

General Information

Chassis : A Series

CRT: A51AEZ90X02

Remote Control: 01-0224-5

Door Flap: 83-4472-8-001(CX5)

Main Power Button:

83-4469-8-001

Battery Cover (Remote):

83-2094-2/20100

Matrix

Item	See Model
Colour Decoder Diagram	Sanyo B Series 93/94 Book.
NICAM IF Diagram	Sanyo B Series 93/94 Book.
Remote Control Diagram	Sanyo B Series 93/94 Book.

Recommended Safety Parts

Item	Part No.	Description
C420	14-6917-7	7n5 5% 2kV PP
C422		
C803 - C806	14-6937-1	1n 20% 250VAC CP
C801	14-7132-5	220n 10% 250V MP-KT
C811	14-9677-0	3n3 20% 400VAC R12.5
C813	14-6649-6	1n5 5% 1.5kV MPP
C904	14-6954-1	10n -20 +50% 2kV CD
FL801	15-7785-9	Choke Mains Filter 2X30 MHz, 1A
FS801	21-2626-5	Fuse Timelag 2A
FS801	21-3685-6	Alternative Fuse
FS801	21-3712-7	Fuse Holder DE611/01
R423, R940	11-4803-6	22R 5% 0.5W M/F Fusible
R433	11-5294-7	0R68 5% 0.5W M/F F1. Ret.
R448	11-5025-1	0R33 10% 0.5W M/F Fusible
R6131, R6132	11-5328-5	22R 5% 0.5W M/F F1. Ret.
R6314, R6315	11-5373-0	1R8 5% 0.5W M/F F1. Ret.
R801	11-5333-1	560K 5% 0.5W M/Glaze
R802	11-5448-6	3R3 5% 4.0W W/W 292-040 VTM
R803, R805	11-5318-8	470K 5% 0.5W M/Glaze
R807, R6130,		
R6136	11-5292-0	10R 5% 0.5W M/F F1. Ret.
R819, R820	11-5471-0	4M7 5% 0.5W M/Glaze
R826	11-4268-2	1R0 5% 0.5W M/F Fusible
R901	11-3569-4	Thermistor Dual Positive
S801	20-4081-6	Switch On/Off
T402	15-7839-1	Flyback
T801	87-0241-1-001	SMPSU

Type Codes:

MP: Metalised Polyester
E: Electrolytic
CD: Ceramic Disc
MPS: Metalised Polystyrene
MPP: Metalised Polypropylene

PS: Polystyrene
TC: Tubular Ceramic
PP: Polypropylene
P: Polyester
C: Ceramic Plate

Service Adjustments

Safety Notes

Safety and Isolation

Under no circumstances should any form of repair or maintenance be attempted by any person other than a competent technician or engineer. Most of the circuitry is isolated from the mains by T801, C811, R819, R820 and 6mm air gaps. To maintain this safety factor ensure that, after repair, any gaps or leakage paths are not reduced by protruding wires, etc., following component replacement.

Note: Although the output supply paths from the power supply section are isolated by the incoming mains supply, the bridge rectifier, the control and regulation circuits are not isolated. Therefore, when servicing the power supply section of the chassis, the mains input should be connected via an isolating transformer of at least 200 watts rating.

The power supply section remains charged with respect to chassis for 30 - 60 seconds

after switching off. Care should be taken to avoid touching the power supply area of the chassis during this time.

Components marked ! on the parts list are safety approved types and should be replaced only with components supplied or approved by Tatung Service Department. It is also recommended that components not marked with the safety symbol should be replaced with parts of the type originally fitted. This applies particularly to those resistors which 'stand off' the printed circuit boards.

Handling Precautions

Static Electrical Charges

This receiver contains devices which may be damaged by static electrical charges during handling. To avoid damage, soldering irons should be earthed, and personnel should wear wrist straps earthed via a 1MW resistor. If the latter is not practical, they should discharge themselves by touching an earthed point.

Static sensitive devices should be packed in suitable conductive containers.

Important: Although the receiver chassis is isolated, the mains supply should be disconnected during service replacement of such static devices.

List of Components

Components which are marked ! in the parts list and on the circuit diagram are 'Safety Approved' types and should be replaced only with components supplied or approved by Tatung Service Department. It is also recommended that components not marked with the safety symbol should be replaced with parts of the type originally fitted. This applies particularly to those resistors which 'stand off' the printed circuit board, or have ventilation slots below them.

