AV-K29MX1/AV-K29MX1(-A)/AV-K29MX1(-SC)
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	:PAL 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	:1/6[W]
Others	:As specified

●Type

No indication	:Carbon resistor
OMR	:Oxide metal film resistor
MFR	:Metal film resistor
MPR	:Metal plate resistor
UNFR	:Uninflammable resistor
FR	:Fusible resistor

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

(2)Capacitors

●Capacitance value

1or higher	:[pF]
less than 1	:[μF]

●Withstand voltage

No indication	:DC50[V]
Others	:DC withstand voltage[V]
AC indicated	:AC 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
:B2(12V)
:8V
: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.**

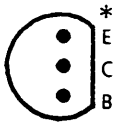
SERVICE MODE:
press [picture mode] + [display]

Jun. 1997 No.51225

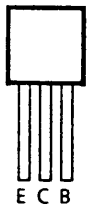
FI

SEMICONDUCTOR SHAPES (* = Bottom view)

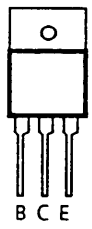
TRANSISTORS



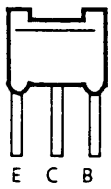
2SA1013(0)
2SA673(C)
2SC2240(GB)
2SC1906
2SA966(0Y)-T
2SC1815(YG)
2SC2482(C1)
2SC4722(NP)
2PA1015(YG)
2PC1815(YG)



2SA933AS(QR)
2SA933S(QR)
2SC1740S(QR)
2SC2785(JH)
DTC124ESA-T
DTC323TS

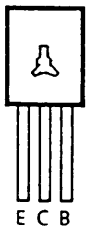


2SD1554-C1
2SD1878-YD
2SD1876-YD
BU2506DX
MTA2N60E
2SC4544-C1
2SD2499-LB



2SC4502
2SC5082(L-P)
2SC5083(L-P)

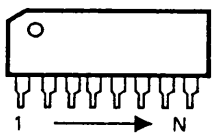
2SK301(Q)
BSN274



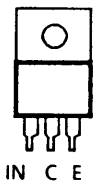
2SC2371(MLK)
2SC3271(NP)

