

SAFETY PRECAUTIONS

SERVICE WARNING

Only qualified service technicians who are familiar with safety checks and guidelines should perform service work. Before replacing parts, disconnect power source to protect electrostatically sensitive parts. Do not attempt to modify any circuit unless so recommended by the manufacturer. When servicing the receiver, use an isolation transformer between the line cord and power receptacle.

SERVICING THE HIGH VOLTAGE AND CRT

Use EXTREME CAUTION when servicing the high voltage circuits. To discharge static high voltage, connect a 10K ohms resistor in series with a test lead between the receiver ground and CRT anode lead. DO NOT lift the CRT by the neck. Always wear shatterproof goggles when handling the CRT to protect eyes in case of implosion.

X-RAY RADIATION AND HIGH VOLTAGE LIMITS

Be aware of the instructions and procedures covering X-ray radiation. In solid-state receivers and monitors, the CRT is the only potential source of X-rays. Keep an accurate high voltage meter available at all times. Check meter calibration periodically. Whenever servicing a receiver, check the high voltage at various brightness levels to be sure it is regulating properly. Keep high voltage at rated value, NO HIGHER. Excessive high voltage may cause X-ray radiation or failure of associated components. DO NOT depend on protection circuits to keep voltage at rated value. When troubleshooting a receiver with excessive high voltage, avoid close contact with the CRT. DO NOT operate the receiver longer than necessary. To locate the cause of excessive high voltage, use a variable AC transformer to regulate voltage. In present receivers, many electrical and mechanical components have safety related characteristics which are not detectable by visual inspection. Such components are identified by a # on both the schematic and the parts list. For SAFETY, use only equivalent replacement parts when replacing these components.

GENERAL GUIDELINES

Perform a final SAFETY CHECK before returning receiver to customer. Check repaired area for poorly soldered connections, and check entire circuit board for solder splashes. Check board wiring for pinched wires or wires contacting any high wattage resistors. Check that all control knobs, shields, covers, grounds, and mounting hardware have been replaced. Be sure to replace all insulators and restore proper lead dress.

The listing of any available replacement part herein in no case constitutes a recommendation, warranty, or guarantee by SAMS Technical Publishing as to the quality and suitability of such replacement part. The numbers of the listed parts have been compiled from information furnished to SAMS Technical Publishing by the manufacturers of the specific type of replacement part listed.

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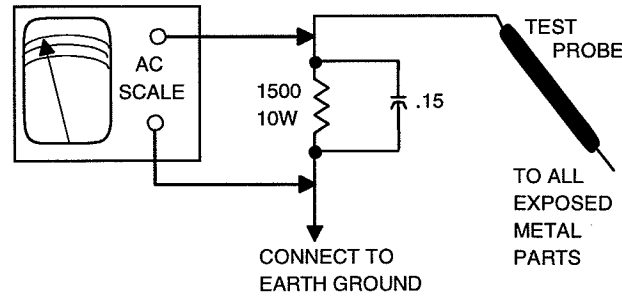
SAFETY CHECKS -- FIRE AND SHOCK HAZARD

Cold Leakage Checks for Receivers with Isolated Ground

Unplug the AC cord, connect a jumper across the plug prongs, and turn the power switch on (if applicable). Use an ohmmeter to measure the resistance between the jumped AC plug and any exposed metal cabinet parts such as antenna screw heads, control shafts, or handle brackets. Exposed metal parts with a return path should measure between 1M ohms and 5.2M ohms. Parts without a return path must measure infinity.

Hot Leakage Current Check

Plug the AC cord directly into an AC outlet. DO NOT use an isolation transformer. Use a 1500 ohms, 10W resistor in parallel with a .15µF capacitor to connect between any exposed metal parts on the receiver and a good earth ground. (See figure below.) Use an AC voltmeter with at least 5000 ohms per volt sensitivity to measure the voltage across the resistor. Check all exposed metal parts and measure voltage at each point. Voltage measurements should not exceed .75VAC, 500µA. Any value exceeding this limit constitutes a potential shock hazard and must be corrected. If the AC plug is not polarized, reverse the AC plug and repeat exposed metal part voltage measurement at each point.



HIGH VOLTAGE SHUTDOWN TEST

Momentarily place a 16.7K ohms 1% 1/4W resistor across pins 1 and 3 of plug X. The receiver should lose raster and sound and remain in that state. If the receiver does not lose raster and sound, the high voltage shutdown circuit requires repair. To resume normal operation, remove AC power and wait 15 seconds. Apply AC power and test the receiver for normal operation.



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PHOTOFACT® Technical Service Data

SET 4328

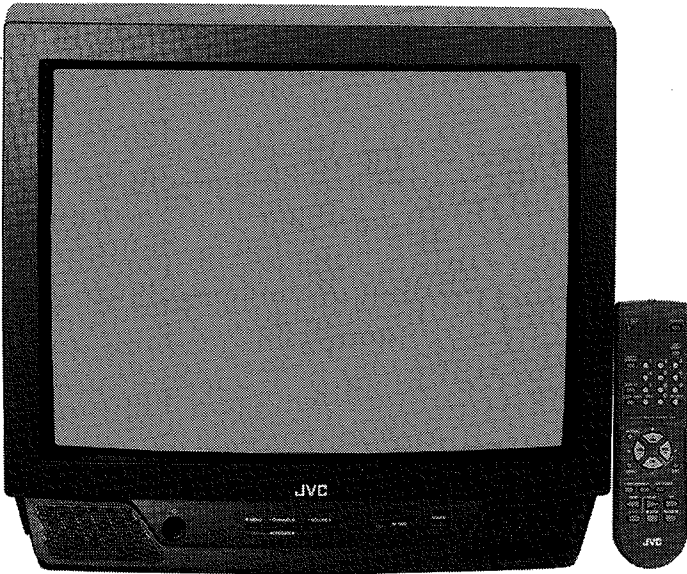
MODEL AV-20120 (CHASSIS FV3)

JVC

INDEX

GridTrace Location
Main Board 3
High Voltage Shutdown Test 1
IC Functions 1
Important Parts Information 4
Miscellaneous Adjustments 1
Parts List 4
Placement Chart 1
Safety Precautions 1
Schematic Component Location 1
Schematic Notes 1
Schematics
Audio (Models AV-20120 and AV-20121) 2
Power Supply 2
System Control 2
Television 2
Test Equipment 4
Tuner Information 1

JVC
Model AV-20120 (Chassis FV3)



Representative Model
Essential coverage
for servicing a television receiver...

- Schematics
- Component locations
- Parts list

Coverage includes these additional models and chassis:

MODELS	CHASSIS
AV-20121	FV3
C-20110	FV3



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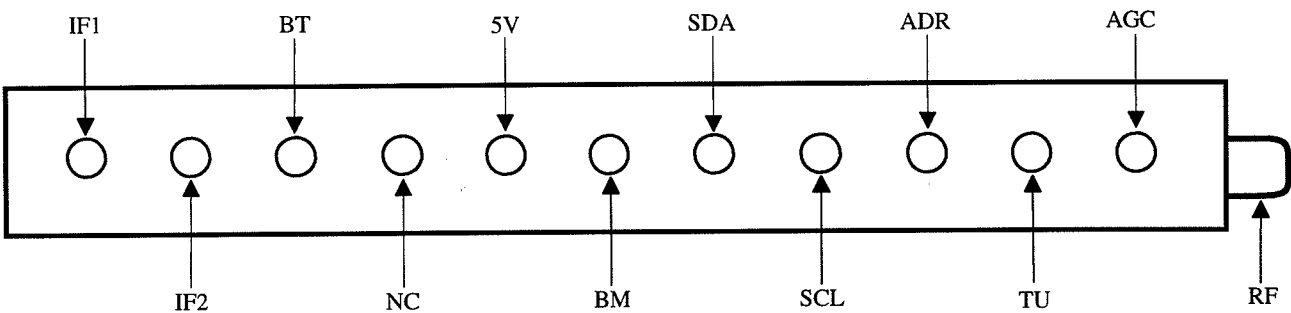
For Supplier Address,
See PHOTOFACT Annual Index

TUNER INFORMATION

TUNER VOLTAGE CHART			
Pin	VHF Low Band	VHF High Band	UHF Band
AGC	3.9V	4.7V	4.1V
TU	1.2V	4.4V	4.9V
ADR	0V	0V	0V
SCL	2.5V	2.5V	2.5V
SDA	2.1V	2.1V	2.1V
BM	8.4V	8.4V	8.4V
5V	5.1V	5.1V	5.1V
NC	0V	0V	0V
BT	32.0V	32.0V	32.0V
IF2	0V	0V	0V
IF1	0V	0V	0V

NOTE: VHF Low Band voltages taken on channel 2.
VHF High Band voltages taken on channel 7.
UHF Band voltages taken on channel 14.

