

SAFETY PRECAUTIONS

SERVICE WARNING

ONLY qualified service technicians who are familiar with safety checks and guidelines should perform service work. For continued SAFETY:

1. Before replacing parts, disconnect power source to protect electrostatically sensitive parts. Examples of typical electrostatically sensitive parts are integrated circuits, some field effect transistors, and semiconductor "chip" components.
2. Do not attempt to modify any circuit unless so recommended by the manufacturer.
3. When servicing chassis, use an isolation transformer between the line cord and power receptacle. Maintain AC line voltage at rated input.
4. Many electrical and mechanical parts are used in this VCR to provide protection against electrical shock, fire, and RF interference. These parts should be replaced with exact replacements only.
5. Use extreme caution when handling the printed circuit boards. Some semiconductor devices can be damaged easily by static electricity. Drain off any electrostatic charge on your body by touching a known earth ground. Wear a commercially available discharging wrist strap device. This should be removed prior to applying power to the VCR under test.
6. Use a grounded-tip, low voltage soldering iron. After removing an electrical assembly containing electrostatically sensitive parts, place the assembly on a conductive surface such as aluminum foil.
7. Minimize body movement to avoid building an electrostatic charge when handling electrostatically sensitive parts.
8. Use an isolation (times 10) probe on oscilloscope.
9. Do not remove or install boards with AC power applied.
10. Do not use freon-propelled sprays or vacuum operated desoldering devices. These can generate electrical charges sufficient to damage semiconductor devices.
11. This VCR is equipped with a grounded three-prong AC plug. This plug must fit into a grounded AC power outlet. Do not defeat the AC plug safety feature.
12. Periodically examine the AC power cord for damaged or cracked insulation.
13. The VCR cabinet is equipped with vents to prevent heat build-up. Never block, cover, or obstruct these vents. Instructions should be given, especially to children, that objects

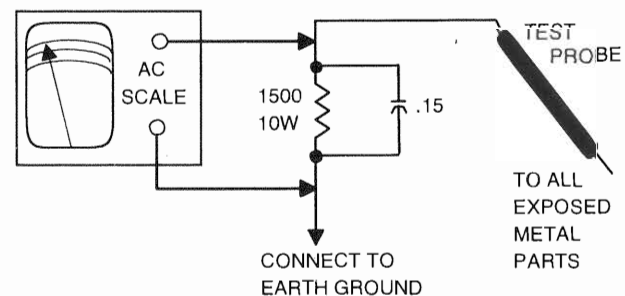
should not be dropped or pushed into the vents of the cabinet. This could cause shock or equipment damage.

14. Remove plug from AC outlet during electrical storms. Do not allow anything to rest on AC power cord. Unplug AC power cord from outlet before cleaning VCR.
15. Never use liquids or aerosols directly on the VCR. Spray on cloth and then apply to the VCR cabinet. Make sure the VCR is disconnected from the AC power line. Never expose the VCR to liquids. If exposed to liquids, turn the VCR off. Do not place the VCR near possible liquid sources.

SAFETY CHECKS -- FIRE AND SHOCK HAZARD

Hot Leakage Current Check

1. Plug the AC cord directly into AC outlet. DO NOT use an isolation transformer.
2. Use a 1500-ohm, 10-watt resistor in parallel with a .15-microfarad 150 Volts AC capacitor to connect between any exposed metal parts on the set and a good earth ground. (See figure below.)
3. 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.
4. Voltage readings should not exceed .3 volts RMS. Any value exceeding this limit constitutes a potential shock hazard and must be corrected.
5. If AC plug is not polarized, reverse the AC plug and repeat exposed metal part voltage measurement at each point.



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

Reproduction or use, without express permission, of editorial or pictorial content, in any manner, is prohibited. No patent liability is assumed with respect to the use of the information contained herein.

©1998 by Howard W. Sams & Company
A Bell Atlantic Company
2647 Waterfront Parkway East Drive, Suite 100
Indianapolis, IN 46214-2041

Printed in the United States of America 5 4 3 2 1



066300



0 81262 66300 4

VCRfacts® Technical Service Data

VCR-300

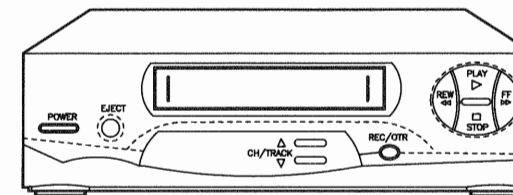
INDEX

Exploded Views	1
IC Functions	4
Important Parts Information	4
Interconnect Diagram	3
Mechanical Alignment	1
Parts List	
Electrical	4
Mechanical	1
Safety Precautions	1
Schematic Component Location	3
Schematic Notes	4
Schematics	
Head Amp Board	3
Logic Board	3
Main Board	2
Service Information	1
Service Tips	1

MODELS VR4250, VR4450

EMERSON

EMERSON Models VR4250, VR4450



Essential coverage
for servicing a video cassette recorder...

- Schematics
- Exploded Views
- Interconnect Diagram
- Mechanical Alignment
- Electrical Parts List
- Mechanical Parts List
- Service Tip
- Service Information

