

General Information

1995

Chassis: 4BS-C

CRT: 59EAK7111

Remote Control:

RRMCG1036BMSA

Left Door (Flap):

GDORF1042BMSA

Right Door (Flap):

GDORF1041BMSA

Main Power Button:

JBTN-1013BMSA

Matrix

Item	See Model
Remote Control Unit	Sharp DV 5165H

Specifications

Power Input	240V AC 50 Hz
Power Consumption	145W
Audio Output Power Rating	10W (MPO) x2
Speaker	6.5cm x 13.4cm
Voice Coil Impedance	8 ohms x 2 units
Intermediate Frequencies:	
Picture IF	39.5 MHz
Sound IF Carrier	32.948/33.5 MHz
Colour Sub-Carrier	35.07 MHz (Nominal)

Recommended Safety Parts

Item	Part No.	Description
ACC701	CACCB5001BMV1	AC Cord Ass'y
C1700, C1702	RC-FZ0145BMZZ	0.1 ACAC300V Mylar
C1701, C1703, C1704, C1705, C1706	RC-KZ0029CEZZ	0.01 AC250V Ceramic
C702	RC-EZ0109BMZZ	330 385V Electrolytic
C703	VCEAGA1EW337M	330 25V Electrolytic
C704	RC-FZ9103BMNJ	0.01 63V Mylar
C705	RC-FZ9222BMNJ	2200p 63V Mylar
C706	RC-KZ0036CEZZ	330p 2kV Ceramic
C707, C710	RC-FZ9104BMNJ	0.1 63V Mylar
C708	RC-FZ9102BMNJ	1000p 63V Mylar
C709	VCKYPA2HB102K	1000p 5000V Ceramic
C711	VCFPPD3CA472H	4700p 1.6kV Polypro Film
C712	VCEAGA1HW107M	100 50V Electrolytic
C714	VCEAGA1HW474M	4.7 50V Electrolytic
C715	VCEAGA0JW107M	100 6.3V Electrolytic
C749	RC-KZ0156CEZZ	3300p 4kV Ceramic
D1700, D1701, D1700, D1701, D1702, D1703	RH-DX0240CEZZ	
D1702, D1703	RH-DX0240CEZZ	
D701	RH-DX0299BMZZ	BY228
D703	RH-EX0478BMZZ	Zener Diode
D704	RH-EX0423BMZZ	Zener Diode
D705, D707, D709, D713	RH-DX0045BMZZ	1N4148

Service Adjustments

Warning

The chassis in this receiver is partially hot. Use an isolation transformer between the line cord plug and power receptacle, when servicing this chassis. To prevent electric shock, do not remove cover. No/user — serviceable parts inside. Refer servicing to qualified personnel.

Important Service Notes

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

Servicing of High Voltage and Picture Tube.

When servicing the high voltage system, remove static charge from it by connecting a 10 k ohm 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 1000µA) for the set.
- 2: To keep the set in a normal operation, be sure to make it function on 25.7 kv± 1.5 kv (at beam 1300 µA) in the case of the set. The set has been factory — Adjusted to the above-mentioned high voltage.
If there is a possibility that the high voltage fluctuates as a result of the repairs, never forget to check for such high voltage after the work.
- 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 fish papers, cabinet backs, adjustment and compartment covers or shields, isolation resistor-capacity networks, mechanical insulators etc.

Service Adjustment

PIF/SIF/AGC/G2 Adjustment

1: VCO Adjustment

Adjusting Point
T1202: VCO Adjust Coil

- 1: Feed the following signal to pin (1) of connector (FA) in IF unit.
Frequency: 39.5 MHz (CW) ± 5 kHz
Level: approx. 85 dB
- 2: Adjust T1202 so that voltage at pin (7) (AFT output) of connector (FA) in IF unit is 2.5 ± 0.2v.

2: RF AGC Adjustment

Adjusting Point
R1216: RF AGC Control

- 1: Receive "COLOUR BAR" signal.
Signal strength: 57dB
- 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).

3: G2 Adjustment

- 1: Receive "MONOSCOPE PATTERN" signal.
- 2: Connect DC voltmeter with Test probe attenuator (+ 1000) to HH1 Test point on PWB-C.
- 3: Adjust G2 to obtain 730 V on HH1.

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: Connect a jump wire between terminals (2) (GND) and (6) of the service slot situated in the TEXT Unit.
- 3: — SERVICE SOFTWARE — will appear on screen.
- 4: Remove a jump wire of the service slot.

The required adjustments can then be made

from the Remote Control Unit. The only buttons required are the following: Δ CH v for movement in adjustment options menu; 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
- E-W WIDTH
- E-W PALABOLA
- E-W CORNER
- E-W TRAPEZOID
- VERT. AMPLITUDE
- S-CORRECTION
- RED REFERENCE
- GREEN REFERENCE
- BLUE REFERENCE
- ALTER NVM POS 00 00
- ALTER NVM VAL 00 00

Having finalised adjustments, connect a jump wire again, between terminals (2) and (6) of the service slot to exit service mode.