TUNER TERMINAL GUIDE



SCHEMATIC COMPONENT LOCATION GUIDE

C001	C1	C543	D14	C723	E22	D958	B17	R103	B1	R501	D2	R704	D22
C003	B24	C545	E12	C724	D20	F901	A17	R104	B2	R502	D3	R705	C21
C004	A24	C546	E10	C725	D19	F902	A20	R105	B2	R505	D2	R706	C21
C005	A24	C548	E14	C726	B23	FR720	D18	R106	B2	R506	D2	R708	C22
C006	A23	C561	E2	C735	C21	IC201	A5	R131	B3	R507	D2	R709	C21
C011	A23	C562	D2	C751	D19	IC201	B11	R133	B4	R511	C12	R710	A2
C012	B24	C563	D1	C801	A12	IC201	B3	R134	B4	R521	E5	R713	E22
C101	E13	C581	D14	C802	A12	IC201	B6	R135	B4	R522	E4	R714	C8
C102	B1	C582	D10	C803	A12	IC201	D2	R136	B5	R523	E4	R715	D21
C103	B1	C583	D10	C901	A17	IC421	D4	R137	B5	R524	E4	R716	D17
C104	B2	C584	E2	C902	A18	IC541	E13	R138	B5	R525	E5	R717	D17
C105	C3	C601	A7	C911	B19	IC601	A7	R142	E13	R526	D6	R719	D21
C106	B3	C602	E10	C912	A20	IC602	A30	R145	C2	R541	D13	R723	E22
C108	B2	C603	B8	C913	A20	IC651	A26	R146	C1	R542	E18	R724	C23
C131	B3	C604	A8	C914	A20	IC652	D28	R161	B4	R543	E12	R725	E23
C132	B3	C611	B7	C921	C19	IC652	D28	R162	A4	R544	E9	R726	D23
C133	B3	C614	E10	C922	C20	IC701	B22	R163	B4	R546	E13	R727	D23
C134	C2	C616	A30	C951	E18	IC702	E23	R164	A6	R561	E2	R728	D23
C135	A2	C617	C30	C953	E18	IC703	C18	R172	A2	R562	E2	R729	C23
C138	E14	C618	A31	C954	D19	IC751	A21	R203	B10	R563	E2	R730	E23
C161	E14	C619	A31	C956	E20	IC921	B19	R204	A10	R564	E1	R732	C23
C162	E14	C620	A31	C958	B18	IC951	B19	R205	A11	R566	D1	R734	B23
C163	A4	C622	B30	C959	E18	J002	A2	R208	D11	R567	D1	R735	B23
C164	A4	C623	C31	C981	B17	J002	C5	R209	D11	R568	D1	R736	C23
C166	B4	C624	B31	C982	B17	J003	B5	R210	C11	R571	A16	R737	B23
C167	A5	C625	B31	CF001	B1	J003	B25	R211	C11	R581	D13	R738	B23
C168	B5	C626	B31	CF131	B4	J003	B25	R212	B11	R582	A23	R739	B23
C169	B5	C627	E31	CF161	A4	J004	D30	R215	B11	R583	D10	R740	B23
C170	A5	C651	E14	CF501	D2	J004	D30	R216	B11	R584	D10	R741	B23
C171	A7	C652	E14	CF701	E22	J602	A31	R218	D10	R585	D10	R742	B23
C172	A3	C653	E27	CF702	E22	J602	A8	R219	D10	R586	E2	R745	D23
C205	A10	C654	D27	CN10PW	A17	K701	C18	R220	A10	R611	B7	R746	D23
C207	A11	C655	D27	CRT	B16	L001	B24	R222	A10	R612	A7	R751	B22
C208	D10	C656	D27	D001	A24	L003	A24	R251	B5	R613	A7	R752	B21
C209	C11	C657	A26	D002	A23	L01	A19	R252	B5	R615	A29	R753	B21
C210	B11	C658	C27	D003	D24	L102	B2	R253	B5	R616	B29	R754	B21
C212	B5	C659	C27	D004	D24	L104	C3	R261	C7	R617	A30	R755	B21
C214	B10	C660	C27	D201	D10	L131	B4	R262	C7	R618	B30	R756	B21
C215	B11	C661	C27	D202	C11	L161	E13	R263	C7	R619	C30	R757	E24
C217	D10	C662	E26	D203	C11	L162	A4	R265	C8	R620	C31	R758	E23
C251	B5	C663	E27	D251	B6	L201	A10	R266	C8	R621	A31	R767	D19
C255	B5	C664	E26	D421	D4	L351	C9	R267	C8	R622	B31	R768	C23
C261	B7	C665	E27	D422	D5	L391	D14	R268	C8	R625	E30	R769	C23
C274	A9	C666	E26	D423	C21	L701	D22	R271	B9	R627	E30	R804	A13
C303	B10	C667	E26	D501	E19	L709	A22	R272	B9	R628	A31	R805	B13
C304	E14	C668	E26	D511	C12	LF901	A17	R278	A9	R628	A8	R806	B14
C305	C12	C669	D27	D541	D13	Q101	B2	R290	A9	R629	B31	R901	A19
C306	B13	C670	D28	D542	E18	Q131	B4	R291	A9	R651	D27	R921	B18
C307	B13	C671	D26	D543	E12	Q132	B5	R305	B10	R652	A25	R923	C19
C309	B12	C672	C26	D544	E9	Q161	A6	R306	B13	R653	A26	R924	C18
C352	C9	C673	D26	D561	E2	Q201	A10	R351	B9	R654	E27	R925	C18
C355	B9	C674	D26	D562	E2	Q202	A10	R352	B9	R655	E27	R926	B19
C356	B9	C675	D26	D563	E1	Q203	D11	R354	C9	R656	E27	R952	B17
C374	C15	C676	D26	D581	D13	Q261	C7	R365	B10	R658	E27	R953	B17
C375	A15	C679	D27	D582	D9	Q262	C8	R366	B10	R660	E27	R954	E19
C376	B15	C680	E27	D583	D2	Q271	A9	R367	B9	R661	D28	R955	E18
C377	C14	C682	D29	D601	E29	Q361	B9	R371	C14	R662	D28	R956	B18
C391	D14	C683	D29	D602	E29	Q371	C15	R372	A14	R663	D28	R957	E18
C392	E16	C685	B26	D651	B26	Q372	A15	R373	B14	R664	D27	R958	E18
C401	D3	C686	B26	D652	B26	Q373	B15	R374	C14	R665	E28	R981	A17
C402	E3	C687	B25	D658	A2	Q521	E4	R375	B15	R666	E27	RY901	A18
C403	D3	C688	B25	D659	A26	Q522	E5	R376	B14	R667	E28	RY901	B18
C421	D4	C691	A2	D660	B26	Q561	E1	R377	C15	R668	E28	S751	B22
C422	C4	C702	C21	D703	D17	Q562	D1	R378	B15	R669	D29	S752	B21
C423	D5	C703	C22	D704	C23	Q601	B7	R379	B15	R670	D29	S753	B21
C424	D4	C704	A2	D705	D18	Q602	E30	R380	C15	R671	B25	S754	B21
C425	D14	C705	A22	D706	C19	Q651	D29	R381	A15	R672	B25	S755	B21
C426	D5	C706	A22	D707	D19	Q652	D30	R382	B15	R673	E30	S756	B22
C427	E5	C707	E22	D711	D21	Q653	E29	R383	C15	R674	D30	SF101	B2
C428	D5	C708	E22	D717	D23	Q654	E30	R384	A15	R675	D30	SP01	A32
C429	D4	C709	D22	D718	D23	Q655	E29	R385	B15	R676	D30	SP01	A8
C501	E19	C710	D21	D751	E24	Q701	D21	R386	C14	R678	D29	SP02	B32
C502	E3	C711	D21	D804	A14	Q702	C21	R387	A14	R679	D30	T131	A3
C503	D2	C712	D22	D805	A14	Q703	C23	R388	B14	R680	E29	T161	A5
C505	D1	C714	D17	D911	A19	Q704	C23	R421	D4	R681	E30	T521	E5
C511	B12	C716	D18	D941	D17	Q951	B17	R422	D6	R682	C27	T522	C7
C521	E4	C717	D18	D942	D18	Q952	D19	R423	E5	R683	A25	T901	D17
C522	E4	C718	D21	D943	E17	Q953	E18	R425	D5	R684	A25	TH901	A19
C523	E5	C719	D19	D944	E18	R001	B23	R427	D4	R689	A2	V01	B16
C524	E6	C720	D19	D951	B18	R005	A23	R428	D4	R691	E29	VA901	A17
C525	B20	C721	D22	D953	D18	R101	B1	R429	E3	R701	D21	X301	B12
C526	D6	C722	E22	D957	E18	R102	B1	R441	D3	R702	D21		

MISCELLANEOUS ADJUSTMENTS

NOTE: This receiver employs digital customer controls. Unless otherwise indicated all adjustments were performed with the customer controls at center.

B+ CHECK

Tune in a picture. Connect a digital DC voltmeter to pin 4 of IC921. With AC line set to 120VAC, voltage should read 134V* +2.0V* -2.5V*.

