

# HITACHI

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No. 0057E

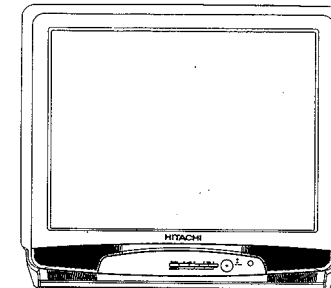
## SERVICE MANUAL

**C2133MN/C2135MN**

-192/981/433/191

PAL/SECAM/NTSC

S3-M4 Chassis



### Addendum Service Manual

This addendum Service Manual consists of the following items.

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Use this addendum Service Manual together with the Service Manual of CMT2199-433(No. 0050C-E) or CMT2192/192/981 (No. 0047E).

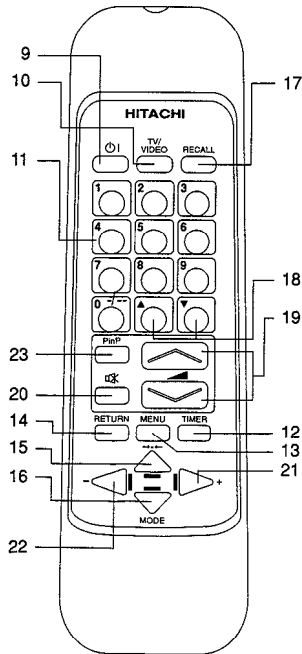
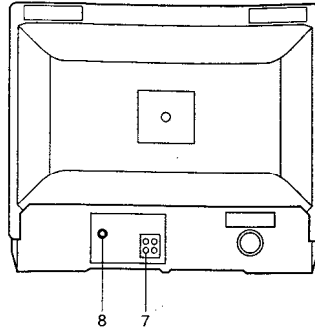
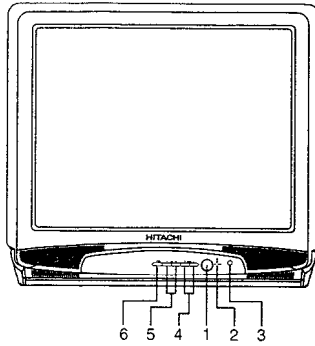
SPECIFICATIONS AND PARTS ARE SUBJECT TO CHANGE FOR IMPROVEMENT.

## COLOR TELEVISION

July 1997

Hitachi Consumer Products (S)

**CONTROLS**



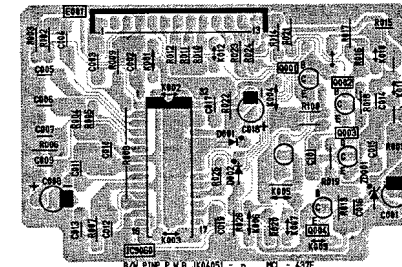
1	Power ON/OFF switch
2	Power indicator
3	Remote control receiver
4	Programme up/down
5	Volume up/down
6	Input selection
7	AV in/out terminals
8	Aerial input terminal
9	Power ON/OFF
10	Input select
11	Programme selector
12	Timer
13	Menu
14	Return
15	Normalize (Red)
16	Mode (Green)
17	Recall
18	Programme up/down
19	Volume up/down
20	Mute
21	Up (Blue)
22	Down (Yellow)
23	PinP (C2135MN only)

**SPECIFICATIONS**

Reception system	625-lines	B.G./D.K/H PAL B.G./D.K/K1 SECAM NTSC50 (VIDEO)	Aerial input	75Ω unbalanced type
	525-Lines	NTSC4.43 PAL 60 NTSC3.58 (VIDEO)	Color picture tube	A51KPD12XX/A51LECO98X
			Speaker	9cm x 5cm (x2)
			Sound Output (Max)	3W x 2
Channel coverage	CCIR : E2~12, E21~69, S01~3, S1~10, S11~20, S21~41		Power supply	AC110V~230V 50/60Hz
	OIRT : R1~12, R21~69		Power consumption	85W (C2133MN) 86W (C2135MN)
	Hong Kong, U.K. : UK21~69		Weight (kg)	21.5kg
	China : C1~12, C13~57		Dimensions W x H x D (cm)	51.5 x 45.6 x 48.1

\* Specifications are subject to change without notice to improve performance.

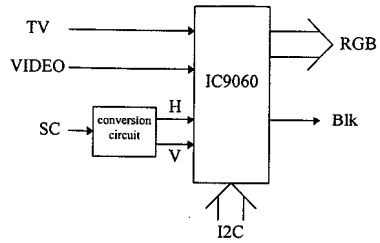
**PRINTED WIRING BOARD**



B/W PinP P.W.B. (C2135MN only)

