

SERVICE MANUAL & PARTS LIST (without price)

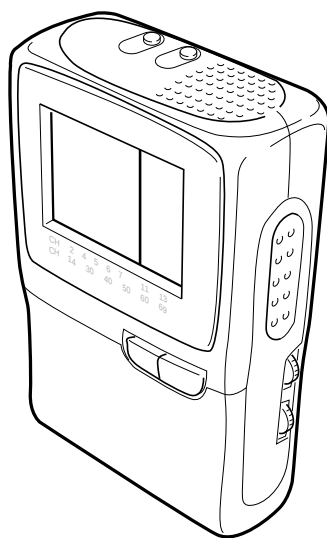
TV-770C (PAL B / G, H)

TV-770D (PAL I)

TV-770G (PAL M)

TV-770N (PAL B / G, H)
(KX-503)

AUG. 1996



INDEX

CASIO®

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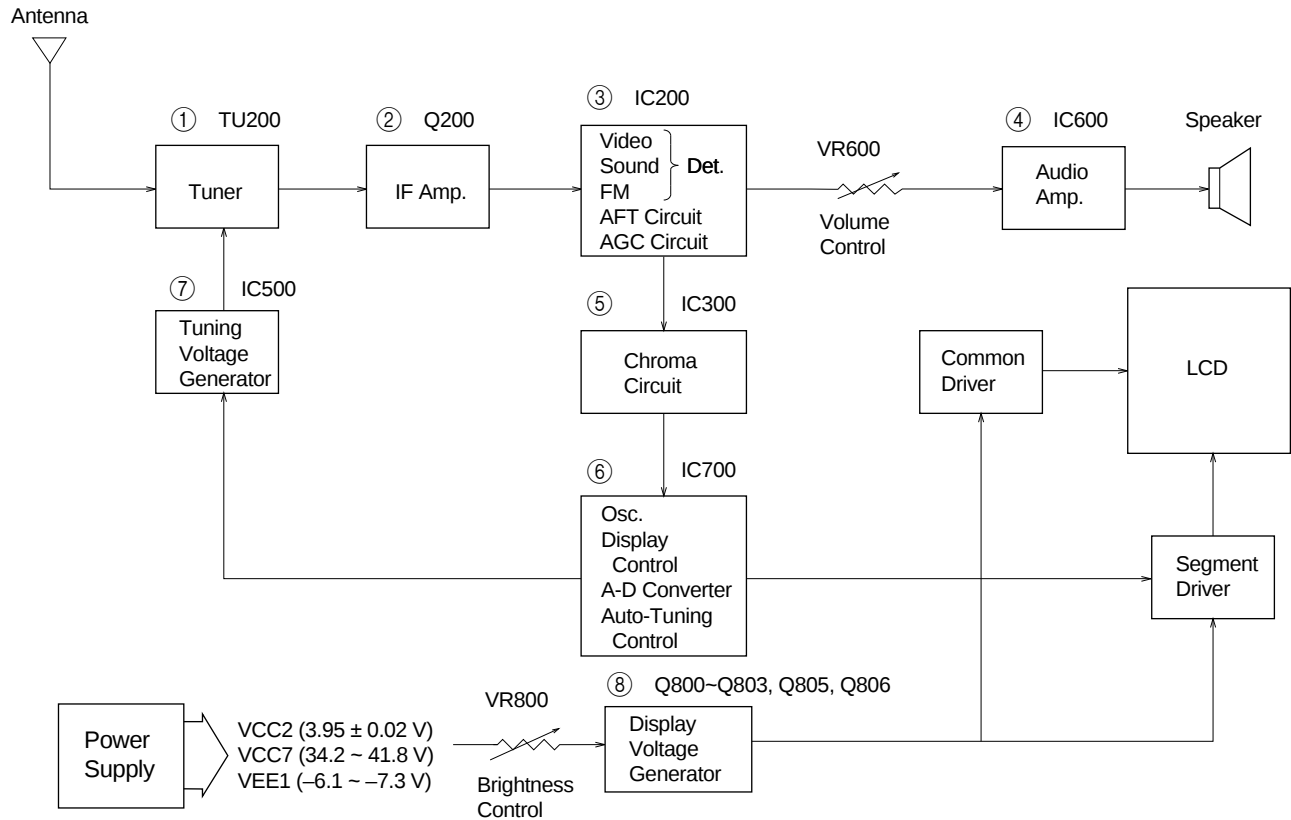
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SPECIFICATIONS

Item	Specification
1. Power voltage	DC 6.0 V
2. Power consumption	Approx. 3.6 W
3. Current consumption	Approx. 600 mA
4. Battery life (with alkaline batteries)	Approx. 4.0 hours
5. Power supply	Batteries : 4 × LR6 (D) size batteries Car adaptor : CA-K65 AC adaptor : AD-K64, 65
6. Connection terminals	Earphone jack : 3.5 ø mini External power jack : 6.0 V DC IN External antenna jack : 3.5 ø mini
7. Screen size	2.3 inches
8. No. of picture element	39,600 (110 × 360) dots
9. Dimensions	127 mm (H) × 81 mm (W) × 35 mm (D)
10. Weight	200 g without batteries
11. Options	AC adaptor : AD-K64, 65 Car adaptor : CA-K65 Antenna matching device : AS-35S

Model	Color System	TV System	Channel		
TV-770C/N	PAL	B/G, H	CCIR	VHF: 2 ~ 12 ch	UHF: 21 ~ 69 ch
TV-770D	PAL	—/I	UK	—	UHF: 21 ~ 68 ch
TV-770G	PAL	M/M	US	VHF: 2 ~ 13 ch	UHF: 14 ~ 69 ch