Adjustment Note:

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

Recommended Safety Parts Cont'd.

Item	Part No.	Description
D706	RH-DX0126CEZZ	
D708	RH-EX0477BMZZ	Zener Diode
D712	RH-DX0503BMZZ	1N4005
F1700	QFS-C2050BMZZ	Fuse, T2AH
F573	QFS-J4021GEZZ	IC Protector
F751	QFS-J2521GEZZ	IC Protector
FB700	RBLN-0037CEZZ	Ferrite Bead
IC701, IC702	RH-FX0101BMZZ	Photo Coupler
IC751	VHISE140N/-1	
J1300	QJAKJ0014AEZZ	Jack, Head Phone
J1400	QJAKZ0101BMZZ	JACK, AV Input
L1700, L1701	RCILF0108BMZZ	Line Filter
L1702	CCILG0304WEV1	Degaussing (ADG) Coil Ass'y AW (DV-5940H)
L1702	CCILG0303WEV1	Degaussing (ADG) Coil Ass'y AU (DV-6632H)
L700	VP-CF3R3K0000	Coil. 3.3uH
L701	VP-CF1R0M0000	Coil. 3.3uH
P1700	QPLGN0304CEZZ	Plug 3-pin. (A)
P1701	QPLGN0207CEZZ	Plug 2-pin. (G)
P1702	QPLGN0304CEZZ	Plug 3-pin (b)
P700	QPLGN0304CEZZ	Plug 3-pin. (B)
PR1700	RMPTP0028CEZZ	Positive Coefficient Thermistor
Q600, Q700	VS2SD1546//2E	Degaussing
Q701	VS2SC2412KQ-1	2SD1546
Q702	VS2SA1037KQ-1	2SC2412
R1700	VRW-KQ41C4R7K	2SA1037
R200, R202, R413	RR-XZ0212BMZZ	4.7 15W Cement
R274	VRD-RA2HD101J	10 1/2W Fuse Resistor
R310, R311	RR-XZ0208BMZZ	100 1/2W Carbon
R3439, R3461	RR-XZ0116BMZZ	4.7k 1/2W Fuse Resistor
R363, R475		22 1/3W Fuse Resistor
R503, R615, R611	RR-XZ0204BMZZ	
R620	RR-XZ0219BMZZ	2.2 1/2W Fuse Resistor
R626, R631	RR-XZ0200BMZZ	39 1 2W Fuse Resistor
		1 1/2W Fuse Resistor

Recommended Safety Parts Cont'd.

Item	Part No.	Description
R701	VRS-TV1JD123J	12k 1/16W Metal Oxide
R702	VRD-RA2B2562J	5.6k 1/8W Carbon
R705	VRD-RA2EE474J	470k 1/4W Carbon
R707	VRD-RA2HD271J	270 1/2W Carbon
R708	VRD-RA2HD	102J 1k 1/2W Carbon
R710	VRS-VV3DB104J	100k 2W Metal Oxide
R711	VRS-VV3DB473J	47k 2W Metal Oxide
R712	VRS-VV3DB120J	12 2W Metal Oxide
R714	VRD-RA2BE102J	1k 1/8 Carbon
R715, R275	VRN-VV3DBR56J	0.56 2W Metal Film
R716	VRS-TV1JD101J	100 1/16W Metal Oxide
R718, R719	VRS-TV1JD472J	4.7k 1/16W Metal Oxide
R720	VRS-TV1JD223J	22k 1/16W Metal Oxide
R721	VRD-RA2HD273J	27k 1/2W Carbon
R722	VRS-TV1JD103J	10k 1/16W Metal Oxide
R723	VRS-TV1JD102J	1k 1/16W Metal Oxide
R729, R730	VRC-UA2HG825K	8.2M 1/2W Solid
R801	RR-XZ0108BMZZ	4.7 1/3W Fuse Resistor
R806, R839, R844	RR-XZ0112BMZZ	10 1/3W Fuse Resistor
S1100	QSW-K0090CEZZ	Volume Up
S1100	QSW-K0079GEZZ	Volume Up
S1101	QSW-K0090CEZZ	Volume Down
S1101	QSW-K0079GEZZ	Volume Down
S1102	QSW-K0090CEZZ	Channel Up
S1102	QSW-K0079GEZZ	Channel Up
S1103	QSW-K0090CEZZ	Channel Down
S1103	QSW-K0079GEZZ	Channel Down
S1104	QSW-K0090CEZZ	OPC
S1700	QSW-P0566CEZZ	Main's Power
T600	RTRNF2021BMZZ	Flyback Trans. (FBT)
T700	RTRNZ0519BMZZ	Switching Mode Trans.
TU22	VTUATEKB7-004	Tuner, UHF
V1	VB59EAK7111*N	CRT Ass'y, 59 cm (25") (DV-5940H) with Deflection Yolk, Purity Magnet and Wedges
V1	VB66EAK7111*N	CRT Ass'y, 66 cm (28") (DV-6632H) with Deflection Yoke, Purity Magnet and Wedges
VA1700	RH-VX0033CEZZ	Varistor

Service Adjustments Cont'd.