The manufacturer reserves the right to modify the design of the receiver, and to use or supply such alternative components as may be deemed necessary.

Resistors

The majority of resistors are either 0.125W, 0.25W, 0.4W or 0.5W ± 5% or 10% standard carbon or metal film types which are readily available from most component stockist. Replacements should be of the same rating and tolerance as the originals. Refer to the appropriate circuit diagram for values.

The resistors listed below should only be replaced with components approved or supplied by Tatung Service Department.

Service Notes

Voltage Adjustment

- 1: With the receiver locked to a normal picture signal, reduce the brightness and contrast to minimum, i.e. zero beam

- 2: Connect a suitable voltmeter across CE818 and adjust RV817 for a reading of 115V DC.

Voltage Measurement

Use a digital voltmeter(D. V. M.).

Important: All SMPS voltages on IC801 are measured relative to pin 4 on the IC, NOT relative to chassis. Pin 4 is approximately -160V relative to the chassis.

Integrated circuit IC801 (TDA4605)

Pin	Voltage, V DC
1	0.4
2	1.2
3	1.8
4	0
5	2.0
6	12.0
7	3.1
8	0.42

Vision Adjustments

Tuner IF AGC:
With 10mV RF signal (no sound carrier) applied, monitor the tuner output with an oscilloscope having a band width equal to or greater than 50MHz and adjust RV018 for 1.2V pk-pk signal.

AFC/Detector Coil Alignment:

- 1: Remove any connection to the aerial input socket and ensure that the receiver is not tuned to a strong transmission.
- 2: Inject a 100mV IF carrier signal (39.06MHz) into the input of the SAW filter.
- 3: With a double beam oscilloscope, monitor the logic levels on PL002 pin 6 (On Tune Window) and pin 7 (High/Low Tuning).
- 4: Adjust L011 to give pin 6 logic high and pin 7 near to the high/low transition in the centre of the On Tune Window.

Note: There may be more than one tuning point which will give these conditions. The correct point will give rapid changes for a small adjustment. The incorrect points will give relatively slow changes with adjustment.

Sound Adjustments

- 1: Inject a signal with a 6.0MHz offset sound carrier modulated at 1kHz at a deviation of 27kHz.
- 2: Adjust L612 for maximum recovered audio with minimum distortion on pin 11 of PL001.

Timebase Adjustments

- Line Frequency:
- 1: With an aerial signal of 3 - 10 mV, short cut bin 5 of IC401 to 0V.
 - 2: Adjust RV412 for a stable, or as slow rolling as possible, picture on screen.

Line Width and Phase:
Adjust L407 for correct line linearity and width and RV403 for correct centring.

Field Height and Shift:
Adjust RV416 for correct picture height and RV444 for correct centring.

EHT

The 24kV nominal supply to the picture tube is produced by T402 by a 3-section diode split overwind. The leakage inductance of T402 and the winding capacitance are tuned to line flyback harmonics to ensure good EHT regulation.

Adjustable A1 and focus are provided by a thick film resistor network across part of the overwind.

Beam Current Limiting

Current flowing through R434 reflects the beam current information and so the voltage at the junction of R434 and C426 changes in response to changes in beam current. This voltage is passed to IC552 pin 28, and the beam limiting effect on the contrast level out of IC552 is activated when the voltage on pin 28 falls to under 4.2V, which corresponds to approximately 3V on the junction of R434 and C426 when D551 can conduct. This corresponds to a beam current of around 800mA.

Adjustments

R, G and B Backgrounds

- 1: Reduce the A1 control to zero.
- 2: Adjust the brightness and contrast controls for normalised settings, and colour at minimum.
- 3: Adjust R937, R938, R939 so that the black level measured at each CRT cathode (R933, R934 and R935) is +160V.
- 4: Increase the A1 control for correct overall black level on the display. Grey scale corrections may now be carried out with only two of the pre-sets.

Hidden Service Mode and Service Parameters

Service mode is entered by grounding pin 40 of IC701. This enables the setting up of parameters internal to the decoder. Buttons 2 and 3 of the hand unit control, which parameter is currently adjustable. Balance buttons L and R control the current parameter value.

Parameter	Function	Adjustment
00	Peak White Limit Value	00 - 3F factory pre-set to 3F
01	Red Gain	00 - 3F
02	Green Gain	00 - 3F
03	Blue Gain	00 - 3F
04	Beam Limit Mode	00 - 03 factory pre-set to 01

H. T. Set

- 1: With the receiver locked to a normal picture signal, reduce the brightness and contrast to minimum, i.e. zero beam current.
- 2: Connect a suitable voltmeter across CE818 and adjust RV817 for a reading of 115V DC.