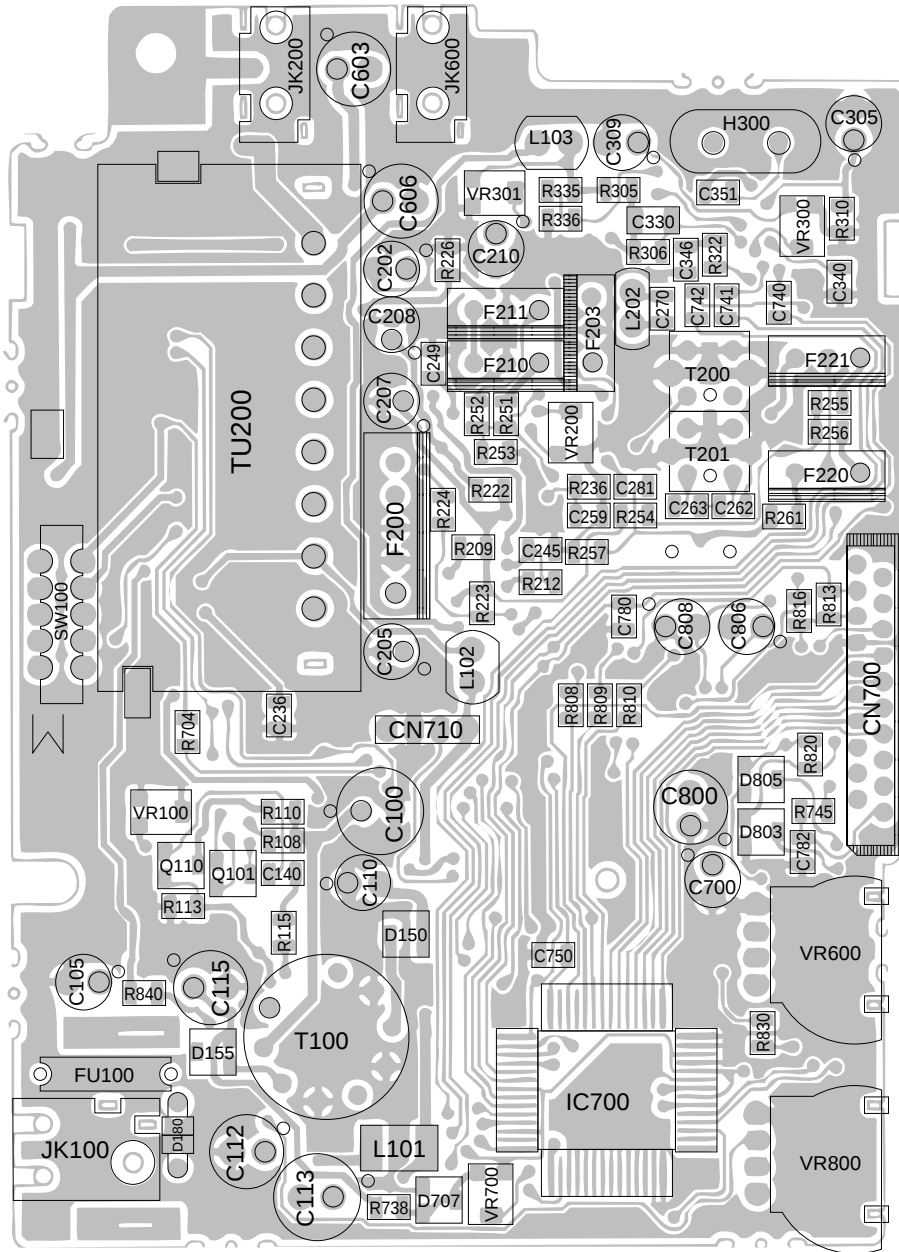
BLOCK DIAGRAM



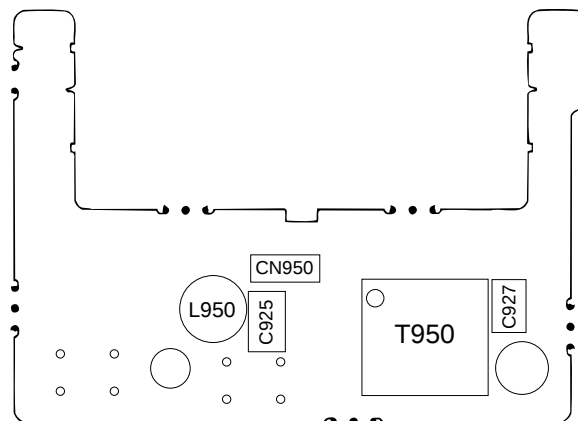
- ① — Color tuner: TU200 TEP5-02/TEPE5-01/TEPB5-05
Selects a desired radio wave and changes it to the video IF signal.
- ② — Video IF amp.: Q200 2SC4238
Amplifies the video IF signal output from tuner TU200 by 10 times (20 dB).
- ③ — Video det./Sound det./FM det./AFT/AGC: IC200 M51348FP
Eliminates the carrier wave in the video IF signal, and picks up the video signal and the sound IF signal. Also, the sound signal is picked up from the sound IF signal by FM detection.
- ④ — Audio amp.: IC600 NJM2070M
Sound amplification.
- ⑤ — Chroma circuit: IC300 M52045FP
Generates the tricolor (red, green, and blue) from the video signal.
- ⑥ — Osc./A-D converter/display control/auto-tuning control: IC700 MSM6625-02 GSK-640F
Converts the color signal into a digital signal.
Also, generates the clock pulse for the display and controls the display.
- ⑦ — Tuning voltage generator: IC500 MSC1169MS-K
Generates the tuning voltage with the tuning pulse output from ⑥.
- ⑧ — Display voltage generator: Q800~Q803, Q805, Q806, 2SD601A-R x 4, 2SB709A-R, 2SD1149-S
Generates the display voltages V0 ~ V4 with VEE1 and VCC7 outputs from the power supply.