* Taken from common tie point.

HIGH VOLTAGE CHECK

Tune in a picture. Connect a high voltage probe to the CRT anode, low side to ground. High voltage should read 22kV to 22.5kV.

COLOR PURITY

Operate the receiver for 15 minutes. Use a degaussing coil to demagnetize the CRT and mounting hardware. Tune in a green raster. Loosen the locking ring and slide the deflection yoke backward to obtain a vertical green band. Rotate and spread the tabs of the purity magnets until the green band is centered on the screen. Move the deflection yoke forward until a uniform green screen is obtained. Check red and blue purity.

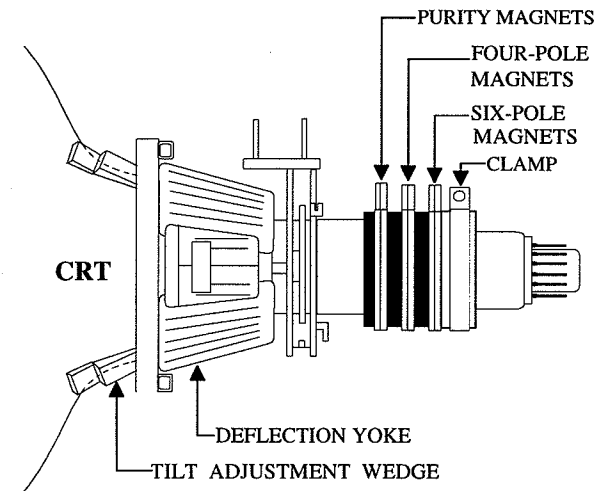
CONVERGENCE

Operate the receiver for 15 minutes. Connect a color bar generator to antenna terminals and tune in a dot pattern. Loosen clamp. Adjust 4-pole magnets to converge the red and blue dots at the center of the screen. Adjust the 6-pole magnets to converge the red/blue dots over the green dots at the center of the screen.

NOTE: Rotate the two tabs of each set of magnets equally and opposite to converge vertically and rotate both tabs in the same direction to converge horizontally. The 4 and 6 pole magnets interact, repeat adjustment until center convergence is correct. Tighten clamp.

Tune in a crosshatch pattern. remove rubber wedges between the deflection yoke and the CRT. Tilt deflection yoke up or down to converge the vertical lines at the top and bottom of the screen and the horizontal lines at the right and left sides of the screen. Tilt the deflection yoke right and left to converge the horizontal lines at the top and bottom of the screen and the vertical lines at the right and left sides of the screen. Repeat convergence procedure, if necessary, to obtain the best overall convergence. Replace the rubber wedges.

CRT NECK ASSEMBLY



SERVICE MENU

Service Menu Chart

SERVICE MENU	
PICTURE	SOUND
GAME	
LOW LIGHT	HIGH LIGHT
RF AFC CHK	
VCO (CW)	

To enter the service menu, press sleep timer button then press and hold the display and video status buttons simultaneously on the remote transmitter. The service menu is displayed as shown on the service menu chart. While in the service menu, use the menu up and down buttons to select and use the menu left and right buttons to adjust. To exit the service menu, press the exit button on the remote transmitter.

PICTURE MODE

Select Picture Mode from the service menu.

Picture Mode Menu Chart

Number	Adjustment	Range	Initial Value	On-set Value
1	BRIGHT	0 ~ 127	64	061
2	PICTURE	0 ~ 127	95	098
3	TV DTL (1)	0 ~ 63	26	026
4	TV BPF (1)	0 ~ 1	0	000
5	TINT	0 ~ 127	70	065
6	COLOR	0 ~ 127	48	048
7	EXT BRI (1)	±25	-1	±000
8	EXT PIC (1)	±25	±0	±000
9	EXT DTL (1)	0 ~ 63	26	026
10	EXT BPF (1)	0 ~ 1	0	000
11	EXT TINT (1)	±25	±0	+001
12	EXT COL (1)	±25	±0	+003
13	V SIZE	0 ~ 63	38	046
14	V CENT	0 ~ 7	0	001
15	H POS	0 ~ 31	20	018
16	OSD HP	0 ~ 31	26	026
17	OSD VP	0 ~ 31	14	014
18	H AFC (1)	0 ~ 1	0	000
19	RF AFC	0 ~ 63	40	040

(1) Do not adjust.

RF AGC

Tune in a picture. Decrease the value of RF AGC (19) until snow appears in the picture. Increase the value of RF AGC (19) until snow disappears from the picture. Check all channels for proper picture and readjust if necessary.

Vertical Size / Vertical Center

Tune in a picture. Adjust V Size (13) for a slightly underscanned picture. Adjust V Center (14) to center the picture. Adjust V Size (13) for a slightly overscanned picture.

Horizontal Position

Tune in a crosshatch pattern. Adjust H Pos (15) to center the picture.

Sub Bright / Sub Picture / Sub Color / Sub Tint

Tune in a picture. Adjust Bright (1) for best brightness. Adjust Picture (2) for best contrast. Adjust Color (6) for best color. Adjust Tint (5) for best tint.

OSD Position

Adjust OSD VP (17) to vertically center the display. Adjust OSD HP (16) for the best horizontal display position.

SOUND MODE

Select Sound Mode from the service menu.

Sound Mode Menu Chart

Number	Adjustment	Range	Initial Value	On-set Value
1	IN LEVEL	0 ~ 63	29	29
2	FH MON	0 / 1	0	0
3	ST VCO	0 ~ 63	20	36
4	PILOT (1)	0 / 1	0	0
5	FILTER	0 ~ 63	25	35
6	LOW SEP	0 ~ 63	32	22
7	HI SEP	0 ~ 63	16	16
8	5FH MON	0 ~ 1	0	0
9	SAP VCO	0 ~ 63	14	33
10	FIL. OFF. (1)	0 ~ 10	0	0

(1) Do not adjust.

NOTE: Sound Mode adjustments 2 through 10 are not used with model C-20110.

MTS Level Input / MTS Filter

Insure that In Level (1) and Filter (5) are set to initial value.

MTS Stereo VCO

Tune in a RF signal. Set FH MON (2) to 1. Connect a frequency counter to pin 2 of connector MPX. Adjust ST VCO (3) for 15.73kHz ±.1kHz. Set FH MON (2) to 0.

MTS SAP VCO

Tune in a RF signal. Connect a 1M ohms resistor between pins 3 and 4 of connector MPX. Set 5FH MON (8) to 1. Connect a frequency counter to pin 2 of connector MPX. Adjust SAP VCO (9) for 78.67kHz ±.5kHz. Set 5FH MON (8) to 0.

MTS Separation

Input a 300Hz audio frequency, L modulation signal. Connect an oscilloscope to pin 1 of connector MPX. Set oscilloscope to display one cycle of 300Hz signal. Connect oscilloscope to pin 2 of connector MPX. Adjust Low Sep (6) for minimum amplitude of waveform. Increase audio frequency to 3kHz and adjust Hi Sep (7) for minimum amplitude of waveform.

LOW LIGHT MODE

Select Low Light from service menu.

Low Light Mode Menu Chart

Adjustment	Range	Initial Value	On-set Value
BRIGHT	0 ~ 127	64	061
R CUTOFF	0 ~ 255	20	020
G CUTOFF	0 ~ 255	20	023
B CUTOFF	0 ~ 255	20	050

NOTE: While in the Low Light Mode, adjustments are performed using the following buttons on the remote transmitter:

- 1 - Display horizontal Line.
- 2 - Restores full picture.
- 3 - Exit
- 4 - Increase red cutoff.
- 5 - Increase green cutoff.
- 6 - Increase blue cutoff.
- 7 - Decrease red cutoff.
- 8 - Decrease green cutoff.
- 9 - Decrease blue cutoff.

White Balance (Low Light Mode Adjustment)

Tune in a monoscope signal and set Bright, R Cutoff, G Cutoff, and B Cutoff to initial value. Set screen to minimum and display horizontal line. Increase screen until line of one color becomes visible. Adjust the other two cutoffs for a white line. Restore full picture.

HIGH LIGHT MODE

Select High Light from service menu.

High Light Menu Chart

Adjustment	Range	Initial Value	On-set Value
G DRIVE	0 ~ 255	128	068
B DRIVE	0 ~ 255	128	073

NOTE: While in the High Light Mode, adjustments are performed using the following buttons on the remote transmitter:

- 1 - Display horizontal Line.
- 2 - Restores full picture.
- 3 - Exit
- 5 - Increase green drive.
- 6 - Increase blue drive.
- 8 - Decrease green drive.
- 9 - Decrease blue drive.

White Balance (High Light Mode Adjustment)

Tune in a monoscope signal. Set G Drive and B Drive to initial value. Adjust G Drive and B Drive for best white screen.

RF AFC CHK MODE

RF AFC Check Mode Menu Chart

Adjustment	Range	Initial Value	On-set Value
RF AFC (1)	On / Off	On	On
Fine (1)	-77 ~ +77	+0	±00

(1) Do not adjust.

