6.3V
C86	1-126-206-11	ELECT CHIP	100μF	20%	6.3V
C87	1-126-206-11	ELECT CHIP	100μF	20%	6.3V
C89	1-126-206-11	ELECT CHIP	100μF	20%	6.3V

<CONNECTOR>

CN2	* 1-564-711-11	PIN, CONNECTOR (SMALL TYPE) 9P			
CN3	* 1-564-712-11	PIN, CONNECTOR (SMALL TYPE)10P			
CN4	* 1-564-708-11	PIN, CONNECTOR (SMALL TYPE) 6P			
CN5	* 1-564-708-11	PIN, CONNECTOR (SMALL TYPE) 6P			
CN6	* 1-564-508-11	PLUG, CONNECTOR 5P			

<DIODE>

D1	8-719-158-19	DIODE RD6.2SB			
D2	8-719-158-19	DIODE RD6.2SB			
D3	8-719-158-19	DIODE RD6.2SB			
D4	8-719-158-19	DIODE RD6.2SB			
D5	8-719-158-19	DIODE RD6.2SB			
D6	8-719-158-19	DIODE RD6.2SB			
D7	8-719-158-19	DIODE RD6.2SB			
D8	8-719-158-19	DIODE RD6.2SB			

<FILTER>

FL1	1-239-183-11	FILTER, EMI			
FL2	1-239-183-11	FILTER, EMI			
FL3	1-239-183-11	FILTER, EMI			
FL4	1-239-183-11	FILTER, EMI			
FL5	1-236-071-11	ENCAPSULATED COMPONENT			
FL6	1-236-071-11	ENCAPSULATED COMPONENT			
FL7	1-239-183-11	FILTER, EMI			
FL8	1-239-183-11	FILTER, EMI			
FL9	1-239-183-11	FILTER, EMI			
FL10	1-239-183-11	FILTER, EMI			
FL11	1-236-071-11	ENCAPSULATED COMPONENT			
FL12	1-239-183-11	FILTER, EMI			
FL13	1-239-183-11	FILTER, EMI			
FL14	1-239-183-11	FILTER, EMI			
FL15	1-239-183-11	FILTER, EMI			
FL16	1-236-071-11	ENCAPSULATED COMPONENT			

<IC>

IC2	8-759-991-19	IC PST529CMT			
IC3	8-759-186-47	IC TC74VHC138F			
IC9	8-759-186-30	IC TC74VHC14F			
IC10	8-759-186-30	IC TC74VHC14F			
IC11	8-759-175-27	IC TC74VHC574F			
IC12	8-759-174-16	IC TC74VHC244F			
IC13	8-759-289-43	IC LTC490CS8			
IC14	8-759-394-36	IC BA09T			

Ref.No.	Part No.	Description			Remark
		<COIL>			
L2	1-412-537-31	INDUCTOR	100μH		
L4	1-412-544-15	INDUCTOR	390μH		
		<RESISTOR>			
R1	1-216-073-00	RES,CHIP	10K	5%	1/10W
R2	1-216-295-91	SHORT	0		
R3	1-216-073-00	RES,CHIP	10K	5%	1/10W
R4	1-216-073-00	RES,CHIP	10K	5%	1/10W
R5	1-216-073-00	RES,CHIP	10K	5%	1/10W
R6	1-216-073-00	RES,CHIP	10K	5%	1/10W
R7	1-216-097-91	RES,CHIP	100K	5%	1/10W
R12	1-216-073-00	RES,CHIP	10K	5%	1/10W
R13	1-216-073-00	RES,CHIP	10K	5%	1/10W
R14	1-216-049-91	RES,CHIP	1K	5%	1/10W
R15	1-216-049-91	RES,CHIP	1K	5%	1/10W
R16	1-216-073-00	RES,CHIP	10K	5%	1/10W
R19	1-216-073-00	RES,CHIP	10K	5%	1/10W
R20	1-216-073-00	RES,CHIP	10K	5%	1/10W
R21	1-216-049-91	RES,CHIP	1K	5%	1/10W
R22	1-216-049-91	RES,CHIP	1K	5%	1/10W
R23	1-216-049-91	RES,CHIP	1K	5%	1/10W
R24	1-216-049-91	RES,CHIP	1K	5%	1/10W
R25	1-216-049-91	RES,CHIP	1K	5%	1/10W
R26	1-216-049-91	RES,CHIP	1K	5%	1/10W
R27	1-216-049-91	RES,CHIP	1K	5%	1/10W
R28	1-216-049-91	RES,CHIP	1K	5%	1/10W
R41	1-216-073-00	RES,CHIP	10K	5%	1/10W
R42	1-216-073-00	RES,CHIP	10K	5%	1/10W
R43	1-216-073-00	RES,CHIP	10K	5%	1/10W
R44	1-216-073-00	RES,CHIP	10K	5%	1/10W
R60	1-216-089-91	RES,CHIP	47K	5%	1/10W
R61	1-216-089-91	RES,CHIP	47K	5%	1/10W
R62	1-216-089-91	RES,CHIP	47K	5%	1/10W
R63	1-216-089-91	RES,CHIP	47K	5%	1/10W
R64	1-216-089-91	RES,CHIP	47K	5%	1/10W
R65	1-216-089-91	RES,CHIP	47K	5%	1/10W
R66	1-216-089-91	RES,CHIP	47K	5%	1/10W
R67	1-216-089-91	RES,CHIP	47K	5%	1/10W
R68	1-216-097-91	RES,CHIP	100K	5%	1/10W
R70	1-216-097-91	RES,CHIP	100K	5%	1/10W
R71	1-216-097-91	RES,CHIP	100K	5%	1/10W
R72	1-216-097-91	RES,CHIP	100K	5%	1/10W
R73	1-216-097-91	RES,CHIP	100K	5%	1/10W
R74	1-216-097-91	RES,CHIP	100K	5%	1/10W
R75	1-216-097-91	RES,CHIP	100K	5%	1/10W
R76	1-216-097-91	RES,CHIP	100K	5%	1/10W
R77	1-216-097-91	RES,CHIP	100K	5%	1/10W
R78	1-216-097-91	RES,CHIP	100K	5%	1/10W
R79	1-216-097-91	RES,CHIP	100K	5%	1/10W
R80	1-216-097-91	RES,CHIP	100K	5%	1/10W
R81	1-216-097-91	RES,CHIP	100K	5%	1/10W
R82	1-216-097-91	RES,CHIP	100K	5%	1/10W
R83	1-216-097-91	RES,CHIP	100K	5%	1/10W
R84	1-216-097-91	RES,CHIP	100K	5%	1/10W
R85	1-216-097-91	RES,CHIP	100K	5%	1/10W
R86	1-216-097-91	RES,CHIP	100K	5%	1/10W
R87	1-216-097-91	RES,CHIP	100K	5%	1/10W
R88	1-216-097-91	RES,CHIP	100K	5%	1/10W
R89	1-216-097-91	RES,CHIP	100K	5%	1/10W
R90	1-216-097-91	RES,CHIP	100K	5%	1/10W
R91	1-216-097-91	RES,CHIP	100K	5%	1/10W
R92	1-216-097-91	RES,CHIP	100K	5%	1/10W
R93	1-216-097-91	RES,CHIP	100K	5%	1/10W
R94	1-216-097-91	RES,CHIP	100K	5%	1/10W

Ref.No.	Part No.	Description				Remark
		<CRYSTAL>				
X1	1-767-892-21	VIBRATOR, CRYSTAL (20 MHz)				

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* A-1372-677-A   HD MOUNT (D9H5)
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Ref.No.	Part No.	Description				Remark
		<CAPACITOR>				
C3200	1-126-791-11	ELECT	10μF	20%		16V
C3201	1-126-791-11	ELECT	10μF	20%		16V
C3202	1-126-791-11	ELECT	10μF	20%		16V
C3203	1-163-031-11	CERAMIC CHIP	0.01μF			50V
C3204	1-126-786-11	ELECT	47μF	20%		16V
C3205	1-163-031-11	CERAMIC CHIP	0.01μF			50V
C3206	1-163-031-11	CERAMIC CHIP	0.01μF			50V
C3207	1-126-786-11	ELECT	47μF	20%		16V
C3209	1-126-791-11	ELECT	10μF	20%		16V
C3210	1-115-868-11	ELECT	0.22μF	20%		50V
C3211	1-163-017-00	CERAMIC CHIP	0.0047μF	10%		50V
C3212	1-126-791-11	ELECT	10μF	20%		16V
C3213	1-126-791-11	ELECT	10μF	20%		16V
C3214	1-137-397-11	MYLAR	0.047μF	5%		100V
C3215	1-128-499-11	ELECT	220μF	20%		16V
C3216	1-126-786-11	ELECT	47μF	20%		16V
C3217	1-128-499-11	ELECT	220μF	20%		16V
C3218	1-126-791-11	ELECT	10μF	20%		16V
C3219	1-163-031-11	CERAMIC CHIP	0.01μF			50V
		<CONNECTOR>				
CN3200	* 1-564-518-11	PLUG, CONNECTOR 3P				
CN3202	* 1-564-517-11	PLUG, CONNECTOR 2P				
CN3203	* 1-564-526-11	PLUG, CONNECTOR 11P				
		<FERRITE BEAD>				
FB3200	1-410-396-41	FERRITE	0.45μH			
		<FILTER>				
FL3200	1-239-384-11	FILTER, EMI				
FL3201	1-239-384-11	FILTER, EMI				
FL3202	1-239-384-11	FILTER, EMI				
		<IC>				
IC3200	8-759-009-06	IC MC14052BF				
IC3201	8-759-420-04	IC AN5265				
		<JACK>				
J3200	1-793-632-11	JACK, PIN (LINE A)				
J3201	1-793-632-11	JACK, PIN (LINE B)				
J3202	1-793-632-11	JACK, PIN (LINE C)				
		<JACKCHIP CONDUCTOR>				
JR3201	1-216-295-91	SHORT	0			
		<TRANSISTOR>				
Q3200	8-729-026-50	TRANSISTOR 2SA1037AK-T146-QR				
Q3201	8-729-026-50	TRANSISTOR 2SA1037AK-T146-QR				

Ref.No.	Part No.	Description			Remark
Q3202	8-729-026-50	TRANSISTOR 2SA1037AK-T146-QR			
Q3203	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q3205	1-801-806-11	TRANSISTOR DTC144EKA-T146			
Q3206	1-801-806-11	TRANSISTOR DTC144EKA-T146			
Q3207	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R			

<RESISTOR>

Ref.No.	Part No.	Description			Remark
R3200	1-249-440-11	CARBON	82K	5%	1/4W
R3201	1-249-440-11	CARBON	82K	5%	1/4W
R3202	1-249-440-11	CARBON	82K	5%	1/4W
R3203	1-216-097-91	RES,CHIP	100K	5%	1/10W
R3204	1-216-097-91	RES,CHIP	100K	5%	1/10W
R3205	1-216-097-91	RES,CHIP	100K	5%	1/10W
R3206	1-216-105-91	RES,CHIP	220K	5%	1/10W
R3207	1-216-115-00	RES,CHIP	560K	5%	1/10W
R3208	1-216-105-91	RES,CHIP	220K	5%	1/10W
R3209	1-216-115-00	RES,CHIP	560K	5%	1/10W
R3210	1-216-105-91	RES,CHIP	220K	5%	1/10W
R3211	1-216-115-00	RES,CHIP	560K	5%	1/10W
R3212	1-216-077-91	RES,CHIP	15K	5%	1/10W
R3213	1-216-077-91	RES,CHIP	15K	5%	1/10W
R3214	1-216-077-91	RES,CHIP	15K	5%	1/10W
R3215	1-216-025-91	RES,CHIP	100	5%	1/10W
R3216	1-216-025-91	RES,CHIP	100	5%	1/10W
R3217	1-216-025-91	RES,CHIP	100	5%	1/10W
R3218	1-216-025-91	RES,CHIP	100	5%	1/10W
R3219	1-216-025-91	RES,CHIP	100	5%	1/10W
R3220	1-216-025-91	RES,CHIP	100	5%	1/10W
R3221	1-216-077-91	RES,CHIP	15K	5%	1/10W
R3222	1-216-025-91	RES,CHIP	100	5%	1/10W
R3226	1-216-091-00	RES,CHIP	56K	5%	1/10W
R3228	1-249-389-11	CARBON	4.7	5%	1/4W
R3229	1-249-424-11	CARBON	3.9K	5%	1/4W
R3230	1-249-415-11	CARBON	680	5%	1/4W
R3231	1-216-085-00	RES,CHIP	33K	5%	1/10W
R3232	1-216-081-00	RES,CHIP	22K	5%	1/10W
R3233	1-249-393-11	CARBON	10	5%	1/4W F
R3234	1-249-389-11	CARBON	4.7	5%	1/4W F
R3235	1-216-073-00	RES,CHIP	10K	5%	1/10W
R3236	1-216-073-00	RES,CHIP	10K	5%	1/10W
R3237	1-216-081-00	RES,CHIP	22K	5%	1/10W
R3238	1-216-077-91	RES,CHIP	15K	5%	1/10W
R3239	1-216-025-91	RES,CHIP	100	5%	1/10W

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* A-1306-574-A	MA COMPL (D9H1)		
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* A-1306-581-A	MA COMPL (D9H5)		
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1-540-222-11	SOCKET, IC (PCC PACKAGE) 84P		
1-550-104-11	HOLDER, BATTERY		
————	BATTERY, LITHIUM CR2025		

<CAPACITOR>

Ref.No.	Part No.	Description				Remark
C101	1-163-031-11	CERAMIC CHIP	0.01μF			50V
C102	1-126-392-11	ELECT CHIP	100μF	20%		6.3V
C103	1-126-392-11	ELECT CHIP	100μF	20%		6.3V
C104	1-163-031-11	CERAMIC CHIP	0.01μF			50V
C105	1-163-235-11	CERAMIC CHIP	22PF	5%		50V
C106	1-163-227-11	CERAMIC CHIP	10PF	0.5PF		50V
C108	1-126-392-11	ELECT CHIP	100μF	20%		6.3V
C109	1-126-392-11	ELECT CHIP	100μF	20%		6.3V

Ref.No.	Part No.	Description				Remark
C110	1-163-031-11	CERAMIC CHIP	0.01μF			50V
C111	1-126-392-11	ELECT CHIP	100μF	20%		6.3V
C112	1-126-392-11	ELECT CHIP	100μF	20%		6.3V
C113	1-163-031-11	CERAMIC CHIP	0.01μF			50V
C114	1-163-031-11	CERAMIC CHIP	0.01μF			50V
C115	1-163-031-11	CERAMIC CHIP	0.01μF			50V
C116	1-126-392-11	ELECT CHIP	100μF	20%		6.3V
C117	1-163-031-11	CERAMIC CHIP	0.01μF			50V
C118	1-126-392-11	ELECT CHIP	100μF	20%		6.3V
C119	1-163-031-11	CERAMIC CHIP	0.01μF			50V
C120	1-163-031-11	CERAMIC CHIP	0.01μF			50V
C121	1-126-392-11	ELECT CHIP	100μF	20%		6.3V
C122	1-126-392-11	ELECT CHIP	100μF	20%		6.3V
C123	1-163-031-11	CERAMIC CHIP	0.01μF			50V
C124	1-163-031-11	CERAMIC CHIP	0.01μF			50V
C125	1-126-392-11	ELECT CHIP	100μF	20%		6.3V
C126	1-163-031-11	CERAMIC CHIP	0.01μF			50V
C127	1-163-031-11	CERAMIC CHIP	0.01μF			50V
C128	1-126-392-11	ELECT CHIP	100μF	20%		6.3V
C129	1-126-392-11	ELECT CHIP	100μF	20%		6.3V
C130	1-163-031-11	CERAMIC CHIP	0.01μF			50V
C131	1-163-031-11	CERAMIC CHIP	0.01μF			50V
C132	1-126-392-11	ELECT CHIP	100μF	20%		6.3V
C133	1-126-392-11	ELECT CHIP	100μF	20%		6.3V
C134	1-163-031-11	CERAMIC CHIP	0.01μF			50V
C135	1-163-031-11	CERAMIC CHIP	0.01μF			50V
C136	1-126-392-11	ELECT CHIP	100μF	20%		6.3V
C137	1-163-031-11	CERAMIC CHIP	0.01μF			50V
C139	1-163-031-11	CERAMIC CHIP	0.01μF			50V
C140	1-163-031-11	CERAMIC CHIP	0.01μF			50V
C141	1-163-031-11	CERAMIC CHIP	0.01μF			50V
C142	1-163-031-11	CERAMIC CHIP	0.01μF			50V
C144	1-163-031-11	CERAMIC CHIP	0.01μF			50V
C145	1-163-031-11	CERAMIC CHIP	0.01μF			50V
C147	1-163-031-11	CERAMIC CHIP	0.01μF			50V
C148	1-163-031-11	CERAMIC CHIP	0.01μF			50V
C149	1-126-392-11	ELECT CHIP	100μF	20%		6.3V
C150	1-163-031-11	CERAMIC CHIP	0.01μF			50V
C151	1-163-031-11	CERAMIC CHIP	0.01μF			50V
C153	1-163-031-11	CERAMIC CHIP	0.01μF			50V
C154	1-163-031-11	CERAMIC CHIP	0.01μF			50V
C159	1-126-392-11	ELECT CHIP	100μF	20%		6.3V
C160	1-163-031-11	CERAMIC CHIP	0.01μF			50V
C161	1-163-031-11	CERAMIC CHIP	0.01μF			50V
C162	1-163-031-11	CERAMIC CHIP	0.01μF			50V
C163	1-126-392-11	ELECT CHIP	100μF	20%		6.3V
C164	1-163-031-11	CERAMIC CHIP	0.01μF			50V
C165	1-126-400-11	ELECT CHIP	22μF	20%		35V
C166	1-126-392-11	ELECT CHIP	100μF	20%		6.3V
C168	1-126-392-11	ELECT CHIP	100μF	20%		6.3V
C169	1-163-031-11	CERAMIC CHIP	0.01μF			50V
C171	1-163-031-11	CERAMIC CHIP	0.01μF			50V
C172	1-126-392-11	ELECT CHIP	100μF	20%		6.3V

<CONNECTOR>

Ref.No.	Part No.	Description
CN101	* 1-564-525-11	PLUG, CONNECTOR 10P
CN102	* 1-793-722-11	PIN, CONNECTOR (PC BOARD) 50P
CN103	* 1-564-522-11	PLUG, CONNECTOR 7P
CN104	* 1-564-526-11	PLUG, CONNECTOR 11P (D9H5)
CN105	* 1-564-524-11	PLUG, CONNECTOR 9P (D9H5)

<DIODE>

Ref.No.	Part No.	Description
D101	8-719-158-19	DIODE RD6.2SB
D102	8-719-158-19	DIODE RD6.2SB

Ref.No.	Part No.	Description			Remark
D103	8-719-158-19	DIODE RD6.2SB			
D104	8-719-158-19	DIODE RD6.2SB			
D105	8-719-158-19	DIODE RD6.2SB (D9H5)			
D107	8-719-158-19	DIODE RD6.2SB (D9H5)			
D109	8-719-158-19	DIODE RD6.2SB			
		<FILTER>			
FL103	1-239-183-11	FILTER, EMI			
FL104	1-239-183-11	FILTER, EMI			
FL105	1-239-183-11	FILTER, EMI			
FL107	1-239-183-11	FILTER, EMI			
FL108	1-239-183-11	FILTER, EMI			
FL109	1-239-183-11	FILTER, EMI			
FL110	1-239-183-11	FILTER, EMI			
FL111	1-239-183-11	FILTER, EMI			
FL112	1-239-183-11	FILTER, EMI			
FL113	1-239-183-11	FILTER, EMI			
FL114	1-236-071-11	ENCAPSULATED COMPONENT			
FL115	1-236-071-11	ENCAPSULATED COMPONENT			
FL116	1-239-183-11	FILTER, EMI (D9H5)			
FL117	1-236-071-11	ENCAPSULATED COMPONENT			
FL118	1-239-183-11	FILTER, EMI (D9H5)			
FL120	1-239-183-11	FILTER, EMI			
FL121	1-239-183-11	FILTER, EMI (D9H5)			
FL123	1-239-183-11	FILTER, EMI			
		<IC>			
IC101	8-759-186-44	IC TC74VHC125F			
IC102	8-759-082-59	IC TC7W32FU			
IC103	8-759-925-75	IC SN74HC05ANS			
IC104	8-759-239-98	IC TC74HC30AF			
IC106	8-759-644-13	IC HD6435368AX06M			
IC107	8-759-081-44	IC TC74VHC04F			
IC108	8-759-553-93	IC MBM29F400BC-90PF			
IC109	8-759-186-47	IC TC74VHC138F			
IC110	8-759-346-07	IC MM1026BFB			
IC111	8-759-497-29	IC LC35256DM-70-TLM			
IC113	8-759-575-91	IC MAX490ECSA			
		<CHIP CONDUCTOR>			
JR101	1-216-295-91	SHORT	0		
JR103	1-216-097-91	RES,CHIP	100K	5%	1/10W
		<COIL>			
L101	1-412-537-31	INDUCTOR	100μH		
		<TRANSISTOR>			
Q102	8-729-027-38	TRANSISTOR DTA144EKA-T146			
Q103	1-801-806-11	TRANSISTOR DTC144EKA-T146			
Q104	1-801-806-11	TRANSISTOR DTC144EKA-T146			
Q105	8-729-903-46	TRANSISTOR 2SB1132-P			
Q106	8-729-903-46	TRANSISTOR 2SB1132-P			
		<RESISTOR>			
R101	1-216-097-91	RES,CHIP	100K	5%	1/10W
R102	1-216-097-91	RES,CHIP	100K	5%	1/10W
R103	1-216-025-91	RES,CHIP	100	5%	1/10W
R104	1-216-025-91	RES,CHIP	100	5%	1/10W
R105	1-216-097-91	RES,CHIP	100K	5%	1/10W

Ref.No.	Part No.	Description			Remark
R106	1-216-097-91	RES,CHIP	100K	5%	1/10W
R107	1-216-097-91	RES,CHIP	100K	5%	1/10W
R108	1-216-097-91	RES,CHIP	100K	5%	1/10W
R109	1-216-097-91	RES,CHIP	100K	5%	1/10W
R110	1-216-097-91	RES,CHIP	100K	5%	1/10W
R111	1-216-097-91	RES,CHIP	100K	5%	1/10W
R112	1-216-097-91	RES,CHIP	100K	5%	1/10W
R113	1-216-025-91	RES,CHIP	100	5%	1/10W
R114	1-216-295-91	SHORT	0 (D9H5)		
R115	1-216-025-91	RES,CHIP	100	5%	1/10W
R116	1-216-025-91	RES,CHIP	100	5%	1/10W
R117	1-216-025-91	RES,CHIP	100	5%	1/10W
R118	1-216-097-91	RES,CHIP	100K	5%	1/10W
R119	1-216-097-91	RES,CHIP	100K	5%	1/10W
R120	1-216-025-91	RES,CHIP	100	5%	1/10W
R121	1-216-097-91	RES,CHIP	100K	5%	1/10W
R122	1-216-025-91	RES,CHIP	100	5%	1/10W
R123	1-216-121-91	RES,CHIP	1M	5%	1/10W
R124	1-216-025-91	RES,CHIP	100	5%	1/10W
R125	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R126	1-216-025-91	RES,CHIP	100	5%	1/10W
R127	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R128	1-216-097-91	RES,CHIP	100K	5%	1/10W
R129	1-216-097-91	RES,CHIP	100K	5%	1/10W
R130	1-216-049-91	RES,CHIP	1K	5%	1/10W
R131	1-216-049-91	RES,CHIP	1K	5%	1/10W
R132	1-216-097-91	RES,CHIP	100K	5%	1/10W
R133	1-216-049-91	RES,CHIP	1K	5%	1/10W
R134	1-216-049-91	RES,CHIP	1K	5%	1/10W
R135	1-216-073-00	RES,CHIP	10K	5%	1/10W
R136	1-216-073-00	RES,CHIP	10K	5%	1/10W
R137	1-216-073-00	RES,CHIP	10K	5%	1/10W
R138	1-216-097-91	RES,CHIP	100K	5%	1/10W
R139	1-216-049-91	RES,CHIP	1K	5%	1/10W
R140	1-216-097-91	RES,CHIP	100K	5%	1/10W
R141	1-216-049-91	RES,CHIP	1K	5%	1/10W
R142	1-216-097-91	RES,CHIP	100K	5%	1/10W
R143	1-216-049-91	RES,CHIP	1K	5%	1/10W
R144	1-216-097-91	RES,CHIP	100K	5%	1/10W
R145	1-216-049-91	RES,CHIP	1K	5%	1/10W
R146	1-216-097-91	RES,CHIP	100K	5%	1/10W
R147	1-216-049-91	RES,CHIP	1K	5%	1/10W
R148	1-216-097-91	RES,CHIP	100K	5%	1/10W
R150	1-216-097-91	RES,CHIP	100K	5%	1/10W
R151	1-216-097-91	RES,CHIP	100K	5%	1/10W
R152	1-216-073-00	RES,CHIP	10K	5%	1/10W
R153	1-216-073-00	RES,CHIP	10K	5%	1/10W
R154	1-216-097-91	RES,CHIP	100K	5%	1/10W
R155	1-216-097-91	RES,CHIP	100K	5%	1/10W
R156	1-216-097-91	RES,CHIP	100K	5%	1/10W
R157	1-216-097-91	RES,CHIP	100K	5%	1/10W
R158	1-216-073-00	RES,CHIP	10K	5%	1/10W
R159	1-216-049-91	RES,CHIP	1K	5%	1/10W
R160	1-216-073-00	RES,CHIP	10K	5%	1/10W
R161	1-216-097-91	RES,CHIP	100K	5%	1/10W
R162	1-216-097-91	RES,CHIP	100K	5%	1/10W
R163	1-216-097-91	RES,CHIP	100K	5%	1/10W
R164	1-216-097-91	RES,CHIP	100K	5%	1/10W
R165	1-216-097-91	RES,CHIP	100K	5%	1/10W
R166	1-216-025-91	RES,CHIP	100	5%	1/10W
R167	1-216-097-91	RES,CHIP	100K	5%	1/10W
R168	1-216-025-91	RES,CHIP	100	5%	1/10W
R169	1-216-097-91	RES,CHIP	100K	5%	1/10W
R170	1-216-025-91	RES,CHIP	100	5%	1/10W
R171	1-216-025-91	RES,CHIP	100	5%	1/10W

Ref.No.	Part No.	Description			Remark
R173	1-216-025-91	RES,CHIP	100	5%	1/10W
R174	1-216-025-91	RES,CHIP	100	5%	1/10W
R177	1-216-025-91	RES,CHIP	100	5%	1/10W
R178	1-216-053-00	RES,CHIP	1.5K	5%	1/10W
R179	1-216-047-91	RES,CHIP	820	5%	1/10W
R180	1-216-073-00	RES,CHIP	10K	5%	1/10W
R181	1-216-025-91	RES,CHIP	100	5%	1/10W
R182	1-216-025-91	RES,CHIP	100	5%	1/10W
R183	1-216-073-00	RES,CHIP	10K	5%	1/10W
R184	1-216-025-91	RES,CHIP	100	5%	1/10W
R185	1-216-025-91	RES,CHIP	100	5%	1/10W
R186	1-216-025-91	RES,CHIP	100	5%	1/10W
R187	1-216-025-91	RES,CHIP	100	5%	1/10W
R188	1-216-025-91	RES,CHIP	100	5%	1/10W
R189	1-216-025-91	RES,CHIP	100	5%	1/10W
R190	1-216-053-00	RES,CHIP	1.5K	5%	1/10W
R191	1-216-053-00	RES,CHIP	1.5K	5%	1/10W
R192	1-216-097-91	RES,CHIP	100K	5%	1/10W
R193	1-216-053-00	RES,CHIP	1.5K	5%	1/10W
R194	1-216-053-00	RES,CHIP	1.5K	5%	1/10W
R195	1-216-053-00	RES,CHIP	1.5K	5%	1/10W
R196	1-216-073-00	RES,CHIP	10K	5%	1/10W
R197	1-216-073-00	RES,CHIP	10K	5%	1/10W
R198	1-216-097-91	RES,CHIP	100K	5%	1/10W

<THERMISTOR>

Ref.No.	Part No.	Description
THP101	1-771-075-21	THERMISTOR, POSITIVE
THP102	1-771-075-21	THERMISTOR, POSITIVE

<TEST PIN>

Ref.No.	Part No.	Description
TP110	* 1-537-864-11	PIN, POST
TP111	* 1-537-864-11	PIN, POST
TP112	* 1-537-864-11	PIN, POST
TP113	* 1-537-864-11	PIN, POST
TP114	* 1-537-864-11	PIN, POST

<CRYSTAL>

Ref.No.	Part No.	Description
X101	1-767-892-21	VIBRATOR, CRYSTAL (20 MHz)

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	Part No.	Description
	* A-1306-575-A	MB COMPL (D9H1)
		*******************
	* A-1306-576-A	MB COMPL (D9H5)
		*******************
	7-432-114-11	SCREW LOCK

<CAPACITOR>

Ref.No.	Part No.	Description			Remark
C1100	1-126-206-11	ELECT CHIP	100µF	20%	6.3V
C1101	1-165-319-11	CERAMIC CHIP 0.1µF			50V
C1102	1-126-206-11	ELECT CHIP	100µF	20%	6.3V
C1103	1-165-319-11	CERAMIC CHIP 0.1µF			50V
C1104	1-163-031-11	CERAMIC CHIP 0.01µF			50V
C1105	1-163-031-11	CERAMIC CHIP 0.01µF			50V
C1106	1-126-206-11	ELECT CHIP	100µF	20%	6.3V
C1107	1-126-206-11	ELECT CHIP	100µF	20%	6.3V
C1108	1-163-233-11	CERAMIC CHIP 18PF	5%		50V
C1109	1-163-031-11	CERAMIC CHIP 0.01µF			50V
C1110	1-163-231-11	CERAMIC CHIP 15PF	5%		50V
C1111	1-126-206-11	ELECT CHIP	100µF	20%	6.3V
C1112	1-163-031-11	CERAMIC CHIP 0.01µF			50V
C1114	1-163-031-11	CERAMIC CHIP 0.01µF			50V