TOP VIEWS

Linear

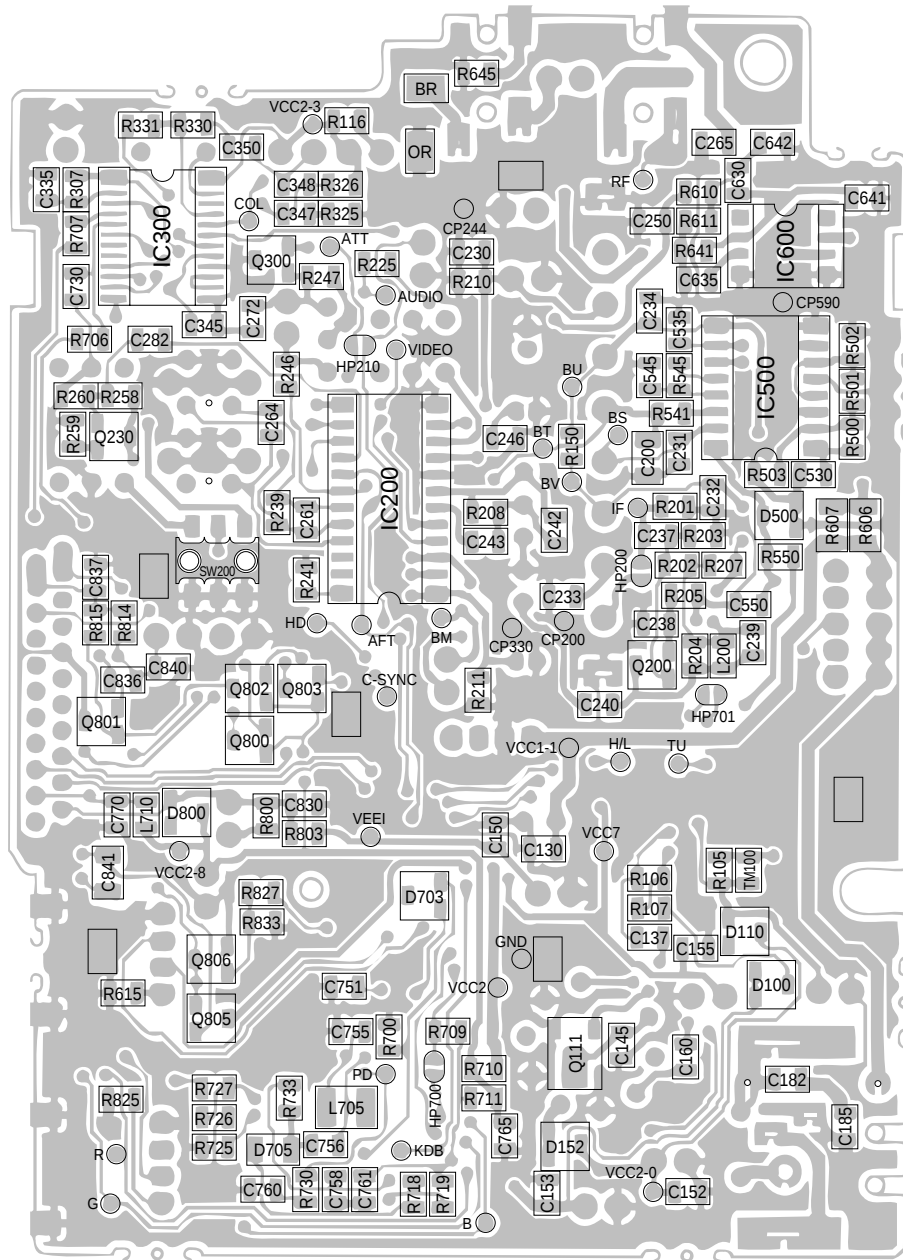


Back Light

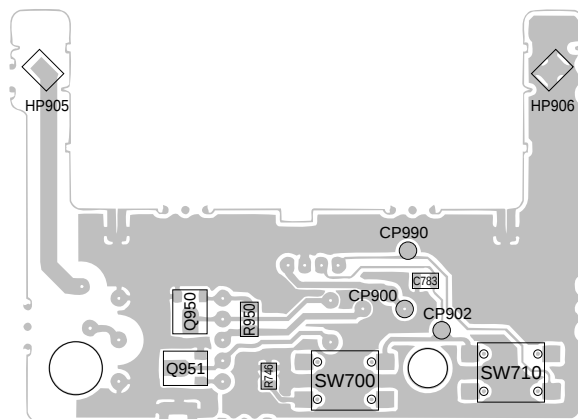


BOTTOM VIEWS

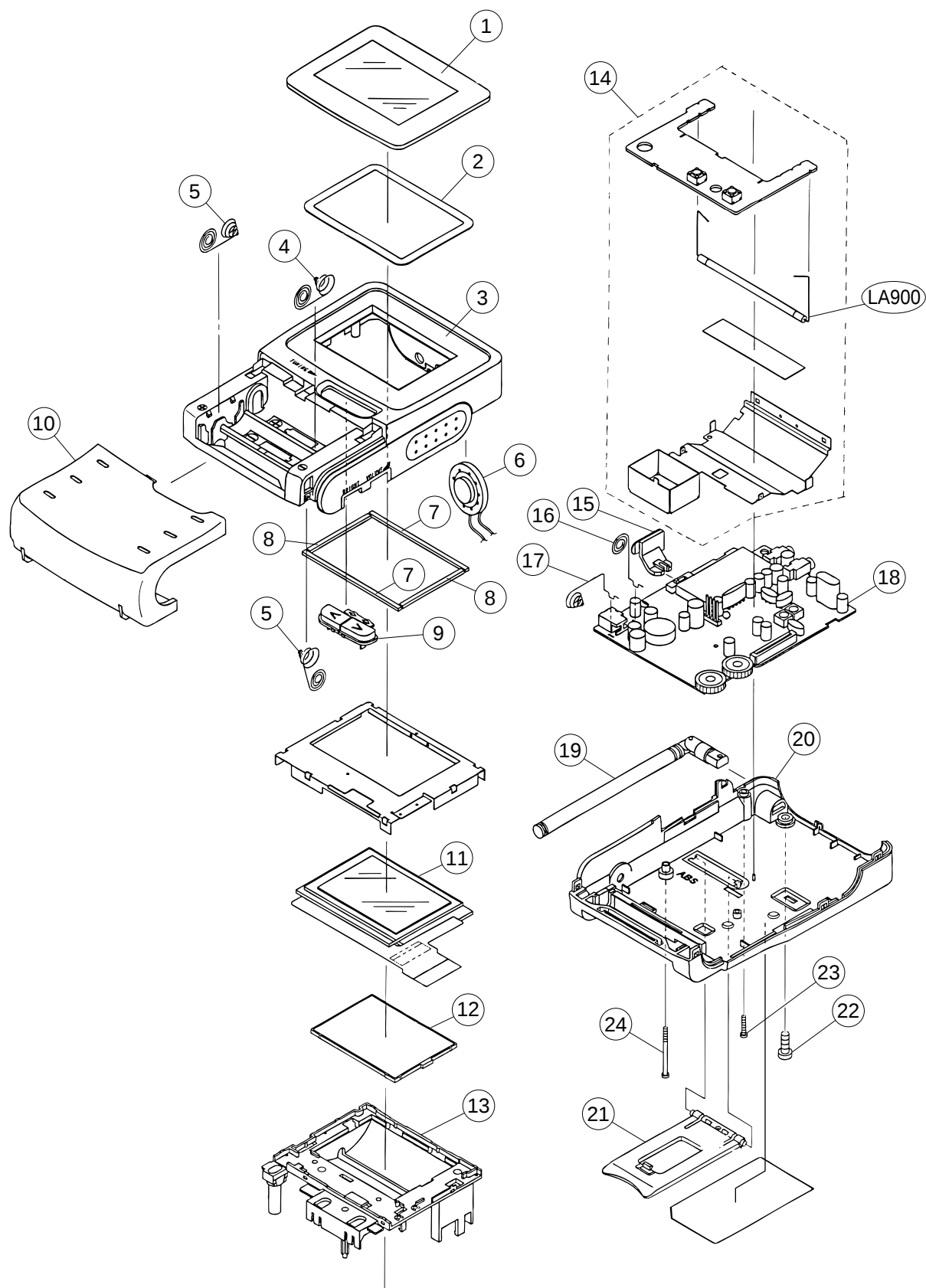
Linear



Back Light



EXPLODED VIEW



PARTS LIST

LINEAR PCB

Item	Code No.	Parts Name	Specification	Applicable	Q	R
Diodes						
D100	2390 1176	Chip diode	MA152WK-(TX)	TV-770 Common	1	C
D110	2315 0166	Chip zener diode	MA3047-L(TX)	TV-770 Common	1	C
D150	2390 1176	Chip diode	MA152WK-(TX)	TV-770 Common	1	C
D152	2390 1176	Chip diode	MA152WK-(TX)	TV-770 Common	1	C
D155	2390 1302	Chip diode	MA153A-(TX)	TV-770 Common	1	C
D180	2390 1190	Chip diode	ERA15-01Y	TV-770 Common	1	C
D500	2360 1344	Chip zener diode	MA3330-M(TX)	TV-770 Common	1	C
D703	2390 0469	Chip diode	MA157A-(TX)	TV-770 Common	1	C
D705	2390 1358	Variable diode	MA329-(TX)	TV-770 Common	1	C
D707	2360 1113	Chip zener diode	MA3082-M(TX)	TV-770 Common	1	C
D800	2360 2919	Chip zener diode	MA3056-L(TX)	TV-770 Common	1	C
D803	2390 0469	Chip diode	MA157A-(TX)	TV-770 Common	1	C
D805	2390 1253	Chip diode	MA152WA-(TX)	TV-770 Common	1	C
Fuse						
FU100	3632 0469	Fuse	PI-251001(F10)	TV-770 Common	1	A
ICs						
IC200	2114 1827	Linear IC	M51348FP-T1	TV-770 Common	1	C
IC300	2114 3311	Linear IC	M52045FP-T1	TV-770 Common	1	C
IC500	2114 0182	Linear IC	MSC1169MS-K-620	TV-770 Common	1	C
IC600	2114 2464	Linear IC	NJM2070M-T1	TV-770 Common	1	C
IC700	2011 3514	LSI	MSM6625-02GSK-640F	TV-770 Common	1	C
Jacks						
JK100	3501 8281	Jack	HEC0811-010010	TV-770 Common	1	B
JK200	3501 5439	Jack	HSJ1456-01-210	TV-770 Common	1	C
JK600	3501 5439	Jack	HSJ1456-01-210	TV-770 Common	1	C
Transistors						
Q101	2230 7011	Chip transistor	2SD601A-R(TX)	TV-770 Common	1	B
Q110	2230 7011	Chip transistor	2SD601A-R(TX)	TV-770 Common	1	B
Q111	2253 0308	Chip transistor	2SD1119-R(TX)	TV-770 Common	1	B
Q200	2252 0707	Chip transistor	2SC4238-(TX)	TV-770 Common	1	C
Q300	2210 8026	Chip transistor	2SB709A-R(TX)	TV-770 Common	1	C
Q800	2230 7011	Chip transistor	2SD601A-R(TX)	TV-770 Common	1	C
Q801	2210 8026	Chip transistor	2SB709A-R(TX)	TV-770 Common	1	C
Q802	2230 7011	Chip transistor	2SD601A-R(TX)	TV-770 Common	1	C
Q803	2230 7011	Chip transistor	2SD601A-R(TX)	TV-770 Common	1	C
Q805	2253 0476	Chip transistor	2SD1149-S(TX)	TV-770 Common	1	C
Q806	2230 7011	Chip transistor	2SD601A-R(TX)	TV-770 Common	1	C
Switches						
SW100	3412 0938	Slide switch	ESD-11V231	TV-770C/G/N	1	C
SW100	3412 1134	Slide switch	ESD-11V221	TV-770D	1	C
Converter						
T100	3065 0672	DC-DC converter	LC12U-40	TV-770 Common	1	B
Tuners						
TU200	1013 5315	Tuner	TEPE5-01	TV-770C/N	1	C
