

General Information

1995

Chassis: 4BS-B

CRT: 51EAL5511

Remote Control:

RRMCG1036BMSA

Main Power Button:

JBTN-1022BMSA

Specifications

Power Input	240V AC50 Hz
Power Consumption:	
DV-5165H	93W
DV-5180H	112W
Audio Power Output Rating:	
DV-5165H	4W (MPO) x2
DV-5180H	10W (MPO) x2
Speaker:	
DV-5165H	10cm round x 2 pcs
DV-5180H	5cm x 11cm x 2 pcs
Voice Coil Impedance	8 ohms at 600 Hz
Intermediate Frequencies:	
Picture IF	39.5MHz
Sound IF Carrier	32.948/39.5 MHz
Colour Sub Carrier	35.07 MHz (Nominal)

Recommended Safety Parts

Item	Part No.	Description
ACC701	RCILG0408BMZZ	Degaussing (ADG) Coil
C701	CACCB5001BMV1	AC Cord
C726	RC-FZ0145BMZZ	0.1 AC300V Mylar
D701, D702	RC-KZ0156CEZZ	3300p 4kV Ceramic
D703, D704	RH-DX0502BMZZ	1N4005
D705	RH-EX0419BMZZ	Zener Diode, 15v
D706, D707		
D708, D710	RH-DX0509BMZZ	DX0509BM
D709, D712	RH-DX0045BMZZ	1N4148
D711	RH-DX0515BMZZ	
D713, D714		
D715	RH-DX0510BMZZ	DX0510BM
D716	RH-EX0413BMZZ	Zener Diode, 8.2V
F701	QFS-C2050BMZZ	Fuse, T2AH
F751, F752	QFS-J4021CEZZ	Fuse, IC Protector
IC702	RH-FX0101BMZZ	PhOTO Coupler
L701	RCILF0110BMZZ	Line Filter
PR701	RMPTP0028CEZZ	Positive Coefficient
R2813	RR-XZ0110BMZZ	6.8 1/2W Fuse Resistor
R330, R331	RR-XZ0200BMZZ	* 1/2W Fuse Resistor (DV-5165H)
R370, R371		
R381, R382		
R513, R363	RR-XZ0200BMZZ	* 1/2W Fuse Resistor
R481, R423	RR-XZ0110BMZZ	6.8 1/2W Fuse Resistor
R611, R616	RR-XZ0216BMZZ	22 1/2W Fuse Resistor
R705	RR-XZ0242BMZZ	3.3k 1/3W Fuse Resistor
R711, R712	RR-XZ0206BMZZ	3.3 1/2W Fuse Resistor
R724, R725	VRC-UA2HG825K	8.2 1/2W Solid
RY751	RRLYZ0001BMZZ	Relay

Service Adjustments

Important Service Notes

Maintenance and repair of this receive should be done by qualified service personnel only.

Servicing of High Voltage System and Picture Tube.

When servicing the high voltage system, remove static charge from it by connecting a 10 k Ω Resistor in series with an insulated wire (such as a test probe) between picture tube ground tag and high voltage lead (AC line cord should be disconnected from AC outlet.)

- 1: Picture tube in this receiver employs integral implosion protection.
- 2: Replace with tube of the same type number for continued safety.
- 3: Do not lift picture tube by the neck.
- 4: Handle the picture tube only when wearing shatterproof goggles and after discharging the high voltage completely.

X-Ray

This receiver is designed so that any X-Ray radiation is kept to an absolute minimum. Since certain malfunctions or servicing may produce potentially hazardous radiation with prolonged exposure at close range, the following precautions should be observed:

- 1: When repairing the circuit, be sure not to increase the high voltage to more than 30.0 kv. (at beam 1100 μ A) for the set.

- 2: To keep the set in a normal operation, be sure to make it function on 25.3 kv \pm 1.5 kv (at beam 1100 μ A) in the case of the set. The set has been factory — Adjusted to the above mentioned high voltage.
- 3: Do not substitute a picture tube with unauthorised types and/or brands which may cause excess X-Ray radiation.

Before Returning The Receiver

Before returning the receiver to the user, perform the following safety checks.

