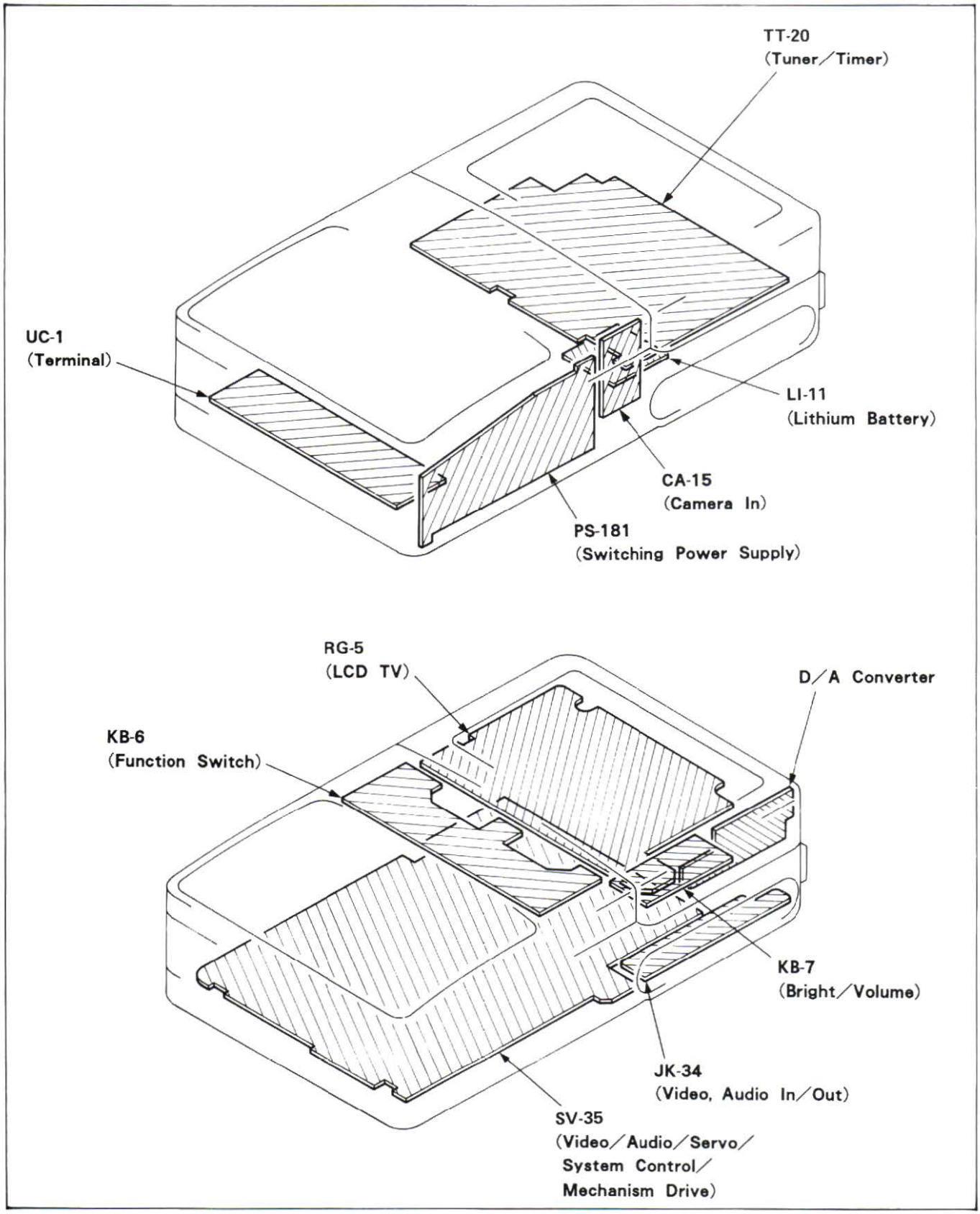
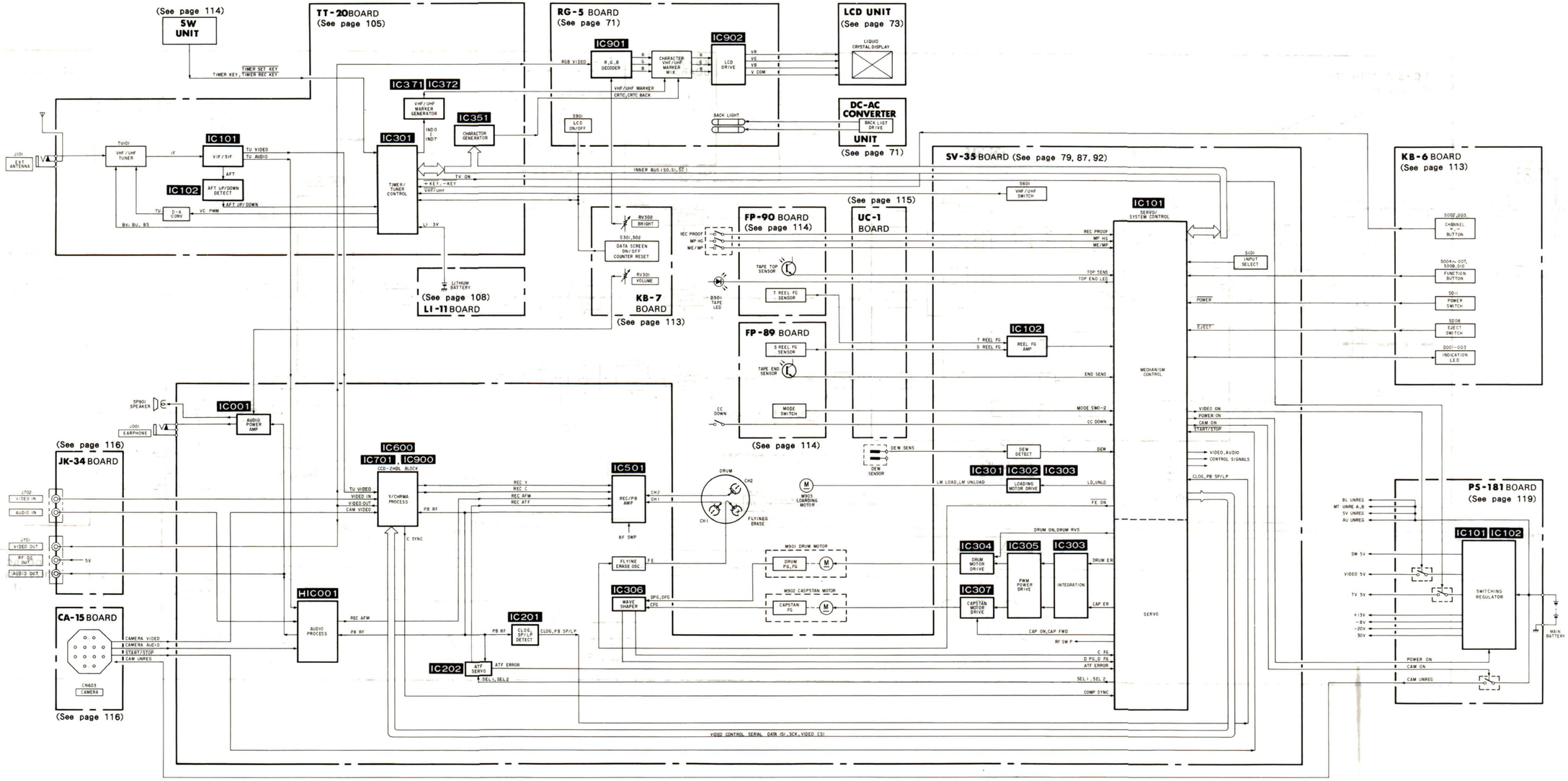
SECTION 3
DIAGRAMS

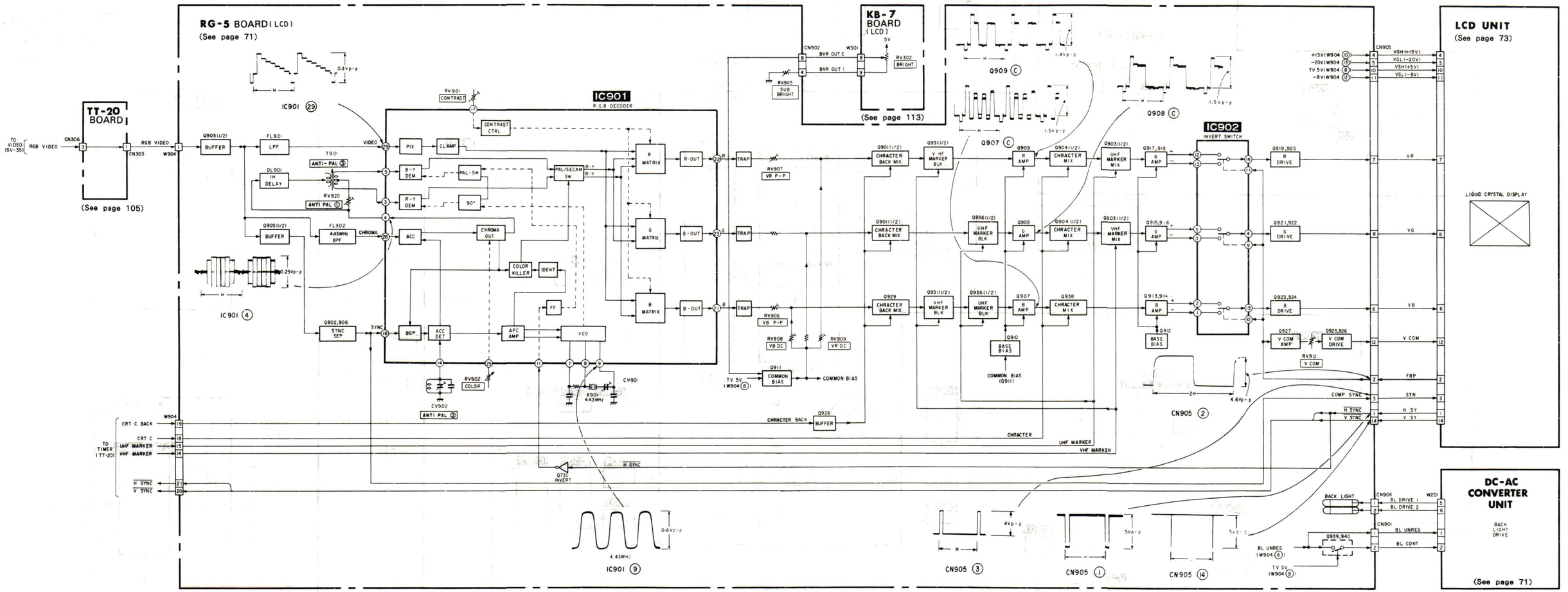
3-1. CIRCUIT BOARDS LOCATION



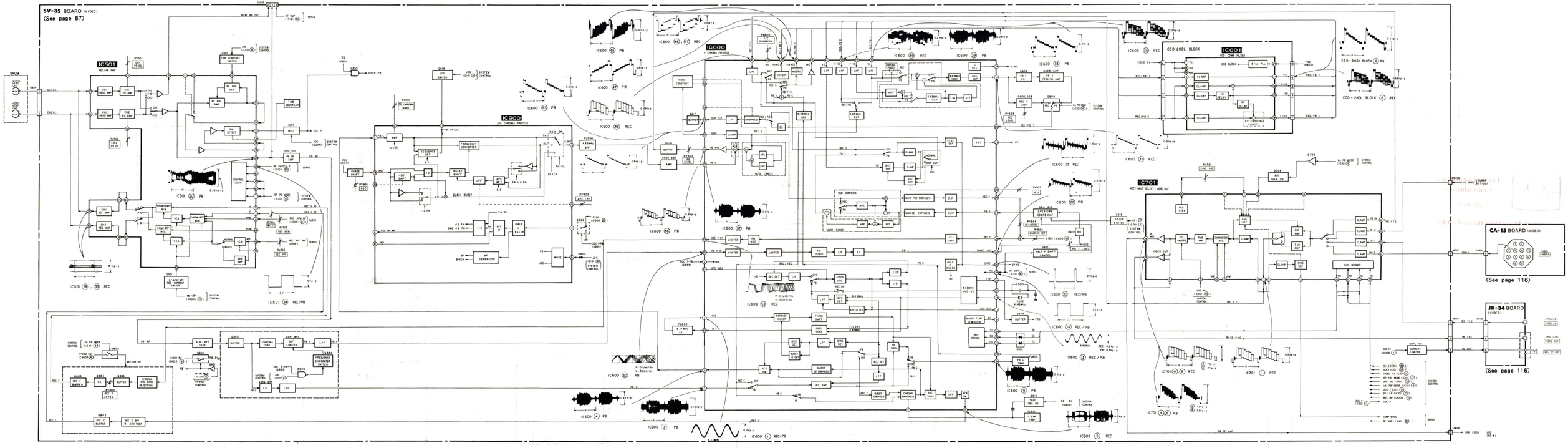
3-2. OVERALL BLOCK DIAGRAM



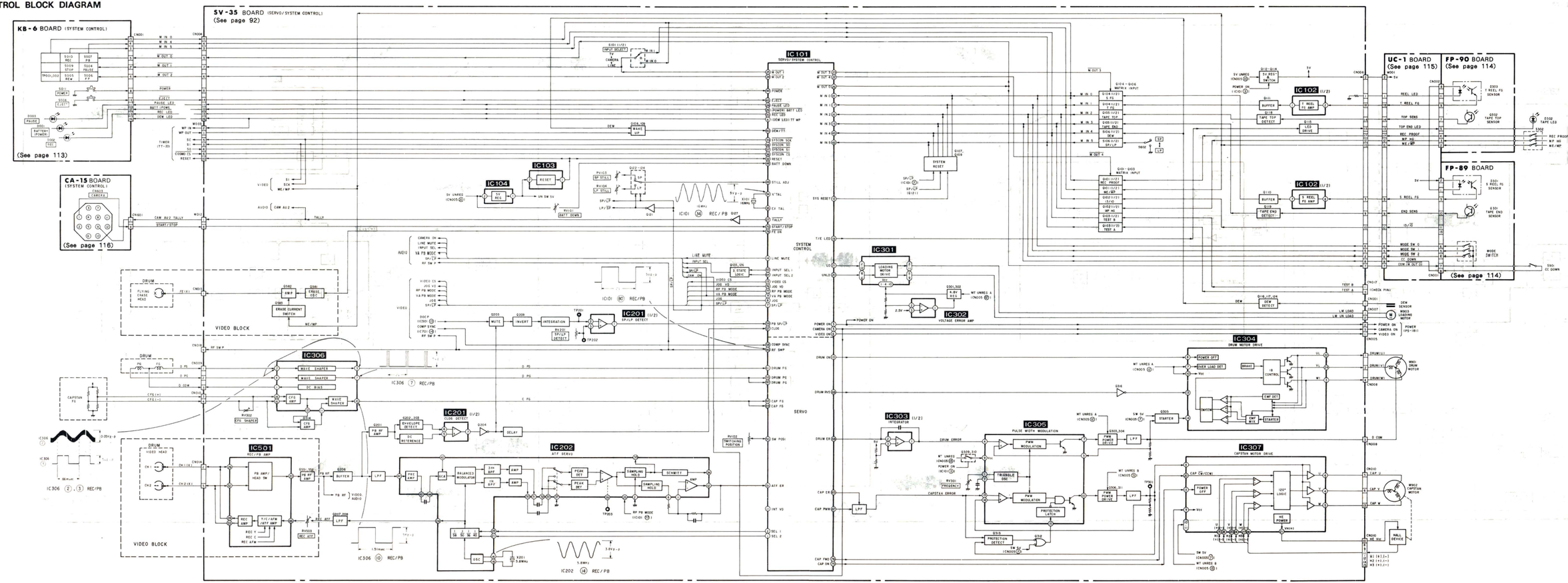
3-3. LCD VIDEO BLOCK DIAGRAM



3-4. VIDEO BLOCK DIAGRAM



3-5. SERVO, SYSTEM CONTROL BLOCK DIAGRAM



3-6. SYSTEM CONTROL — VIDEO, AUDIO BLOCK INTERFACE

Signal	I/O	Pin No.	STOP	FF	REW	CUE	REVIEW	PB	PB・PAUSE	REC	REC・PAUSE
ME/$\overline{MP}$	O	Pin ⑮ of CN006 on SV-35 board	*1	*1	*1	*1	*1	*1	*1	*1	*1
SP/$\overline{LP}$	O	Pin ⑦ of IC101 on SV-35 board	H/L	H/L	H/L	*2	*2	*2	*2	*3	*3
JOG	O	Pin ⑧ of IC101 on SV-35 board	L	L	L	H	H	L	H	L	L
VA PB MODE	O	Pin ⑨ of IC101 on SV-35 board	L	L	L	H	H	H	H	L	L
VIDEO CS	O	Pin ⑬ of IC101 on SV-35 board	*4	*4	*4	*4	*4	*4	*4	*4	*4
LINE MUTE	O	Pin ⑭ of IC101 on SV-35 board	L	L	L	H	H	L	H	L	L
SYSCON SO (SI)	O	Pin ㊳ of IC101 on SV-35 board	*5	*5	*5	*5	*5	*5	*5	*5	*5
$\overline{SYSCON\ SCK}$ (SCK)	O	Pin ㊴ of IC101 on SV-35 board	*6	*6	*6	*6	*6	*6	*6	*6	*6
CLOG	I	Pin ㊼ of IC101 on SV-35 board	H	*7	*7	*7	*7	*7	*7	H	H
COMP SYNC	I	Pin ㊽ of IC101 on SV-35 board	*8	*8	*8	*8	*8	*8	*8	*8	*8
PB SP/$\overline{LP}$	I	Pin ㊾ of IC101 on SV-35 board	L	*9	*9	*9	*9	L	L	L	L
INPUT SEL 1	O	Pin ㊸ of IC101 on SV-35 board	*10	*10	*10	*10	*10	*10	*10	*10	*10
INPUT SEL 2	O	Pin ㊹ of IC101 on SV-35 board	*11	*11	*11	*11	*11	*11	*11	*11	*11
RP PB MODE	O	Pin ㊼ of IC101 on SV-35 board	H	H	H	H	H	H	H	L	H
$\overline{FE\ ON}$	O	Pin ㊽ of IC101 on SV-35 board	H	H	H	H	H	H	H	L	H
JOG VD	O	Pin ㊾ of IC101 on SV-35 board	L	L	L	*12	*12	L	*12	L	L
RF SWP	O	Pin ㊿ of IC101 on SV-35 board	1.8Vdc	*13	*13	*13	*13	*13	*13	*13	*13