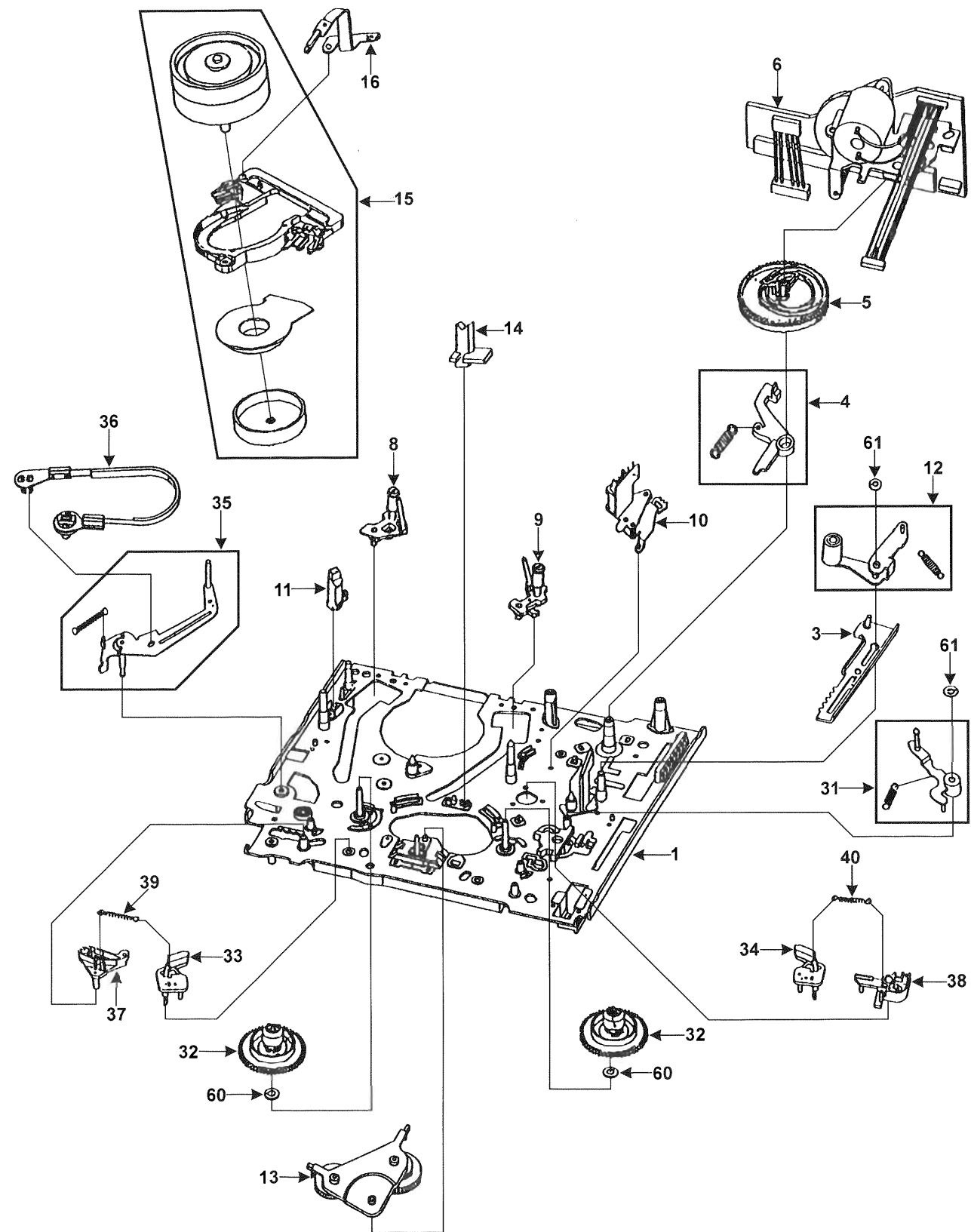


HOWARD W. SAMS & COMPANY

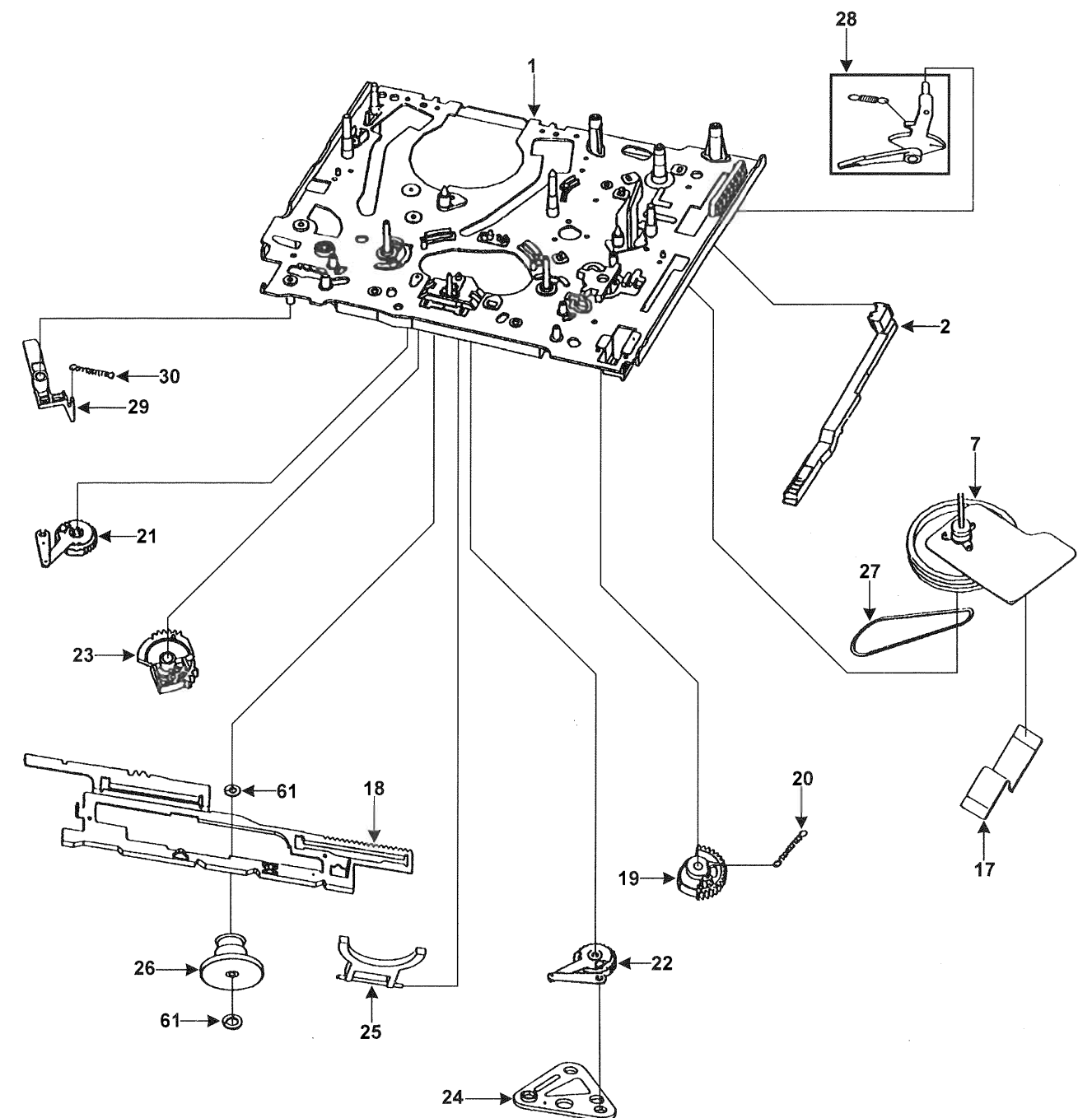
AUGUST 1998 VCR-300

For Supplier Address,
See PHOTOFACT Annual Index

EXPLODED VIEW - TOP

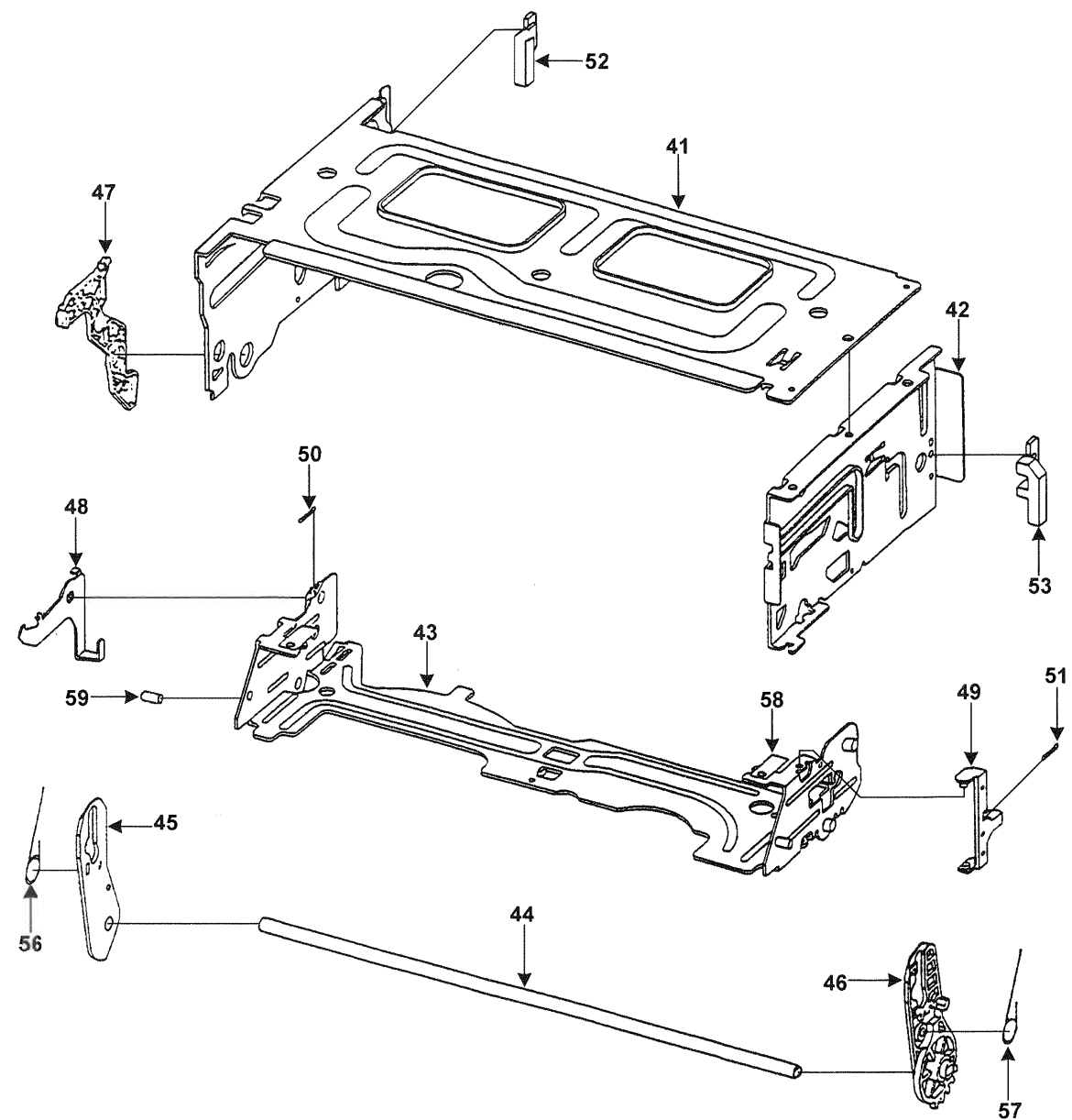


EXPLODED VIEW - BOTTOM



EXPLODED VIEW - FRONT LOADING ASSEMBLY

MECHANICAL PARTS LIST



Item No.	Description	Part No.	Item No.	Description	Part No.
1	Main Base Assembly	97SA300400	30	Record Safety Spring	97S3000900
2	Front Loading Drive Rack	97S2700100	31	Review Arm Assembly	97SA301900
3	Relay Plate Assembly	97SA300500	32	Reel Table	97S2900200
4	Return Lever Assembly	97SA304700	33	Supply Main Brake Assembly	97SA301500
5	Cam Gear	97S2700200	34	Take-up Main Brake Assembly	97SA301700
6	Loading Cam Bracket Assembly	97SA300700	35	Tension Lever Assembly	97SA301800
7	Capstan Motor	97S8100100	36	Brake Band Assembly	97SA302400
8	Supply Slant Pole Assembly	97SA300800	37	Supply Sub Brake	97S5700100
9	Take-up Slant Pole Assembly	97SA300900	38	Take-up Sub Brake	97SA301600
10	Audio/Control Head Assembly	97SA302000	39	Supply Brake Spring	97S3002200
11	Full Erase Head	97S8000600	40	Take-up Brake Spring	97S3002300
12	Pinch Lever Assembly	97SA300600	41	Top Plate	97S2400500
13	Idler Plate Assembly	97SA301400	42	Front Loading Right Bracket	97S2400400
14	LED Prism Link	97S2601300	43	Cassette Holder Plate	97S0900700
15	Drum Assembly (1)	PJCTCYMN05	44	Loading Shaft	97S3600200
	Drum Assembly (2)	PJCTCYMN02	45	Left Loading Lever	97S2601800
16	Earth Bracket Assembly	97SA302100	46	Right Loading Lever	97S2601600
17	Cable Assembly	97P88F0908	47	Door Opener	97S1800400
18	Main Plate	97S0900200	48	Safety Lever	97S2601500
19	Relay Gear	97S2700600	49	Release Lever	97S2602400
20	Relay Spring	97S3002400	50	Safety Spring	97S3001800
21	Left Loading Gear	97SA301000	51	Release Spring	97S3001700
22	Right Loading Gear	97SA301100	52	Left Prism Link	97S2602200
23	Load Relay Gear	97S2700700	53	Right Prism Link	97S2602100
24	Loading Guide Plate	97S0900300	56	Left Lever Spring	97S3002100
25	Clutch Lever	97S2600700	57	Right Lever Spring	97S3002000
26	Reel Drive Assembly	97SA301200	58	Upper Spring	97S3001500
27	Reel Belt	97S5500200	59	Holder Post	97S3502200
28	Capstan Brake Assembly (1)	97SA301300	60	Reel Height Washer (5)	-
29	Record Safety Lever (1)	97S2600800	61	Cut Washer (5)(6)	-

(1) Used in model VR4250.
(2) Used in model VR4450.
(5) Cut washer is not reusable. If removed, replace with a new one.
(6) Manufacturer did not supply part number. Order by description.

SERVICE INFORMATION

Numbers in parenthesis indicate the number used in the Mechanical Parts List and Exploded Views.