Ref.No.	Part No.	Description			Remark
C1115	1-126-206-11	ELECT CHIP	100µF	20%	6.3V
C1116	1-163-031-11	CERAMIC CHIP 0.01µF			50V
C1117	1-126-206-11	ELECT CHIP	100µF	20%	6.3V
C1118	1-163-021-91	CERAMIC CHIP 0.01µF	10%		50V
C1119	1-107-682-11	CERAMIC CHIP 1µF	10%		16V
C1120	1-163-031-11	CERAMIC CHIP 0.01µF			50V
C1121	1-126-206-11	ELECT CHIP	100µF	20%	6.3V
C1122	1-165-319-11	CERAMIC CHIP 0.1µF			50V
C1123	1-163-031-11	CERAMIC CHIP 0.01µF			50V
C1124	1-165-319-11	CERAMIC CHIP 0.1µF			50V
C1125	1-126-206-11	ELECT CHIP	100µF	20%	6.3V
C1126	1-165-319-11	CERAMIC CHIP 0.1µF			50V
C1127	1-126-206-11	ELECT CHIP	100µF	20%	6.3V
C1128	1-165-319-11	CERAMIC CHIP 0.1µF			50V
C1129	1-126-206-11	ELECT CHIP	100µF	20%	6.3V
C1130	1-126-206-11	ELECT CHIP	100µF	20%	6.3V
C1131	1-163-031-11	CERAMIC CHIP 0.01µF			50V
C1132	1-165-319-11	CERAMIC CHIP 0.1µF			50V
C1133	1-165-319-11	CERAMIC CHIP 0.1µF			50V
C1134	1-165-319-11	CERAMIC CHIP 0.1µF			50V
C1135	1-163-021-91	CERAMIC CHIP 0.01µF	10%		50V
C1136	1-107-682-11	CERAMIC CHIP 1µF	10%		16V
C1137	1-165-319-11	CERAMIC CHIP 0.1µF			50V
C1138	1-165-319-11	CERAMIC CHIP 0.1µF			50V
C1139	1-165-319-11	CERAMIC CHIP 0.1µF			50V
C1140	1-165-319-11	CERAMIC CHIP 0.1µF			50V
C1141	1-163-031-11	CERAMIC CHIP 0.01µF			50V
C1142	1-126-206-11	ELECT CHIP	100µF	20%	6.3V
C1143	1-163-031-11	CERAMIC CHIP 0.01µF			50V
C1144	1-163-031-11	CERAMIC CHIP 0.01µF			50V
C1145	1-126-206-11	ELECT CHIP	100µF	20%	6.3V
C1146	1-163-031-11	CERAMIC CHIP 0.01µF			50V
C1147	1-163-031-11	CERAMIC CHIP 0.01µF			50V
C1148	1-163-031-11	CERAMIC CHIP 0.01µF			50V
C1149	1-163-031-11	CERAMIC CHIP 0.01µF			50V
C1150	1-126-206-11	ELECT CHIP	100µF	20%	6.3V
C1151	1-163-031-11	CERAMIC CHIP 0.01µF			50V
C1152	1-163-031-11	CERAMIC CHIP 0.01µF			50V
C1153	1-163-031-11	CERAMIC CHIP 0.01µF			50V
C1154	1-163-031-11	CERAMIC CHIP 0.01µF			50V
C1156	1-163-031-11	CERAMIC CHIP 0.01µF			50V
C1157	1-126-206-11	ELECT CHIP	100µF	20%	6.3V
C1158	1-163-031-11	CERAMIC CHIP 0.01µF			50V
C1159	1-126-206-11	ELECT CHIP	100µF	20%	6.3V
C1160	1-163-021-91	CERAMIC CHIP 0.01µF	10%		50V
C1161	1-163-021-91	CERAMIC CHIP 0.01µF	10%		50V
C1162	1-164-690-91	CERAMIC CHIP 0.0022µF	5%		50V
C1180	1-163-243-11	CERAMIC CHIP 47PF	5%		50V

<CONNECTOR>

Ref.No.	Part No.	Description
CN1100	* 1-564-524-11	PLUG, CONNECTOR 9P
CN1101	* 1-564-527-11	PLUG, CONNECTOR 12P
CN1102	* 1-793-722-11	PIN, CONNECTOR (PC BOARD) 50P
CN1103	1-695-581-21	CONNECTOR, D SUB
CN1104	1-695-581-21	CONNECTOR, D SUB
CN1105	* 1-564-524-11	PLUG, CONNECTOR 9P
CN1106	* 1-564-522-11	PLUG, CONNECTOR 7P
CN1107	1-695-581-21	CONNECTOR, D SUB
CN1109	1-793-721-11	JACK, MODULAR

<DIODE>

Ref.No.	Part No.	Description
D1100	8-719-158-19	DIODE RD6.2SB
D1101	8-719-158-19	DIODE RD6.2SB
D1102	8-719-158-19	DIODE RD6.2SB

Ref.No.	Part No.	Description			Remark
D1103	8-719-158-19	DIODE RD6.2SB			
D1104	8-719-037-22	DIODE RD12SB-T1			
D1105	8-719-037-22	DIODE RD12SB-T1			
D1106	8-719-037-22	DIODE RD12SB-T1			
D1107	8-719-037-22	DIODE RD12SB-T1			
D1108	8-719-037-22	DIODE RD12SB-T1			
D1109	8-719-037-22	DIODE RD12SB-T1			
D1110	8-719-158-19	DIODE RD6.2SB			
D1111	8-719-158-19	DIODE RD6.2SB			
D1112	8-719-158-19	DIODE RD6.2SB			
D1113	8-719-158-19K	DIODE RD6.2SB			
D1114	8-719-158-19	DIODE RD6.2SB			
D1115	8-719-158-19	DIODE RD6.2SB			
D1116	8-719-158-19	DIODE RD6.2SB			
D1117	8-719-158-19	DIODE RD6.2SB			
D1118	8-719-158-19	DIODE RD6.2SB			
		<FILTER>			
FL1100	1-239-183-11	FILTER, EMI			
FL1101	1-239-183-11	FILTER, EMI			
FL1102	1-239-183-11	FILTER, EMI			
FL1103	1-239-183-11	FILTER, EMI			
FL1108	1-239-183-11	FILTER, EMI			
FL1109	1-239-183-11	FILTER, EMI			
FL1110	1-239-183-11	FILTER, EMI			
FL1111	1-239-183-11	FILTER, EMI			
FL1112	1-239-183-11	FILTER, EMI			
FL1113	1-239-183-11	FILTER, EMI			
FL1114	1-239-183-11	FILTER, EMI			
FL1115	1-239-183-11	FILTER, EMI			
FL1116	1-239-183-11	FILTER, EMI			
FL1117	1-239-183-11	FILTER, EMI			
FL1118	1-239-183-11	FILTER, EMI			
FL1119	1-239-183-11	FILTER, EMI			
FL1120	1-239-183-11	FILTER, EMI			
FL1121	1-239-183-11	FILTER, EMI			
		<IC>			
IC1100	8-759-186-26	IC TC74VHC02F			
IC1101	8-759-186-44	IC TC74VHC125F			
IC1102	8-759-081-44	IC TC74VHC04F			
IC1103	8-759-397-01	IC MAX487CSA-TE2			
IC1104	8-759-186-30	IC TC74VHC14F			
IC1105	8-759-594-45	IC MAX3100CEE-TG068			
IC1106	8-759-397-01	IC MAX487CSA-TE2			
IC1107	8-759-522-14	IC MB90096PF-G-127-BND-ER			
IC1108	8-759-594-45	IC MAX3100CEE-TG068			
IC1109	8-759-252-59	IC MAX202CSE			
IC1110	8-759-594-46	IC MB90096PF-178			
IC1112	8-759-454-11	IC MC74HC589AFEL			
		<COIL>			
L1100	1-412-537-31	INDUCTOR	100μH		
L1101	1-412-537-31	INDUCTOR	100μH		
L1102	1-412-537-31	INDUCTOR	100μH		
		<RESISTOR>			
R1100	1-216-025-91	RES,CHIP	100	5%	1/10W
R1101	1-216-025-91	RES,CHIP	100	5%	1/10W
R1102	1-216-025-91	RES,CHIP	100	5%	1/10W
R1103	1-216-025-91	RES,CHIP	100	5%	1/10W
R1104	1-216-025-91	RES,CHIP	100	5%	1/10W

Ref.No.	Part No.	Description			Remark
R1106	1-216-025-91	RES,CHIP	100	5%	1/10W
R1107	1-216-025-91	RES,CHIP	100	5%	1/10W
R1108	1-216-025-91	RES,CHIP	100	5%	1/10W
R1109	1-216-025-91	RES,CHIP	100	5%	1/10W
R1110	1-216-025-91	RES,CHIP	100	5%	1/10W
R1111	1-216-025-91	RES,CHIP	100	5%	1/10W
R1112	1-216-025-91	RES,CHIP	100	5%	1/10W
R1113	1-216-097-91	RES,CHIP	100K	5%	1/10W
R1114	1-216-025-91	RES,CHIP	100	5%	1/10W
R1115	1-216-025-91	RES,CHIP	100	5%	1/10W
R1117	1-216-121-91	RES,CHIP	1M	5%	1/10W
R1118	1-216-077-91	RES,CHIP	15K	5%	1/10W
R1119	1-216-025-91	RES,CHIP	100	5%	1/10W
R1120	1-216-097-91	RES,CHIP	100K	5%	1/10W
R1121	1-216-097-91	RES,CHIP	100K	5%	1/10W
R1122	1-216-097-91	RES,CHIP	100K	5%	1/10W
R1123	1-216-097-91	RES,CHIP	100K	5%	1/10W
R1125	1-216-097-91	RES,CHIP	100K	5%	1/10W
R1126	1-216-097-91	RES,CHIP	100K	5%	1/10W
R1127	1-216-097-91	RES,CHIP	100K	5%	1/10W
R1128	1-216-097-91	RES,CHIP	100K	5%	1/10W
R1130	1-216-089-91	RES,CHIP	47K	5%	1/10W
R1131	1-216-097-91	RES,CHIP	100K	5%	1/10W
R1132	1-216-097-91	RES,CHIP	100K	5%	1/10W
R1133	1-216-089-91	RES,CHIP	47K	5%	1/10W
R1136	1-216-089-91	RES,CHIP	47K	5%	1/10W
R1137	1-216-295-91	SHORT	0		
R1138	1-216-625-11	METAL CHIP	82	0.50%	1/10W
R1140	1-216-638-11	METAL CHIP	300	0.50%	1/10W
R1141	1-216-073-00	RES,CHIP	10K	5%	1/10W
R1142	1-216-073-00	RES,CHIP	10K	5%	1/10W
R1143	1-216-073-00	RES,CHIP	10K	5%	1/10W
R1144	1-216-073-00	RES,CHIP	10K	5%	1/10W
R1145	1-216-089-91	RES,CHIP	47K	5%	1/10W
R1147	1-216-295-91	SHORT	0		
R1148	1-216-625-11	METAL CHIP	82	0.50%	1/10W
R1149	1-216-638-11	METAL CHIP	300	0.50%	1/10W
R1151	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1152	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1153	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1154	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1155	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1156	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1157	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1158	1-216-097-91	RES,CHIP	100K	5%	1/10W
R1159	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1160	1-216-097-91	RES,CHIP	100K	5%	1/10W
R1161	1-216-097-91	RES,CHIP	100K	5%	1/10W
R1162	1-216-097-91	RES,CHIP	100K	5%	1/10W
R1163	1-216-097-91	RES,CHIP	100K	5%	1/10W
R1164	1-216-097-91	RES,CHIP	100K	5%	1/10W
R1165	1-216-097-91	RES,CHIP	100K	5%	1/10W
R1166	1-216-097-91	RES,CHIP	100K	5%	1/10W
R1167	1-216-089-91	RES,CHIP	47K	5%	1/10W
R1170	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R1171	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R1172	1-216-089-91	RES,CHIP	47K	5%	1/10W
R1173	1-216-089-91	RES,CHIP	47K	5%	1/10W
R1174	1-216-097-91	RES,CHIP	100K	5%	1/10W
R1175	1-216-097-91	RES,CHIP	100K	5%	1/10W
R1176	1-216-097-91	RES,CHIP	100K	5%	1/10W
R1177	1-216-097-91	RES,CHIP	100K	5%	1/10W
R1180	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R1181	1-216-097-91	RES,CHIP	100K	5%	1/10W
R1182	1-216-049-91	RES,CHIP	1K	5%	1/10W

Ref.No.	Part No.	Description			Remark
R1183	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1184	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1185	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1186	1-216-295-91	SHORT	0 (D9H5)		
R1187	1-216-295-91	SHORT	0 (D9H5)		
R1188	1-216-295-91	SHORT	0 (D9H5)		
R1189	1-216-295-91	SHORT	0 (D9H5)		
		<RELAY>			
RY1101	1-515-716-11	RELAY (TQ2-5V) (D9H1)			
RY1102	1-515-716-11	RELAY (TQ2-5V) (D9H1)			
		<SWITCH>			
S1101	1-771-815-11	SWITCH, LEVER			
S1102	1-762-712-11	SWITCH, SLIDE (D9H1)			
		<THERMISTOR>			
TH1100	1-533-817-21	THERMISTOR			
		<TEST PIN>			
TP1100	* 1-537-864-11	PIN, POST			
TP1101	* 1-537-864-11	PIN, POST			
TP1102	* 1-537-864-11	PIN, POST			
TP1103	* 1-537-864-11	PIN, POST			
TP1104	* 1-537-864-11	PIN, POST			
TP1106	* 1-537-864-11	PIN, POST			
TP1107	* 1-537-864-11	PIN, POST			
TP1108	* 1-537-864-11	PIN, POST			
TP1109	* 1-537-864-11	PIN, POST			
TP1110	* 1-537-864-11	PIN, POST			
TP1111	* 1-537-864-11	PIN, POST			
TP1112	* 1-537-864-11	PIN, POST			
TP1113	* 1-537-864-11	PIN, POST			
		<CRYSTAL>			
X1100	1-767-280-21	VIBRATOR, CRYSTAL (3.6864 MHz)			

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	* A-1195-156-A	P COMPL			
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	⚠ 4-051-742-01	SHEET, INSULATE			
	4-382-854-01	SCREW (M3X8), P, SW (+)			
	4-382-854-11	SCREW (M3X10), P, SW (+)			
	7-682-647-09	SCREW +PS 3X6			

		<CAPACITOR>			
C501	1-107-907-11	ELECT	22µF	20%	25V
C502	1-163-038-91	CERAMIC CHIP 0.1µF			25V
C503	1-107-888-11	ELECT	47µF	20%	25V
C504	1-164-343-11	CERAMIC CHIP 0.056µF		10%	25V
C505	1-107-906-11	ELECT	10µF	20%	50V
C506	1-163-031-11	CERAMIC CHIP 0.01µF			50V
C508	1-163-031-11	CERAMIC CHIP 0.01µF			50V
C509	1-163-021-91	CERAMIC CHIP 0.01µF		10%	50V
C510	1-107-909-11	ELECT	47µF	20%	16V
C511	1-163-133-00	CERAMIC CHIP 470PF		5%	50V
C512	1-107-902-11	ELECT	1µF	20%	50V
C513	1-163-121-00	CERAMIC CHIP 150PF		5%	50V

Ref.No.	Part No.	Description			Remark
C514	1-163-005-11	CERAMIC CHIP 470PF		10%	50V
C515	1-107-903-11	ELECT	2.2µF	20%	50V
C516	1-165-319-11	CERAMIC CHIP 0.1µF			50V
C517	1-107-823-11	CERAMIC CHIP 0.47µF		10%	16V
C518	1-164-004-11	CERAMIC CHIP 0.1µF		10%	25V
C519	1-164-343-11	CERAMIC CHIP 0.056µF		10%	25V
C520	1-163-031-11	CERAMIC CHIP 0.01µF			50V
C521	1-163-241-11	CERAMIC CHIP 39PF		5%	50V
C522	1-165-319-11	CERAMIC CHIP 0.1µF			50V
C523	1-126-964-11	ELECT	10µF	20%	50V
C524	1-163-121-00	CERAMIC CHIP 150PF		5%	50V
C525	1-115-339-11	CERAMIC CHIP 0.1µF		10%	50V
C526	1-163-031-11	CERAMIC CHIP 0.01µF			50V
C527	1-107-906-11	ELECT	10µF	20%	50V
C528	1-104-664-11	ELECT	47µF	20%	25V
C529	1-163-133-00	CERAMIC CHIP 470PF		5%	50V
C530	1-165-319-11	CERAMIC CHIP 0.1µF			50V
C531	1-164-004-11	CERAMIC CHIP 0.1µF		10%	25V
C532	1-107-955-11	ELECT	100µF	20%	200V
C533	1-107-906-11	ELECT	10µF	20%	50V
C534	1-162-318-11	CERAMIC	0.001µF	10%	500V
C535	1-107-995-11	ELECT	100µF		160V
C536	1-107-364-11	MYLAR	0.01µF	10%	200V
C537	1-163-031-11	CERAMIC CHIP 0.01µF			50V
C538	1-126-963-11	ELECT	4.7µF	20%	50V
C539	1-117-644-11	FILM	10000PF	3%	1.2KV
C540	1-107-746-51	ELECT	10µF	20%	200V
C541	1-107-746-51	ELECT	10µF	20%	200V
C542	1-137-591-91	FILM	0.0082µF	5%	800V
C543	1-104-664-11	ELECT	47µF	20%	25V
C544	1-108-385-91	MYLAR	0.047µH	10%	100V
C545	1-115-522-11	FILM	1µF	5%	250V
C546	1-165-319-11	CERAMIC CHIP 0.1µF			50V
C547	1-163-031-11	CERAMIC CHIP 0.01µF			50V
C548	1-163-038-91	CERAMIC CHIP 0.1µF			25V
C549	1-163-031-11	CERAMIC CHIP 0.01µF			50V
C550	1-163-031-11	CERAMIC CHIP 0.01µF			50V
C551	1-163-031-11	CERAMIC CHIP 0.01µF			50V
C552	1-107-954-91	ELECT	47µF	20%	200V
C553	1-102-228-00	CERAMIC	470PF	10%	500V
C554	1-126-968-11	ELECT	100µF	20%	50V
C555	1-162-318-11	CERAMIC	0.001µF	10%	500V
C556	1-162-318-11	CERAMIC	0.001µF	10%	500V
C557	1-111-116-11	ELECT	100µF	20%	50V
C558	1-126-964-11	ELECT	10µF	20%	50V
C559	1-163-263-11	CERAMIC CHIP 330PF		5%	50V
C560	1-130-471-00	MYLAR	0.001µF	5%	50V
C561	1-163-031-11	CERAMIC CHIP 0.01µF			50V
C562	1-104-664-11	ELECT	47µF	20%	25V
C563	1-115-732-11	ELECT	330µF	20%	6.3V
C564	1-137-150-11	MYLAR	0.01µF	10%	100V
C565	1-137-150-11	MYLAR	0.01µF	10%	100V
C566	1-163-031-11	CERAMIC CHIP 0.01µF			50V
C567	1-163-031-11	CERAMIC CHIP 0.01µF			50V
C568	1-115-789-11	ELECT	0.001F	20%	25V
C569	1-163-031-11	CERAMIC CHIP 0.01µF			50V
C570	1-163-031-11	CERAMIC CHIP 0.01µF			50V
C571	1-163-021-91	CERAMIC CHIP 0.01µF		10%	50V
C572	1-107-902-11	ELECT	1µF	20%	50V
C574	1-163-809-11	CERAMIC CHIP 0.047µF		10%	25V
C575	1-107-823-11	CERAMIC CHIP 0.47µF		10%	16V
C576	1-136-161-00	MYLAR	0.047µF	5%	50V
C577	1-136-165-00	MYLAR	0.1µF	5%	50V
C578	1-107-902-11	ELECT	1µF	20%	50V
C579	1-107-909-11	ELECT	47µF	20%	16V
C581	1-128-526-11	ELECT	100µF	20%	16V

Ref.No.	Part No.	Description			Remark
C583	1-107-995-11	ELECT	100μF		160V
C584	1-107-889-11	ELECT	220μF	20%	25V
C585	1-104-653-11	ELECT	220μF	20%	16V
C587	1-163-021-91	CERAMIC CHIP 0.01μF		10%	50V
C588	1-163-021-91	CERAMIC CHIP 0.01μF		10%	50V
C589	1-163-021-91	CERAMIC CHIP 0.01μF		10%	50V
C590	1-163-021-91	CERAMIC CHIP 0.01μF		10%	50V
C592	1-107-888-91	ELECT	47μF	20%	25V
		<CONNECTOR>			
CN501	* 1-564-712-11	PIN, CONNECTOR (SMALL TYPE)10P			
CN502	* 1-564-508-11	PLUG, CONNECTOR 5P			
CN503	* 1-691-960-11	PIN, CONNECTOR (PC BOARD) 3P			
CN505	* 1-564-509-11	PLUG, CONNECTOR 6P			
CN506	* 1-564-711-11	PIN, CONNECTOR (SMALL TYPE) 9P			
		<DIODE>			
D501	8-719-073-01	DIODE MA111-(K8).S0			
D502	8-719-073-01	DIODE MA111-(K8).S0			
D503	8-719-158-49	DIODE RD12SB2			
D504	8-719-073-01	DIODE MA111-(K8).S0			
D505	8-719-158-49	DIODE RD12SB2			
D506	8-719-158-49	DIODE RD12SB2			
D507	8-719-158-40	DIODE RD10SB1			
D508	8-719-073-01	DIODE MA111-(K8).S0			
D509	8-719-989-21	DIODE SC311-6-TE12RA			
D510	8-719-073-01	DIODE MA111-(K8).S0			
D511	8-719-107-15	DIODE RD18M-T1B2			
D512	8-719-073-01	DIODE MA111-(K8).S0			
D513	8-719-073-01	DIODE MA111-(K8).S0			
D514	8-719-073-01	DIODE MA111-(K8).S0			
D515	8-719-989-21	DIODE SC311-6-TE12RA			
D516	8-719-073-01	DIODE MA111-(K8).S0			
D517	8-719-073-01	DIODE MA111-(K8).S0			
D518	8-719-073-01	DIODE MA111-(K8).S0			
D519	8-719-073-01	DIODE MA111-(K8).S0			
D520	8-719-029-04	DIODE D5L60			
D521	8-719-073-01	DIODE MA111-(K8).S0			
D522	8-719-073-01	DIODE MA111-(K8).S0			
D523	8-719-110-67	DIODE RD27ESB2			
D524	8-719-110-67	DIODE RD27ESB2			
D525	8-719-302-43	DIODE EL1Z			
D526	8-719-302-43	DIODE EL1Z			
D527	8-719-302-43	DIODE EL1Z			
D528	8-719-073-01	DIODE MA111-(K8).S0			
D529	8-719-073-01	DIODE MA111-(K8).S0			
D530	8-719-210-43	DIODE EC10QS-06			
D531	8-719-110-67	DIODE RD27ESB2			
D532	8-719-037-53	DIODE RD27SB-T1			
D533	8-719-073-01	DIODE MA111-(K8).S0			
D534	8-719-073-01	DIODE MA111-(K8).S0			
D535	8-719-158-57	DIODE RD15SB2			
D536	8-719-073-01	DIODE MA111-(K8).S0			
D537	8-719-110-02	DIODE RD7.5ESB1			
D538	8-719-033-53	DIODE RD6.8SB2-T1			
D539	8-719-073-01	DIODE MA111-(K8).S0			
		<IC>			
IC501	8-759-209-69	IC TC4S11F			
IC502	8-759-158-82	IC CXA1544M-T6			
IC503	8-759-914-04	IC TL494CNS			
IC504	⚠8-759-198-31	IC UPC1093J-1-T			
IC505	8-759-209-69	IC TC4S11F			

Ref.No.	Part No.	Description			Remark
IC506	8-759-185-47	IC IR2112			
IC507	8-759-198-31	IC UPC1093J-1-T			
IC508	8-759-502-80	IC LM358M			
IC509	8-759-502-84	IC LM393M			
IC510	8-759-337-67	IC NJM2360AM(TE2)			
IC511	8-759-502-80	IC LM358M			
		<COIL>			
L504	1-406-663-21	INDUCTOR	47μH		
L505	1-419-346-11	COIL, CHOKE			
L507	1-406-661-11	INDUCTOR	22μH		
L508	1-408-623-21	INDUCTOR	470μH		
		<NEON LAMP>			
NL501	1-519-526-11	LAMP, NEON			
NL502	1-519-526-11	LAMP, NEON			
		<TRANSISTOR>			
Q502	8-729-027-23	TRANSISTOR DTA114EKA-T146			
Q503	1-801-806-11	TRANSISTOR DTC144EKA-T146			
Q504	1-801-806-11	TRANSISTOR DTC144EKA-T146			
Q505	8-729-027-38	TRANSISTOR DTA144EKA-T146			
Q506	8-729-019-85	TRANSISTOR 2SC3392-5-TB			
Q507	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q508	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R			
Q509	8-729-824-24	TRANSISTOR 2SA1338-5-TB			
Q510	8-729-019-85	TRANSISTOR 2SC3392-5-TB			
Q511	8-729-019-85	TRANSISTOR 2SC3392-5-TB			
Q512	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R			
Q513	8-729-824-24	TRANSISTOR 2SA1338-5-TB			
Q514	8-729-019-85	TRANSISTOR 2SC3392-5-TB			
Q515	8-729-050-47	TRANSISTOR 2SK3110			
Q516	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q517	8-729-926-77	TRANSISTOR IRFI640			
Q518	8-729-926-77	TRANSISTOR IRFI640			
Q519	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R			
Q520	8-729-050-71	TRANSISTOR IRFPE50LF20			
Q521	8-729-027-38	TRANSISTOR DTA144EKA-T146			
Q522	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q523	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R			
Q524	1-801-806-11	TRANSISTOR DTC144EKA-T146			
Q525	8-729-033-25	TRANSISTOR DTC114GKA			
Q526	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R			
Q527	8-729-032-54	TRANSISTOR IRFI840LF38			
Q528	1-801-806-11	TRANSISTOR DTC144EKA-T146			
Q529	8-729-027-38	TRANSISTOR DTA144EKA-T146			
Q530	1-801-806-11	TRANSISTOR DTC144EKA-T146			
		<RESISTOR>			
R503	1-216-075-00	RES,CHIP	12K	5%	1/10W
R504	1-216-025-91	RES,CHIP	100	5%	1/10W
R505	1-216-077-91	RES,CHIP	15K	5%	1/10W
R506	1-216-081-00	RES,CHIP	22K	5%	1/10W
R507	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W
R508	1-216-685-11	METAL CHIP	27K	0.50%	1/10W
R509	1-216-017-91	RES,CHIP	47	5%	1/10W
R510	1-216-053-00	RES,CHIP	1.5K	5%	1/10W
R511	1-249-381-11	CARBON	1	5%	1/4W F
R512	1-216-097-91	RES,CHIP	100K	5%	1/10W
R513	1-216-009-91	RES,CHIP	22	5%	1/10W
R514	1-216-101-00	RES,CHIP	150K	5%	1/10W
R515	1-216-025-91	RES,CHIP	100	5%	1/10W

Ref.No.	Part No.	Description			Remark
R516	1-216-025-91	RES,CHIP	100	5%	1/10W
R517	1-216-073-00	RES,CHIP	10K	5%	1/10W
R518	1-216-097-91	RES,CHIP	100K	5%	1/10W
R519	1-216-081-00	RES,CHIP	22K	5%	1/10W
R520	1-216-089-91	RES,CHIP	47K	5%	1/10W
R521	1-216-073-00	RES,CHIP	10K	5%	1/10W
R522	1-216-049-91	RES,CHIP	1K	5%	1/10W
R523	1-216-073-00	RES,CHIP	10K	5%	1/10W
R524	1-216-073-00	RES,CHIP	10K	5%	1/10W
R525	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R526	1-216-073-00	RES,CHIP	10K	5%	1/10W
R527	1-216-025-91	RES,CHIP	100	5%	1/10W
R528	1-216-083-00	RES,CHIP	27K	5%	1/10W
R529	1-216-063-91	RES,CHIP	3.9K	5%	1/10W
R530	1-216-009-91	RES,CHIP	22	5%	1/10W
R531	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W
R532	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W
R533	1-216-685-11	METAL CHIP	27K	0.50%	1/10W
R534	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W
R535	1-216-683-11	METAL CHIP	22K	0.50%	1/10W
R536	1-216-687-11	METAL CHIP	33K	0.50%	1/10W
R537	1-216-073-00	RES,CHIP	10K	5%	1/10W
R538	1-216-043-91	RES,CHIP	560	5%	1/10W
R539	1-216-651-11	METAL CHIP	1K	0.50%	1/10W
R540	1-216-675-91	METAL CHIP	10K	0.50%	1/10W
R541	1-216-675-91	METAL CHIP	10K	0.50%	1/10W
R543	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R544	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R545	1-216-073-00	RES,CHIP	10K	5%	1/10W
R546	1-216-073-00	RES,CHIP	10K	5%	1/10W
R547	1-216-043-91	RES,CHIP	560	5%	1/10W
R548	1-216-073-00	RES,CHIP	10K	5%	1/10W
R549	⚠1-216-689-11	METAL CHIP	39K	0.50%	1/10W
R550	1-216-295-91	SHORT	0		
R551	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R552	1-216-081-00	RES,CHIP	22K	5%	1/10W
R553	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R554	1-216-081-00	RES,CHIP	22K	5%	1/10W
R555	⚠1-218-758-11	METAL CHIP	180K	0.50%	1/10W
R556	1-216-067-00	RES,CHIP	5.6K	5%	1/10W
R557	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R558	1-216-049-91	RES,CHIP	1K	5%	1/10W
R559	1-216-063-91	RES,CHIP	3.9K	5%	1/10W
R560	1-216-073-00	RES,CHIP	10K	5%	1/10W
R561	1-216-089-91	RES,CHIP	47K	5%	1/10W
R562	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R563	1-216-675-91	METAL CHIP	10K	0.50%	1/10W
R564	1-218-756-11	METAL CHIP	150K	0.50%	1/10W
R565	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R566	1-216-073-00	RES,CHIP	10K	5%	1/10W
R567	1-216-001-00	RES,CHIP	10	5%	1/10W
R568	1-219-718-11	CEMENTED	0.1	10%	5W
R569	1-216-001-00	RES,CHIP	10	5%	1/10W
R570	1-216-001-00	RES,CHIP	10	5%	1/10W
R571	1-216-073-00	RES,CHIP	10K	5%	1/10W
R572	1-216-073-00	RES,CHIP	10K	5%	1/10W
R573	1-216-067-00	RES,CHIP	5.6K	5%	1/10W
R574	1-216-073-00	RES,CHIP	10K	5%	1/10W
R575	1-216-001-00	RES,CHIP	10	5%	1/10W
R576	1-216-073-00	RES,CHIP	10K	5%	1/10W
R577	1-216-661-11	METAL CHIP	2.7K	0.50%	1/10W
R578	1-216-646-11	METAL CHIP	620	0.50%	1/10W
R579	1-216-658-11	METAL CHIP	2K	0.50%	1/10W
R580	1-216-041-00	RES,CHIP	470	5%	1/10W
R581	1-215-860-11	METAL OXIDE	33	5%	1W F