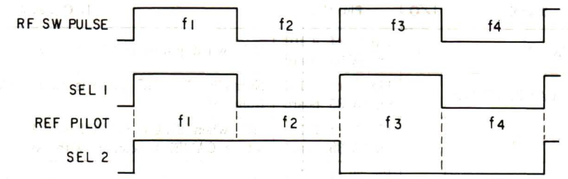
*1. "L" when using MP tape
*2. According to recorded mode of PB tape (SP : "H", LP : "L")
*3. According to SP/LP selector (S602) setting (SP : "H", LP : "L")
*4. Approx. 20 msec period "L" pulse
*5. 1V period "L" pulse train
*6. 1V period "L" pulse train
*7. Video head clog : "H", Normally : "L"
*8. Positive polarity composite sync signal
*9. SP mode recorded tape : "H", LP mode recorded tape : "L"
*10. LINE input : "H", CAMERA input : "L", TV input : "H"
*11. LINE input : "H", CAMERA input : "L", TV input : "L"
*12. 1V period "H" pulse
*13. 2V period duty 50% pulse

3-7. SYSTEM CONTROL — SERVO PERIPHERAL CIRCUIT INTERFACE

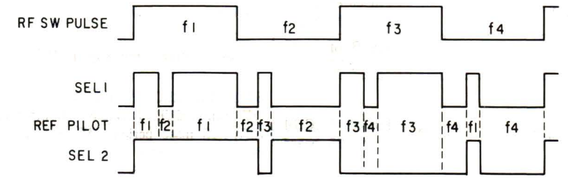
Signal	I/O	Pin No.	EJECTED	THREADING	UNTHREADING	STOP	FF	REW	CUE	REVIEW	PB	PB・PAUSE	REC	REC・PAUSE
SEL 2	O	Pin ① of IC101 on SV-35 board	H	H	H	H	H	H	*3	*3	*2	H	*1	L
SEL 1	O	Pin ② of IC101 on SV-35 board	H	H	H	H	H	H	*3	*3	*2	H	*1	H
DRUM ON	O	Pin ⑩ of IC101 on SV-35 board	L	H	H	L	H	H	H	H	H	H	H	H
INT VD	O	Pin ⑪ of IC101 on SV-35 board	*4	*4	*4	*4	*4	*4	*4	*4	*4	*4	*4	*4
SW POSI	I	Pin ㊱ of IC101 on SV-35 board	*5	*5	*5	*5	*5	*5	*5	*5	*5	*5	*5	*5
ATF ER	I	Pin ㊲ of IC101 on SV-35 board	*6	*6	*6	*6	*7	*7	*7	*7	*7	*7	*6	*6
DRUM PG	I	Pins ㊺ and ㊻ of IC101 on SV-35 board	L	*8	*8	L	*8	*8	*8	*8	*8	*8	*8	*8
DRUM FG	I	Pin ㊶ of IC101 on SV-35 board	H	*9	*9	H	*9	*9	*9	*9	*9	*9	*9	*9
CAP FG	I	Pins ㊷ and ㊸ of IC101 on SV-35 board	H/L	PULSE	PULSE	H/L	*10	*10	*10	*10	*10	H/L	*10	H/L
CAP ER	O	Pin ㊺ of IC101 on SV-35 board	L	*11	*11	L	*11	*11	*11	*11	*11	L	*11	L
DRUM ER	O	Pin ㊻ of IC101 on SV-35 board	L	*12	*12	L	*12	*12	*12	*12	*12	*12	*12	*12
CAP PWM	O	Pin ㊼ of IC101 on SV-35 board	L	*13	*13	L	*13	*13	*13	*13	*13	L	*13	L
DRUM RVS	O	Pin ㊽ of IC101 on SV-35 board	*14	*14	*14	*14	*14	*14	*14	*14	*14	*14	*14	*14
CAP ON	O	Pin ㊺ of IC101 on SV-35 board	L	H	H	L	H	H	H	H	H	L	H	L
CAP FWD	O	Pin ㊻ of IC101 on SV-35 board	L	L	H	L	H	L	H	L	H	H	H	L
RF SWP	O	Pin ㊽ of IC101 on SV-35 board	1.8Vdc	*15	*15	*15	*15	*15	*15	*15	*15	*15	*15	*15

*1. See Timing chart 1.
*2. See Timing chart 2.
*3. See Timing chart 3.
*4. Not used.
*5. DC voltage set with RV102 (Switching position adjustment)
*6. Approx. 2.5 Vdc constant
*7. ATF error voltage
*8. 2V period "H" pulse
*9. 1.4 msec period pulse
*10. Pulses in proportion to frequency of tape speed
*11. Pulse output for accelerating or braking.
*12. 6 msec period PWM signal (tri-state) of "H", "L" and "HI-Z" (2.5 Vdc)
*13. 64 μsec period PWM signal
*14. Approx. 1.8 Vdc (Momentarily "L" in Threading/Unthreading)
*15. 2V period duty 50% pulse

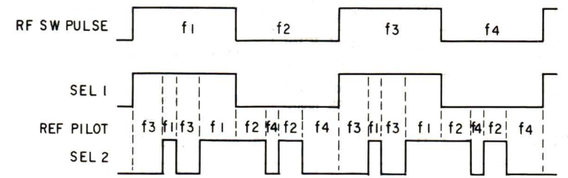
Timing chart 1 (REC)



Timing chart 2 (PB)



Timing chart 3 (CUE/REVIEW)



3-8. SYSTEM CONTROL — SYSTEM CONTROL PERIPHERAL CIRCUIT INTERFACE

Signal	I/O	Pin No.	I/O Level
POWER ON	O	Pin ③ of IC101 on SV-35 board	"H" when power is ON, "L" when OFF.
(DEW LAMP) TT WP	O	Pin ④ of IC101 on SV-35 board	Normally : "H" ("L" pulse is output when power is turned on from off.)
CAMERA ON	O	Pin ⑤ of IC101 on SV-35 board	"H" when INPUT SELECT switch (S101 on SV-35 board) is set to CAMERA position with power ON.
VIDEO ON	O	Pin ⑥ of IC101 on SV-35 board	"H" in REC, PB mode, etc., (Other : "L")
SP/$\overline{LP}$	O	Pin ⑦ of IC101 on SV-35 board	"H" in SP recording mode or playback of recorded tape in SP mode
SYS RESET	O	Pin ⑫ of IC101 on SV-35 board	Normally : "L" ("H" when installing the main battery)
M IN 3	I	Pin ⑮ of IC101 on SV-35 board	No key matrix input signal : "H" (Other : "L")
M IN 2	I	Pin ⑯ of IC101 on SV-35 board	No key matrix input signal : "H" (Other : "L")
M IN 1	I	Pin ⑰ of IC101 on SV-35 board	No key matrix input signal : "H" (Other : "L")
M IN 0	I	Pin ⑱ of IC101 on SV-35 board	No key matrix input signal : "H" (Other : "L")
T/E LED	O	Pin ⑲ of IC101 on SV-35 board	STOP/PB/REC/PB・PAUSE/REC・PAUSE : 170 msec period "H" pulse, CUE/REVIEW : 60 msec period "H" pulse, FF/REW : 12 msec period "H" pulse, EJECT or CASSETTE IN detecting : 22 msec period "H" pulse 20 msec period "H" pulse
UNLD	O	Pin ⑳ of IC101 on SV-35 board	Normally : "L" ("H" in Unthreading, pulse is output in Mechanical mode transition)
LD	O	Pin ㉑ of IC101 on SV-35 board	Normally : "L" ("H" in Threading, "H" pulse is output in Mechanical mode transition)
M OUT 4	O	Pin ㉒ of IC101 on SV-35 board	20 msec period "H" pulse
M OUT 3	O	Pin ㉓ of IC101 on SV-35 board	20 msec period "H" pulse
$\overline{M\ OUT\ 2}$	O	Pin ㉔ of IC101 on SV-35 board	20 msec period "L" pulse
$\overline{M\ OUT\ 1}$	O	Pin ㉕ of IC101 on SV-35 board	20 msec period "L" pulse
$\overline{M\ OUT\ 0}$	O	Pin ㉖ of IC101 on SV-35 board	20 msec period "L" pulse
$\overline{TALLY}$	O	Pin ㉗ of IC101 on SV-35 board	Normally : "H" ("L" in REC mode with INPUT SELECT switch is set to CAMERA position)
$\overline{PAUSE\ LED}$	O	Pin ㉘ of IC101 on SV-35 board	Normally : "H" ("L" in PB・PAUSE or REC・PAUSE mode)
$\overline{(POWER)\ BATT\ LED}$	O	Pin ㉙ of IC101 on SV-35 board	Power ON : "L" (Pulse is output when battery voltage is decreased.)

Signal	I/O	Pin No.	I/O Level
$\overline{REC\ LED}$	O	Pin ㉚ of IC101 on SV-35 board	Normally : "H" ("L" in REC or REC・PAUSE mode)
$\overline{RESET}$	I	Pin ㉜ of IC101 on SV-35 board	Normally : "H" (Reset : "L")
$\overline{SYSCON\ CS}$	I	Pin ㉞ of IC101 on SV-35 board	1V period "L" pulse
SYSCON SI	I	Pin ㉟ of IC101 on SV-35 board	1V period "H" pulse train
SYSCON SO	O	Pin ㊱ of IC101 on SV-35 board	1V period "L" pulse train
$\overline{SYSCON\ SCK}$	I/O	Pin ㊲ of IC101 on SV-35 board	1V period "L" pulse train
$\overline{DEW/TT}$	I	Pin ㊵ of IC101 on SV-35 board	Normally : "H" ("L" when WAKE UP signal from timer/tuner microcomputer (IC301 on TT-20 board) becomes "L" or DEW)
M IN 5	I	Pin ㊷ of IC101 on SV-35 board	No key matrix input signal : "H" (Other : "L")
M IN 4	I	Pin ㊸ of IC101 on SV-35 board	No key matrix input signal : "H" (Other : "L")
$\overline{POWER}$	I	Pin ㊹ of IC101 on SV-35 board	Normally : "H" ("L" when POWER switch (S011 on KB-6 board) is turned on.)
$\overline{EJECT}$	I	Pin ㊺ of IC101 on SV-35 board	Normally : "H" ("L" when EJECT switch (S008 on KB-6 board) is pressed.)
BATT DOWN	I	Pin ㊽ of IC101 on SV-35 board	Input main battery voltage (SV UNREG) is divided by RV101 (battery down adjustment) and input.
STILL ADJ	I	Pin ㊾ of IC101 on SV-35 board	DC voltage that is set by RV103 (SP STILL adjustment) or RV104 (LP STILL adjustment) is input.
CLOG	I	Pin ㊼ of IC101 on SV-35 board	Normal playback : "L" ("H" when PB RF signal is not reproduced due to head clog, etc..
PB SP/$\overline{LP}$	I	Pin ㊾ of IC101 on SV-35 board	Recording speed mode detection signal in FF, REW, CUE or REVIEW ("H" in SP mode, "L" in LP mode)
START/STOP	O	Pin ㊿ of IC101 on SV-35 board	Normally : "H" ("L" when START/STOP button of camera is pressed.)

3-9. SYSTEM CONTROL — MECHANISM BLOCK INTERFACE

Signal	I/O	Pin No.	I/O Level
S REEL FG	I	Pin ③ of CN006 on SV-35 board	Pulse (Approx. 2.5 Vp-p) that is generated by S-reel rotation. It is approx. 1 sec period in REC/PB (SP) mode.
MODE SW 2	I	Pin ④ of CN006 on SV-35 board	Pins are connected to mode switch for mechanical position detection.
MODE SW 1	I	Pin ⑤ of CN006 on SV-35 board	
MODE SW 0	I	Pin ⑥ of CN006 on SV-35 board	
$\overline{M\ OUT\ 0}$ (COM)	O	Pin ⑦ of CN006 on SV-35 board	
CC DOWN		Pin ⑧ of CN006 on SV-35 board	It is connected to cassette compartment down detection (CC DOWN) switch. When cassette compartment comes down, Pins ⑧ and ⑦ are short-circuited. When cassette compartment comes up, connection between Pins ⑧ and ⑦ open.
$\overline{M\ OUT\ 0}$ (COM)	I	Pin ⑦ of CN006 on SV-35 board	
END SENS	O	Pin ⑨ of CN006 on SV-35 board	Normally : "L" ("H" pulse is output in tape end or cassette unloaded)
13/10	I	Pin ⑩ of CN006 on SV-35 board	Not used
MP HG	I	Pin ⑫ of CN006 on SV-35 board	"H" pulse (20 msec) is output when normal MP tape is used.
TOP END LED	I	Pin ⑬ of CN006 on SV-35 board	"L" pulse (approx. 1 Vp-p) (pulse period is changed from 12 to 170 msec according to operation mode.)
TOP SENS	I	Pin ⑭ of CN006 on SV-35 board	Normally : "L" ("H" pulse is output in tape top or cassette unloaded)
ME/$\overline{MP}$	O	Pin ⑮ of CN006 on SV-35 board	"L" in MP tape ("H" pulse (20 msec) in cassette unloaded)
REC PROOF	I	Pin ⑰ of CN006 on SV-35 board	"L" when recording possible cassette is loaded "H" pulse (20 msec) is output, when recording inhibiting cassette is loaded.
T REEL FG	I	Pin ⑱ of CN006 on SV-35 board	Pulse (Approx. 2.5 Vp-p) that is generated by T-reel rotation, in REC/PB (SP) mode, it is approx. 1 sec period.

	EJECTED	THREADING UNTHREADING	STOP	REC/PB/FF/REW/CUE/REVIEW/PAUSE
MODE SW 2 (④–⑦)	○	○	×	○
MODE SW 1 (⑤–⑦)	×	○	○	×
MODE SW 0 (⑥–⑦)	×	×	○	○