- 1: Inspect all lead dress to make certain that leads are not pinched or that hardware is not lodged between the chassis and other metal parts in the receiver.
- 2: Inspect all protective devices such as non-metallic control knobs insulating fishpapers, cabinet backs, adjustment and compartment covers or shields, isolation resistor-capacity networks, mechanical insulators etc.

Service Adjustment

PIF/SIF/AGC/G2 Adjustment

1: Trap Adjustment

Adjusting Point
T1201: Trap coil (Adj.-P Trap)
T1200: Trap Coil (Adj.-S Trap)

- 1: Connect sweep generator output to IF in (FA (1)).
- 2: Connect response cable with detector to collector line of Q1200 (See fig 1).

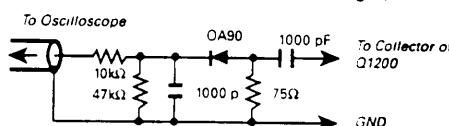


Fig 1.

- 3: Adjust T1201 (Adj.-P Trap) so that trap is (31.5 MHz).
- 4: Adjust T1200 (Adj.-S Trap) so that trap is (41.5 MHz). (See fig. 2.)

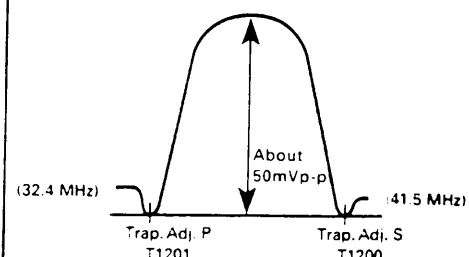


Fig 2.

2: VCO Adjustment
Adjusting Point
T1201: VCO Adjust coil

- 1: Apply DC 2.5v to pin (25) of IC1200 (PIF-AGC).
- 2: Feed the following signal to pin (1) of connector (FA) in IF unit.
• Frequency: 39.5 MHz (CW) \pm 5kHz
• Level: approx. 85 dB
- 3: Adjust T1201 so that voltage at pin (AFT output) of connector (FA) in IF unit is 2.5 \pm 0.2v.

3: RF AGE Adjustment

Adjusting Point
R1216: RF AGC control

- 1: Receive "COLOUR BAR" signal.
• signal strength: 53 dB (terminated with 75 Ω).
- 2: Connect DC voltmeter to Test Point TP1200 (RF AGC)
- 3: Set AGC control (R1216) to maximum position (memory).
- 4: Adjust R1216 to obtain voltage of 0.1v below maximum voltage (step 3).

4: G2 Adjustment

- 1: Receive "MONOSCOPE PATTERN" signal.
- 2: Connect DC voltmeter with Test probe attenuator (+ 1000) to G2 on PWB-B.
- 3: Adjust Screen control to obtain 700V on G2.

5: Focus Adjustment

- 1: Receive "MONOSCOPE PATTERN" signal.
- 2: Adjust Focus control to have best focus at the central area of CRT screen.

6: 110v Adjustment

- 1: Receive "MONOSCOPE PATTERN" signal.
- 2: Connect DC voltmeter to TP700.
- 3: Adjust the R755 until the TP700 voltage becomes 110V \pm 0.5v.

Service Mode Function

This mode function is provided to assist with the settings of those adjustments that may vary from one Picture Tube to another, or between models.

In order to use the Service Mode

- 1: Connect Test Pattern signal to antenna terminal.
- 2: Press main switch to off.
- 3: Press Δ V and CH Δ buttons and main switch to on simultaneously.
- 4: — SERVICE SOFTWARE — will appear on screen.

The required adjustments can then be made from the Remote Control Unit.
The only buttons required are the following:
 Δ CH Δ for movement in adjustment options menu; Δ Δ V are used to carry out an adjustment in said menu; ON/OFF is used to memorise a new adjustment.

Adjustment menu is as follows:

- SERVICE SOFTWARE
- CROMA-LUNA DELAY
- VERT. SHIFT
- HOR. SHIFT
- VERT. BREATHING
- VERT. AMPLITUDE
- S-CORRECTION
- RED REFERENCE
- GREEN REFERENCE
- BLUE REFERENCE
- ALTER NVM POS 00 00
- ALTER NVM VAL 00 00
- AUTO INSTALLATION
- OPC VALUE (DV-5180H only)

Having finalised adjustments, to exit service mode, press main switch to off.