VCO (CW) MODE

Select VCO (CW) from service menu.

VCO (CW) Mode Menu Chart

Too High
Above Reference
Below Reference
Too Low
SYNC : YES

Tune in a NTSC signal without offset frequency. Adjust T131 and confirm that Too High and Too Low turns yellow. Adjust T131 until Below Reference turns yellow and SYNC: YES appears on screen.

GAME MODE

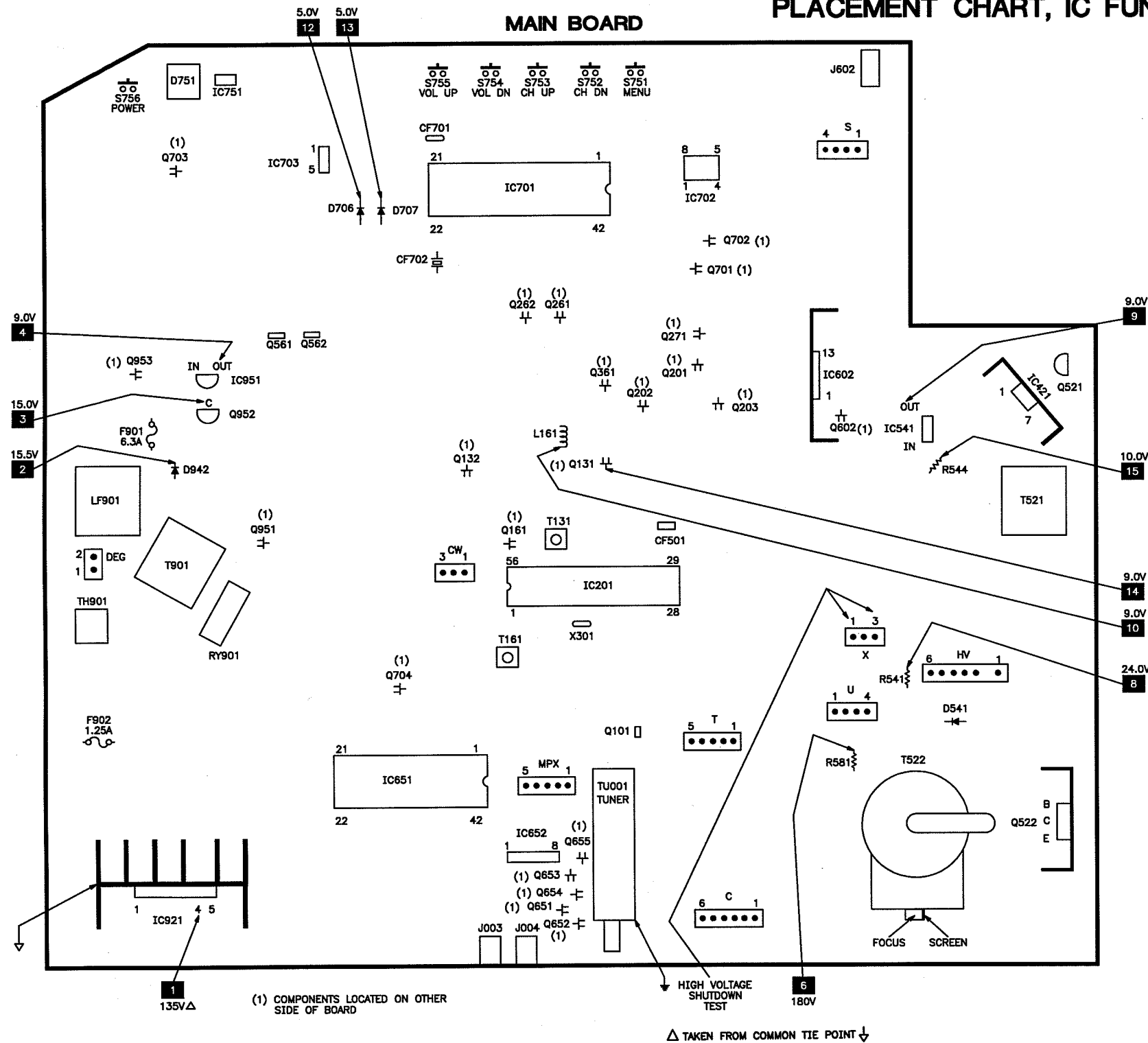
Select Game from service menu.

Game Mode Menu Chart

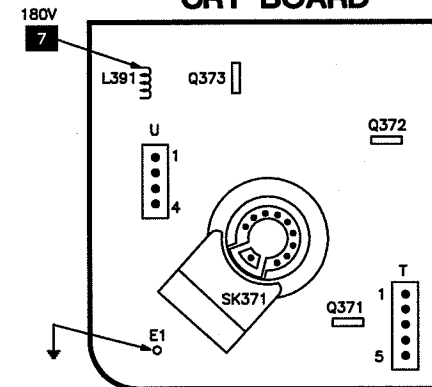
Adjustment	Range	Initial Value
Tint	± 20	0
Color	± 20	0
Picture	± 20	-10
Bright	± 20	-5
Detail	± 15	+5

PLACEMENT CHART, IC FUNCTIONS

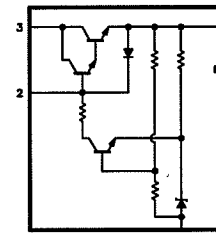
MAIN BOARD



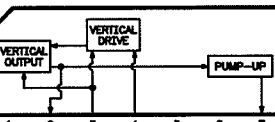
CRT BOARD



IC921 STR30134



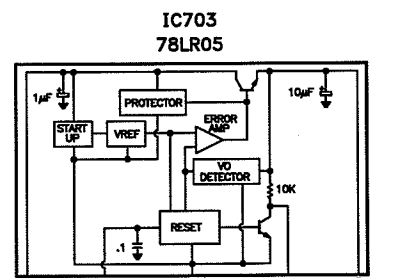
IC421 LA7830



SCHEMATIC NOTES

- # For SAFETY use only equivalent replacement part, see parts list.
- Circuitry not used in some versions.
- Circuitry used in some versions.
- Ground
- Chassis ground
- Common tie point
- △ Taken from common tie point
- 3 Schematic CIRCUITTRACE® Voltage source tie point.
- A Cabling: Heavy lines reduce use of multiple lines.

Waveforms and voltages are taken from ground, unless otherwise noted.
Waveforms taken with triggered scope and colorbar signal.
Waveform voltage is peak to peak. Timebase is per division. Waveforms shown at 10 divisions.
Supply voltages maintained as seen at input.
Voltages measured with digital meter and a 1000μV RF signal, with colorbar pattern applied to antenna terminal.
Controls adjusted for normal operation.
Capacitors are 50 volts or less, 5% or greater unless noted.
Electrolytic capacitors are 50 volts or less, 20% or greater unless noted.
Resistors are 1/2W or less, 5% or greater unless noted.
Value in () used in some versions.
Measurements with switching as shown unless noted.
Rated voltage shown on zener diodes.