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

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

- Adjust HOR. SHIFT
- Adjust E-W PALABOLA
- Adjust E-W WIDTH
- Adjust E-W TRAPEZOID
- Adjust E-W CORNER

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.1).

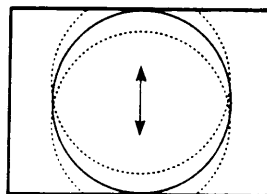


Fig 1.

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. 2).

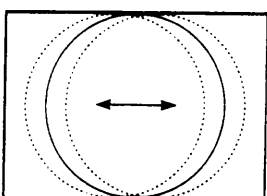


Fig 2.

E-W Width

- a: Receive Philips pattern signal.
- b: When volume-up button is pressed, horizontal scanning increases.
- c: When volume-down button is pressed, horizontal scanning decreases.
- d: Adjust the horizontal amplitude to obtain 9% overscan (fig. 3).

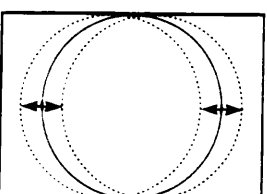


Fig 3.

E-W Parabola

- a: Receive Philips pattern signal.
- b: When volume-up button is pressed, slide pincushion changes from pincushion to barrel shape.
- c: When volume-down button is pressed, slide pincushion changes from barrel to pincushion shape.
- d: Adjust the E-W PARABOLA to obtain condition as in fig. 4.

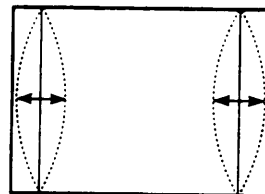


Fig 4.

E-W Corner

- a: Receive Philips pattern signal.
- b: When volume-down button is pressed, slide pincushion changes from pincushion to barrel shape.
- c: When volume-up button is pressed, slide pincushion changes from barrel to pincushion shape.
- d: Adjust the E-W CORNER to obtain condition as in fig. 5.

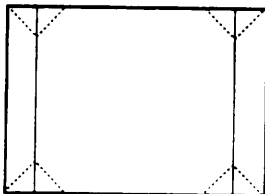


Fig 5.

E-W Trapezoid

- a: Receive Philips pattern signal.
- b: When volume-up button is pressed, slide pincushion changes.
- c: When volume-down button is pressed, slide pincushion changes.
- d: Adjust the E-W TRAPEZOID to obtain condition as in fig. 6.

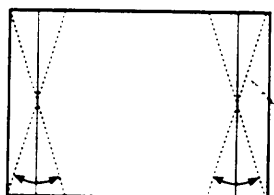


Fig 6.

Vert. Amplitude

- a: Receive Philips pattern signal.
- b: When 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.7)

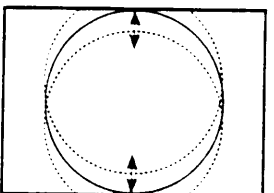


Fig 7.

S-Correction

- a: Receive Philips pattern signal.
- b: When 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 as in fig. 8.

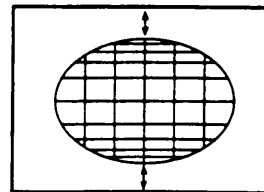


Fig 8.

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 card.
- c: Adjust colour to minimum.
- d: Position colourmeter in centre of screen.
- e: Using brightness and contrast buttons, select a luminance of ~ 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.