Adjustment Note:

The procedure for making adjustments to Vertical Corrections is as follows:

- Adjust S-CORRECTION
- Adjust VERT. SHIFT
- Adjust VERT. AMPLITUDE

Geometry Adjustment Procedure

Chroma-Luma Delay

- a: Receive Philips pattern signal.
- b: When volume-up button is pressed, luma phase delays.
- c: When volume-down button is pressed, chroma phase delays.
- d: Adjust the Chroma-Luma delay.

Vert. Shift

- a: Receive Philips pattern signal.
- b: When volume-down button is pressed, picture moves up.
- c: When volume-up button is pressed, picture moves down.
- d: Adjust the Vertical location to obtain picture centring (fig. 3).

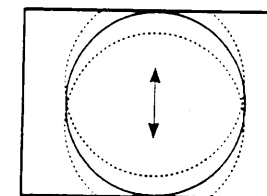


Fig 3.

Hor. Shift

- a: Receive Philips pattern signal.
- b: When volume-up button is pressed, picture moves to the left.
- c: When volume-down button is pressed, picture moves to the right.
- d: Adjust the horizontal location to obtain picture centring (fig. 4).

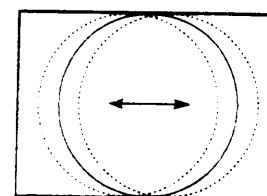


Fig 4.

Vert. Amplitude

- a: Receive Philips pattern signal.
- b: When the volume-up button is pressed, vertical size of picture increases.
- c: When volume-down button is pressed, vertical size of picture decreases.
- d: Adjust the vertical size to obtain overscan (fig. 5).

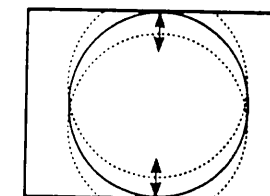


Fig 5.

S-Correction

- a: Receive Philips pattern signal.
- b: When the volume-up button is pressed, upper and lower scanning decreases, and centre scanning increases.
- c: When volume-down button is pressed, upper and lower scanning increases, and centre scanning decreases.
- d: Adjust the S-correction to obtain a balance between upper, lower and centre (fig. 6).

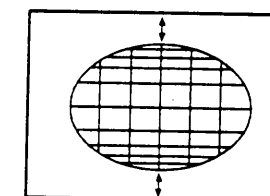


Fig 6.

The following adjustments are only required when the Picture Tube is changed.

Red Reference/Green Reference/Blue Reference

- a: Adjust G2.
- b: Tune in white pattern.
- c: Adjust colour to minimum.
- d: Position colourmeter in centre of screen.
- e: Using brightness and contrast buttons, select a luminance of \approx 120 NITS.
- f: Operate again in Service Mode and select location RED REFERENCE/ GREEN REFERENCE/BLUE REFERENCE TO OBTAIN COLOUR CO-ORDINATES:
X = 0.290 \pm 0.0015
Y = 0.284 \pm 0.015
- g: Exit Service Mode and check colour co-ordinates 'X' and 'Y' at 20 and 120-Nits. It may be necessary to repeat procedure.

Note:

Locations: RED REFERENCE alter 'X' co-ordinate; GREEN REFERENCE alter the 'Y' co-ordinates; BLUE REFERENCE alter the 'X' and 'Y' co-ordinates.

Alter NVM POS XX XX
Assigned value
Storage location

When Δ Δ buttons are pressed, alter Storage Location.