DTC144ESA
DTA144GS
DTC144ES
DTA144ES

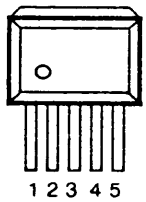
ICs



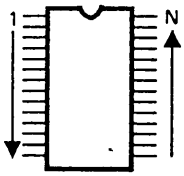
LA7016
AN5275



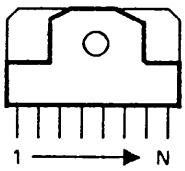
SE135N



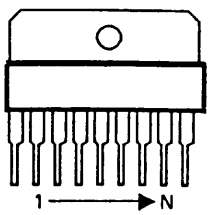
LA7975



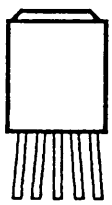
TB1226BN
M37212EFSP
M37102M8-C41SP



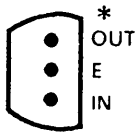
LA7840
LA7838
UPC1488H
LA7837
TA8200AH



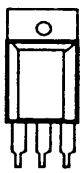
AN5265



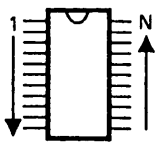
L78LR05E-MA



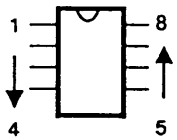
KIA78L08BP



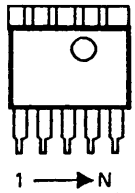
AN7812F
AN7809F
AN7805F



TEA6416
LA7577N
CXA1545AS
AN7395K
M52342SP
M52325P
M52343SP
BU4066BC
TDA7315

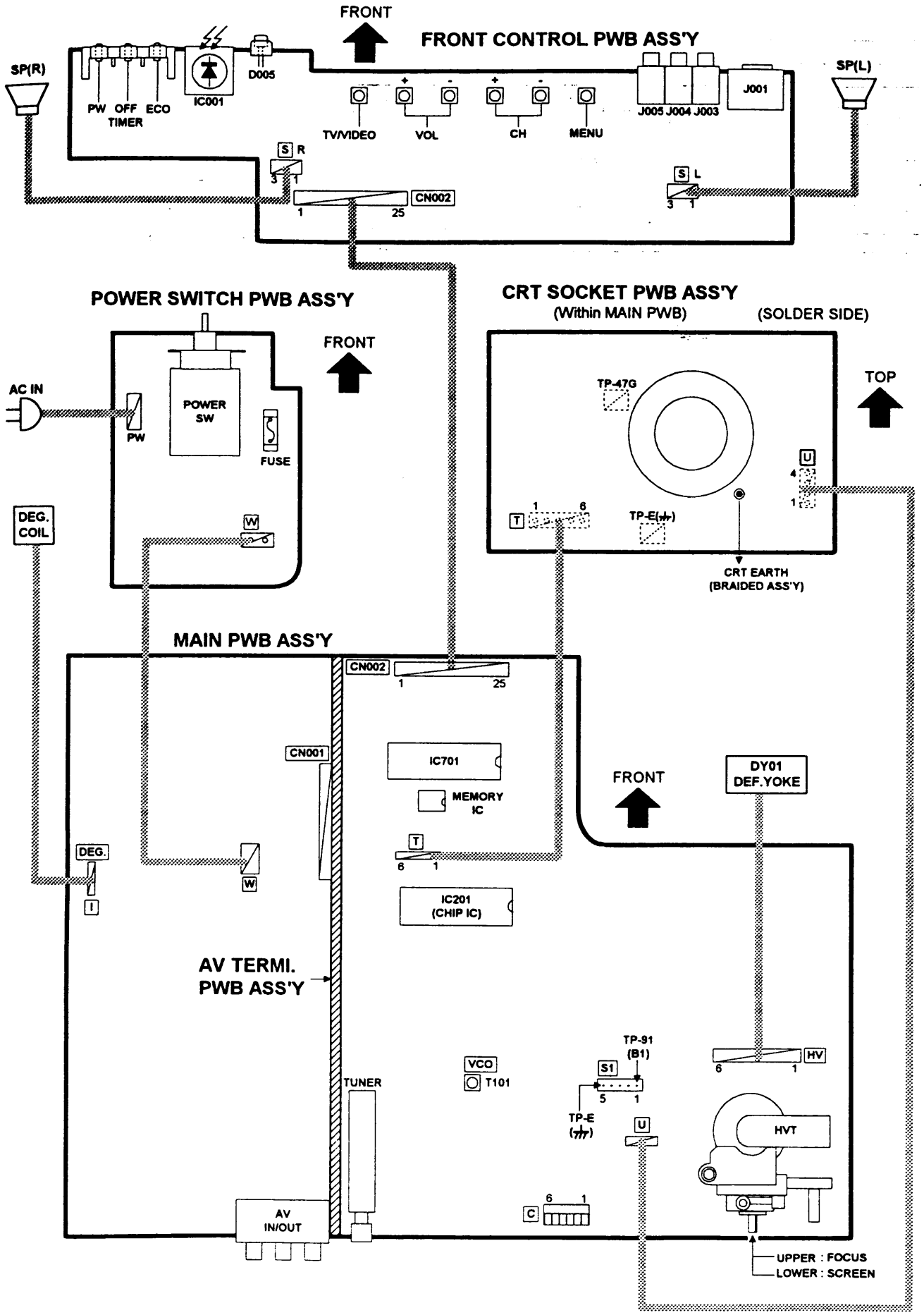


AT24C08-G29MS
AT24C04-K29MX3
XL24C04P-21ME

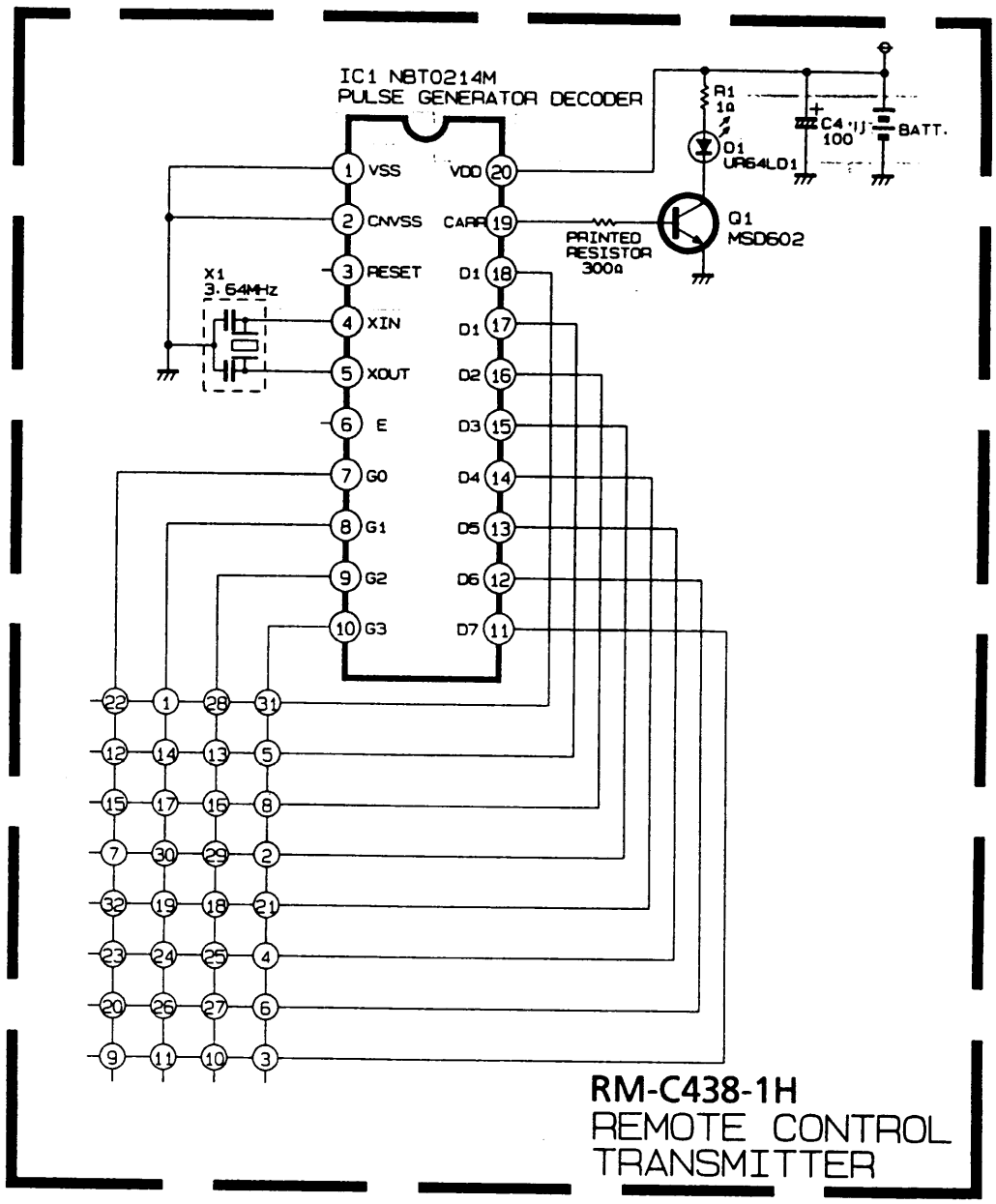


STR-F6655
STR-S6707
STR-S6706

MAIN PARTS ALIGNMENTS LOCATION & WIRING DIAGRAM