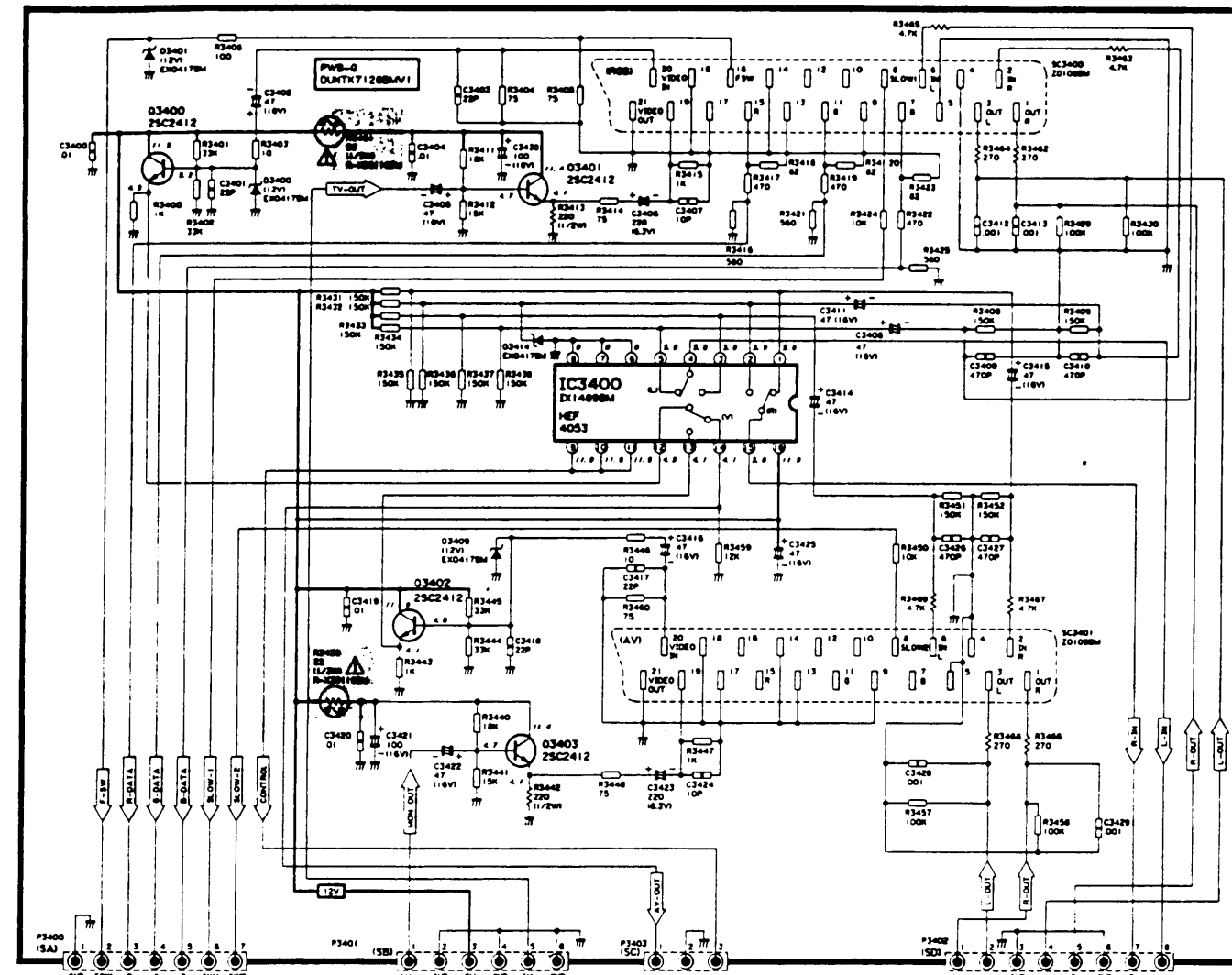
Alter NVM POS XX XX
 | Assigned value
 | Storage location

When v A buttons are pressed, alter Storage Location.

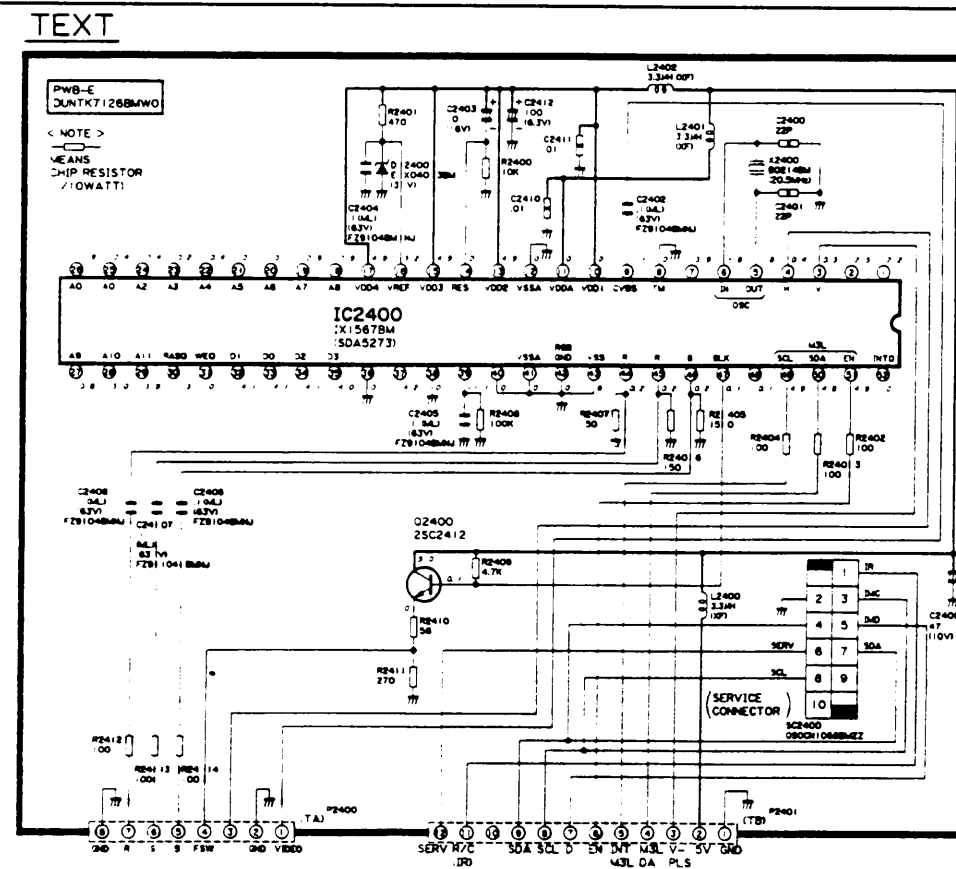
Alter NVM VAL XX XX
 | Assigned value
 | Storage location