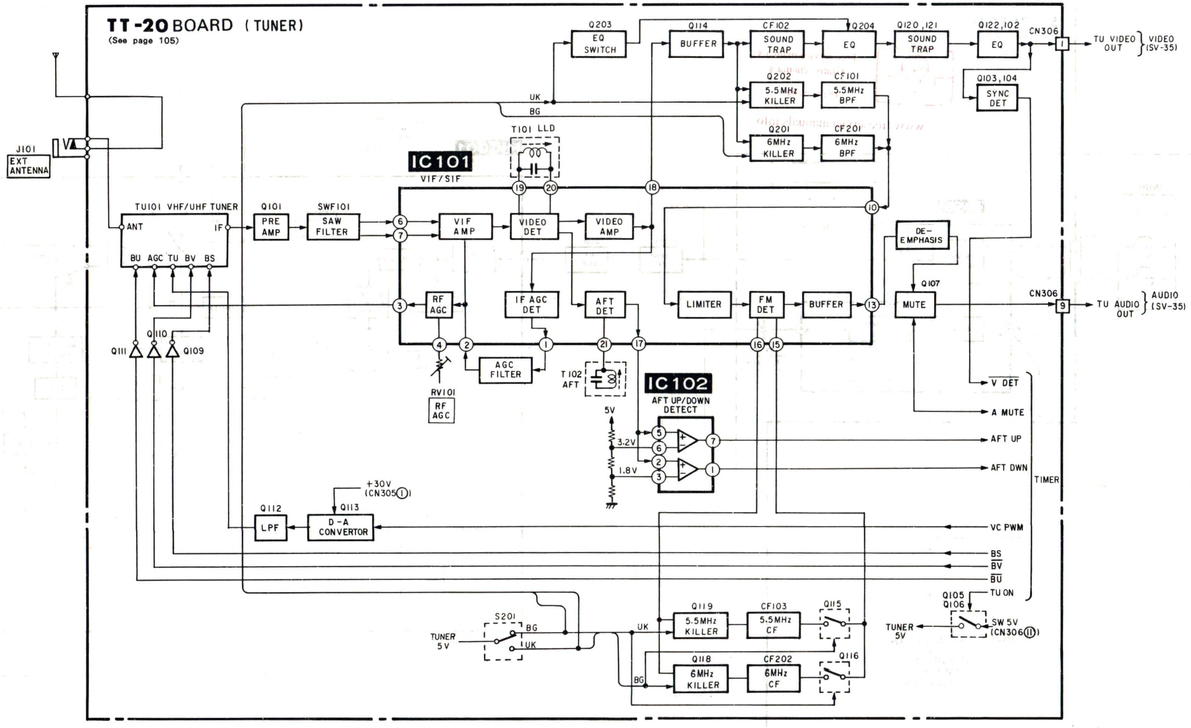
×……Open
○……Short

3-10. TIMER/TUNER CONTROL — TIMER/TUNER PERIPHERAL CIRCUIT INTERFACE

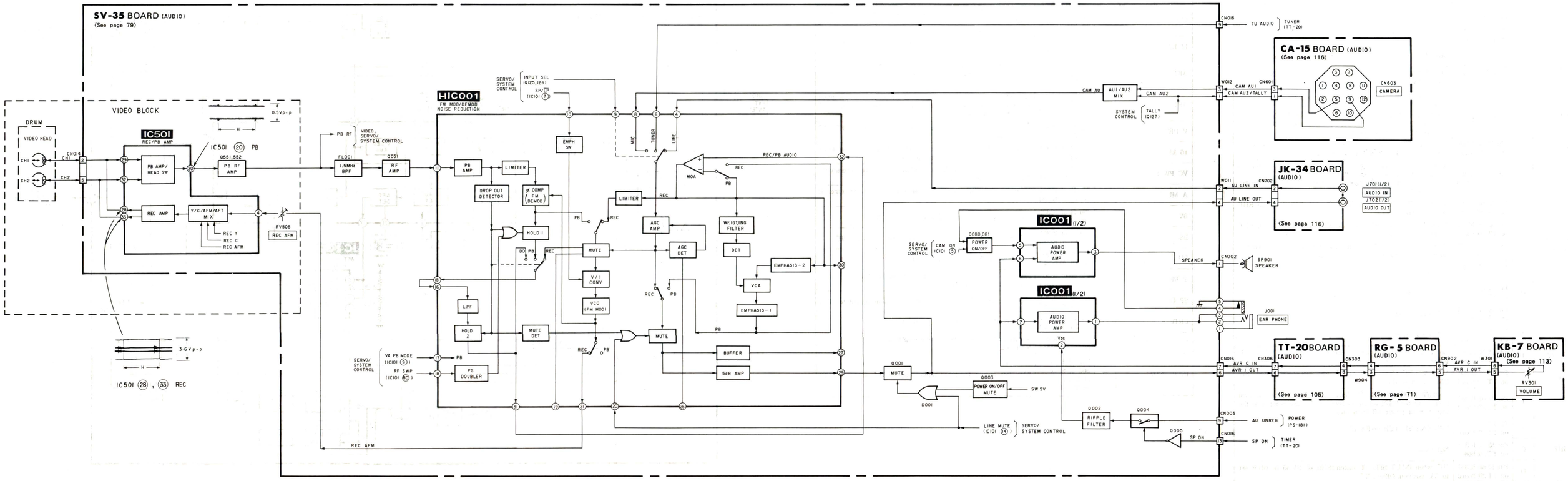
Signal	I/O	Pin No.	I/O Level
INT (V SYNC)	I	Pin ㉙ of IC301 on TT-20 board	1V period "L" pulse in LCD is ON (Other : "L") (not used)
RST	I	Pin ㉜ of IC301 on TT-20 board	Normally : "H" (Reset : "L")
AD 0 (TIMER KEY)	I	Pin ㉝ of IC301 on TT-20 board	Normally : 5V (Input voltage is changed as follows according to button.) CLOCK SET (SW UNIT) : 3V, + (SW UNIT) : 2V, NEXT (SW UNIT) : 1V, SLEEP (SW UNIT) : 0V
AD 1 (LCD KEY)	I	Pin ㉞ of IC301 on TT-20 board	Normally : 5V (Input voltage is changed as follows according to button.) COUNTER RESET (S301 on KB-7 board) : 4V, DATA SCREEN ON/OFF (S302 on KB-7 board) : 3V, LCD ON/OFF (S901 on RG-5 board) : 1V, INDICATOR (S301) : 0V
AD 2 (VHF/UHF)	I	Pin ㉗ of IC301 on TT-20 board	5V when VHF/UHF switch (S601 on SV-35 board) is set to VHF position, 4V when it is set to UHF position.
AD 3	I	Pin ㉘ of IC301 on TT-20 board	Normally : 5V. Input voltage should be change as follows according to the test mode setting. 32 kHz CHECK (TP304-TP303) : 4V, X120 (TP301-TP303) : 3V, TT CHECK (TP302-TP303) : 2V
+ (+KEY)	I	Pin ㉚ of IC301 on TT-20 board	Normally : "H" ("L" when CHANNEL + button (S003 on KB-6 board) is pressed.)
− (−KEY)	I	Pin ㉛ of IC301 on TT-20 board	Normally : "H" ("L" when CHANNEL − button (S002 on KB-6 board) is pressed.
COSMO RES IN	I	Pin ㊶ of IC301 on TT-20 board	Normally : "H" ("L" when resetting the system control microcomputer for power-failure detection)
COSMO CS	O	Pin ㊷ of IC301 on TT-20 board	"L" pulse
SCLK	O	Pin ㊹ of IC301 on TT-20 board	"L" pulse train
SO	O	Pin ㊺ of IC301 on TT-20 board	"H" pulse train
SI	I	Pin ㊻ of IC301 on TT-20 board	"L" pulse train
TIMER SET KEY	I	Pin ㊼ of IC301 on TT-20 board	Normally : "H" ("L" when TIMER SET button (SW UNIT) is pressed.)
TIMER REC KEY	I	Pin ㊽ of IC301 on TT-20 board	Normally : "H" ("L" when TIMER REC ON/OFF button (SW UNIT) is pressed.)
TT WP IN	I	Pin ㊾ of IC301 on TT-20 board	Normally : "H" (WAKE UP signal input from system control microcomputer IC101 on SV-35 board. "L" pulse is input at the transition of power off from on.)
LCD ON	I	Pin ㊿ of IC301 on TT-20 board	LCD ON : "H", LCD OFF : "L"
DARK/BRIGHT	O	Pin (51) of IC301 on TT-20 board	Not used
TUNER ON	O	Pin (53) of IC301 on TT-20 board	"H" when INPUT SELECT switch (S101 on SV-35 board) is set to TV position. Other : "L"

Signal	I/O	Pin No.	I/O Level
WP COSMO	O	Pin (54) of IC301 on TT-20 board	Normally : "H" (WAKE UP signal output to system control microcomputer. "L" pulse is output when reservation confirming or timer recording.)
LI BATT DWN	I	Pin (55) of IC301 on TT-20 board	Normally : "L" (When the voltage of lithium battery decreases, it is "H".)
AFT UP	I	Pin (56) of IC301 on TT-20 board	"L" when receives broadcasting signal correctly. When reception frequency is shifting to higher frequency, it becomes "H". "L" when tuner is OFF.
AFT DWN	I	Pin (57) of IC301 on TT-20 board	"L" when receives broadcasting signal correctly. When reception frequency is shifting to lower frequency, it becomes "H". "L" when tuner is OFF.
V DET	I	Pin (58) of IC301 on TT-20 board	"L" when receives broadcasting signal, and others in "H". "L" when tuner is OFF.
16 kHz OUT	O	Pin (59) of IC301 on TT-20 board	Normally : "H". (Divided by two output of clock for the timer when checking the 32 kHz in the test mode.)
VC PWM	O	Pin (60) of IC301 on TT-20 board	250 μsec period PWM signal (For tuning voltage generation), "H" when tuner is OFF.
A MUTE	O	Pin (61) of IC301 on TT-20 board	Normally : "L" ("H" in channel selection), "H" when tuner is OFF
BV	O	Pin (62) of IC301 on TT-20 board	"L" when VHF is received, and others in "H"
BS	O	Pin (63) of IC301 on TT-20 board	"L" when VHF low band is received, and others in "H"
BU	O	Pin (64) of IC301 on TT-20 board	"L" when UHF is received, and others in "H"
T REC	O	Pin (65) of IC301 on TT-20 board	Normally : "H" ("L" when timer recording is ON.) (Output for lighting the LED.)
SP ON	O	Pin (66) of IC301 on TT-20 board	Normally : "H" ("L" when set speaker/earphone output to OFF)
CRTC STB	O	Pin (67) of IC301 on TT-20 board	LCD ON : "H" pulse train ("L" in LCD OFF)
IND ON/OFF	O	Pin (70) of IC301 on TT-20 board	Normally : "L" ("H" when tuning display is turned to ON with S301, etc.)
IND0~IND7	O	Pins (75) to (82) and ① to ③ of IC301 on TT-20 board	8-bit data output for tuner tuning display ("L" in tuner OFF)