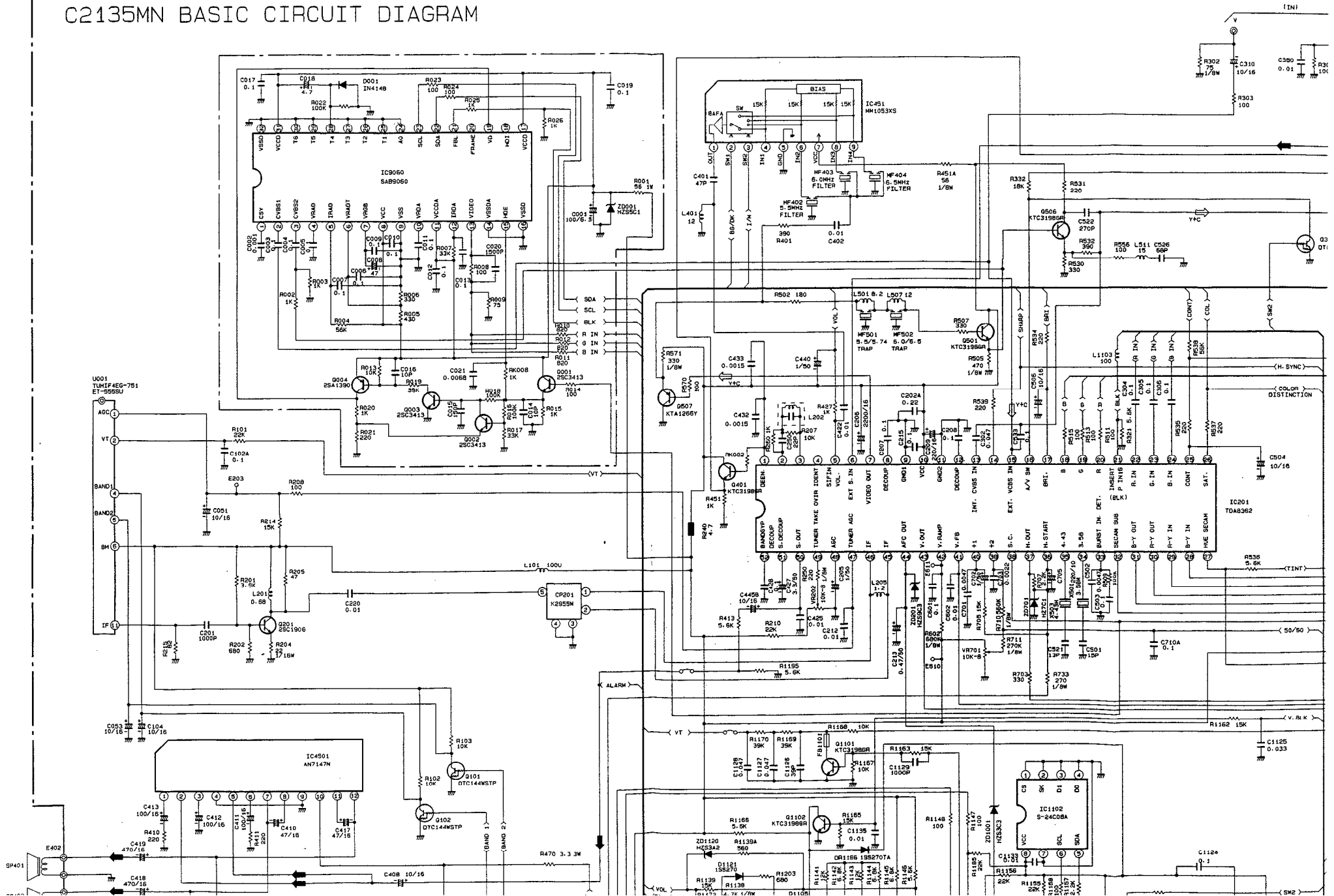
**BLACK & WHITE PinP**

The following block diagram shows the B/W PinP circuitry.