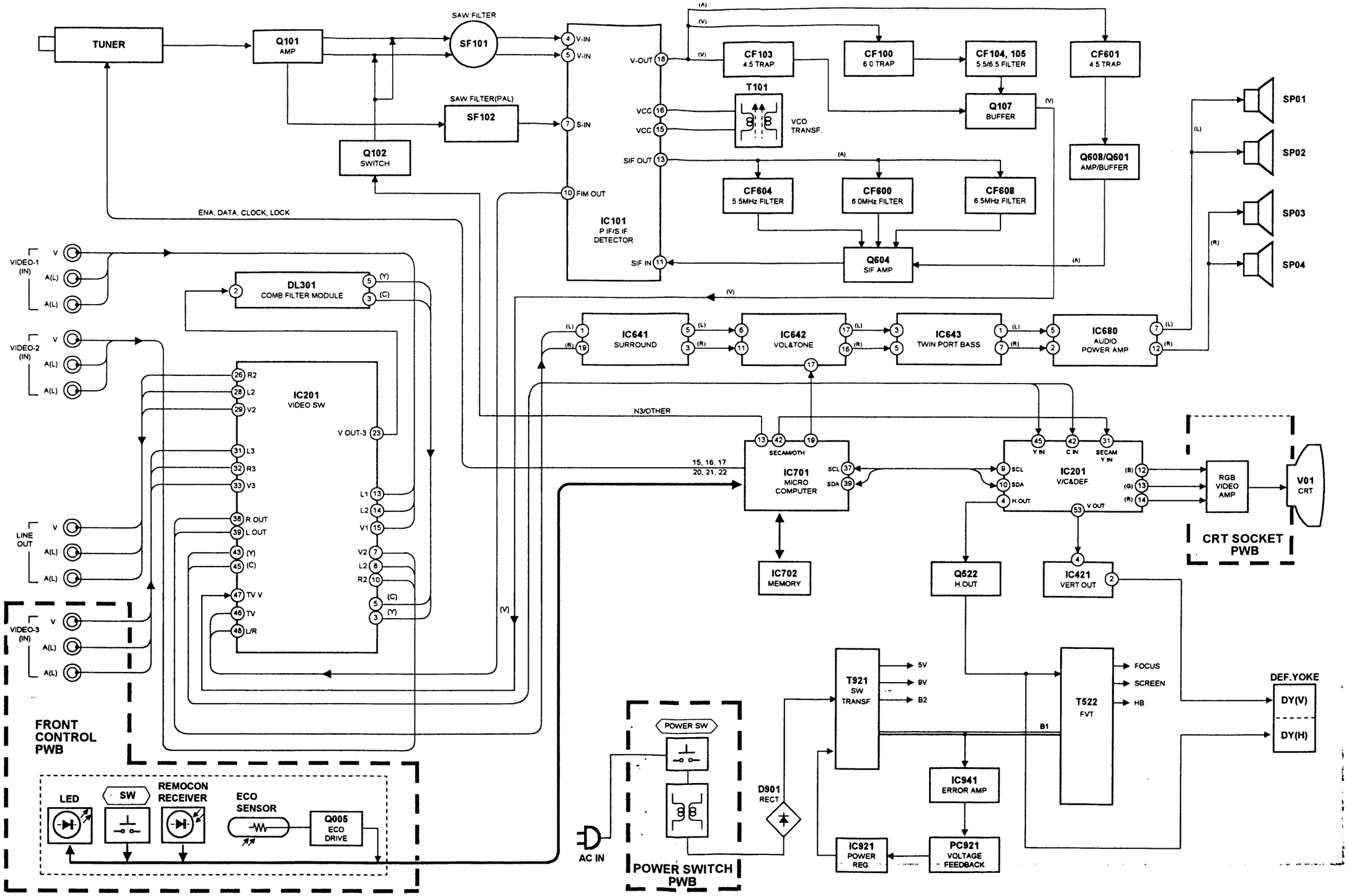
REMOTE CONTROL TRANSMITTER CIRCUIT DIAGRAM (RM-C438-1H)



● KEY FUNCTION

KEY NO.	KEY NAME	KEY NO.	KEY NAME	KEY NO.	KEY NAME
1	POWER	13	5	25	VOLUME +
2	ECO SENSOR	14	6	26	VOLUME −
3	COLOUR SYSTEM	15	7	27	FUNCTION △
4	SOUND SYSTEM	16	8	28	FUNCTION ▽
5	PICTURE MODE	17	9	29	FUNCTION −
6	LIVE SPATIAL	18	0	30	FUNCTION +
7	OFF TIMER	19	−/--	31	DISPLAY
8	———	20	TV/VIDEO	32	CH SCAN
9	1	21	MAIN/SUB		
10	2	22	CHANNEL −		
11	3	23	CHANNEL +		
12	4	24			