Vision

Tuner IF AGC:
With 10mV RF signal (no sound carrier) applied, monitor the tuner output with an oscilloscope having a bandwidth equal to or greater than 50MHz and adjust RV018 for 1.2V pk-pk signal.

AFC/detector Coil Alignment:

Remove any connection to the aerial input socket and ensure that the receiver is tuned to a strong transmission. Inject a 100mV IF carrier signal (39.06MHz) into the input of the SAW filter. With a double beam oscilloscope, monitor the logic levels on PL002 pin 6 (On Tune Window) and pin 7 near to the high/low transition in the centre of the On Tune Window.

Sound

- 1: Inject a signal with a 6.0MHz offset sound carrier modulated at 1kHz at a deviation of 27kHz.
- 2: Adjust L612 for maximum recovered audio with minimum distortion on pin 11 of PL001.

Timebase

Line Frequency:
With an aerial signal of 3 - 10mV, short out pin 5 of IC401 to 0V. Adjust RV412 for a stable, or as slow rolling as possible, picture on screen.

Line Width and Phase:
Adjust L407 for correct line linearity and width, and RV403 for correct centring.

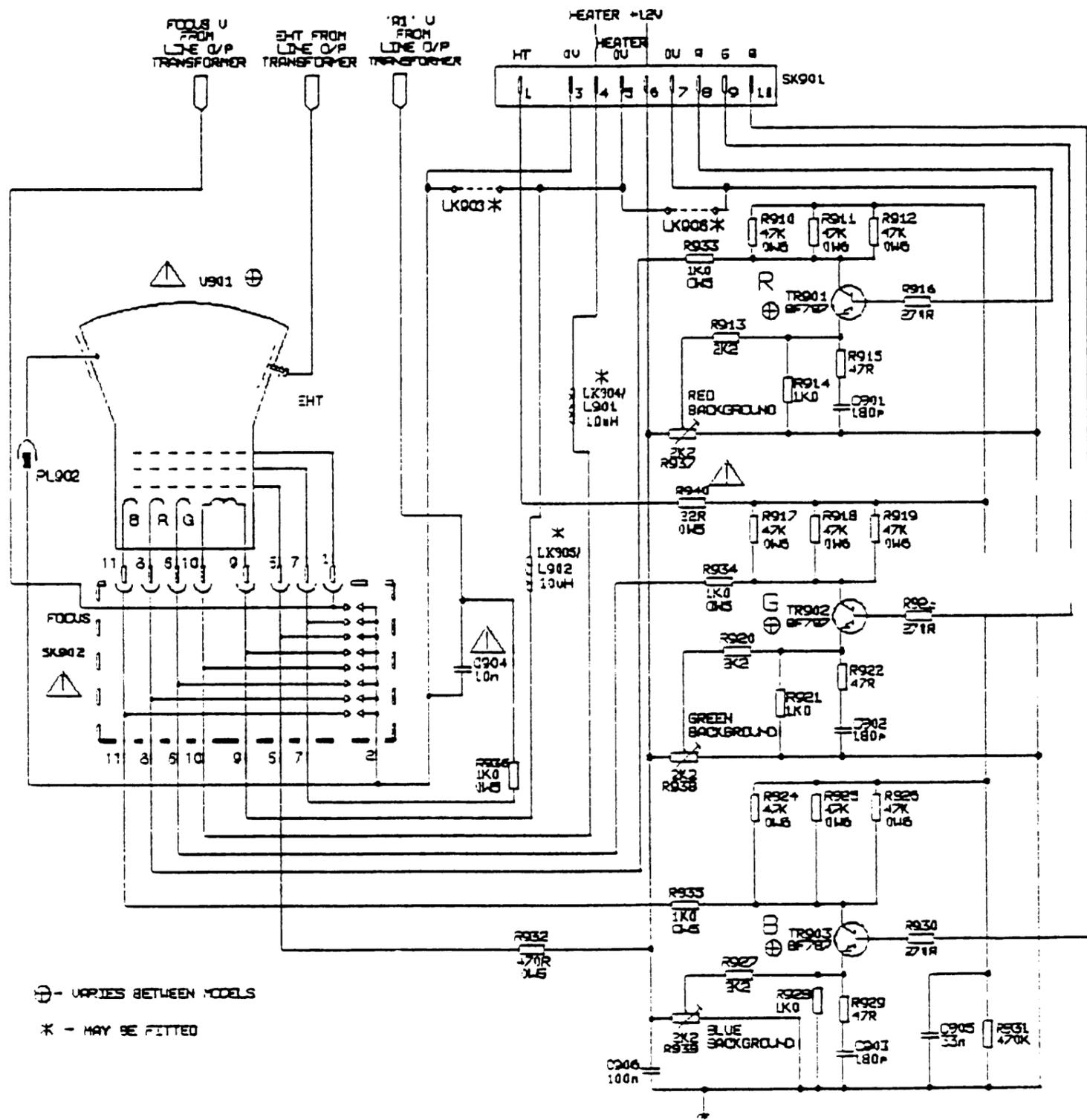
Field Height and Shift:
Adjust RV416 for correct picture height and RV444 for correct centring.