Ref.No.	Part No.	Description			Remark
R582	1-216-693-11	METAL CHIP	56K	0.50%	1/10W
R583	1-216-687-11	METAL CHIP	33K	0.50%	1/10W
R584	1-216-690-11	METAL CHIP	43K	0.50%	1/10W
R585	1-216-651-11	METAL CHIP	1K	0.50%	1/10W
R586	1-216-685-11	METAL CHIP	27K	0.50%	1/10W
R587	1-218-756-11	METAL CHIP	150K	0.50%	1/10W
R588	1-218-768-11	METAL CHIP	470K	0.50%	1/10W
R589	1-249-377-11	CARBON	0.47	5%	1/4W F
R590	1-249-377-11	CARBON	0.47	5%	1/4W F
R591	1-249-377-11	CARBON	0.47	5%	1/4W F
R592	1-249-377-11	CARBON	0.47	5%	1/4W F
R593	1-216-677-11	METAL CHIP	12K	0.50%	1/10W
R594	1-216-073-00	RES,CHIP	10K	5%	1/10W
R595	1-216-081-00	RES,CHIP	22K	5%	1/10W
R596	1-216-081-00	RES,CHIP	22K	5%	1/10W
R597	1-216-067-00	RES,CHIP	5.6K	5%	1/10W
R598	1-216-073-00	RES,CHIP	10K	5%	1/10W
R599	1-216-097-91	RES,CHIP	100K	5%	1/10W
R1501	1-216-653-11	METAL CHIP	1.2K	0.50%	1/10W
R1502	1-216-629-11	METAL CHIP	120	0.50%	1/10W
R1503	1-216-662-11	METAL CHIP	3K	0.50%	1/10W
R1504	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W
R1505	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W
R1506	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W
R1507	1-216-673-11	METAL CHIP	8.2K	0.50%	1/10W
R1508	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W
R1509	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W
R1510	1-219-759-11	CARBON	1M	5%	1/2W
R1511	1-216-067-00	RES,CHIP	5.6K	5%	1/10W
R1512	1-216-073-00	RES,CHIP	10K	5%	1/10W
R1513	1-216-693-91	METAL CHIP	56K	0.50%	1/10W
R1514	1-218-774-11	METAL CHIP	820K	0.50%	1/10W
R1515	1-216-073-00	RES,CHIP	10K	5%	1/10W
R1516	1-215-879-11	METAL OXIDE	47K	5%	1W F
R1517	1-216-081-00	RES,CHIP	22K	5%	1/10W
R1518	1-215-437-00	METAL	4.7K	1%	1/4W
R1519	1-218-753-11	METAL CHIP	110K	0.50%	1/10W
R1520	1-216-073-00	RES,CHIP	10K	5%	1/10W
R1521	1-219-510-11	CARBON	470K	5%	1/2W
R1522	1-216-657-11	METAL CHIP	1.8K	0.50%	1/10W
R1523	1-216-295-91	SHORT	0		
R1524	1-218-768-11	METAL CHIP	470K	0.50%	1/10W
R1526	1-216-025-91	RES,CHIP	100	5%	1/10W
R1527	1-218-768-11	METAL CHIP	470K	0.50%	1/10W
R1529	1-216-675-91	METAL CHIP	10K	0.50%	1/10W
R1530	1-247-885-91	RES	180K	5%	1/4W
R1531	1-216-113-00	RES,CHIP	470K	5%	1/10W
R1532	1-216-683-11	METAL CHIP	22K	0.5%	1/10W
R1533	1-216-675-91	METAL CHIP	10K	0.5%	1/10W

<TRANSFORMER>

Ref.No.	Part No.	Description	
T501	1-435-156-11	TRANSFORMER, FERRITE	
T502	⚠1-439-526-21	TRANSFORMER ASSY, FLYBACK	

<THERMISTOR>

Ref.No.	Part No.	Description
TH501	1-807-973-11	THERMISTOR

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Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
	* A-1390-942-A	T MOUNT *********				<DIODE>	
				D951	8-719-060-27	DIODE SLR-325MCT31	
				D952	8-719-053-43	DIODE SLR-325VCT31	
		<CONNECTOR>		D953	8-719-037-22	DIODE RD12SB-T1	
				D954	8-719-037-22	DIODE RD12SB-T1	
CN801	* 1-564-526-11	PLUG, CONNECTOR 11P		D955	8-719-037-22	DIODE RD12SB-T1	
CN802	1-774-525-11	SOCKET, CONNECTOR 64P					
CN803	1-774-525-11	SOCKET, CONNECTOR 64P		D956	8-719-037-22	DIODE RD12SB-T1	
CN804	1-774-525-11	SOCKET, CONNECTOR 64P		D957	8-719-158-19	DIODE RD6.2SB	
CN805	* 1-564-523-11	PLUG, CONNECTOR 8P		D958	8-719-037-22	DIODE RD12SB-T1	
				D959	8-719-037-22	DIODE RD12SB-T1	
CN806	* 1-564-525-11	PLUG, CONNECTOR 10P					

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* A-1373-751-A YA MOUNT
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<CONNECTOR>

CN900	* 1-564-719-11	PIN, CONNECTOR (SMALL TYPE) 3P

<DIODE>

D900	8-719-054-22	DIODE SML-020MLTT87
D901	8-719-054-22	DIODE SML-020MLTT87
D902	8-719-054-22	DIODE SML-020MLTT87
D903	8-719-054-22	DIODE SML-020MLTT87
D904	8-719-054-22	DIODE SML-020MLTT87
D905	8-719-054-22	DIODE SML-020MLTT87
D906	8-719-054-22	DIODE SML-020MLTT87
D907	8-719-054-22	DIODE SML-020MLTT87

<RESISTOR>

R900	1-216-071-00	RES,CHIP	8.2K	5%	1/10W
R901	1-216-071-00	RES,CHIP	8.2K	5%	1/10W
R902	1-216-071-00	RES,CHIP	8.2K	5%	1/10W
R903	1-216-071-00	RES,CHIP	8.2K	5%	1/10W
R904	1-216-071-00	RES,CHIP	8.2K	5%	1/10W
R905	1-216-071-00	RES,CHIP	8.2K	5%	1/10W
R906	1-216-071-00	RES,CHIP	8.2K	5%	1/10W
R907	1-216-071-00	RES,CHIP	8.2K	5%	1/10W
R908	1-216-071-00	RES,CHIP	8.2K	5%	1/10W
R909	1-216-071-00	RES,CHIP	8.2K	5%	1/10W
R910	1-216-071-00	RES,CHIP	8.2K	5%	1/10W
R911	1-216-071-00	RES,CHIP	8.2K	5%	1/10W
R912	1-216-071-00	RES,CHIP	8.2K	5%	1/10W
R913	1-216-071-00	RES,CHIP	8.2K	5%	1/10W
R914	1-216-071-00	RES,CHIP	8.2K	5%	1/10W
R915	1-216-071-00	RES,CHIP	8.2K	5%	1/10W

ACCESSORIES
****

X-4037-175-1	BEZEL (4:3) ASSY
⚠ 1-534-827-14	CORD, POWER 10A/125V
2-990-242-01	HOLDER (B), PLUG (POWER CORD)
3-867-938-01	MANUAL OPERATION (JAPANESE, ENGLISH)
4-073-253-01	PLATE, TALLY

****

* A-1373-750-A YB MOUNT
****

<CONNECTOR>

CN951	* 1-564-726-11	PIN, CONNECTOR (SMALL TYPE)10P
CN952	1-774-806-11	CONNECTOR, ROUND TYPE (8PIN) (INDICATOR)JACK

Section 10
Block Diagrams
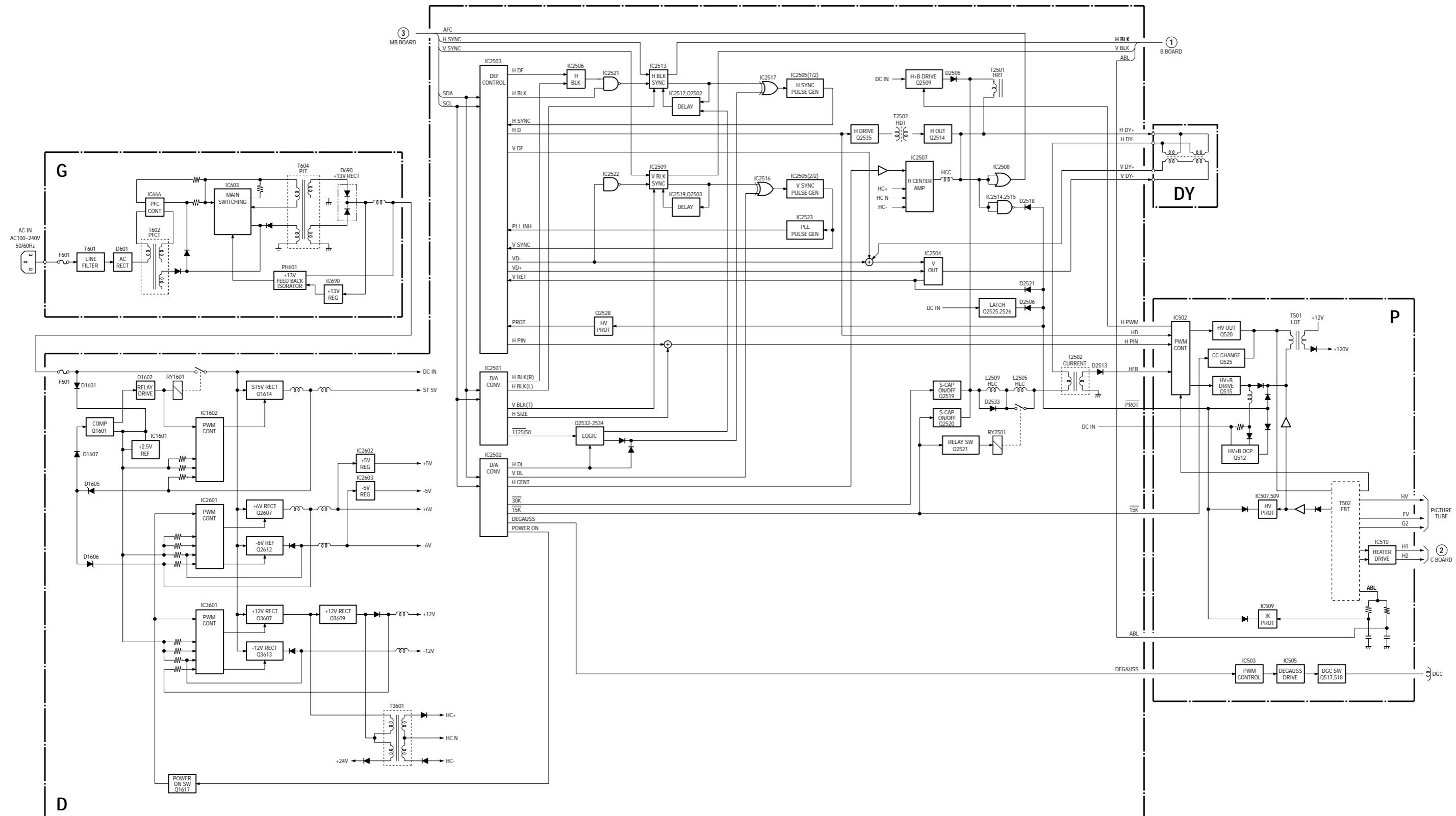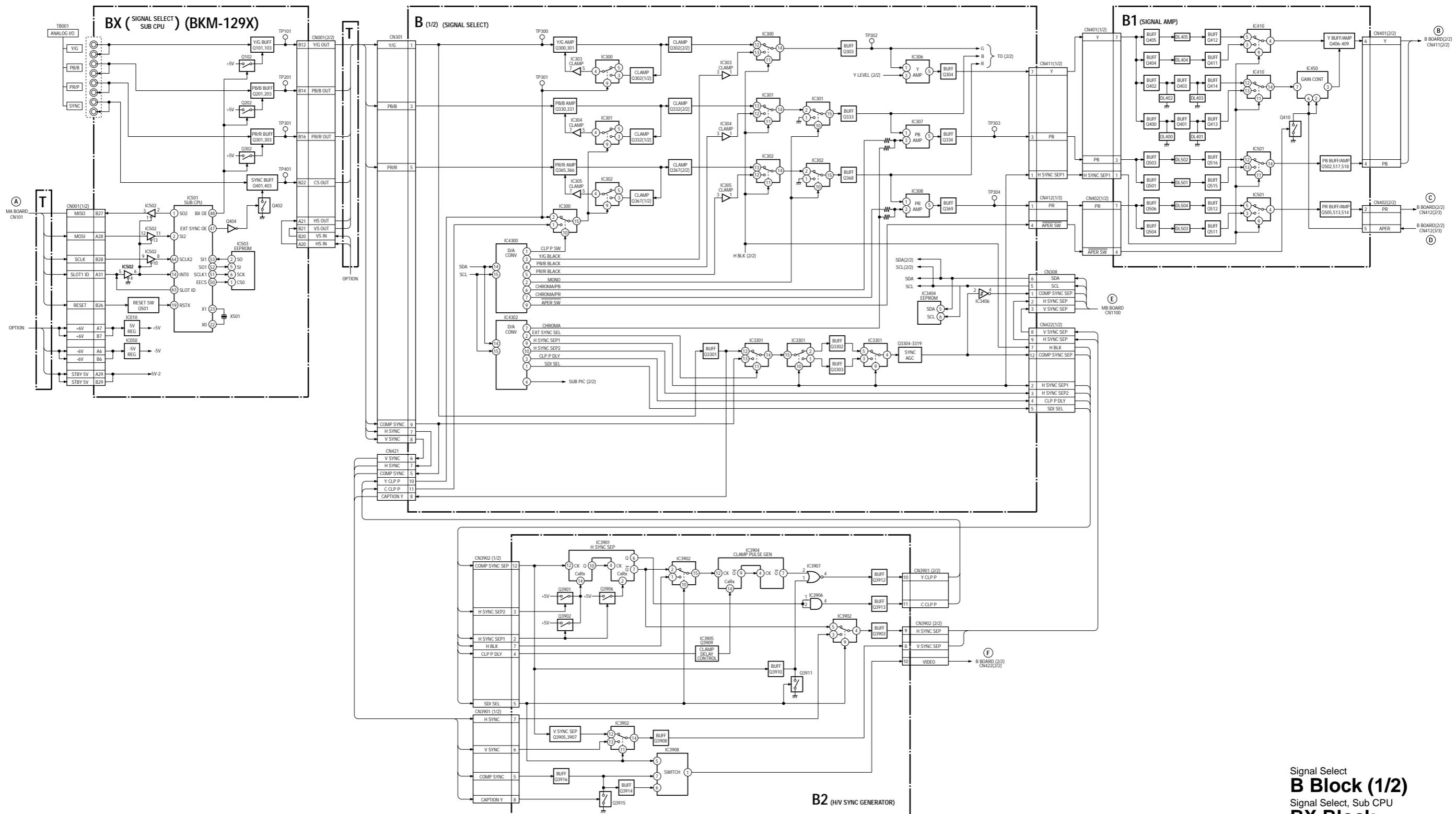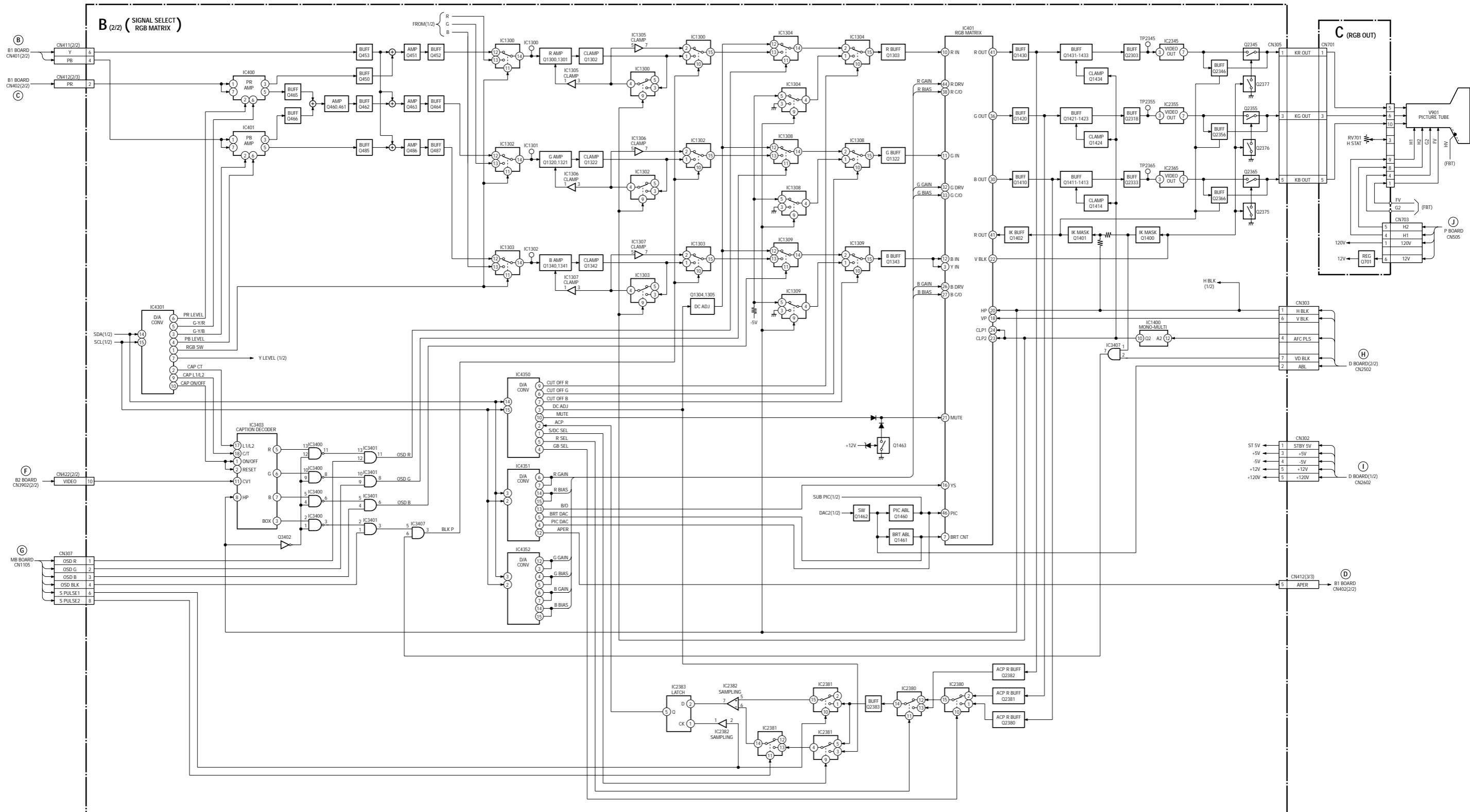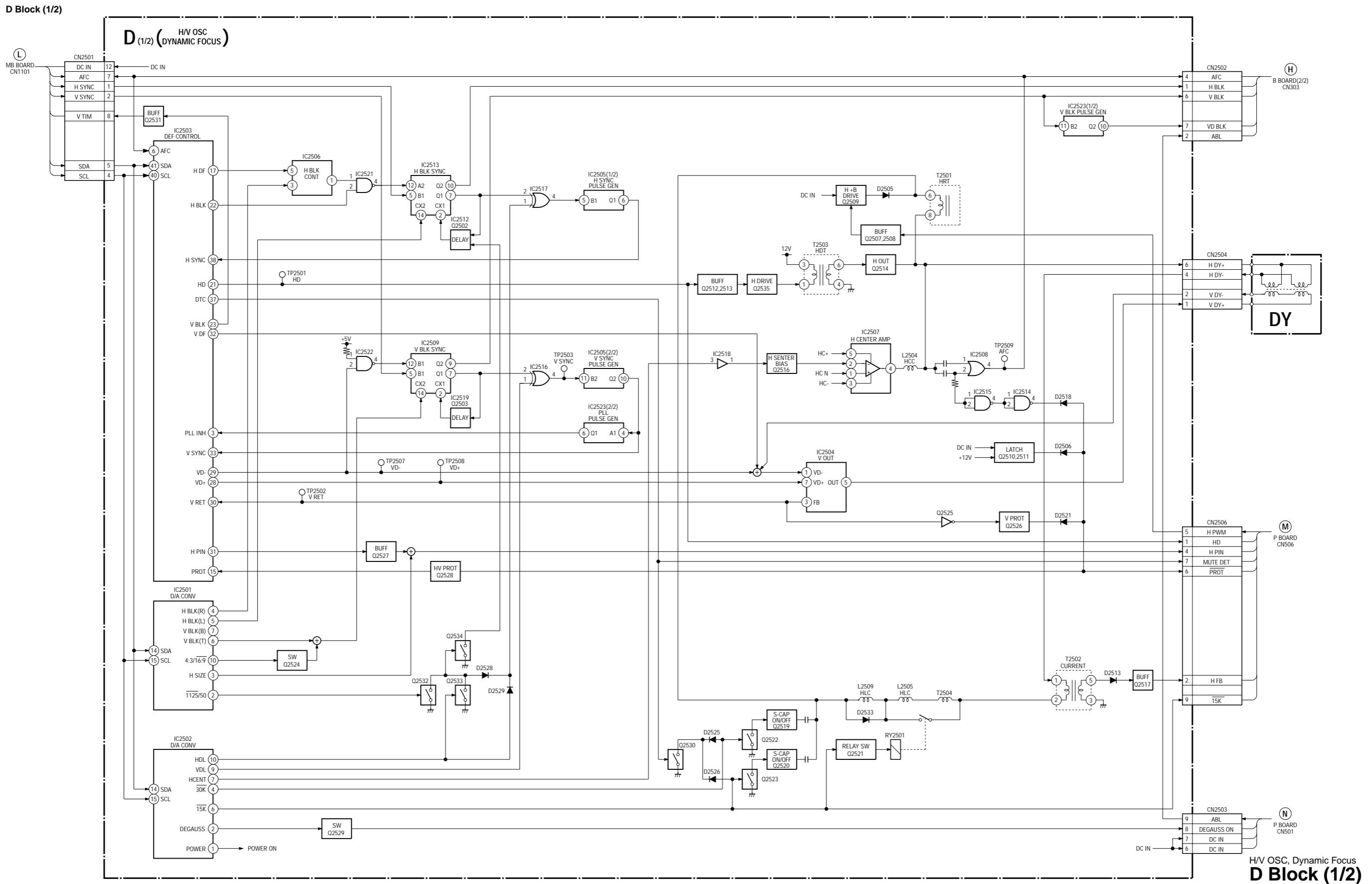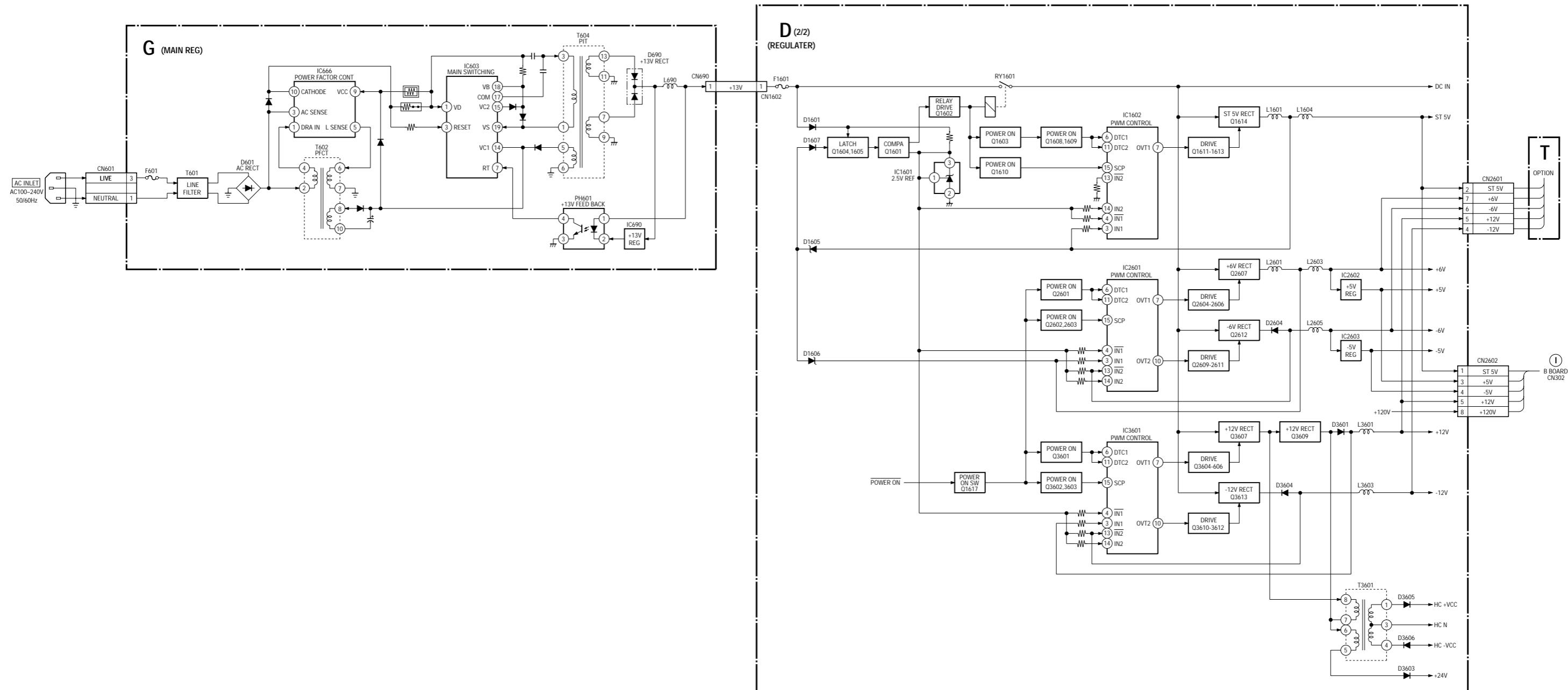
Signal Select
B Block (1/2)
Signal Select, Sub CPU
BX Block
Signal Amp
B1 Block
H/V, Sync Generator
B2 Block

Signal Select, RGB Matrix
B Block (2/2)
RGB Out
C Block

BVM-D9H1U/D9H5U/D9H1E/D9H5E/D9H1A/D9H5A

D Block (1/2)

H/V OSC, Dynamic Focus
D Block (1/2)
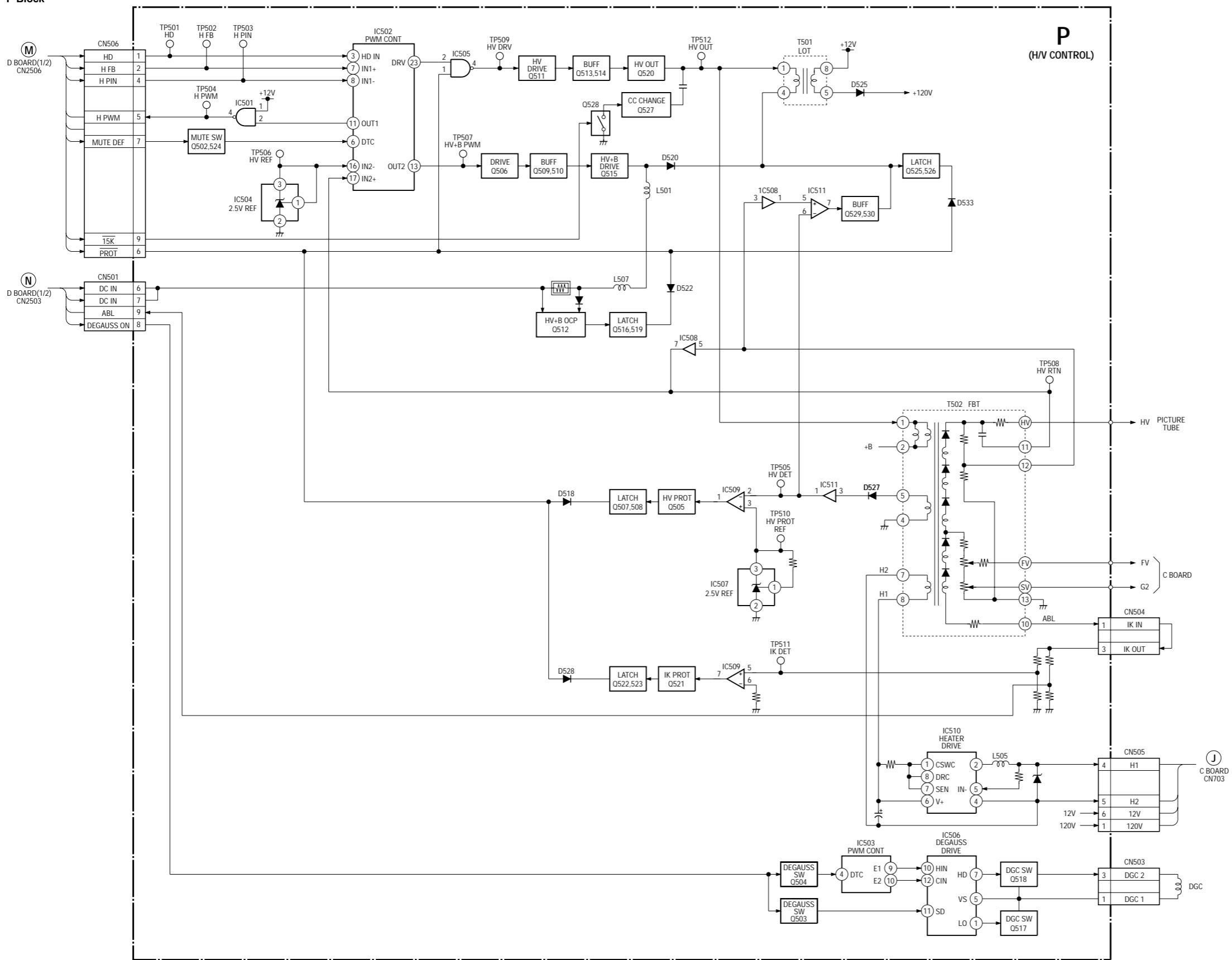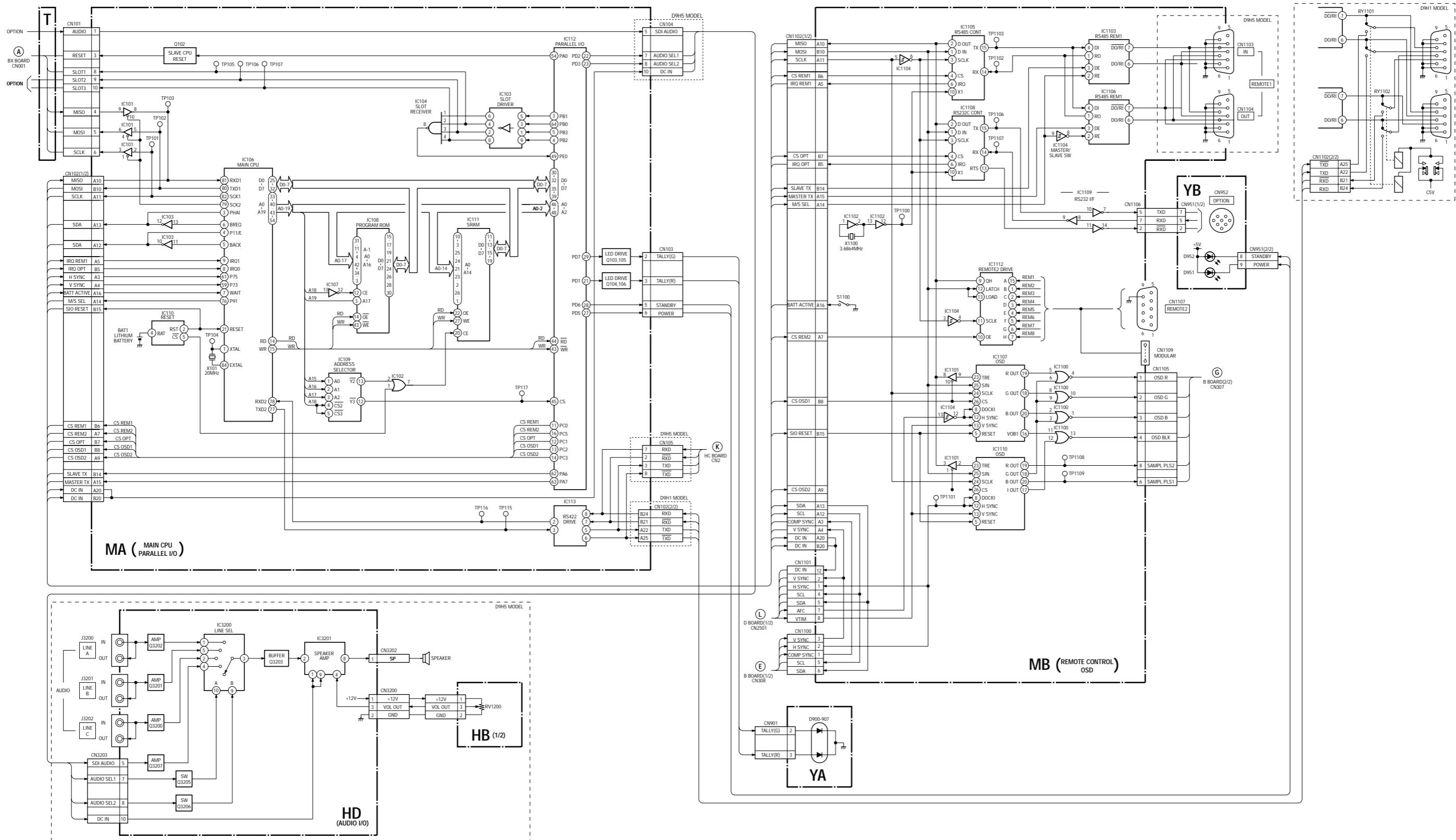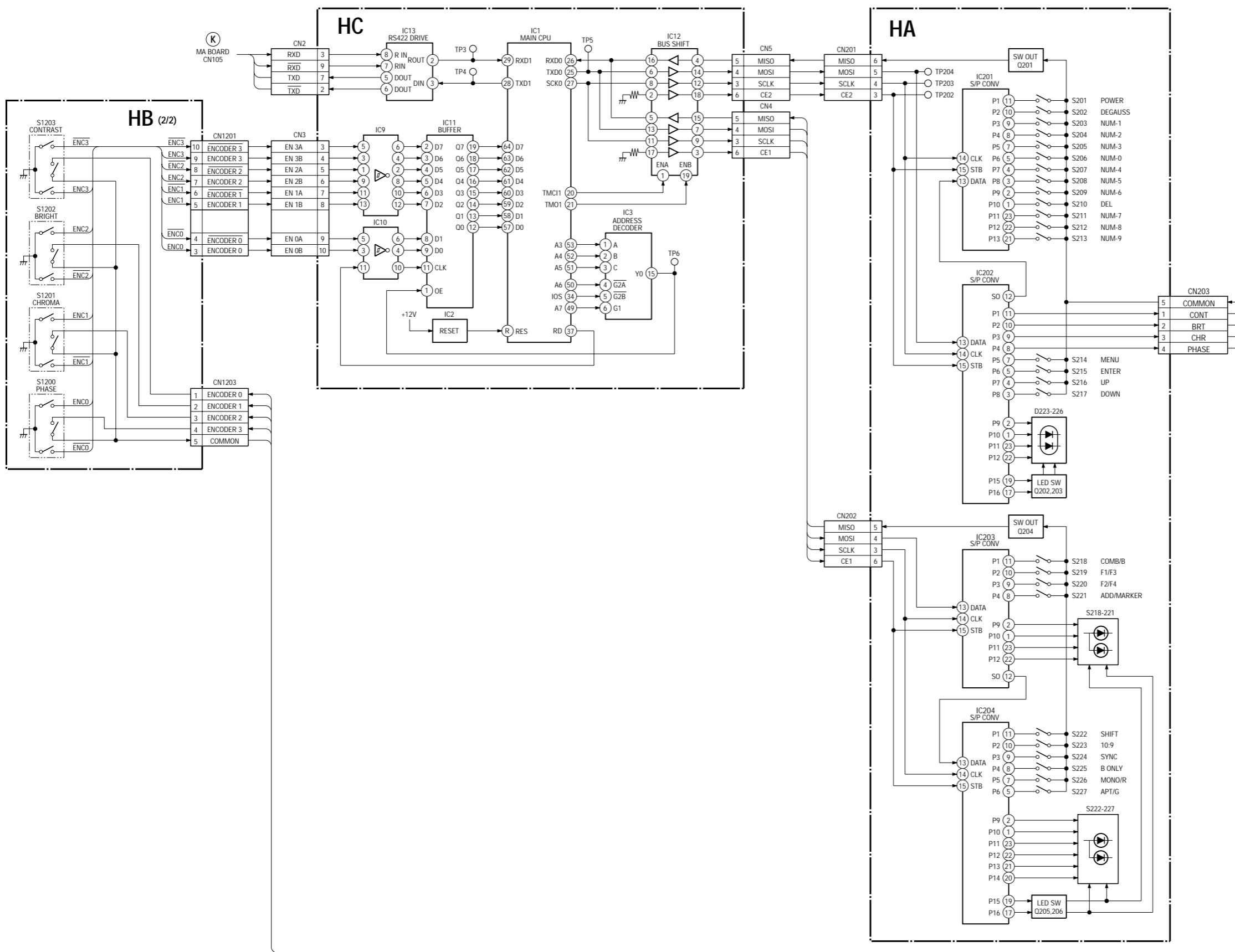
D Block (2/2)
G1 Block