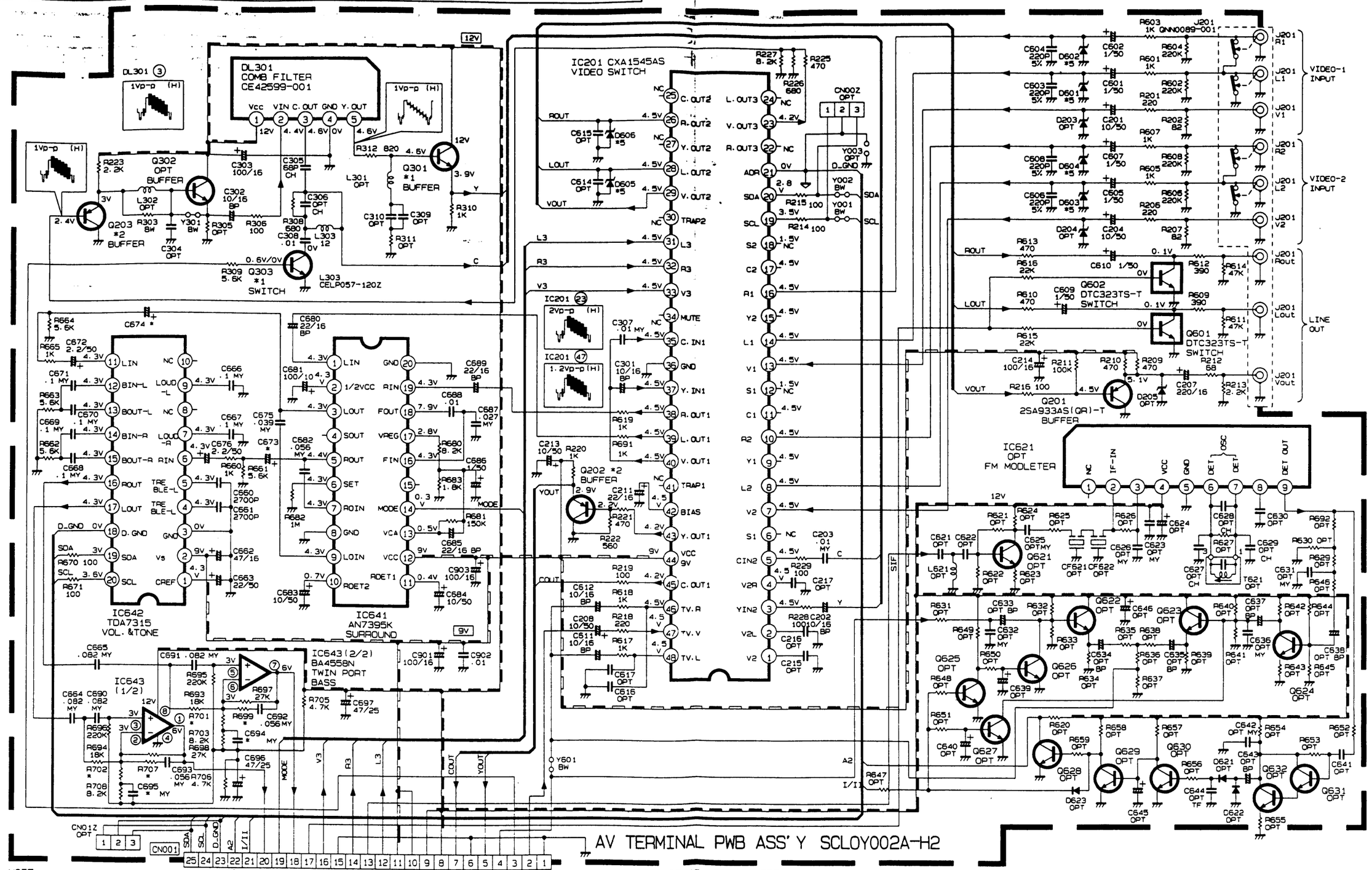
BLOCK DIAGRAM



CIRCUIT DIAGRAMS AND PWB PATTERNS

AV TERMINAL PWB CIRCUIT DIAGRAM

Refer to the following PWB pattern : AV TERMINAL PWB PATTERN page 2-15~2-16.