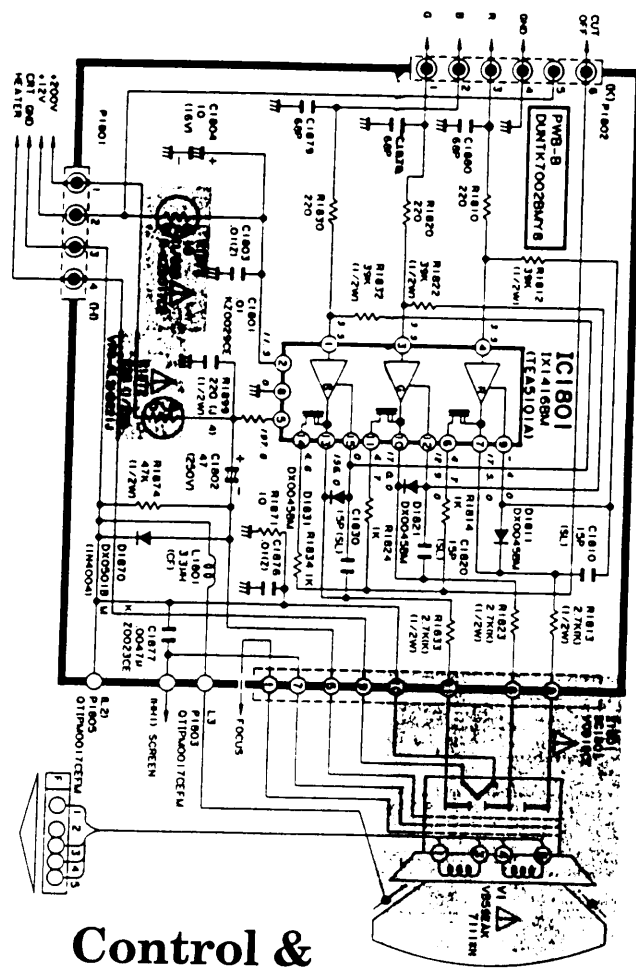
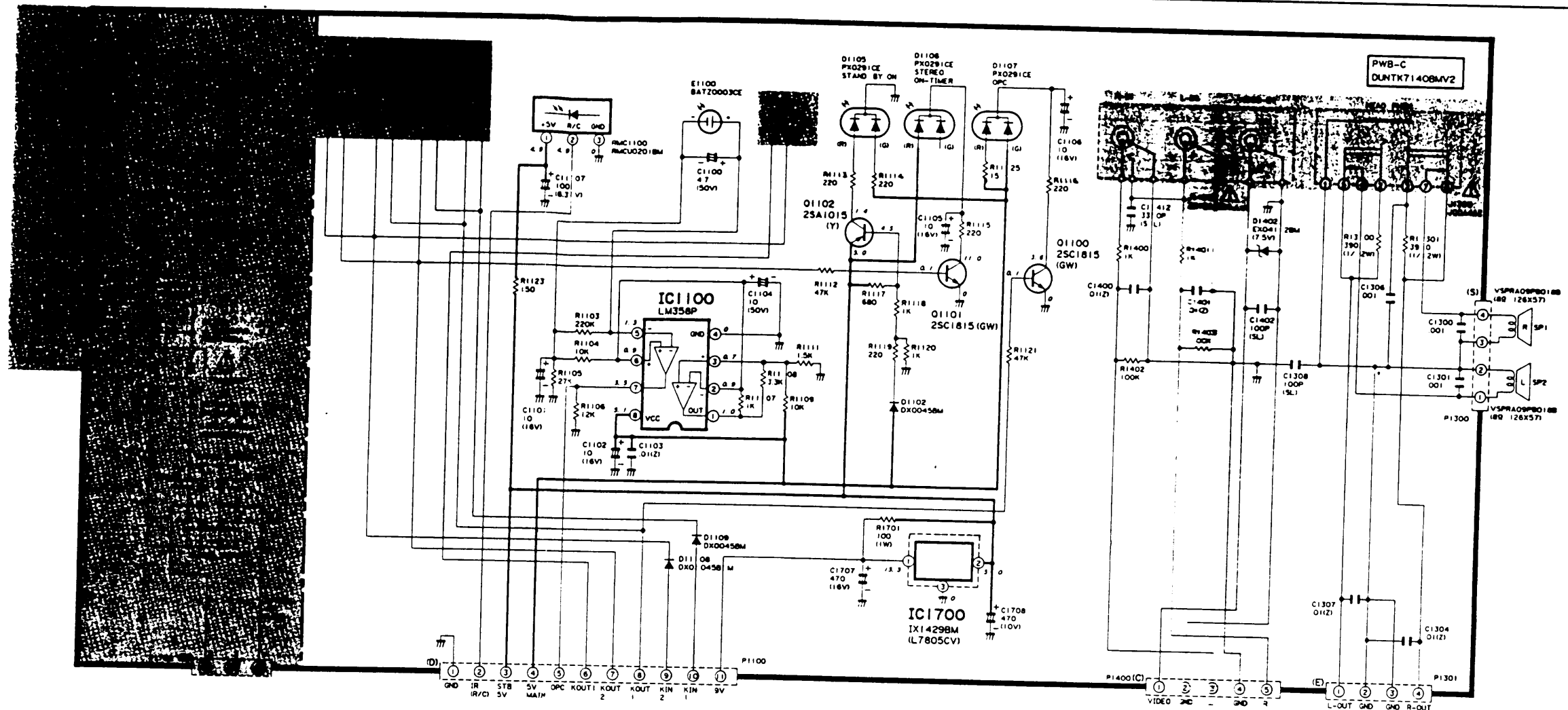
When v A buttons are pressed, alter Assigned Value.