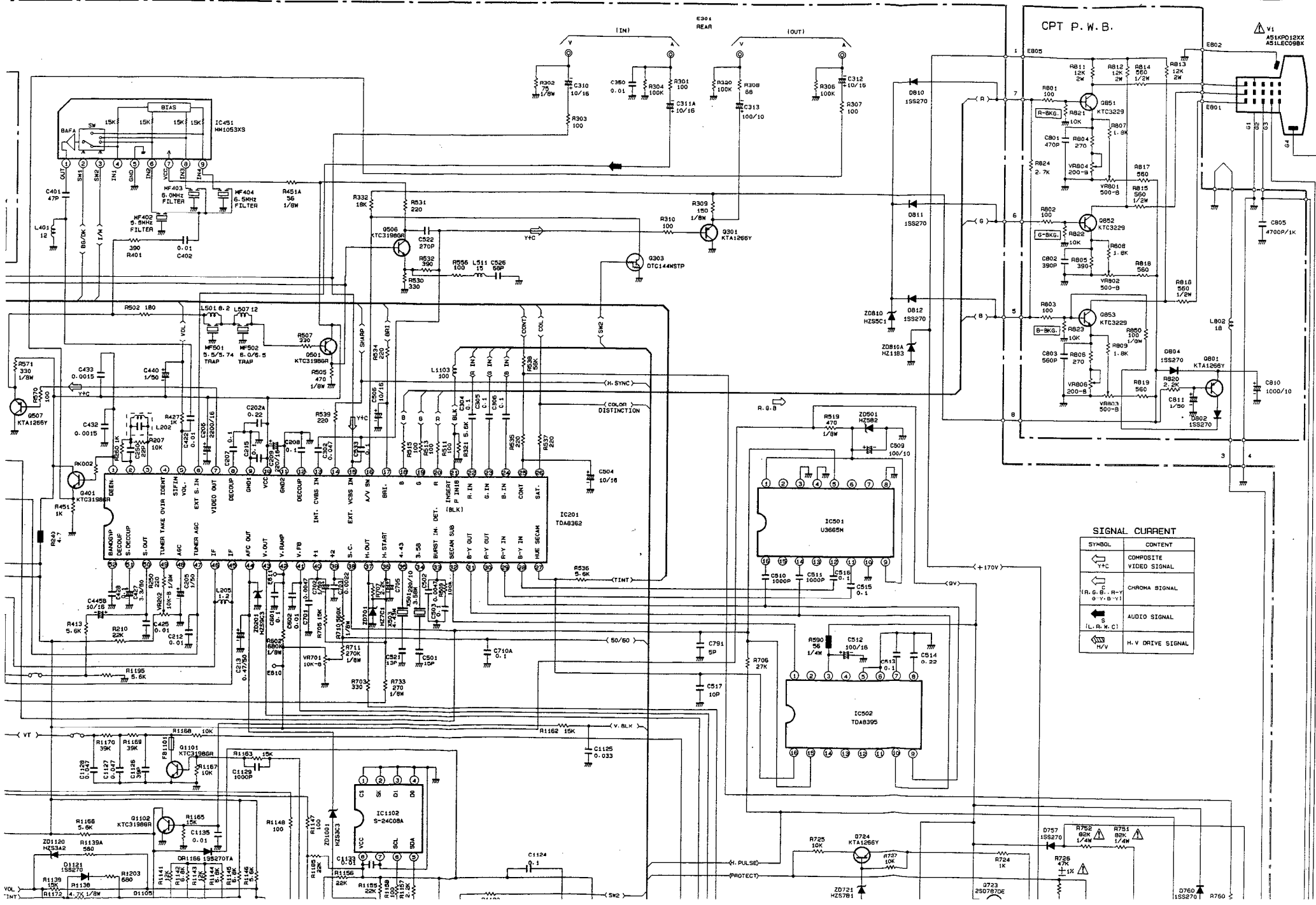
The video & TV signals are injected into the IC9060 where it is synchronised using the H & V signals generated by the SC signals. Either the video/TV signals will be selected through the I2C bus and output as RGB and blanking signals which are then applied to the I201.

# C2135MN BASIC CIRCUIT DIAGRAM



**PRODUCT SAFETY NOTE:** Components marked with a  $\Delta$  and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

**C2133MN/  
C2135MN**



**SIGNAL CURRENT**

SYMBOL	CONTENT
	COMPOSITE VIDEO SIGNAL
	CHROMA SIGNAL
	AUDIO SIGNAL
	H.V. DRIVE SIGNAL

$\Delta$  V1  
AS1KPO12XX  
AS1LEC098X

CPT P.W.B.

6304 REAR

(IN)

(OUT)