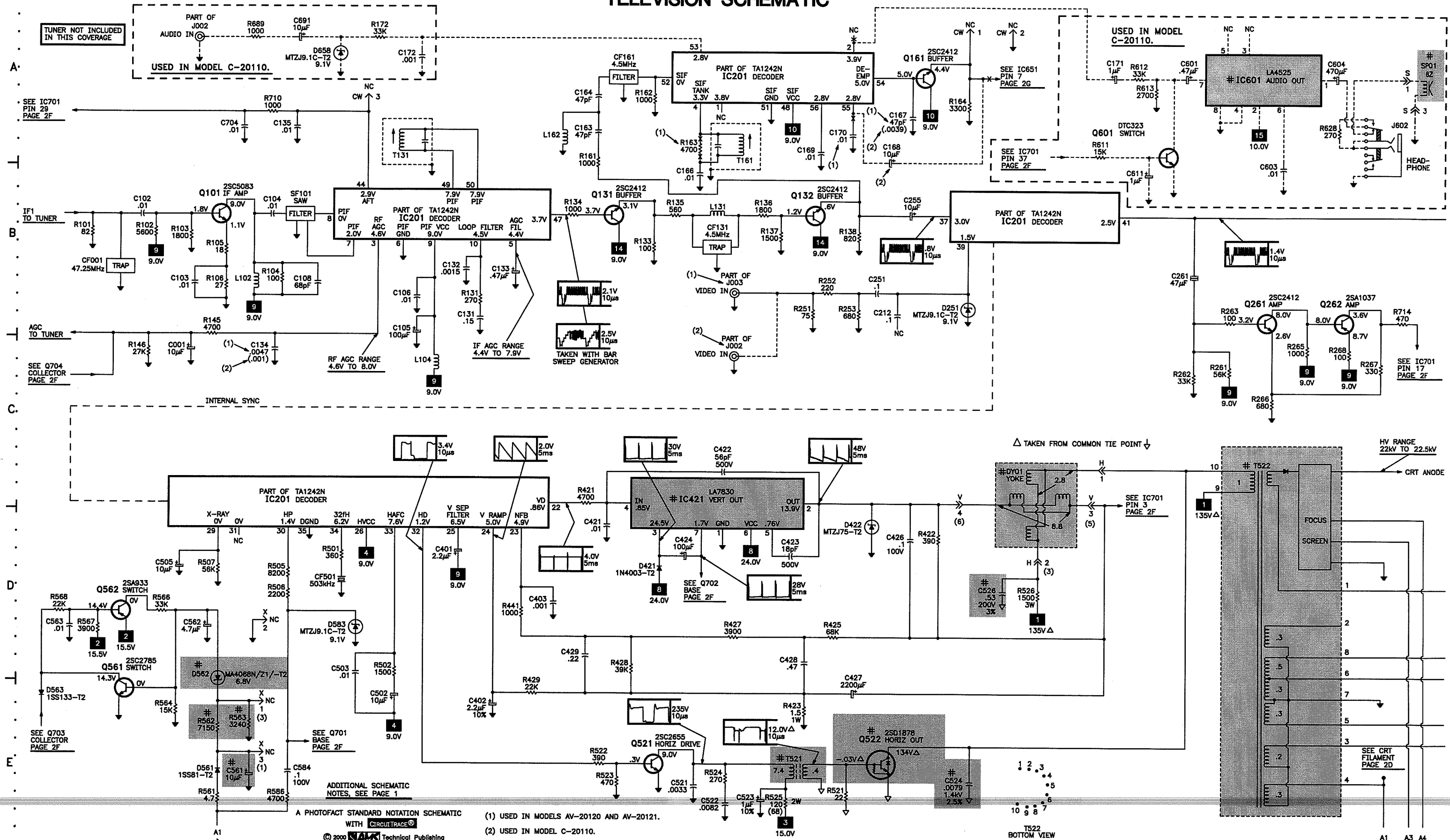
JVC

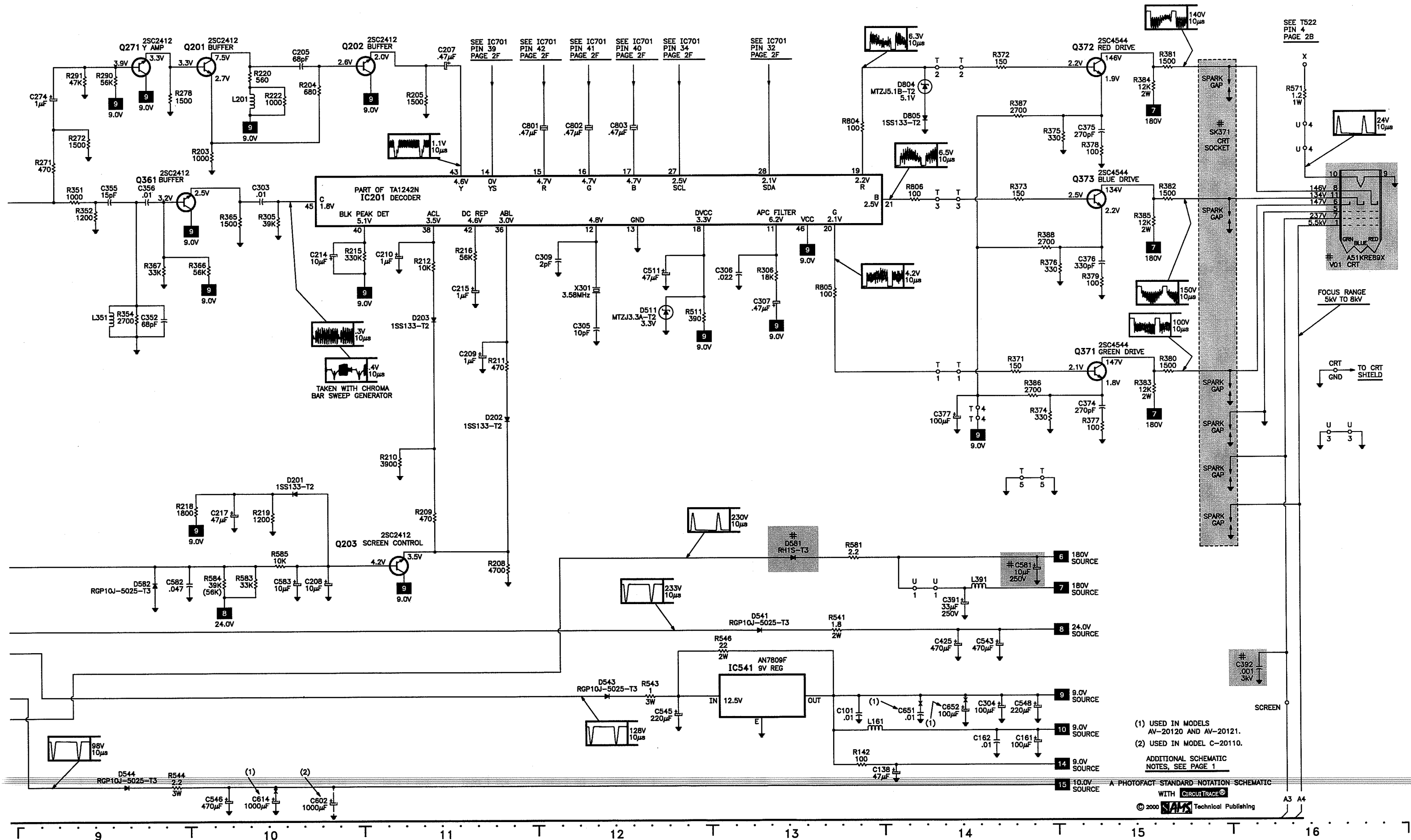
MODEL AV-20120 (CHASSIS FV3)