Scart Diagram

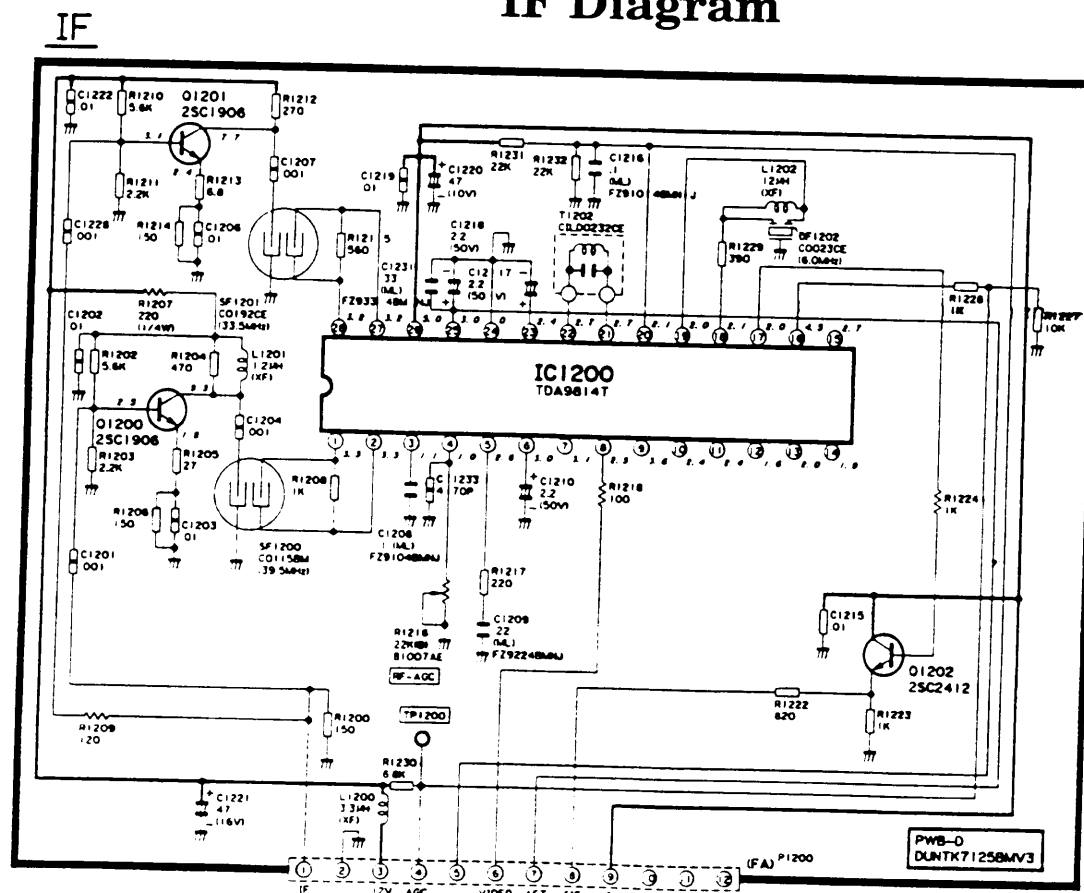
