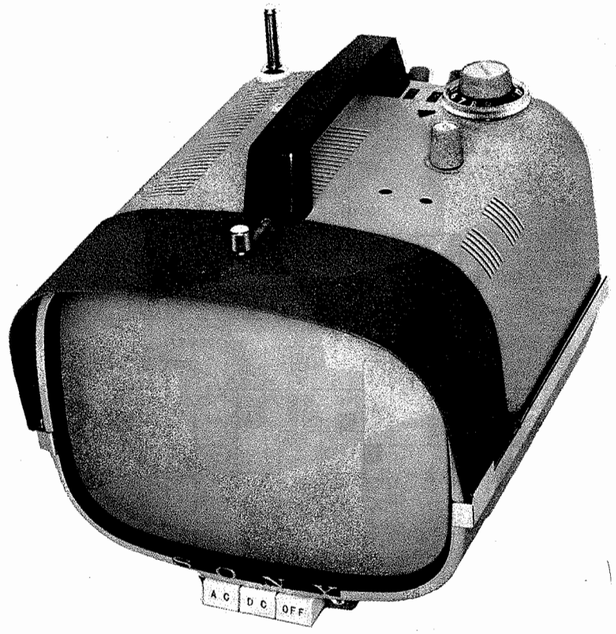
PHOTOFACT® Folder with CIRCUITRACE®

SONY MODEL 8-301W



MODEL 8-301W

SONY MODEL 8-301W

SONY MODEL 8-301W

TRADE NAME	Sony, Model 8-301W
IMPORTER	Sony Corp. of America, 514 Broadway, New York 12, New York
TYPE SET	Portable Television
TUBES	Three (Includes Picture Tube)
TRANSISTORS	Twenty-three
POWER SUPPLY	110-125 Volts AC, 50 or 60 Cycles or 12V Battery (Self-contained or Auto) RATING 20 Watts, .2 Amp. @ 117 Volts AC
TUNING RANGE	Channels 2 thru 13 VHF, Video IF 26.75MC, Sound IF 22.25MC (Intercarrier)

SERVICING IN THE FIELD

SAFETY GLASS REMOVAL

Follow "Cabinet Removal" instructions on back page.

FUSE

L. V. Supply Fuse (4/10A) is located at rear of chassis.

TUNER OSCILLATOR ADJUSTMENTS

To touch up the VHF Oscillator, remove Channel Selector and Fine Tuning knobs.

AGC

The AGC is adjusted by a ganged AGC and Antenna Gain control. (For location, see "Tube Placement Chart".)

FOCUS

No provision is made to vary the focus on this receiver.

HORIZONTAL OSCILLATOR FIELD ADJUSTMENTS

Coarse adjustment of the Horizontal Hold is accomplished by the proper setting of the Horizontal Stabilizer Coil Slug. (See back page for "Horizontal Sweep Circuit Adjustments".)

HORIZONTAL DRIVE

The horizontal drive may be varied by a Horizontal Drive control. (For location, see "Tube Placement Chart".)

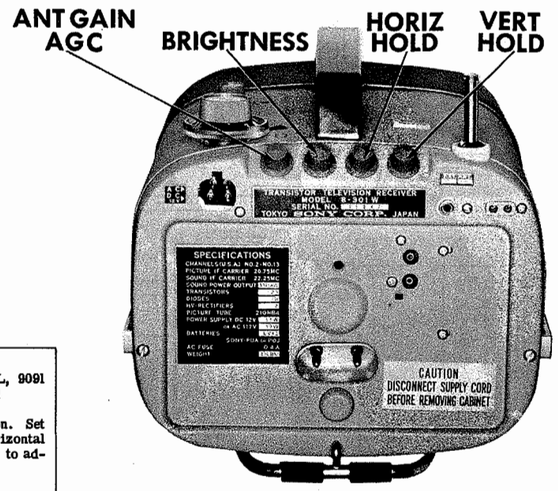
BUZZ ADJUSTMENT

To eliminate intercarrier buzz, adjust the Ratio Detector Secondary (A9) located at top of printed board. (See "Sound Printed Board" photo for location.)

CENTERING

Centering is accomplished by 2 magnetic rings, located behind the yoke, on the neck of the picture tube.

HOWARD W. SAMS & CO., INC. Indianapolis 6, Indiana



HORIZONTAL SWEEP CIRCUIT ADJUSTMENTS

Suggested Alignment Tools:
B1 ... GENERAL CEMENT #8282, 8606, 8606L, 9091
WALSCO #2526, 2541, 2542, 2543, 2544

Tune in a strong TV signal and set controls for normal operation. Set Horizontal Hold control to center of its range, and adjust Horizontal Stabilizer Slug (B1) until picture locks in. (It may be necessary to adjust Horizontal Frequency for lock in.)

Adjust Horizontal Drive control for best linearity. Repeat adjustments if necessary.

CABINET—REAR VIEW

DISASSEMBLY INSTRUCTIONS

CABINET REMOVAL

1. Remove 5 push-on type knobs, channel selector, and fine tuning knob.
2. Remove 6 screws from rear of cabinet.
3. Remove side strips.
4. Remove 3 screws (1 at bottom 1 on each side).
5. Cabinet may now be pulled off rear of picture tube and chassis.

PICTURE TUBE AND ESCUTCHEON ASSEMBLY REMOVAL

The front escutcheon holds chassis, safety glass and picture tube assembly together. It is necessary to remove cabinet for access to screws) holding escutcheon and picture tube assembly.

Disconnect yoke, hi voltage lead, and picture tube socket. Slide escutcheon (with picture tube and safety glass assembly) out front from chassis.

SET 588 FOLDER 2

TELESCOPIC ANTENNA
VHF ANTENNA TERMINAL BOARD
75Ω INPUT
RF INPUT TO TUNER
ANTENNA GAIN
L3 TERMINAL GUIDE
L8 & L11 TERMINAL GUIDE
L12 TERMINAL GUIDE
VOLUME
THERMISTOR
EARPHONE JACKS
2 3/4" X 4"
1ST SOUND IF X8 2SA122
2ND SOUND IF X9 2SA122
AUDIO DRIVER X10 2SD64
AUDIO OUTPUT X11 2SB52
AUDIO OUTPUT X12 2SB52
IF FROM TUNER
1ST VIDEO IF X1 2SA122
2ND VIDEO IF X2 2SA122
3RD VIDEO IF X3 2SA122
4TH VIDEO IF X4 2SA123
VALUE UNKNOWN
L1, L2, L4 & L5 TERMINAL GUIDE
L6 TERMINAL GUIDE
L7 TERMINAL GUIDE
VIDEO AMP X6 2SC73
VIDEO OUTPUT X7 2SC15
BRIGHTNESS 250K
CONTRAST 200Ω
240V BOOST
PICTURE TUBE V3 21OHB4
TUNER B+
PUSH-BUTTON SWITCH (M4) NUMBERING GUIDE (SHOWN IN "OFF" POSITION.
AC
DC
OFF
AGC 10K
AGC AMP X5 2SD65
SYNC AMP X13 2SC73
SYNC PHASE INV X14 2SB49
VERT OSC X15 2SB51
VERT AMP X16 2SB51
VERT OUTPUT X17 2SB147
HEIGHT 500Ω
VERT LINEARITY 500Ω
VERT HOLD 10K
VERT BIAS 10K
DEFLECTION YOKE
HORIZ. .25 VERT. .33
4/10 AMP.
1 AMP. 13.5V
6.5Ω
PILOT LAMP
NO CONNECTION ON 100VAC TAP
117VAC - 20 WATTS
13V SOURCE
2000mfd
M2 12V TOTAL (BATTERY PACK)
X1 THRU X6, X8 THRU X10 & X13 TERMINAL GUIDE
X7, X11, X12, X14 THRU X16 & X18 TERMINAL GUIDE
X17, X19 & X20 TERMINAL GUIDE
HORIZ STABILIZER
HORIZ OSC X18 2SB51
HORIZ DRIVER X19 2SB146
HORIZ OUTPUT X20 2SC41
HORIZ HOLD 10K
HORIZ FREQ 10K
HORIZ DRIVE 30Ω 2W
L14 TERMINAL GUIDE
HV RECT V1 1DK1
HV RECT V2 1DK1
DO NOT MEASURE
TO PICTURE TUBE HV ANODE (5.5-7.5KV) 6KV
240V BOOST SOURCE
NEON LAMP
17 TERMINAL GUIDE
DEFLECTION YOKE
VHF TUNER SCHEMATIC - PAGE 8
POSITIVE GROUND
5 AMP.
BLACK CIRCLE
LIGHTER PLUG
NEGATIVE GROUND
12V AUTO ADAPTER CIRCUIT