OPERATION OF MECHANISM WITH THE FRONT LOADING ASSEMBLY REMOVED

After the front loading assembly is removed, move the pulley and belt [part of loading cam bracket assembly (6)] until the mechanism is in the play/stop mode. Restore AC power and press the function button desired. When the mechanism reaches the selected mode, remove AC power.

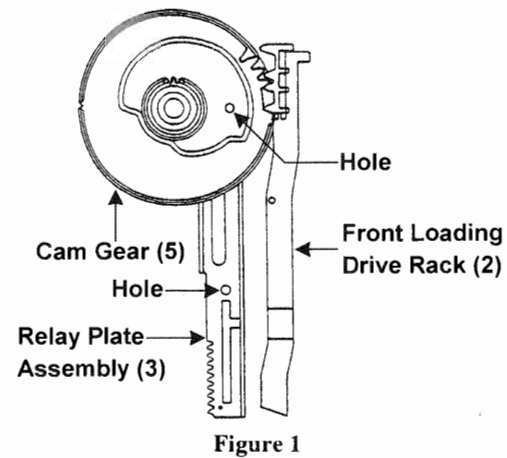
MECHANICAL ALIGNMENT

Numbers in parenthesis indicate the number used in the Mechanical Parts List and Exploded Views. Unless otherwise noted, all alignments are made with the VCR in the eject mode.

GEAR ALIGNMENT

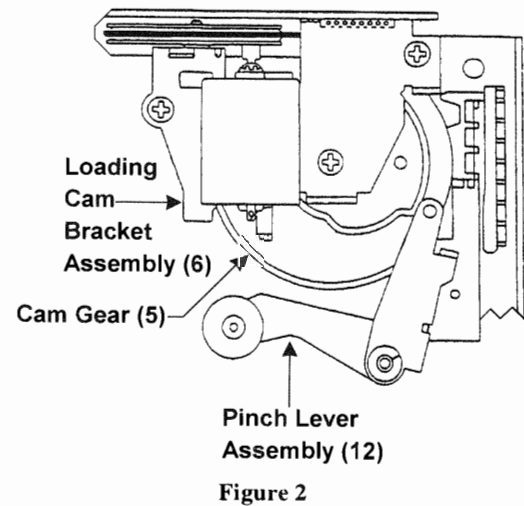
Relay Plate Assembly / Main Base Assembly / Cam Gear / Front Loading Drive Rack

Align the hole in the relay plate assembly (3) with the hole on the main base assembly (1). Align the hole in the cam gear (5) with the hole in the main base assembly. Align the teeth of the front loading drive rack (2) with the teeth of the cam gear. See figure 1.



Mode Switch / Pinch Lever Assembly / Cam Gear Loading Cam Bracket Assembly

Align the two triangle marks on the mode switch (not shown in figure) and install. Align the pin of the pinch lever assembly (12) outside the rib of the cam gear (5). Install the loading cam bracket assembly (6). See figure 2.



Main Plate / Main Base / Relay Gear /Relay Plate Assembly

Align the hole on the main plate (18) with the hole on the main base assembly (1). Align the triangle mark on the relay gear (19) with the last tooth of the main plate. Make sure the teeth of the relay plate assembly (3) engage with the teeth of the relay gear. See figure 3.

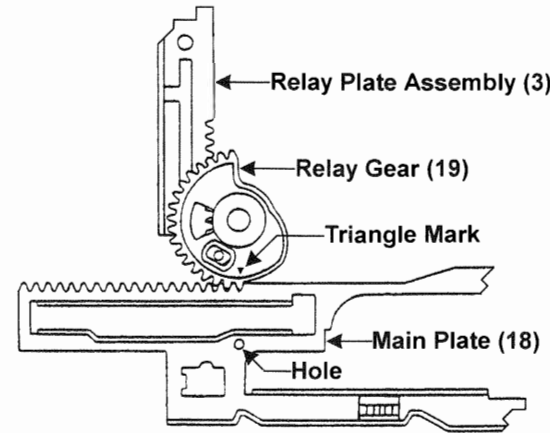


Figure 3

Left Loading Gear / Right Loading Gear / Load Relay Gear

Align the triangle mark on the left loading gear (21) with the alignment mark on the right loading gear (22). Align the first tooth of the right loading gear with the first tooth of the load relay gear (23). See figure 4.

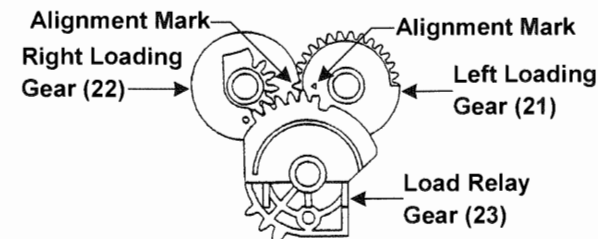


Figure 4

Brake Band Assembly / Tension Lever Assembly / Main Base Assembly

Using the procedure listed in "Service Information", set the mechanism to the play mode. Turn the brake band cap [part of the brake band assembly (36)] until the hole in the tension lever assembly (35) is aligned with the hole in the main base assembly (1). See figure 5.

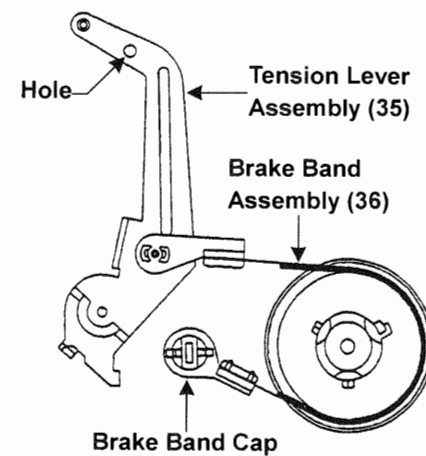


Figure 5

SERVICE TIPS

[illegible]

Write your service tips in the table above and you will have a record of the defects and repairs you have made using this service information.