Main Regulator
D Block (2/2)
Main Regulator
G1 Block

P Block

P
(H/V CONTROL)

H/V Control
P Block

MA Block
MB Block

Main CPU, Parallel I/O
MA Block
Remote Control OSD
MB Block

HA Block
HB Block
HC Block

HC

HB (2/2)

HA

Serial to Parallel Converter
HA Block
Switch
HB Block
Main CPU
HC Block

Section 11
Diagrams

Note:

- Parts marked " ∗ " differ according to the model/destination. Refer to the mount table for each function.
- The parts marked " # " on schematic diagrams are not mounted.
- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics.
- All electrolytics are in 50 V unless otherwise specified.
- ⊶ww⌐ : fusible resistor
- ⊞ : nonflammable resistor
- Δ : internal component
- ⬓ : panel designation and adjustment for repair
- Caution when replacing chip parts
  New parts must be attached after removal of the chip.
  Be careful not to heat the minus side of a tantalum capacitor, because it is easily damaged by the heat.

Reference information

RESISTOR	RN	: METAL FILM
	RC	: SOLID
	FPRD	: NONFLAMMABLE CARBON
	FUSE	: NONFLAMMABLE FUSIBLE
	RS	: NONFLAMMABLE METAL OXIDE
	RB	: NONFLAMMABLE CEMENT
	RW	: NONFLAMMABLE WIREWOUND
	※	: ADJUSTMENT RESISTOR

| COIL | LF-8L | : MICRO INDUCTOR |
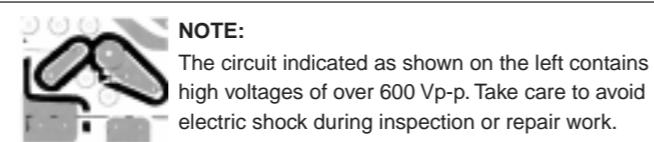
CAPACITOR	TA	: TANTALUM
	PS	: STYROL
	PP	: POLYPROPYLENE
	PT	: MYLAR
	MPS	: METALIZED POLYESTER
	MPP	: METALIZED POLYPROPYLENE
	ALB	: BIPOLAR
	ALT	: HIGH TEMPERATURE
	ALR	: HIGH RIPPLE

- The components marked ⋈ in this schematic diagram have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation.
- When replacing components marked ◪ , make the necessary adjustments indicated. If results do not meet the specified value, change the component marked ⋈ and repeat the adjustment until the specified value is achieved.

[Measuring conditions, voltage and waveform]

- A voltage value is the reference value between the measurement point and the earth, when the RGB color bar signal is received from the color bar generator (digital multi-meter used: 10 M ohms/ V DC).
- Unit of voltage is V (volt).
- ⬓ᵛ : B+line
- ⬓ᵛ : B– line
- Voltage variations may occur due to normal production tolerances.
- RGB color bar signal.
- Circled numbers indicate the reference waveform.
- ⟹ : Signal path.

The components identified marked ⚠ are critical for safety.
Replace only with the part number specified.

Les composants identifiés par la marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

NOTE:
The circuit indicated as shown on the left contains high voltages of over 600 Vp-p. Take care to avoid electric shock during inspection or repair work.

11-1. Frame Schematic Diagram

BVM-D9H1U/D9H5U/D9H1E/D9H5E/D9H1A/D9H5A
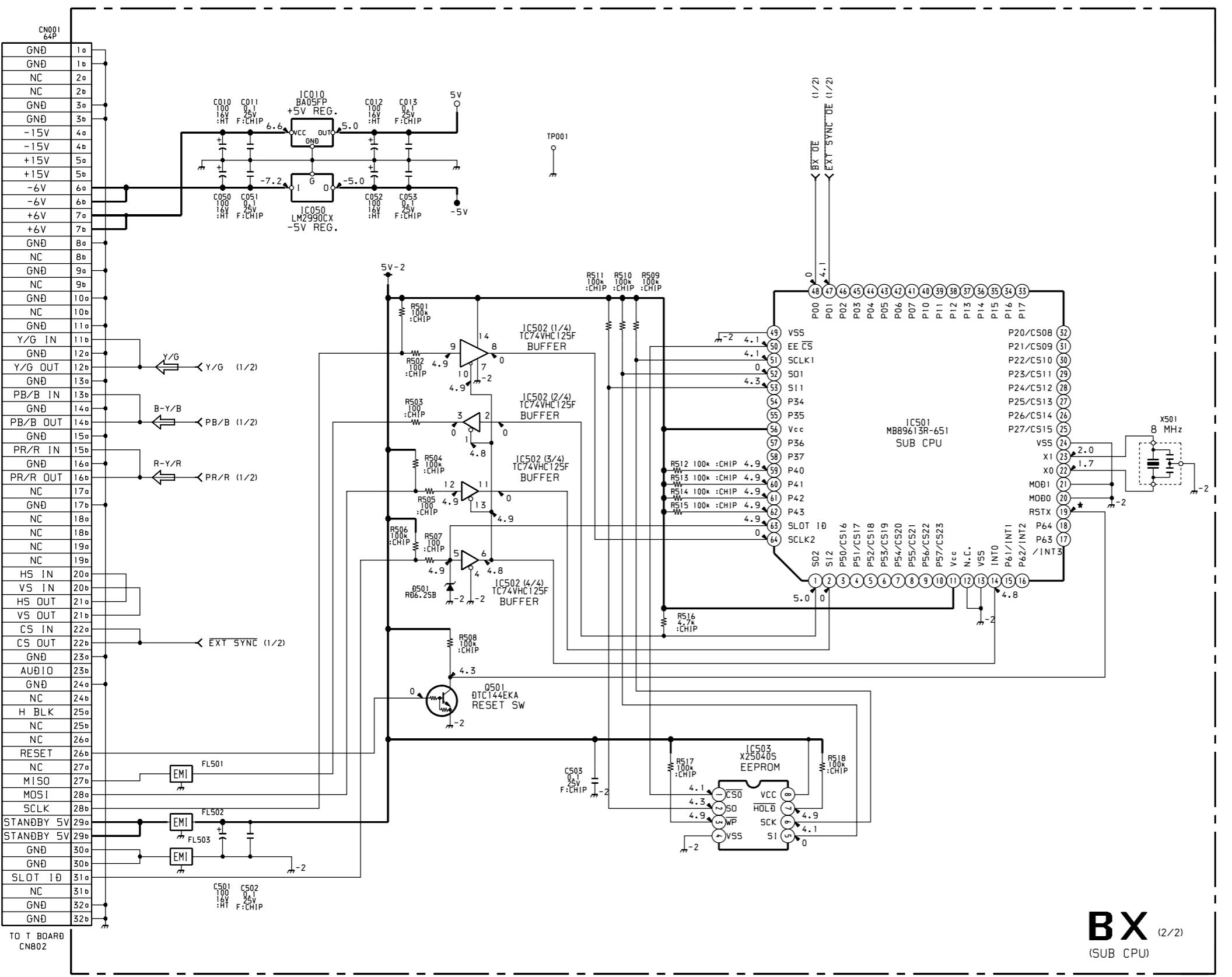
11-2. Schematic Diagrams and Printed Wiring Boards

BX BOARD

[BX BOARD]

* : B SIDE

D101	A-1
D102	C-2
D201	A-2
D202	C-3
D301	A-3
D302	C-3
D401	A-4
D402	C-3
D501	C-5
IC010	B-1
IC050	C-1
IC501	B-4
IC502	C-4
IC503	B-5
Q101	A-1
Q102	B-2
Q103	C-2
Q201	A-2
Q202	B-3
Q203	C-3
Q301	A-3
Q302	B-4
Q303	C-3
Q401	A-4
Q402	B-4
Q403	C-3
Q404	B-5
Q501	C-4
TP001	B-2
TP010	B-4
TP101	C-2
TP201	C-3
TP301	C-3
TP401	C-3
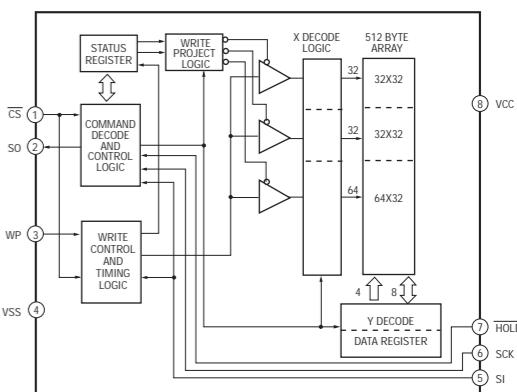
BX –A SIDE–
SUFFIX: -11

BX –B SIDE–
SUFFIX: -11

BX BOARD WAVEFORMS

① 2.0Vp-p (H)

② 1.4Vp-p (H)

③ 1.4Vp-p (H)

④ 0.9Vp-p (H)

⑤ 0.6Vp-p (H)

⑥ 0.6Vp-p (H)

BX (1/2)
(INPUT SIGNAL BUFFER)

B-SS9646-BX.-P1

BVM-D9H1U/D9H5U/D9H1E/D9H5E/D9H1A/D9H5A

X25040S (IC503)

BX (2/2)

(SUB CPU)
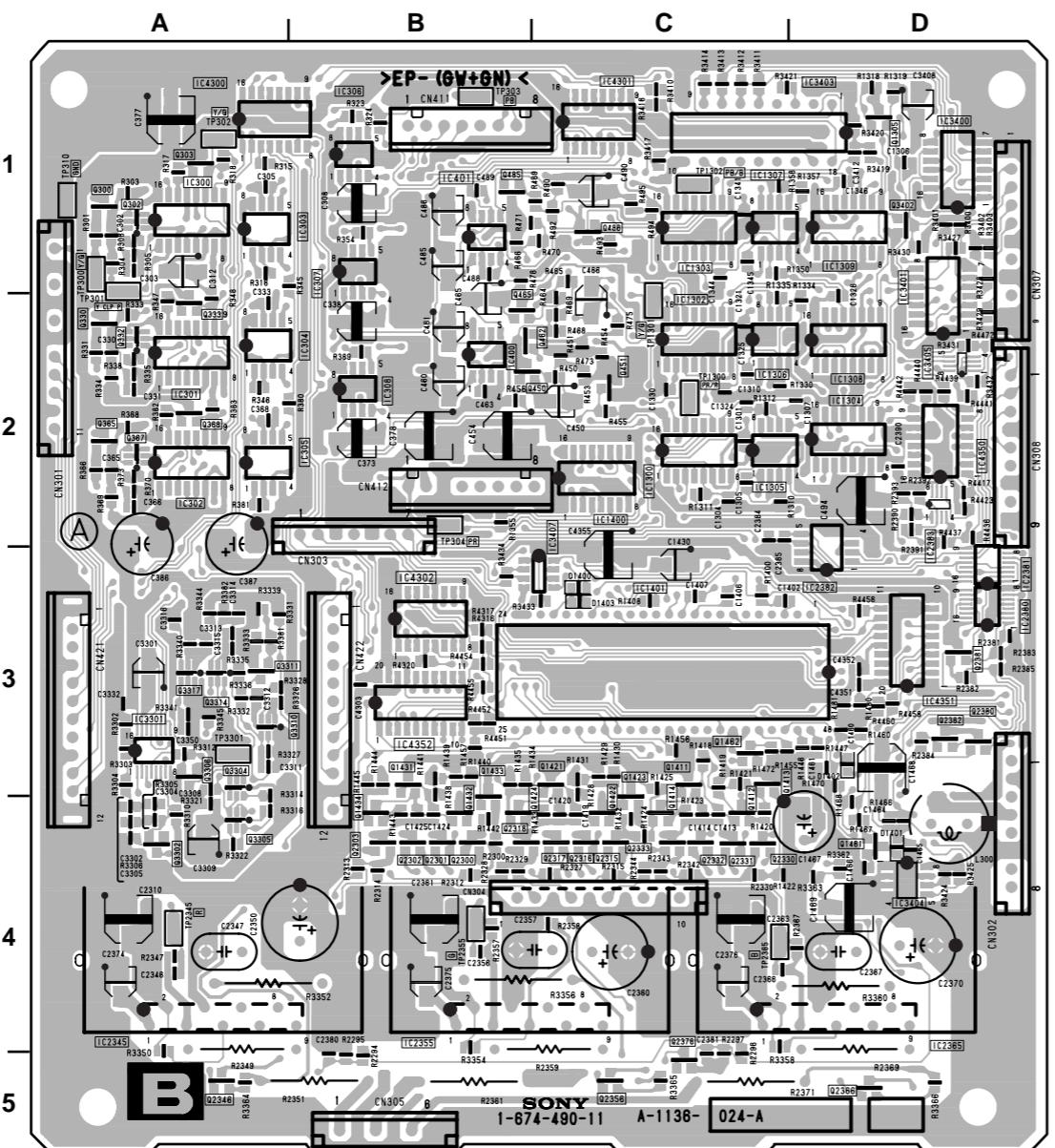
B-SS9646-BX.-P2

B BOARD

* : B SIDE
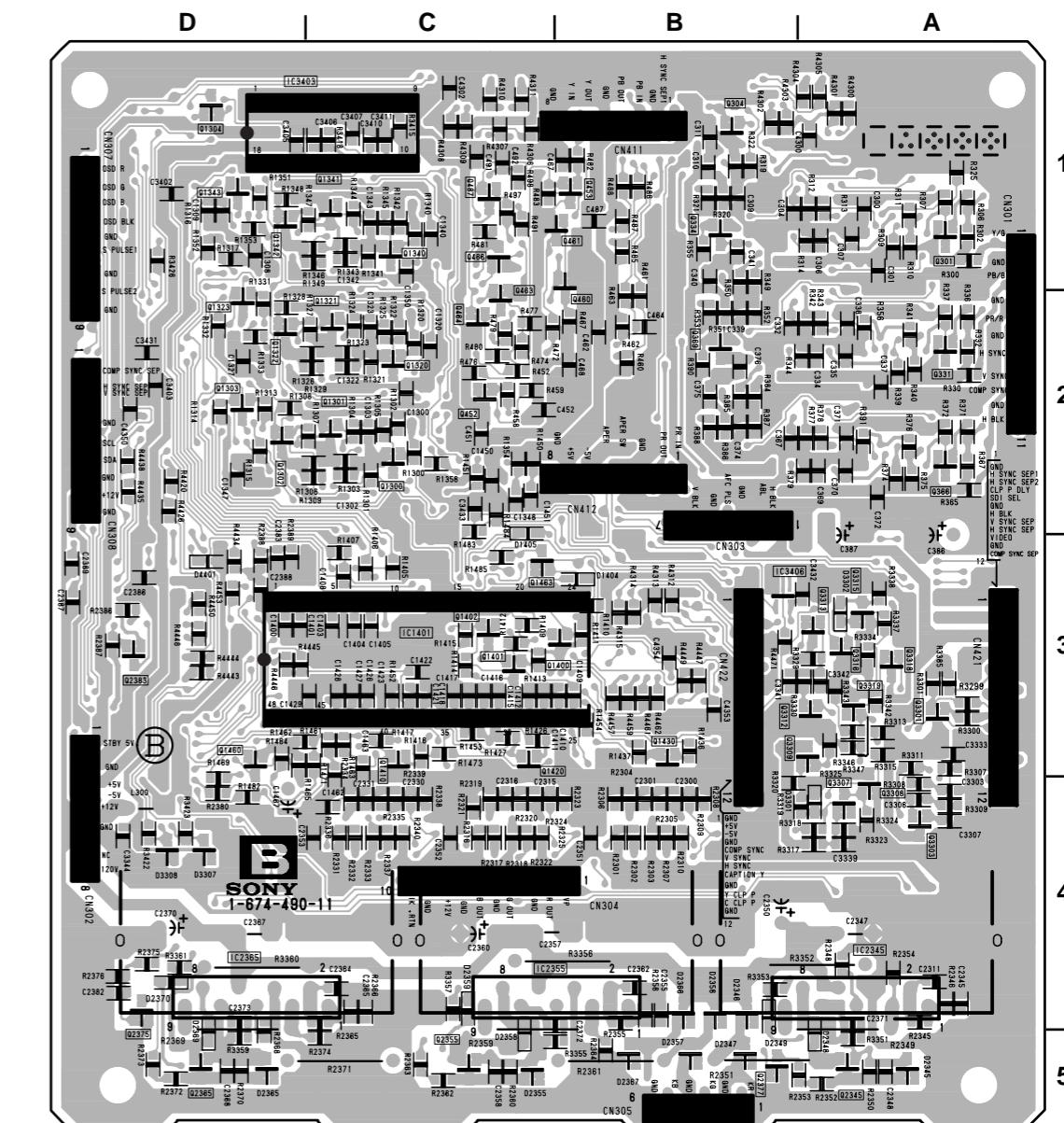
D1400	C-3	Q460	* B-1	TP300	A-1
D1401	D-4	Q461	* B-1	TP301	A-1
D1402	D-3	Q462	B-2	TP302	A-1
D1403	C-3	Q463	* C-1	TP303	B-1
D1404	* B-3	Q464	* C-2	TP304	B-2
D1405	* C-3	Q465	B-2	TP310	A-1
D2345	* A-5	Q466	* C-1	TP1300	C-2
D2346	* B-4	Q485	B-1	TP1301	C-2
D2347	* B-5	Q486	C-1	TP1302	C-1
D2348	* A-5	Q487	* C-1	TP2345	A-4
D2349	* B-5	Q1300	* C-2	TP2355	B-4
D2355	* C-5	Q1301	* C-2	TP2365	C-4
D2356	* B-4	Q1302	* D-2	TP3301	A-3
D2357	* B-5	Q1303	* D-2		
D2358	* C-5	Q1304	* D-1		
D2359	* D-5	Q1305	D-1		
D2365	* D-5	Q1320	* C-2		
D2366	* B-4	Q1321	* C-2		
D2367	* B-5	Q1322	* D-2		
D2369	* D-5	Q1323	* D-2		
D2370	* D-4	Q1340	* C-1		
D3301	* B-4	Q1341	* C-1		
D3302	* A-3	Q1342	* D-1		
D3307	* D-4	Q1343	* D-1		
D3308	* D-4	Q1400	* C-3		
D4401	* D-3	Q1401	C-3		
		Q1402	* C-3		
IC300	A-1	Q1410	* C-3		
IC301	A-2	Q1411	* C-3		
IC302	A-2	Q1412	C-4		
IC303	A-1	Q1413	C-4		
IC304	A-2	Q1414	* C-4		
IC305	A-2	Q1420	* C-4		
IC306	B-1	Q1421	C-4		
IC307	B-1	Q1422	C-4		
IC308	B-1	Q1423	C-4		
IC400	B-2	Q1424	C-4		
IC401	B-2	Q1430	* B-3		
IC1300	C-2	Q1431	B-3		
IC1302	C-2	Q1432	B-4		
IC1303	C-1	Q1433	B-4		
IC1304	D-2	Q1434	B-4		
IC1305	C-2	Q1460	* D-3		
IC1306	C-2	Q1461	D-4		
IC1307	C-1	Q1462	C-3		
IC1308	D-2	Q1463	* C-3		
IC1309	D-1	Q2300	B-4		
IC1400	C-2	Q2301	B-4		
IC1401	* C-3	Q2302	B-4		
IC2345	A-4	Q2303	B-4		
IC2355	B-4	Q2315	C-4		
IC2365	D-4	Q2316	C-4		
IC2380	D-3	Q2317	C-4		
IC2381	D-3	Q2318	B-4		
IC2382	D-3	Q2330	D-4		
IC2383	D-3	Q2331	C-4		
IC3301	A-3	Q2332	C-4		
IC3400	D-1	Q2333	C-4		
IC3401	D-1	Q2345	* A-5		
IC3403	D-1	Q2346	A-4		
IC3404	D-4	Q2355	* C-5		
IC3405	D-2	Q2356	C-5		
IC3406	* B-3	Q2365	* D-5		
IC3407	C-2	Q2366	D-5		
IC4300	A-1	Q2375	* D-5		
IC4301	C-1	Q2376	C-4		
IC4302	B-3	Q2377	* B-5		
IC4350	D-2	Q2380	D-3		
IC4351	D-2	Q2381	D-3		
IC4352	B-3	Q2382	* D-3		
		Q2383	* D-3		
Q300	A-1	Q3301	* A-3		
Q301	* A-1	Q3302	A-4		
Q302	A-1	Q3303	* A-4		
Q303	A-1	Q3304	A-3		
Q304	* B-1	Q3305	A-4		
Q330	A-2	Q3306	A-3		
Q331	* A-2	Q3307	* A-4		
Q332	A-2	Q3308	A-4		
Q333	A-2	Q3309	* B-3		
Q334	* B-1	Q3310	* A-3		
Q365	C-2	Q3311	A-3		
Q366	* A-2	Q3312	* B-3		
Q367	A-2	Q3313	* A-3		
Q368	A-2	Q3314	A-3		
Q369	* B-2	Q3315	* A-3		
Q450	B-2	Q3316	* A-3		
Q451		Q3317	A-3		
Q452	* C-2	Q3318	* A-3		
Q453	* B-1	Q3319	* A-3		
		Q3402	D-1		

