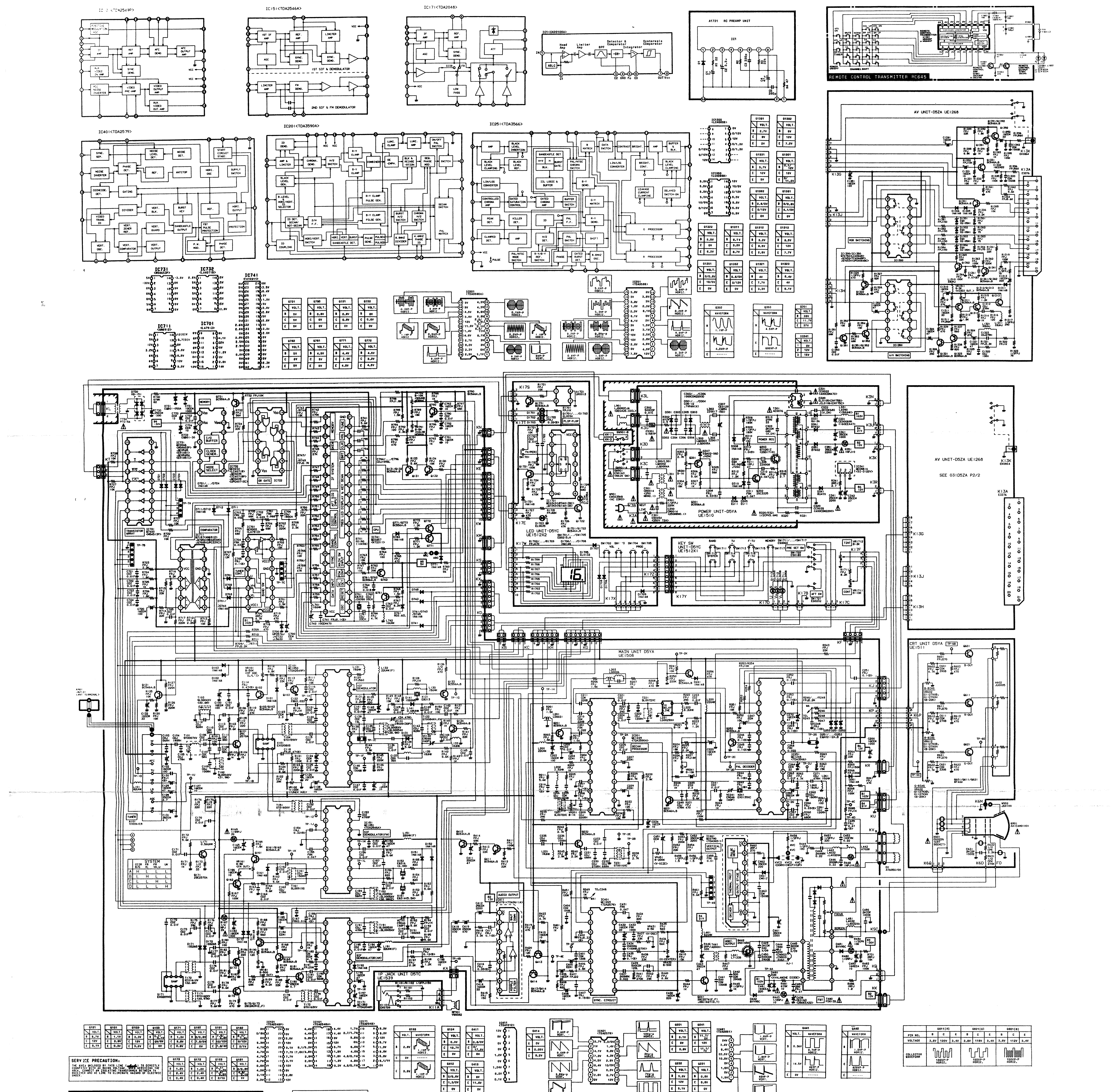

SERVICE PRECAUTION:

THE AREA INCLOSED BY THIS LINE ( ) IS DIRECTLY CONNECTED WITH AC MAINS VOLTAGE. WHEN SERVICING THE AREA, CONNECT AN ISOLATING TRANSFORMER BETWEEN TV RECEIVER AND AC LINE TO ELIMINATE HAZARD OF ELECTRIC SHOCK.