DENOTES CHASSIS GROUND

⊖ SEE PARTS LIST FOR ALTERNATE VALUE OR APPLICATION

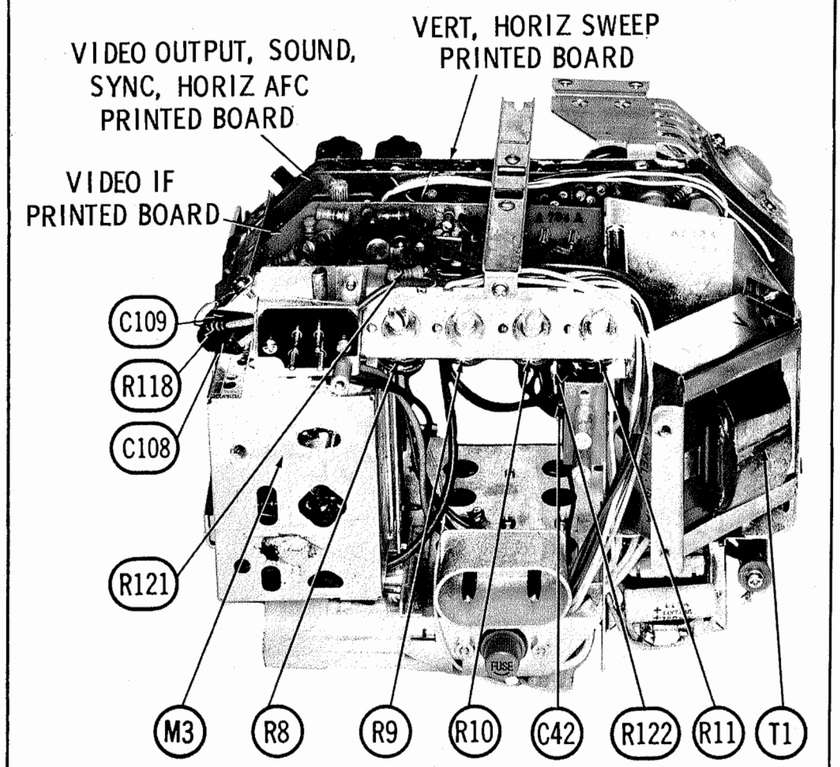
◆ DC COIL RESISTANCE VALUES UNDER ONE OHM NOT SHOWN ON SCHEMATIC DIAGRAM

WAVEFORMS TAKEN WITH CONTROLS SET TO PRODUCE 50 VOLTS PEAK-TO-PEAK SIGNAL AT PICTURE TUBE.

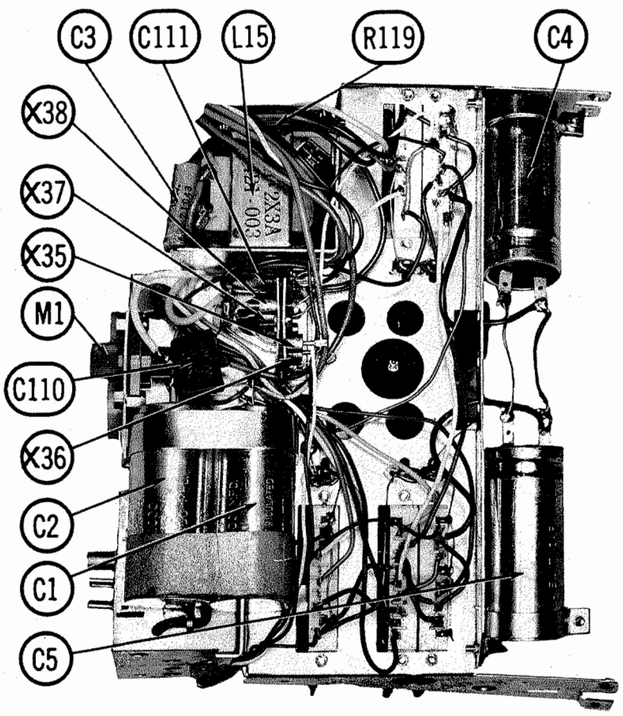
1. DC voltage measurements taken with vacuum tube voltmeter; AC voltage measured at 1000 ohms per volt.
2. Pin numbers are counted in clockwise direction on bottom of socket.
3. Measured values are from socket pin to common negative unless otherwise stated.
4. Line Voltage maintained at 117 volts for voltage readings.
5. All controls set for normal operation; no signal applied.