Have you ever wanted service tips to fix that VCR quickly? We would like to provide that service for you. As you and other servicemen send in your service tips, we will put the service tips in a database and make the service available.

We invite you to Fax or mail your service tips, together we can make servicing a VCR easier for all of us.

Fax 1-317-298-5604

or mail to:

Howard W. Sams & Company

Attention: VCRfacts

2647 Waterfront Parkway, East Drive

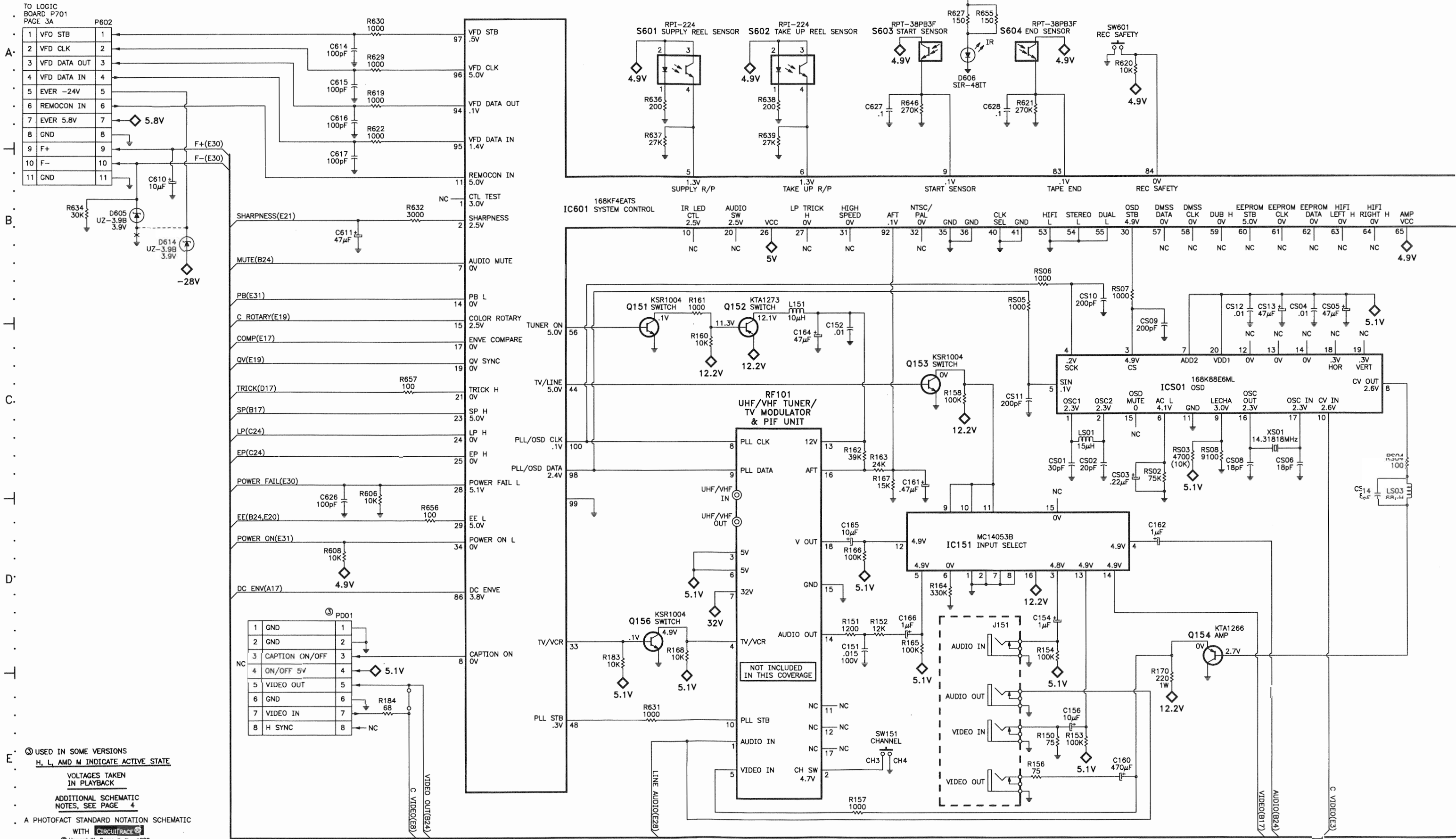
Suite 100

Indianapolis, IN 46214-2041

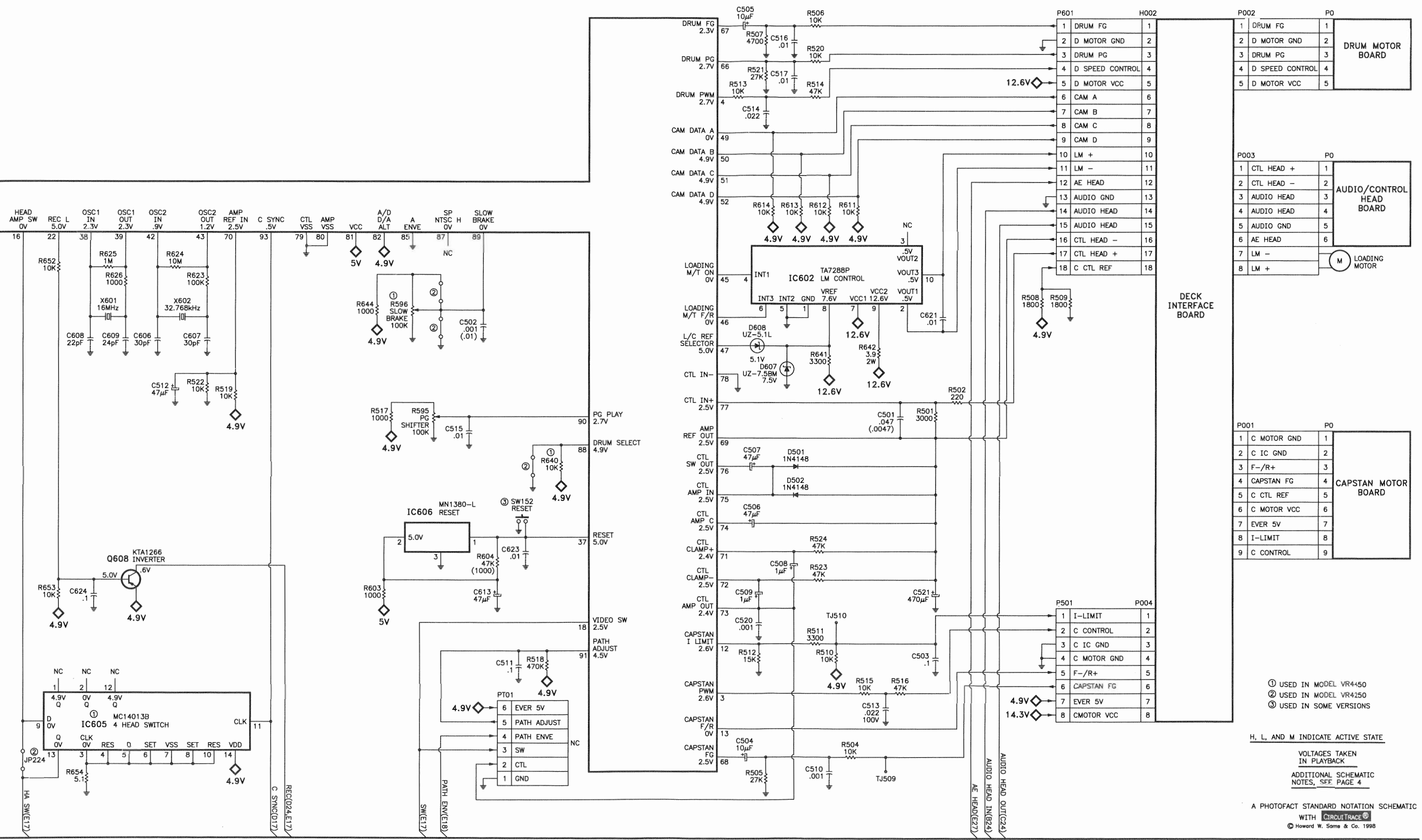
A

B

MAIN BOARD SCHEMATIC

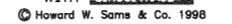


MAIN BOARD SCHEMATIC continued

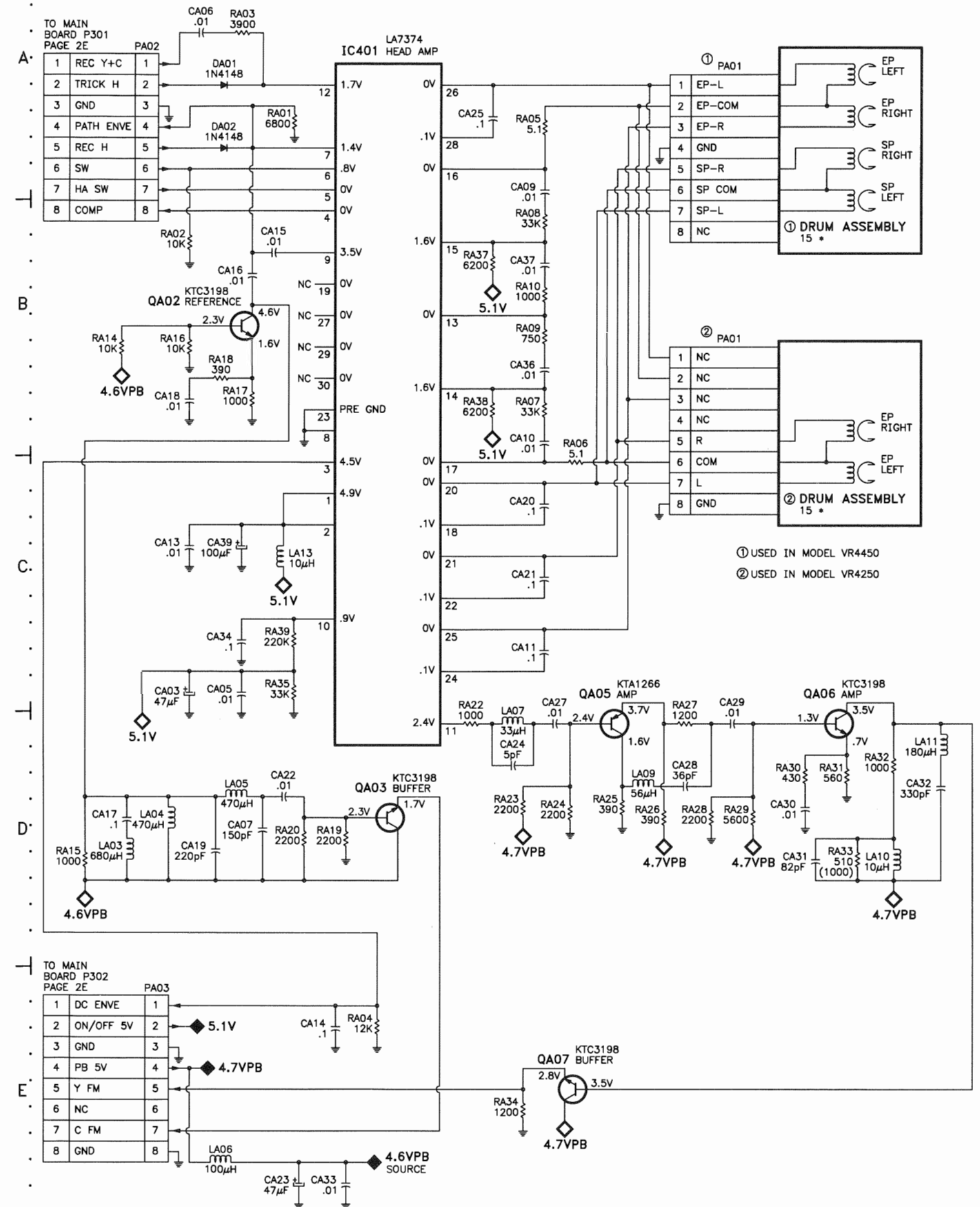


TO HEAD AMP
BOARD PA03
PAGE 3B



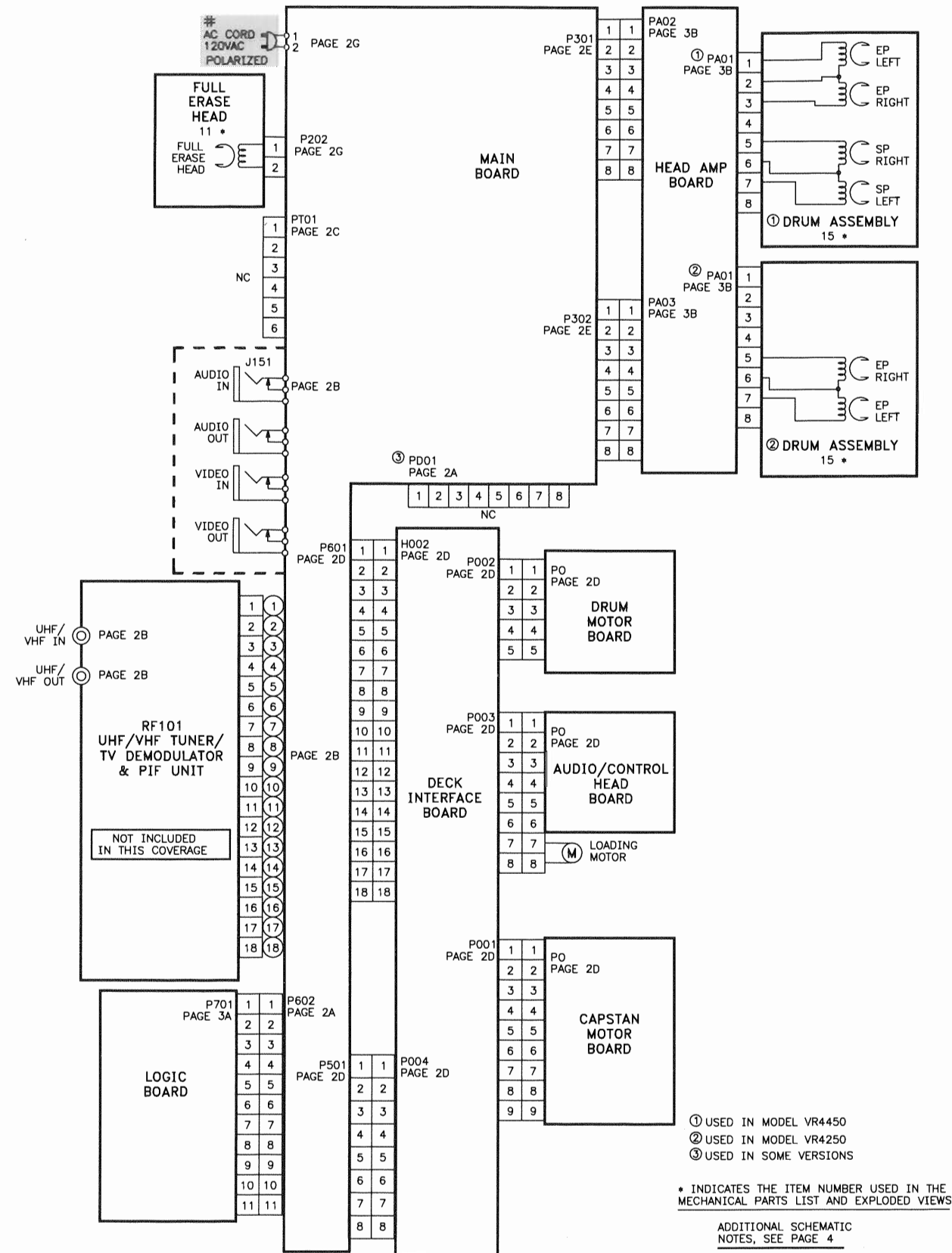


HEAD AMP BOARD



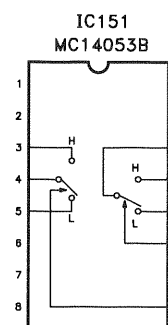
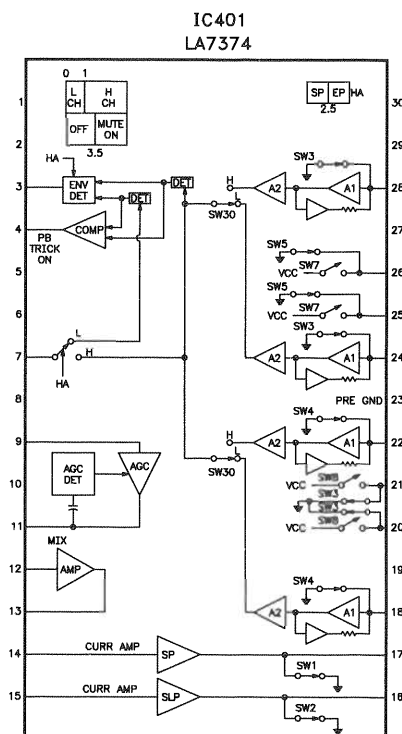
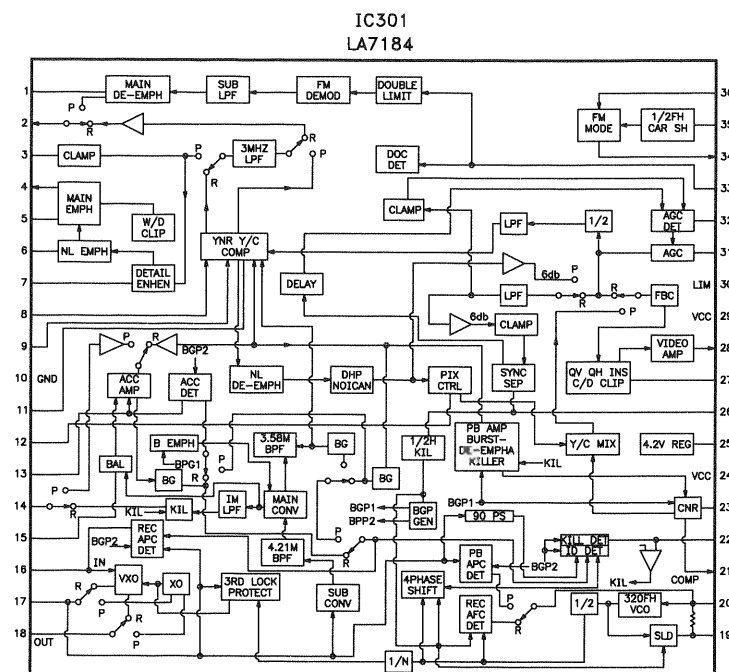
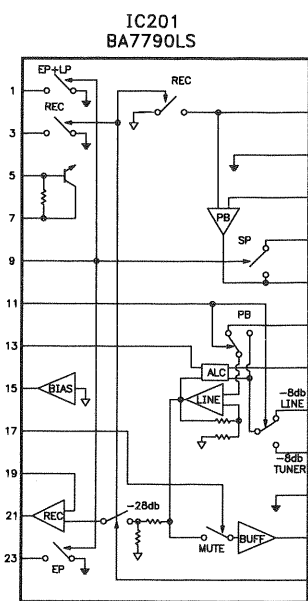
WITH **CIRCUIT TRACE[®]**
© Howard W. Sams & Co. 1998

G INTERCONNECT DIAGRAM



SCHEMATIC COMPONENT LOCATION GUIDE

C151	D-5	C353	E-32	C819	C-30	D712	B-33	Q201	E-26	R228	C-26	R516	E-13	R820	A-31
C152	C-5	C354	E-17	C820	C-30	D713	D-33	Q202	D-26	R229	E-26	R517	C-11	R821	B-31
C153	D-32	C355	E-18	C821	C-30	D714	E-34	Q203	D-25	R230	B-27	R518	D-12	R822	B-31
C154	D-6	C357	E-20	C822	D-30	D715	E-34	Q204	C-26	R231	B-27	R519	C-10	R824	C-32
C155	A-32	C358	D-17	C823	D-29	D801	A-28	Q205	B-25	R292	D-27	R520	A-13	R826	B-32
C156	E-6	C401	C-19	C824	D-30	D802	B-29	Q301	C-18	R301	C-22	R521	A-13	R827	C-32
C157	D-32	C402	A-19	C827	A-32	D803	C-29	Q302	C-20	R302	C-18	R522	C-10	R829	C-31
C158	D-32	C408	C-23	C828	B-32	D804	D-28	Q303	E-22	R303	C-18	R523	D-13	RA01	A-37
C159	C-32	C409	B-18	C829	B-32	D805	C-28	Q304	E-22	R304	C-19	R524	D-13	RA02	B-37
C160	E-7	C410	B-17	C830	B-31	D806	A-30	Q305	E-24	R305	C-20	R595	C-11	RA03	A-37
C161	C-6	C411	D-22	C831	C-32	D807	B-30	Q306	D-18	R306	C-20	R596	B-11	RA04	E-38
C162	D-7	C413	C-20	C832	C-31	D808	B-30	Q311	B-20	R308	E-21	R601	D-31	RA05	A-38
C163	D-32	C414	C-22	CA03	C-37	D809	B-30	Q312	B-20	R309	E-22	R603	D-11	RA06	C-39
C164	C-5	C415	C-22	CA05	C-37	D810	C-30	Q313	E-32	R310	E-22	R604	D-11	RA07	B-38
C165	D-5	C417	C-20	CA06	A-37	D811	C-30	Q315	C-23	R311	E-23	R606	D-3	RA08	B-38
C166	D-5	C420	C-23	CA07	D-37	D812	E-30	Q316	E-18	R312	E-23	R608	D-2	RA09	B-38
C201	D-27	C425	A-19	CA09	B-38	D813	E-29	Q317	A-17	R313	E-23	R611	B-13	RA10	B-38
C202	D-27	C501	C-14	CA10	C-38	D814	D-30	Q402	A-19	R314	D-24	R612	B-13	RA14	B-37