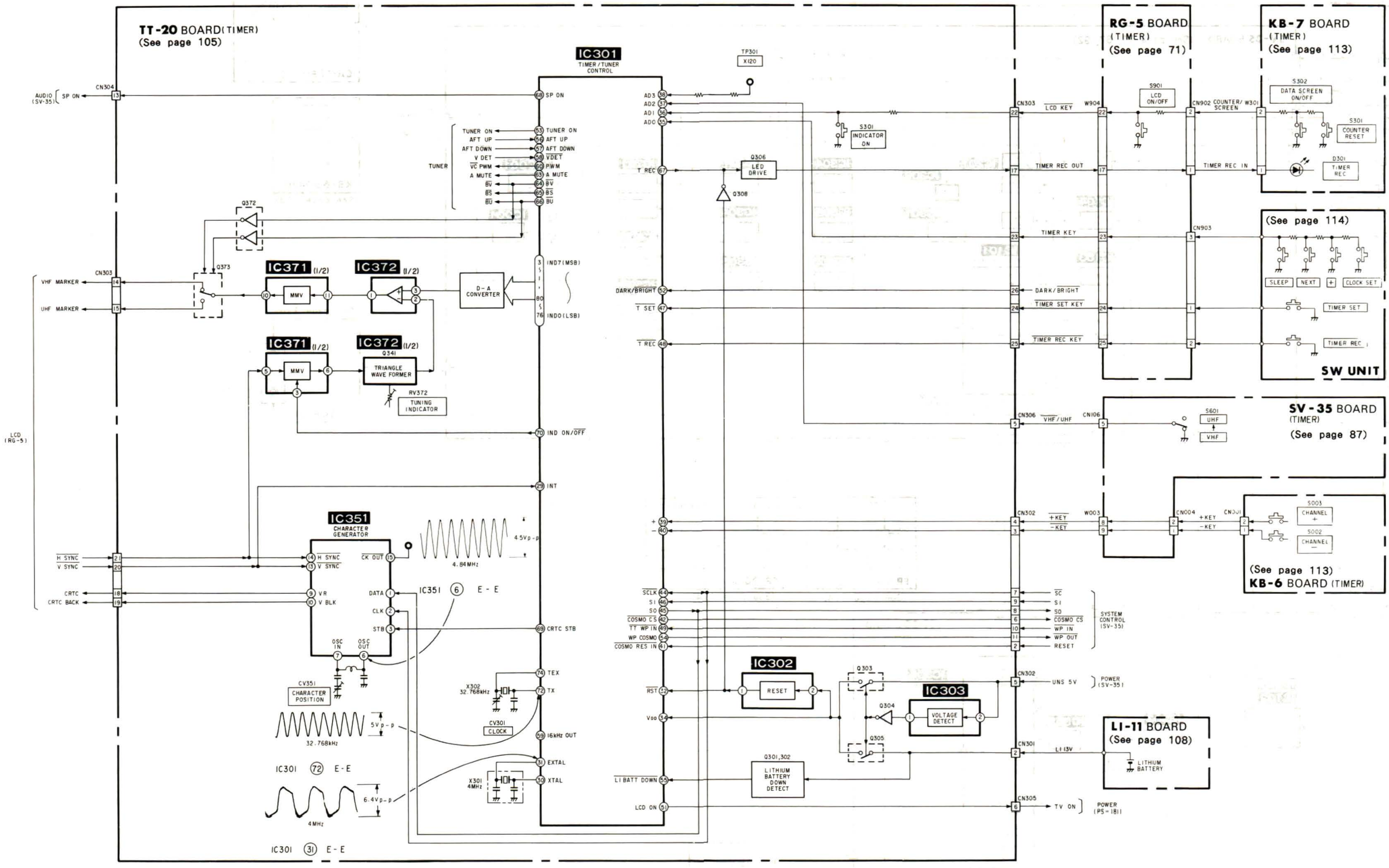
3-11. TUNER BLOCK DIAGRAM



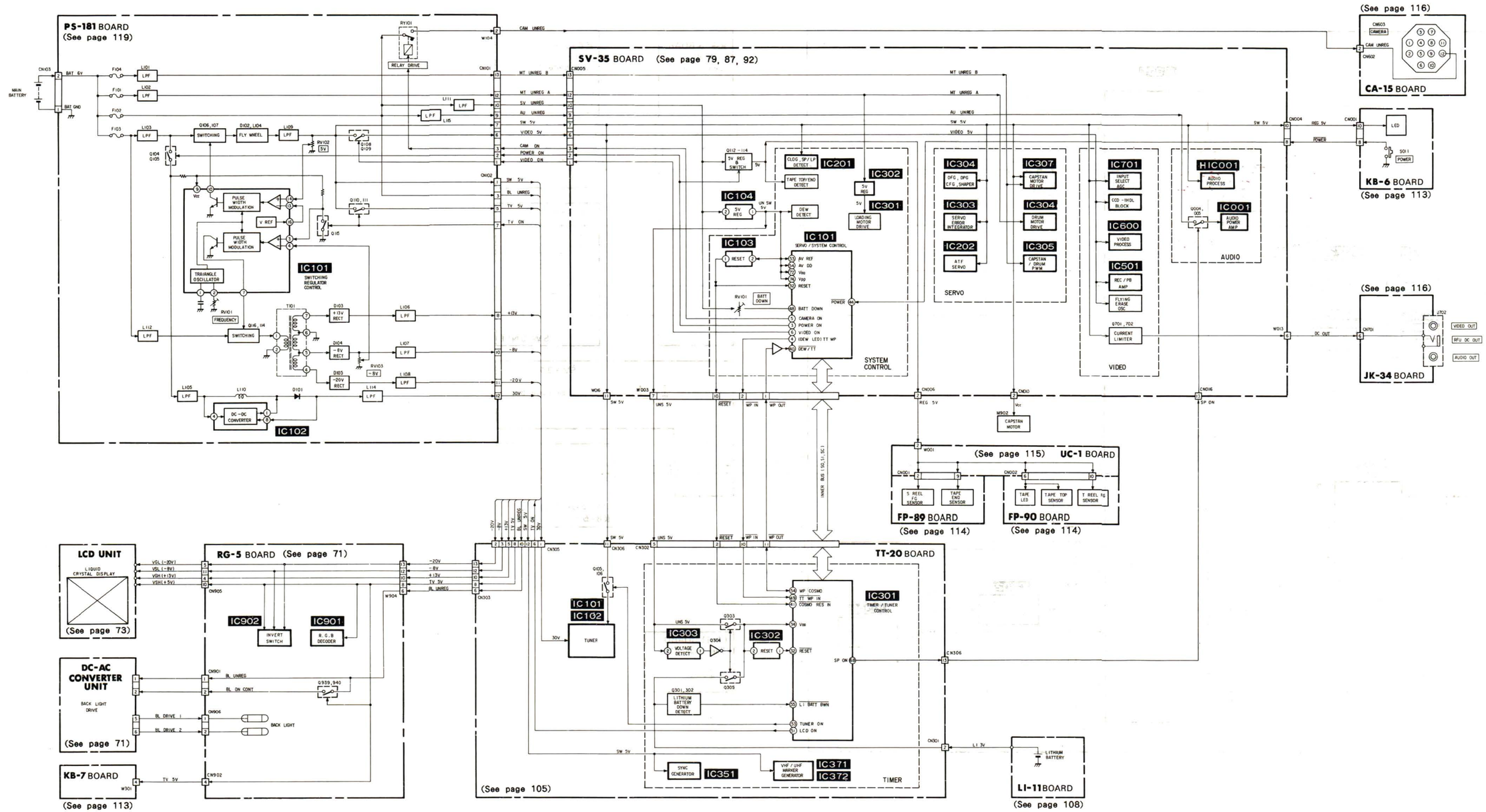
3-12. AUDIO BLOCK DIAGRAM



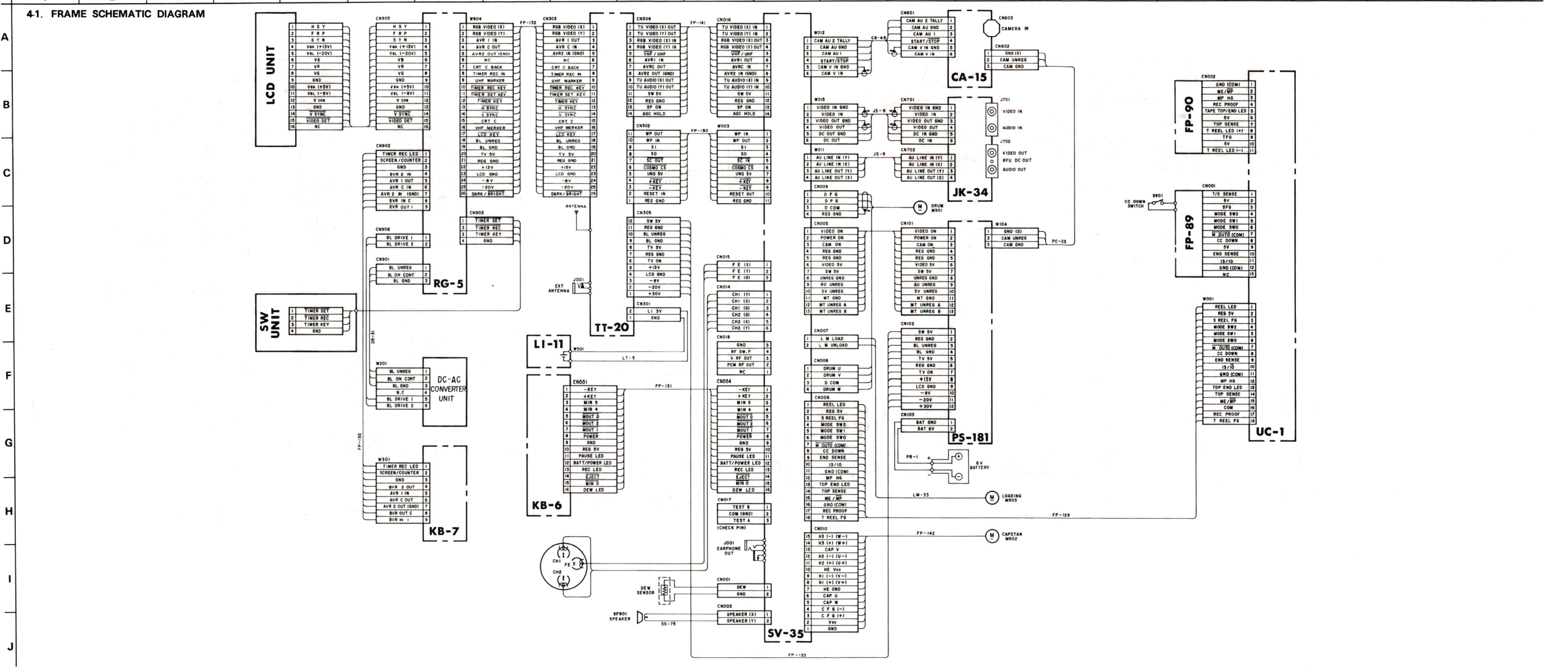
3-13. TIMER BLOCK DIAGRAM



3-14. POWER BLOCK DIAGRAM



4-1. FRAME SCHEMATIC DIAGRAM



4-2. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

RG-5 (LCD TV) PRINTED WIRING BOARD

– Ref. No. RG-5 BOARD : 1000 series –

RG-5 BOARD

CN901 A-10
CN902 G-11
CN903 G-1
CN905 G-7
CN906 D-9

CV901 G-1
CV902 G-1

D901 C-22
D902 D-3
D903 G-17

IC901 F-21
IC902 B-20

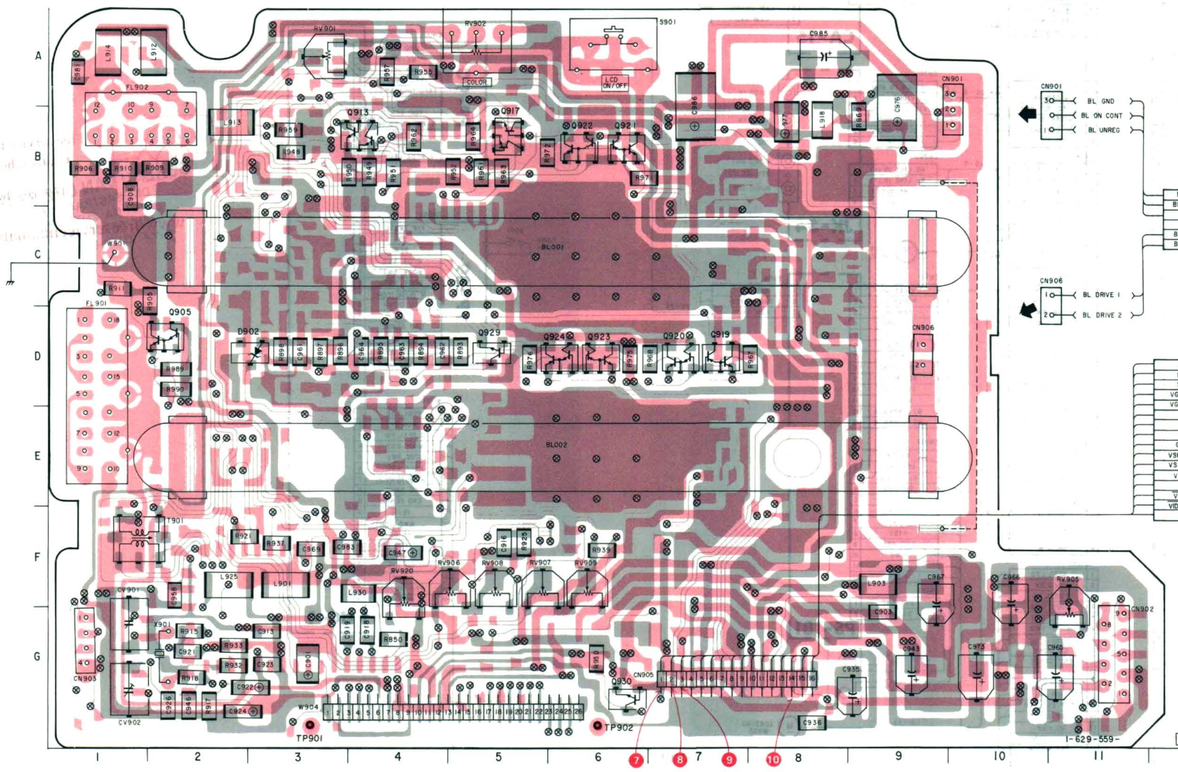
Q901 D-20
Q902 F-20
Q903 B-22
Q904 B-22
Q905 D-2
Q906 F-23
Q907 E-20
Q908 E-20
Q909 E-20
Q910 C-20
Q911 E-17
Q912 C-20
Q913 B-4
Q914 A-21
Q915 A-21
Q916 A-22
Q917 B-5
Q918 A-19
Q919 D-7
Q920 D-7
Q921 B-6
Q922 B-6
Q923 D-6
Q924 D-6
Q925 C-16
Q926 D-16
Q927 B-17
Q928 D-21
Q929 D-5
Q931 D-20
Q936 D-21
Q938 C-22
Q939 B-16
Q940 B-16

RV901 A-3
RV902 A-5
RV905 F-11
RV906 F-5
RV907 F-5
RV908 F-5
RV909 F-6
RV912 C-17
RV920 F-4

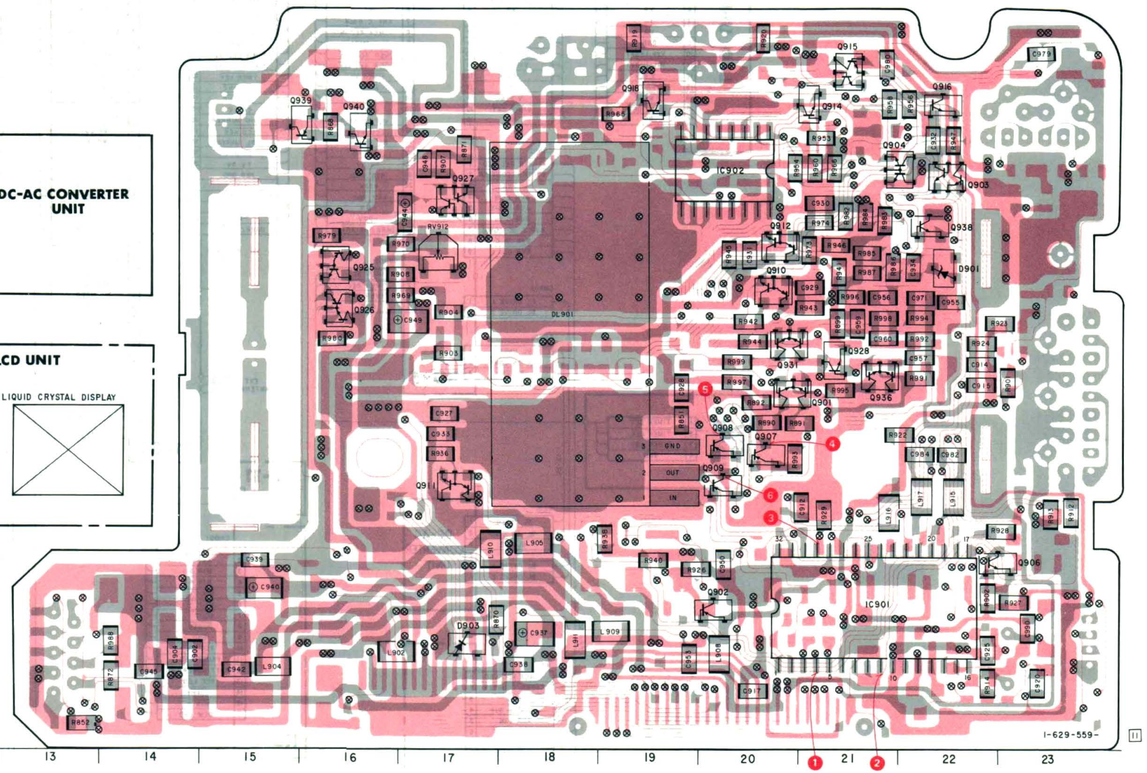
TP901 G-3
TP902 G-6

W901 C-1
W904 G-4

RG-5 BOARD (COMPONENT SIDE)

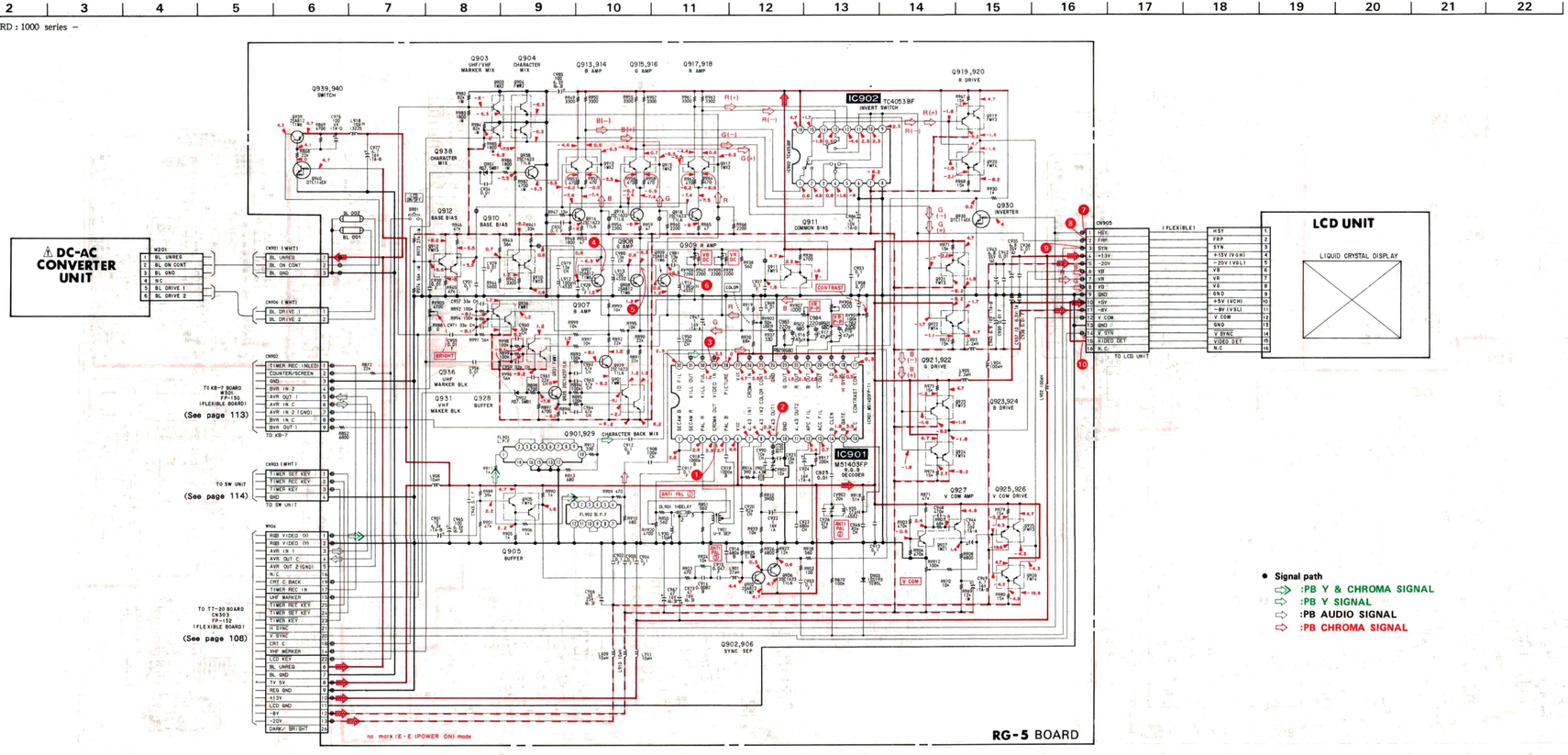


RG-5 BOARD (CONDUCTOR SIDE)



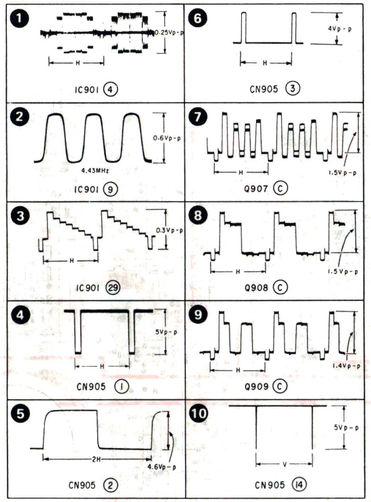
RG-5 (LCD TV) SCHEMATIC DIAGRAM

– Ref. No. RG-5 BOARD : 1000 series –



- **Signal path**
  - :PB Y & CHROMA SIGNAL
  - :PB Y SIGNAL
  - :PB AUDIO SIGNAL
  - :PB CHROMA SIGNAL

RG-5 BOARD



THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS.
(In addition to this, the necessary note is printed in each block.)

Note (Schematic Diagram)

- Caution to be exercised when replacing chip components
  Do not reuse the removed components but use new components.
  Caution should be taken as the negative side of the tantalum capacitor is weak toward heat.
- All capacitors which resistance pressure 50V or less are not indicated except for chemicals and tantalums. The unit is all μF (p is pF).
- All resistors are in ohms, 1/10W unless otherwise noted.
  kΩ : 1000Ω, MΩ : 1000kΩ.
- All variable and semi-fixed resistors have characteristics curve B, unless otherwise noted.
- : panel designation.
- : adjustment designation.
- : B+ line.
- : B– line.
- The voltage value is a reference value between the grounding when the color bar signal is received from a color bar generator.
- All voltage are dc measured with a VOM (10MΩ)

Note:	Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

When indicating parts by reference number, please include the board name.

Note (Printed Wiring Board)

- ○— : indicates a lead wire mounted on the component side.
- —● : indicates a lead wire mounted on the printed side.
- ⊗ : Through hole.
- : Pattern from the side which enables seeing.
- : Pattern of the rear side.

Note

Conductor side: Parts on the conductor side being seen from the conductor are stated.
Component side: Parts on the component side being seen from the component are stated.

VIDEO, AUDIO VIDEO, AUDIO

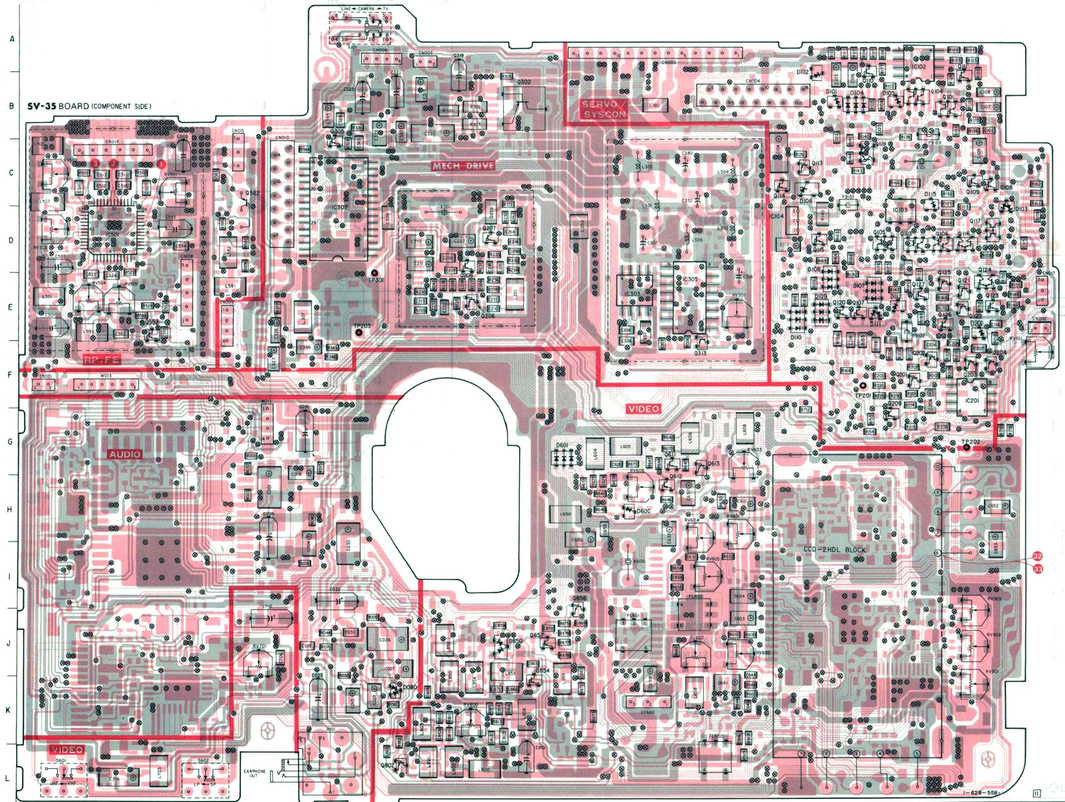
SV-35 (VIDEO/AUDIO) PRINTED WIRING BOARD