A PHOTOFACT STANDARD NOTATION SCHEMATIC with CIRCUITRACE™

SONY MODEL 8-301W



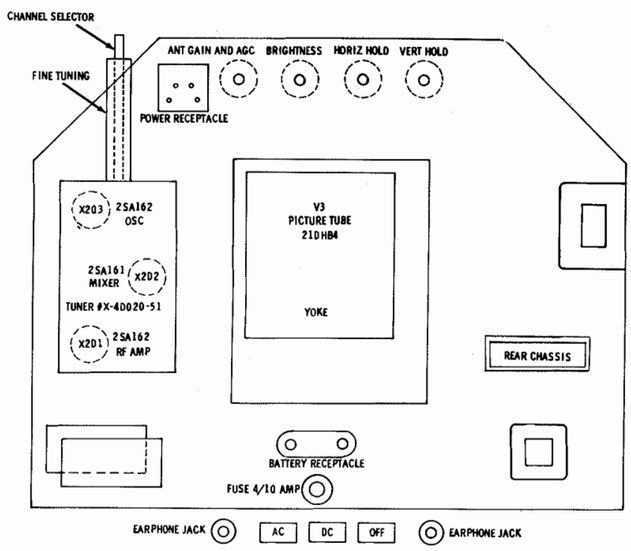
CHASSIS - REAR VIEW

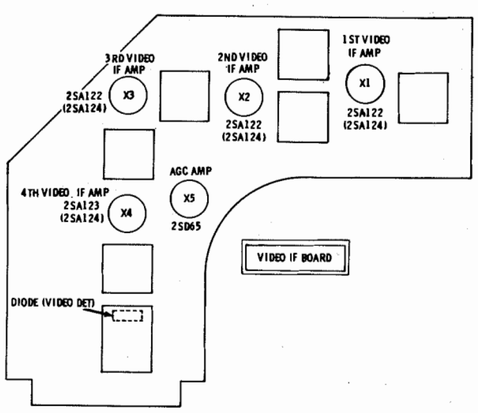


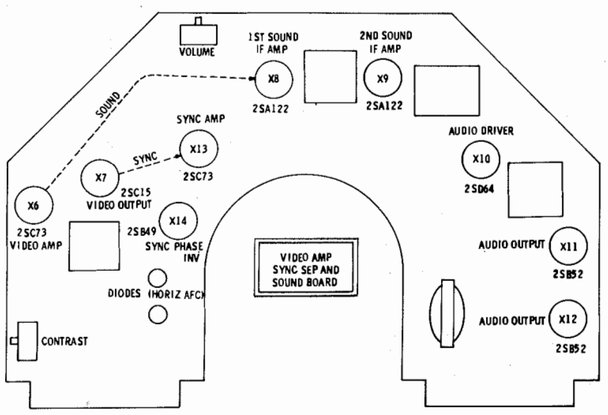
CHASSIS - BOTTOM VIEW

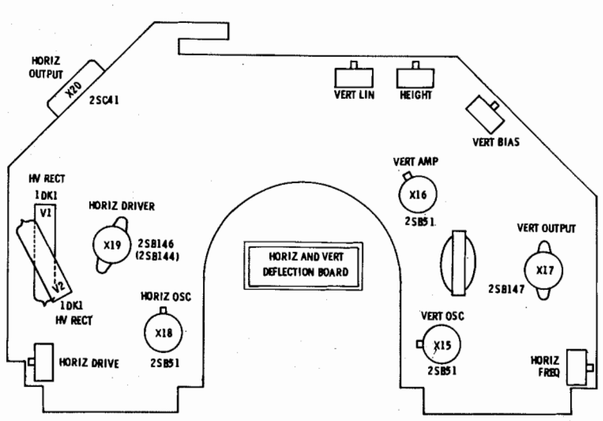
TRANSISTOR PLACEMENT CHART

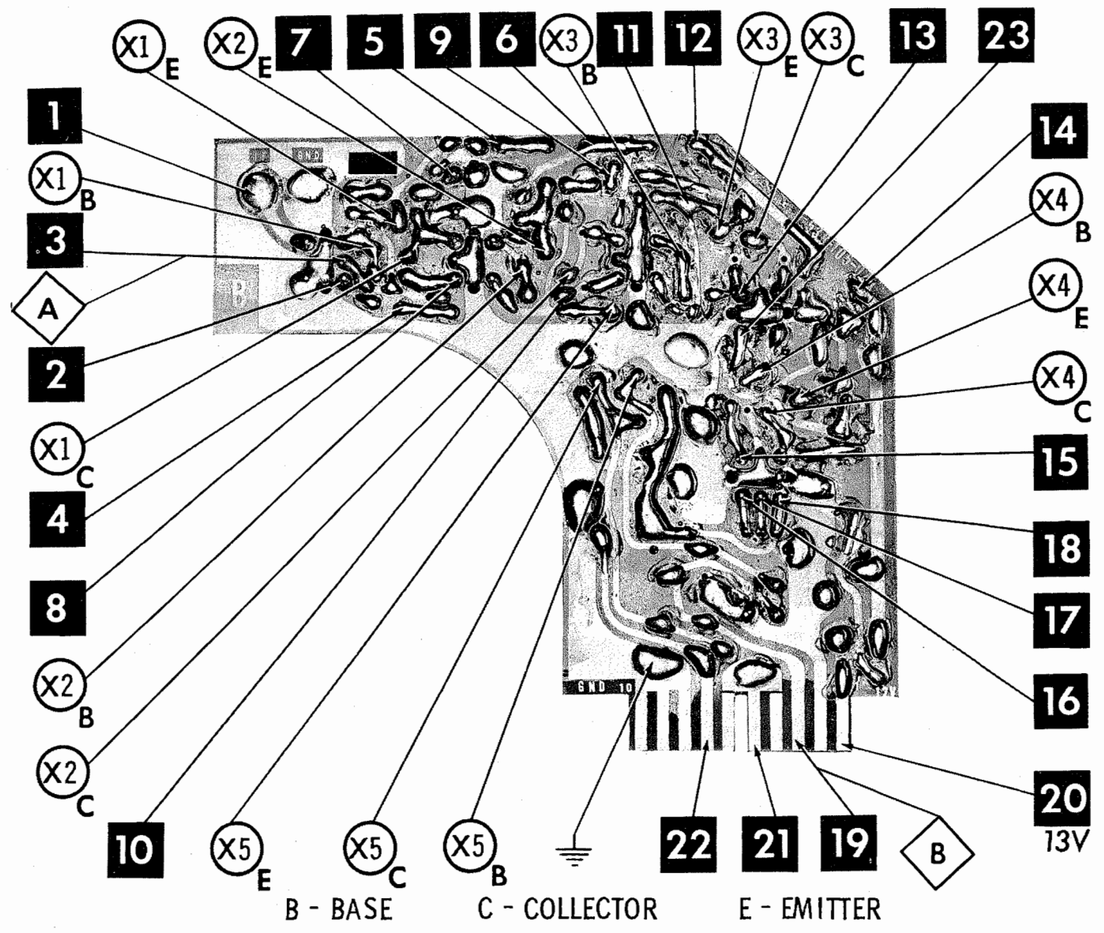
FOR RELATIVE POSITION OF PRINTED BOARDS - SEE PAGE 18





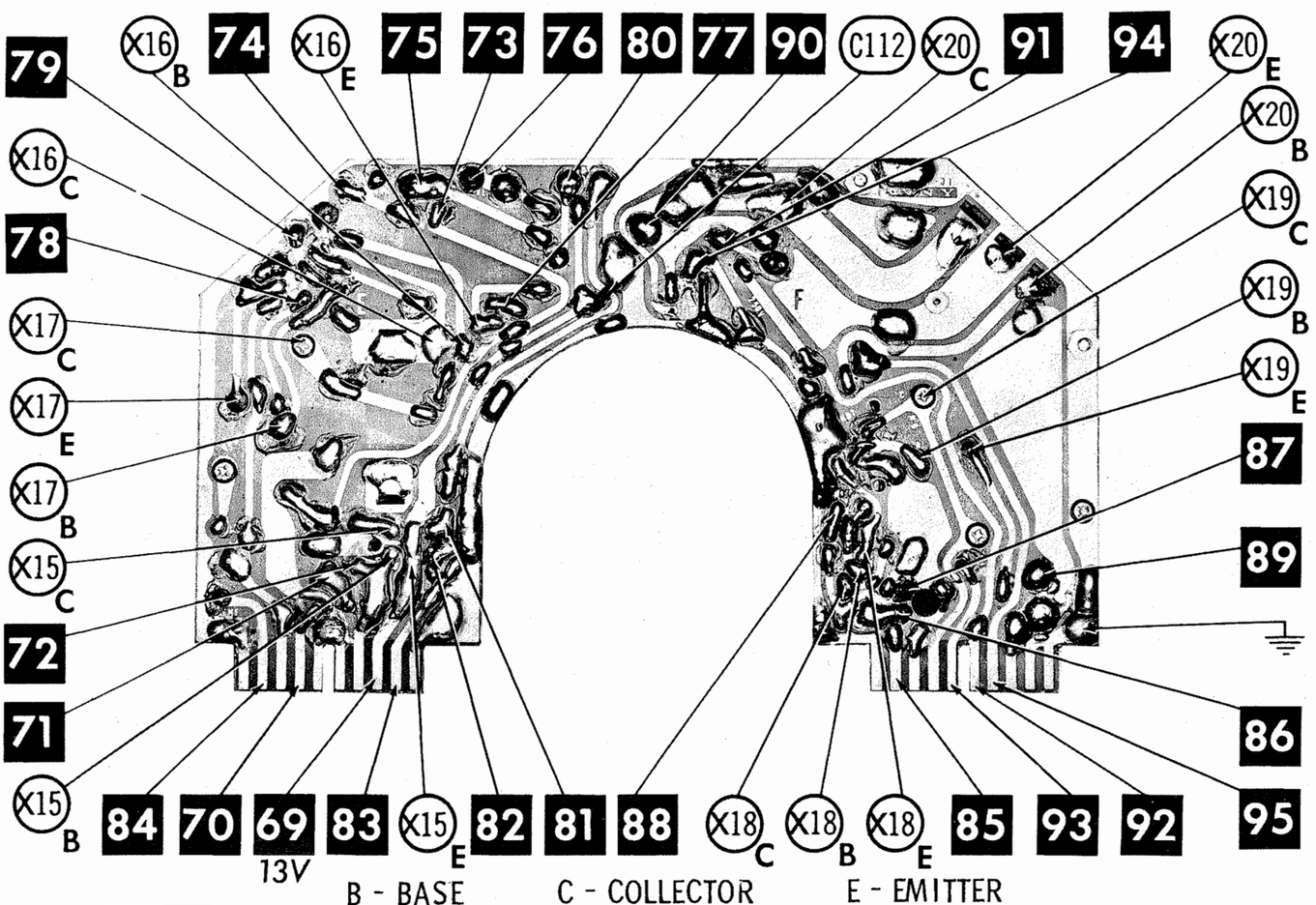






A Howard W. Sams CIRCUITRACE® Photo

VIDEO IF PRINTED BOARD



A Howard W. Sams CIRCUITRACE® Photo

HORIZ., VERT. SWEEP PRINTED BOARD

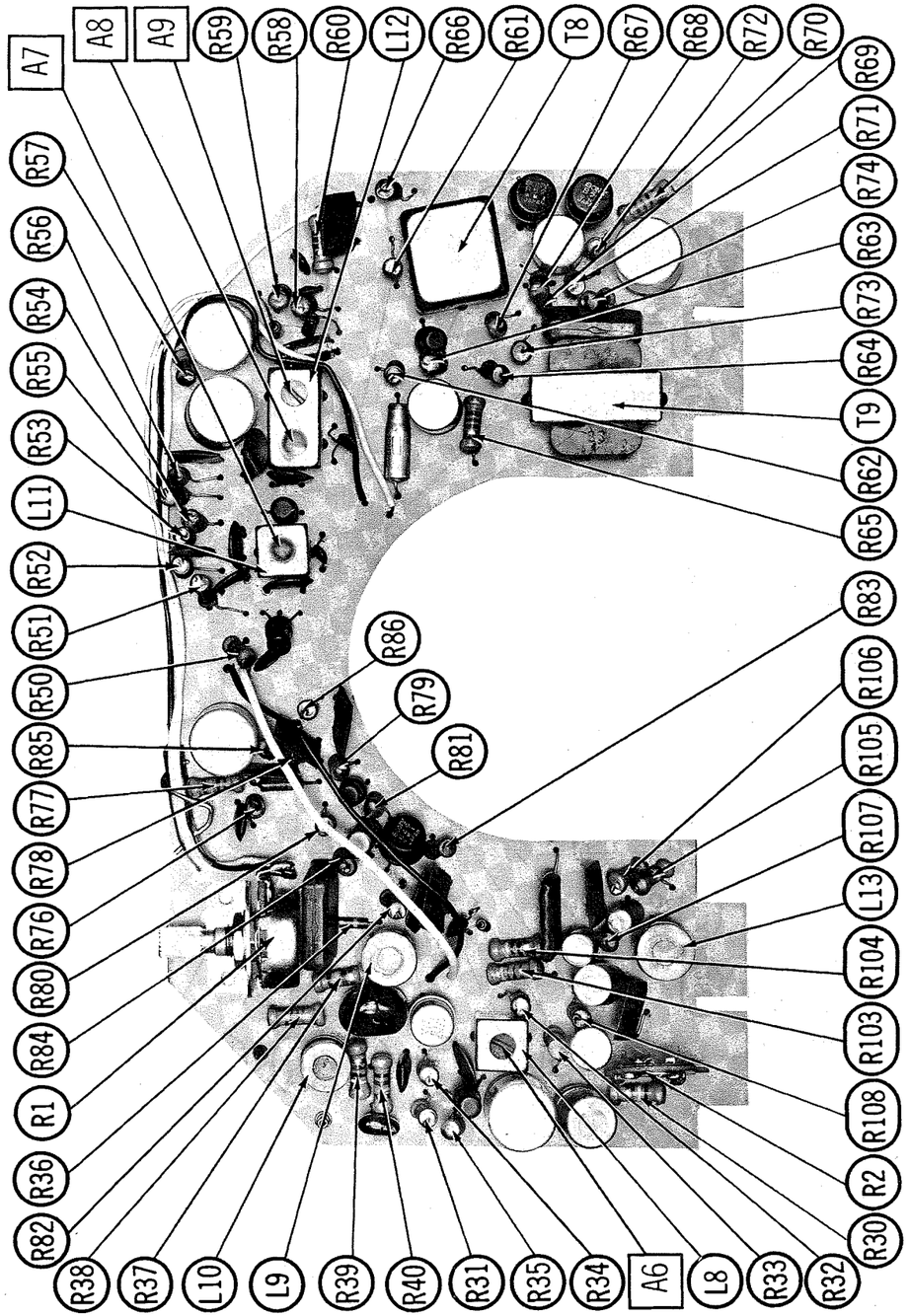
HORIZ., VERT. SWEEP PRINTED BOARD

FOLDER 2

VIDEO IF PRINTED BOARD

VIDEO AMP., SYNC SEP., SOUND PRINTED BOARD
CAPACITOR, TRANSISTOR IDENT.
8-301W
SONY MODEL

FOLDER 2



VIDEO AMP., SYNC SEP., SOUND PRINTED BOARD
ALIGN., INDUCTOR, RESISTOR, TRANSFORMER IDENT.

ALIGNMENT INSTRUCTIONS

PRE-ALIGNMENT INSTRUCTIONS

The High Voltage lead should be securely taped and kept away from the chassis.
To reach Video IF transformers for alignment, remove rear (Video IF) circuit board. Remove two mounting screws from power socket and slide socket thru mounting hole in chassis. Plug in circuit board and turn on set.
Allow a 20 minute warm-up period for the receiver and test equipment.
Suggested Alignment Tools: A1 thru A9 .... GENERAL CEMENT #5097, 8727 .... WALSCO #2515

VIDEO IF ALIGNMENT

Use only enough generator output to provide a usable indication.
Connect the negative lead of a 2 volt bias supply to point (A). Positive to chassis.