C203	D-26	C502	C-11	CA11	C-38	D815	D-30	Q403	D-21	R315	D-23	R613	B-13	RA15	D-37
C204	E-26	C503	D-14	CA13	C-37	D816	B-31	Q405	D-19	R316	D-22	R614	B-13	RA16	B-37
C205	E-26	C504	E-13	CA14	E-38	D817	A-31	Q601	D-31	R317	D-23	R619	A-2	RA17	B-37
C206	D-25	C505	A-13	CA15	B-37	D818	B-30	Q608	D-9	R318	E-23	R620	A-7	RA18	B-37
C206A	C-27	C506	D-13	CA16	B-37	D819	E-29	Q801	C-29	R319	E-24	R621	A-6	RA19	D-38
C208	C-27	C507	C-13	CA17	D-37	D820	B-31	Q802	C-28	R321	E-24	R622	B-2	RA20	D-38
C209	C-25	C508	D-13	CA18	B-37	D821	B-31	Q803	E-29	R322	B-21	R623	B-10	RA22	D-38
C210	C-27	C509	D-13	CA19	D-37	D822	B-31	Q804	E-29	R323	B-18	R624	B-9	RA23	D-38
C211	C-27	C510	E-13	CA20	C-38	D823	C-31	Q805	E-30	R325	E-19	R625	B-9	RA24	D-39
C212	B-27	C511	D-11	CA21	C-38	D824	B-31	Q806	B-31	R326	E-19	R626	B-9	RA25	D-39
C213	C-26	C512	C-9	CA22	D-37	DA01	A-37	Q808	B-31	R327	E-17	R627	A-6	RA26	D-39
C214	B-26	C513	E-13	CA23	E-38	DA02	A-37	Q809	C-31	R328	D-19	R629	A-2	RA27	D-39
C215	B-26	C514	A-13	CA24	D-38	F01	A-27	Q810	C-31	R329	C-22	R630	A-2	RA28	D-39
C216	B-25	C515	C-11	CA25	A-38	F801	A-28	QA02	B-37	R330	C-22	R631	E-4	RA29	D-39
C217	B-25	C516	A-13	CA27	D-38	F802	C-30	QA03	D-38	R339	B-18	R632	B-3	RA30	D-39
C218	B-25	C517	A-13	CA28	D-39	G701	A-36	QA05	D-39	R340	B-19	R634	B-1	RA31	D-40
C219	C-26	C520	D-13	CA29	D-39	H701	B-34	QA06	D-39	R341	B-20	R636	A-4	RA32	D-40
C220	B-26	C521	D-14	CA30	D-39	IC151	D-6	QA07	E-39	R342	B-20	R637	B-4	RA33	D-40
C221	C-27	C601	D-31	CA31	D-39	IC201	C-25	R150	E-6	R343	B-20	R638	A-5	RA34	E-34
C222	C-26	C602	D-32	CA32	D-40	IC301	C-19	R151	D-5	R344	B-20	R639	B-5	RA35	C-37
C223	C-26	C603	D-31	CA33	E-38	IC303	D-22	R152	D-5	R345	B-21	R640	C-12	RA37	B-34
C224	C-26	C604	D-31	CA34	C-37	IC401	A-38	R153	E-6	R346	C-20	R641	C-13	RA38	B-34
C302	C-18	C605	D-31	CA36	B-38	IC601	B-4	R154	D-6	R347	D-21	R642	C-13	RA39	C-37
C303	C-18	C606	C-9	CA37	B-38	IC602	B-13	R156	E-6	R348	E-31	R644	B-11	RS02	C-7
C304	C-19	C607	C-10	CA39	C-37	IC605	E-9	R157	E-5	R349	E-21	R646	A-6	RS03	C-7
C305	C-20	C608	C-9	CS01	C-6	IC606	D-11	R158	C-6	R350	C-23	R652	B-9	RS04	C-8
C306	B-18	C609	C-9	CS02	C-7	IC701	A-35	R160	C-4	R351	C-24	R653	D-9	RS05	B-6
C307	C-20	C610	B-1	CS03	C-7	IC702	D-33	R161	C-4	R352	E-31	R654	E-9	RS06	B-6
C308	C-20	C611	B-2	CS04	C-8	IC801	D-28	R162	C-5	R353	E-18	R655	A-6	RS07	B-7
C309	C-22	C612	D-32	CS05	C-8	IC802	C-7	R163	C-5	R354	E-18	R656	D-3	RS08	C-7
C310	E-21	C613	D-11	CS06	C-8	J151	D-6	R164	D-6	R355	E-18	R657	C-3	S601	A-4
C311	E-22	C614	A-2	CS08	C-7	L151	C-5	R165	D-6	R356	E-18	R701	D-34	S602	A-5