NOTE

*1 : NPN Tr	2SC1740S(QR)-T
*2 : PNP Tr	2SA933AS(QR)-T
*5 : ZENER DIODE	MTZJ10(A)-T2
OPT: NON MOUNT(OPEN)	
BW : BUS WIRE	

CN001 CHB303W-25P-J: 25 SDA, 24 SCL, 23 GND, 22 A2, 21 I/II, 20 LOUT, 19 SPAITALIZER M/ST/OFF, 18 ROUT, 17 A-MUTE, 16 V3, 15 GND, 14 R3, 13 SIF, 12 L3, 11 9V, 10 9V, 9 12V, 8 12V, 7 COUT, 6 GND, 5 YOUT, 4 TV.M, 3 TV/OTH, 2 TV.V, 1 GND

RIFFERENCE LIST (*PARTS)

*	SCL 0Y002A-H2
C673	1/50
C674	1/50
R699	19K
R707	13K

*	SCL 0Y002A-H2
R701	2.7K
R702	2.7K
C694	.018
C695	.018

FRONT CONTROL & MAIN PWB CIRCUIT DIAGRAMS

Refer to the following PWB pattern : FRONT CONTROL PWB PATTERN page 2-20, MAIN PWB PATTERN page 2-17~2-18.

NOTE
*1 : NPN Tr 2SC1740S(QR)-T
*2 : PNP Tr 2SA933AS(QR)-T
*3 : SI DIODE 1SS133-T2
OPT : NON MOUNT(OPEN)
BW : BUS WIRE

FRONT CONTROL PWB ASS'Y
SCL-8001A-H2

IC001 HC-337MN
REMOCON RECIEVER

S002-S007 QSP1AS11-C1B2

VIDEO-3 INPUT

HEADPHONE JACK QMS304-C01

NOTE
*4 : PNP D-Tr DTC124ESA-T
*5 : NPN D-Tr DTA124ESA-T

CN05L CH41169-004Y
CN05R CH41169-004Y
SP01 SP02 CE85F10P-07KJ6
SP03 SP04 CE85S03K-02KJ2

MAIN PWB ASS'Y
SCL-1010A-H2

TU001 CEEM574-B01 U/V TUNER

IC101 M52342SP PIF/SIF DETECTOR

IC703 L78L05E-MA 5V REG & RESET

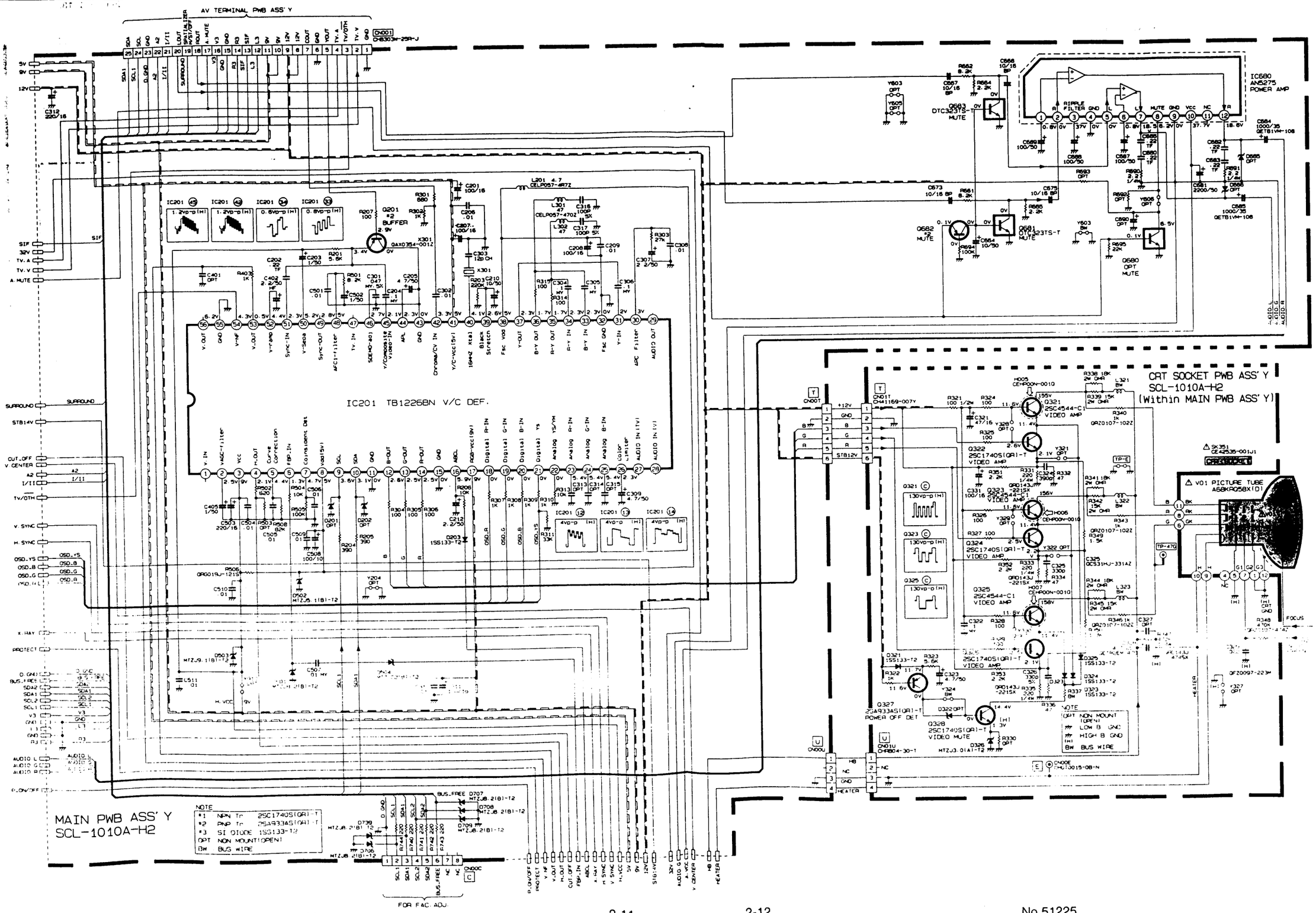