B BOARD
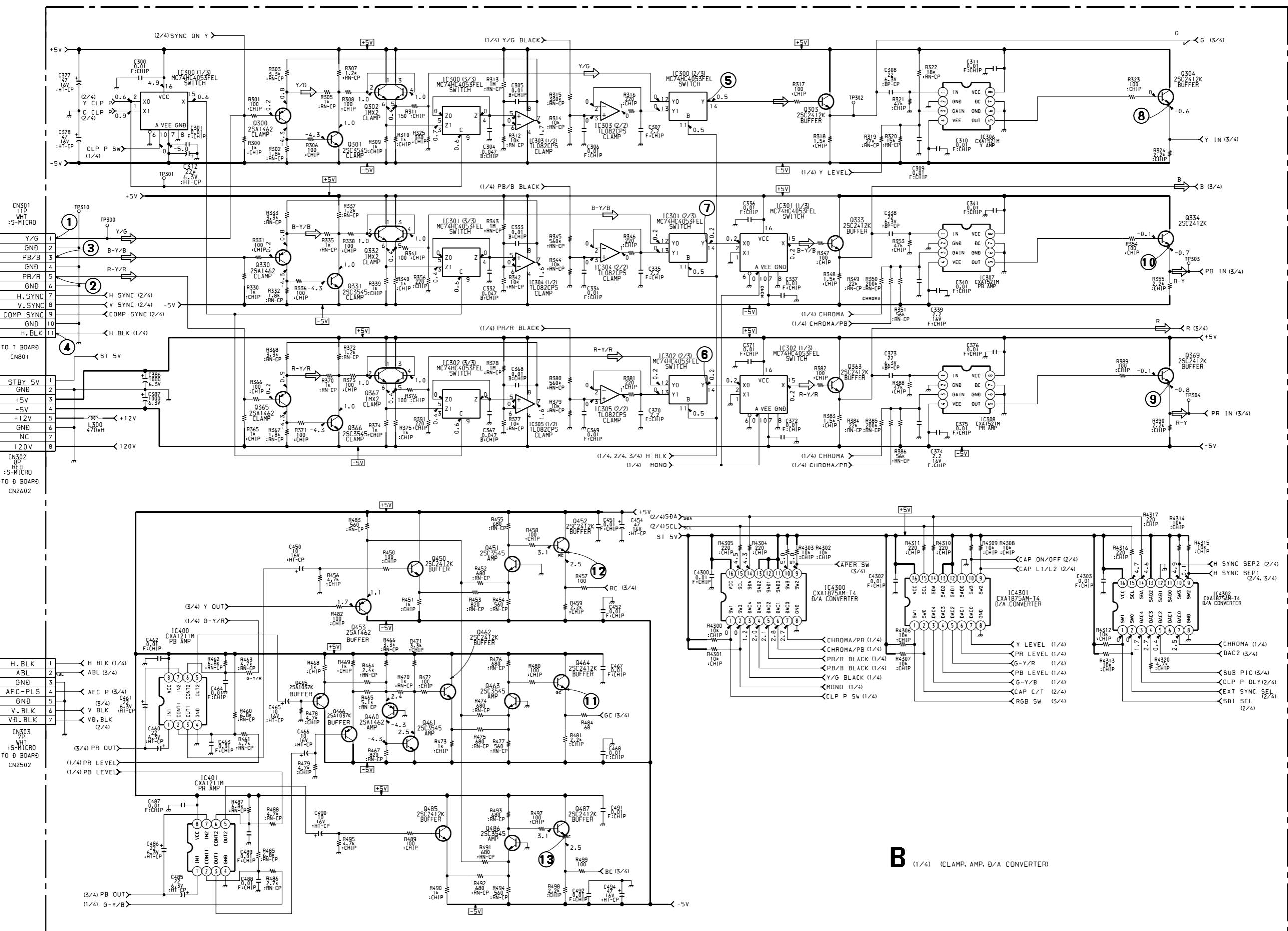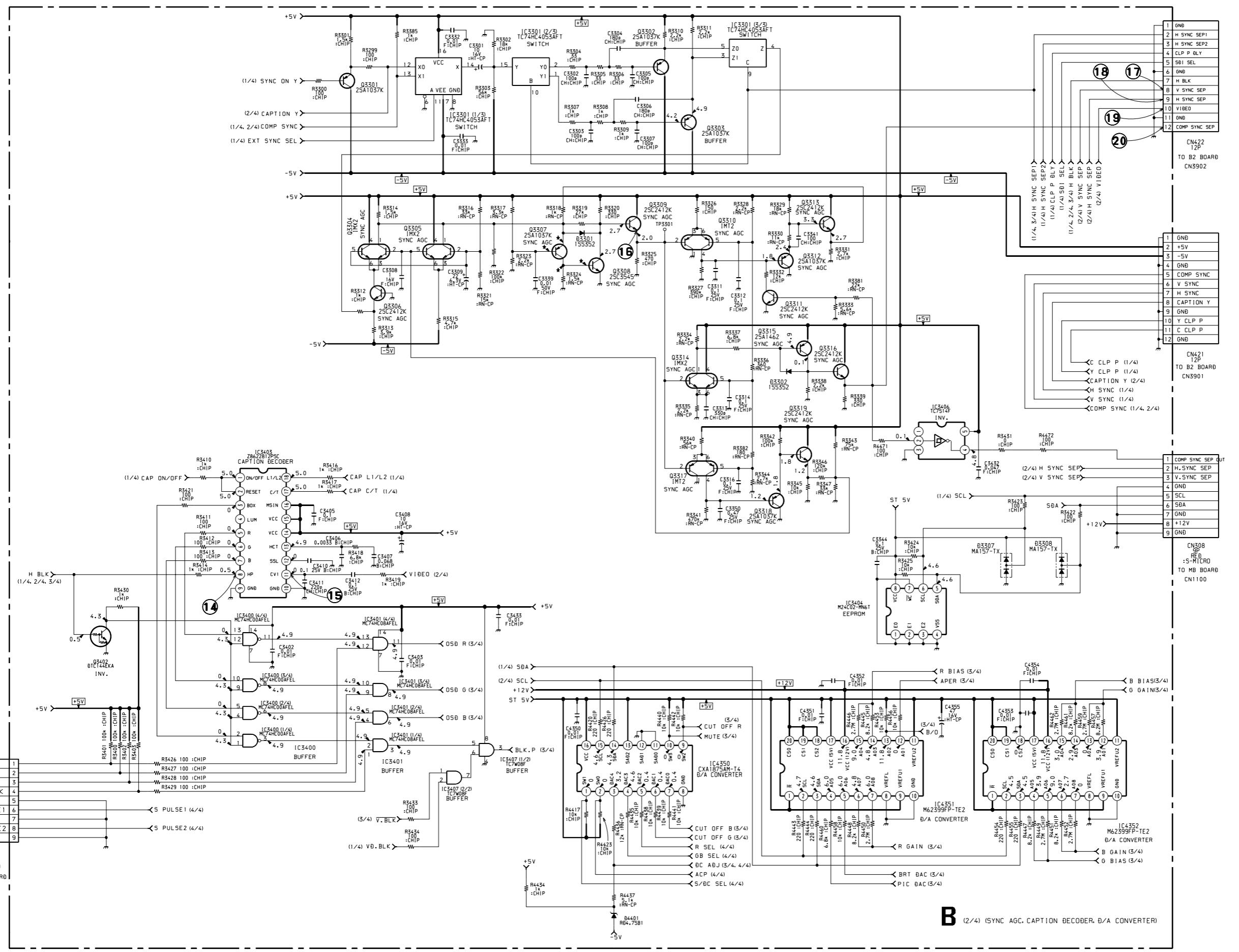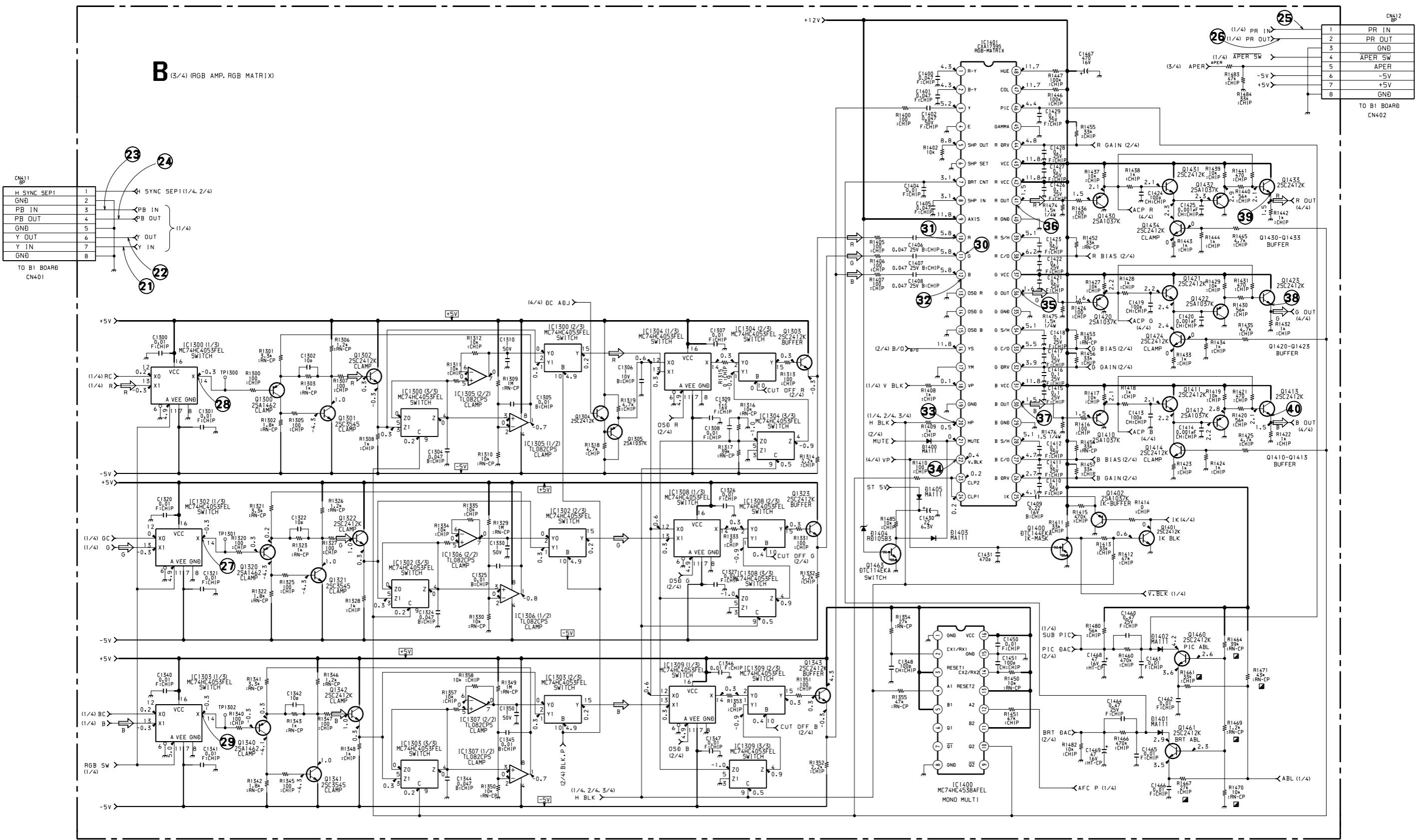
B –A SIDE–
SUFFIX: -11
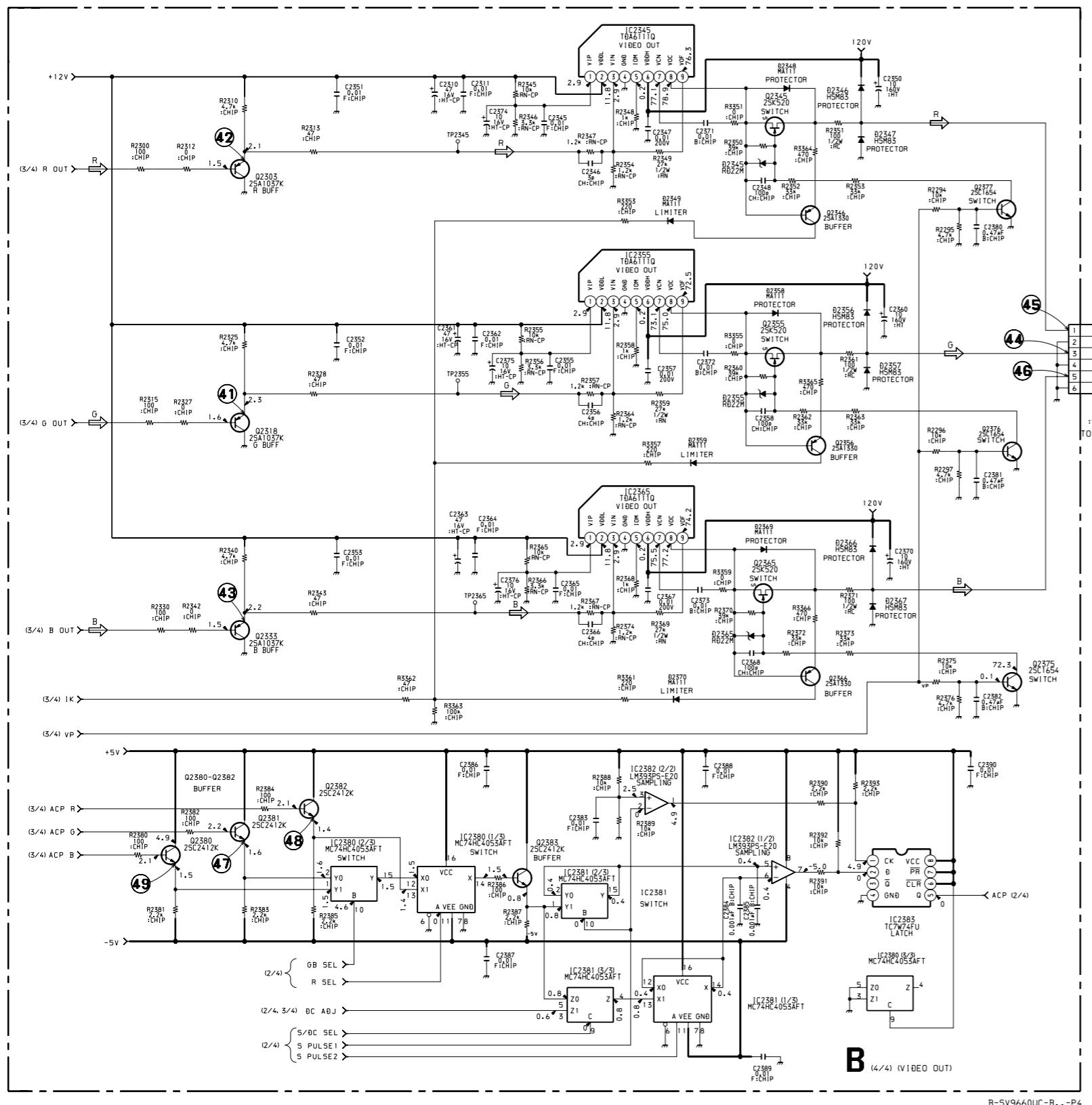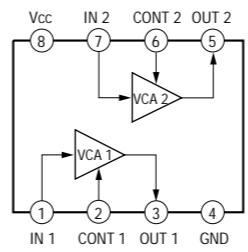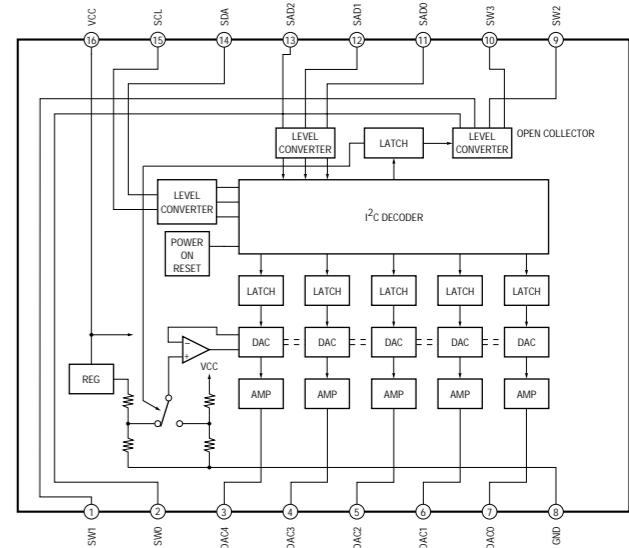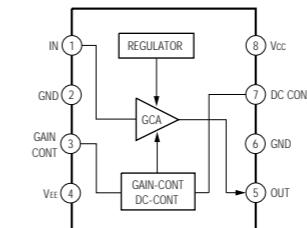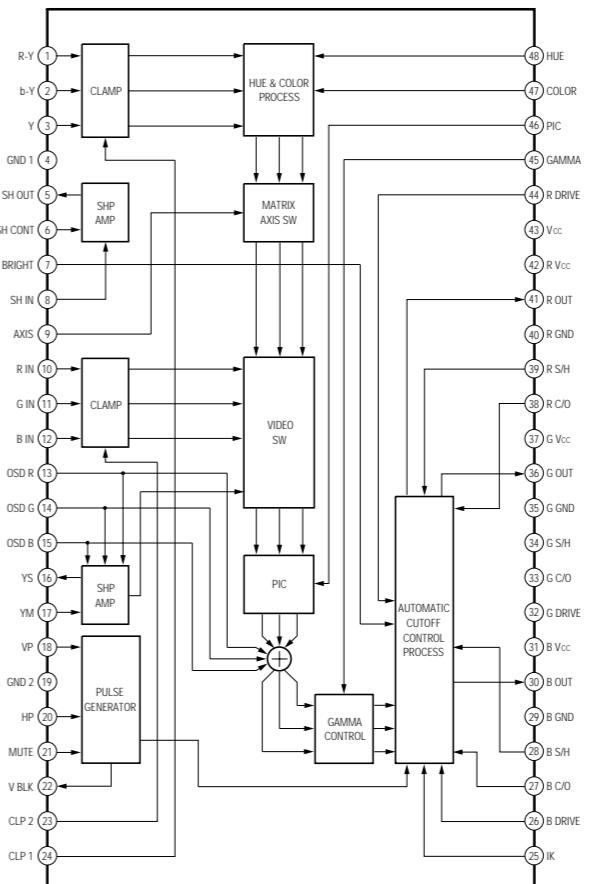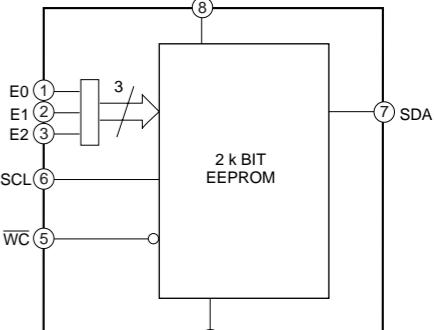
B –B SIDE–
SUFFIX: -11

B (1/4) (CLAMP, AMP, D/A CONVERTER)

B-SV9660UC-B..-P1

B (2/4) (SYNC AGC, CAPTION DECODER, D/A CONVERTER)

B-SV9660UC-B..-P2

BVM-D9H1U/D9H5U/D9H1E/D9H5E/D9H1A/D9H5A

B (3/4) (RGB AMP. RGB MATRIX)

B-SV9660UC-B..-P3
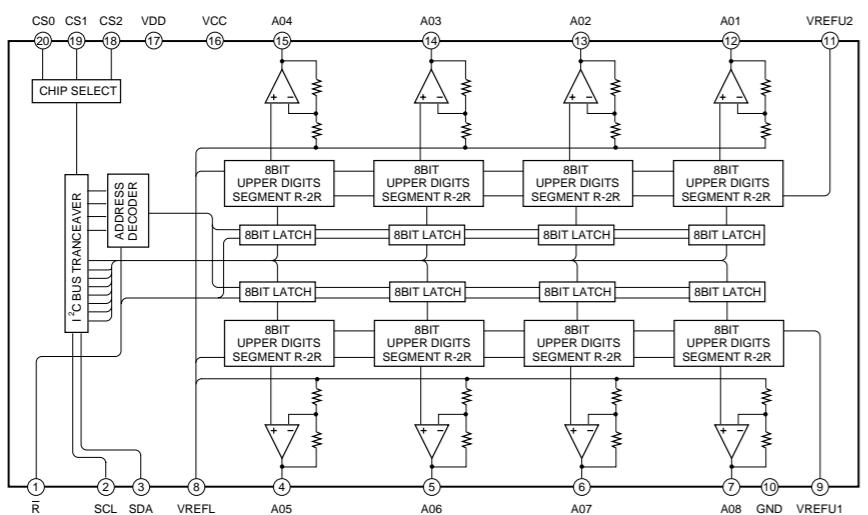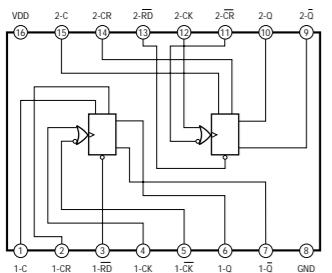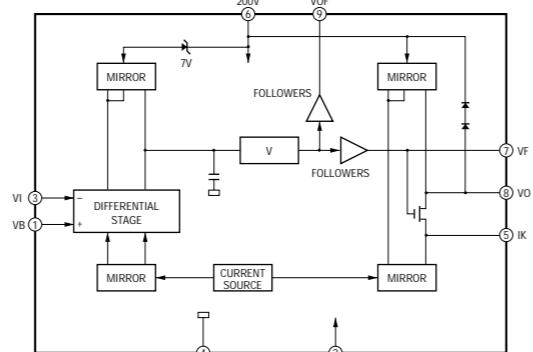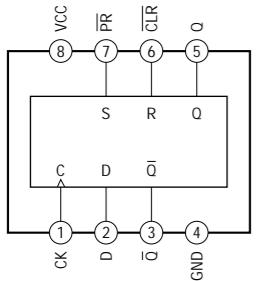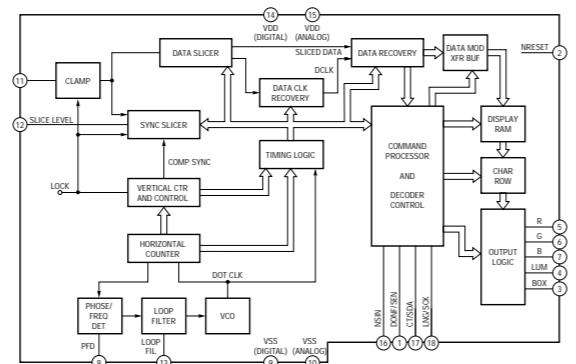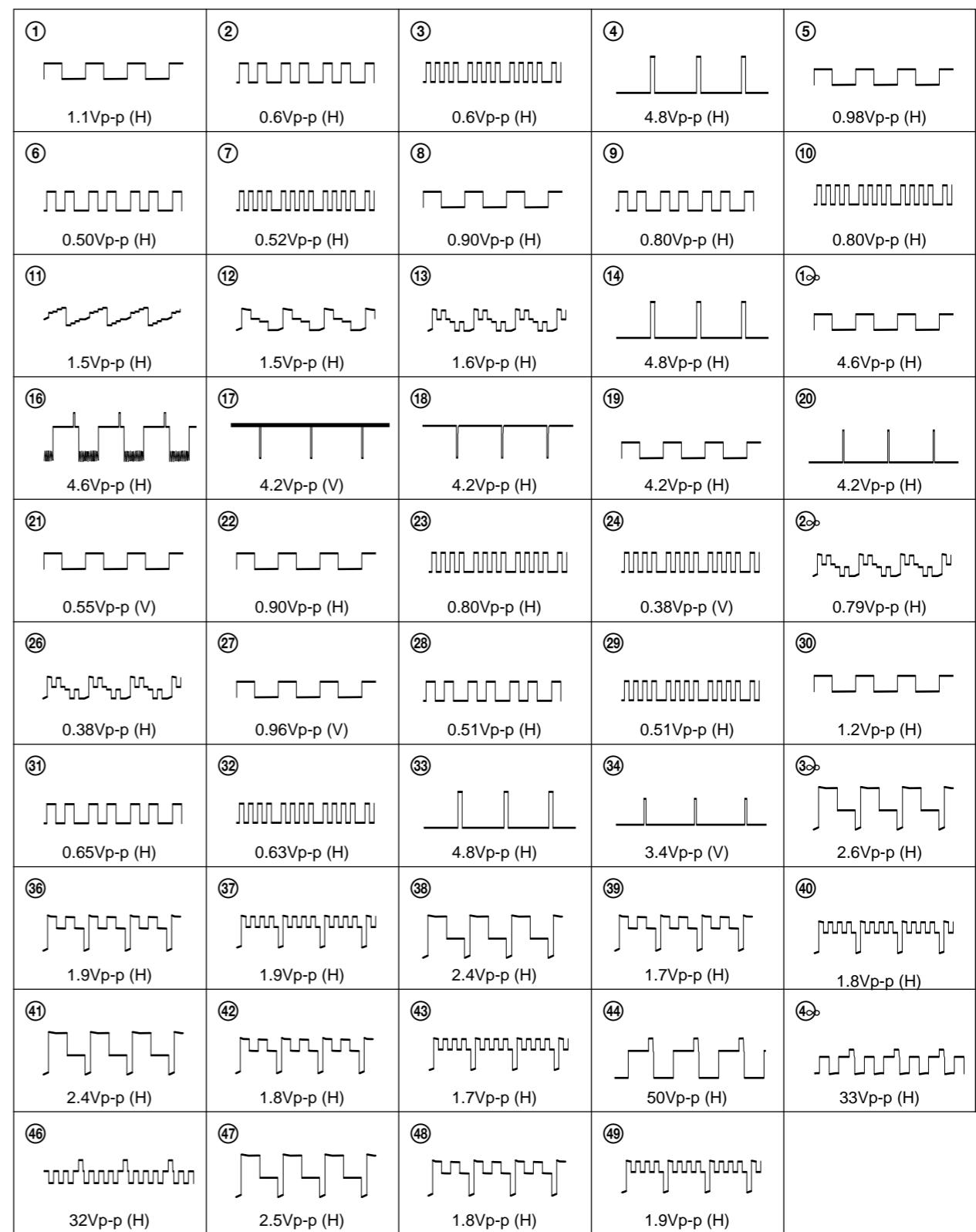
CXA1211M (IC400, 401)

CXA1875AM-T4
(IC4300, 4301, 4302, 4350)

CXA1521M (IC306, 307, 308)

CXA1739S (IC1401)

M24C02-MN6T (IC3404)

B (4/4) (VIDEO OUT)

B-SV9660UC-B...-P4

BVM-D9H1U/D9H5U/D9H1E/D9H5E/D9H1A/D9H5A
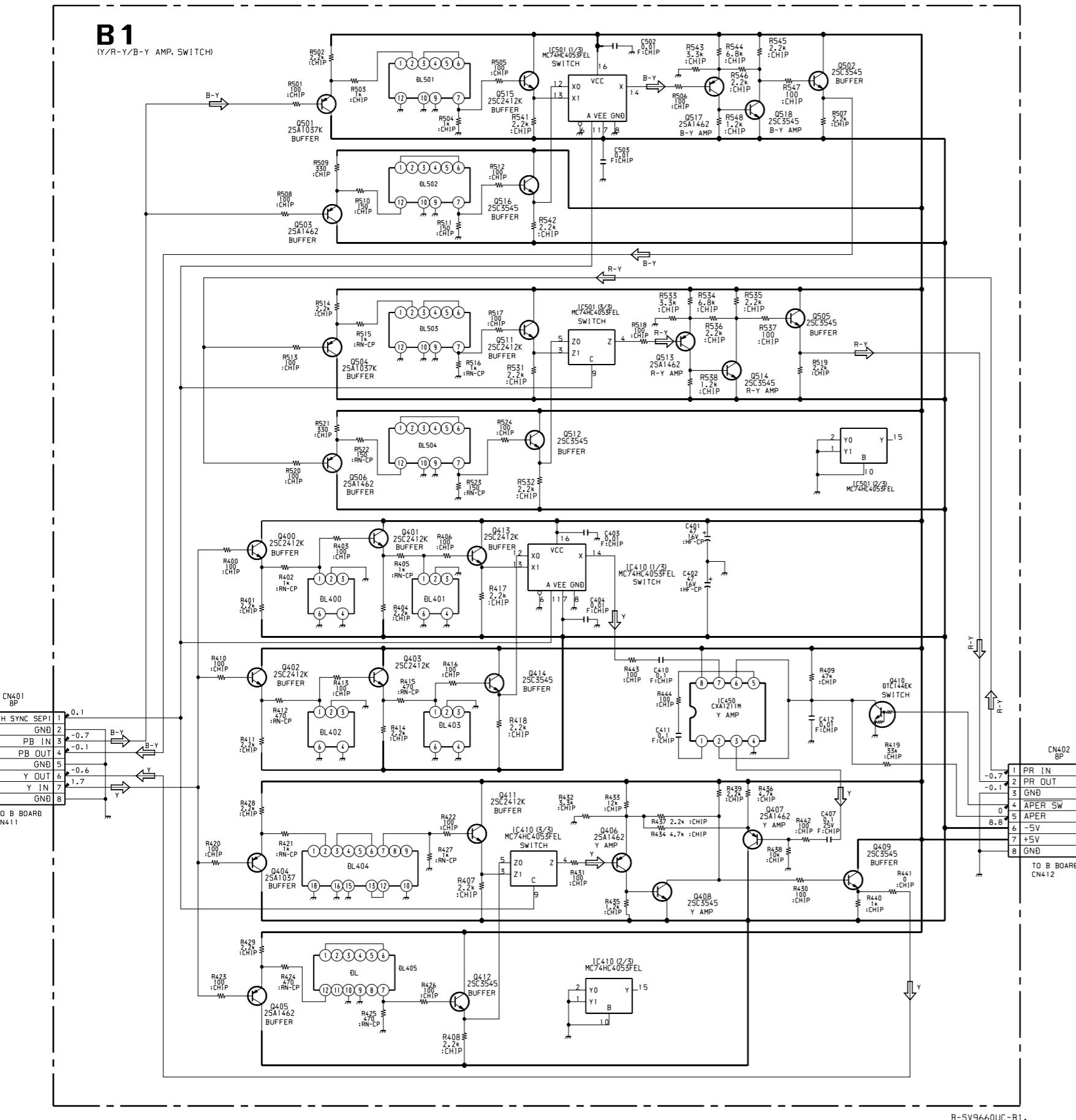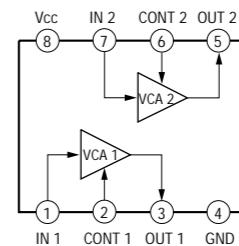
A　　B　　C　　D　　E　　F　　G　　H

M62399FP-TE2 (IC4351, 4352)

MC74HC4538AFEL (IC1400)

TDA6111Q (IC2345, 2355, 2365)

TC7W74FU (IC2383)

Z8622812PSC (IC3403)

B BOARD WAVEFORMS

① 1.1Vp-p (H)	② 0.6Vp-p (H)	③ 0.6Vp-p (H)	④ 4.8Vp-p (H)	⑤ 0.98Vp-p (H)
⑥ 0.50Vp-p (H)	⑦ 0.52Vp-p (H)	⑧ 0.90Vp-p (H)	⑨ 0.80Vp-p (H)	⑩ 0.80Vp-p (H)
⑪ 1.5Vp-p (H)	⑫ 1.5Vp-p (H)	⑬ 1.6Vp-p (H)	⑭ 4.8Vp-p (H)	⑮ 4.6Vp-p (H)
⑯ 4.6Vp-p (H)	⑰ 4.2Vp-p (V)	⑱ 4.2Vp-p (H)	⑲ 4.2Vp-p (H)	⑳ 4.2Vp-p (H)
㉑ 0.55Vp-p (V)	㉒ 0.90Vp-p (H)	㉓ 0.80Vp-p (H)	㉔ 0.38Vp-p (V)	㉕ 0.79Vp-p (H)
㉖ 0.38Vp-p (H)	㉗ 0.96Vp-p (V)	㉘ 0.51Vp-p (H)	㉙ 0.51Vp-p (H)	㉚ 1.2Vp-p (H)
㉛ 0.65Vp-p (H)	㉜ 0.63Vp-p (H)	㉝ 4.8Vp-p (H)	㉞ 3.4Vp-p (V)	㉟ 2.6Vp-p (H)
㊱ 1.9Vp-p (H)	㊲ 1.9Vp-p (H)	㊳ 2.4Vp-p (H)	㊴ 1.7Vp-p (H)	㊵ 1.8Vp-p (H)
㊶ 2.4Vp-p (H)	㊷ 1.8Vp-p (H)	㊸ 1.7Vp-p (H)	㊹ 50Vp-p (H)	㊺ 33Vp-p (H)
㊻ 32Vp-p (H)	㊼ 2.5Vp-p (H)	㊽ 1.8Vp-p (H)	㊾ 1.9Vp-p (H)	

B 1
(Y/R-Y/B-Y AMP, SWITCH)

CXA1211M (IC450)

B1 BOARD

B1 –A SIDE–
SUFFIX: -11

B1 –B SIDE–
SUFFIX: -11

B-SV9660UC-B1.