C312	E-23	C615	A-2	CS09	C-7	L201	D-26	R166	D-5	R357	E-18	R702	C-34	S603	A-6
C313	E-23	C616	A-2	CS10	B-7	L202	C-26	R167	C-5	R359	A-18	R703	C-34	S604	A-6
C314	E-24	C617	B-2	CS11	C-6	L203	C-27	R168	D-4	R360	C-21	R704	C-34	S701	C-33
C315	D-23	C619	B-32	CS12	C-7	L302	E-23	R170	E-7	R391	D-21	R705	C-34	S702	C-33
C316	D-22	C620	B-32	CS13	C-8	L303	E-23	R183	D-4	R395	B-21	R706	A-34	S703	C-33
C317	D-32	C621	C-14	CS14	D-8	L304	D-32	R184	E-1	R396	C-22	R707	A-34	S704	C-33
C318	D-32	C623	D-11	D201	C-25	L305	C-22	R202	B-24	R399	B-19	R708	A-34	S705	C-33
C319	E-23	C624	D-9	D202	C-25	L306	D-31	R203	B-26	R404	A-19	R709	B-34	S706	C-33
C320	D-32	C626	D-2	D302	C-20	L310	B-19	R204	B-26	R405	C-23	R710	B-34	S707	C-33
C321	D-32	C627	A-5	D303	B-17	L311	B-19	R205	B-27	R406	B-17	R711	E-34	S708	C-33
C322	D-23	C628	A-6	D304	D-19	L312	B-19	R206	C-25	R407	D-21	R712	B-35	S709	C-33
C323	C-22	C701	B-34	D305	B-17	L313	B-19	R207	C-25	R408	D-22	R713	B-35	SW151	E-5
C324	E-21	C702	B-33	D401	B-17	L801	A-28	R208	C-26	R409	C-22	R714	B-34	SW152	D-11
C325	B-21	C706	E-34	D405	C-20	L802	B-30	R209	C-25	R410	A-20	R801	A-27	SW601	A-7
C326	E-23	C801	A-28	D501	C-13	L803	C-30	R210	C-25	R415	D-19	R802	D-28	T201	D-27
C327	C-18	C802	B-28	D502	D-13	L804	B-29	R211	C-25	R416	D-19	R803	C-28	T801	A-30
C328	D-32	C803	B-28	D602	C-31	LA03	D-37	R212	B-25	R491	A-19	R804	A-29	X401	C-21
C329	D-32	C804	B-28	D603	D-31	LA04	D-37	R213	B-25	R494	E-22	R805	C-29	X601	C-9
C330	C-22	C805	A-28	D604	D-31	LA05	D-37	R214	C-27	R501	C-14	R806	C-29	X602	C-9
C331	C-23	C806	B-29	D605	B-1	LA06	E-37	R215	C-27	R502	C-14	R807	D-28	X701	C-34
C332	C-22	C807	B-25	D606	A-6	LA07	D-38	R216	D-25	R504	E-13	R808	E-28	X501	C-7
C333	A-21	C808	A-25	D607	C-13	LA09	D-39	R217	D-25	R505	E-13	R809	A-30	Y1	D-27
C335	D-32	C809	C-29	D608	C-13	LA10	D-40	R218	D-26	R506	A-13	R810	B-30	Y5	B-40
C340	E-32	C810	C-29	D614	B-1	LA11	D-40	R219	E-28	R507	A-13	R811	E-29	Y5	C-40
C342	B-20	C811	E-28	D702	D-34	LA13	C-37	R220	C-28	R508	B-14	R812	E-30		
C343	B-19	C812	D-28	D705	C-34	LS01	C-6	R221	C-28	R509	B-14	R813	D-29		
C344	B-19	C813	B-30	D706	C-34	LS03	D-8	R222	C-27	R510	D-13	R814	E-29		
C345	B-19	C814	A-30	D707	C-34	Q151	C-4	R223	C-27	R511	D-13	R815	E-29		
C346	B-19	C815	B-30	D708	C-34	Q152	C-5	R224	C-27	R512	D-13	R816	E-30		
C347	B-19	C816	B-30	D709	D-33	Q153	C-6	R225	C-26	R513	A-13	R817	E-30		
C351	C-20	C817	B-30	D710	D-33	Q154	D-7	R226	C-26	R514	A-13	R818	E-29		
C352	C-22	C818	C-30	D711	D-33	Q156	D-4	R227	B-25	R515	E-13	R819	D-28		