TU200	1014 8570	Tuner	TEPB5-05	TV-770D	1	C
TU200	1013 5511	Tuner	TEPU5-02	TV-770G	1	C
Variable resistors						
VR600	2765 1708	Volume	XV081PV1NB10K3017	TV-770 Common	1	C
VR800	2765 2037	Volume	XV081PV1NB20K3017	TV-770 Common	1	C

Notes: Q – Quantity per unit
R – Rank

BL PCB

Item	Code No.	Parts Name	Specification	Applicable	Q	R
Lamp						
LA900	3851 1918	Fluorescent lamp	3064BB-CA39	TV-770 Common	1	A
Transistors						
Q950	2253 0308	Chip transistor	2SD1119-R(TX)	TV-770 Common	1	B
Q951	2253 0308	Chip transistor	2SD1119-R(TX)	TV-770 Common	1	B
Switches						
SW700	3412 1029	Switch	SKHHAL	TV-770 Common	1	C
SW701	3412 1029	Switch	SKHHAL	TV-770 Common	1	C
Transformer						
T950	3012 1470	Inverter trans	NT-07	TV-770 Common	1	B

Notes: Q – Quantity per unit
R – Rank

MAIN COMPONENT

Item	Code No.	Parts Name	Specification	Applicable	Q	R
1	6611 3500	Display plate CIM-K503	K440797-6	TV-770C	1	C
1	6611 4570	Display plate DAM-K503	K440928-1	TV-770D	1	C
1	6611 0980	Display plate BXM-K503	K440797-1	TV-770G	1	C
1	6611 3570	Display plate NDM-K503	K440797-7	TV-770N	1	C
2	6611 1010	Adhesive tape A-K503	K440801-1	TV-770 Common	1	X
3	6611 0870	Upper case BXM-K503	K140252-1	TV-770C/G/N	1	X
3	6611 3580	Upper case DAM-K503	K140252-2	TV-770D	1	X
4	6020 7658	Battery spring B1 G513	P408A-1	TV-770 Common	1	X
5	6020 7666	Battery spring B2 G513	P409A-1	TV-770 Common	2	X
6	3831 0854	Speaker	28-8F-03	TV-770 Common	1	C
7	6611 0990	Cushion A-K503	K440802-1	TV-770 Common	2	X
8	6611 1000	Cushion B-K503	K440802-2	TV-770 Common	2	X
9	6611 2290	Tuning button A-K503	K240481-1	TV-770 Common	1	X
10	6611 0890	Battery cover A-K503	K240450-1	TV-770 Common	1	X
11	2725 1218	LCD	PSG123CO-TO	TV-770 Common	1	C
12	6611 0930	Light diffuser sheet A-K503	K440800-1	TV-770 Common	1	X
13	6611 0900	Reflector case K503	K140261-1	TV-770 Common	1	X
14	6611 2261	BL unit	K340625*1	TV-770 Common	1	B
15	6611 0910	Switch knob A-K503	K340575-1	TV-770 Common	1	X
16	6611 0960	Battery spring A-K503	K440798-1	TV-770 Common	1	X
17	6611 0970	Battery spring B-K503	K440799-1	TV-770 Common	1	X
18	6611 3869	Linear PCB ass'y	K240530*1	TV-770C/N	1	B
18	6611 4564	Linear PCB ass'y	K240543*1	TV-770D	1	B
18	6611 5233	Linear PCB ass'y	K240566*1	TV-770G	1	B
19	3851 1470	Rod antenna	VR70100GA	TV-770 Common	1	B
20	6611 0880	Lower case BXM-K503	K140253-1	TV-770 Common	1	X
21	6611 2300	Stand A-K503	K310518-7	TV-770 Common	1	C
22	6609 1290	Screw A-K610	K412031-1	TV-770 Common	1	C
23	5860 0532	Screw	BT3 1.7X9 Bk	TV-770 Common	1	C
24	6609 9630	Screw A-K720	K410188-6	TV-770 Common	1	C