IC702 AT24C04-K29MX3 MEMORY

IC701 M37212M6-109SP MICRO COMPUTER

CN002 CHC10BN-25T-A

MAIN & CRT SOCKET PWB CIRCUIT DIAGRAMS

Refer to the following PWB pattern : MAIN PWB PATTERN page 2-17~2-18,
CRT SOCKET PWB PATTERN page 2-19.



POWER SWITCH & MAIN PWB CIRCUIT DIAGRAMS

Refer to the following PWB pattern : POWER SWITCH PWB PATTERN page 2-19,
MAIN PWB PATTERN page 2-17 ~ 2-18.

MAIN PWB ASS' Y
SCL-1010A-H2

LIVE | ISOLATED

SCL-9001A-H2
POWER SWITCH
PWB ASS' Y

△ IC921 STR-F6655
POWER REGULATOR

△ PC921 TLP721F(GR)
VOLTAGE
FEED BACK

△ IC941 SE135N
ERROR AMP

IC971 AN7812F 12V REGULATOR
IC972 AN7805F 5V REGULATOR
IC973 AN7805F 5V REGULATOR

IC421 LA7640 VERT. OUT
THERMAL PROTECTION
PUMP UP

Q971 2SA966(OY)-T LOW-B SW
Q972 DTC144GSA-T SWITCH
Q981 2SA933 AS(QR)-T PROTECTOR
Q921 2SA933AS(QR)-T SWITCH
Q422 BUFFER
Q423 SWITCH
Q424 SWITCH
Q521 BSN274 H. DRIVE
Q522 2SD2499-LB H. OUT
Q523 2SC1815(YG)-T SWITCH
Q941 2SC1740S(QR)-T ERROR SW
Q942 DTC144GSA-T SWITCH
Q431 2SC1815(YG)-T
Q430 2SC1815(YG)-T

H. DRIVE TRANSF CE42034-002

T522 FBT GQ-0019-001

NOTE
*1 : NPN Tr 2SC1740S(QR)-T
*2 : PNP Tr 2SA933AS(QR)-T
*3 : SI DIODE 1SS133-T2
OPT : NON MOUNT(OPEN)
BW : BUS WIRE

FOR TEST