# STANDARD CIRCUIT DIAGRAM

## ■ NOTE ON USING CIRCUIT DIAGRAMS

### 1. SAFETY

**The components identified by the ⚠ symbol and shading are critical for safety. For continued safety replace safety critical components only with manufactures recommended parts.**

### 2. SPECIFIED VOLTAGE AND WAVEFORM VALUES

The voltage and waveform values have been measured under the following conditions.

(1) Input signal : Colour bar signal
(2) Setting positions of each knob/button and variable resistor
: Original setting position when shipped
(3) Internal resistance of tester : DC 20kΩ/V
(4) Oscilloscope sweeping time : H → 20μS/div
: V → 5mS/div
: Others → Sweeping time is specified.
(5) Voltage values : All DC voltage values

* Since the voltage values of signal circuit vary to some extent according to adjustments, use them as reference values.

### 3. INDICATION OF PARTS SYMBOL [EXAMPLE]

● In the PW board : R1209 → R209

### 4. INDICATIONS ON THE CIRCUIT DIAGRAM

**(1) Resistors**

● Resistance value
No unit : [Ω]
K : [KΩ]
M : [MΩ]

● Rated allowable power
No indication : 1/4 [W]
Others : As specified

● Type
No indication : Carbon resistor
OMR : Oxide metal film resistor
MFR : Metal film resistor
MPR : Metal plate resistor
UNFR : Non-flammable resistor
FR : Fusible resistor

* Composition resistor 1/2 [W] is specified as 1/2S or Comp.

**(2) Capacitors**

● Capacitance value
1 or higher : [pF]
less than 1 : [μF]

● Withstand voltage
No indication : DC50 [V]
AC indicated : AC withstand voltage [V]
Others : DC withstand voltage [V]

* Electrolytic Capacitors
47/50 [Example]: Capacitance value [μF]/withstand voltage [V]

● Type
No indication : Ceramic capacitor
MY : Mylar capacitor
MM : Metalized mylar capacitor
PP : Polypropylene capacitor
MPP : Metalized polypropylene capacitor
MF : Metalized film capacitor
TF : Thin film capacitor
BP : Bipolar electrolytic capacitor
TAN : Tantalum capacitor

**(3) Coils**

No unit : [μH]
Others : As specified

**(4) Power Supply**

: B1
: 12V
: 9V
: 5V

* Respective voltage values are indicated.

**(5) Test point**

: Test point
: Only test point display

**(6) Connecting method**

: Connector
: Wrapping or soldering
: Receptacle

**(7) Ground symbol**

⊥ : LIVE side ground
⏚ : ISOLATED (NEUTRAL) side ground
⏚ : EARTH ground
⏚ : DIGITAL ground

### 5. NOTE FOR REPAIRING SERVICE

This model's power circuit is partly different in the GND. The difference of the GND is shown by the LIVE : (⊥) side GND and the ISOLATED (NEUTRAL) : (⏚) side GND. Therefore, care must be taken for the following points.

(1) Do not touch the LIVE side GND or the LIVE side GND and the ISOLATED (NEUTRAL) side GND simultaneously. If the above caution is not respected, an electric shock may be caused. Therefore, make sure that the power cord is surely removed from the receptacle when, for example, the chassis is pulled out.
(2) Do not short between the LIVE side GND and ISOLATED (NEUTRAL) side GND or never measure with a measuring apparatus (oscilloscope, etc.) the LIVE side GND and ISOLATED (NEUTRAL) side GND at the same time. If the above precaution is not respected , a fuse or any parts will be broken.

● **Since the circuit diagram is a standard one, the circuit and circuit constants may be subject to change for improvement without any notice.**

# CONTENTS


**SEMICONDUCTOR SHAPES ..... 2-4**

**BLOCK DIAGRAM ..... 2-5**

**CIRCUIT DIAGRAMS**

*MAIN PWB CIRCUIT DIAGRAM (Including CRT SOCKET PWB) ..... 2-7*

**PATTERN DIAGRAMS**

*MAIN PWB PATTERN ..... 2-11*

*CRT SOCKET PWB PATTERN ..... 2-13*


## SEMICONDUCTOR SHAPES

**TRANSISTOR**

| BOTTOM VIEW | FRONT VIEW | | | | TOP VIEW |
|---|---|---|---|---|---|
| | | | | | CHIP TR<br> |

**IC**

| BOTTOM VIEW | FRONT VIEW | | | TOP VIEW |
|---|---|---|---|---|
| | | | | |

**CHIP IC**

| TOP VIEW | | |
|---|---|---|
| | | |

# BLOCK DIAGRAM

# CIRCUIT DIAGRAMS *MAIN PWB CIRCUIT DIAGRAM (1/2)*

*PARTS

| * | AV-21AT |
|---|---|
| TU001 | QAU0185-001 |
| C162 | 680P CH |
| R652 | 820 |
| C653 | .47/50 |
| IC1701 | MN1873287JA |

NOTE

*1 : 2SC2412K/QR/-X
*2 : 2SA1037/QR/-X
*3 : DTC124EKA-X
*4 : MA111-X
*5 : MA3091/M/-X
*6 : MA3120/M/-X
*7 : MA3056/M/-X
*8 : DTA124EKA-X
*9 : QQR0621-002Z

## MAIN PWB CIRCUIT DIAGRAM (2/2)