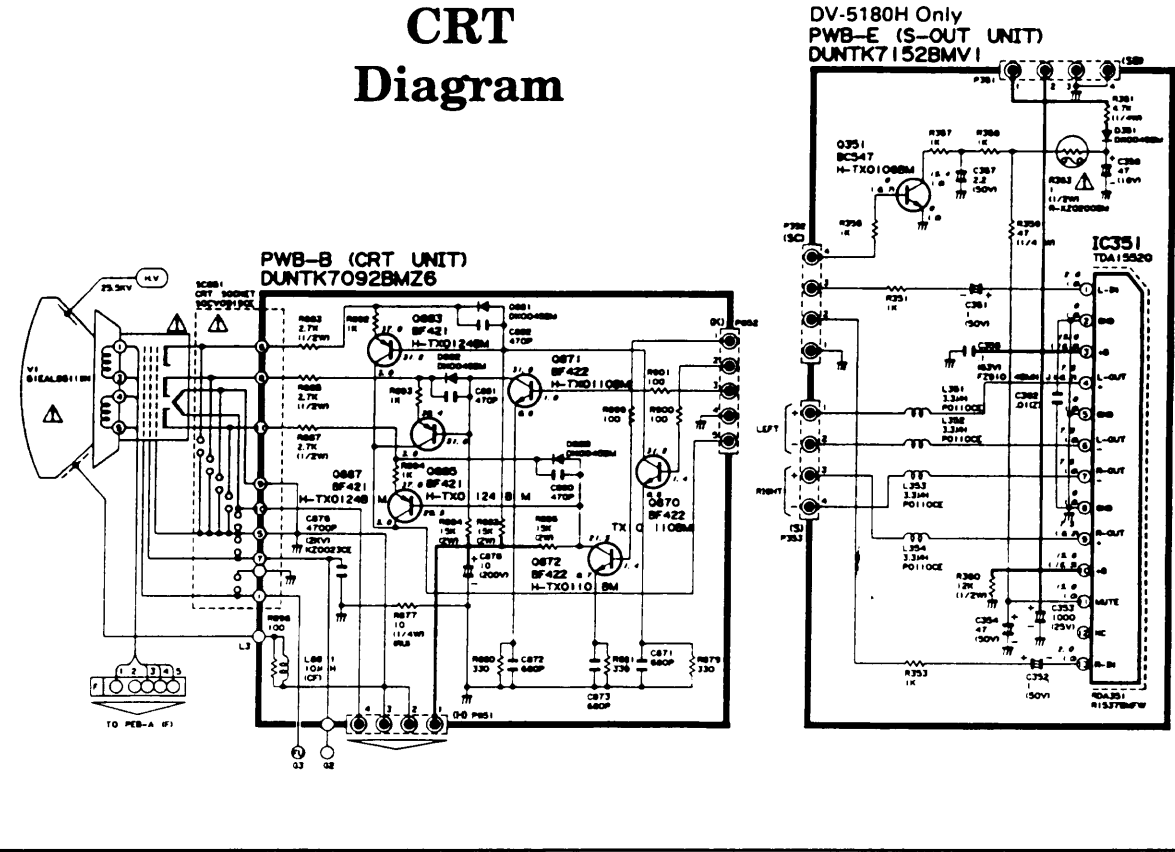
Alter NVM VAL XX XX
Assigned value
Storage location

When Δ Δ buttons are pressed, alter Assigned value.