SANYO

COLOUR TELEVISION

F4 CHASSIS SERIES

SERVICE REF. NO. CEM1744-00

D5YC

PRODUCT SAFETY NOTICE

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CIRCUIT DIAGRAM NOTES:

1. ALL RESISTOR VALUES ARE IN OHMS; K=1,000; M=1,000,000.
2. ALL RESISTOR RATED WATTAGES ARE 1/6W UNLESS OTHERWISE NOTED.
3. EXCEPTING ELECTROLYTIC CAPACITORS, ALL CAPACITOR VALUES OF LESS THAN 1 ARE EXPRESSED IN UF, AND MORE THAN 1 ARE IN PF. ELECTROLYTOC CAPACITOR VALUES ARE IN UF.
4. ALL CAPACITOR RATED VOLTAGES ARE 50V UNLESS OTHERWISE NOTED.
5. ALL INDUCTOR VALUES ARE IN UH.
6. VOLTAGE READINGS TAKEN WITH A "VTVM" ARE FROM POINT INDICATED TO CHASSIS GROUND. VOLTAGE READINGS TAKEN BY USING A COLOUR BAR SIGNAL ARE WITH ALL CONTROLS AT NORMAL AND AFC SWITCH IN "OFF" POSITION . SOME VOLTAGES MAY VARY WITH SIGNAL STRENGTH.
7. WAVEFORMS WERE TAKEN WITH COLOUR BAR SIGNAL AND CONTROLS ADJUSTED FOR NORMAL PICTURE. WAVEFORMS WERE TAKEN BY USING A WIDE BAND OSCILLOSCOPE AND A LOW CAPACITY PROBE.
8. THIS CIRCUIT DIAGRAM COVERS A BASIC OR REPRESENTATIVE CHASSIS ONLY. THERE MAY BE SOME COMPONENTS OR PARTIAL CIRCUIT DIFFERENCES BETWEEN THE ACTUAL CHASSIS AND THE CIRCUIT DIAGRAM.
9. EXPRESSION OF CAPACITORS AND RESISTORS IN CIRCUIT DIAGRAM:

- CAPACITOR (EXAMPLE)

```
1000 C D M 2200 D
|    | | | |    └CHARACTERISTIC
|    | | | └──────CAPACITANCE VALUE (2200PF)
|    | | └────────ALLOWABLE ERROR (+-20%)
|    | └──────────TERMINAL CONSTRUCTION
|    └────────────TYPE (CERAMIC)
└─────────────────RATED VOLTAGE (1000V)
```

- RESISTOR (EXAMPLE)

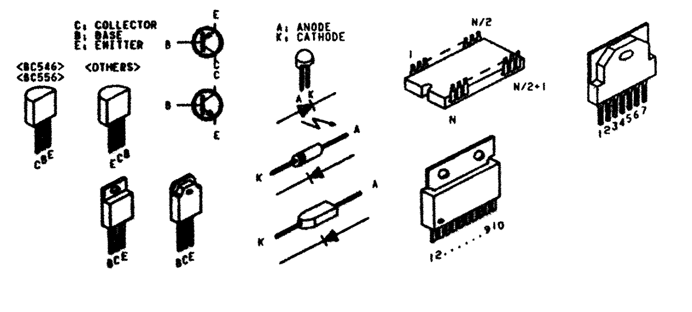
```
1/2 N P J 1.2
|   | | | └───RESISTANCE VALUE (1.2 OHM)
|   | | └─────ALLOWABLE ERROR (+-5%)
|   | └───────TERMINAL CONSTRUCTION
|   └─────────TYPE (METALIZED CARBON)
└─────────────RATED WATTAGE (1/2W)
```

•TYPE (CAPACITOR)
C ... CERAMIC
E ... ELECTROLYTIC
F ... MYLAR FILM
N ... POLYPROPYLENE

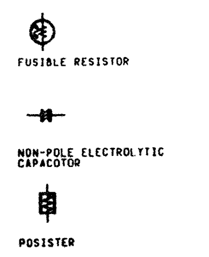
•TYPE (RESISTOR)
F ... CARBON
N ... METALIZED CARBON
R ... OXIDE METALIZED
Y ... WIRE WOUND
C ... SOLID