Notes: Q – Quantity per unit
R – Rank

IC AND TRANSISTOR LEAD IDENTIFICATION

IC/LSI

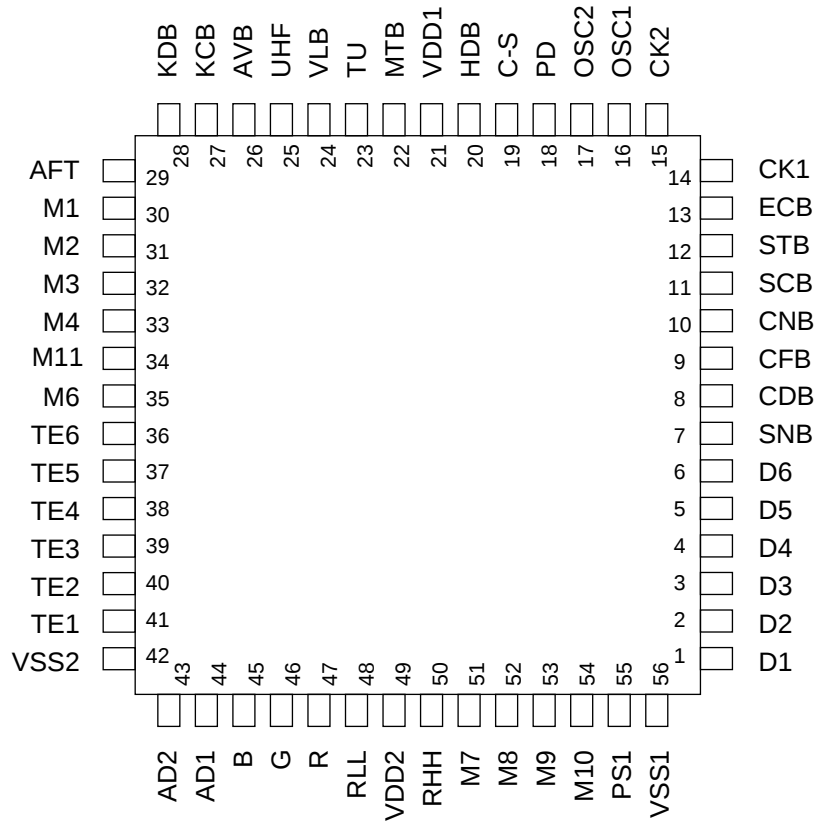
IC200 M51348FP-T1			
IF AGC OUT	1	24	IF AGC ADJ
IF AGC IN	2	23	SyOUT
RF AGC	3	22	SyIN
AGCDL	4	21	AFTC
VCCv	5	20	LLD
IFIN	6	19	LLD
IFIN	7	18	VIDEO
GNDv	8	17	AFT
VCCs	9	16	SIFOUT
SIFIN	10	15	FMD
FB	11	14	ATT
GNDs	12	13	AUDIO

IC300 M52045FP			
VIDEO	1	24	VCC
SY IN	2	23	VCXO OUT
ACCF	3	22	NC
SY OUT	4	21	VCXO IN
HDIN	5	20	COLOR
Y CLAMP	6	19	TINT
Y LPF	7	18	KILLER F
Y OUT	8	17	APCF
CONT	9	16	APCREF
R	10	15	KILLER OUT
G	11	14	PIX
B	12	13	GND

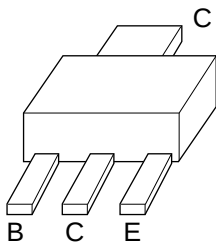
IC500 MSC1169MS-K-620			
Vref	1	16	VCC
U1	2	15	BS
U2	3	14	BT
VL1	4	13	IN
VL2	5	12	OUT
VH1	6	11	TU
VH2	7	10	H/L
GND	8	9	U/V