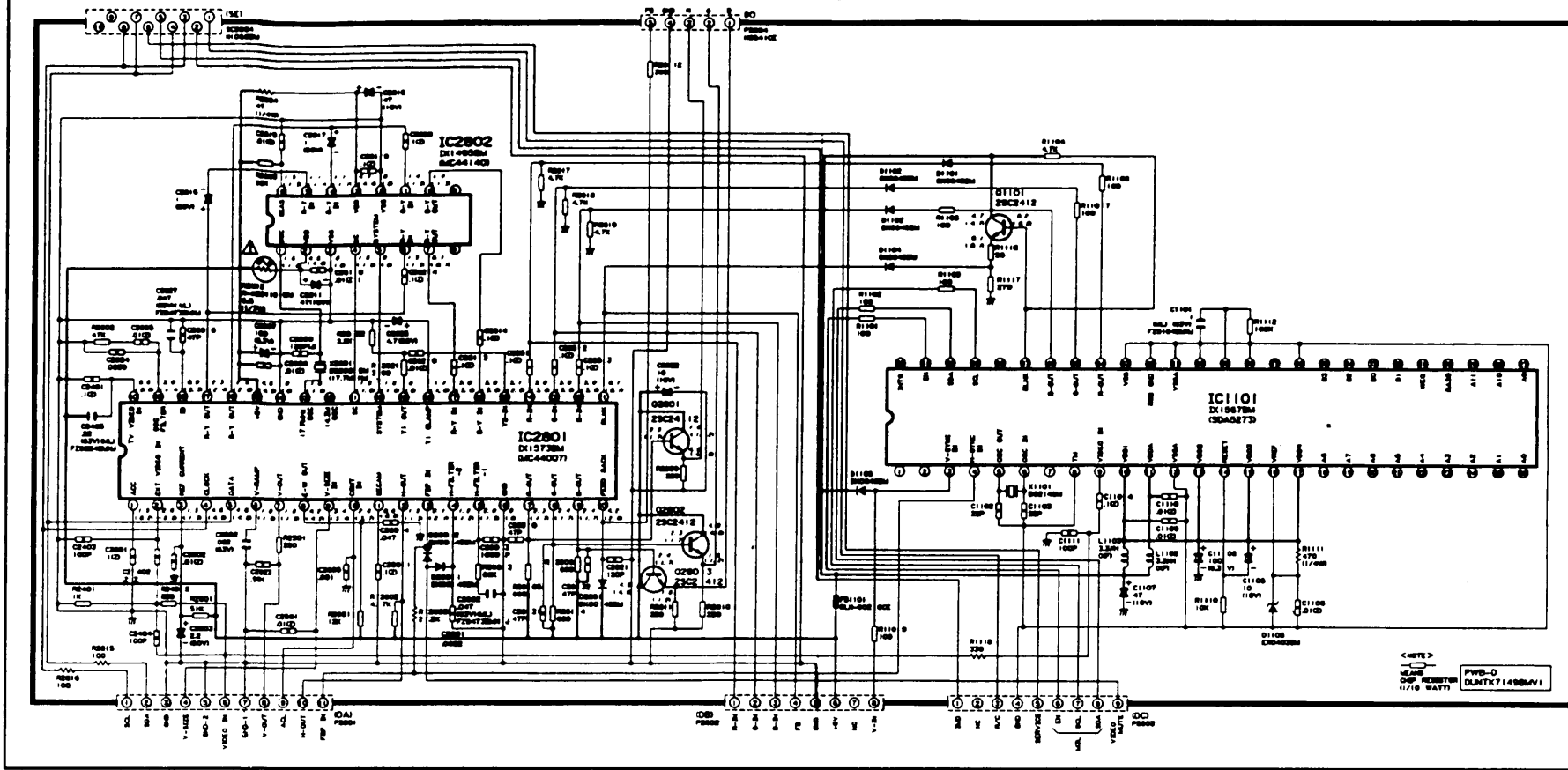
Recommended Safety Parts

Item	Part No.	Description
S701	QSW-P0566CEZZ	Main Power Switch. (DV-5165H)
S701	QSW-P0600BMZZ	Main Power Switch. (DV-5180H)
SC851	QSOCV0919CEZZ	CRT Socket
T602	RTRNF2026BMZZ	Flyback Trans. (FBT)
T701	RTRNZ0533BMZZ	Trans. DV-5165H)
T701	RTRNZ0526BMZZ	Trans. DV-5180H)
T751	RTRNP0001BMZZ	Power Trans.
TU201	VTUATEKB7-022	Tuner, UHF
V1	VB1EAL5511*N	CRT Ass Y 51 CM (21")