R, G, B

R, G, and B Backgrounds

- 1: Reduce the A1 control to zero. Adjust the user brightness and contrast controls for normalised settings with colour at minimum.
- 2: Adjust R937, R938 and R939 so that the black level measured at each CRT cathode (R933, R934 and R935) is now +160V.
- 3: Increase the A1 control for correct overall black level on the display. Grey scale corrections may now be carried out with only two of the pre-sets.

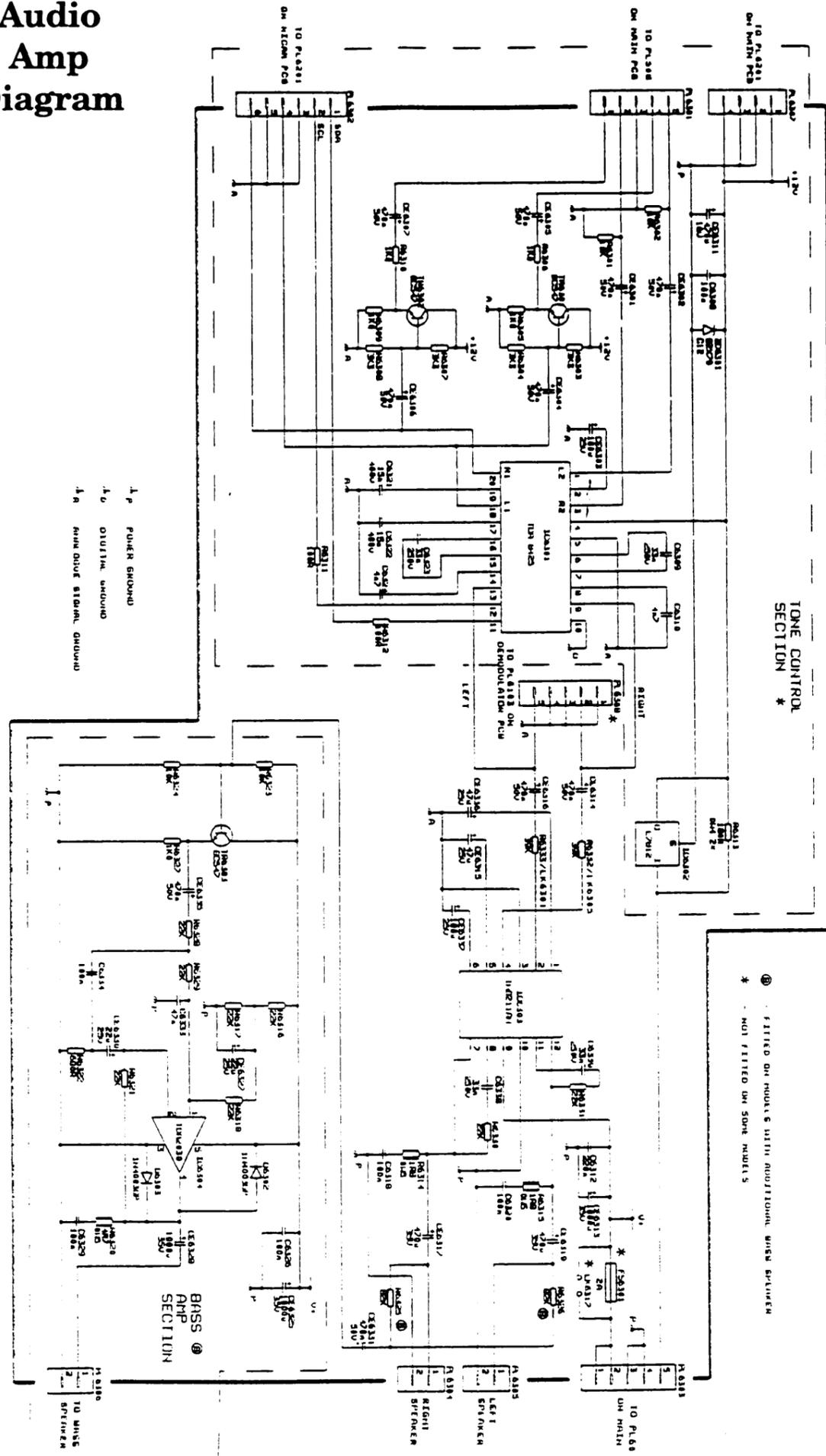
CRT Diagram



⊕ - VARIES BETWEEN MODELS

* - MAY BE FITTED

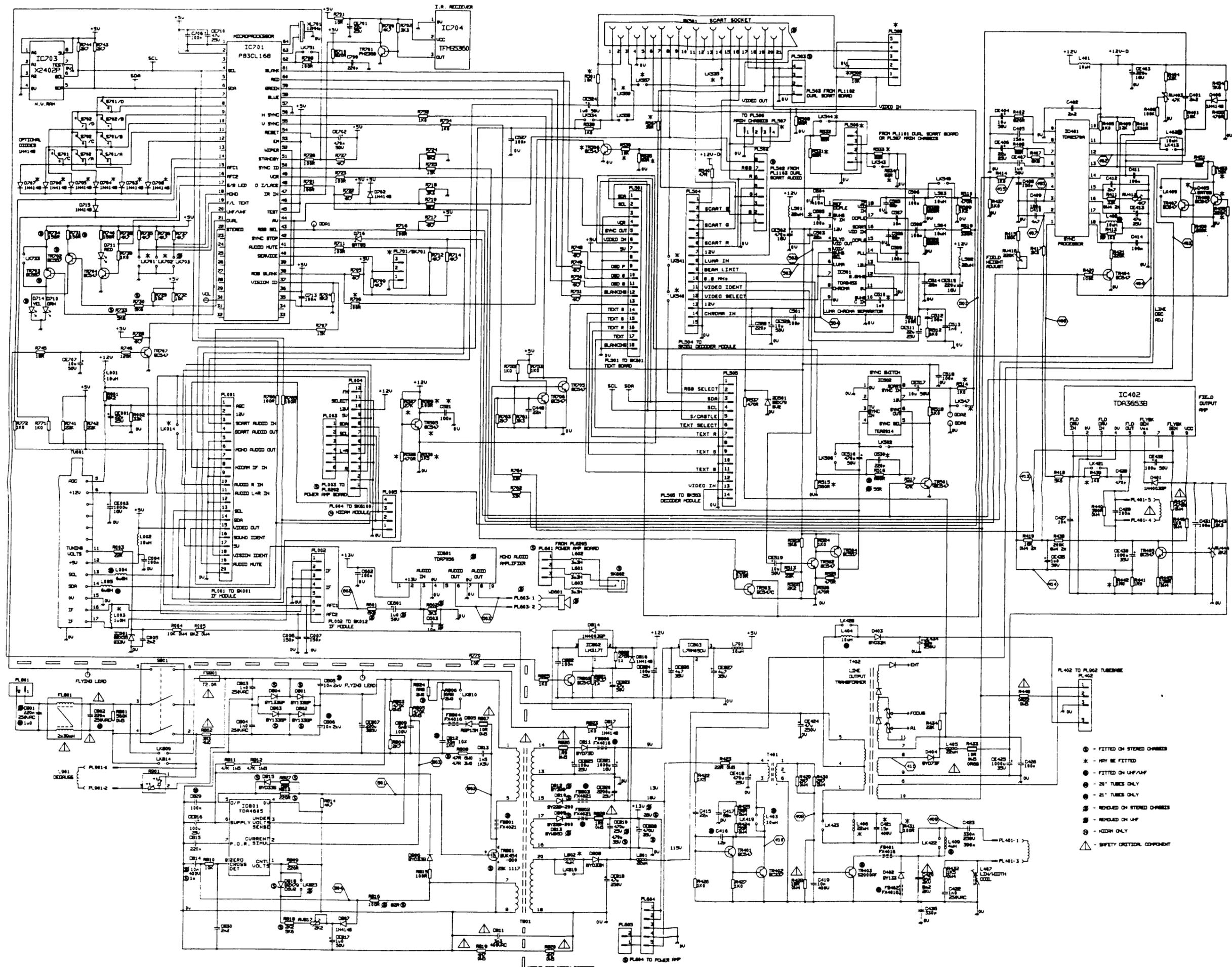
Audio Amp Diagram



1 P POWER GROUND
 1 D DIGITAL GROUND
 1 R MAIN AUDIO SIGNAL GROUND

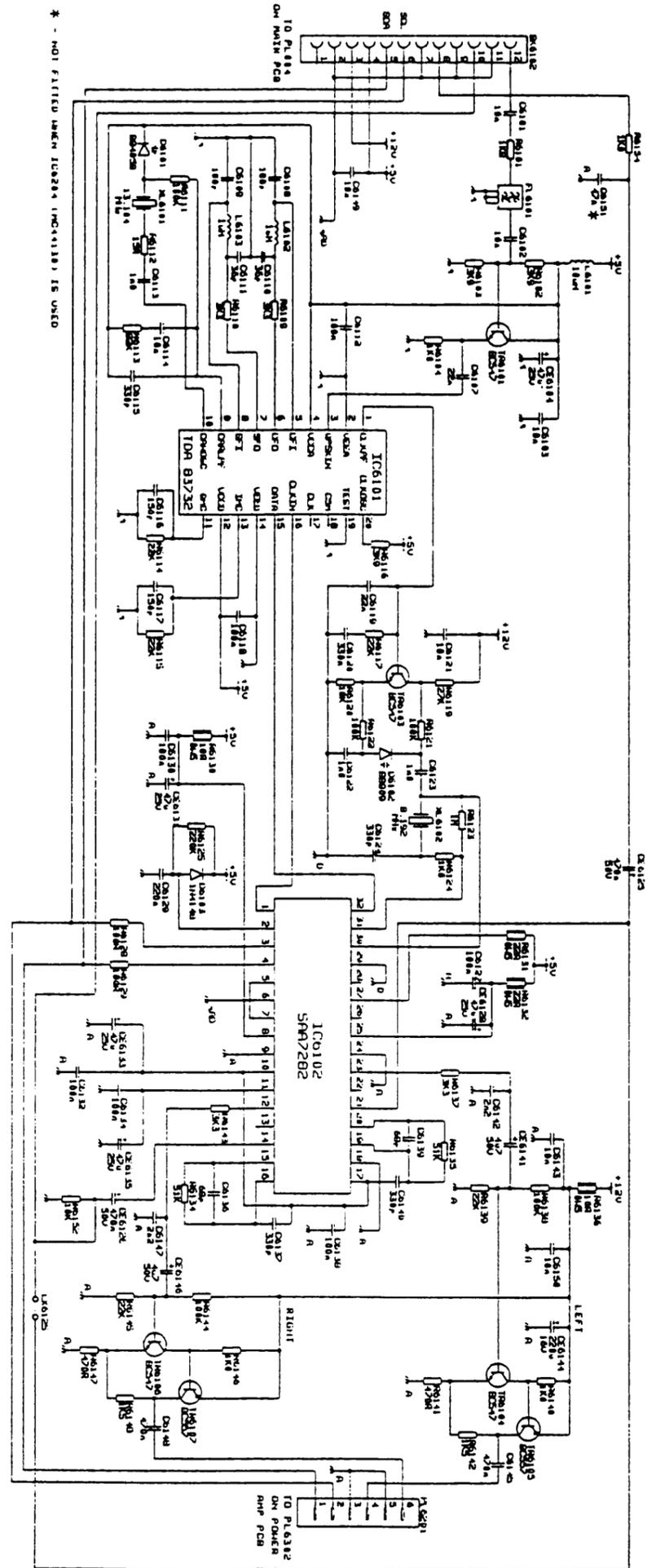
⊕ - FITTED ON MODELS WITH ADDITIONAL WIRE SPRING
 * - NOT FITTED ON SOME MODELS

Main Diagram



- - FITTED ON STORED CHASSIS
- * - MAY BE FITTED
- - FITTED ON LAF/AF
- - 20" TUBES ONLY
- - 21" TUBES ONLY
- ⊗ - REVOLVED ON STORED CHASSIS
- ⊗ - REVOLVED ON LAF
- ⊗ - MICRO ONLY
- △ - SAFETY CRITICAL COMPONENT

NICAM Diagram



Scart Diagram