Connect the synchronized sweep voltage from the sweep generator to the horizontal input of the oscilloscope for horizontal deflection.

	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
1.	Across antenna terminal with 120Ω resistor in each lead.	30MC (10MC Swp.)	26.1MC	Any non-interfering channel.	Vert. Amp. to point (B). Low side to chassis.	A1	Adjust for maximum gain and symmetry of response similar to Fig. 1 with markers as shown.
2.	"	"	24.3MC	"	"	A2	"
3.	"	"	26.45MC	"	"	A3	"
4.	"	"	23.75MC	"	"	A4	Adjust for maximum gain and symmetry of response similar to Fig. 2 with markers as shown. (Increase scope gain.)
5.	"	"	22.25MC	"	"	A5	Adjust, placing marker in trap notch as in Fig. 2.
6.	"	"	25.2MC	"	"	Mixer Collector Coil	Adjust for maximum gain and symmetry of response similar to Fig. 1 with markers as shown.

SOUND IF ALIGNMENT

To reach Sound IF transformers for alignment, remove center circuit board. Remove two screws in both power sockets and slide sockets thru mounting holes in chassis. Plug in circuit board and turn on set.

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
7.	High side to point (B). Low side to chassis.	4.5MC	Any non-interfering channel	DC probe to point (C). Common to chassis.	A6, A7, A8, A9	Adjust for maximum deflection. Disconnect test equipment and adjust A9 with weak air signal for MINIMUM distortion in sound.

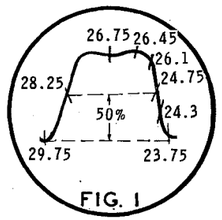


FIG. 1

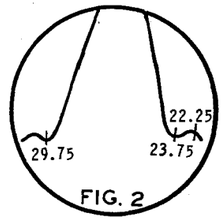
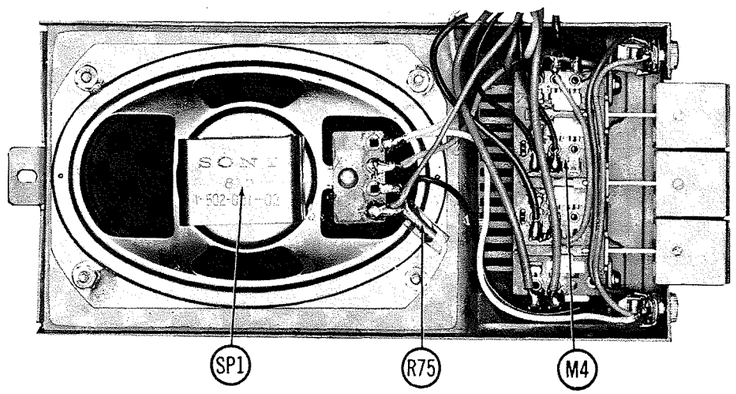
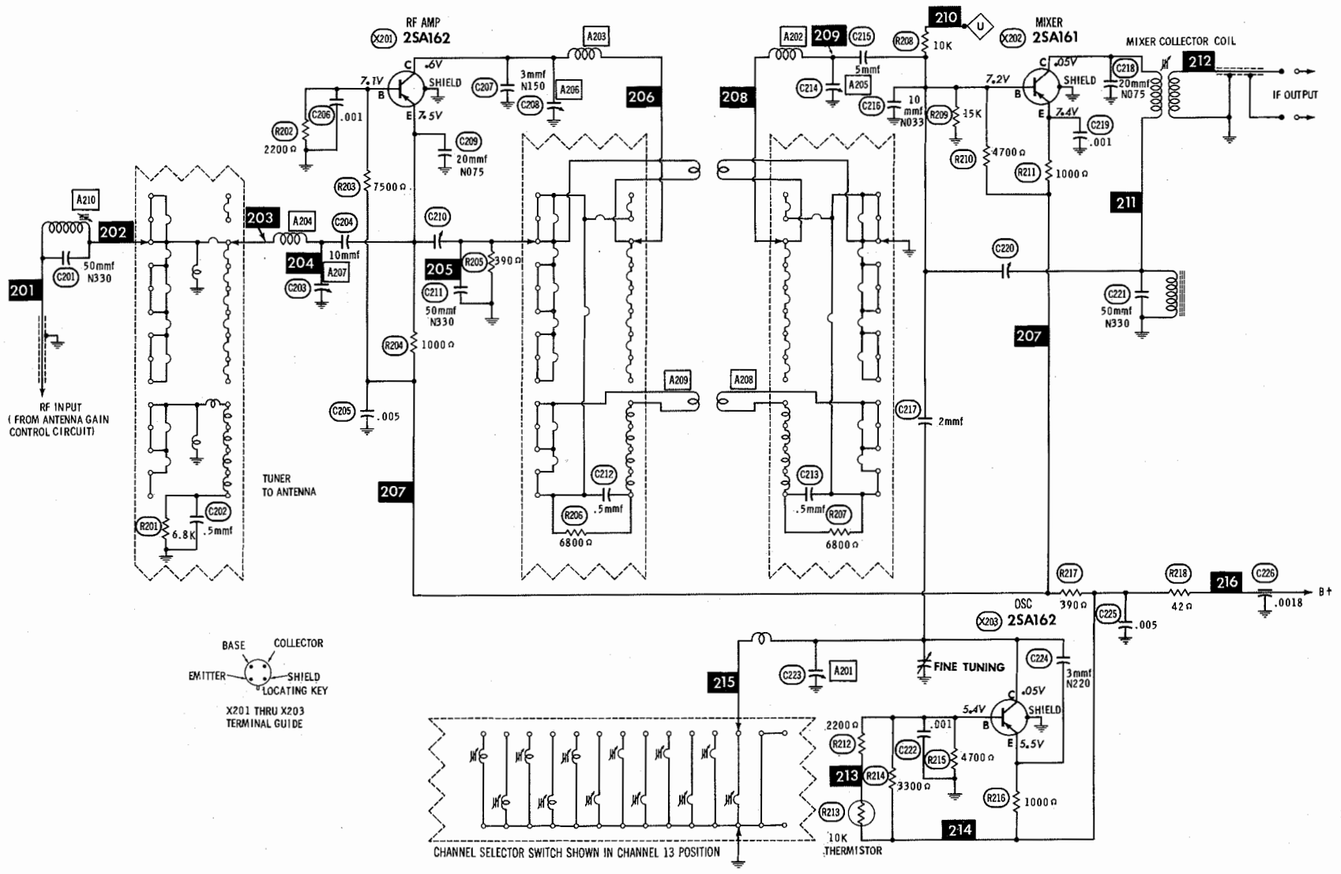