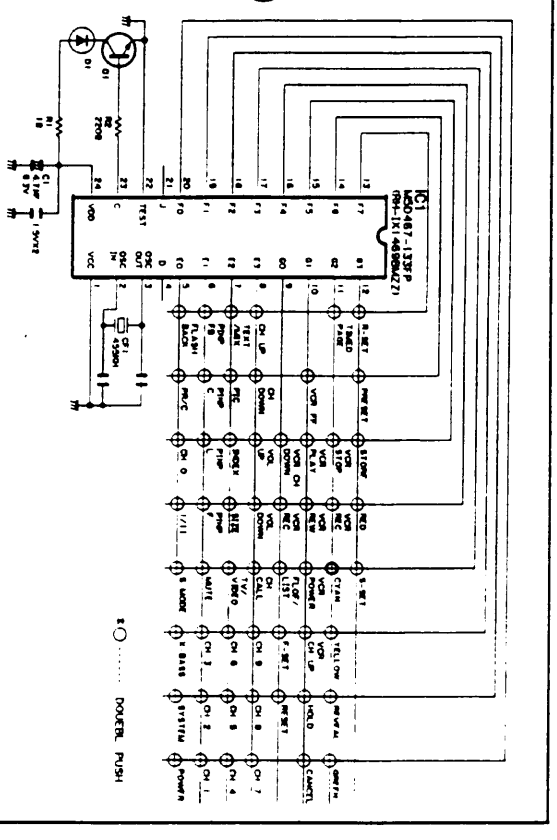
CRT
Diagram



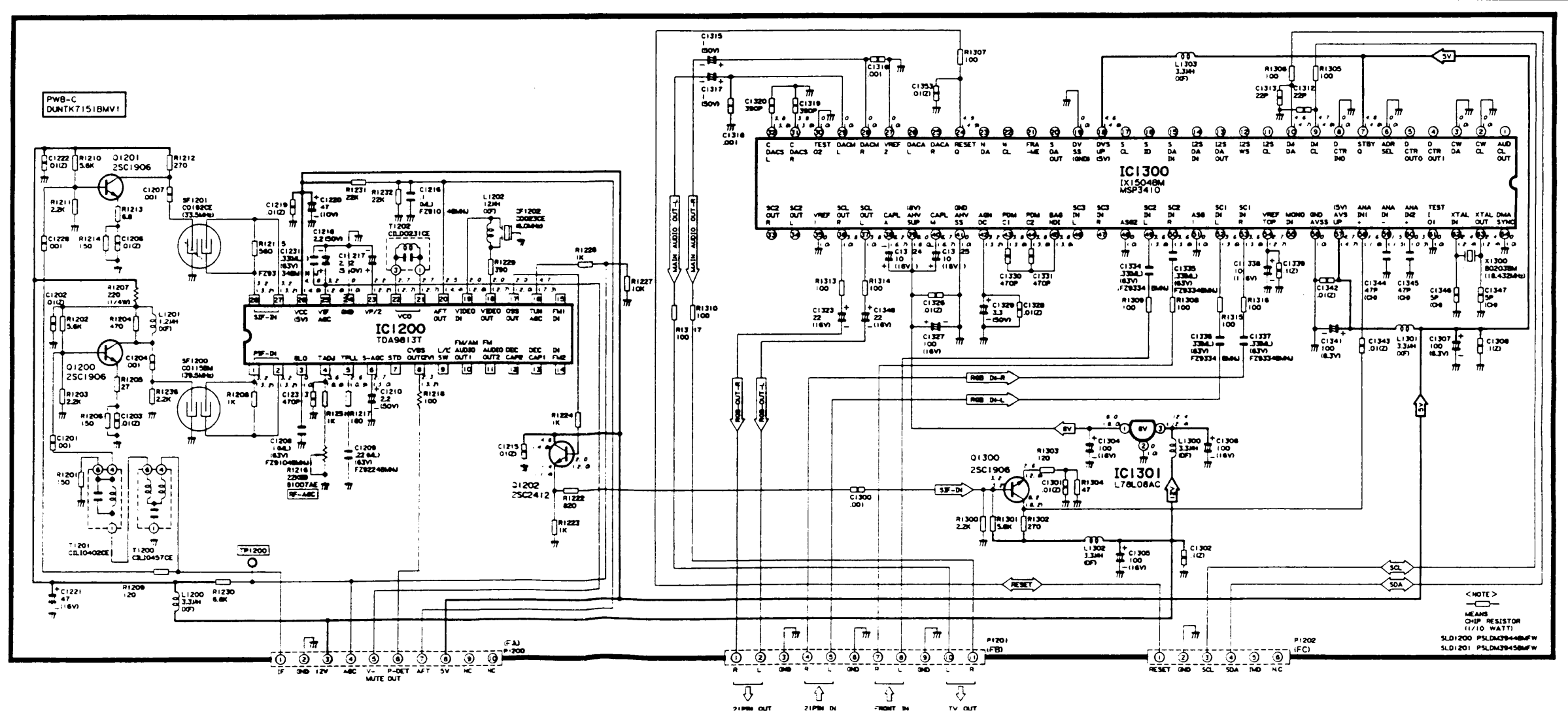
VCJ Diagram



Remote Control
Diagram

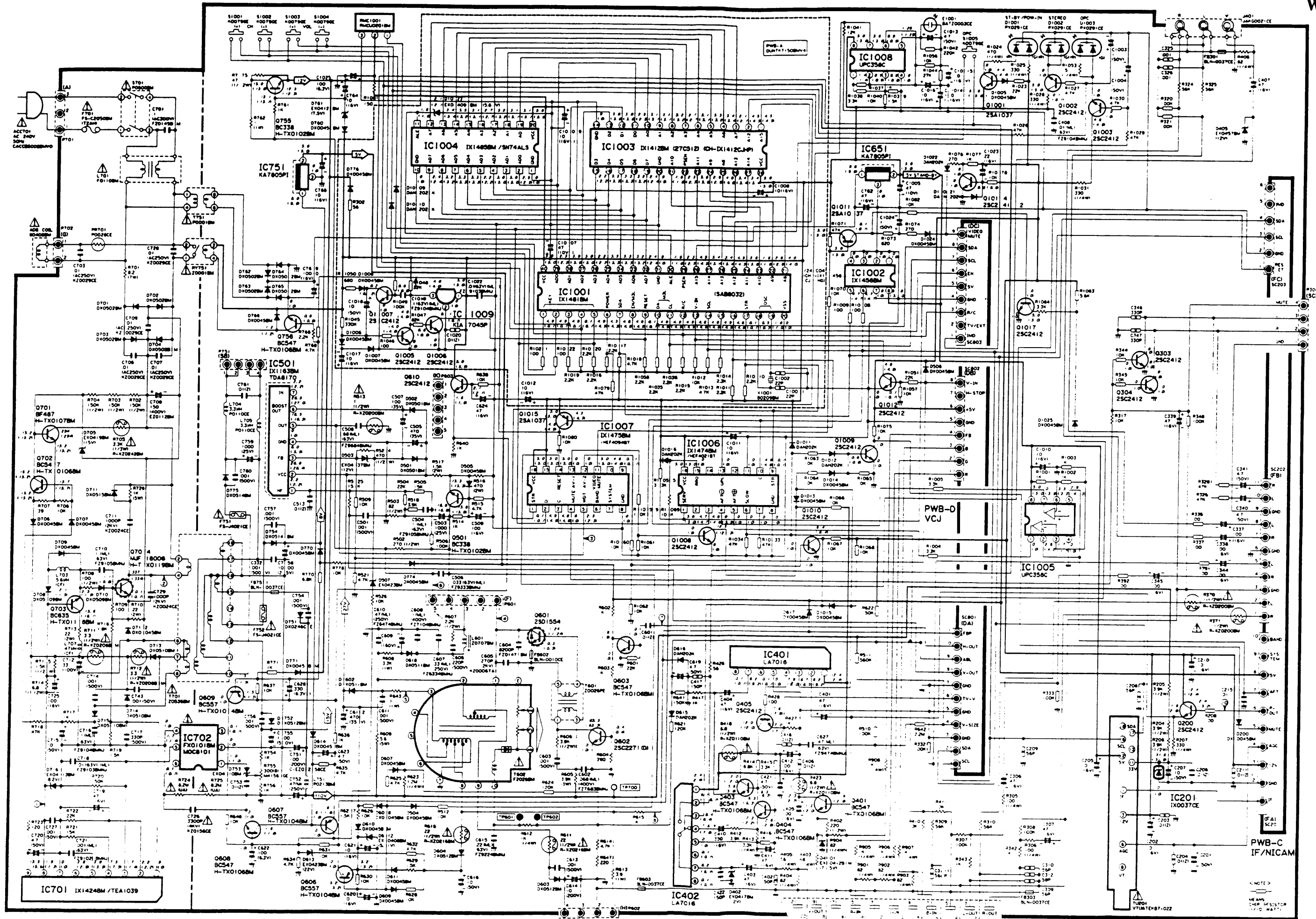














IF NICAM
Diagram



Main Diagram

Waveforms



- ① 6 Vp-p

- ② 520 Vp-p

- ③ 5 Vp-p

- ④ 1000 Vp-p

- ⑤ 240 Vp-p

- ⑥ 44 Vp-p

- ⑦ 2.4 Vp-p

- ⑧ 6.4 Vp-p

- ⑨ 1.7 Vp-p

- ⑩ 2.1 Vp-p

- ⑪ 2.2 Vp-p

- ⑫ 2.2 Vp-p

- ⑬ 2.2 Vp-p