E802

E805

E801

E802

E803

E804

E805

E806

E807

E808

E809

E810

E811

E812

E813

E814

E815

E816

E817

E818

E819

E820

E821

+170V  
+9V

PULSE

PROTECT

SW2

DR1166 195270TA

ZD1120 155270

R1139 10K

R1140 10K

R1141 10K

R1142 10K

R1143 10K

R1144 10K

R1145 10K

R1146 10K

R1147 10K

R1148 10K

R1149 10K

R1150 10K

R1151 10K

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R1192 10K

R1193 10K

R1194 10K

R1195 10K

R1196 10K

R1197 10K

R1198 10K

R1199 10K

R1200 10K

R1201 10K

R1202 10K

R1203 10K

R1204 10K

R1205 10K

R1206 10K

R1207 10K

R1208 10K

R1209 10K

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R1360 10K

R1361 10K

R1362 10K

R1363 10K

R1364 10K

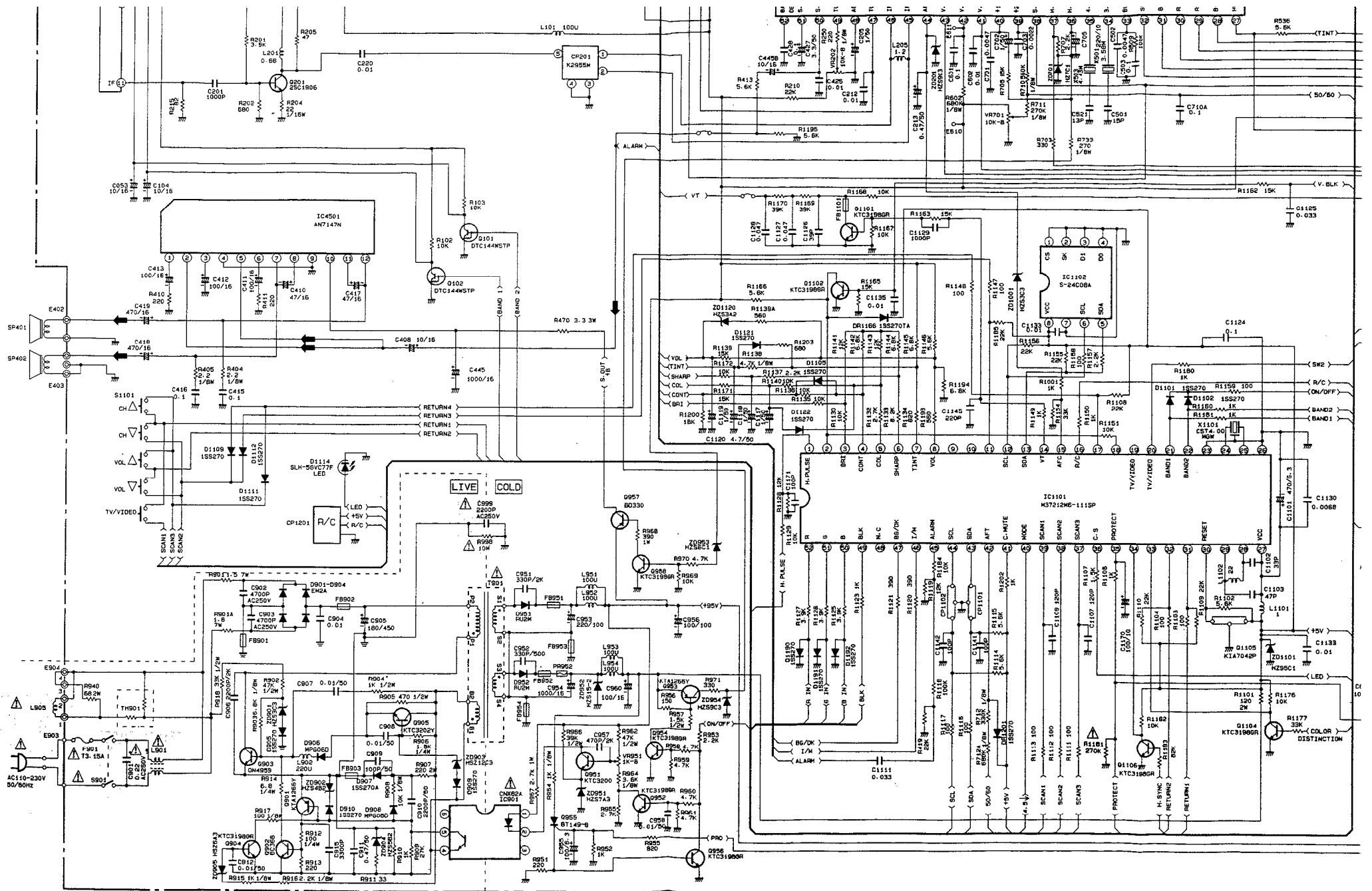
R1365 10K

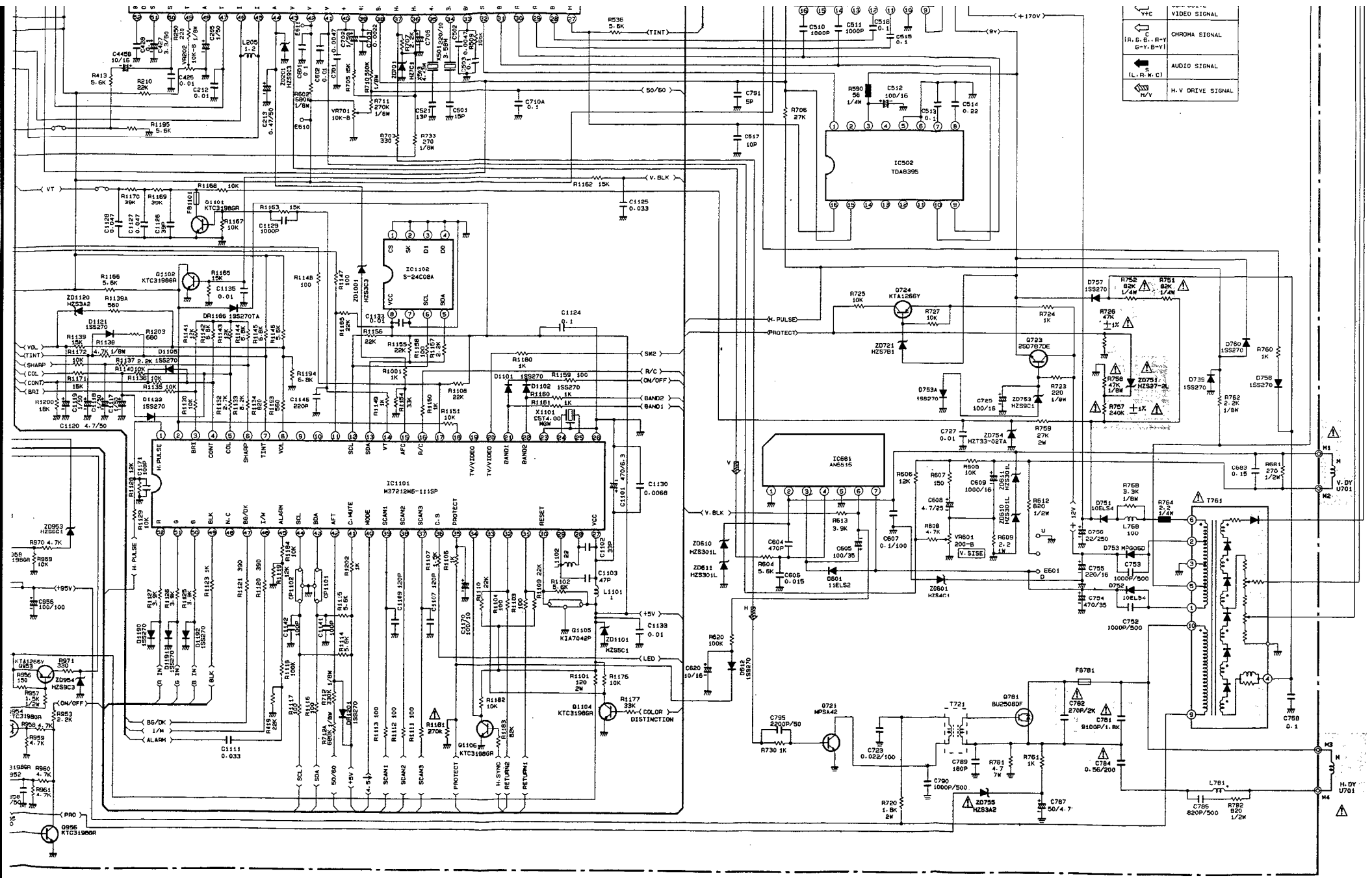
R1366 10K

R1367 10K

R1368 10K

R1369 10K





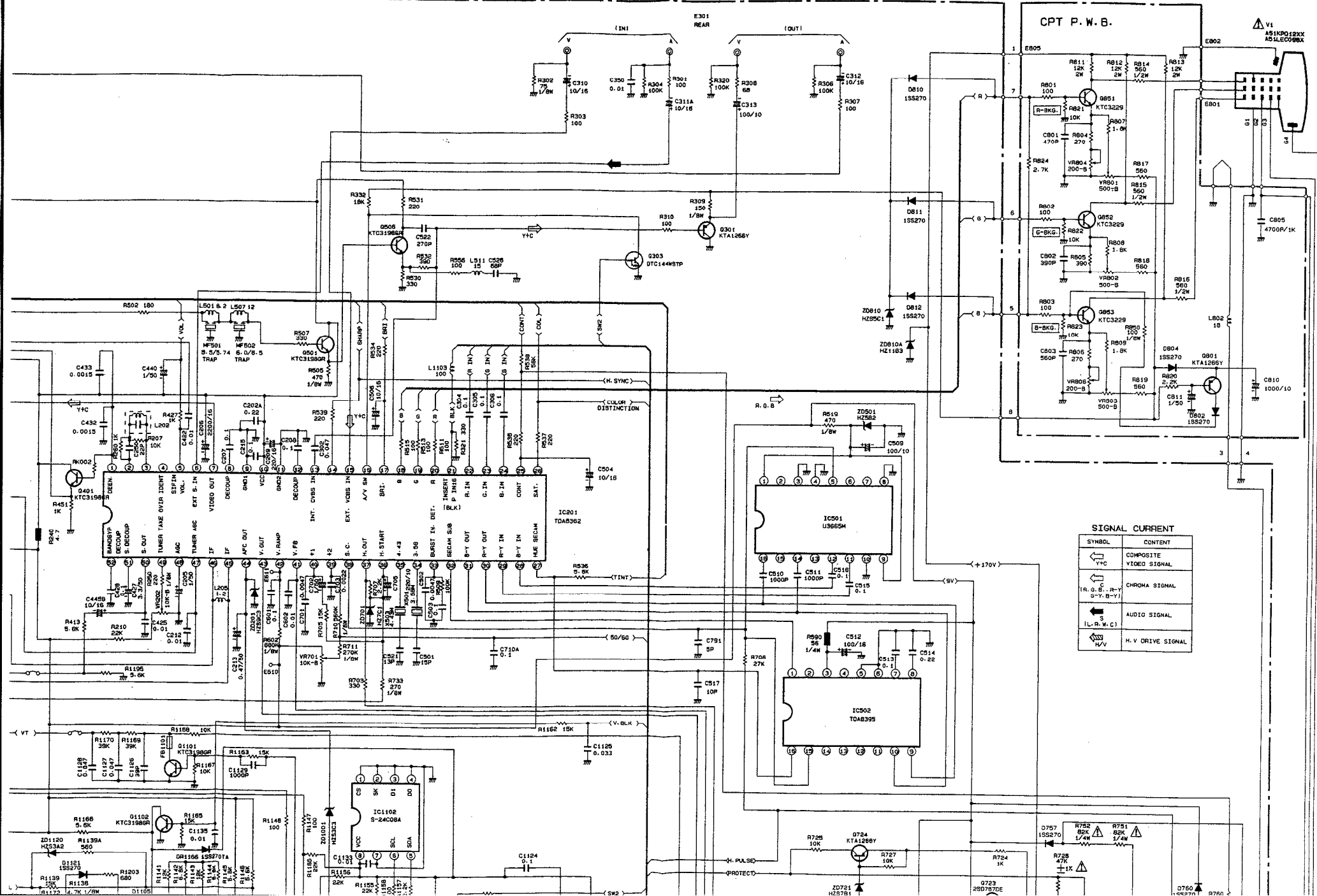
VFC	VIDEO SIGNAL
R, G, B, Y, B-Y, B-Y	CHROMA SIGNAL
L, R, W, C	AUDIO SIGNAL
H.V.	H.V. DRIVE SIGNAL

- Since this is basic circuit diagram, the value of the parts is subject to be altered for improvement
- All DC voltage to be measured with a tester (100kΩ/V).  
Voltage taken on a complex color bar signal including a standard color bar signal.