Created with pride by the employees
of Howard W. Sams & Company.

*J. Barker, N. Beck, B. Buchanan,
T. Clensy, G. Farrell, B. Fink,
M. Herkless, J. Kocha, F. Malek,
B. Medaris, R. Raus, B. Skinner*

SCHEMATIC NOTES

For SAFETY use only equivalent replacement part, see parts list.

- | | |
|---|---|
|  | Circuitry not used in some sets. |
| --- | Circuitry used in some versions. |
|  | Ground |
|  | Chassis ground |
|  | Common tie point |
|  | Taken from common tie point |
|  | CIRCUITRACE® point where a voltage source is developed in the power supply or on a board. |
|  | CIRCUITRACE® point where a previously developed voltage source supplies voltage on a board. |
|  | CIRCUITRACE® point where a component, or a board, connects to a voltage source supply. |
|  | Cabling: Heavy lines reduce use of multiple lines. |

Voltages are taken from ground, unless noted otherwise.
 Waveforms are taken from ground, unless noted otherwise.
 Waveforms taken with triggered scope and NTSC color
 bar generator with window pattern. Waveform voltage is
 peak to peak. Timebase is per division. Waveforms
 shown at 10 divisions. Supply voltages maintained as
 seen at input.

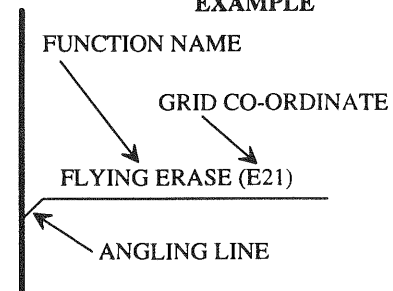
Controls adjusted for normal operation.
Capacitors are 50 volts or less, 5% or greater unless noted.
Electrolytic capacitors are 50 volts or less, 20% or greater unless noted.

Resistors are 1/2 W 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.

Terminal identification may not be found on unit.

If a board schematic has a grid locator at the left and bottom sides, function names and (grid co-ordinates) are added to lines shown entering or exiting the heavy cabling line. The (grid co-ordinates) help to locate where the other connecting points to the same line are located on the same schematic or on another schematic of the same board. A further help has been to use an angling line to indicate direction of the same line exiting the heavy cabling line.

EXAMPLE



ELECTRICAL PARTS LIST

Important Parts Information

- The parts listed here are those not usually available from a well-stocked supply cabinet or bin.
- 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.

Item	Mfr. Part No.
<u>CABINET PARTS</u>	
MODELS VR4250, VR4450	
Bottom Cover	97P0455800
Display Holder	97P2332700
Main Chassis	97P0608410
Front Loading Door (4)	97P1815100
Front Loading Door Spring (4)	97P3033600
Front Panel (4)	97P0311010
Front Window (4)	97P1612700
Front Panel Assembly	97PC146010
Knob Assembly - Channel, REC/OTR (4)	97P1336600
Knob - Function (4)	97P1336700
Holder, Knob - Function (4)	97P2333500
Knob Assembly - Power, Eject (4)	97P1336400
Leg	97P0800600
Antenna Board	97P0709110
Top Cover	97P0455710

(4) Part of Front Panel Assembly.