– Ref. No. SV-35 BOARD : 2000 series –

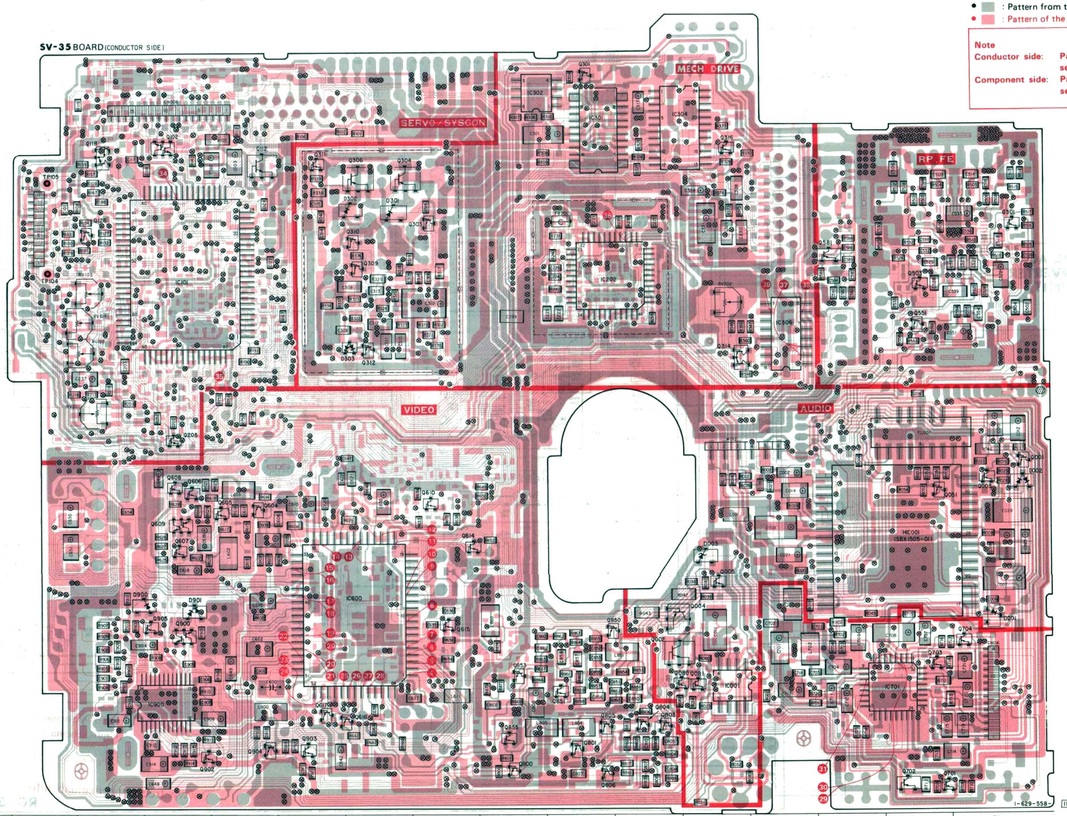
SV-35 BOARD

CN001	F-1	Q125	E-14	TP104	D-17
CN002	E-16	Q126	E-14	TP105	C-17
CN004	B-11	Q127	E-14	TP201	F-13
CN005	A-10	Q128	D-18	TP202	G-15
CN006	B-19	Q201	F-14	TP203	E-6
CN007	A-7	Q202	F-14	TP301	E-6
CN008	A-6	Q203	F-15		
CN009	E-4	Q204	F-15	W003	C-17
CN010	C-4	Q205	G-19	W011	G-4
CN014	C-2	Q206	E-7	W012	G-27
CN015	C-4	Q207	D-8	W013	F-2
CN016	J-31	Q208	D-7		
CN017	E-16	Q209	G-14		
CN018	E-3	Q301	A-25		
		Q302	B-6		
D001	J-31	Q303	D-23		
D002	G-31	Q304	C-22		
D003	J-27	Q305	C-5		
D080	K-6	Q306	C-22		
D101	B-13	Q308	D-22		
D102	A-12	Q310	D-22		
D103	D-15	Q311	C-21		
D104	B-13	Q312	E-22		
D105	G-14	Q313	F-11		
D106	C-12	Q314	F-27		
D107	E-13	Q316	B-27		
D108	E-13	Q501	D-31		
D109	E-12	Q503	E-30		
D110	E-12	Q551	F-30		
D111	E-13	Q552	E-3		
D112	E-14	Q581	D-29		
D115	C-14	Q582	C-4		
D201	E-15	Q604	H-20		
D301	C-22	Q605	H-20		
D302	C-22	Q606	H-19		
D303	E-22	Q607	H-19		
D600	H-10	Q608	H-19		
D601	G-9	Q609	H-19		
D850	J-8	Q610	H-23		
D860	I-19	Q611	G-10		
D901	I-19	Q612	H-10		
		Q613	H-11		
HIC001	H-30	Q614	H-23		
		Q615	J-23		
IC001	K-27	Q616	K-22		
IC101	D-13	Q617	K-21		
IC102	A-14	Q701	L-30		
IC103	D-14	Q702	L-30		
IC104	D-12	Q703	J-30		
IC201	F-15	Q704	J-31		
IC202	D-25	Q800	L-24		
IC301	B-25	Q801	K-25		
IC302	B-24	Q802	L-6		
IC303	E-10	Q803	K-26		
IC304	B-27	Q804	K-26		
IC305	E-11	Q805	K-25		
IC306	E-28	Q806	L-25		
IC307	C-5	Q850	L-25		
IC501	D-2	Q851	K-25		
IC600	I-22	Q853	J-24		
IC701	K-30	Q854	K-8		
IC900	K-19	Q855	K-24		
		Q856	I-9		
Q001	G-31	Q857	J-8		
Q002	J-26	Q900	L-19		
Q003	G-31	Q902	L-19		
Q004	I-27	Q903	K-21		
Q005	I-27	Q904	K-20		
Q051	H-30	Q905	L-19		
Q080	J-27				
Q081	J-27	RV101	F-16		
Q101	B-14	RV102	F-18		
Q102	B-19	RV103	E-18		
Q103	B-14	RV104	E-18		
Q104	B-14	RV201	F-18		
Q105	D-13	RV301	E-31		
Q106	D-14	RV302	E-27		
Q107	E-13	RV501	C-3		
Q108	C-15	RV502	C-1		
Q109	C-15	RV503	D-1		
Q110	A-13	RV504	E-2		
Q111	E-13	RV505	E-2		
Q112	C-20	RV600	J-11		
Q113	C-12	RV601	H-11		
Q114	C-12	RV602	J-11		
Q115	D-12	RV603	G-11		
Q116	D-15	RV604	H-11		
Q117	C-15	RV605	I-11		
Q118	C-18	RV606	H-10		
Q119	C-13	RV701	J-4		
Q120	E-13	RV800	K-7		
Q121	E-15	RV901	K-15		
Q122	E-13	RV902	J-15		
Q123	E-15	RV903	I-15		
Q124	E-15				

SV-35 BOARD (COMPONENT SIDE)



SV-35 BOARD (CONDUCTOR SIDE)



Note (Printed Wiring Board)

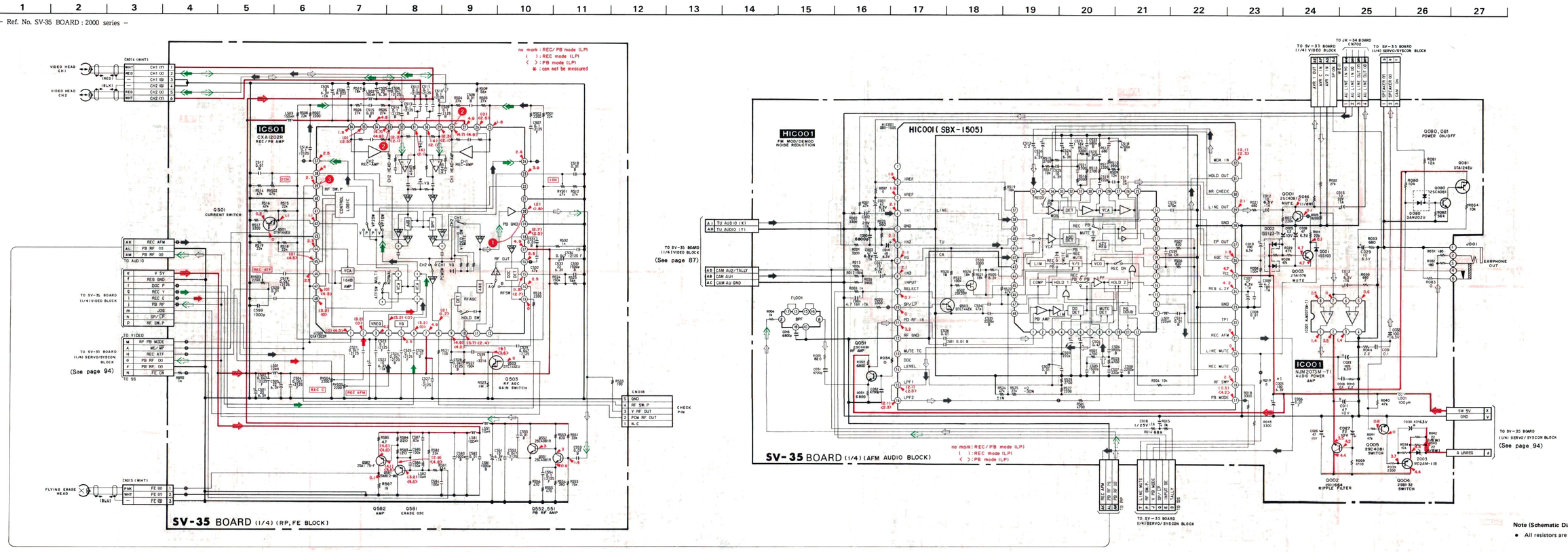
● : Pattern from the side which enables seeing.

● : Pattern of the rear side.

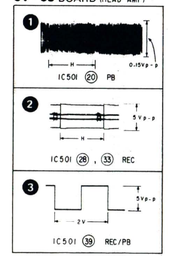
Note	
Conductor side:	Parts on the conductor side being seen from the conductor are stated.
Component side:	Parts on the component side being seen from the component are stated.

SV-35 (VIDEO/AUDIO) SCHEMATIC DIAGRAM

– Ref. No. SV-35 BOARD : 2000 series –



SV-35 BOARD (HEAD AMP)



- Signal path
  - :REC Y SIGNAL
  - :REC Y & CHROMA SIGNAL
  - :PB Y & CHROMA SIGNAL
  - :REC CHROMA SIGNAL
  - :REC AUDIO SIGNAL
  - :PB AUDIO SIGNAL

Note (Schematic Diagram)

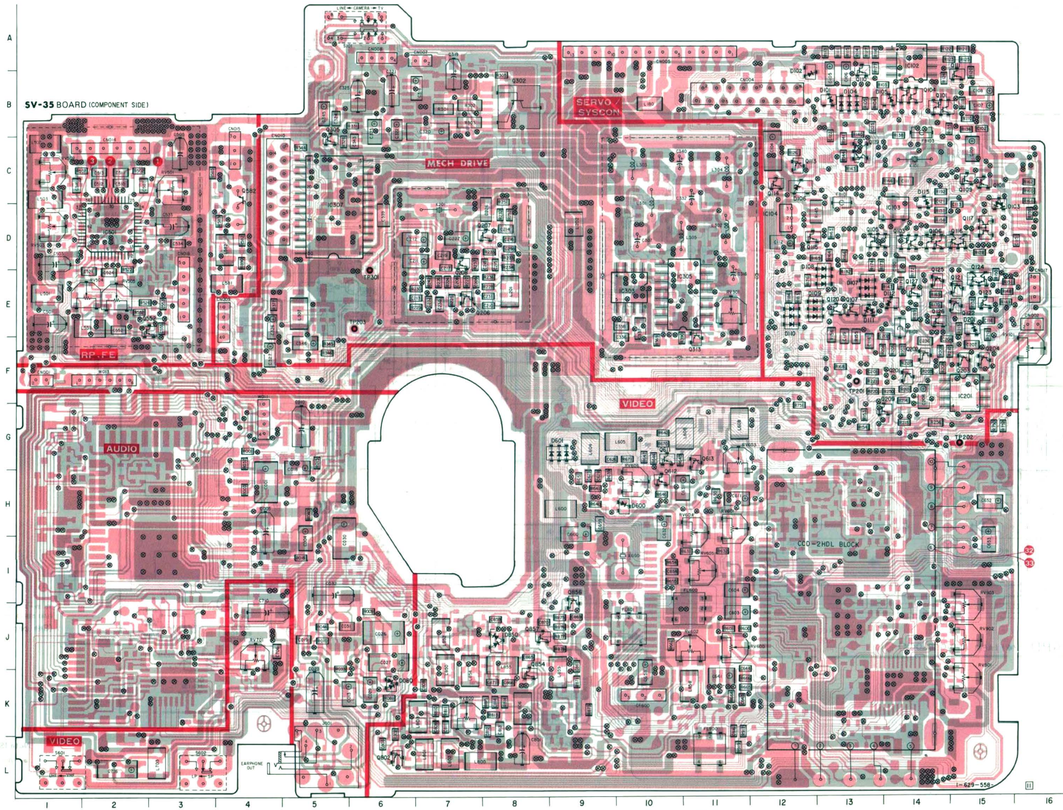
- All resistors are in ohms, 1/16W unless otherwise noted.