FIG. 2

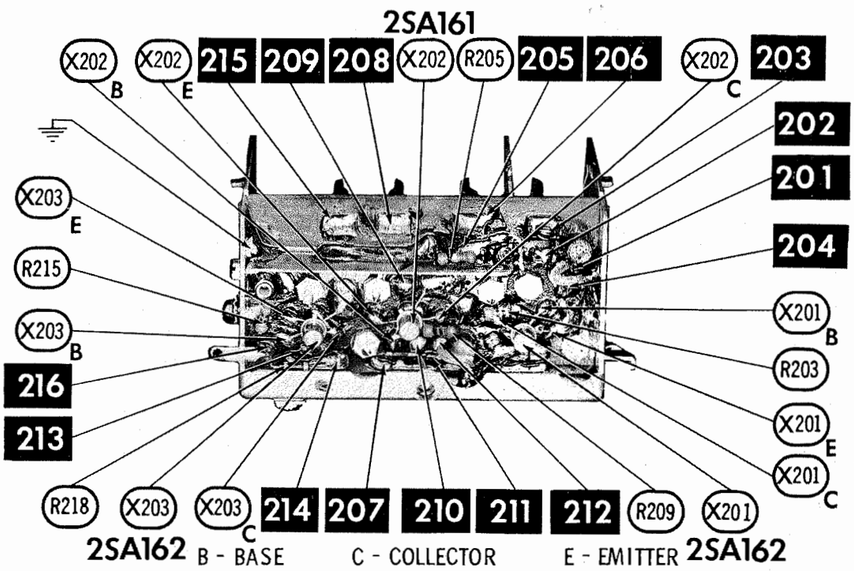


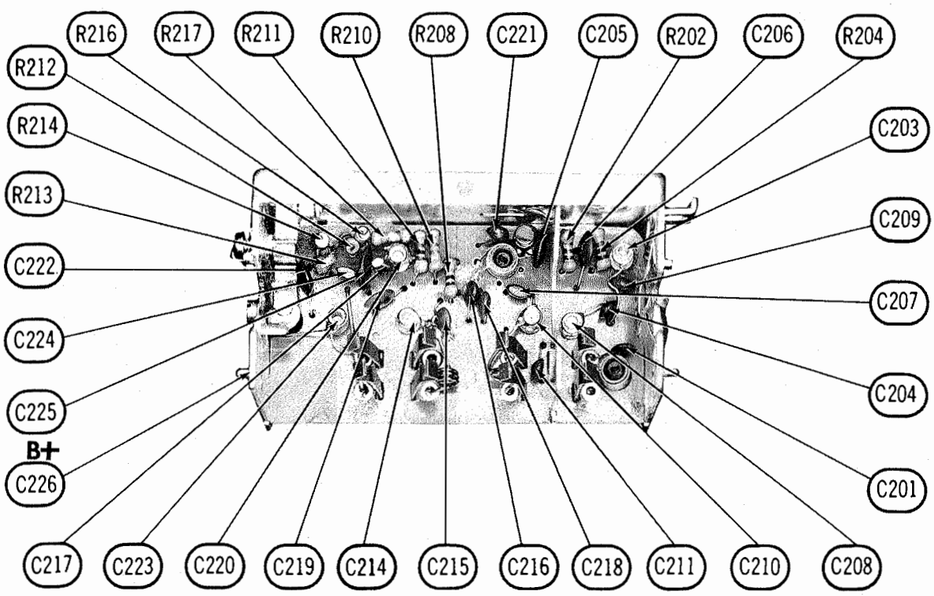
PUSHBUTTON ASSEMBLY
SET 588 FOLDER 2



A PHOTOFACT STANDARD NOTATION SCHEMATIC
with CIRCUITRACE®

A Howard W. Sams CIRCUITRACE® Photo





VHF TUNER #X-40020-51

SONY MODEL
8-301W

VHF TUNER PARTS LIST AND DESCRIPTIONS

TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA		NOTES
			RCA PART No.	RAYTHEON PART No.	
X201	2SA162	RF Amp.			PNP
X202	2SA161	Mixer			PNP
X203	2SA162	Osc.			PNP

FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C201	50 N330					*		10TCS-Q47
C202	.5			TCZ-R5				
C203								
C204	10		NPO-DI 10	DTZ-10	C10Q1C	CCTO-100	CNO-410	10TCC-Q10
C205	.005		BPD-005	DD-502	BYA10D5	CCD-502	B-250	5HK-D50
C206	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C207	3 N150					*		
C208								
C209	20 N075					*		
C210								
C211	50 N330					*		10TCS-Q47
C212	.5			TCR-R5				
C213	.5			TCZ-R5				
C214								
C215	5		NPO-DI 5	DTZ-4R7	C10V5C	CCTO-050	CNO-547	10TCC-V50
C216	10 N033					*		
C217	2		NPO-DI 2.2	DTZ-2R2	C10V2C	CCTO-2R2	CNO-522	10TCC-V22
C218	20 N075							
C219	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C220								
C221	50 N330					*		10TCS-Q47
C222	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C223								
C224	3 N220					*		
C225	.005		BPD-005	DD-502	BYA10D5	CCD-502	B-250	5HK-D50
C226	.0018		EF-0015	MFT-1000		CCF-152		

* Not normally in distributor's stock. Available thru distributor on order to manufacturer.

RESISTORS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING	REPLACEMENT DATA			ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	REMARKS			IRC PART No.	WORKMAN PART No.	REMARKS
R201	6800Ω				R210	4700Ω			
R202	2200Ω				R211	1000Ω			
R203	7500Ω				R212	2200Ω			
R204	1000Ω				R213	10K (Cold)			
R205	390Ω				R214	3300Ω			
R206	6800Ω				R215	4700Ω			
R207	6800Ω				R216	1000Ω			
R208	10K				R217	390Ω			
R209	15K				R218	42Ω			

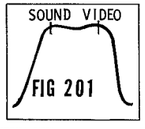
VHF TUNER ALIGNMENT INSTRUCTIONS

PRE-ALIGNMENT INSTRUCTIONS

The High Voltage lead should be securely taped and kept away from the chassis.
Allow a 20 minute warm-up period for the receiver and test equipment.