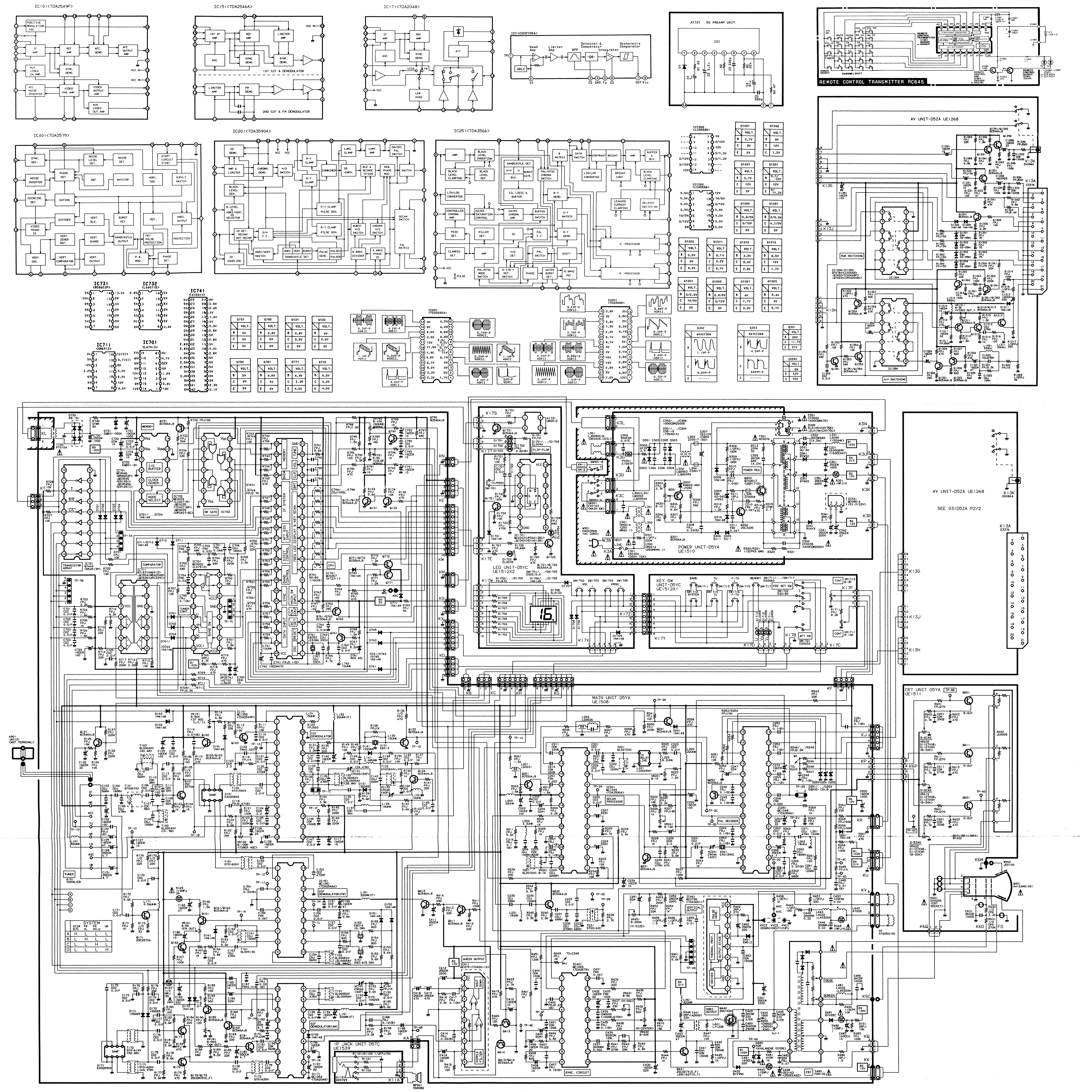
•ALLOWABLE ERROR
G ... +-2%
J ... +-5%
K ... +-10%
M ... +-20%
Z ... +80% -20%
P ... +100% -0%
•(N)... NON-POLALITY