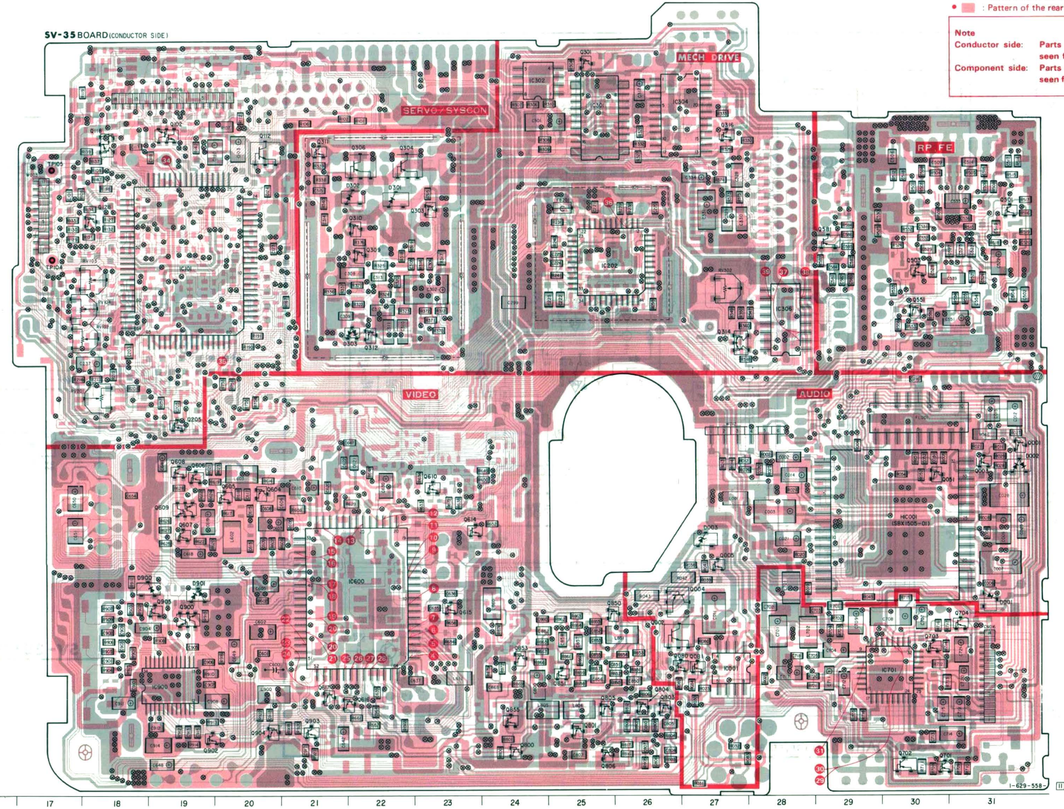
SV-35 (VIDEO) PRINTED WIRING BOARD

– Ref. No. SV-34 BOARD : 2000 series –

SV-35 BOARD

CN001	F-1	Q125	E-14	TP104	D-17
CN002	E-16	Q126	E-14	TP105	C-17
CN004	B-11	Q127	E-14	TP201	F-13
CN005	A-10	Q128	D-18	TP202	G-15
CN006	B-19	Q201	F-14	TP203	E-6
CN007	A-7	Q202	F-14	TP301	E-6
CN008	E-6	Q203	F-15		
CN009	E-4	Q204	F-15	W003	C-17
CN010	C-4	Q205	G-19	W011	G-4
CN014	C-2	Q206	E-7	W012	G-27
CN015	C-4	Q207	D-8	W013	F-2
CN016	J-31	Q208	D-7		
CN017	E-16	Q209	G-14		
CN018	E-3	Q301	A-25		
		Q302	B-8		
D601	J-31	Q303	D-23		
D602	G-31	Q304	C-22		
D603	J-27	Q305	C-5		
D680	K-6	Q306	C-22		
D101	B-13	Q309	D-22		
D102	A-12	Q310	D-22		
D103	D-15	Q311	C-21		
D104	B-13	Q312	E-22		
D105	B-14	Q313	F-11		
D106	C-12	Q314	F-27		
D107	E-13	Q316	B-27		
D108	E-13	Q501	D-31		
D109	E-12	Q503	E-30		
D110	E-12	Q551	E-30		
D111	E-13	Q552	E-3		
D112	E-14	Q581	D-29		
D115	C-14	Q582	C-4		
D201	E-15	Q604	H-20		
D301	C-22	Q605	H-20		
D302	C-22	Q606	H-19		
D303	E-22	Q607	H-19		
D500	H-10	Q608	H-19		
D601	G-9	Q609	H-19		
D350	J-8	Q610	H-23		
D300	I-19	Q611	G-10		
D301	I-19	Q612	H-10		
		Q613	G-11		
H C001	H-30	Q614	H-23		
		Q615	J-23		
IC001	K-27	Q616	K-22		
IC101	D-19	Q617	K-21		
IC102	A-14	Q701	L-30		
IC103	D-14	Q702	L-30		
IC104	D-12	Q703	J-30		
IC201	F-15	Q704	J-31		
IC202	D-25	Q800	L-24		
IC301	B-25	Q801	K-25		
IC302	B-24	Q802	L-6		
IC303	E-10	Q803	K-26		
IC304	B-27	Q804	K-26		
IC305	E-11	Q805	K-25		
IC306	E-28	Q806	L-25		
IC307	C-5	Q850	J-25		
IC501	D-2	Q851	K-25		
IC600	I-22	Q853	J-24		
IC701	K-30	Q854	K-8		
IC900	K-19	Q855	K-24		
		Q856	I-9		
Q001	G-31	Q857	J-8		
Q002	J-26	Q900	J-19		
Q003	G-31	Q902	L-19		
Q004	I-27	Q903	K-21		
Q005	I-27	Q904	K-20		
Q051	H-30	Q905	J-19		
Q080	J-27				
Q081	J-27	RV101	F-16		
Q101	B-14	RV102	D-18		
Q102	B-19	RV103	E-18		
Q103	D-14	RV104	E-18		
Q104	B-14	RV201	F-18		
Q105	D-13	RV301	E-27		
Q106	D-14	RV302	E-27		
Q107	E-13	RV501	C-3		
Q108	C-15	RV502	C-1		
Q109	C-15	RV503	D-1		
Q110	A-13	RV504	E-2		
Q111	E-13	RV505	E-2		
Q112	C-20	RV600	J-11		
Q113	C-12	RV601	H-11		
Q114	C-12	RV602	J-11		
Q115	D-12	RV603	G-11		
Q116	D-15	RV604	H-11		
Q117	D-15	RV605	I-11		
Q118	C-18	RV606	H-10		
Q119	C-13	RV701	J-4		
Q120	E-13	RV800	K-7		
Q121	E-15	RV801	K-15		
Q122	E-15	RV902	J-15		
Q123	E-15	RV903	I-15		
Q124	E-15				



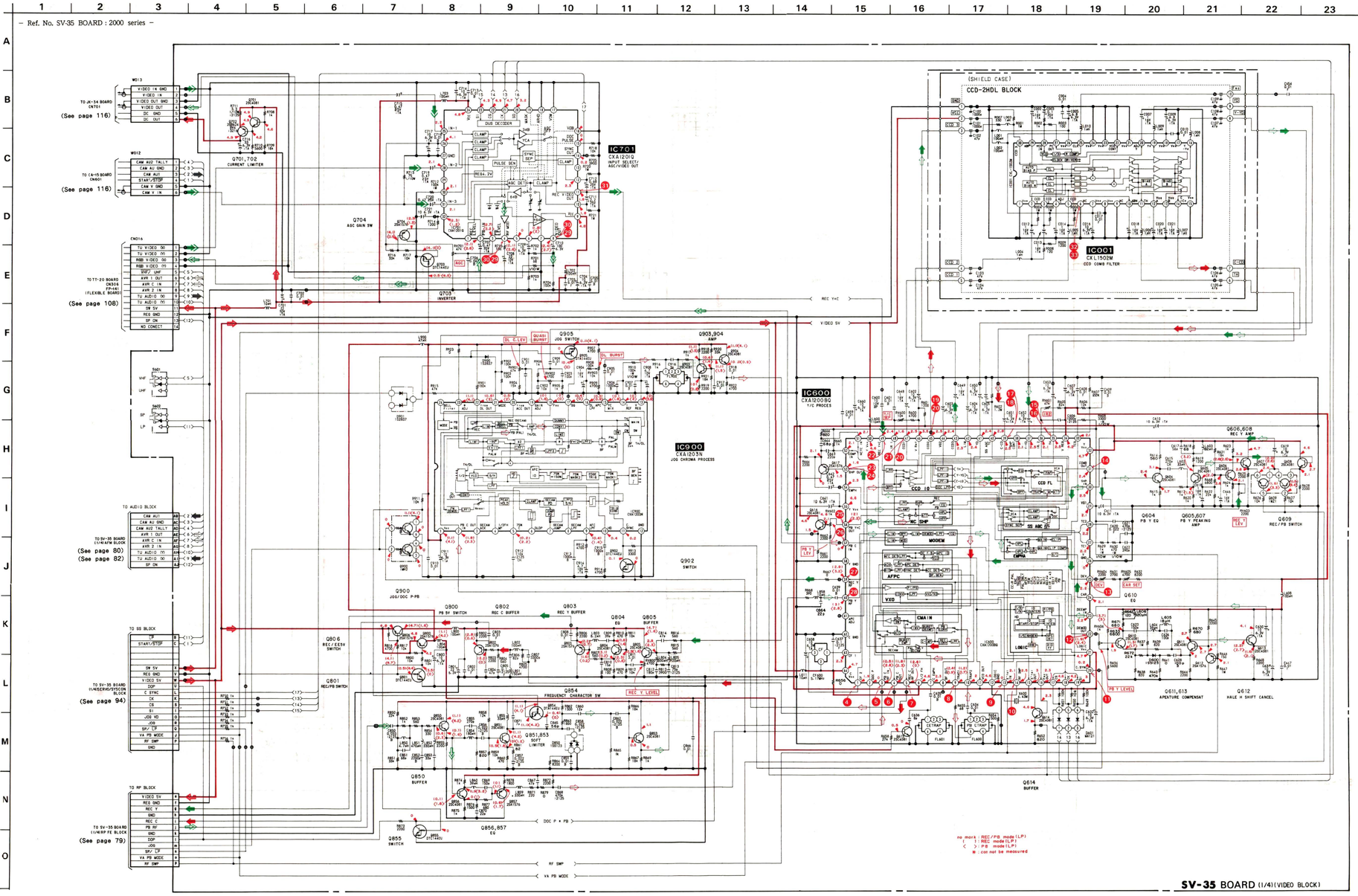


Note (Printed Wiring Board)
- : Pattern from the side which enables seeing.
- : Pattern of the rear side.

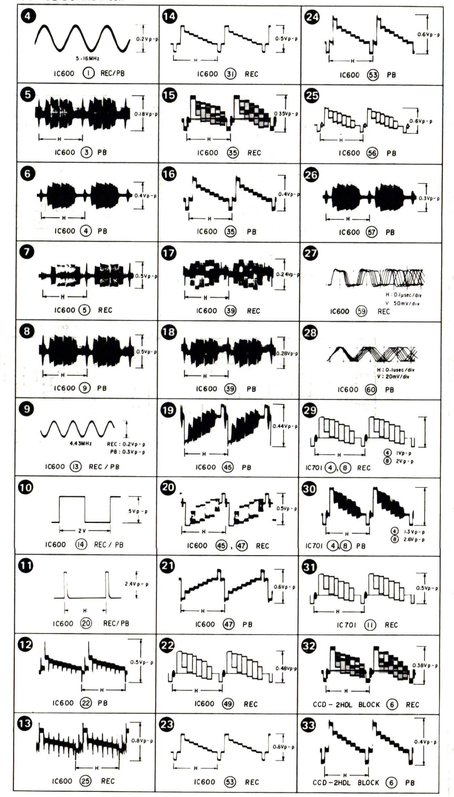
Note
Conductor side: Parts on the conductor side being seen from the conductor are stated.
Component side: Parts on the component side being seen from the component are stated.

SV-35 (VIDEO) SCHEMATIC DIAGRAM

– Ref. No. SV-35 BOARD : 2000 series –



SV-35 BOARD (VIDEO)



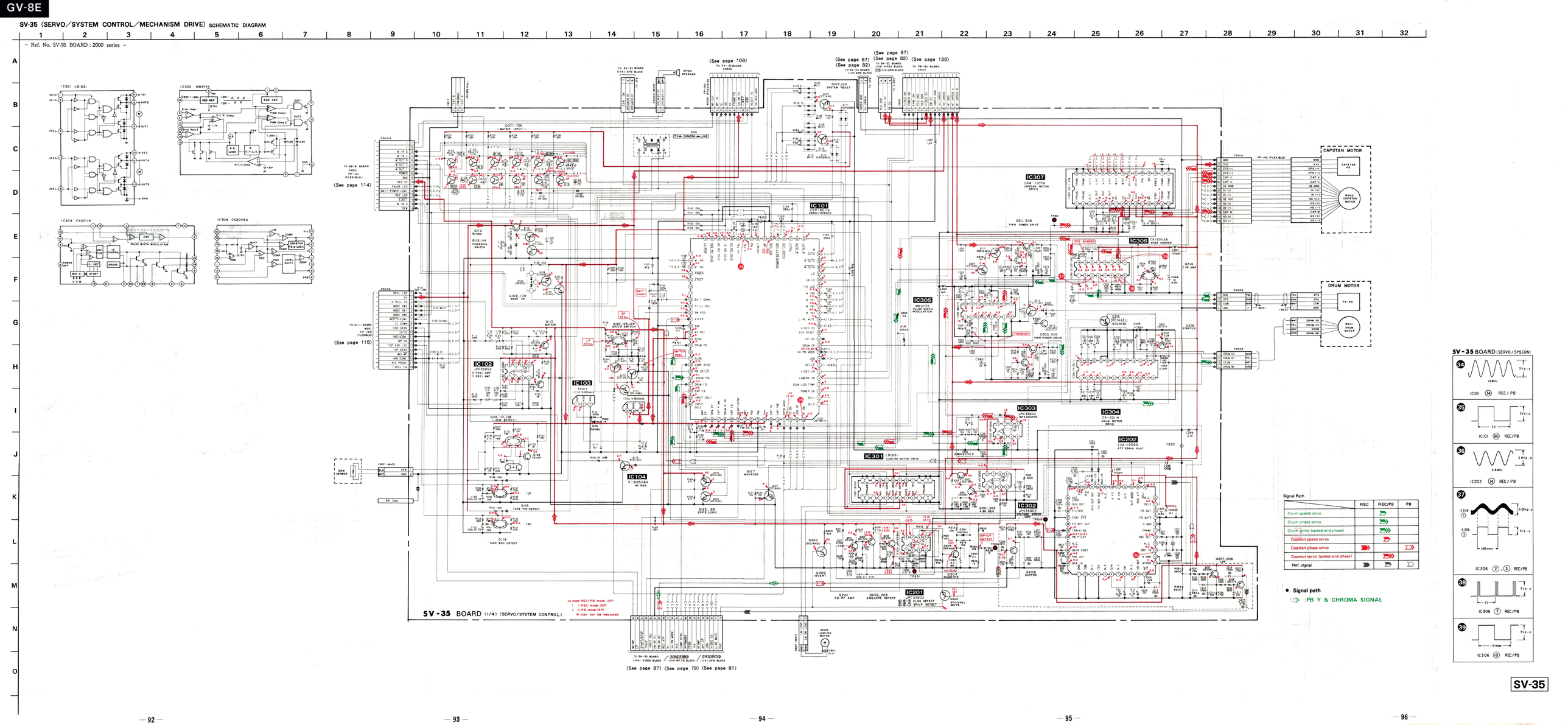
- **Signal path**
  - :REC Y SIGNAL
  - :PB Y SIGNAL
  - :REC Y & CHROMA SIGNAL
  - :PB Y & CHROMA SIGNAL
  - :REC CHROMA SIGNAL
  - :PB CHROMA SIGNAL
  - :REC AUDIO SIGNAL
  - :PB AUDIO SIGNAL

Note (Schematic Diagram)

- All resistors are in ohms, 1/16W unless otherwise noted.

SV-35 (SERVO/SYSTEM CONTROL/MECHANISM DRIVE) SCHEMATIC DIAGRAM

– Ref. No. SV-35 BOARD : 2000 series –


IC301 LB1631
IC305 MB3773
IC304 CXA2014
IC306 CXA2015A
SV-35 BOARD (1/4) (SERVO/SYSTEM CONTROL)
(See page 108)
(See page 87) (See page 82) (See page 120)
(See page 114)
(See page 115)
(See page 87) (See page 79) (See page 81)
IC101 SERVO/SYSCON
IC102 RESET
IC104 5-B3504S
IC201 MB3786
IC202 CXA-1204Q
IC301 LB1631
IC302 μPC1892
IC303 μPC5802
IC304 CX-2014
IC305 MB3773
IC306 CXA-2015A
IC307 CXA-1127M
Q101-106 -MATRIX INPUT-
Q107,120 SYSTEM RESET
Q108,109 WAKE UP
Q110 BUFFER
Q111 POWER ON/OFF SWITCH
Q112 SHARE
Q113,114 POWER ON SWITCH
Q116,117,128 -DEW DETECT-
Q118 TAPE TOP DETECT
Q119 TAPE END DETECT
Q125,126 STATE LOGIC
Q127 INVERTER
Q201 PB RF AMP
Q202,203 ENVELOPE DETECT
Q205 INVERT
Q206 BUFFER
Q207,208 LPF
Q209 DFG AMP
Q210 FG AMP
Q211 DRUM MOTOR MUTE
Q301,302 5.8V REG
Q303,304 PWM POWER DRIVE
Q305 CAPSTAN
Q306 PWM POWER DRIVE
Q307 CAPSTAN MOTOR DRIVE
Q308 INVERTER
Q309 CAPSTAN MOTOR MUTE
CAPSTAN MOTOR
DRUM MOTOR
LOADING MOTOR
SPEAKER
SYSTEM CONTROL
SERVO/SYSCON
MECHANISM DRIVE
PULSE WIDTH MODULATION
LOADING MOTOR DRIVE
CAPSTAN MOTOR DRIVE
DRUM MOTOR DRIVE
WAVE SHAPER
ATF SERVO PILOT
VOLTAGE ERROR
DRUM SERVO
CAPSTAN SERVO
SYSCON
DEW SENSOR
POWER ON/OFF
REEL AMP
REEL SENSOR
TAPE END DETECT
TAPE TOP DETECT
CAPSTAN FG
DRUM FG
DRUM PG
CAPSTAN MOTOR
DRUM MOTOR
FF-142 (FLEXIBLE)
FF-143 (FLEXIBLE)
FF-144 (FLEXIBLE)
FF-145 (FLEXIBLE)
FF-146 (FLEXIBLE)
FF-147 (FLEXIBLE)
FF-148 (FLEXIBLE)
FF-149 (FLEXIBLE)
FF-150 (FLEXIBLE)
FF-151 (FLEXIBLE)
FF-152 (FLEXIBLE)
FF-153 (FLEXIBLE)
FF-154 (FLEXIBLE)
FF-155 (FLEXIBLE)
FF-156 (FLEXIBLE)
FF-157 (FLEXIBLE)
FF-158 (FLEXIBLE)
FF-159 (FLEXIBLE)
FF-160 (FLEXIBLE)
FF-161 (FLEXIBLE)