ELECTRICAL PARTS LIST continued

Item No.	Description	Mfr. Part No.	Notes
HEAD AMP BOARD			
SEMICONDUCTORS			
DA01, 02	1N4148	DZN4148	-
IC401	LA7374	1LA7374	-
QA02, 03	KTC3198Y	TZTC3198Y	-
QA05	KTA1266Y	TZTA1266Y	-
QA06, 07	KTC3198Y	TZTC3198Y	-
OTHER			
	PC Board	97PC152700	Head Amp
LOGIC BOARD			
SEMICONDUCTORS			
D702	1N4148	DZN4148	-
D705 Thru			
D715	1N4148	DZN4148	-
IC701	M34240M2-011SP	1M34240M2	-
IC702	K1A7033P	1K1A7033P	-
OTHER			
G701	8MT-88GK	D8MT88GK	Display
H701	Receiver	1DHR38	Remote
S701	Switch	5S50101Z90	Power
S702	Switch	5S50101Z90	Stop
S703	Switch	5S50101Z90	Rewind
S704	Switch	5S50101Z90	Fast Forward
S705	Switch	5S50101Z90	Play
S706	Switch	5S50101Z90	Record/OTR
S707	Switch	5S50101Z90	Channel Up
S708	Switch	5S50101Z90	Channel Down
S709	Switch	5S50101Z90	Eject
X701	Resonator	5PCSTR50M	2.5MHz
	PC Board	PVLASW1189	Logic
MAIN BOARD			
SEMICONDUCTORS			
D201, 02	1N4148	DZN4148	-
D302 Thru			
D305	1N4148	DZN4148	-
D401, 05	1N4148	DZN4148	-
D501, 02	1N4148	DZN4148	-
D602, 03	1N4148	DZN4148	-
D604	UZ-5.6BM	-	-
D605	UZ-3.9B	-	-
D606	SIR-48IT	-	-
D607	UZ-7.5BM	-	-
D608	UZ-5.1L	-	-
D614	UZ-3.9B	-	-
# D801	STWBA60	-	-
D802	EG01	-	-
D803, 04	1N4148	DZN4148	-
# D805	1N4148	DZN4148	-
# D806	EU01	-	-
# D807	RU2YX	-	-
# D808	MA188	-	-
# D809	UPZ-18B	-	-
# For SAFETY use only equivalent replacement part.			

Item No.	Description	Mfr. Part No.	Notes
# D810	EK16	-	-
D811	EU01	-	-
D812	MA858	-	-
D813	1N4148	DZN4148	-
D814	MA4051N	-	-
D815	1N4148	DZN4148	-
D816	UZ-13BL	-	-
D817	MTZ-33B	-	-
D818	UZP-33B	-	-
D819	1N4148	DZN4148	-
D820	UZP-33B	-	-
D821	UZP-18B	-	-
D822	UZ-6.8BM	-	-
D823, 24	UZ-13BL	-	-
IC151	MC14053B	173F14053B	-
IC201	BA7790LS	1BA7790LSK	-
IC301	LA7184	1LA7184	-
IC303	LC7975	1LC7975	-
IC601	168KF4EATS	168KF4EATS	-
IC602	TA7288P	-	-
	DBL2018-C	1DBL2018C	-
IC605 (1)	MC14013B	173F14013B	-
IC606	MN1380-L	1MN1380L	-
# IC801	0N3131	-	-
	DN3131R	183Z0N3131	-
ICS01	168K88E6ML	168K88E6ML	-
Q151	KSR1004	TZSR1004	-
Q152	KTA1273Y	TZTA1273Y	-
Q153	KSR1004	TZSR1004	-
Q154	KTA1266Y	TZTA1266Y	-
Q156	KSR1004	TZSR1004	-
Q201	KTC1959Y	-	-
	KTC3202Y	TZTC3202Y	-
Q202	KTA1273Y	TZTA1273Y	-
Q203, 04	KSR1004	TZSR1004	-
Q205	KTC3198Y	TZTC3198Y	-
Q301	KTA1266Y	TZTA1266Y	-
Q302	KSR1004	TZSR1004	-
Q303, 04	KTC3198Y	TZTC3198Y	-
Q305	KTA1266Y	TZTA1266Y	-
Q306	KSR1004	TZSR1004	-
Q311, 12	KTC3198Y	TZTC3198Y	-
Q313, 15	KTA1266Y	TZTA1266Y	-
Q316, 17	KTC3198Y	TZTC3198Y	-
Q402	KTA1266Y	TZTA1266Y	-
Q403	KTC3198Y	TZTC3198Y	-
Q405	KSR1004	TZSR1004	-
Q601	KTC3205Y	TZTC3205Y	-
Q608	KTA1266Y	TZTA1266Y	-
# Q801	2SC4662	TZSC4662	-
# Q802	2SD1458	TZSD1458	-
Q803	KTC1815Y	-	-
	KTC3198Y	TZTC3198Y	-
Q804, 05	KTA1015Y	-	-
	KTA1266Y	TZTA1266Y	-
Q806	KTC3205Y	TZTC3205Y	-
Q808, 09	KSD2058-Y	TKSD2058Y	-
Q810	KTC3198Y	TZTC3198Y	-
S601, 02	RPI-224	97POS01300	-
S603, 04	RPT-38PB3F	TRPT38PB3F	-
OTHER			
# C801	.01 400V	-	-
	.01 2.5kV	CH1BEF103Z	-
# For SAFETY use only equivalent replacement part.			

Item No.	Description	Mfr. Part No.	Notes
# C802, 03	220pF 400V	-	-
	220pF 10% 2.5kV	CH1BE221K	-
# C804, 05	.0033 20% 400V	-	-
	.0033 20% 2.5kV	CH1BEE332M	-
# C806	100µF 250V	CEXF2E101V	-
C807	220pF 2kV	CBXB3D221K	-
# C808	4.7µF 250V	CEXF2E479F	-
# C814	4.7µF 63V	-	-
	10µF 63V	CEXFJ100F	-
# C815	470µF 25V	CEXF1E471F	-
# C818	470µF 10V	CEXF1A471F	-
# C819	1000µF 10V	CEXF1A102V	-
# F01	AC Cord	97PA457500	-
# F801, 02	Fuse	5F1GB1521L	1.5A, 125V
J151	Jack	-	Assembly
R292	100K	RV5426104E	Audio Bias
R391	5000	RV5426502E	FH CAR
R395	10K	RV5426103E	EE
R396	5000	RV5426502E	PB-Y
R399	1000	RV5426102E	REC-Y
R491	3000	RV5426302E	REC-C
R494	1000	RV5426102E	Comb Phase
R595	100K	RV5426104E	PG Shifter
R596 (1)	100K	RV5426104E	Slow Brake
# R801	3.3M 5% 1/2W	RD-2Z335J	-
# R804	33K 5% 2W	RS02Y333J	-
# R805	82 5% 1W	RS01Y820J	-
# R806	.68 5% 2W	RS02Y688J	-
# R809, 10	10 5% 1W	RS01Y100J	-
RF101	Tuner/TV Demodulator & PIF Unit	97P7605000	UHF/VHF, TMVH1-102A
SW151	Switch	5S30102102	Channel 3/4
SW152 (3)	Switch	-	Reset
SW601	Switch	5SN0101001	Record Safety
# T801	SMPS	57M1282164	-
X401	Crystal	5XE3R5795B	3.58MHz
X601	Crystal	5XE16R00ZC	16MHz
X602	Crystal	5XZRO3276G	32.768kHz
XS01	Crystal	5XE14R318E	14.31818MHz
	PC Board (1)	PVMPMSN189	Main
	PC Board (2)	PVMPMSN190	Main
	Transmitter	97PIR2BA01	Remote, Assembly
MISCELLANEOUS			
OTHER			
7 *	Motor	97S8100100	Capstan
10 *	Head Assembly	97SA302000	Audio/Control
11 *	Head	97S8000600	Full Erase
15 *	Drum Assembly (1)	PJCTCYMN05	-
	Drum Assembly (2)	PJCTCYMN02	-
	Motor	-	Loading
ELECTRICAL PARTS LIST NOTES			
# For SAFETY use only equivalent replacement part.			
* Indicates the item number used in Mechanical Parts List and Exploded Views.			
(1) Used in model VR4450.			
(2) Used in model VR4250.			
(3) Used in some versions.			