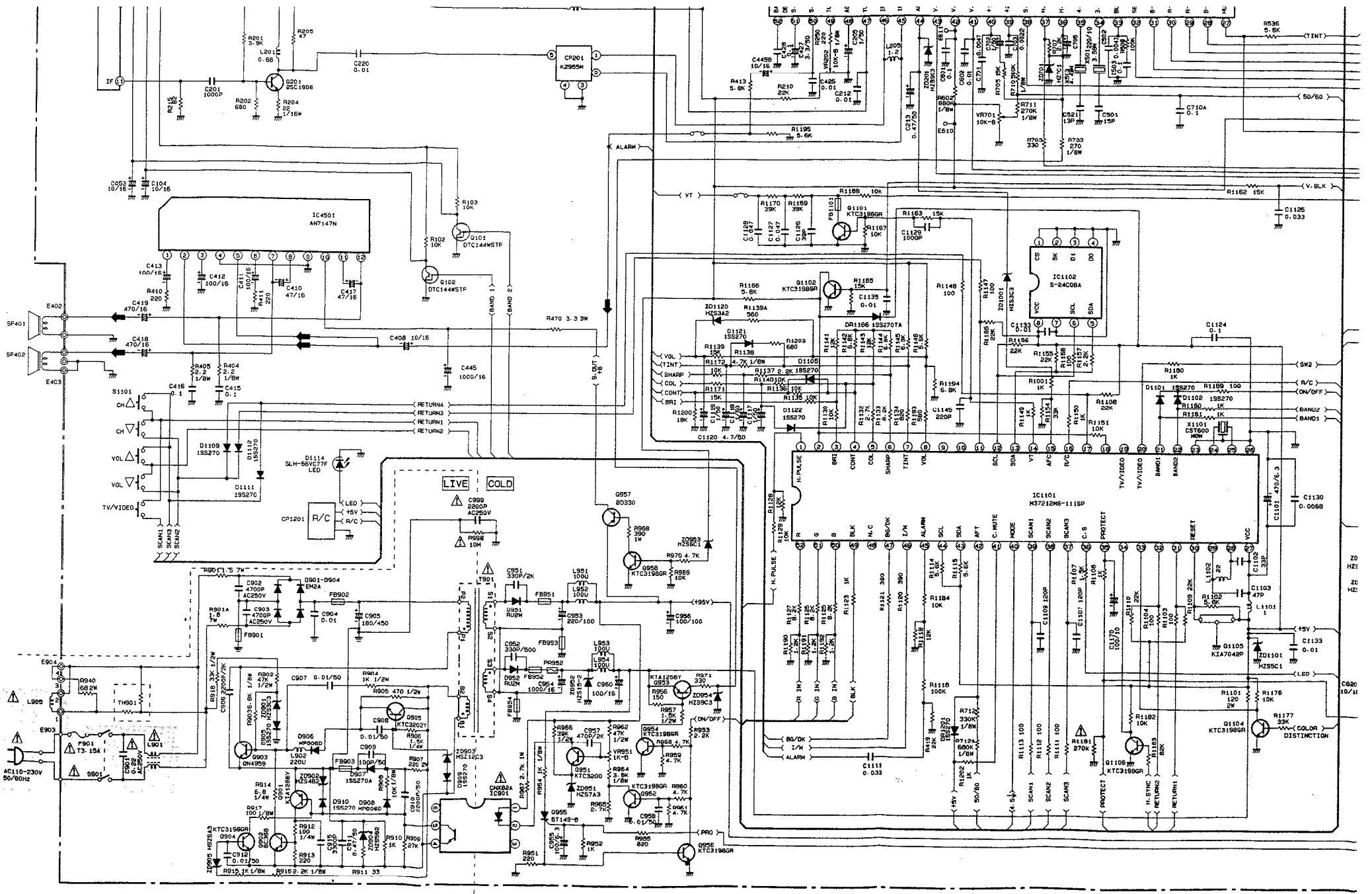


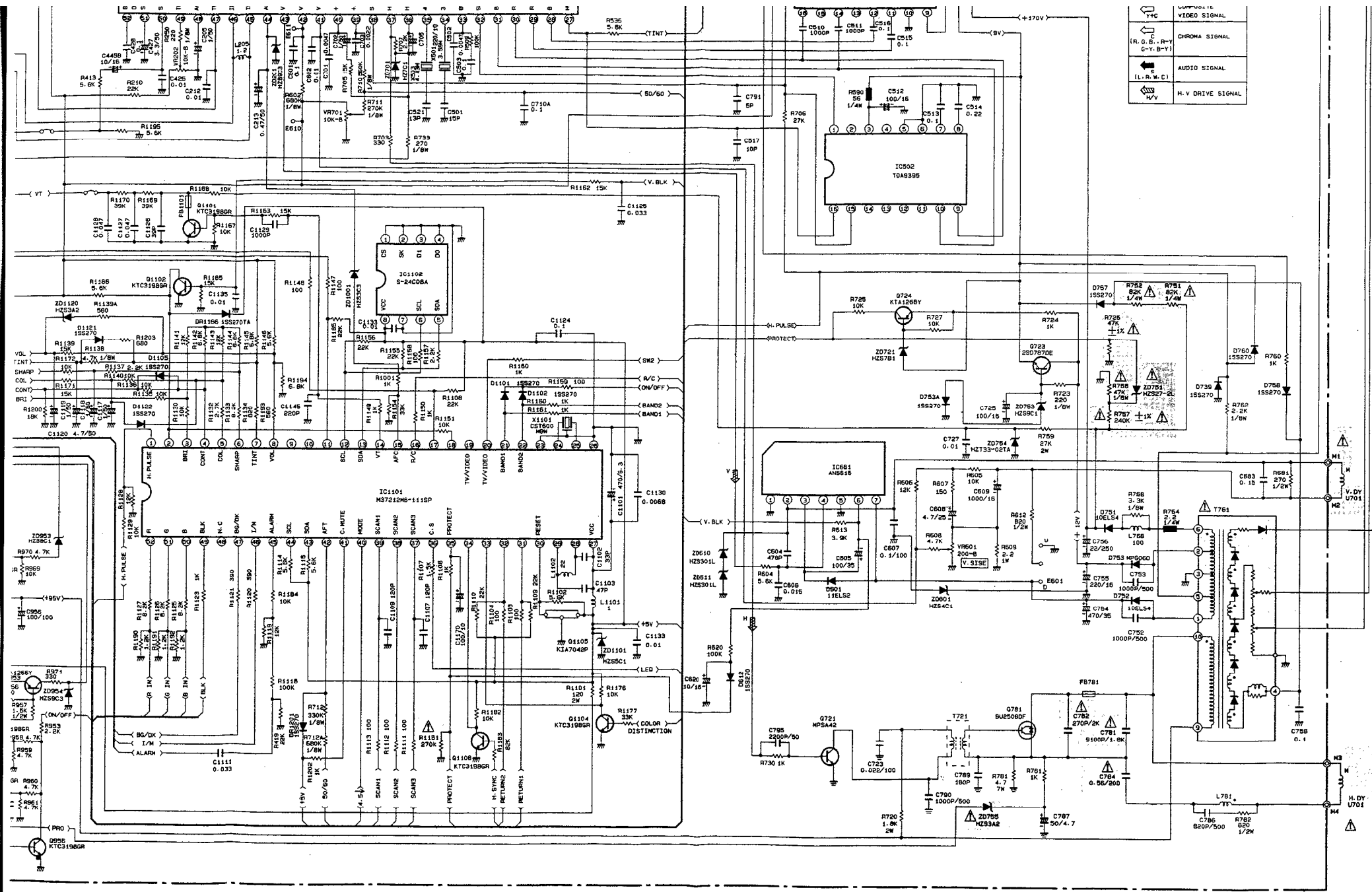
**PRODUCT SAFETY NOTE :** Components marked with a  $\Delta$  and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the **PRODUCT SAFETY NOTICE** of this Service Manual. Don't degrade the safety of the receiver through improper servicing.



**SIGNAL CURRENT**

SYMBOL	CONTENT
$\leftarrow$ Y+C	COMPOSITE VIDEO SIGNAL
$\leftarrow$ R, G, B, R-Y, G-Y, B-Y	CHROMA SIGNAL
$\leftarrow$ S	AUDIO SIGNAL
$\leftarrow$ H/V	H. V DRIVE SIGNAL





↔ V.C.	VIDEO SIGNAL
↔ I.R. O.B., R-Y, G-Y, B-Y	CHROMA SIGNAL
↔ L.R., W.C.	AUDIO SIGNAL
↔ H.V.	H.V. DRIVE SIGNAL

- Since this is basic circuit diagram, the value of the parts is subject to be altered for improvement
- All DC voltage to be measured with a tester (100k Ω/V).  
Voltage taken on a complex color bar signal including a standard color bar signal.

COMPARISON PARTS LIST

**PRODUCT SAFETY NOTE:** Components marked with a  $\Delta$  have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

**ABBREVIATIONS** Capacitors..... CD: Ceramic Disk, PF: Polyester Film, EL: Electrolytic, PP: Polypropylene, PR: Paper, TA: Tantalum, TM: Trimer.  
Resistors..... CF: Carbon film, WW: Wire Wound, FR: Fuse Resistor, MG: Metal Glazed, VR: Variable Resistor, CC: Carbon Composition, MF: Metal Oxide Film.  
Semiconductors.... TR: Transistor, DI: Diode, ZD: Zener Diode, VA: Varistor, TH: Thermistor.