SERVO, SYSTEM CONTROL SERVO, SYSTEM CONTROL

SV-35 (SERVO/SYSTEM CONTROL/MECHANISM DRIVE) PRINTED WIRING BOARD

– Ref. No. SV-35 BOARD : 2000 series –

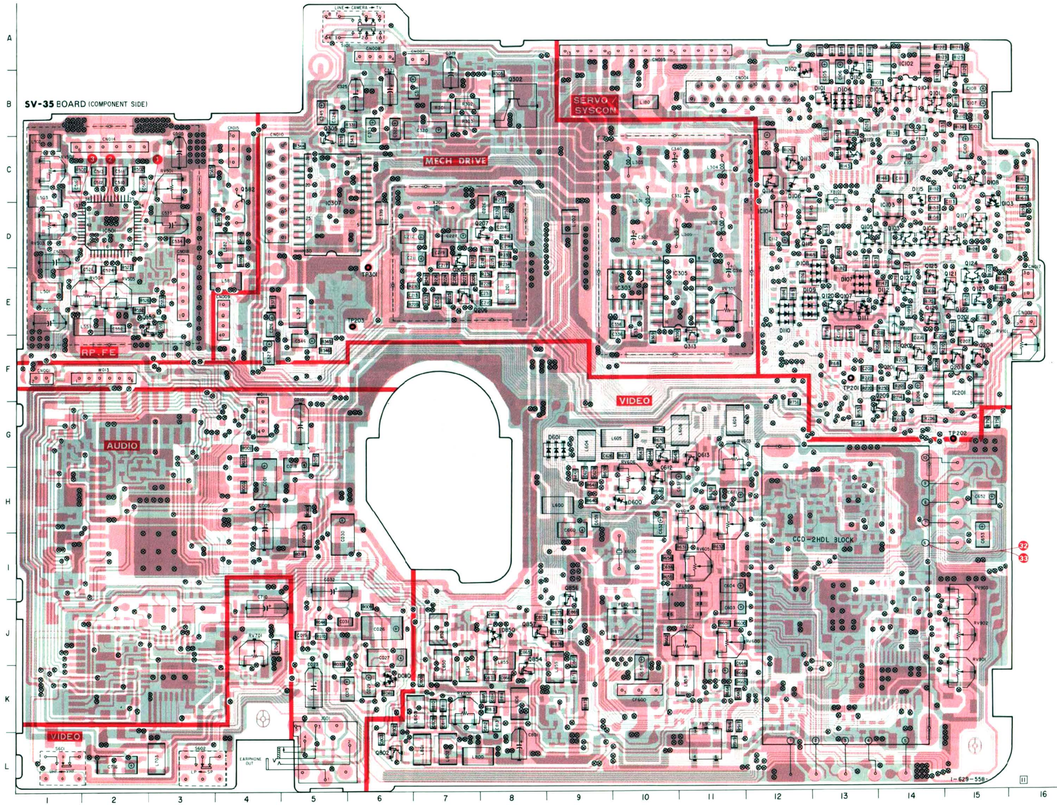
SV-35 EOARD

CN001	F-1	Q125	E-14	TP104	D-17
CN002	E-16	Q126	E-14	TP105	C-17
CN004	B-11	Q127	E-14	TP201	F-13
CN005	A-10	Q128	D-18	TP202	O-15
CN006	B-19	Q201	F-14	TP203	E-6
CN007	A-7	Q202	F-14	TP301	E-6
CN008	A-6	Q203	F-15		
CN009	E-4	Q204	F-15	W003	C-17
CN010	C-4	Q205	G-19	W011	G-4
CN014	C-2	Q206	E-7	W012	G-27
CN015	C-4	Q207	D-8	W013	F-2
CN016	J-31	Q208	E-7		
CN017	E-16	Q209	G-14		
CN018	E-3	Q301	A-29		
		Q302	B-8		
D001	J-31	Q303	D-23		
D002	G-31	Q304	C-22		
D003	J-27	Q305	C-5		
D080	K-6	Q306	C-22		
D101	B-13	Q309	D-22		
D102	A-12	Q310	D-22		
D103	B-13	Q311	C-22		
D104	B-13	Q312	E-22		
D105	B-14	Q313	F-21		
D106	C-12	Q314	F-21		
D107	E-13	Q316	B-21		
D108	E-13	Q501	D-3		
D109	E-12	Q503	E-30		
D110	E-12	Q551	E-30		
D111	E-13	Q552	E-3		
D112	E-14	Q581	D-29		
D115	C-14	Q582	C-4		
D201	E-15	Q604	H-20		
D301	C-22	Q605	H-20		
D302	C-22	Q606	H-19		
D303	E-22	Q607	H-19		
D802	H-10	Q608	H-19		
D901	G-9	Q609	H-19		
D950	J-8	Q610	H-23		
D980	I-19	Q611	G-10		
D981	I-19	Q612	H-10		
		Q613	G-11		
HIC001	H-30	Q614	H-23		
		Q615	H-23		
IC001	K-27	Q616	K-22		
IC101	D-19	Q617	K-21		
IC102	A-14	Q701	L-30		
IC103	D-14	Q702	L-30		
IC104	D-12	Q703	J-30		
IC201	F-15	Q704	J-31		
IC202	D-25	Q800	L-24		
IC301	B-25	Q801	K-25		
IC302	B-24	Q802	L-6		
IC303	E-10	Q803	K-26		
IC304	B-27	Q804	K-26		
IC305	E-11	Q805	K-25		
IC306	E-28	Q806	L-25		
IC307	C-5	Q850	J-25		
IC501	D-2	Q851	K-25		
IC600	I-22	Q853	J-24		
IC701	K-30	Q854	K-8		
IC900	K-19	Q855	K-24		
		Q856	I-9		
Q001	G-31	Q857	J-8		
Q002	J-26	Q900	J-19		
Q003	G-31	Q902	L-19		
Q004	I-27	Q903	K-21		
Q005	I-27	Q904	K-20		
Q051	H-30	Q905	J-19		
Q080	J-27				
Q081	J-27	RV101	F-16		
Q101	B-14	RV102	F-18		
Q102	B-19	RV103	E-18		
Q103	D-14	RV104	E-18		
Q104	B-14	RV201	F-18		
Q105	D-13	RV301	E-11		
Q106	D-14	RV302	E-27		
Q107	E-13	RV501	C-3		
Q108	C-15	RV502	C-1		
Q109	C-15	RV503	D-1		
Q110	A-13	RV504	E-2		
Q111	E-13	RV505	E-2		
Q112	C-20	RV600	J-11		
Q113	D-12	RV601	H-11		
Q114	D-12	RV602	J-11		
Q115	D-12	RV603	G-11		
Q116	D-15	RV604	H-11		
Q117	D-15	RV605	I-11		
Q118	C-14	RV606	H-10		
Q119	C-13	RV701	J-4		
Q120	E-13	RV800	K-7		
Q121	E-15	RV901	K-15		
Q122	E-15	RV902	J-15		
Q123	E-15	RV903	I-15		
Q124	E-15				

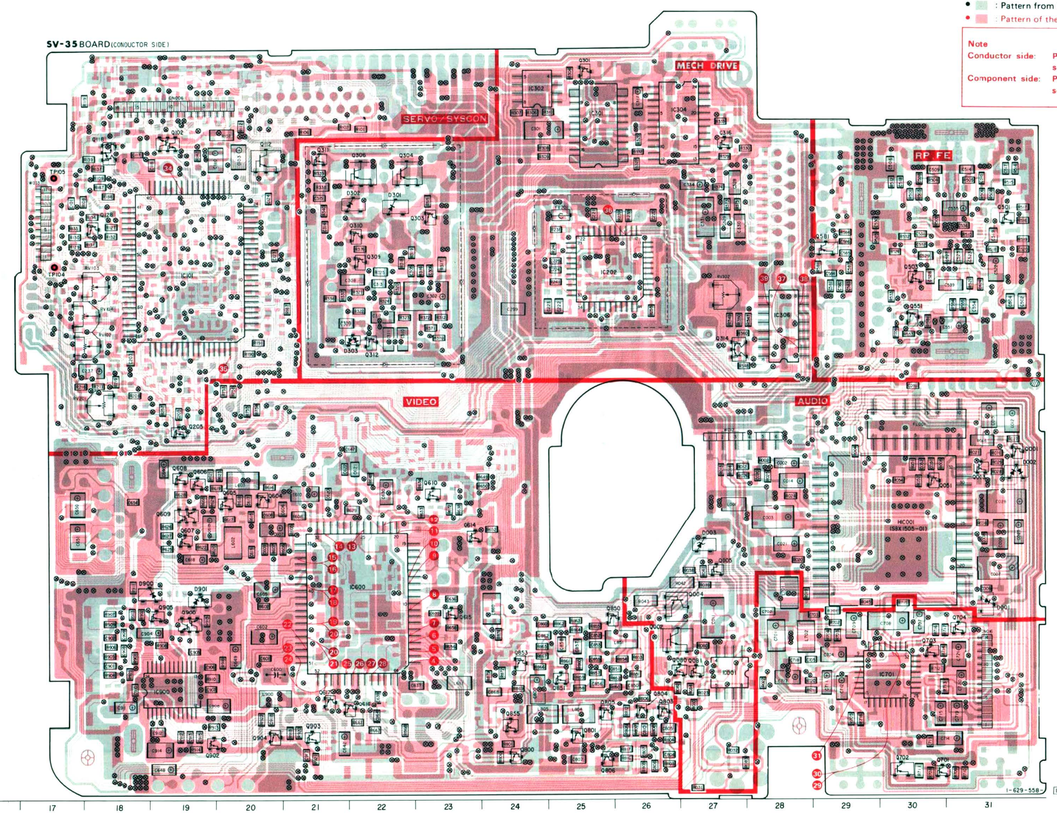
Note (Printed Wiring Board)
- : Pattern from the side which enables seeing.
- : Pattern of the rear side.

Note
Conductor side: Parts on the conductor side being seen from the conductor are stated.
Component side: Parts on the component side being seen from the component are stated.

SV-35 BOARD (COMPONENT SIDE)



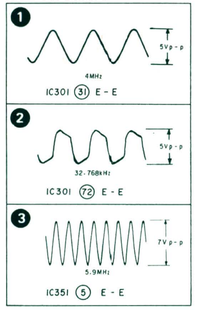
SV-35 BOARD (CONDUCTOR SIDE)



TT-20 (TUNER/TIMER), LI-11 (LITHIUM BATTERY) PRINTED WIRING BOARD

– Ref. No. TT-20 BOARD : 1000 series –

TT-20 BOARD



TT-20 BOARD

CN301 E-1
CN302 C-1
CN303 G-20
CN305 G-1
CN306 H-15

CV301 D-5
CV351 E-3

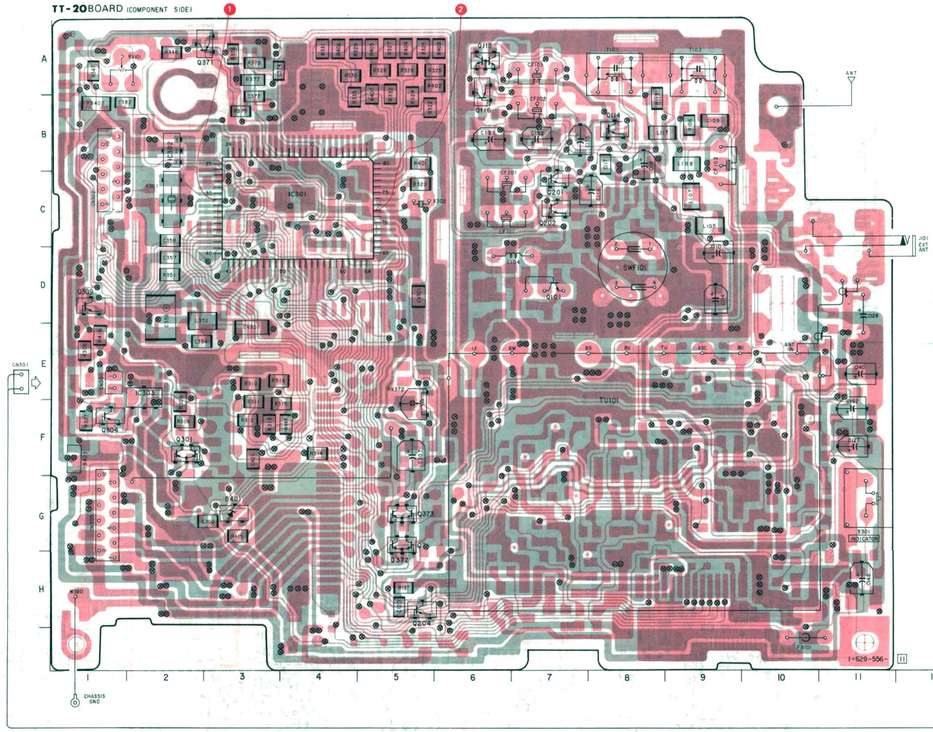
D101 B-16
D302 F-22
D310 H-16
D371 E-19
D401 G-3

IC101 F-17
IC102 G-15
IC301 G-4
IC302 B-2
IC303 E-2
IC351 D-21
IC371 D-19
IC372 A-21

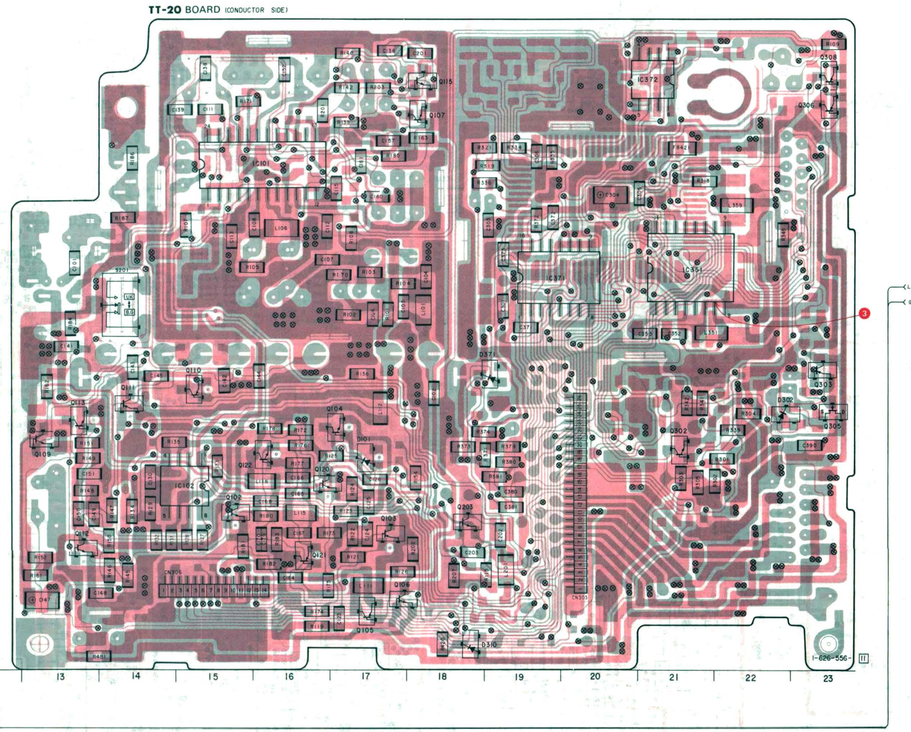
Q101 D-7
Q102 G-15
Q103 G-17
Q104 F-17
Q105 H-17
Q106 H-17
Q107 B-18
Q109 F-13
Q110 E-15
Q111 E-14
Q112 G-13
Q113 F-13
Q114 B-8
Q115 A-11
Q116 B-6
Q118 A-6
Q120 G-16
Q121 H-16
Q122 F-16
Q201 C-7
Q202 C-7
Q203 G-18
Q204 H-5
Q301 F-2
Q302 F-21
Q303 E-23
Q304 F-1
Q305 F-23
Q306 B-23
Q308 A-23
Q309 D-1
Q371 A-2
Q372 G-5
Q373 G-5

RV101 A-1
RV372 F-5

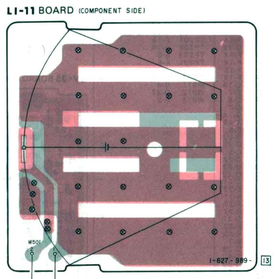
TT-20 BOARD (COMPONENT SIDE)



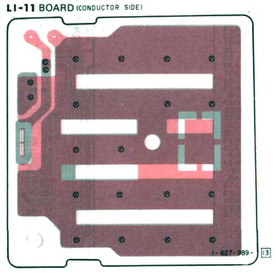
TT-20 BOARD (CONDUCTOR SIDE)



LI-11 BOARD (COMPONENT SIDE)



LI-11 BOARD (CONDUCTOR SIDE)



Note (Printed Wiring Board)

- : Pattern from the side which enables seeing.
- : Pattern of the rear side.

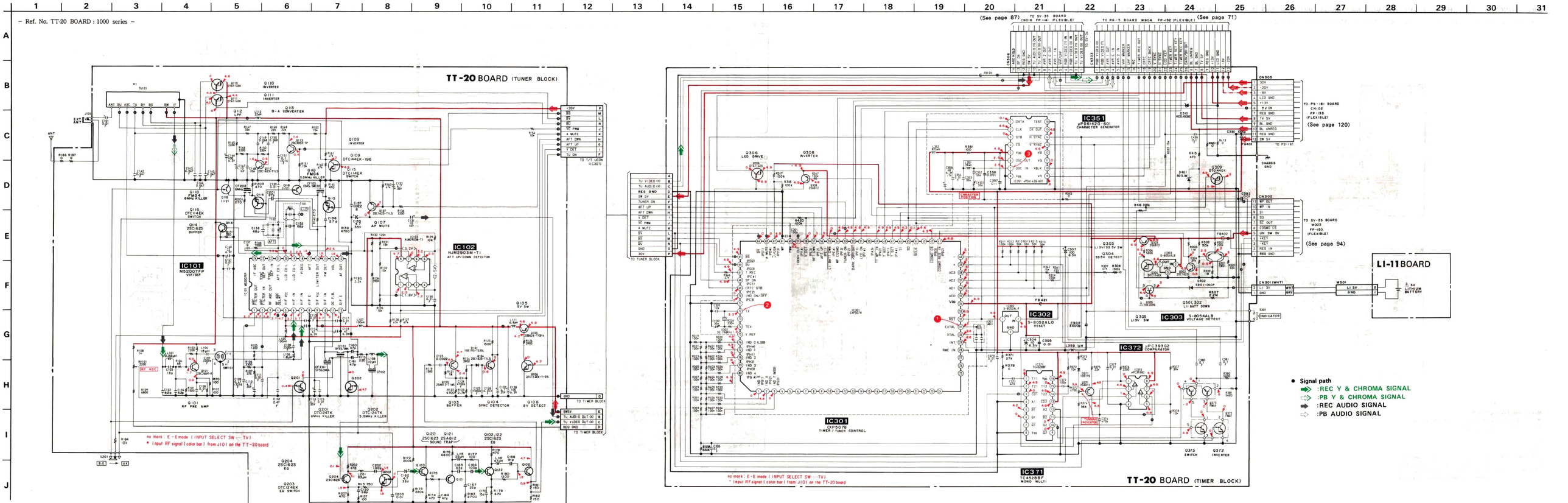
Note

Conductor side: Parts on the conductor side being seen from the conductor are stated.

Component side: Parts on the component side being seen from the component are stated.