BVM-D9H1U/D9H5U/D9H1E/D9H5E/D9H1A/D9H5A

A   B   C   D   E   F   G   H
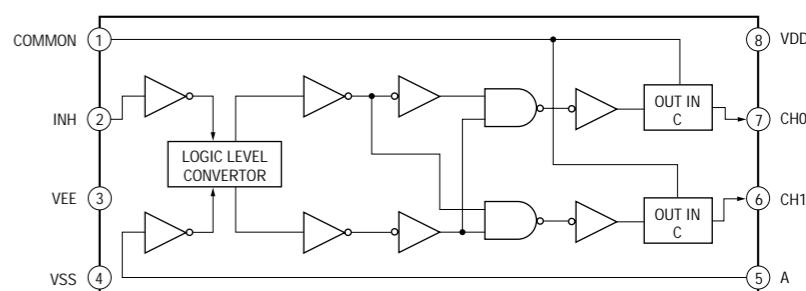
B2 BOARD

B2 –A SIDE–
SUFFIX: -11

B2 –B SIDE–
SUFFIX: -11

TC4W53FU (IC3908)

B2 (H SYNC/V SYNC SEP)

B-SV9660UC-B2.
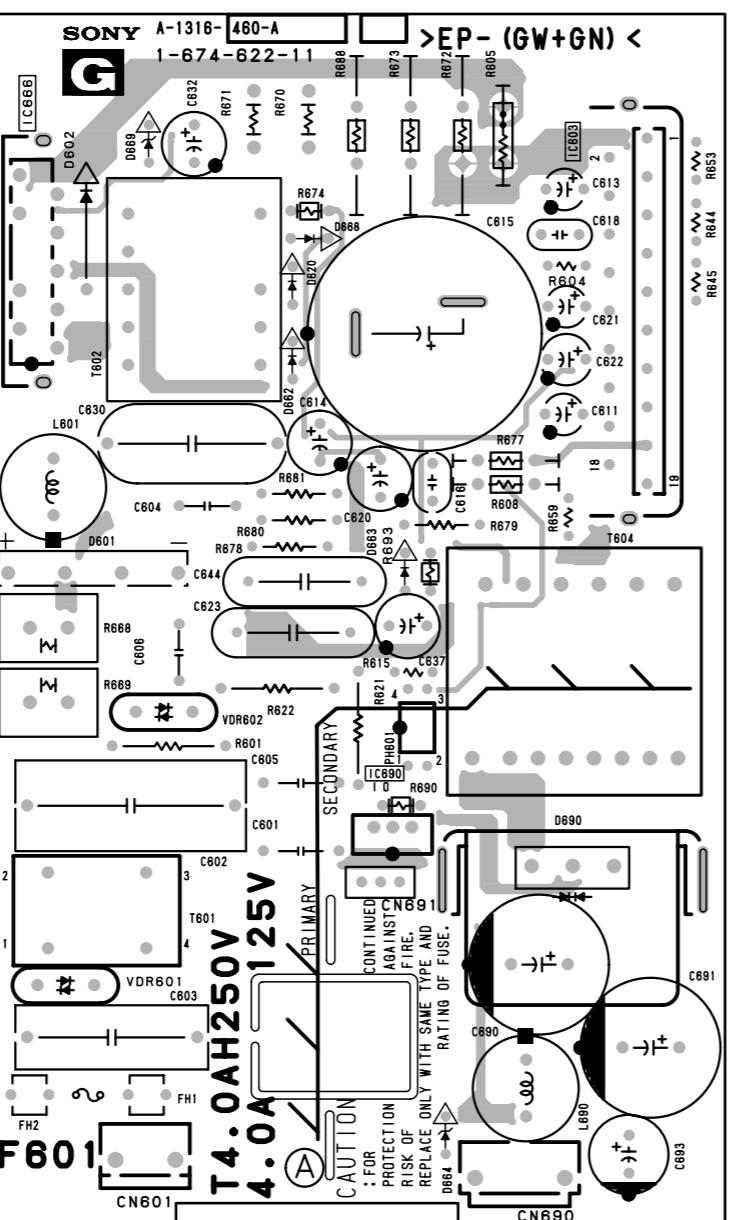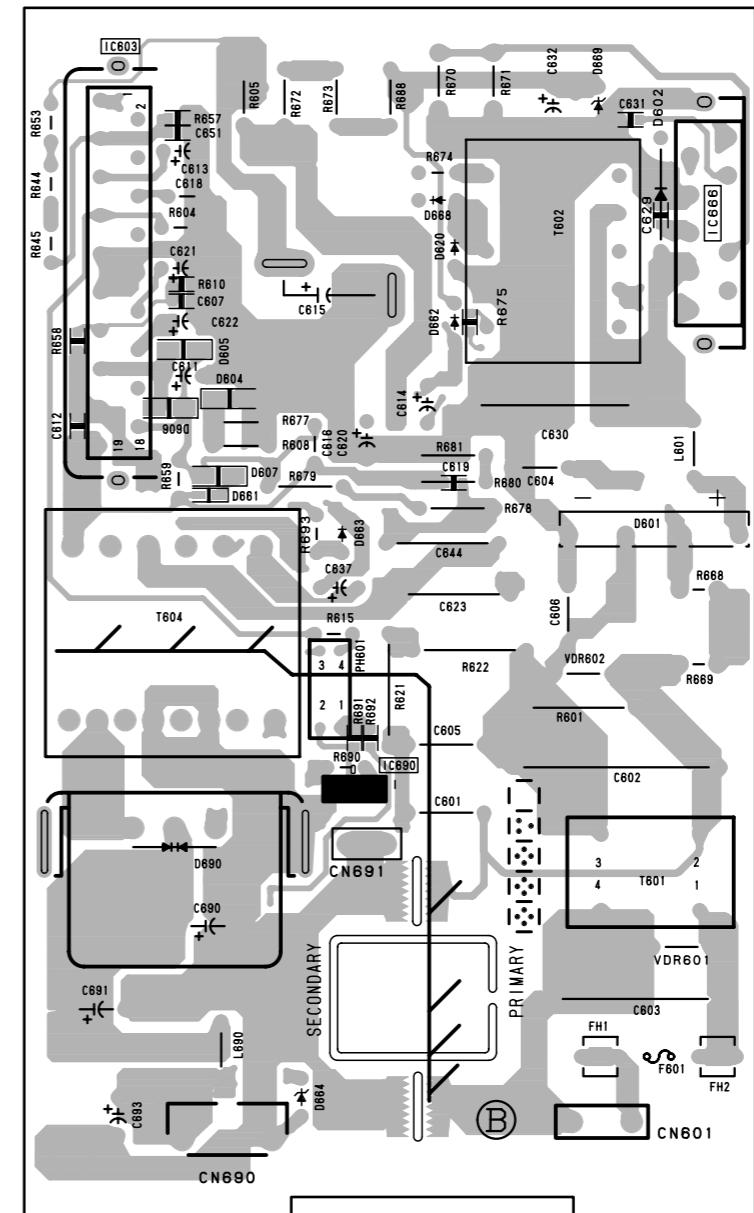
G BOARD

* : B-SIDE
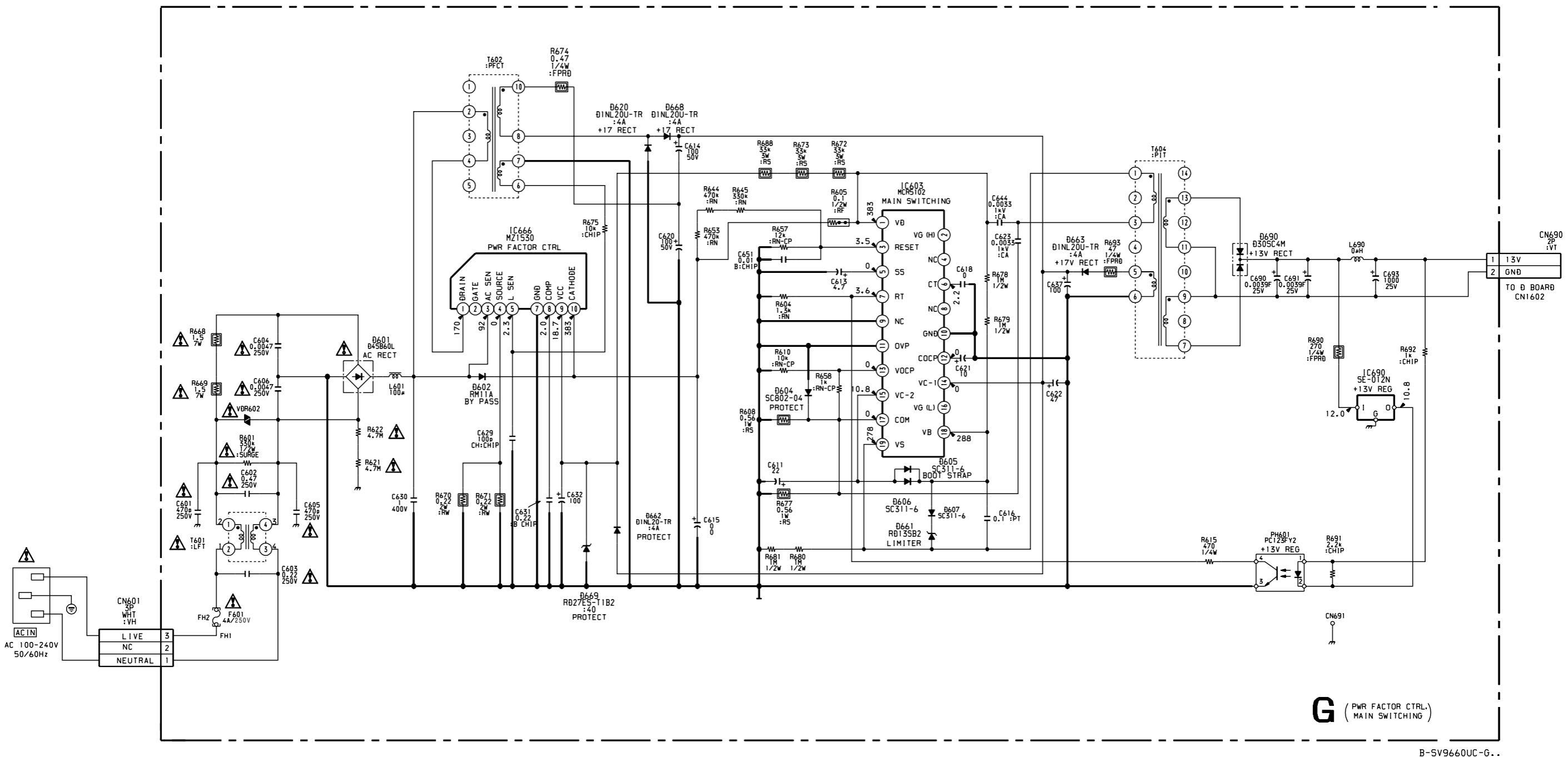
D2501	F-6	IC506	B-1	
D2502	G-7	IC507	C-1	
D2503	F-6	IC508	C-2	
D2504	J-5	IC509	B-2	
D2506	G-7	IC510	E-1	
D2507	H-6	IC512	E-1	
D2508	E-7	IC514	K-2	
D2509	E-7	IC515	E-1	
D2510	H-7	IC516	D-1	
D2511	H-7	IC517	K-1	
D2512	J-6	IC519	F-2	
D2513	K-5	IC520	* G-2	
D2514	H-5	IC522	B-1	
D2515	* E-6	IC523	* J-2	
D2520	* J-5	IC524	B-2	
D501	* E-2	IC526	B-1	
D502	* E-2	IC527	B-2	
D503	* E-2	IC528	D-1	
D504	* E-2	IC529	A-2	
D505	E-2	IC601	D-7	
D506	* J-3	IC602	C-5	
D507	* J-2	IC606	F-3	
D508	* J-2	IC607	F-3	
D509	* J-2	IC608	D-3	
D510	* J-2	IC609	E-2	
D511	* J-2	IC610	D-3	
D512	* J-2			
D513	J-3	Q2501	G-6	
D514	* K-4	Q2502	G-6	
D515	* F-1	Q2503	G-7	
D516	H-4	Q2504	E-6	
D517	* F-2	Q2505	G-6	
D518	J-4	Q2508	J-7	
D519	J-4	Q2511	J-5	
D520	H-3	Q2513	J-5	
D524	G-2	Q2514	G-5	
D525	* G-3	Q2515	G-5	
D529	* C-1	Q2518	G-5	
D530	E-1	Q2519	G-5	
D531	* C-2	Q501	B-1	
D532	* C-2	Q504	E-2	
D533	* B-2	Q505	* F-1	
D534	* D-1	Q506	* J-4	
D535	* F-2	Q507	* K-4	
D536	* C-1	Q508	* F-1	
D537	* F-2	Q509	* F-1	
D538	* C-1	Q510	F-1	
D539	* C-2	Q511	F-1	
D540	* B-1	Q512	F-1	
D601	* B-3	Q513	K-4	
D602	B-4	Q514	H-4	
D603	* C-3	Q517	G-3	
D604	C-3	Q518	G-3	
D605	C-4	Q520	* C-1	
D607	* C-4	Q521	* D-2	
D608	D-7	Q523	E-2	
D609	* D-4	Q524	* C-1	
D612	* C-4	Q525	* D-1	
D614	* D-5	Q529	B-2	
D617	* D-5	Q530	B-2	
D619	* D-4	Q531	B-2	
D620	* D-4	Q532	* E-1	
D622	F-5	Q533	* F-2	
D623	F-5	Q534	* E-1	
D624	G-4	Q535	* C-1	
D625	D-3	Q536	* F-2	
D626	F-4	Q601	* A-2	
D627	F-2	Q602	C-4	
D633	* C-3	Q603	* C-3	
D634	A-2	Q604	* C-3	
D635	C-6	Q605	D-4	
D636	* D-5	Q608	D-4	
D637	F-4	Q609	* D-4	
D638	* E-2	Q611	* F-2	
D639	* F-2	Q612	* F-2	
D640	* F-2	Q613	* F-2	
		Q614	G-4	
IC2501	* F-6	Q615	* D-3	
IC2502	* E-6	Q616	* F-2	
IC2503	K-5	Q617	* F-2	
IC2504	E-6	Q618	* D-2	
IC501	B-1	Q619	* A-2	
IC502	D-1	Q620	* F-2	
IC503	B-1	Q621	* F-2	
		Q622	* E-2	

G BOARD

SONY A-1316-460-A
G 1-674-622-11
>EP- (GW+GN) <

T4.0AH250V
4.0A 125V

F601

CAUTION
: FOR PROTECTION AGAINST FIRE, RISK OF REPLACE ONLY WITH SAME TYPE AND RATING OF FUSE.

PRIMARY
SECONDARY
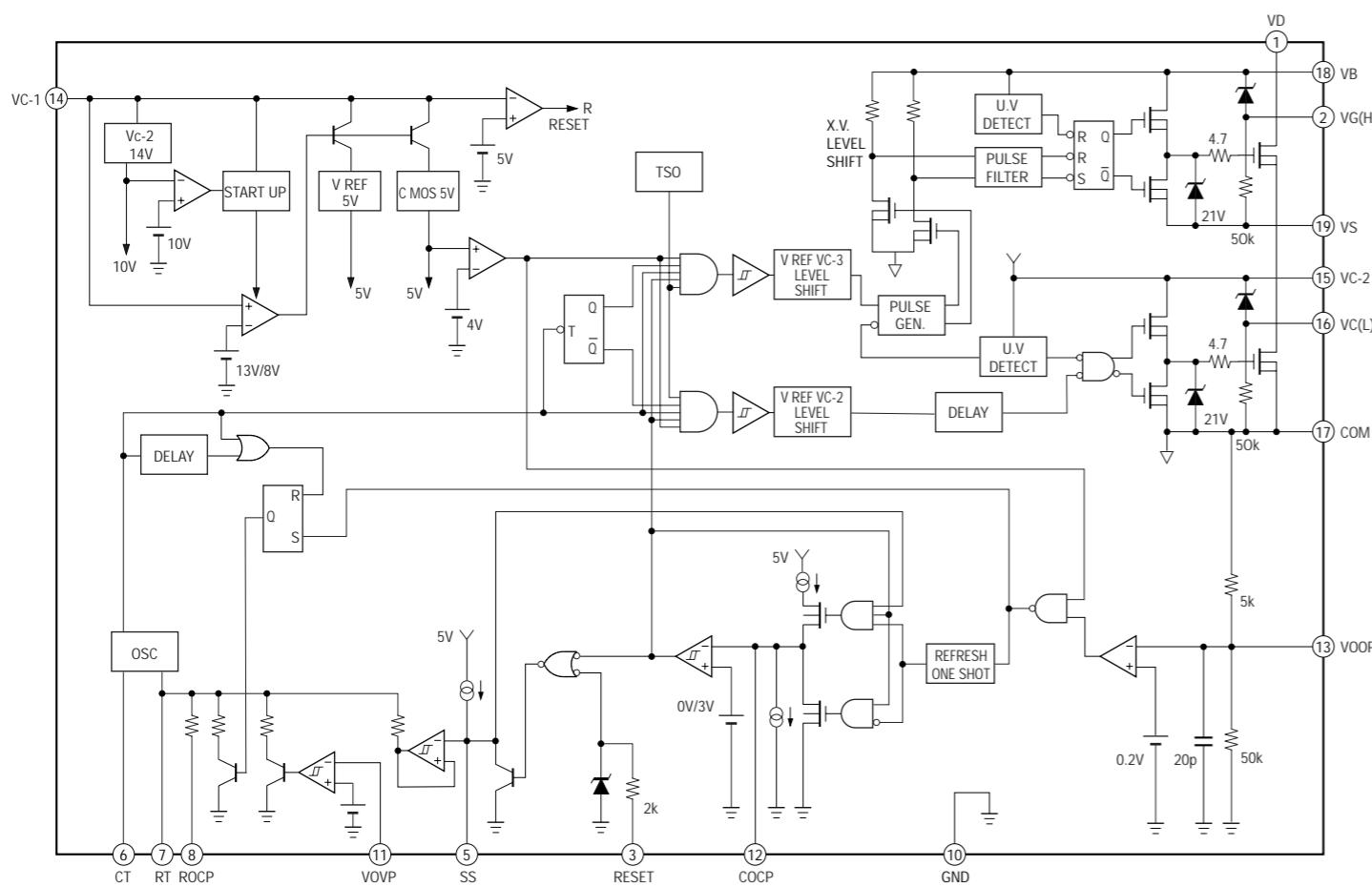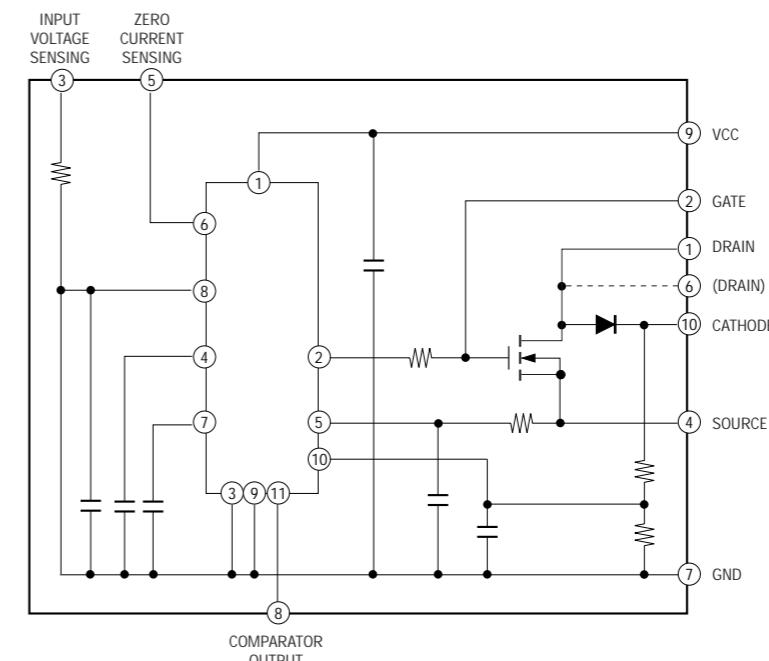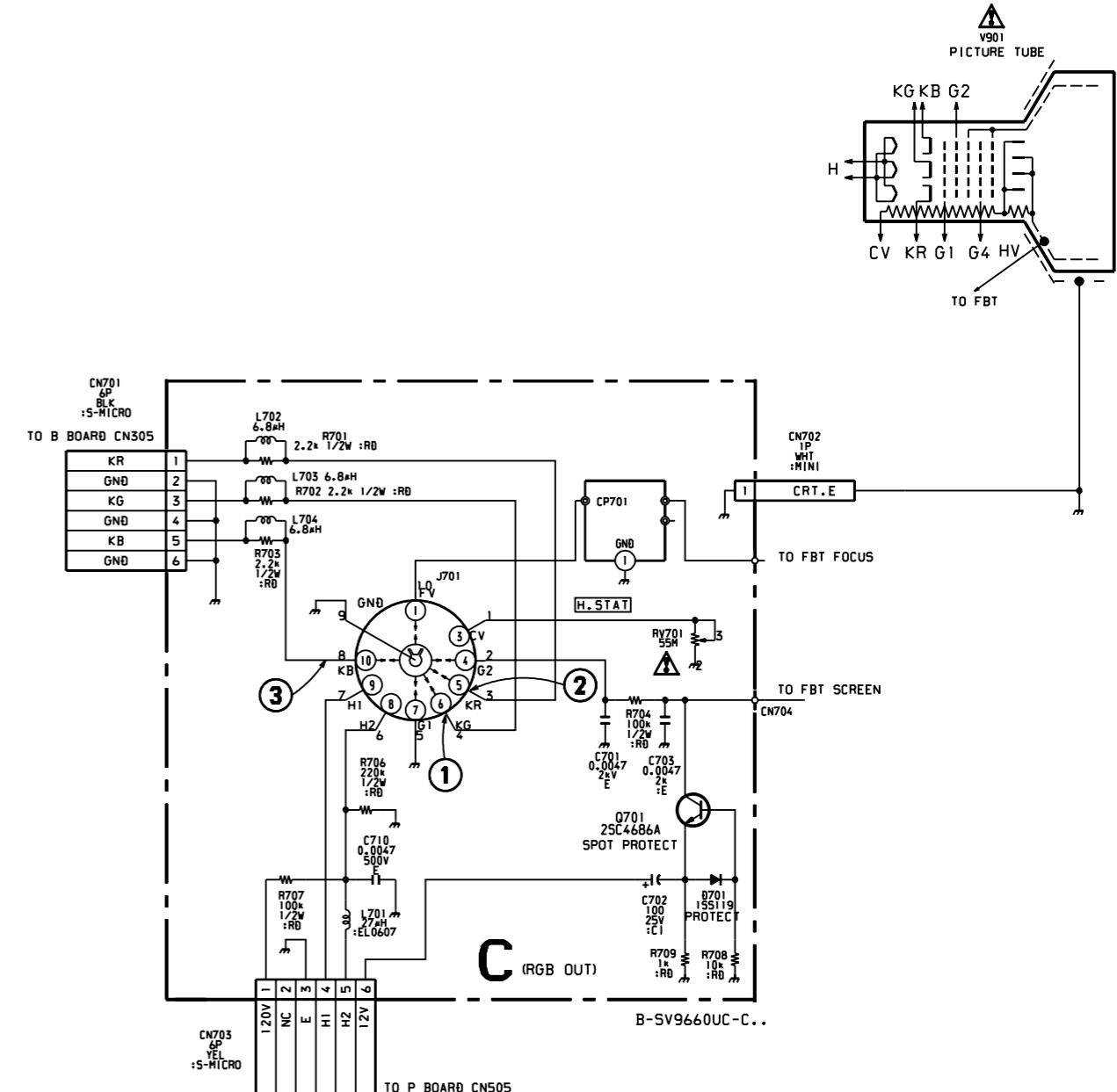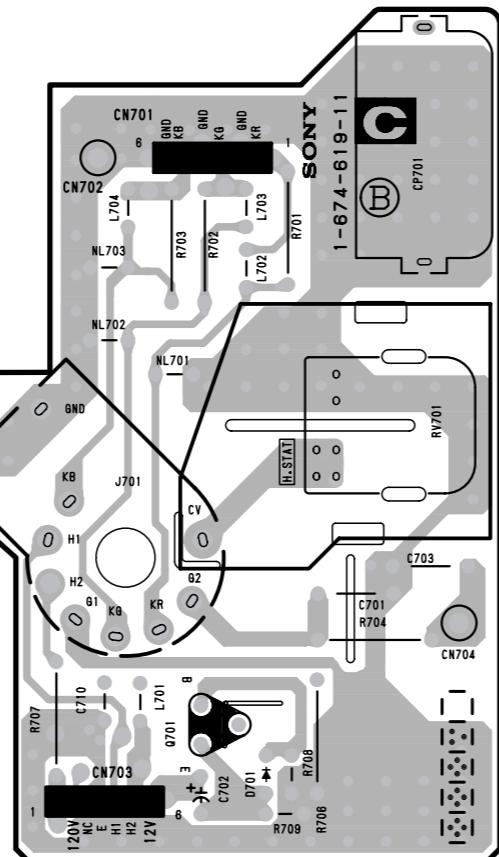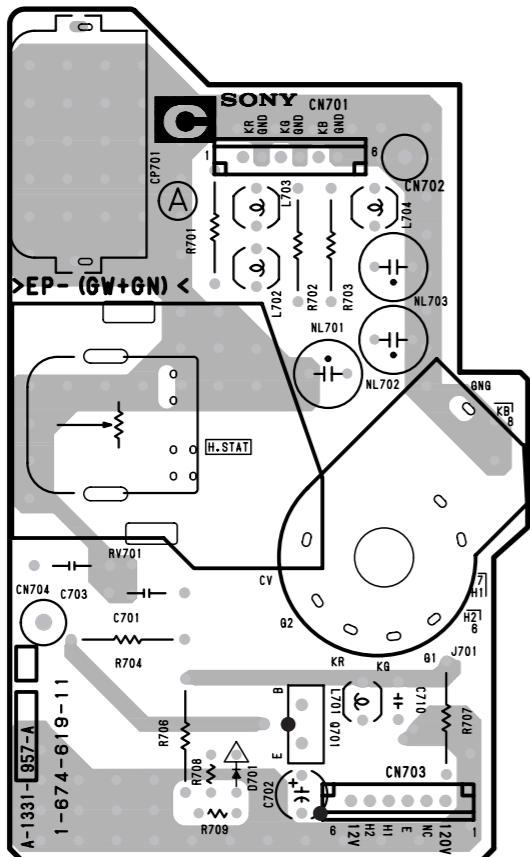
G –A SIDE–
SUFFIX: -11

G –B SIDE–
SUFFIX: -11

A   B   C   D   E   F   G   H

MCR5102 (IC603)

MZ1530 (IC666)

V901
PICTURE TUBE

KG KB G2

H

CV KR G1 G4 HV

TO FBT

1

C BOARD

SONY CN701
CP701

CN702

Ⓐ

>EP- (GW+GN)<

H.STAT

RV701

CN704 C703
C701
R704
R706
C710 Q701
D701
CN703
R709

C –A SIDE–
SUFFIX: -11

CN701
SONY 1-674-619-11

CN702

Ⓑ CP701

H.STAT

GND

J701

KB

CV

G2
G1 KB KR

C703
C701
R704
CN704

R707 C710 L701
CN703
C702 D701
R708
120V NC E H1 H2 12V R709

C –B SIDE–
SUFFIX: -11

2

CN701
6P
BLK
:S-MICRO

TO B BOARD CN305

KR	1
GND	2
KG	3
GND	4
KB	5
GND	6

L702 6.8µH
R701 2.2k 1/2W :RD
L703 6.8µH R702 2.2k 1/2W :RD
L704 6.8µH
R703 2.2k 1/2W :RD

CP701
GND

CN702
1P
WHT
:MINI
1 CRT.E

TO FBT FOCUS

GND
LQ
J701
CV
G2
RV701 50k
KB
KR
G1

H.STAT

TO FBT SCREEN
CN704

R706 220k 1/2W :RD

C701 0.0047 2EV :E
R704 100k 1/2W :RD
C703 0.0047 :E

Q701 2SC4686A
SPOT PROTECT

C710 0.0047 500V

L701 470µH :EL0607

C702 100 25V :C

D701 15S119
PROTECT

R709 1k :RD
R708 10k :RD

R707 100k 1/2W :RD

C (RGB OUT)

B-SV9660UC-C..

CN703
6P
YEL
:S-MICRO

| 120V | NC | E | H1 | H2 | 12V |
| 1 | 2 | 3 | 4 | 5 | 6 |

TO P BOARD CN505

3

4

C BOARD WAVEFORMS

① 50Vp-p (H)

② 33Vp-p (H)

③ 32Vp-p (H)