A

TELEVISION SCHEMATIC

B



TELEVISION SCHEMATIC continued

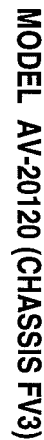
E



F

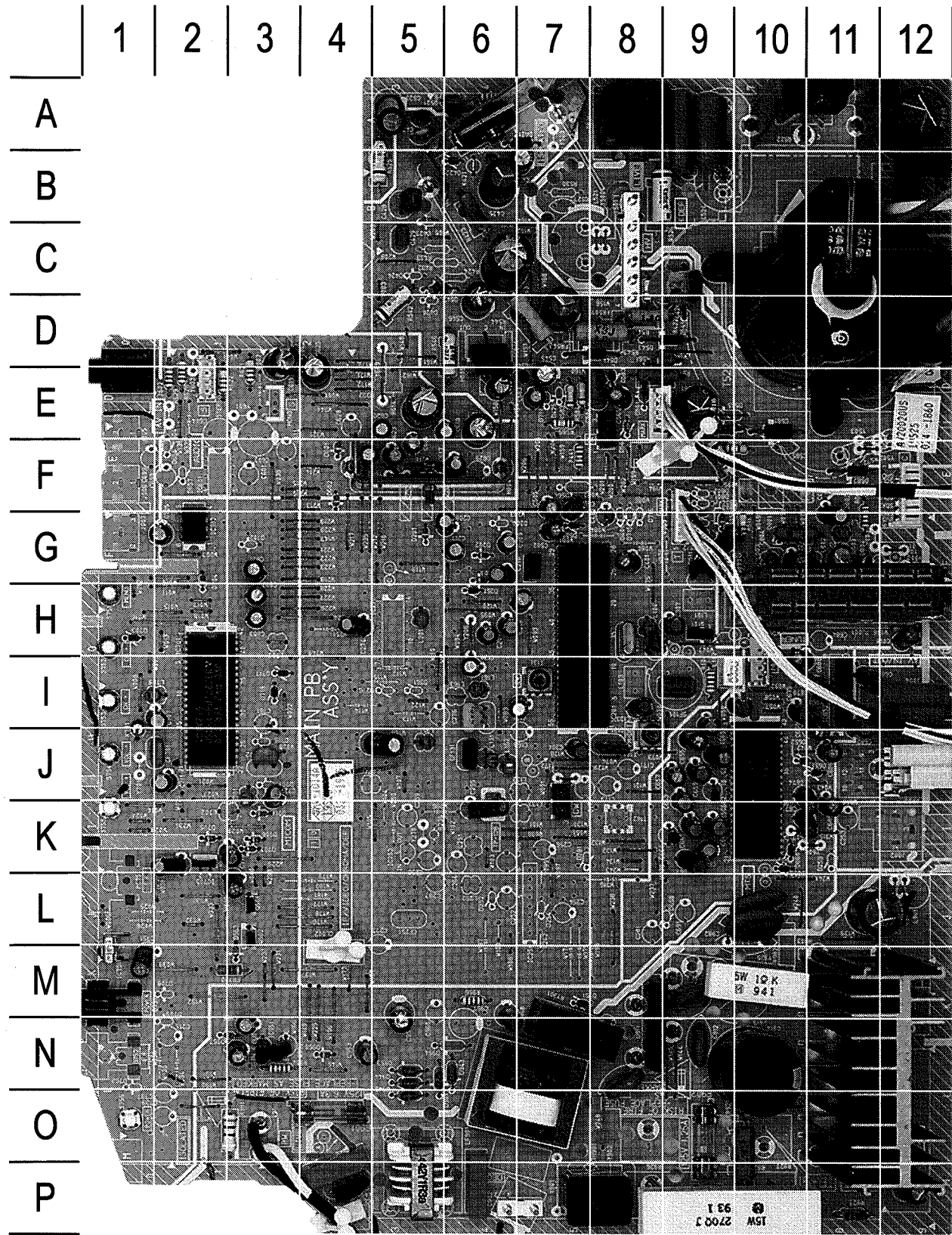


H



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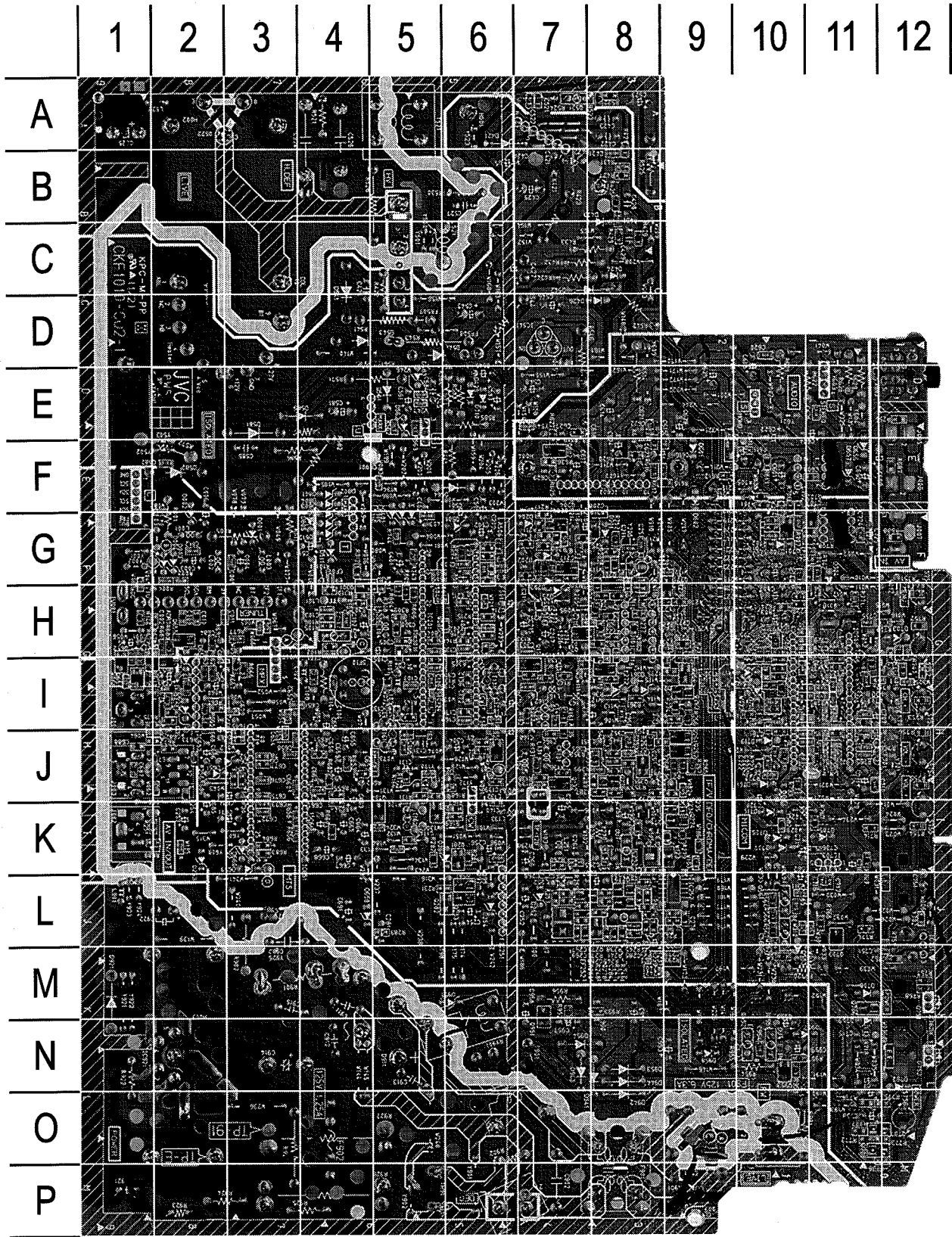
MAIN BOARD - TOP VIEW



MAIN BOARD - TOP VIEW, GRIDTRACE LOCATION GUIDE

C	E12	C524	A9	C671	K11	CF701	J2	D718	I3	L104	H8	R584	E7
C001	H12	C525	A12	C674	J11	CF702	J3	D751	M1	L131	J6	R585	E7
C003	G11	C526	A9	C679	I10	CW	J7	D804	G9	L161	I6	R586	F10
C004	G10	C543	D7	C680	I10	D001	G10	D805	G9	L162	J6	R621	E3
C006	G11	C545	E7	C682	I11	D002	G11	D911	N8	L201	L5	R622	E2
C105	H8	C546	D6	C683	I11	D201	G5	D941	N5	L351	J5	R628	E2
C131	J8	C548	E6	C685	K11	D202	G6	D942	O5	L701	J3	R629	E2
C133	I8	C561	E8	C686	J11	D203	G6	D943	N6	L709	I2	R901	M5
C138	I6	C562	L3	C707	I2	D251	H6	D944	N5	LF901	P5	R921	O10
C161	I7	C581	E9	C711	J2	D421	A7	D951	M7	MPX	H10	R923	P11
C207	H6	C583	E7	C716	K2	D422	B6	D953	N5	Q101	H9	R924	P10
C208	G6	C584	E8	C719	K3	D423	B5	D957	N3	Q521	A6	R925	P9
C209	G6	C614	E5	C720	J3	D501	G7	D958	N4	Q522	A11	R926	P9
C210	G6	C616	F4	C725	G8	D511	G9	DEG	P6	Q561	L3	R954	N3
C214	H7	C617	F6	C751	M1	D541	C9	F901	O4	Q562	L3	R956	M6
C215	H6	C618	E6	C801	G3	D542	C5	F902	O9	Q952	N3	R981	O3
C217	G6	C619	D3	C802	H3	D543	D9	FR720	M3	R001	G11	RY901	N7
C255	K6	C622	E5	C803	H3	D544	D8	HV	B8	R005	G10	S	D2
C261	J5	C623	F5	C901	P4	D561	E8	IC201	I8	R104	I9	S751	H1
C274	H4	C624	F5	C902	P6	D562	E8	IC421	A6	R422	C8	S752	H1
C304	J7	C625	D4	C911	M9	D563	M3	IC541	D6	R423	B6	S753	I1
C307	H9	C627	E6	C912	N9	D581	E10	IC602	F5	R441	F7	S754	J1
C401	G8	C652	I10	C913	N8	D582	F11	IC651	J10	R511	G10	S755	K1
C402	G8	C653	I9	C914	N10	D583	E8	IC652	I11	R521	A9	S756	O1
C422	A5	C655	J9	C921	P12	D601	F4	IC701	H2	R524	A6	SF101	I9
C423	A5	C656	J9	C922	L12	D602	F4	IC702	G2	R525	B5	T	F9
C424	B7	C657	J9	C951	N5	D651	J11	IC703	K2	R526	B8	T131	I7
C425	B6	C659	J9	C953	N4	D652	J11	IC751	M1	R541	D8	T161	J8
C426	C9	C662	J9	C956	N3	D659	K10	IC921	O12	R542	D5	T521	A8
C427	C6	C663	J9	C958	N6	D660	K10	IC951	N3	R543	D8	T522	C11
C428	B5	C664	K9	C959	N3	D703	H1	J003	J12	R544	D7	T901	N7
C429	C5	C665	K9	C981	L10	D704	G2	J004	I12	R546	D6	TH901	P8
C501	F7	C666	K9	C982	L10	D705	K2	J602	E1	R561	D9	TU001	G11
C502	G7	C667	K9	CF001	G9	D706	K3	K701	J1	R571	E8	U	E8
C505	F7	C668	K9	CF131	J6	D707	K3	L001	G11	R581	E9	VA901	P4
C511	G9	C669	J11	CF161	I6	D711	K3	L003	G10	R582	F9	X	E8
C523	A6	C670	I11	CF501	G7	D717	I3	L102	I9	R583	E7	X301	H8