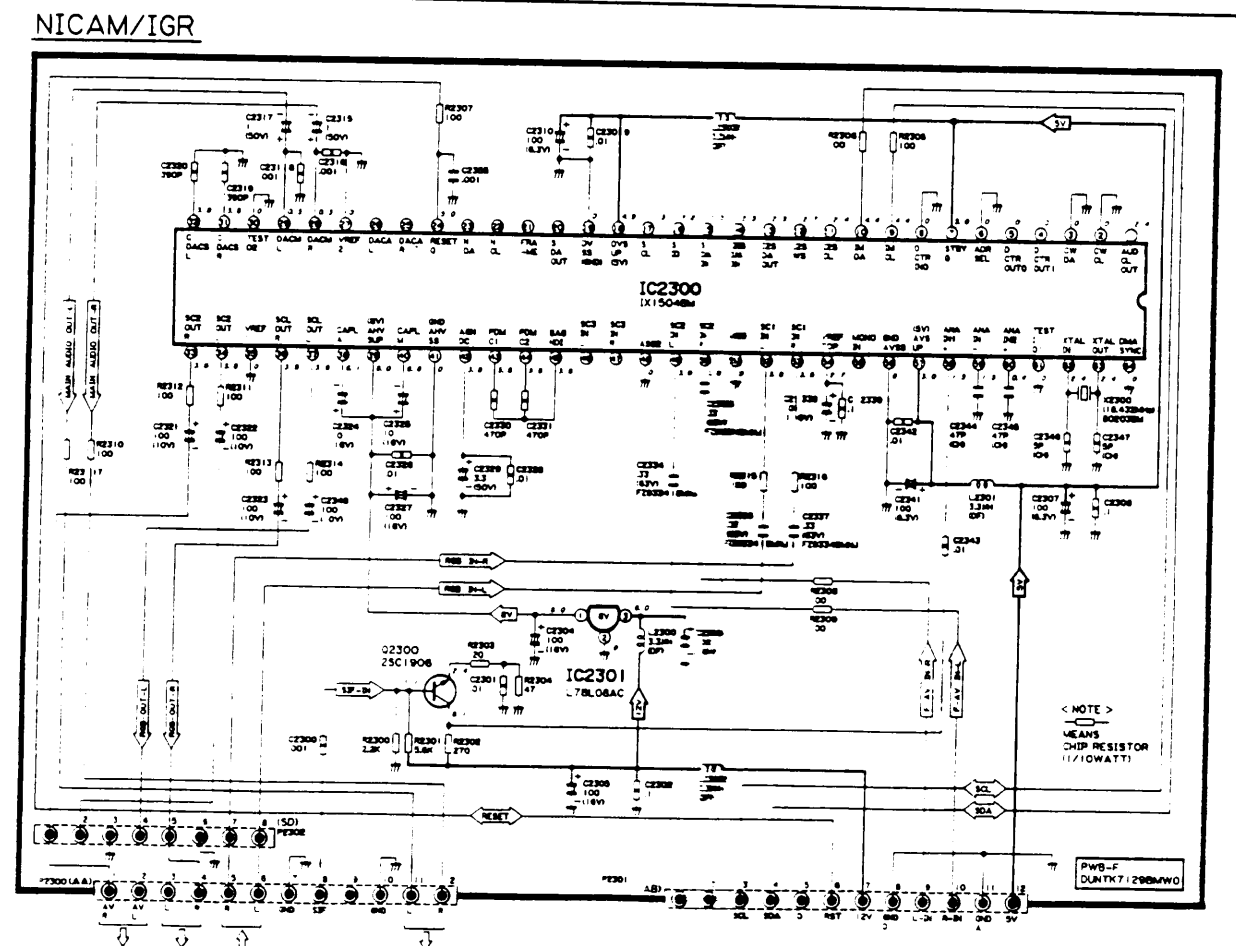