5

D BOARD

D BOARD
*: B SIDE

D1601	B-1	Q1601	A-1
D1602	A-1	Q1602	A-1
D1603	A-1	Q1603	A-1
D1604	B-1	Q1604	B-1
D1605	B-1	Q1605	B-1
D1606	B-1	Q1608	2-D
D1607	A-1	Q1609	2-D
D1608	A-1	Q1610	2-D
D1609	*A-1	Q1611	C-1
D1610	C-1	Q1612	B-2
D1611	*B-2	Q1613	C-2
D2501	*A-7	Q1614	*C-2
D2504	*A-6	Q1617	D-3
D2505	*A-6	Q2502	A-7
D2506	*B-6	Q2503	*C-7
D2507	*A-6	Q2507	*A-6
D2509	*A-4	Q2508	*A-6
D2511	*B-6	Q2509	*A-6
D2512	*B-6	Q2510	*B-6
D2513	*C-6	Q2511	*A-6
D2515	*C-5	Q2512	*B-6
D2516	*B-6	Q2513	*B-6
D2517	*B-7	Q2514	A-5
D2518	*B-5	Q2516	*B-6
D2519	*B-5	Q2517	*C-6
D2520	*B-7	Q2519	*B-3
D2521	*B-7	Q2520	*B-4
D2522	*A-7	Q2521	*C-5
D2523	A-7	Q2522	*B-3
D2524	*C-3	Q2523	*C-3
D2525	*C-3	Q2524	*B-7
D2526	*C-3	Q2525	*B-7
D2527	*C-6	Q2526	*B-7
D2528	*D-7	Q2527	*D-6
D2529	*D-7	Q2528	*C-6
D2530	*B-7	Q2529	*D-6
D2532	*B-6	Q2530	*D-6
D2533	C-5	Q2531	*C-7
D2601	*B-2	Q2532	*C-7
D2602	B-1	Q2533	C-7
D2604	*B-2	Q2534	C-7
D2605	B-1	Q2535	*A-6
D3601	A-2	Q2601	D-3
D3603	*A-3	Q2602	C-3
D3604	*A-3	Q2603	C-3
D3605	*A-3	Q2604	B-2
D3606	*A-3	Q2605	B-2
D3607	*A-3	Q2606	B-2
D3608	A-2	Q2607	*B-1
D3609	A-2	Q2609	B-2
		Q2610	B-2
IC1601	C-2	Q2611	B-2
IC1602	C-2	Q2612	*B-1
IC2501	D-7	Q3601	C-3
IC2502	D-6	Q3602	C-3
IC2503	C-6	Q3603	C-3
IC2504	A-7	Q3604	C-3
IC2505	*D-7	Q3605	A-2
IC2506	*C-7	Q3606	*A-2
IC2507	A-4	Q3607	*A-1
IC2508	B-6	Q3609	*A-1
IC2509	*C-7	Q3610	A-2
IC2510	*C-7	Q3611	A-2
IC2512	*D-7	Q3612	A-2
IC2513	*C-7	Q3613	*B-1
IC2514	D-7		
IC2515	B-5		
IC2516	D-7		
IC2517	D-7		
IC2518	A-4		
IC2519	*C-7		
IC2521	B-7		
IC2522	C-7		
IC2523	D-7		
IC2601	D-3		
IC2602	C-4		
IC2603	C-4		
IC3601	C-3		
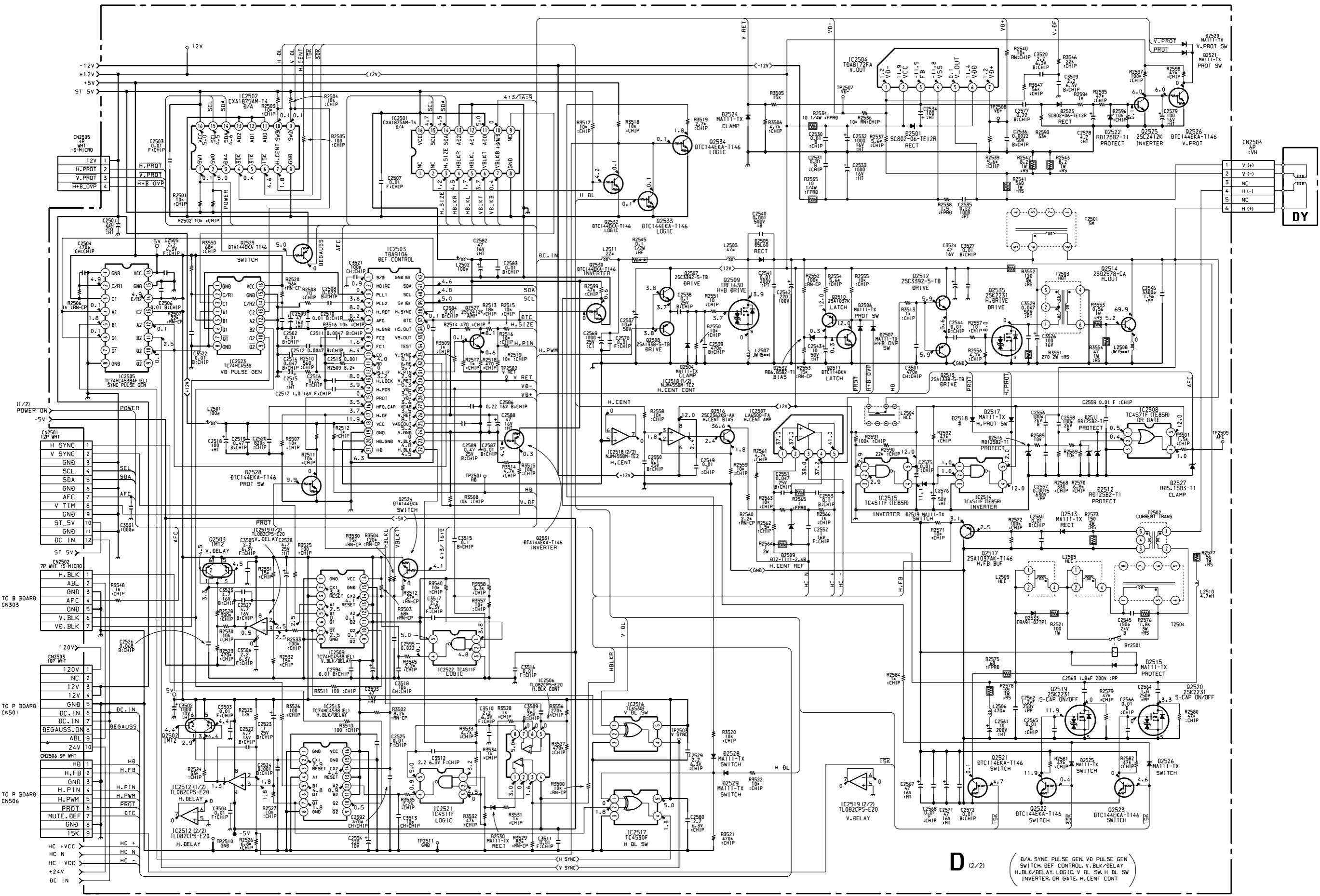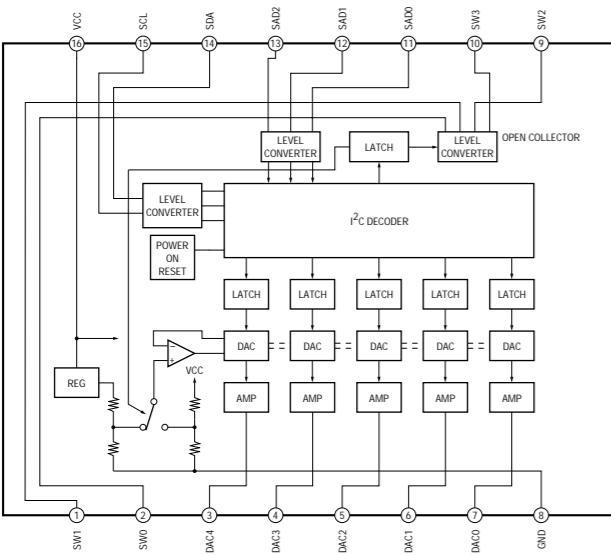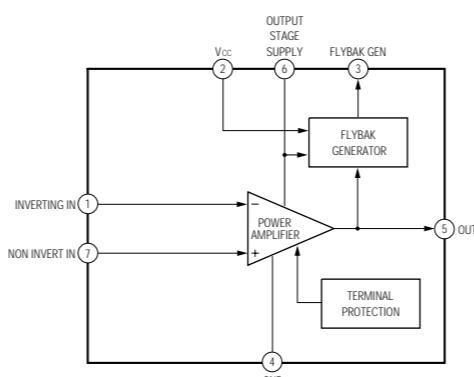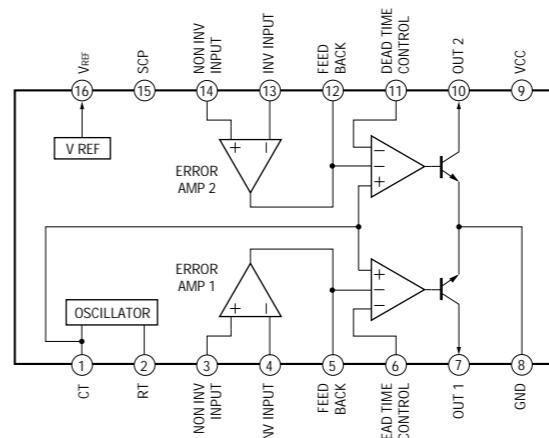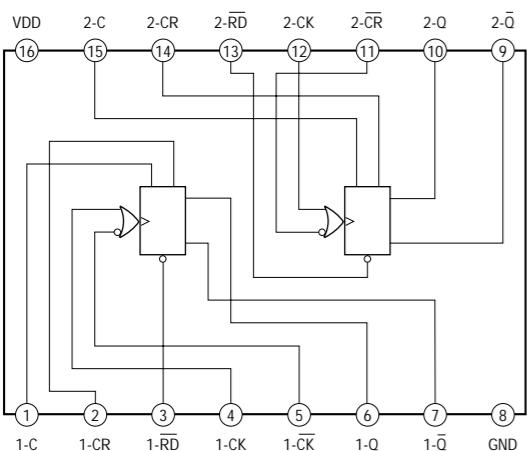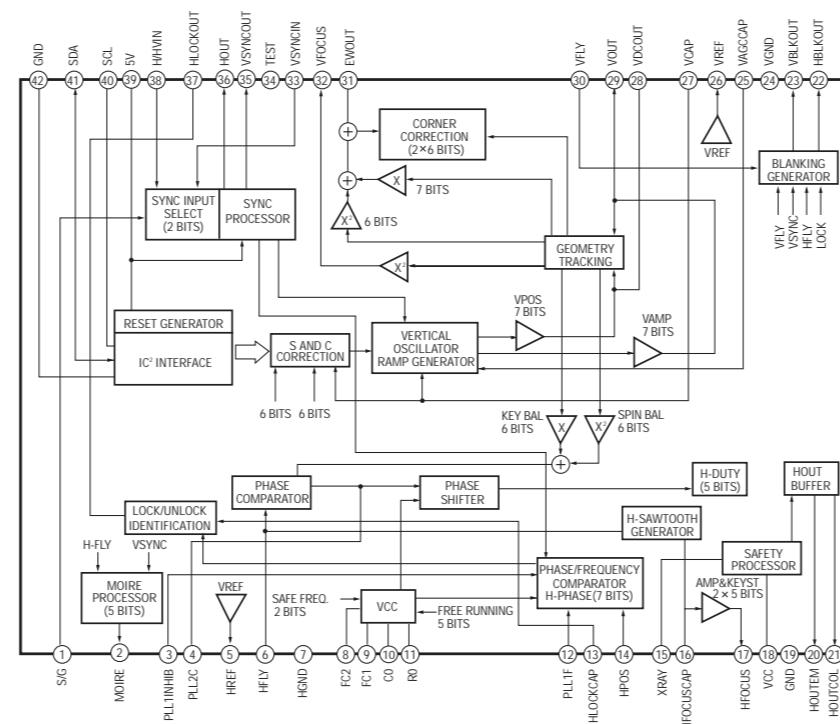
D –A SIDE–
SUFFIX: -11

D –B SIDE–
SUFFIX: -11

BVM-D9H1U/D9H5U/D9H1E/D9H5E/D9H1A/D9H5A

D (1/2)
(PWM CONTROL, +2.5V REF, +5V RECT, -5V RECT)

B-SV9660UC-D..-P1

A   B   C   D   E   F   G   H

B-SV9660UC-D..-P2

BVM-D9H1U/D9H5U/D9H1E/D9H5E/D9H1A/D9H5A

CXA1875AM-T4 (IC2501, 2502)

VCC SCL SDA SA02 SA01 SA00 SW3 SW2

LEVEL CONVERTER
LATCH
LEVEL CONVERTER
OPEN COLLECTOR

LEVEL CONVERTER
I²C DECODER

POWER ON RESET

LATCH LATCH LATCH LATCH LATCH

VCC
DAC = DAC = DAC = DAC = DAC

REG

AMP AMP AMP AMP AMP

SW1 SW0 DAC4 DAC3 DAC2 DAC1 DAC0 GND

TDA8172FA (IC2504)

OUTPUT STAGE SUPPLY
VCC FLYBAK GEN

FLYBAK GENERATOR

INVERTING IN
POWER AMPLIFIER
NON INVERT IN

OUTPUT

TERMINAL PROTECTION

GND

TL1451ACPWR (IC1602, 2601, 3601)

V_REF SCP NON INV INPUT INV INPUT FEED BACK DEAD TIME CONTROL OUT 2 VCC

V REF

ERROR AMP 2

ERROR AMP 1

OSCILLATOR

CT RT NON INV INPUT INV INPUT FEED BACK DEAD TIME CONTROL OUT 1 GND

TC74HC4538AF(EL) (IC2505, 2509, 2513, 2523)

VDD 2-C 2-CR 2-RD 2-CK 2-CR 2-Q 2-Q

1-C 1-CR 1-RD 1-CK 1-CK 1-Q 1-Q GND

TDA9106 (IC2503)

GND SDA SCL 5V HHVHN HLOCKOUT HOUT VSYNCOUT TEST VSYNCIN VFOCUS EWOUT
VFLY VOUT VDCCOUT VCAP VACCCAP VGND VBLKOUT HBLKOUT

CORNER CORRECTION (2×6 BITS)
VREF

7 BITS
BLANKING GENERATOR

SYNC INPUT SELECT (2 BITS)
SYNC PROCESSOR

6 BITS

GEOMETRY TRACKING

VFLY VSYNC HFLY LOCK

RESET GENERATOR
IC² INTERFACE

S AND C CORRECTION

VPOS 7 BITS
VERTICAL OSCILLATOR RAMP GENERATOR
VAMP 7 BITS

6 BITS 6 BITS

KEY BAL 6 BITS SPIN BAL 6 BITS

H-DUTY (5 BITS)
HOUT BUFFER

PHASE COMPARATOR
PHASE SHIFTER

H-SAWTOOTH GENERATOR

LOCK/UNLOCK IDENTIFICATION

SAFETY PROCESSOR

H-FLY VSYNC
MOIRE PROCESSOR (5 BITS)
VREF
SAFE FREQ. 2 BITS
VCC
FREE RUNNING 5 BITS
PHASE/FREQUENCY COMPARATOR H-PHASE(7 BITS)
AMP&KEYST 2×5 BITS

SIG MOIRE PLL1INHIB PLL2C HREF HFLY HGND FC2 FC1 C0 RD
PLL1F HLOOKCAP HPOS XR9V HFOCUSCAP HFOCUS VCC GND HOUTEM HOUTCOL

MA BOARD

CXD1095BQ (IC112)

[MA BOARD]
* : B SIDE

D101	* C-4
D102	* C-4
D103	* B-4
D104	* B-4
D105	* A-5
D106	* A-5
D107	* A-5
D108	* A-5
D109	* C-4
IC101	* B-1
IC102	C-4
IC103	* B-4
IC104	* A-4
IC106	B-2
IC107	* A-3
IC108	* A-3
IC109	* A-3
IC110	* C-3
IC111	* C-4
IC112	B-3
IC113	A-4
Q102	* A-4
Q103	* B-1
Q104	C-1
Q105	* B-1
Q106	C-1
TP101	B-1
TP102	B-1
TP103	B-1
TP104	B-1
TP105	B-4
TP106	B-4
TP107	B-4
TP108	B-1
TP109	C-5
TP110	C-2
TP111	B-4
TP112	A-2
TP113	A-2
TP114	A-5
TP115	* A-5
TP116	A-4
TP117	B-4
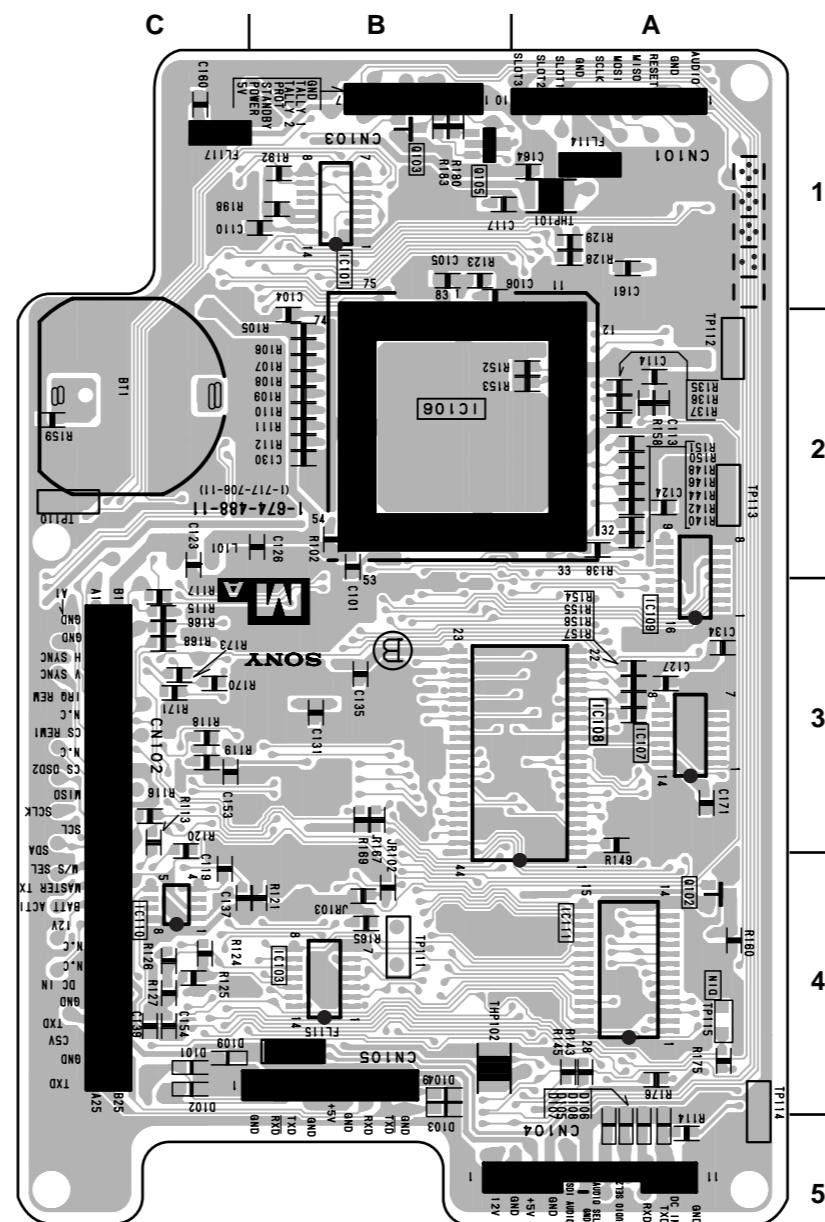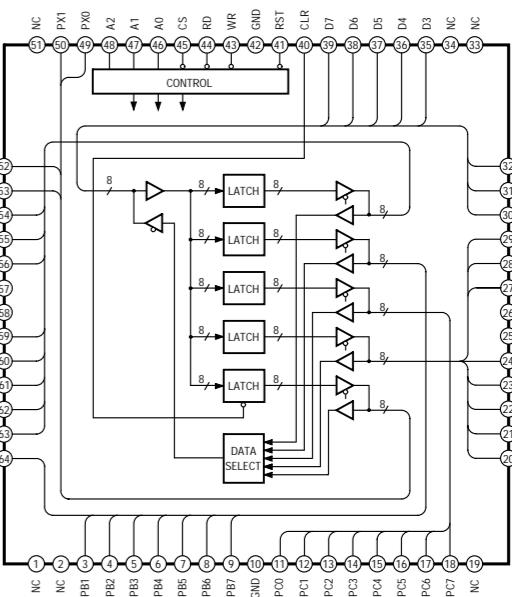
MA –A SIDE–
SUFFIX: -11

MA –B SIDE–
SUFFIX: -11

MAX490ECSA (IC113)

VCC	1	8	A
RO	2	7	B
DI	3	6	Z
GND	4	5	Y

MM1026BFB (IC110)

VCC (8) — (7) — VOUT (6) — CS (5)
3.3V DETECT
4.2V DETECT
DIODE
GND (1) — OPEN COLLECTOR (2) — CS (3) — VBAT (4)
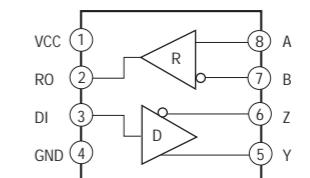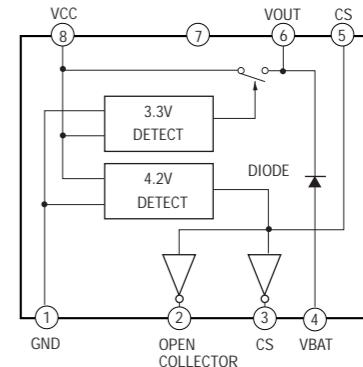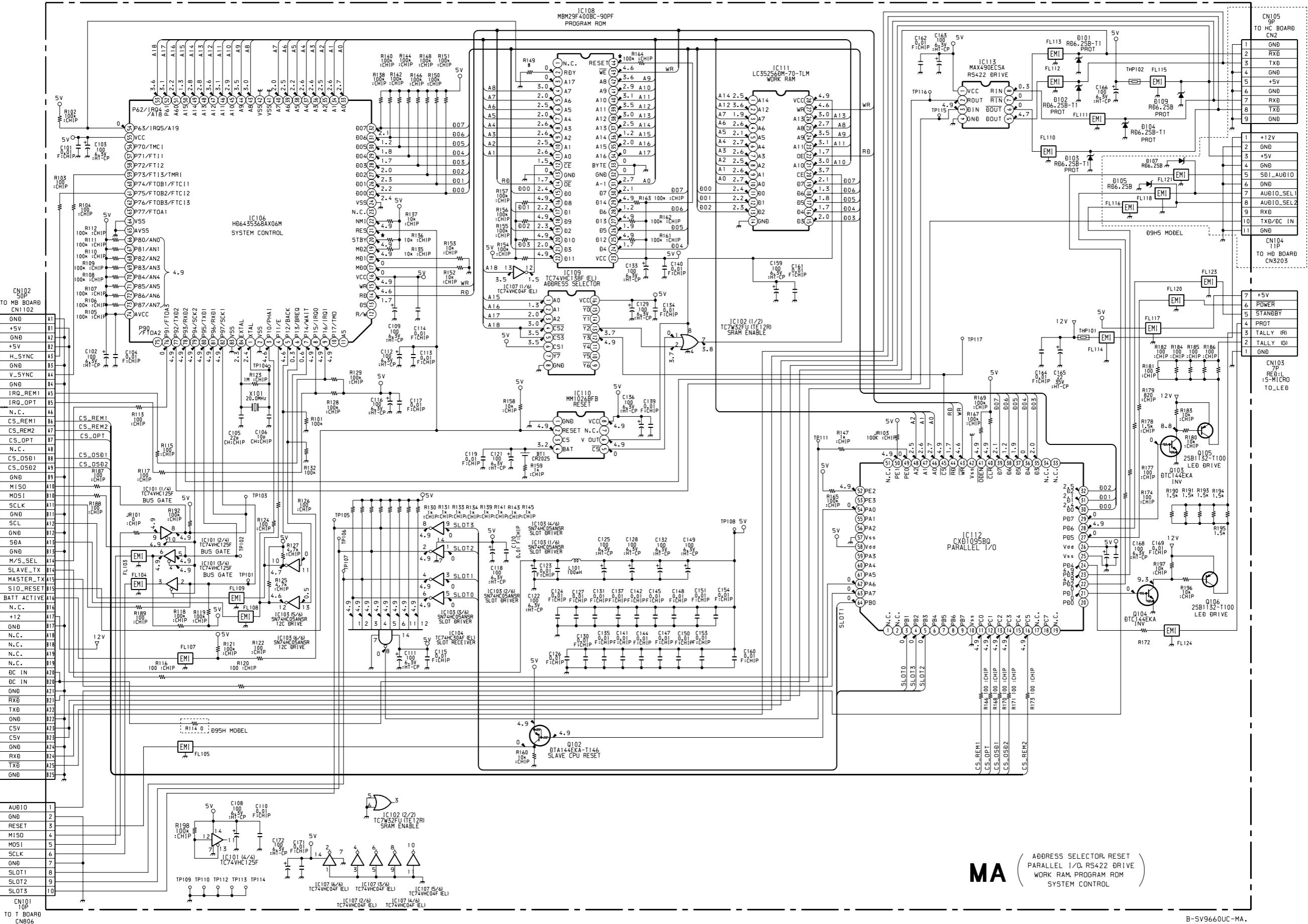
MA

ADDRESS SELECTOR, RESET
PARALLEL I/O, RS422 DRIVE
WORK RAM, PROGRAM ROM
SYSTEM CONTROL

B-SV9660UC-MA.

A   B   C   D   E   F   G   H

MB BOARD

A   B   C

C   B   A
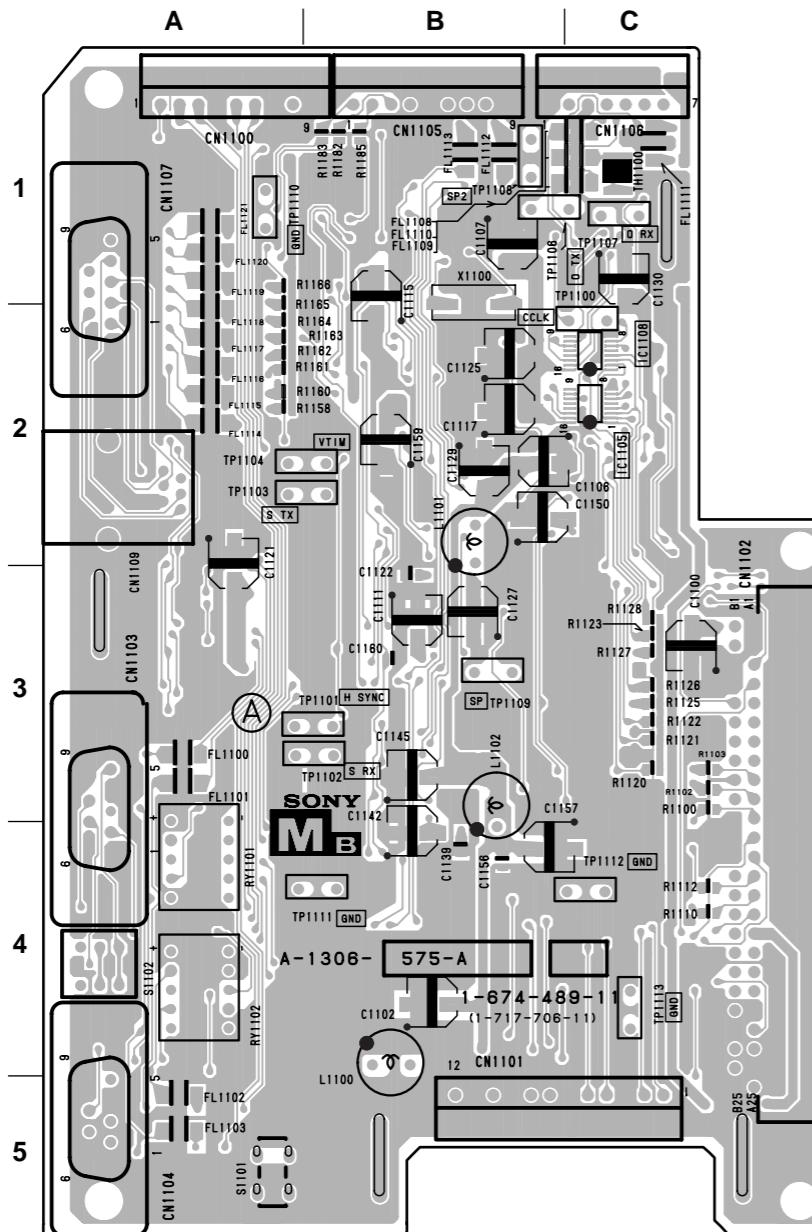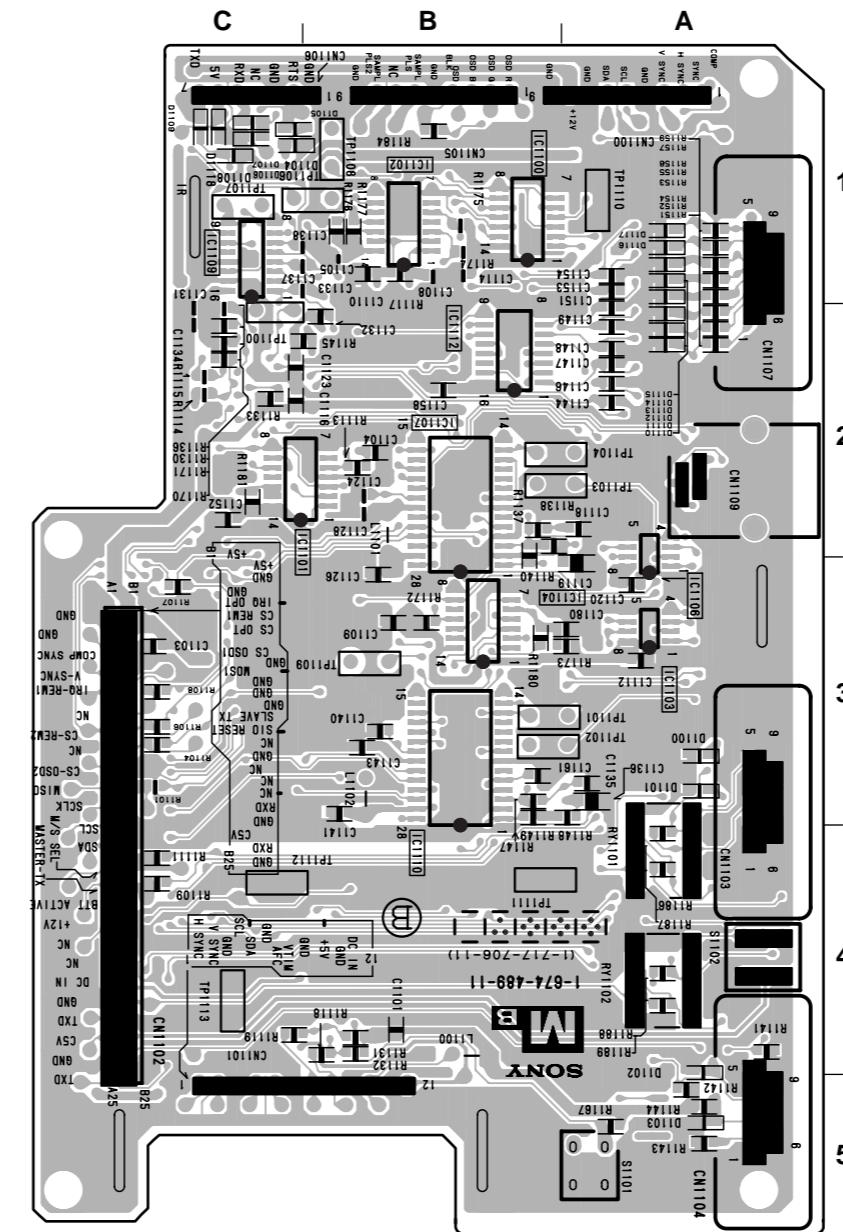
[MB BOARD]
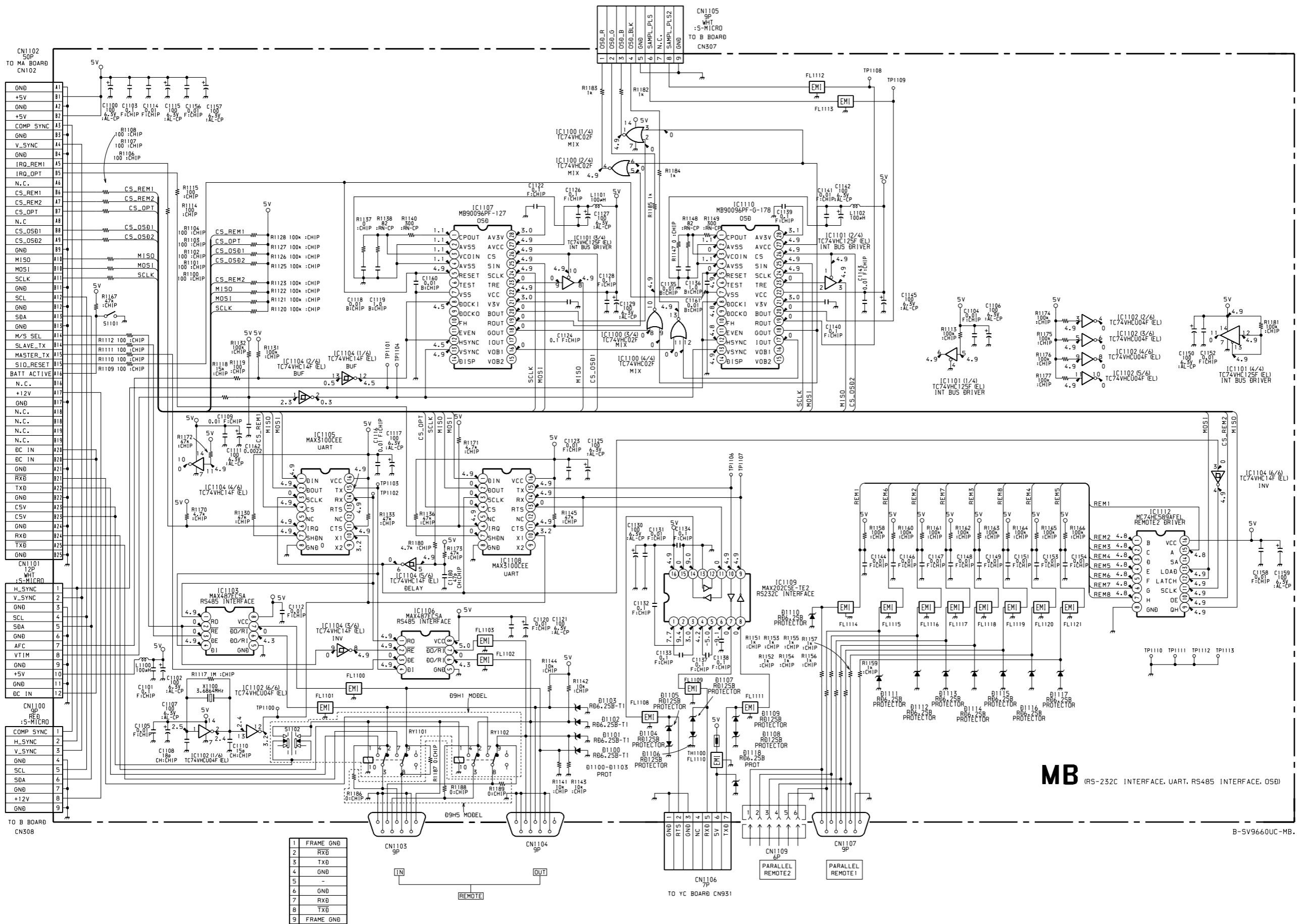
* : B SIDE