VHF OSCILLATOR ADJUSTMENT

If adjustment of individual oscillator does not bring in desired results, adjust A201 and readjust individual slugs.



VHF RF MIXER ALIGNMENT

Connect the synchronized sweep voltage from the sweep generator to the horizontal input of the oscilloscope for horizontal deflection.
Use only enough sweep generator output to provide a usable pattern on scope.
Use 10MC sweep unless otherwise noted.
Connect variable bias to IF AGC line. Adjust bias to obtain response curve which shows no indication of overloading.

	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
1.	Across antenna terminal with 120Ω resistor in each lead.	213MC	211.25MC 215.75MC	13	Vert. Amp. thru demodulator probe to point (11). Low side to chassis.	A202, A203, A204	Adjust for maximum gain and symmetry of response similar to Fig. 201 with markers as shown. Observe response curve on channels 8 thru 12. If necessary, compress or expand coils for proper response as shown in Fig. 201.
2.	"	177MC	175.25MC 179.75MC	7	"	A205, A206, A207	Check for response as shown in Fig. 201. If necessary adjust for correct tilt. Repeat steps 1 and 2 for symmetry and response as shown in Fig. 201.
3.	"	85MC	83.25MC 87.75MC	6	"	A208, A209	Adjust for maximum gain and symmetry of response similar to Fig. 201 with markers as shown. Observe response curve on channels 2 thru 5. If necessary, compress or expand coils for proper response as shown in Fig. 201.
4.	Use Air signal.	Not used	Not used	Local Channel	Not used	A210	Adjust for MINIMUM interference.

TV PARTS LIST AND DESCRIPTIONS

WIRING DATA

High Voltage Lead	Use BELDEN No. 8869 (17KV) or 8868 (25KV)
Shielded Hook-up Wire	Use BELDEN No. 8885 (Single Conductor) 8738 (Two Conductor)
General-use Unshielded Hook-up Wire	Use BELDEN No. 8530 (Solid) Available in 12 Colors 8524 (Stranded) Available in 12 Colors
Power Cord (Interlock Type)	Use BELDEN No. 8874 (Rubber) or 8895 (Plastic)
300Ω Tuner Input Lead	Use BELDEN No. 8225
300Ω Antenna Lead-in	Use BELDEN No. 8230 or 8275
Antenna Rotor Cable	Use BELDEN No. 8464 (Flat) or 8484 (Round) - 4 Conductor 8485 (Round) - 5 Conductor 8488 (Round) - 8 Conductor

TUBES

AMPEREX - GENERAL ELECTRIC - RAYTHEON - SYLVANIA

ITEM No.	USE	TYPE	ITEM No.	USE	TYPE
V1	HV Rectifier	1DK1	V2	HV Rectifier	1DK1

PICTURE TUBE

ITEM No.	REPLACEMENT DATA					NOTES
	SONY PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	RAYTHEON PART No.	SYLVANIA PART No.	
V3	210HB4					

TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA		NOTES
			RCA PART No.	RAYTHEON PART No.	
X1	2SA122	1st Video IF Amp.	2N372		PNP
	2SA124 *	1st Video IF Amp.			PNP * Alternate
X2	2SA122	2nd Video IF Amp.	2N372		PNP
	2SA124 *	2nd Video IF Amp.			PNP
X3	2SA122	3rd Video IF Amp.	2N372		PNP
	2SA124 *	3rd Video IF Amp.			PNP
X4	2SA123	4th Video IF Amp.	2N372		PNP
	2SA124 *	4th Video IF Amp.			PNP
X5	2SD65	AGC Amp.	2N647		NPN
X6	2SC73	Video Amp.			NPN
X7	2SC15	Video Output			NPN
X8	2SA122	1st Sound IF Amp.	2N372		PNP
X9	2SA122	2nd Sound IF Amp.	2N372		PNP
X10	2SD64	Audio Driver	2N647	2N1367	NPN
X11	2SB52	Audio Output	2N270	2N362	PNP
X12	2SB52	Audio Output	2N270	2N362	PNP
X13	2SC73	Sync Amp.			NPN
X14	2SB49	Sync Phase Inv.	2N408	2N362	PNP
X15	2SB51	Vert. Osc.	2N270	2N362	PNP
X16	2SB51	Vert. Amp.	2N270	2N362	PNP
X17	2SB147	Vert. Output			PNP
X18	2SB51	Horiz. Osc.	2N270	2N362	PNP
X19	2SB146	Horiz. Driver			PNP
	2SB144 *	Horiz. Driver			PNP
X20	2SC41	Horiz. Output			NPN

POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	CURRENT RATING (Measured)	ORIGINAL Part or Type No.	RECTIFIERS		DIODES	NOTES
			RCA PART No.	SARKES TARZIAN PART No.	RAYTHEON PART No.	
X21		1T261				Overload Diode
X22		1N60			1N60	Video Detector
X23		1N60			1N60	AGC Diode
X24		1T23A				Ratio Detector
X25		1T23A				
X26		1T22				Sync Separator
X27		1T22				Pulse Limiter
X28		1T261				Horizontal AFC
X29		1T261				
X30		1T261				Limiter
X31		1T261				
X32		1T2012		40H		Damper
X33		1T201-		20H		85V Rectifier
X34		1T2014		40H		Boost Rectifier
X35	0.5	1T20105	1N3193	10H		Power Rectifier
X36	0.5	1T20105	1N3193	10H		
X37	0.5	1T20105	1N3193	10H		
X38	0.5	1T20105	1N3193	10H		

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	SONY PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.
C1	2000	15	1-121-114	PRS1240	BR2000-15	QT1-33	WP200.1		TVAS-1170 *
C2	2000	15	1-121-114	PRS1240	BR2000-15	QT1-33	WP200.1		TVAS-1170 *
C3	150	15	1-119-055	PRS1370	NLW150-15	MT1-23	TT15X150	MLV150-15-	TE-1163
C4	2000	15	1-121-114	PRS1240	BR2000-15	QT1-33	WP200.1		TVAS-1170 *
C5	2000	15	1-121-114	PRS1240	BR2000-15	QT1-33	WP200.1		TVAS-1170 *
C6	5	6		BCD6005	ECPB405	MT1-3	PET1535	MLV5-6	VL-1084
C7	5	6		BCD6005	ECPB405	MT1-3	PET1535	MLV5-6	VL-1084
C8	50	6		BCD6050	ECPB115	MT1-15	PET1260	MLV50-6	VL-1094
C9	5	6		BCD6005	ECPB405	MT1-3	PET1535	MLV5-6	VL-1084
C10	10	6		BCD6010	ECPB408	MT1-5	PET1340	MLV10-6	VL-1087
C11	30	6		BCD6035	ECPB412	MT1-13	TT6X30	MLV30-6	VL-1092

SET 588 FOLDER 2

TV PARTS LIST AND DESCRIPTIONS (Continued)

ELECTROLYTIC CAPACITORS (cont)

ITEM No.	RATING CAP.	RATING VOLT.	REPLACEMENT DATA PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.
C12	200	12		BCD12150			TT15X200		
C13	10	12	1-121-118-05	BCD12100	ECPB408	MT1-5	PET1760	MLV10-12	VL-1127
C14	100	12	1-121-120-05	BCD12100	ECPB417				
C15	100	6		BCD6100	ECPB117	MT1-16	TT6X100	MLV100-6	TE-1102
C16	10	100	1-121-126		NLW10-100				
C17	200	12		BCD-12150			TT15X200		
C18	1	12	1-121-116	BCD-12001	ECPB401	MT1-1	TT12X1	MLV2-12	VL-1120
C19	30	6		BCD6035	ECPB412	MT1-13	TT6X30	MLV30-6	VL-1092
C20	100	12	1-121-120-05	BCD12100	ECPB417				
C21	10	6		PTT23	NLW10-6	MT1-5	TT6X10	MLV10-6	TE-1087
C22	100	6		BCD6100	ECPB117	MT1-16	TT6X100	MLV100-6	TE-1102
C23	100	12	1-121-120-05	BCD12100	ECPB417				
C24	50	12		BCD6050	ECPB115	MT1-15	PET1260	MLV50-6	VL-1094
C25	200	12		BCD12150			TT15X200		
C26	1	12	1-121-116	BCD12001	ECPB401	MT1-1	TT12X1	MLV2-12	VL-1120
C27	5	10 ▲	1-127-902-01	BCD12005	ECPB405	MT1-5	PET1535	MLV5-12	VL-1124
C28	5	10 †	1-127-902-01	BCD12005	ECPB405	MT1-5	PET1535	MLV5-12	VL-1124
C29	50	12 ■	1-121-122-05	BCD12050	ECPB415	MT1-16		MLV50-12	TE-1133
C30	30	12		PTT57	NLW30-15	MT1-16	TT15X30	MLV35-15	TE-1156
C31	200	12		BCD12150	NLW200-12	MT1-23	TT15X200	MLV200-12	TE-1137
C32	200	12		BCD12150	NLW200-12	MT1-23	TT15X200	MLV200-12	TE-1137
C33	500	12	1-119-062-01		BR500-15				
C34	1	12	1-121-116	BCD12001	ECPB401	MT1-1	TT12X1	MLV2-12	VL-1120
C35	30	12		BCD12035	ECPB412	MT1-16	TT15X30	MLV35-15	VL-1132
C36	5	12	1-121-117-05	BCD12005	ECPB405	MT1-5	PET1535	MLV5-12	VL-1124
C37	50	12	1-121-122-05	BCD12050	ECPB405	MT1-16		MLV50-12	TE-1133
C38	50	12	1-121-122-05	BCD12050	ECPB415	MT1-16	PET1575	MLV50-12	VL-1134
C39	10	150		6RE150V10	NLW10-150	MT1-8	TT150X10	MLV10-150	TE-1507