IC600 NJM2070M-T1			
NC	1	8	NC
+IN	2	7	VCC
-IN	3	6	OUT
GND	4	5	GND

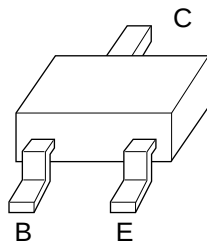
IC700
MSM6625-02GSK-640F



TRANSISTORS



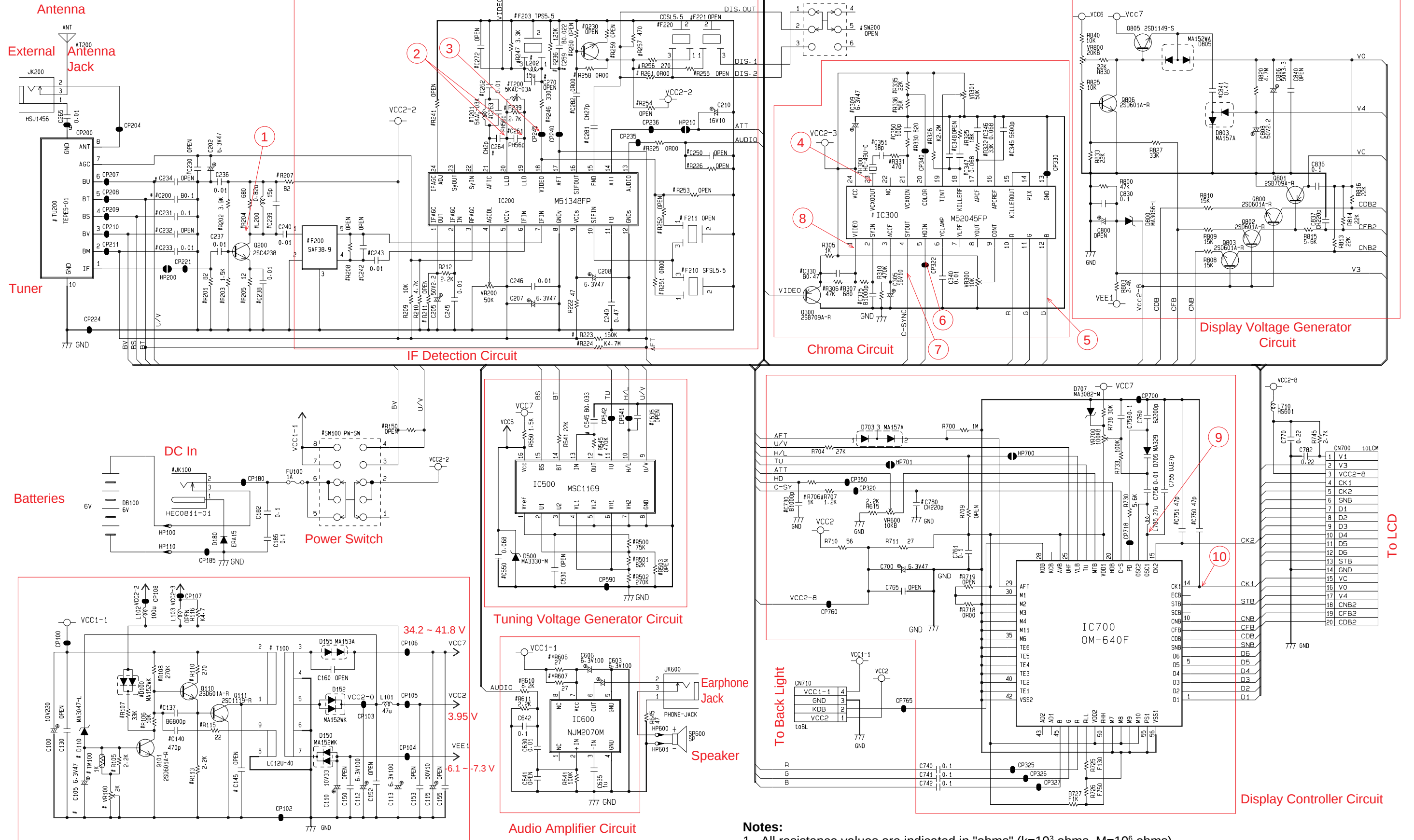
2SD1119



2SB709A 2SD601A
2SC4238 2SD1149-S

SCHEMATIC DIAGRAMS

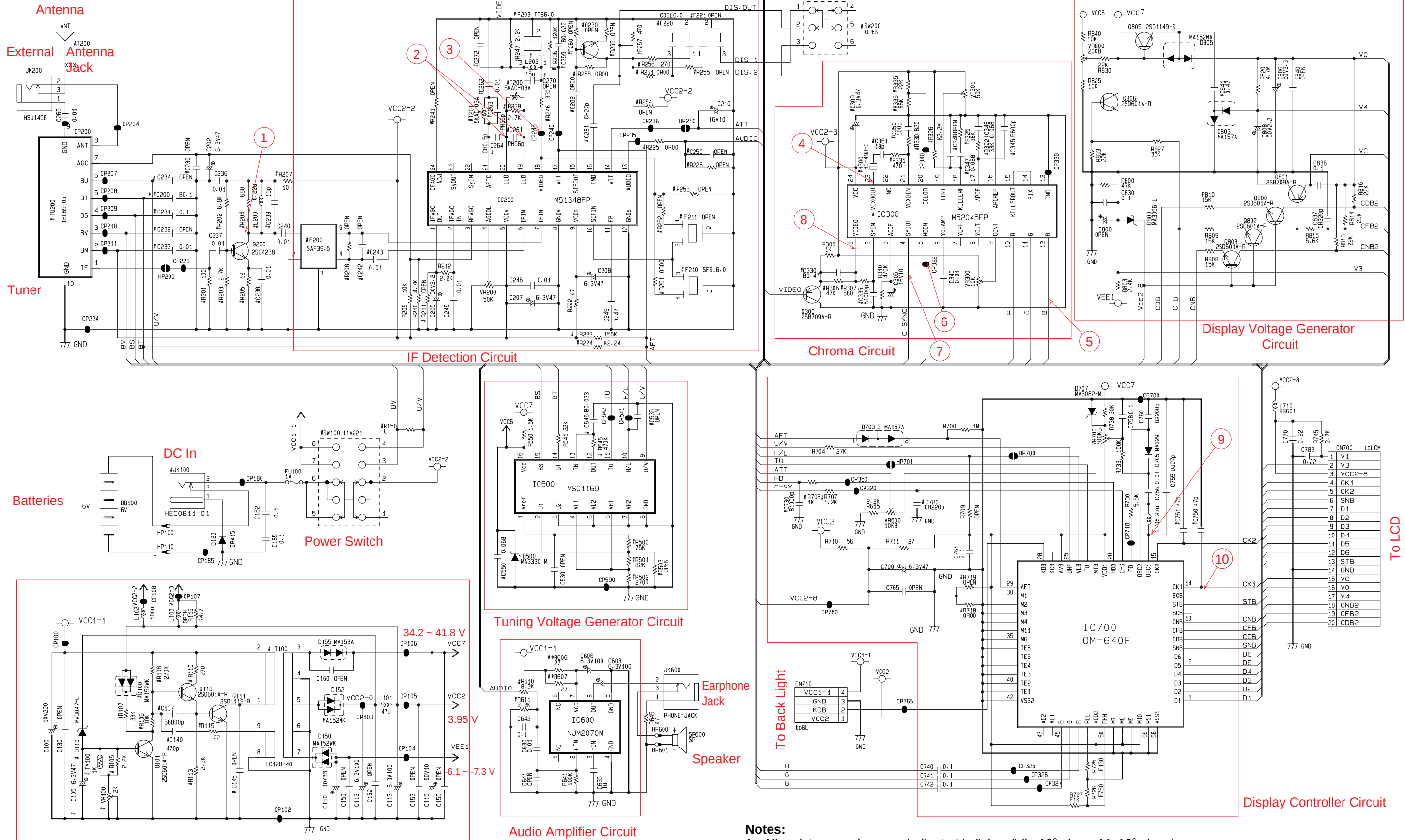
LINEAR (TV-770C/N)



Notes:

1. All resistance values are indicated in "ohms" (k=10³ ohms, M=10⁶ ohms).
2. All capacitance values are indicated in "μF" (p=10⁻⁶ μF).
3. All inductance values are indicated in "μH."

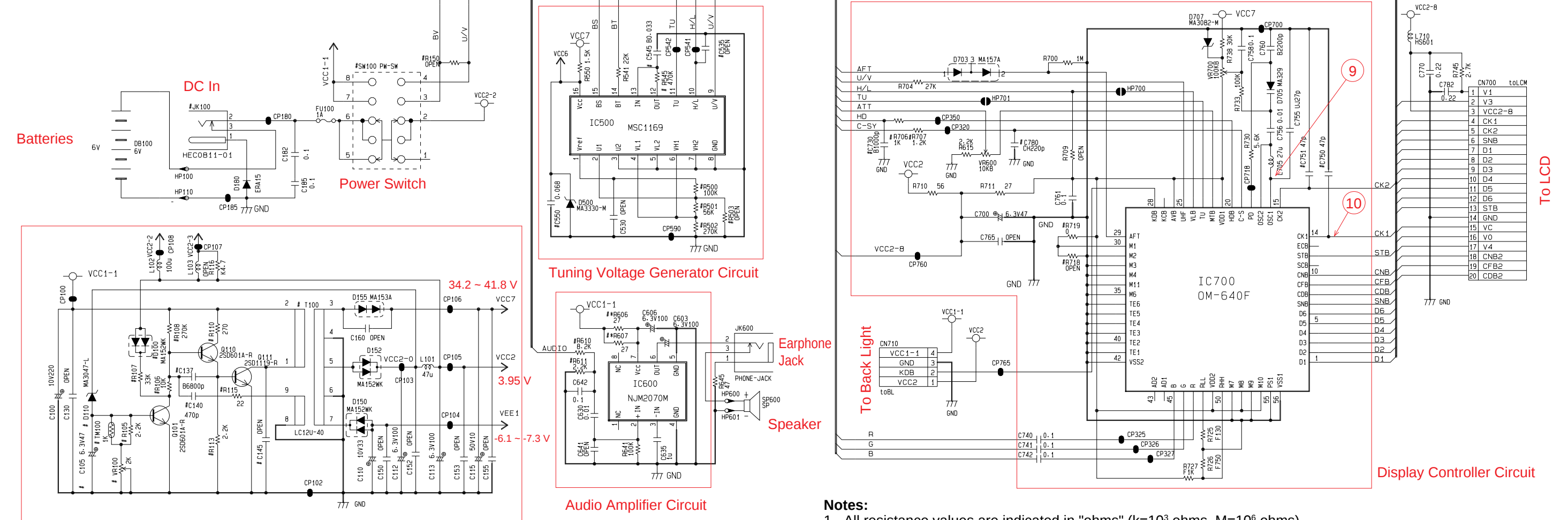
LINEAR (TV-770D)