D1100	* A-3
D1101	* A-3
D1102	* A-4
D1103	* A-5
D1104	* C-1
D1105	* C-1
D1106	* C-1
D1107	* C-1
D1108	* C-1
D1109	* C-1
D1110	* A-2
D1111	* A-2
D1112	* A-2
D1113	* A-2
D1114	* A-2
D1115	* A-2
D1116	* A-1
D1117	* A-1
D1118	* C-1
IC1100	* B-1
IC1101	* A-1
IC1102	* B-1
IC1103	* A-3
IC1104	* B-3
IC1105	C-2
IC1106	* A-2
IC1107	* B-2
IC1108	C-2
IC1109	* C-1
IC1110	* B-3
IC1112	* B-2
TP1100	C-2
TP1101	B-3
TP1102	B-3
TP1103	B-2
TP1104	B-2
TP1106	B-1
TP1107	C-1
TP1108	C-2
TP1109	B-3
TP1110	C-2
TP1111	B-4
TP1112	C-4
TP1113	C-4
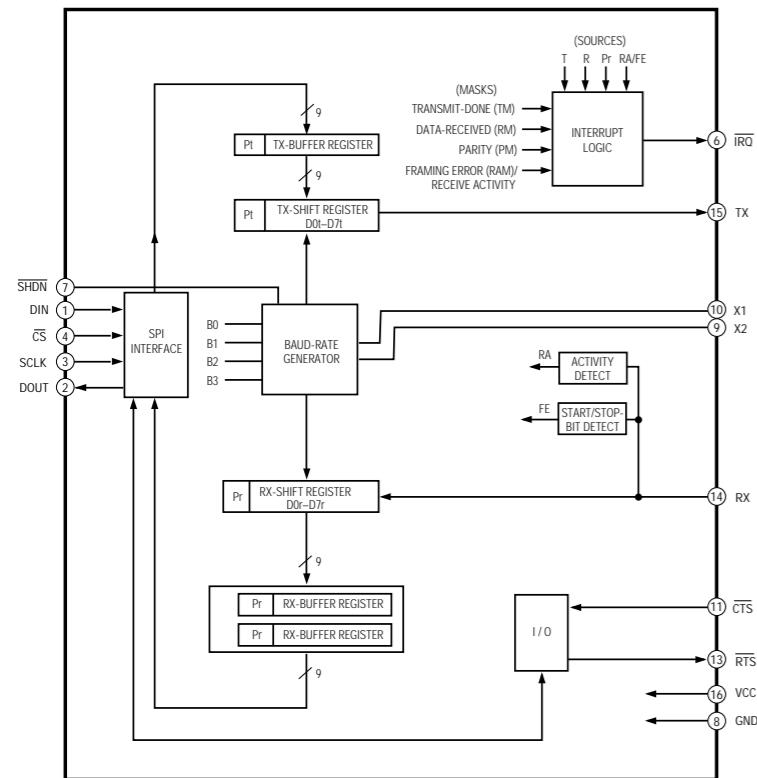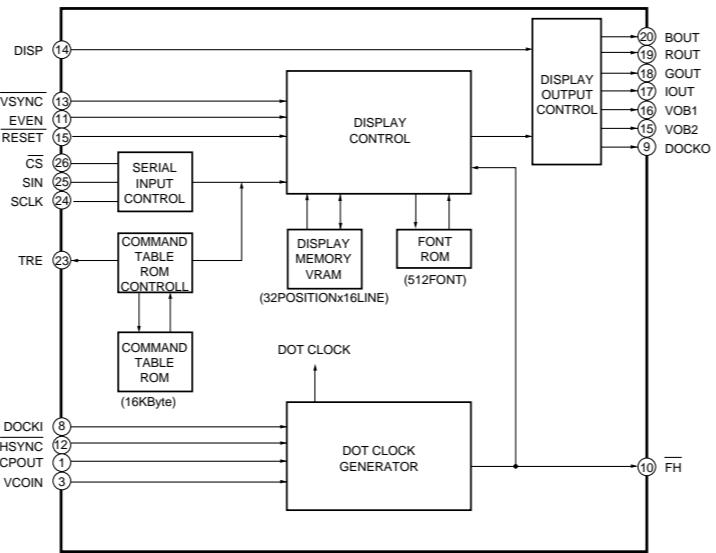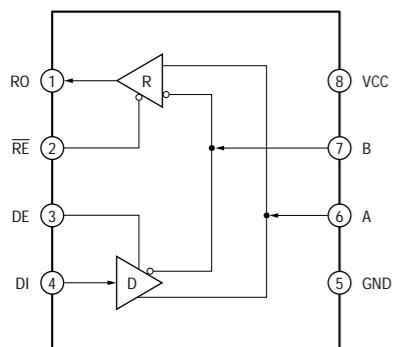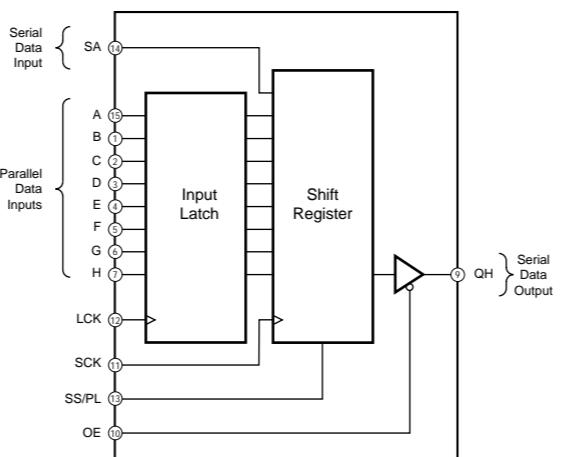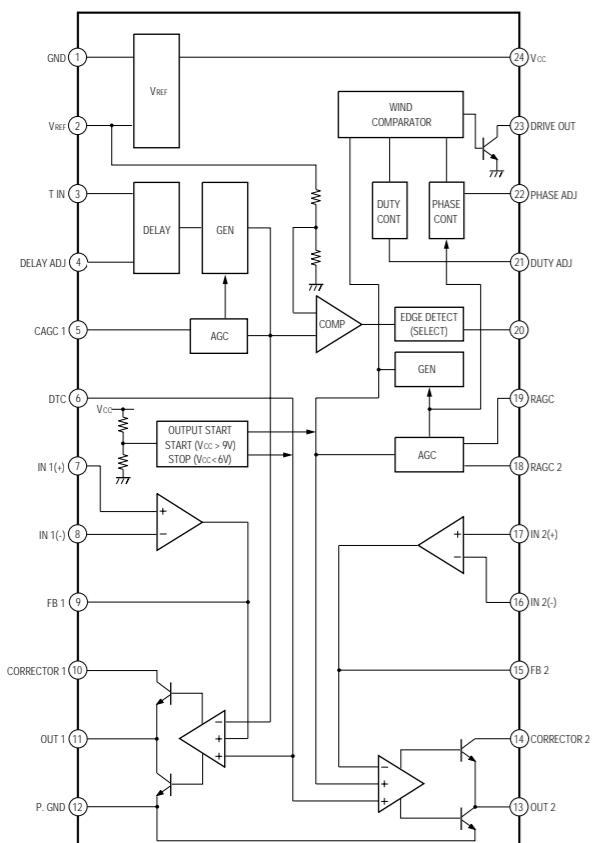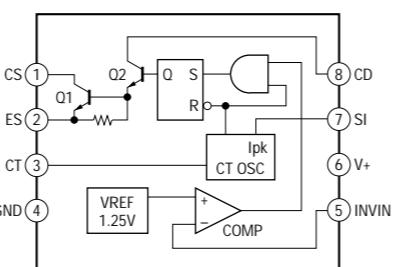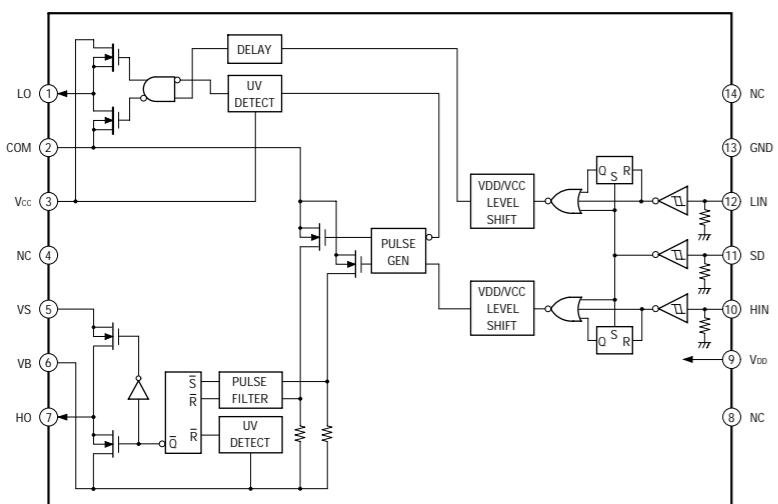
SONY
MB

A-1306-575-A

1-674-489-11
(1-717-706-11)

MB –A SIDE–
SUFFIX: -11

MB –B SIDE–
SUFFIX: -11

1-674-489-11
(1-717-706-11)

SONY
MB

MB (RS-232C INTERFACE, UART, RS485 INTERFACE, OSD)

B-SV9660UC-MB.

MAX3100CEE (IC1105, 1108)

MB90096PF-127/G-178 (IC1107, 1110)

MAX487ECSA (IC1103, 1106)

MC74HC589AFEL (IC1112)

CXA1544M-T6 (IC502)

GND 1 — 24 Vcc
VREF 2 — VREF
T IN 3 — DELAY GEN
DELAY ADJ 4 —
WIND COMPARATOR
23 DRIVE OUT
DUTY CONT — PHASE CONT
22 PHASE ADJ
27 DUTY ADJ
CAGC 1 5 — AGC — COMP — EDGE DETECT (SELECT) — 20
GEN
DTC 6 — VDD — 19 RAGC
OUTPUT START START (Vcc > 9V) STOP (Vcc < 6V)
AGC — 18 RAGC 2
IN 1(+) 7 —
IN 1(-) 8 — 17 IN 2(+)
FB 1 9 — 16 IN 2(-)
CORRECTOR 1 10 — 15 FB 2
OUT 1 11 — 14 CORRECTOR 2
P. GND 12 — 13 OUT 2

NJM2360AM (TE2) (IC510)

CS 1 — Q1 Q2 — Q S R — 8 CD
ES 2 — 7 SI
CT 3 — Ipk CT OSC — 6 V+
GND 4 — VREF 1.25V — COMP — 5 INVIN

TL494CNS-E20 (IC503)

ERROR AMP 1(+) 1 — 16 ERROR AMP 2(+)
ERROR AMP 1(-) 2 — 15 ERROR AMP 2(-)
FEEDBACK 3 — 14 REF 5V REG
DEAD TIME CONT 4 — 5V REF REG — 13 OUTPUT CONT
CT 5 — 12 Vcc
RT 6 — OSC — F.F Q Q̄ — 11 COLLECTOR-2
GND 7 — 10 EMITTER-2
COLLECTOR-1 8 — 9 EMITTER-1

IR2112 (IC506)

LO 1 — DELAY — UV DETECT — 14 NC
COM 2 — 13 GND
Vcc 3 — 12 LIN
NC 4 — PULSE GEN — VDD/VCC LEVEL SHIFT — Q S R — 11 SD
VS 5 — VDD/VCC LEVEL SHIFT — 10 HIN
VB 6 — PULSE FILTER — S̄ R̄ — 9 VDD
HO 7 — UV DETECT — Q̄ — 8 NC

P BOARD

[P BOARD]

*: B SIDE

D501	* C-6	TP501	C-6
D502	* B-6	TP502	A-5
D503	C-6	TP503	A-5
D504	* B-6	TP504	A-5
D505	C-6	TP505	B-1
D506	* B-1	TP506	C-4
D507	* A-1	TP507	C-5
D508	* A-5	TP508	C-3
D509	* C-4	TP509	B-5
D510	* A-6	TP511	B-1
D511	* C-4	TP513	C-6
D512	* C-5	TP514	A-6
D513	* C-5	TP515	A-1
D514	* C-5	TP516	A-1
D515	* C-4		
D516	* C-5		
D517	* B-4		
D518	* B-1		
D519	* B-1		
D520	A-5		
D521	* B-1		
D522	* B-1		
D523	C-3		
D524	C-4		
D525	C-2		
D526	C-1		
D527	C-2		
D528	* B-1		
D529	* B-1		
D530	* C-1		
D531	C-2		
D532	* C-4		
D533	* B-1		
D534	* B-1		
D535	* B-4		
D536	* A-4		
D537	C-2		
D538	* C-4		
D539	C-4		
D540	C-4		
IC501	A-5		
IC502	B-6		
IC503	B-3		
IC504	* C-4		
IC505	C-5		
IC506	C-4		
IC507	B-1		
IC508	C-3		
IC509	B-1		
IC510	C-1		
IC511	C-4		
Q502	* B-6		
Q503	* B-4		
Q504	* B-5		
Q505	* A-1		
Q506	* A-5		
Q507	* A-1		
Q508	* A-1		
Q509	* A-5		
Q510	* A-5		
Q511	* A-4		
Q512	* A-4		
Q513	* A-4		
Q514	* A-4		
Q515	B-6		
Q516	* B-6		
Q517	C-4		
Q518	* C-3		
Q519	* B-6		
Q520	A-4		
Q521	* B-1		
Q522	* B-1		
Q523	* B-1		
Q524	* B-6		
Q525	* B-4		
Q526	* B-4		
Q527	B-4		
Q528	* B-4		
Q529	C-4		
Q530	C-4		

P –A SIDE–
SUFFIX: -11

P –B SIDE–
SUFFIX: -11

P

(PWN CONTROL, H.PWM OUT, DEGAUSS DRIVE
2.5V REF, COMPARATOR, HEATER DRV. BUF)
HV.DRV OUT

B-SV9660UC-P..

A   B   C   D   E   F   G   H
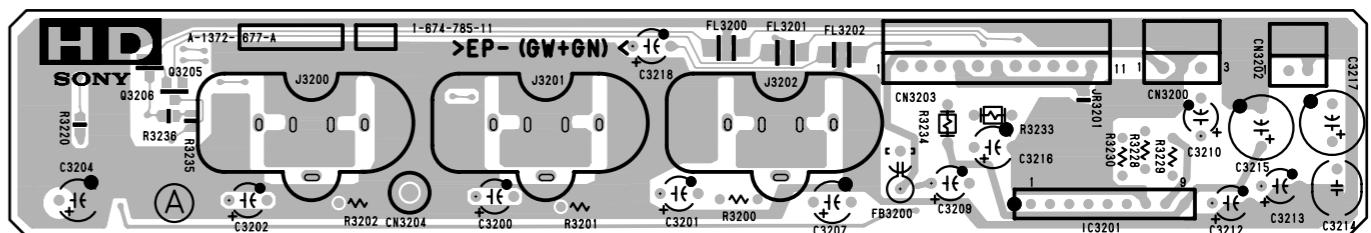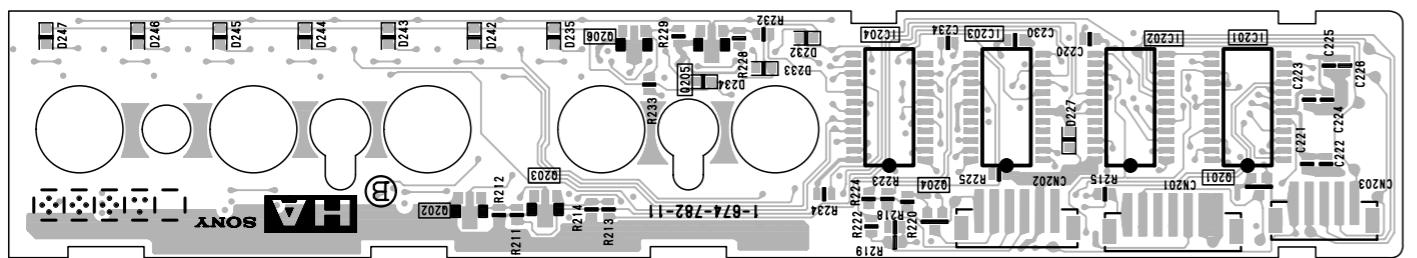
HA –A SIDE–
SUFFIX: -11
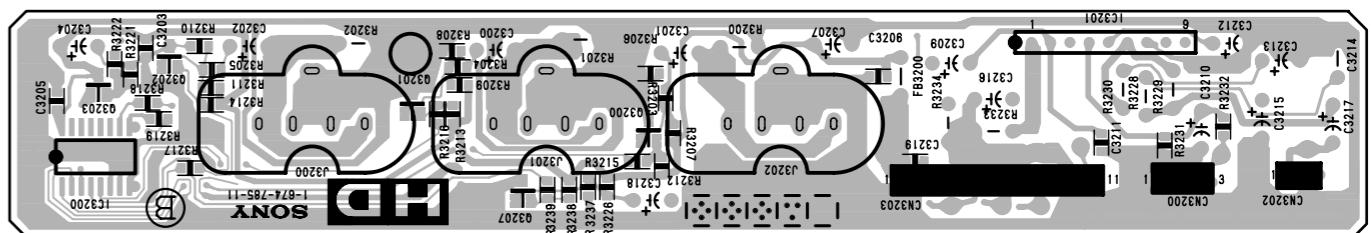
HD –A SIDE–
SUFFIX: -11
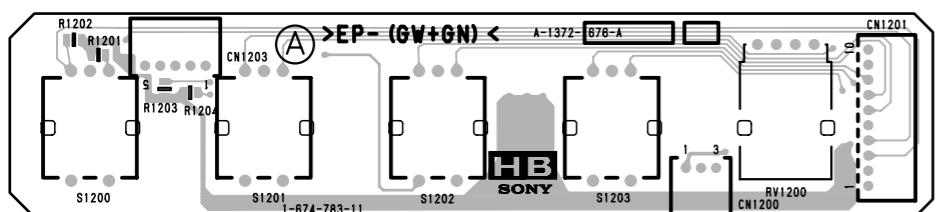
HA –B SIDE–
SUFFIX: -11
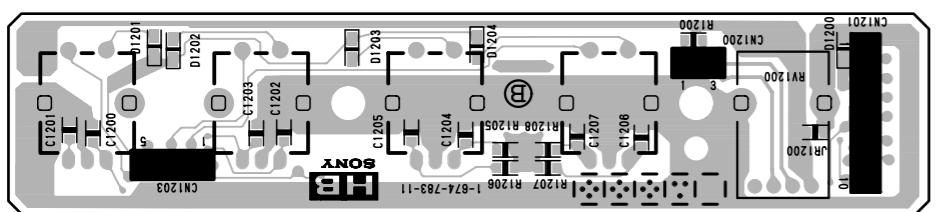
HD –B SIDE–
SUFFIX: -11
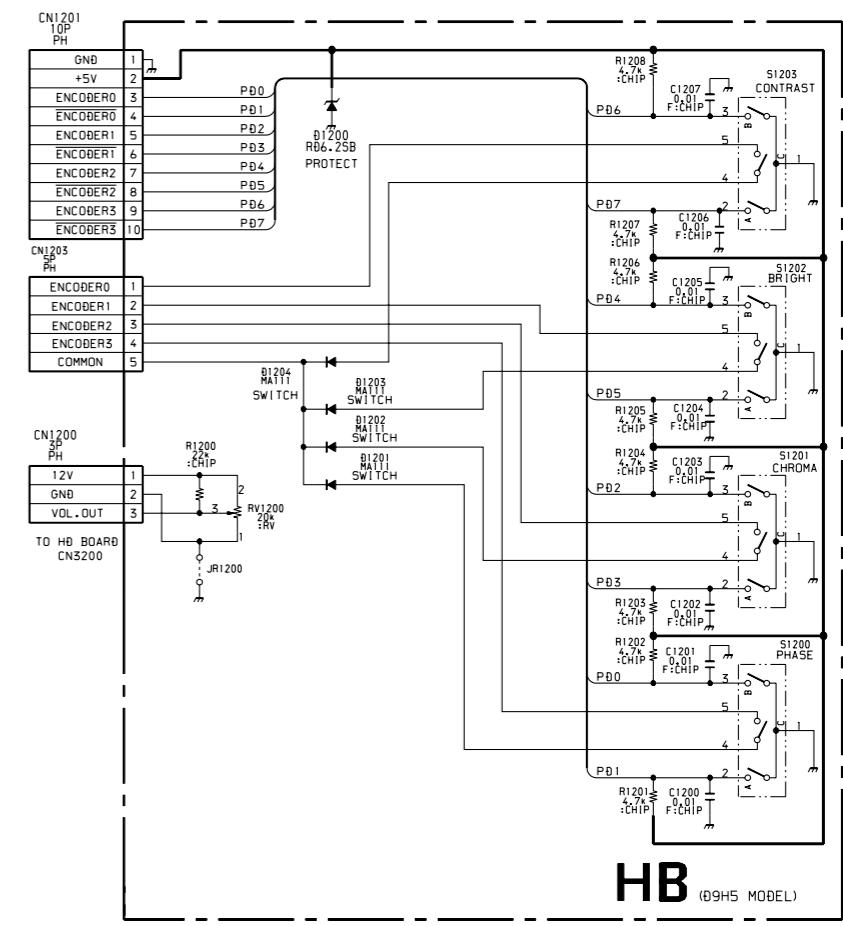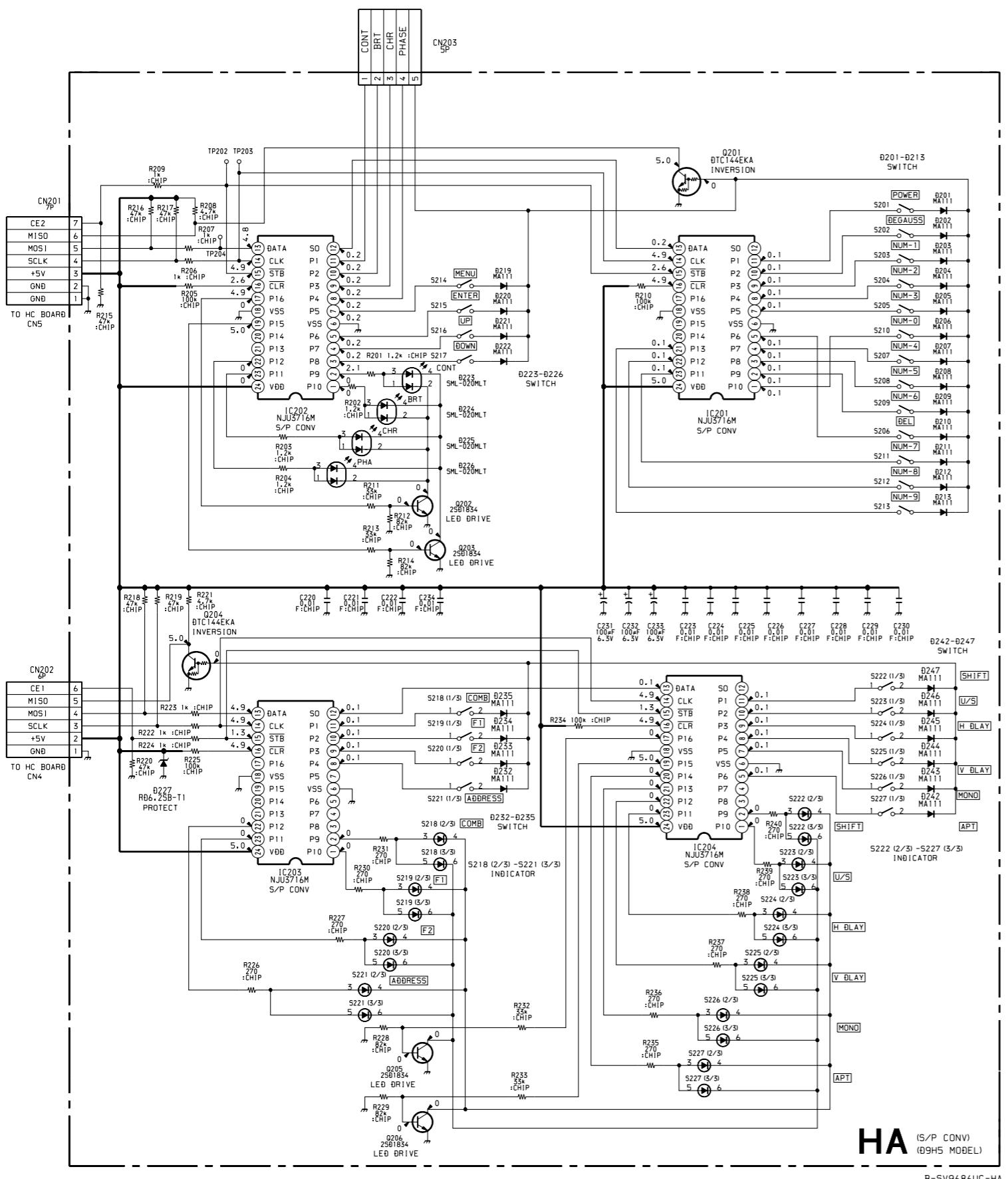
HB –A SIDE–
SUFFIX: -11
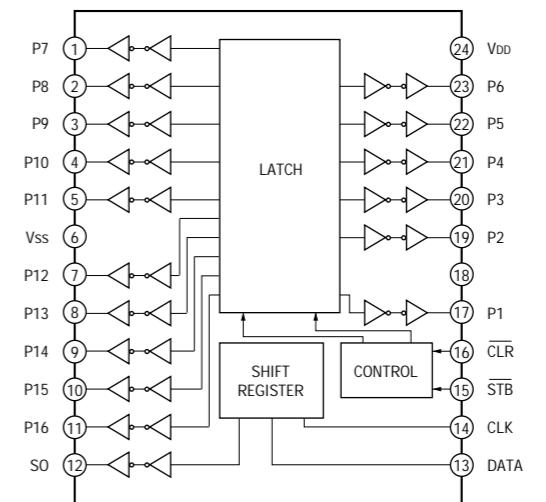
HB –B SIDE–
SUFFIX: -11
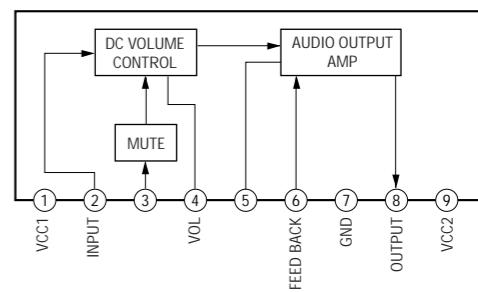
NJU3716M (IC201, 202, 203, 204)

HA (S/P CONV)
(D9H5 MODEL)

B-SV9686UC-HA.

HB (D9H5 MODEL)

B-SV9686UC-HB.

AN5265 (IC3201)

This is a schematic diagram (B-SV9686UC-HD) showing the HD (D9H5 MODEL) AUDIO AMP SWITCH circuit with LINE A, B, C (AUDIO) IN/OUT connections, IC3200 MC14052BF SWITCH, IC3201 AN5265 AUDIO AMP, and various connectors CN3200, CN3202, CN3203, CN3204.

YA

YA **–B SIDE–**

SUFFIX: -11

1-674-621-11

SONY **YA** ®

CN900

CN900
5P

GND	1
TALLY (G)	2
TALLY (R)	3

R900 R901 R902 R903 R904 R905 R906 R907 R908 R909 R910 R911 R912 R913 R914 R915
8.2k :CHIP

D900–D907
TALLY IND

D900 SML-020MLT
D901 SML-020MLT
D902 SML-020MLT
D903 SML-020MLT
D904 SML-020MLT
D905 SML-020MLT
D906 SML-020MLT
D907 SML-020MLT

YA

B-SV9660UC-YA.

YB

YB **–B SIDE–**

SUFFIX: -11

1-674-620-11

SONY **YB** ®

CN951
CN952
D951 D952

D953–D959
PROTECT

CN951
10P

GND	1
RXD	2
GND	3
NC	4
RXD	5
+5V	6
TXD	7
STANDBY	8
POWER	9
+5V	10

D953 RD12SB
D954 RD12SB
D955 RD12SB
D956 RD12SB
D957 RD6.2SB
D958 RD12SB
D959 RD12SB

CN952
8P
INDICATOR

D951 SLR-325MCT31 PWR IND
D952 SLR-325VCT31 STBY IND

YB

B-SV9660UC-YB.

A   B   C   D   E   F   G   H

1   2   3   4   5

HC BOARD

[HC BOARD]

*:B SIDE

D1	* A-1
D2	* A-1
D3	* A-1
D4	A-1
D5	A-1
D6	* A-2
D7	* A-3
D8	* A-2
D9	A-1
IC1	B-2
IC2	A-1
IC3	B-3
IC4	* B-5
IC5	* B-4
IC6	* B-3
IC7	* B-3
IC8	* B-5
IC9	B-1
IC10	B-1
IC11	B-2
IC13	A-1
IC14	B-2
IC21	* B-4
Q4	A-3
TP2	A-1
TP3	A-1
TP4	A-2
TP6	C-1
TP7	C-3
TP8	C-3
TP9	B-3
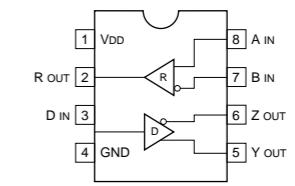
HC –A SIDE–
SUFFIX: -11
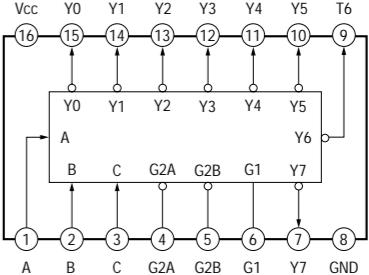
HC –B SIDE–
SUFFIX: -11
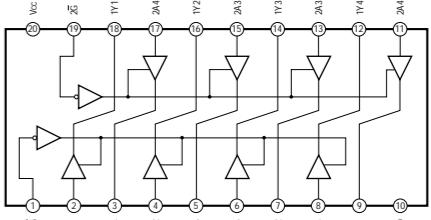
LTC490CS8 (IC13)
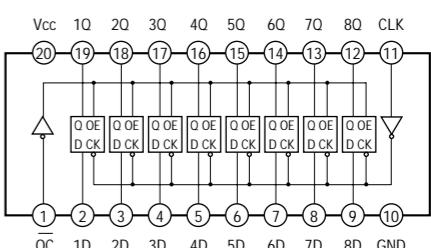
TC74VHC138F (EL) (IC3)

TC74VHC244F (EL) (IC12)

TC74VHC574F (EL) (IC11)

HC (D9H5 MODEL) (ADDRESS DECODER, DC 10V REG, CPU / BUFFER, RS422 DRIVE, BUS SHIFT)

B-SV9686UC-HC.

1

2

3

4

5

T BOARD

CN801
1-674-487-11
A-1390-　942-A
SONY

T –A SIDE–
SUFFIX: -11

CN805
CN806

CN801

SONY
1-674-487-11

STANDBY 5V
5V SENCE

GND
-12V
+12V
-6V
+6V
GND

T –B SIDE–
SUFFIX: -11

A B

CN802
64P
WHT

CN803
64P
WHT

CN804
64P
WHT

CN805
8P
WHT (-L)
:S-MICRO

1 5V SENCE
2 STANDBY 5V
3 GND
4 -12V
5 +12V
6 -6V
7 +6V
8 GND

TO B BOARD
CN2601

CN801
11P
WHT (-L)
:S-MICRO

Y/G 1
GND 2
PB/B 3
GND 4
PR/R 5
GND 6
H SYNC 7
V SYNC 8
COMP SYNC 9
GND 10
H BLK 11

TO B BOARD
CN301

CN806
10P
WHT (-L)
:S-MICRO

1 AUDIO
2 GND
3 RESET
4 MISO
5 MOSI
6 SCLK
7 GND
8 SLOT1
9 SLOT2
10 SLOT3

TO MA BOARD
CN101

B-SV9664UC-T..

T

BVM-D9H1U/D9H5U/D9H1E/D9H5E/D9H1A/D9H5A

A B C D E F G H