† Alternate Value 5mfd, 5WVDC. ▲ Alternate Value 5mfd, 12WVDC. ■ Alternate Value 100mfd, 10WVDC.
* Not normally in distributor's stock. Available thru distributor on order to manufacturer.

FIXED CAPACITORS

ITEM No.	RATING		REMARKS	REPLACEMENT DATA AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C40	.001			BPD-001	DD-102	H-05D1	CCD-102	B-210	5HK-D10
C41	.001			BPD-001	DD-102	H-05D1	CCD-102	B-210	5HK-D10
C42	.001			BPD-001	DD-102	H-05D1	CCD-102	B-210	5HK-D10
C43	.01			BPD-01	DD-103	H-05S1	CCD-103	TA-110	TG-S10
C44	.01			BPD-01	DD-103	H-05S1	CCD-103	TA-110	TG-S10
C45	.01			BPD-01	DD-103	H-05S1	CCD-103	TA-110	TG-S10
C46	.01			BPD-01	DD-103	H-05S1	CCD-103	TA-110	TG-S10
C47	2mmf								
C48	3mmf			DI-3.3	DD3R3	L10V33		GP533	10TS-V33
C49	20			CI-1-20	D6-200	L10Q2	CCD-200	GP420	10TS-Q20
C50	10			CI-1-10	D6-100	L10Q1	CCD-100	GP410	10TS-Q10
C51	.01			BPD-01	DD-103	H-05S1	CCD-103	TA-110	TG-S10
C52	.01			BPD-01	DD-103	H-05S1	CCD-103	TA-110	TG-S10
C53	.01			BPD-01	DD-103	H-05S1	CCD-103	TA-110	TG-S10
C54	2								
C55	10			CI-1-10	D6-100	L10Q1	CCD-100	GP410	10TS-Q10
C56	.01			BPD-01	DD-103	H-05S1	CCD-103	TA-110	TG-S10
C57	.01			BPD-01	DD-103	H-05S1	CCD-103	TA-110	TG-S10
C58	.01			BPD-01	DD-103	H-05S1	CCD-103	TA-110	TG-S10
C59	3			DI-3.3	DD-3R3	L10V33		GP533	10TS-V33
C60	10			CI-1-10	D6-100	L10Q1	CCD-100	GP410	10TS-Q10
C61	.01			BPD-01	DD-103	H-05S1	CCD-103	TA-110	TG-S10
C62	.01			BPD-01	DD-103	H-05S1	CCD-103	TA-110	TG-S10
C63	.01			BPD-01	DD-103	H-05S1	CCD-103	TA-110	TG-S10
C64	3			DI-3.3	DD-3R3	L10V33		GP533	10TS-V33
C65	10			CI-1-10	D6-100	L10Q1	CCD-100	GP410	10TS-Q10
C66	80			DI-82	DD-820	L10Q82	CCD-820	GP482	10TS-Q82
C67	.005			BPD-005	DD-502	H-05D5	CCD-502	TA-250	TG-D50
C68	.2	100V	#1-105-038-00						
C69	.05			BPD-05	DD-503	H-05S5		TA-150	TG-S50
C70	.05			BPD-05	DD-503	H-05S5		TA-150	TG-S50
C71	.02			BPD-02	DD-203	H-05S2	CCD-203	TA-120	TG-S20
C72	.02			BPD-02	DD-203	H-05S2	CCD-203	TA-120	TG-S20
C73	.01			BPD-01	DD-103	H-05S1	CCD-103	TA-110	TG-S10
C74	.01			BPD-01	DD-103	H-05S1	CCD-103	TA-110	TG-S10
C75	.005			BPD-005	DD-502	H-05D5	CCD-502	TA-250	TG-D50
C76	.01			BPD-01	DD-103	H-05S1	CCD-103	TA-110	TG-S10
C77	.01			BPD-01	DD-103	H-05S1	CCD-103	TA-110	TG-S10
C78	80			DI-82	DD-820	L10Q82	CCD-820	GP482	10TS-Q82
C79	.01			BPD-01	DD-103	H-05S1	CCD-103	TA-110	TG-S10
C80	4mmf								
C81	6mmf				DD-060				10TS-V60
C82	.01			BPD-01	DD-103	H-05S1	CCD-103	TA-110	TG-S10
C83	.1				DA-104	H-05P1		TA-010	TG-P10
C84	40			DI-39	DD-390	L10Q39	CCD-390	GP439	10TS-Q39
C85	400	5%		CI-1-390	D6-401	L10T4	CCD-401	GP340	10TS-T40
C86	.001			BPD-001	DD-102	H-05D1	CCD-102	B-210	5HK-D10
C87	.001			BPD-001	DD-102	H-05D1	CCD-102	B-210	5HK-D10
C88	.1				DA-104	H-05P1		TA-010	TG-P10
C89	.1				DA-104	H-05P1		TA-010	TG-P10
C90	.1				DA-104	H-05P1		TA-010	TG-P10
C91	.005			BPD-005	DD-502	H-05D5	CCD-502	TA-250	TG-D50
C92	.1				DA-104	H-05P1		TA-010	TG-P10
C93	.1				DA-104	H-05P1		TA-010	TG-P10
C94	.1				DA-104	H-05P1		TA-010	TG-P10
C95	.1				DA-104	H-05P1		TA-010	TG-P10
C96	.1				DA-104	H-05P1		TA-010	TG-P10
C97	.2	100V	#1-105-038-00						
C98	.1				DA-104	H-05P1		TA-010	TG-P10
C99	.1				DA-104	H-05P1		TA-010	TG-P10
C100	.005			BPD-005	DD-502	H-05D5	CCD-502	TA-250	TG-D50
C101	.02			BPD-02	DD-203	H-05S2	CCD-203	TA-120	TG-S20
C102	500	6000V			DD60-501				60GA-T50
C103	500	6000V			DD60-501				60GA-T50
C104	.05	250V							
C105	.01			BPD-01	DD-103	H-05S1	CCD-103	TA-110	TG-S10
C106	.1	250V			DF-104				
C107	.1	250V			DF-104				
C108	200	1000V	(500V) †	DI-200	DD-201	L10T2	CCD-201	GP320	10TS-T20
C109	200	1000V	(500V) †	DI-200	DD-201	L10T2	CCD-201	GP320	10TS-T20
C110	.1	100V			DF-104			BT-010	TF-P10
C111	.1	100V			DF-104			BT-010	TF-P10
C112	.005			BPD-005	DD-502	BYA10D5	CCD-502	B-250	5HK-D50

Sony Part Number † Alternate

CONTROLS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA SONY PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1	Volume	5000Ω	1-221-247				
R2	Contrast	200Ω	1-221-318				
R3	Horiz. Drive	30Ω (2W)					
R4	Horiz. Freq.	10K					
R5	Vertical Bias	10K					
R6	Height	500Ω					
R7	Vertical Linearity	500Ω					
R8A	Antenna Gain	1000Ω	1-221-154				
B	AGC	10K					
R9	Brightness	250K	1-221-248				
R10	Horizontal Hold	10K	1-221-249				
R11	Vertical Hold	10K	1-221-249				

RESISTORS

All wattages 1/2 watt, or less, 5%, unless otherwise listed.