MAIN BOARD - BOTTOM VIEW



MAIN BOARD - BOTTOM VIEW, GRIDTRACE LOCATION GUIDE

C005	G3	C626	E11	Q203	G7	R204	H8	R425	B8	R664	I2	R725	I11
C011	H2	C651	I3	Q261	J9	R205	H8	R427	B8	R665	I2	R726	I10
C012	G2	C654	J3	Q262	J9	R208	G7	R428	C8	R666	I3	R727	H11
C101	H4	C658	J3	Q271	H9	R209	G7	R429	C8	R667	I3	R728	I10
C102	H4	C660	J3	Q361	I8	R210	G7	R501	G6	R668	J4	R729	I11
C103	H4	C661	J4	Q602	F7	R211	G7	R502	G5	R669	I2	R730	I10
C104	I4	C672	K3	Q651	I1	R212	G7	R505	G6	R670	I1	R732	I10
C106	I5	C673	K3	Q652	I1	R215	H6	R506	G6	R671	J2	R734	H10
C108	I4	C675	J3	Q653	I2	R216	H6	R507	G6	R672	J2	R735	H10
C132	I5	C676	J3	Q654	I1	R218	G7	R522	A8	R673	I2	R736	H10
C134	I5	C687	J1	Q655	H2	R219	G7	R523	A8	R674	I2	R737	H10
C135	H9	C688	J1	Q701	G10	R220	H8	R562	E5	R675	I2	R738	H10
C162	I7	C702	F10	Q702	G11	R222	H8	R563	E5	R676	I2	R739	H10
C163	I7	C704	I10	Q703	L11	R251	K1	R564	L10	R678	I1	R740	G10
C164	J7	C705	I11	Q704	K5	R252	G8	R566	L10	R679	I1	R741	G11
C166	J5	C706	I11	Q951	M7	R253	G8	R567	L10	R680	H2	R742	G11
C167	J6	C708	J11	Q953	N10	R261	J8	R568	M10	R681	H2	R745	I10
C169	I6	C709	I11	R101	H4	R262	I9	R615	F9	R682	J4	R746	I10
C170	I6	C710	J11	R102	H4	R263	J8	R616	F8	R683	K3	R751	H12
C205	H8	C712	J10	R103	H4	R265	J9	R617	F9	R684	K3	R752	H12
C212	G8	C714	I12	R105	H4	R266	I9	R618	F8	R691	H2	R753	I12
C251	G8	C717	L11	R106	H4	R267	J9	R619	E6	R701	F10	R754	K12
C303	H7	C718	L11	R131	I5	R268	J9	R620	F5	R702	G10	R755	J12
C305	H5	C721	J10	R133	I7	R271	K9	R623	H10	R704	G11	R756	J12
C306	H5	C722	J10	R134	I7	R272	J8	R625	F7	R705	F10	R757	M12
C309	H5	C723	J10	R135	J7	R278	H9	R627	E7	R706	F10	R758	M12
C352	J8	C724	G11	R136	J7	R290	H9	R651	J4	R708	G11	R767	K11
C355	J8	C726	I10	R137	J7	R291	H9	R652	J4	R709	H12	R768	L11
C356	I8	C735	H11	R138	J7	R305	I6	R653	J4	R710	I10	R769	K11
C403	G5	C954	N10	R142	I7	R306	H5	R654	K4	R713	I11	R804	H5
C421	B8	D003	G11	R145	I5	R351	J8	R655	J4	R714	K11	R805	H5
C503	G6	D004	G11	R146	H1	R352	J8	R656	K3	R715	J11	R806	H5
C521	A7	Q131	I7	R161	I7	R354	J8	R658	K3	R716	I12	R952	M7
C522	A7	Q132	J7	R162	I7	R362	H8	R660	K4	R717	I12	R953	M10
C563	M10	Q161	J6	R163	J5	R365	I7	R661	I2	R719	J10	R955	N10
C582	F2	Q201	H8	R164	J6	R367	I8	R662	I2	R723	J10	R957	N10
C620	D10	Q202	H7	R203	G8	R421	B8	R663	I2	R724	I11	R958	N10

JVC

MODEL AV-20120 (CHASSIS FV3)

PARTS LIST

SEMICONDUCTORS

(Select the replacement that gives the best results.)

Item No.	Type No.	Mfr. Part No.	ECG Part No.
D001	-	MTZJ33B-T2	-
D002	-	MTZJ5.1B-T2	-
D003, 04	-	MTZJ9.1C-T2	-
D201, 02, 03	-	1SS133-T2	ECG177
D251	-	MTZJ9.1C-T2	-
D421	-	1N4003-T2	ECG116
D422	-	MTZJ75-T2	-
D423	-	1SS133-T2	ECG177
D501	-	MTZJ9.1C-T2	-
D511	-	MTZJ3.3A-T2	-
D541	-	RGP10J-5025-T3	-
D542	-	1SR35-400A-T2	-
D543, 44	-	RGP10J-5025-T3	-
D561	-	1SS81-T2	ECG177
# D562	-	MA4068N/Z1/-T2	-
D563	-	1SS133-T2	ECG177
# D581	-	RH1S-T3	ECG552
D582	-	RGP10J-5025-T3	-
D583	-	MTZJ9.1C-T2	-
D601, 02 (1)	-	1SS133-T2	ECG177
D651, 52 (1)	-	MTZJ9.1C-T2	-
D658 (2)	-	MTZJ9.1C-T2	-
D659, 60 (1)	-	MTZJ9.1C-T2	-
D703	-	MTZJ5.6A-T2	-
D704 Thru	-	-	-
D707	-	1SS133-T2	ECG177
D711	-	1SS133-T2	ECG177
D717, 18	-	MTZJ9.1C-T2	-
D751	-	SLR-342VR3F	-
D804	-	MTZJ5.1B-T2	-
D805	-	1SS133-T2	ECG177
# D911	-	D3SB60	ECG5310
D941 Thru	-	-	-
D944	-	1SR35-400A-T2	-
D951	-	MTZJ12C-T2	-
D953	-	1SR35-400A-T2	-
D957, 58	-	1SS133-T2	ECG177
IC201	-	TA1242N	-
# IC421	-	LA7830	ECG1773
IC541	-	AN7809F	-
# IC601 (2)	-	LA4525	-
# IC602 (1)	-	LA4446	-
IC651 (1)	-	UPC1851BCU	-
IC652 (1)	-	BA15218N	ECG778S
IC701	-	M37272MA-050SP	ECG7051
IC702	24C02PC	AT24C02-C20110	-
IC703	78LR05	L78LR05E-MA	-
# IC921	-	STR30134	ECG1778
IC951	TA78L009AP	TA78L009AP-T	ECG1902
Q101	2SC5083	2SC5083/L-P/-T	-
Q131, 32, 61	2SC2412	2SC2412K/QR/-X	ECG2408
Q201, 02, 03	2SC2412	2SC2412K/QR/-X	ECG2408
Q261	2SC2412	2SC2412K/QR/-X	ECG2408
Q262	2SA1037	2SA1037AK/QR/-X	ECG2409
Q271	2SC2412	2SC2412K/QR/-X	ECG2408
Q361	2SC2412	2SC2412K/QR/-X	ECG2408
Q371, 72, 73	2SC4544	2SC4544-LB	ECG376%
Q521	2SC2655	2SC2655/Y/-T	ECG293
# Q522	2SD1878	2SD1878-YD	ECG2331
Q561	2SC2785	2SC2785/JH/-T	ECG2361
Q562	2SA933	2SA933AS/QR/-T	ECG290A
Q601 (2)	DTC323	DTC323TK-X	-
Q602 (1)	DTC323	DTC323TK-X	-
Q651 Thru	-	-	-
Q654 (1)	2SC2412	2SC2412K/QR/-X	ECG2408
Q655 (1)	2SA1037	2SA1037AK/QR/-X	ECG2409
Q701, 02, 03	2SC2412	2SC2412K/QR/-X	ECG2408
Q704	DTC323	DTC323TK-X	-
Q951	2SC2412	2SC2412K/QR/-X	ECG2408
Q952	2SA966	2SA966/OY/-T	ECG294
Q953	2SC2412	2SC2412K/QR/-X	ECG240

For SAFETY use only equivalent replacement part.
(1) Used in models AV-20120 and AV-20121.
(2) Used in model C-20110.

CAPACITORS & ELECTROLYTICS

Item No.	Rating	Mfr. Part No.
C261	47µF 20% 16V NP	QENC1CM-476Z
# C392	.001 +80% -20% 3kV	QCZ0121-102
C402	2.2µF 10% 16V Tantalum	QBHC1CK-22SZ
C523	1µF 10% 50V	QEM61HK-105Z
# C524	.0079 2.5% 1.4kV	QFZ0198-792
# C525	100µF 20% 160V	QEZ0203-107
# C526	.53 3% 200V	QFZ0119-534
# C561	10µF 20% 50V	QETN1HM-106Z
# C581	10µF 20% 250V	QETN2EM-106Z
C616, 22 (1)	47µF 20% 50V NP	QENC1HM-474Z
C655 (1)	4.7µF 20% 50V NP	QENC1HM-475Z
C656 (1)	1µF 20% 50V NP	QENC1HM-105Z
C662 (1)	3.3µF 10% 16V Tantalum	QBTC1CK-33SZ
C664 (1)	10µF 10% 16V Tantalum	QBTC1CK-106Z
C669, 70 (1)	1µF 20% 50V NP	QENC1HM-105Z
C801, 02, 03	47µF 20% 50V NP	QENC1HM-474Z
# C901	.1 20% 275VAC	QFZ9040-104
# C902	.047 20% 275VAC	QFZ9040-473
# C911, 12, 13	.0047 20% 125VAC	QCZ9074-472
# C914	330µF 20% 200V	QEZ0169-337
# C981, 82	.01 20% 250VAC	-
	.01 20% 125VAC	QCZ9074-103

For SAFETY use only equivalent replacement part.
(1) Used in models AV-20120 and AV-20121.