Notes:

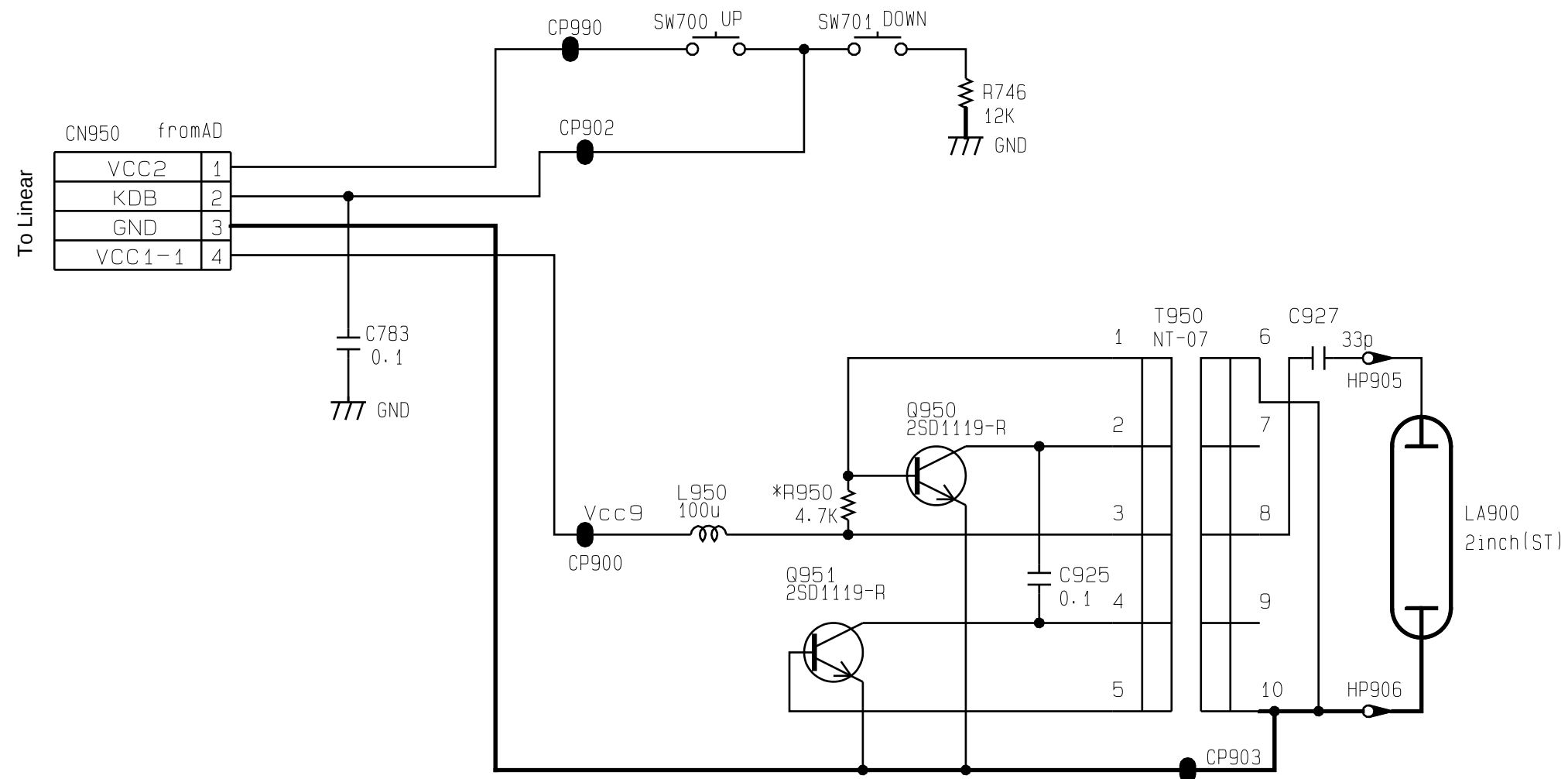
1. All resistance values are indicated in "ohms" (k=10³ ohms, M=10⁶ ohms).
2. All capacitance values are indicated in "μF" (p=10⁻⁶ μF).
3. All inductance values are indicated in "μH."

Antenna



1. All resistance values are indicated in "ohms" ($k=10^3$ ohms, $M=10^6$ ohms).
2. All capacitance values are indicated in " μF " ($p=10^{-6}$ μF).
3. All inductance values are indicated in " μH ."

BACK LIGHT

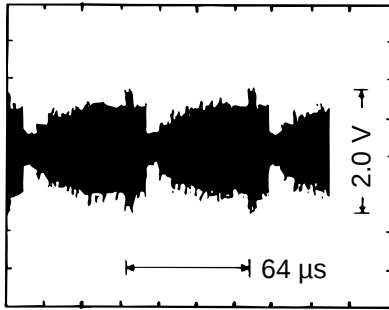


Notes:

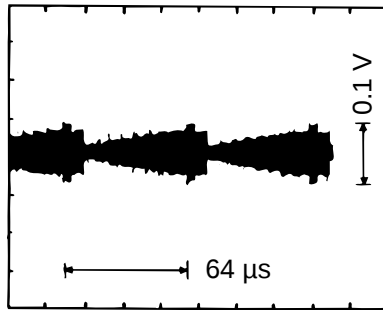
1. All resistance values are indicated in "ohms" ($k=10^3$ ohms, $M=10^6$ ohms).
2. All capacitance values are indicated in " μF " ($p=10^{-6}$ μF).
3. All inductance values are indicated in " μH ."