Text Diagram

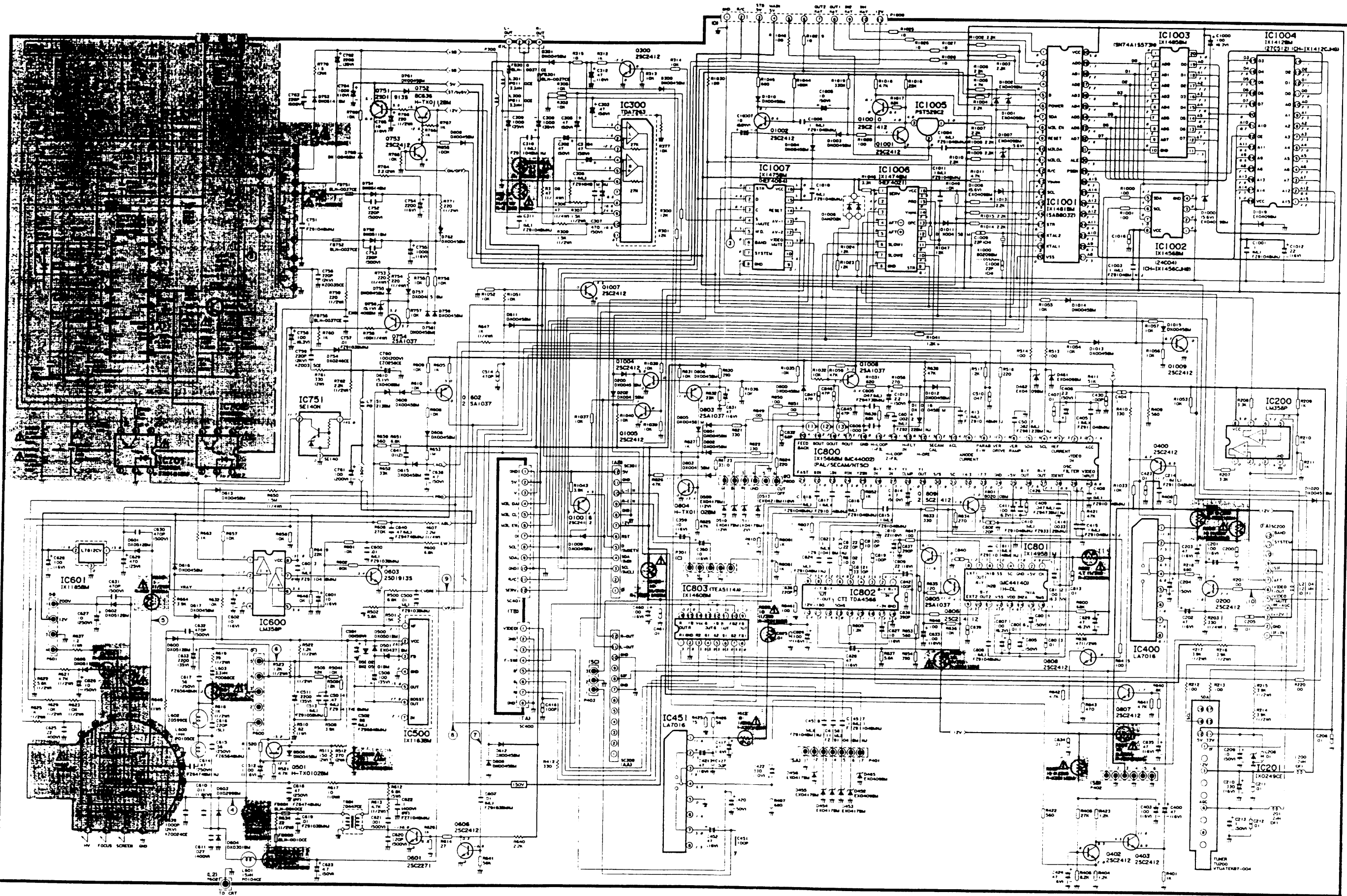


Control &
CRT Diagram

IF Diagram

NICAM
Diagram

Main Diagram



Waveforms

① 9 Vp-p



② 540 V_{p-p}



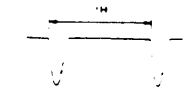
③ 5 Vp-p



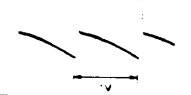
④ 1200 V_{p-p}



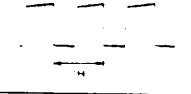
⑤ 140 V_{p-p}



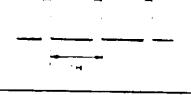
(6) 40 V_{p-p}



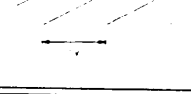
⑦ 206 V_{p-p}



8) 506 V_{p-p}



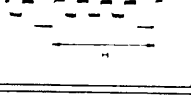
9) 2 Vp-p



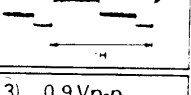
10) 105 V_{p-p}



iii) 0.9 V_{p-p}



12, 0.9 Vp-p



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