ITEM No.	RATING	REPLACEMENT DATA IRC PART No.	WORKMAN PART No.	REMARKS
R12	470Ω 10%			
R13	47Ω 10%			
R14	2200Ω			
R15	47Ω			
R16	12K 10%			
R17	100Ω			
R18	2200Ω			
R19	47Ω			
R20	330Ω			
R21	3000Ω			
R22	1200Ω			
R23	47Ω			
R24	470Ω			
R25	2200Ω			
R26	1200Ω			
R27	100K			
R28	4200Ω			
R29	100Ω			
R30	18K			
R31	3300Ω			
R32	1000Ω			
R33	18K			
R34	33Ω			
R35	820Ω			
R36	10K 10%			
R37	6800Ω			
R38	3300Ω			
R39	9100Ω			
R40	120K			
R41	3.3meg			
R42	220K			
R43	4700Ω			
R44	15K			
R45	27K			(30K) †
R46	150Ω			
R47	390Ω			
R48	3300Ω			
R49	100Ω			
R50	33K			
R51	3300Ω			
R52	1000Ω			
R53	1000Ω			
R54	10K			
R55	3300Ω			
R56	2200Ω			
R57	470Ω			
R58	3300Ω			
R59	3300Ω			
R60	1000Ω			
R61	18K			
R62	5600Ω			
R63	1000Ω			
R64	5.1Ω			
R65	1500Ω			
R66	100Ω			
R67	2700Ω			

ITEM No.	RATING	REPLACEMENT DATA IRC PART No.	WORKMAN PART No.	REMARKS
R68	100Ω			
R69	Thermistor			#S-90
R70	27Ω			
R71	27Ω			
R72	27Ω			
R73	100Ω			
R74	5600Ω			
R75	150Ω			
R76	1500Ω			
R77	220K			
R78	470K			
R79	10K			
R80	4700Ω			
R81	10K			
R82	220Ω			
R83	150Ω			
R84	350Ω			
R85	220Ω			
R86	220Ω			
R87	82K			
R88	1500Ω			(1200Ω) †
R89	5600Ω			
R90	330Ω			
R91	Thermistor			#S-25
R92	4200Ω			
R93	1800Ω			
R94	220Ω			
R95	100Ω			
R96	Thermistor			#S-300
R97	330Ω			
R98	3300Ω			
R99	3300Ω			
R100	2.0Ω			
R101	5.2Ω			
R102	220Ω			
R103	470Ω			
R104	470Ω			
R105	18K			
R106	220Ω			
R107	470Ω			
R108	330Ω			
R109	3900Ω			
R110	2700Ω			
R111	15K			
R112	220Ω			
R113	100Ω			
R114	2.0Ω			
R115	150K			
R116	5100Ω			
R117	100K			
R118	750K 10%			
R119	8Ω 3W 10%			
R120	6800Ω			
R121	330Ω			
R122	560Ω			(4200Ω) †

† Alternate Value # Sony Part Number

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA SONY PART No.	Merit PART No.	Miller PART No.	Stoncor PART No.	Workman PART No.	NOTES
L1	1st Video IF	1-403-408					
L2	2nd Video IF	1-403-409					
L3	22.25MC Trap	1-407-003					
L4	3rd Video IF	1-403-410					
L5	4th Video IF	1-403-411					
L6	5th Video IF	1-403-412					
L7	RF Choke (70uh)						
L8	Sound Takeoff	1-403-304 ①					① Part of M9.
L9	Peaking (500uh)	1-411-002	TV-203	6174	RTC-8592	T353	
L10	Peaking (250uh)	1-411-003	TV-185	6181	RTC-8598	T346	
L11	Sound IF	1-403-305					
L12	Discriminator	1-403-303					
L13	Peaking (500uh)	1-411-002	TV-203	6174	RTC-8592	T353	

COILS (SWEEP CIRCUITS)

ITEM No.	USE	REPLACEMENT DATA SONY PART No.	Merit PART No.	Miller PART No.	Stoncor PART No.	Thordarson PART No.	Triad PART No.	Workman PART No.	NOTES
L14	Horiz. Stabilizer	1-413-001							

FILTER CHOKE

ITEM No.	RATINGS CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000 ~)	REPLACEMENT DATA SONY PART No.	Merit PART No.	Stoncor PART No.	Thordarson PART No.	Triad PART No.	NOTES
L15	13.5V @ 1A	.7Ω	24MH	1-421-003					

TRANSFORMER (POWER)

ITEM No.	RATING PRI.	SEC. 1	SEC. 2	REPLACEMENT DATA SONY PART No.	Merit PART No.	Stoncor PART No.	Thordarson PART No.	Triad PART No.	NOTES
T1	117VAC @ .200A	15VAC @ 1A		1-441-031					

TRANSFORMERS (SWEEP CIRCUITS)

ITEM No.	USE	REPLACEMENT DATA SONY PART No.	Merit PART No.	Stoncor PART No.	Thordarson PART No.	Triad PART No.	NOTES
T2	Vert. Blocking	435-002					
	Alt. Vert. Blocking	1-435-002					
T3	Vert. Output Choke	VCB42i-102					
	Alt. Vert. Output Choke	1-421-102					
T4	Yoke (Horiz. .12MH)	1-451-002					
	90° (Vert. .83MH)						
T5	Horiz. Blocking	435-003					
	Alt. Horiz. Blocking	1-435-003					
T6	Horiz. Drive	437-001					
	Alt. Horiz. Drive	1-437-001					
T7	Horiz. Output	439-002-00					
	Alt. Horiz. Output	1-439-002					

TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO PRI.	SEC.	REPLACEMENT DATA SONY PART No.	Merit PART No.	Stoncor PART No.	Thordarson PART No.	Triad PART No.	NOTES
T8	70	1	423-027					Alternate Part No. 1-423-027.

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE PRI.	SEC.	REPLACEMENT DATA SONY PART No.	Merit PART No.	Stoncor PART No.	Thordarson PART No.	Triad PART No.	NOTES
T9	1600Ω	6-8Ω	427-040					Alternate Part No. 1-427-040.

SPEAKER

ITEM No.	TYPE SIZE	FIELD	V. C. IMP.	REPLACEMENT DATA SONY PART No.	QUAM PART No.	NOTES
SP1	2 3/4" x 4"	PM	6-8Ω	1-502-031-02		Alternate Part Number 1-502-031-04.

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA SONY PART No. FUSE	SONY PART No. HOLDER	LITTELFUSE PART No. FUSE	LITTELFUSE PART No. HOLDER	BUSS PART No. FUSE	BUSS PART No. HOLDER
M1		0.4A	1-532-004	1-533-005	312.500		GMA ½	

BATTERIES

ITEM No.	VOLTAGE	SONY PART No.	REPLACEMENT DATA BURGESS "A"	BURGESS "B"	EVEREADY "A"	EVEREADY "B"	MALLORY "A"	MALLORY "B"	NOTES
M2	12V *	DDA				561			* Two 6 volt batteries connected in series.

MISCELLANEOUS

ITEM No.	PART NAME	SONY PART No.	NOTES
M3	VHF Tuner	X-40020-51	
M4	Switch	1-513-095	Push-Button, Function AC-DC, On-Off
M5	Antenna Assembly	X-40020-08	Telescopic
	Printed Board (B)	X-40020-52	Video IF Section
	Printed Board (CD)	X-40020-53	Video Output, Sound, Sync and Horiz. AFC Section
	Printed Board (EF)	X-40020-54	Vert. Sweep, Horiz. Sweep and HV. Section
	Video Det. Block	1-403-413	Video Detector, Includes L7, X22, X23, (2) 10mmfd, and (1) .01mfd Capacitor
	Pilot Light	1-516-021	
	Earphone	1-504-013	
	Mounting Screw	4-001-115	For Battery Pack
	Screw	4-001-125	For Rear Cover of Battery Pack

CABINETS & CABINET PARTS

(When Ordering Cabinets & Cabinet Parts, Specify Model, Chassis & Color)

NAME	PART NO.	DESCRIPTION
Knob	X-40010-25	Channel Selector
Knob	X-40010-24	Fine Tuning
Knob	4-001-107	Gain, Brightness, Horizontal and Vertical Hold
Knob	X-40010-26	Volume
Hood	4-001-105	
Screw for Hood	4-001-106	
Grille, Plate	4-001-096	Speaker

SONY MODEL 8-301W

FOLDER 2