CONTROLS & RESISTORS

Item No.	Function/Rating	Mfr. Part No.
# FR720	82.5% 1/4W Fusible	QRZ9017-820
R526	1500 5% 3W	QRL039J-152
R543	1 5% 3W	QRT039J-1R0
R544	2.2 5% 3W	QRT039J-2R2
# R562	7150 5% 1/10W	NRZ0032-7151X
# R563	3240 5% 1/10W	NRZ0032-3241X
# R901	1 10% 5W Wirewound	QRF054K-1R0
# R921	2.7 5% 2W	QRX029J-2R7
# R926	270 5% 15W	QRF154J-271
# R981	2.7M 10% 1/2W	QRZ9041-275
# TH901	5.1 Cold PTC	CEKP007-002
# VA901	Varistor	ERZV10V361CS

For SAFETY use only equivalent replacement part.

Important Parts Information

- The parts listed here are those not usually available from a well-stocked supply cabinet or bin.
- Where items may be replaced with equivalent parts, several alternates are shown from participating vendors.
- On the parts lists, safety items are marked with a # to remind you that only exact replacements are recommended for these items.
- When ordering parts, state the model number, part number, and description.

Obtaining Parts

Many of these parts are available from your local Sams authorized distributor or the manufacturer of the equipment. Call Sams for the name of your nearest distributor:

800-428-7267

Or consult the Sams *Annual Index* for the address of the original equipment manufacturer.

Participating Vendors

Information on test equipment and replacement parts is listed in these pages for the following participating vendors. Consult the Sams *Annual Index* for their current address.

- Philips ECG Company (ECG)
- Sencore, Inc.
- Terrell & Nobis (TNI Electronics)

PARTS LIST continued

COILS & TRANSFORMERS

Item No.	Function/Rating	Mfr. Part No.
# DY01	Yoke Horiz 2.83mH Vert 17mH	QQD0011-001
K701	Ferrite Bead	QQR0582-001Z
L001	15µH	QQL03BJ-150Z
L003	5.6µH	QQL03BJ-5R6Z
# L01	Degaussing	QQW0002-001
L102	-	QQLZ014-R22
L104	68µH	QQL03BJ-680Z
L131	22µH	QQL03BJ-220Z
L161	68µH	QQL03BJ-680Z
L162 (1)	39µH	QQL03BJ-390Z
L162 (2)	22µH	QQL03BJ-220Z
L201	33µH	QQL03BJ-330Z
L351	22µH	QQL03BJ-220Z
L391	39µH	QQL03BJ-390Z
L701	4.7µH	QQL03BJ-4R7Z
L709	10µH	QQL03BJ-100Z
# LF901	Line Filter	QQR0864-002
T131	PIF	QQR0907-001
T161	SIF	CELT003-109J3
# T521	Horizontal Drive	CE41106-00CJ1
# T522 (3)	Horizontal Output	QQH0030-002
# T901	Power	QQT0198-001

For SAFETY use only equivalent replacement part.

(1) Used in models AV-20120 and AV-20121.

(2) Used in model C-20110.

(3) Focus and screen controls are part of T522.

MISCELLANEOUS

Item No.	Description	Mfr. Part No.	Notes
CF001	Trap	QAX0349-001	47.25MHz
CF131	Trap	CE41505-001	4.5MHz
CF161	Filter	SFSH4.5MCB	4.5MHz
CF501	Resonator	CSB503F30-T2	503kHz
CF701	Resonator	CST8.00MTW	8MHz
CF702	Resonator	QAX0428-001	-
# CN10PW (3)	Line Cord	QMPD200-200-JC	AC, Polarized
# CN10PW (4)	Line Cord	QMPD209-200-JC	AC, Polarized
# F901	Fuse	QMF0007-6R3J1	6.3Amp, 125V, Fast Acting
# F902	Fuse	QMF0007-1R25J1	1.25Amp, 125V, Slow Blow
FC901, 02	Fuse Holder	CEMG002-001Z	For F901, 02 (2 Used, Each)
IC751	Receiver	GP1U281Q	Remote
J002 (1)	Jack	QNN0181-002	Assembly
J003 (2)	Jack	QNN0182-001	Assembly
J004 (2)	Jack	QNN0181-001	Assembly
J602	Jack	QMS3007-C01	Headphone
# RY901	Relay	QSK0083-001	Power
S751	Switch	QSW0619-003Z	Menu
S752	Switch	QSW0619-003Z	Channel Down
S753	Switch	QSW0619-003Z	Channel Up
S754	Switch	QSW0619-003Z	Volume Down
S755	Switch	QSW0619-003Z	Volume Up
# S756	Switch	QSW0619-003Z	Power
SF101	Filter	CE42589-201	SAW
# SK371	Socket	CE42535-001J1	CRT
# SP01 (1)	Speaker	CEBSS09D-03KJ2	2" X 3 1/2", 8 Ohms, 5W
# SP01, 02 (2)	Speaker	CEBSS09D-03KJ2	2" X 3 1/2", 8 Ohms, 5W
# TU001 (1)(6)	Tuner	QAU0145-001	UHF/VHF
# TU001 (2)(6)	Tuner	QAU0069-001	UHF/VHF, ENV56D44G3
# V01	CRT	A51KRE89X(DT)	A51KRE89X
X301	Crystal	QAX0310-001Z	3.58MHz
	Magnet	CE42378-00B	Purity/Convergence
	PC Board (1)	SFV-1028A-M2	Main
	PC Board (4)	SFV-1030A-M2	Main
	PC Board (5)	SFV-1029A-M2	Main
	Transmitter (1)	RM-C205-1C	Remote
	Transmitter (4)	RM-C380W-1A	Remote
	Transmitter (5)	RM-C380-1A	Remote
	Wedge	CE42153-00AJ1	Yoke Positioning (4 Used)

For SAFETY use only equivalent replacement part.

(1) Used in model C-20110.

(2) Used in models AV-20120 and AV-20121.

(3) Used in models AV-20120 and C-20110.

(4) Used in model AV-20121.

(5) Used in model AV-20120.

(6) Contact TNI Electronics for replacement; order by part number on tuner.

CABINET PARTS

Item	Mfr. Part No.
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Model AV-20120

# Cabinet Front	LC10109-011A-A
# Cabinet Rear	LC10108-001E-A
Knob, Power	LC30376-001A-A
Knob, Push Assembly	LC30271-001A-A
Mark, JVC	CM43094-006-H
# Power Cord Clamp	LC20106-001D-A
Remote Control Lens	LC30191-001C-A

Remote Transmitter

Battery Cover	UR52EC1286A
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Model AV-20121

# Cabinet Front	LC10109-010A-A
# Cabinet Rear	LC10108-003D-A
Knob, Power	LC30376-002A-A
Knob, Push Assembly	LC30271-002A-A
Mark, JVC	CM43094-006-H
# Power Cord Clamp	LC20106-002C-A
Remote Control Lens	LC30191-001C-A

Remote Transmitter

Battery Cover	UR52EC1286B
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Model C-20110

# Cabinet Front	LC10109-008A-A
# Cabinet Rear	LC10108-002E-A
Knob, Power	LC30376-001A-A
Knob, Push Assembly	LC30271-001A-A
Mark, JVC	CM43094-006-H
# Power Cord Clamp	LC20106-001D-A
Remote Control Lens	LC30191-001C-A

Remote Transmitter

Battery Cover	511A24001
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For SAFETY use only equivalent replacement part.

TEST EQUIPMENT

Test equipment listed by participating manufacturer illustrates typical or equivalent equipment used by Sams engineers to obtain measurements. This equipment is compatible with most types used by field service technicians.

Equipment	Sencore No.	Equipment	Sencore No.
Oscilloscope	SC3100	Isolation Transformer	PR570
Generators		Capacitance Analyzer	LC102
RGB	CM2125	CRT Analyzer	CR7000
Multiburst Signal	VG91	AC Leakage Tester	PR570
Color Bar	VG91	Inductance Analyzer	LC102
TV Stereo	VG91	Flyback Yoke Tester	TVA92
Digital VOM	SC3100	Field Strength Meter	SL753
Frequency Meter	SC3100	Transistor Tester	TF46
Hi-Voltage Probe	HP200	Horizontal Analyzer	HA-2500
Accessory Probes	TP212	Video Analyzer	VG91, TVA92