WAVEFORMS

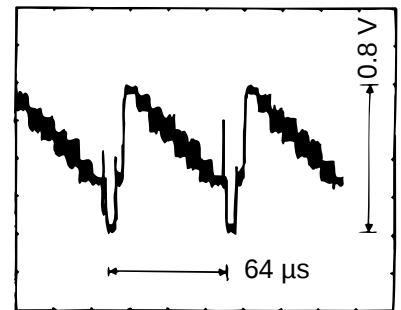
TV-770C/D/N



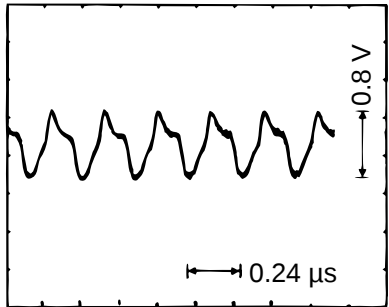
① Q200 collector



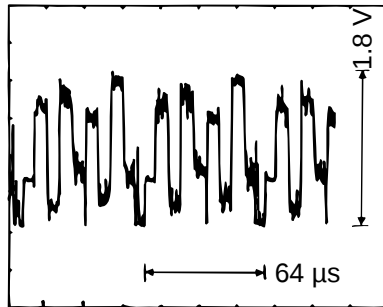
② IC200 pin 19



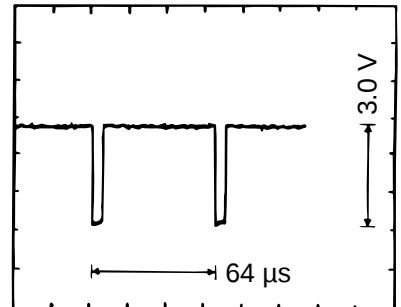
③ IC200 pin 18



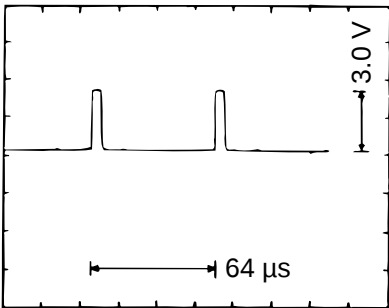
④ IC300 pin 23



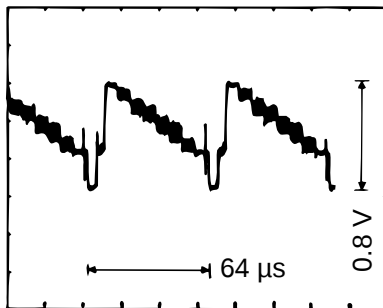
⑤ IC300 pin 12



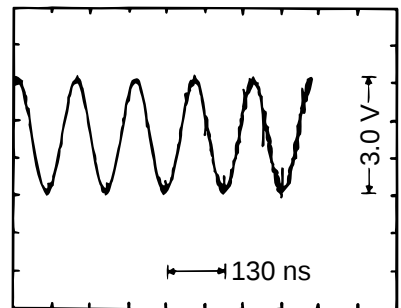
⑥ IC300 pin 5



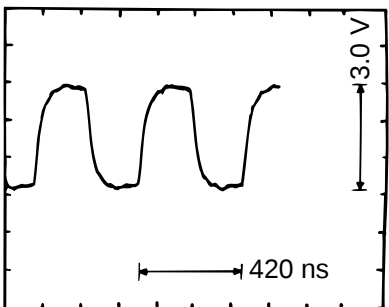
⑦ IC300 pin 4



⑧ IC300 pin 1

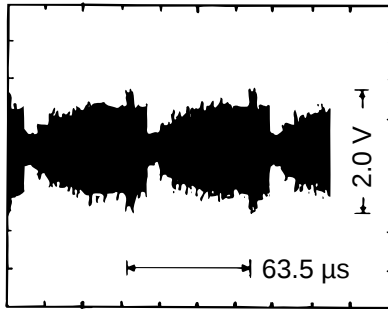


⑨ IC700 pin 16

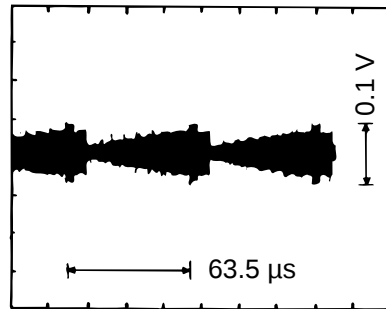


⑩ IC700 pin 14

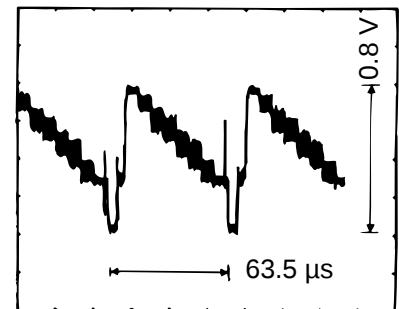
TV-770G



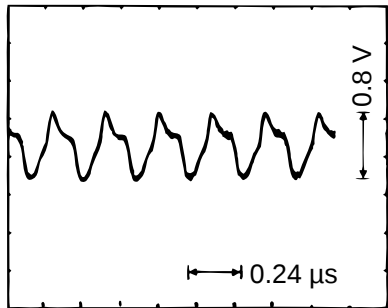
① Q200 collector



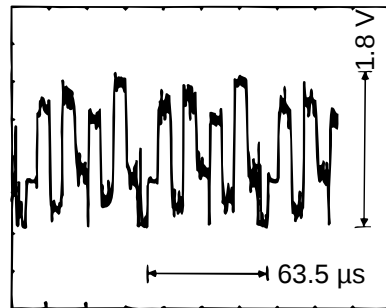
② IC200 pin 19



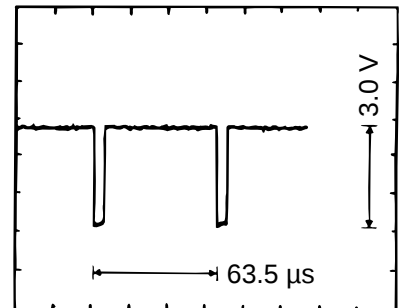
③ IC200 pin 18



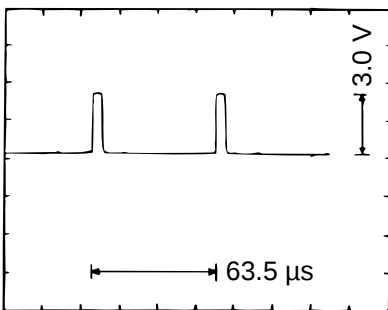
④ IC300 pin 23



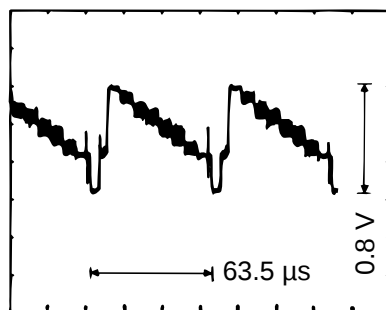
⑤ IC300 pin 12



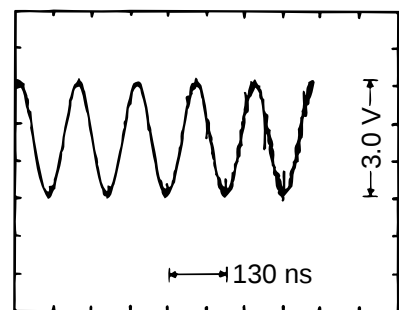
⑥ IC300 pin 5



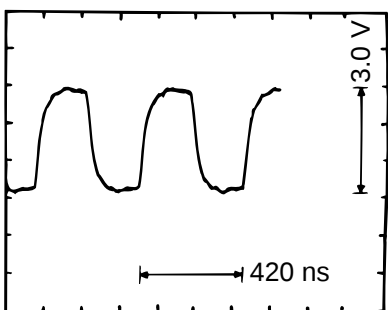
⑦ IC300 pin 4



⑧ IC300 pin 1



⑨ IC700 pin 16



⑩ IC700 pin 14

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