TRANSISTOR, DIODE & INTEGRATED CIRCUIT TERMINAL GUIDE



PARTICULAR PARTS SYMBOL





Q121	
	VOLT.
B	5.7V
C	12V
E	5.1V

Q101	
	VOLT.
B	1.1V
C	3.9V
E	0.3V

Q102	
	VOLT.
B	3.3V
C	12V
E	3.2V

Q103	
	VOLT.
B	0.7/0.1V
C	0V/6V
E	0V

Q171	
	VOLT.
B	1.3V
C	9.8V
E	0.9V

Q162	
	VOLT.
B	0/0.6V
C	7.8/0V
E	0V

Q161	
	VOLT.
B	7.6/4.6V
C	12/10V
E	7.8/4V

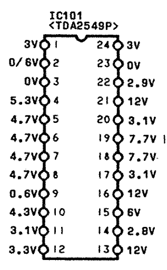
Q182	
	VOLT.
B	2.7/1.6V
C	9/10V
E	2/1V

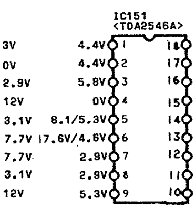
Q173	
	VOLT.
B	1.2V
C	2.4V
E	0.4V

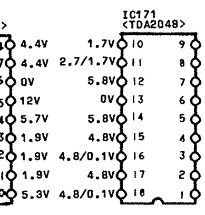
Q172	
	VOLT.
B	1.2V
C	2.4V
E	0.4V

Q163	
	VOLT.
B	2.7/1.7V
C	7.4/9.5V
E	2/1V

Q181	
	VOLT.
B	0/0.6V
C	4.8/0.1V
E	0V







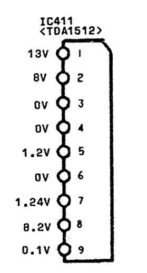
Q133		
	VOLT.	WAVEFORM
B	2.6V	1.1VP-P HORIZ.
C	0V	------
E	3.3V	1.1VP-P HORIZ.

Q134	
	VOLT.
B	0.3V
C	10.7V
E	0V

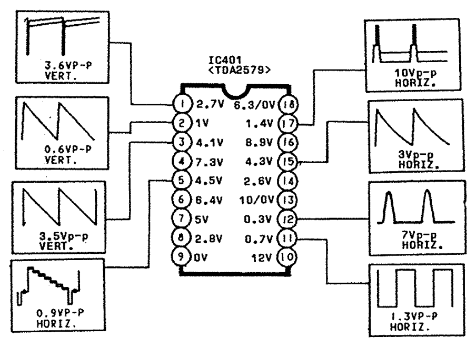
Q411	
	VOLT.
B	0.6/0V
C	0/17.8V
E	0V

Q412	
	VOLT.
B	0/0.6V
C	1.3/0V
E	0V

Q413	
	VOLT.
B	9V
C	11.6V
E	0V



Q414	
	VOLT.
E	0V
B	0.05V
C	8.2V

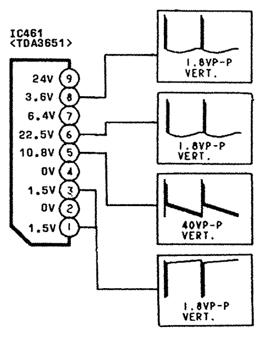


Q201	
	VOLT.
B	3.1V
C	0V
E	3.8V

Q241	
	VOLT.
B	11.7/0V
C	12V
E	11.1/7V

Q232	
	VOLT.
B	5.8V
C	12V
E	5.1V

Q231	
	VOLT.
B	0.6V
C	0.6V
E	0V



Q441		
	VOLT.	WAVEFORM
B	0.36V	0.7VP-P HORIZ.
C	14.5V	46VP-P HORIZ.
E	0V	------

Q442	
	WAVEFORM
B	1.0VP-P HORIZ.
C	820VP-P HORIZ.
E	------

	Q611(R)			Q621(G)			Q601(B)		
PIN NO.	B	C	E	B	C	E	B	C	E
VOLTAGE	3.8V	120V	3.4V	3.8V	118V	3.4V	3.8V	112V	3.4V
COLLECTOR WAVEFORM	160VP-P HORIZ.			150VP-P HORIZ.			150VP-P HORIZ.		

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F4
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     - CAPACITANCE VALUE (2200PF)
     - ALLOWABLE ERROR (+-20%)
     - TERMINAL CONSTRUCTION
     - TYPE (CERAMIC)
     - RATED VOLTAGE (1000V)
   - RESISTOR (EXAMPLE)
     1/2 N P J 1.2
     - RESISTANCE VALUE (1.2 OHM)
     - ALLOWABLE ERROR (+-5%)
     - TERMINAL CONSTRUCTION
     - TYPE (METALIZED CARBON)
     - RATED WATTAGE (1/2W)

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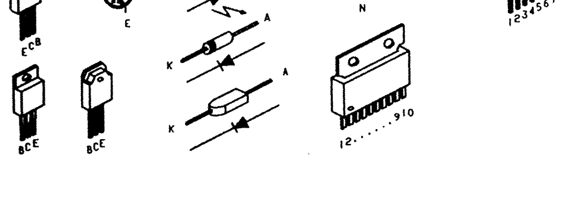

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