SYMBOL NO.	CMT2192/CMT2199		C2133MN / C2135MN	
	PART NO	DESCRIPTION	PART NO	DESCRIPTION
* C533		NIL	0880016R	PF 0.1MF +10% 50V
C710A		NIL	0880016R	PF 0.1MF +10% 50V
* C1141		NIL	0890074R	CD 100PF +10% 50V (SL)
* C1142		NIL	0890074R	CD 100PF +10% 50V (SL)
* C1171		NIL	0890074	CD 100PF +10% 50V (SL)
* CP1101		NIL	2791754R	LC FILTER
* CP1102		NIL	2791754R	LC FILTER
* D1190		NIL	2338321M	DI ISS 270
* D1191		NIL	2338321M	DI ISS 270
* D1192		NIL	2338321M	DI ISS 270
IC1101	CPO3562	IC M37210M4 - 657SP	CPO4192	IC M37212M6 - 111SP
IC1102	CPO3461	IC AT24ACO4	CPO3981	IC S24CO8A
* R321	0700034M	CF 330 OHM +5% 1/16W	0700051M	CF 5.6K OHM +5% 1/16W
R1114		NIL	0700051M	CF 5.6K OHM +5% 1/16W
R1115		NIL	0700051M	CF 5.6K OHM +5% 1/16W
* R1116		NIL	0700027M	CF 100 OHM +5% 1/16W
* R1117		NIL	0700027M	CF 100 OHM +5% 1/16W
* R1125	0700053M	CF 8.2K OHM +5% 1/16W	0700048M	CF 3.9K OHM +5% 1/16W
* R1126	0700053M	CF 8.2K OHM +5% 1/16W	0700048M	CF 3.9K OHM +5% 1/16W
* R1127	0700053M	CF 8.2K OHM +5% 1/16W	0700048M	CF 3.9K OHM +5% 1/16W
* R1190	0700042M	CF 1.2K OHM +5% 1/16W	---	NOT USING IN C2135MN
* R1191	0700042M	CF 1.2K OHM +5% 1/16W	---	NOT USING IN C2135MN
* R1192	0700042M	CF 1.2K OHM +5% 1/16W	---	NOT USING IN C2135MN
* W001		NIL	1EK2018	2J SHIELD CABLE
X1101	2792071	X'TAL 4.00MHZ	2168371	X'TAL 6MHZ

\* ITEMS CHANGED IN C2135MN ONLY, C2133MN NOT APPLIED.

## REPLACEMENT PARTS LIST

MEMO

The following Part Lists are for C2135MN Black/White PinP PWB Assy only.

SYMBOL NO.	PART NO	DESCRIPTION	SYMBOL NO.	PART NO	DESCRIPTION
B001	JK04051A	S3M4 B/W PINP PWB	R001	0110115S	MF 56 OHM +5% 1W
C001	0800047R	EL 100MF 6.3V (SME)	R002	0700041M	CF 1K OHM +5% 1/16W
C002	0890087R	CD 1000PF +10% 50V (B)	R003	0700041M	CF 1K OHM +5% 1/16W
C003	0880057R	PF 0.1MF +10% 50V	R004	0700064M	CF 56K OHM +5% 1/16W
C004	0880057R	PF 0.1MF +10% 50V	R005	0700033M	CF 270 OHM +5% 1/16W
C005	0880057R	PF 0.1MF +10% 50V	R006	0700032M	CF 220 OHM +5% 1/16W
C006	0880057R	PF 0.1MF +10% 50V	R007	0700061M	CF 33K OHM +5% 1/16W
C007	0880057R	PF 0.1MF +10% 50V	R008	0700027M	CF 100 OHM +5% 1/16W
C008	0800044R	EL 47MF 50V (SME)	R009	0187038M	CF 75 OHM +5% 1/16W
C009	0880057R	PF 0.1MF +10% 50V	R010	0700039M	CF 820 OHM +5% 1/16W
C010	0880057R	PF 0.1MF +10% 50V	R011	0700039M	CF 820 OHM +5% 1/16W
C011	0880057R	PF 0.1MF +10% 50V	R012	0700039M	CF 820 OHM +5% 1/16W
C012	0880057R	PF 0.1MF +10% 50V	R013	0700054M	CF 10K OHM +5% 1/16W
C013	0880057R	PF 0.1MF +10% 50V	R014	0700027M	CF 100 OHM +5% 1/16W
C014	0890061R	CD 10PF +10% 50V (SL)	R015	0700041M	CF 1K OHM +5% 1/16W
C015	0890076R	CD 150PF +10% 50V (B)	R016	0700067M	CF 100K OHM +5% 1/16W
C016	0890061R	CD 10PF +10% 50V (SL)	R017	0700061M	CF 33K OHM +5% 1/16W
C017	0880057R	PF 0.1MF +10% 50V	R018	0700067M	CF 100K OHM +5% 1/16W
C018	0800012R	EL 4.7MF 50V (SME)	R019	0700062M	CF 39K OHM +5% 1/16W
C019	0880057R	PF 0.1MF +10% 50V	R020	0700041M	CF 1K OHM +5% 1/16W
C020	0890089R	CD 1500PF +10% 50V (B)	R021	0700032M	CF 220 OHM +5% 1/16W
C021	0890083R	CD 470PF +10% 50V (B)	R022	0700067M	CF 100K OHM +5% 1/16W
D001	2337341M	DI 1S270A	R023	0700027M	CF 100 OHM +5% 1/16W
E001	ED00372	13P PIN CONNECTOR	R024	0700027M	CF 100 OHM +5% 1/16W
IC9060	CP04761	IC SAB9060 (B/W PINP)	R025	0700041M	CF 1K OHM +5% 1/16W
Q001	CF01421R	TR KTC3198 GR	R026	0700041M	CF 1K OHM +5% 1/16W
Q002	CF01421R	TR KTC3198 GR	RK006	0700041M	CF 1K OHM +5% 1/16W
Q003	CF01421R	TR KTC3198 GR	ZD001	2339837M	ZD HZS5C1
Q004	CF01431R	TR KTA 1266Y			

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