TT-20 (TUNER/TIMER), LI-11 (LITHIUM BATTERY) SCHEMATIC DIAGRAM

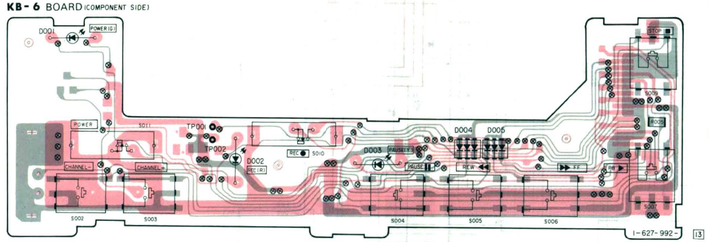
– Ref. No. TT-20 BOARD : 1000 series –



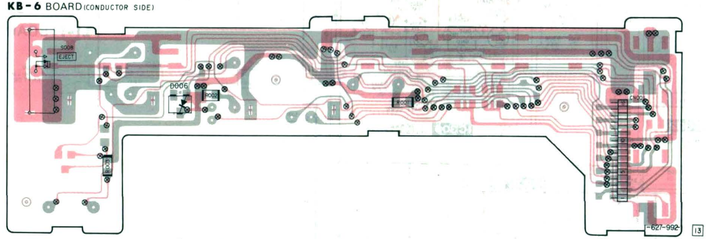
KB-6 (FUNCTION SWITCH), KB-7 (BRIGHT/VOLUME), JK-34 (VIDEO, AUDIO IN/OUT), CA-15 (CAMERA IN), UC-1 (TERMINAL), FP-89, FP-90 PRINTED WIRING BOARD

– Ref. No. UC-1 BOARD : 1000 series, KB-6, KB-7, JK-34, CA-15 BOARDS : 3000 series, FP-89 BOARD : 4000 series, FP-90 BOARD : 5000 series –

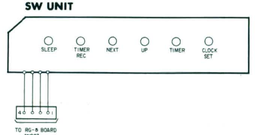
KB-6 BOARD (COMPONENT SIDE)



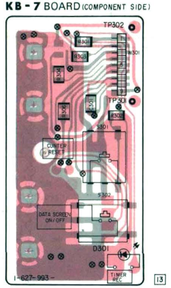
KB-6 BOARD (CONDUCTOR SIDE)



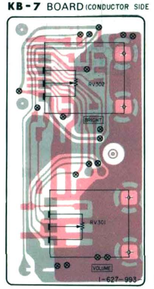
SW UNIT



KB-7 BOARD (COMPONENT SIDE)



KB-7 BOARD (CONDUCTOR SIDE)



Note (Printed Wiring Board)

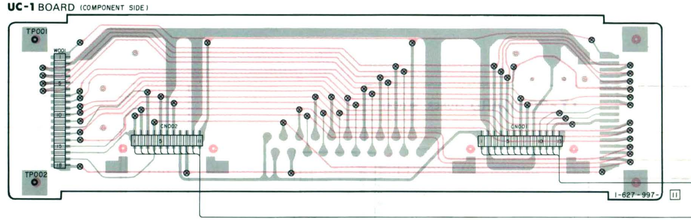
- : Pattern from the side which enables seeing.
- : Pattern of the rear side.

Note

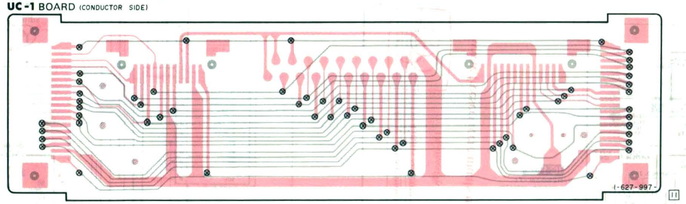
Conductor side: Parts on the conductor side being seen from the conductor are stated.

Component side: Parts on the component side being seen from the component are stated.

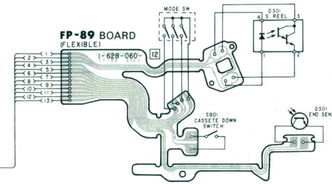
UC-1 BOARD (COMPONENT SIDE)



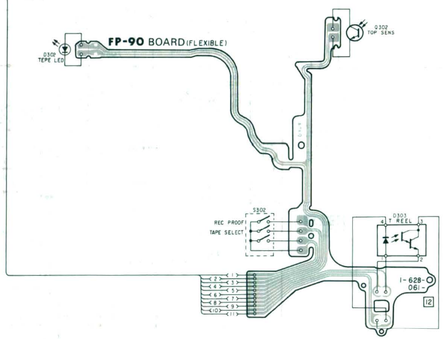
UC-1 BOARD (CONDUCTOR SIDE)



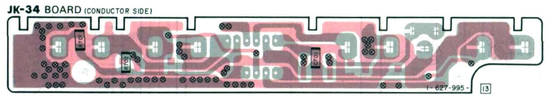
FP-89 BOARD (FLEXIBLE)



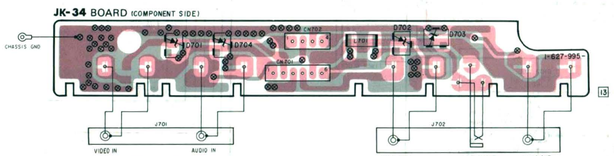
FP-90 BOARD (FLEXIBLE)



JK-34 BOARD (CONDUCTOR SIDE)

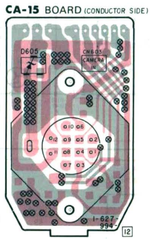


JK-34 BOARD (COMPONENT SIDE)



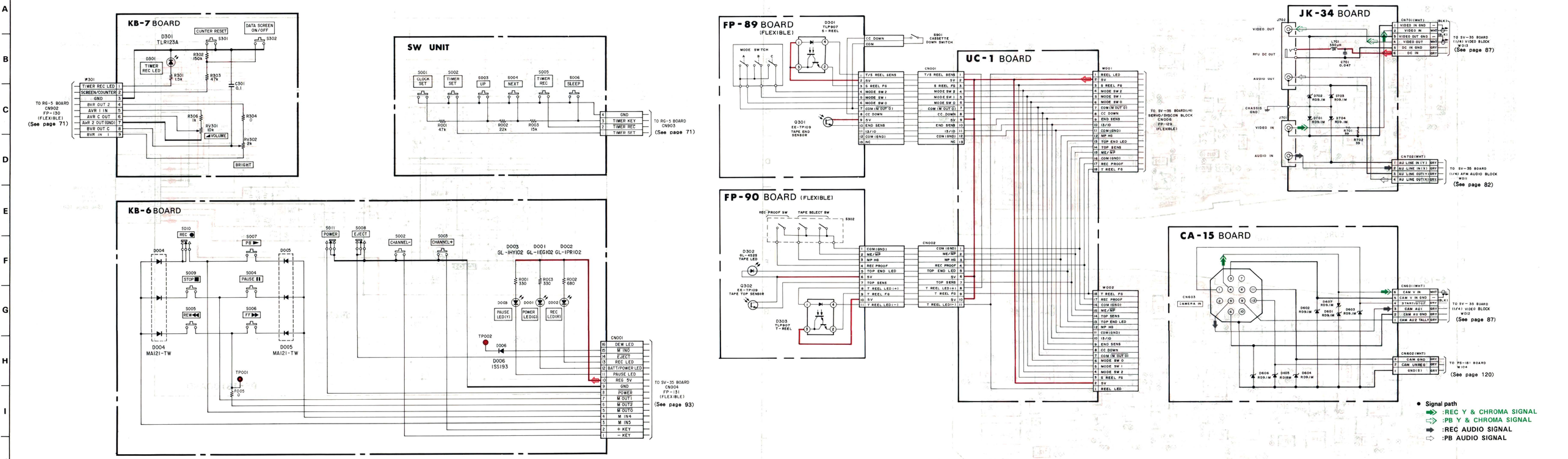
CA-15 BOARD (COMPONENT SIDE)

CA-15 BOARD (CONDUCTOR SIDE)



KB-6 (FUNCTION SWITCH), KB-7 (BRIGHT/VOLUME), JK-34 (VIDEO, AUDIO IN/OUT), CA-15 (CAMERA IN), UC-1 (TERMINAL), FP-89, FP-90 SCHEMATIC DIAGRAM

– Ref. No. UC-1 BOARD : 1000 series, KB-6, KB-7, JK-34, CA-15 BOARDS : 3000 series, FP-89 BOARD : 4000 series, FP-90 BOARD : 5000 series –



PS-181 (SWITCHING POWER SUPPLY) PRINTED WIRING BOARD

– Ref. No. PS-181 BOARD : 3000 series –

PS-181 BOARD

CN101 A-5
CN102 A-1
CN103 B-7

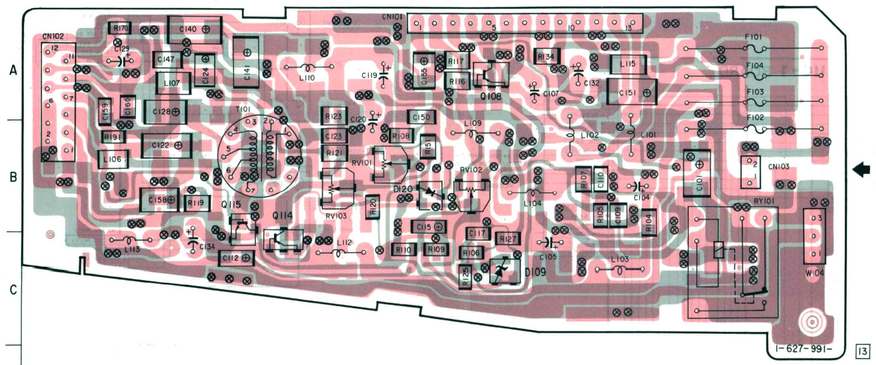
D101 F-3
D102 E-5
D103 E-2
D104 F-2
D105 F-3
D106 E-3
D107 E-7
D108 F-6
D109 C-4

IC101 E-4
IC102 F-3

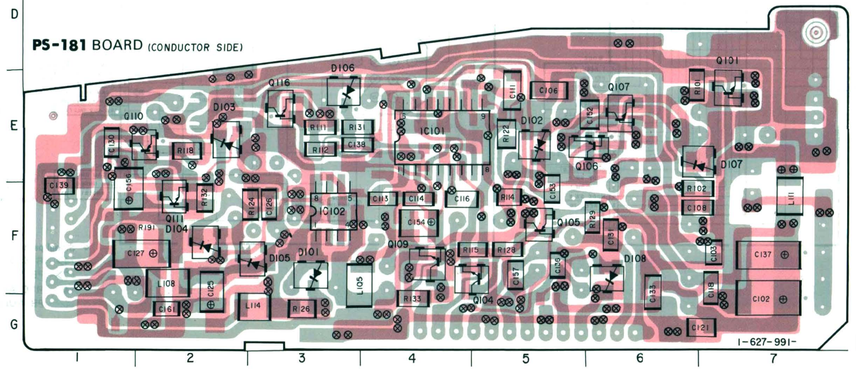
Q101 E-7
Q104 F-4
Q105 F-5
Q106 E-6
Q107 E-6
Q108 A-5
Q109 F-4
Q110 E-2
Q111 F-2
Q114 C-3
Q115 B-2
Q116 E-3

RV101 B-4
RV102 B-3
RV103 B-3

PS-181 BOARD (COMPONENT SIDE)

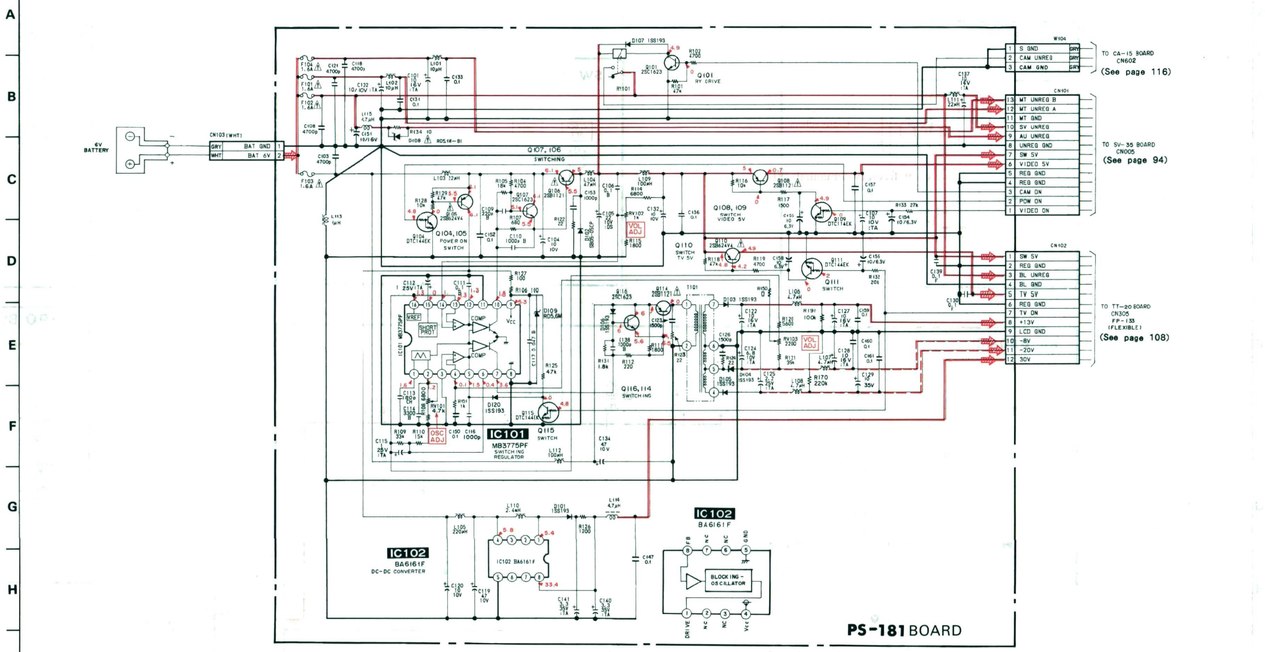


PS-181 BOARD (CONDUCTOR SIDE)



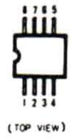
PS-181 (SWITCHING POWER SUPPLY) SCHEMATIC DIAGRAM

– Ref. No. PS-181 BOARD : 3000 series –

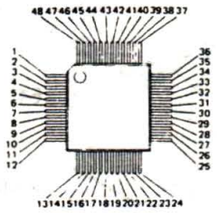


4-3. SEMICONDUCTORS

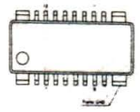
BA6161F
NJM2073M
NJM2903
μPC358G2
μPC393G2



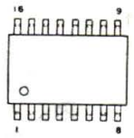
CXA1202R



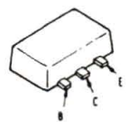
LB1631M



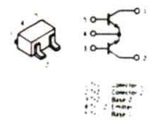
μPD6142G601



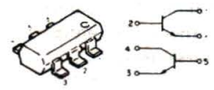
2SB1121
2SB1132-Q
2SD1664-Q



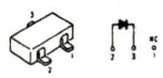
FMA2
FMA4
FMG1
FMW1
FMW2



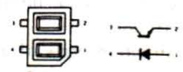
XN4210



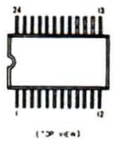
1SS193
RD2.4M-B
RD5.1M-B1
RD5.1M-B2
RD5.6M-B1
RD5.6M-B2
RD7.5M-B1
RD9.1M-B1
RD18M-B1
SB01-05CP



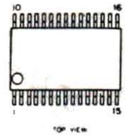
TLP907



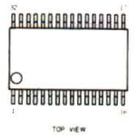
AN5313NS
CX20114



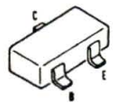
CXA1127M



M51403FP



2SA812
2SA812-M5
2SA1576-R
2SB624-BV4
2SC1623
2SC3053-C
2SC4081-R
DTA114EK
DTC114EK
DTC144EK



2SC2669
DTC144ES

FMS1
FMY3
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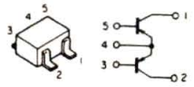

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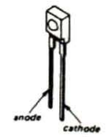

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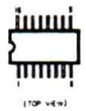

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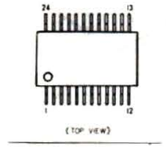

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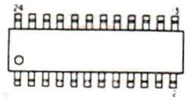

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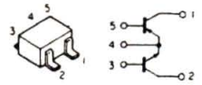

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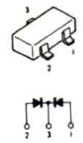

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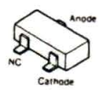

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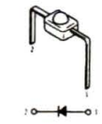

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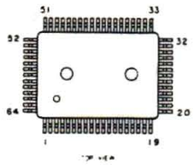

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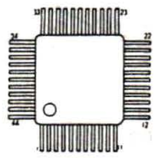

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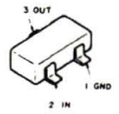

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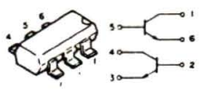

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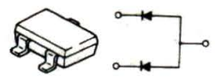

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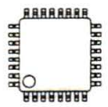

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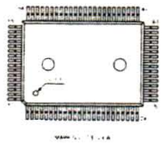

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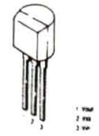

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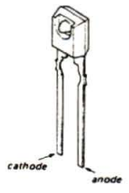

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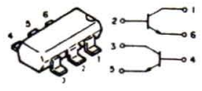

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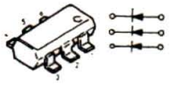

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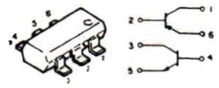

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