

SERVICE MANUAL

CRAIG®

T620

INDASH STEREO CASSETTE PLAYER WITH AM/FM/MPX RADIO

1980



SPECIFICATIONS

FM TUNER

FREQUENCY RANGE	88 - 108MHz
SENSITIVITY	1.9uV
30dB QUIETING	4.6uV
SIGNAL/NOISE RATIO	60dB
RF INTERMODULATION	70dB
ALTERNATE CHANNEL REJECTION	65dB
IF REJECTION	104dB
SPURIOUS RESPONSE (fs+1/2 IF)	89dB
AM SUPPRESSION	38dB
CAPTURE RATIO	1.7dB
STEREO SEPARATION	30dB
TOTAL HARMONIC DISTORTION(65dBf)	0.9%
FREQUENCY RESPONSE(-3dB)	30 - 15,000Hz

AM TUNER

FREQUENCY RANGE	520 - 1640kHz
SENSITIVITY(20dB S/N)	20uV
AGC FIGURE OF MERIT	47dB
IMAGE REJECTION(1400kHz)	76dB
ADJACENT CHANNEL REJECTION	31dB
RF OVERLOAD(10%THD)	.5V
SIGNAL/NOISE RATIO	42dB
WHISTLE MODULATION	.2%

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.

TAPE

TYPE	Standard compact cassette
SPEED(+2-1%)	4.75cm/sec(1-7/8ips)
WOW & FLUTTER	0.15%wrms
FREQUENCY RESPONSE(+3dB)	30 - 14,000Hz
SIGNAL/NOISE RATIO	44dB
SEPARATION	40dB
CROSSTALK	52dB
FAST FORWARD(C-60)	(24 times)75sec
REWIND(C-60)	(24 times)74sec
EQUALIZATION	3180/70uS

AMPLIFIER

POWER OUTPUT: TOTAL	.9W
PER CHANNEL	4.5W
TOTAL HARMONIC DISTORTION	5.0%
POWER BANDWIDTH(IFH)	30 - 20,000Hz
LOAD IMPEDANCE	4 Ohms(2 Ohms min)
DAMPING FACTOR	20

GENERAL

POWER REQUIREMENT	12V System, Negative Ground
INPUTS	Dial light dimmer, Regular Car Radio Antenna.
OUTPUTS	Left and Right Speakers

PARTS PRICE LIST

REF. No.	CRAIG KEY No.	DESCRIPTION	MFR's SUGG RET. PRICE
PACKAGING			
	T620001	Individual Carton	1.50
	T610002	Styrofoam Set (L & R)	.95
	3128054	Perforated Mtg Strap	1.00
	9744100	Gasket	1.50
	XFU005	Fuse, 5A	1.00
	3149004	Mtg Hardware Kit	3.00
	T620083	Trimplate	3.00
	T684620	9P Pwr/Sp Conn (Car Side)	6.40
	T684621	Terminal Plug (Pink), Ant Pwr	1.05
	T684608	Terminal So (Yellow), Dimmer	1.05
	S633026	Knob, VOL & TUNING	1.50
	S633027	Knob, TONE & FADER	1.50

REF. No.	CRAIG KEY No.	DESCRIPTION	MFR's SUGG RET. PRICE
COILS, TRIMMERS & TRANSF			
C503	T681670	Ant Trimmer, 100pF	2.10
C507,513	1902050	Trimmer Cap, 50pF	1.15
CF501,502	T681672	Ceramic Filter	1.55
CR501	S603645	CR Component	1.75
G501	3148142	Neon Lamp	.70
L1	T610670	Choke Coil	1.80
L501	S680079	Micro Inductor, 6.8uH	.65
L504	S630074	Micro Inductor, 4.7uH	.40
T401	T603641	FM IFT	1.05
T501	S603641	AM OSC	1.55
T502	S603642	AM IFT	1.05
T503	S603643	AM IFT	1.05
T504	S680085	AM IFT	1.65
T505	S680086	AM IFT	1.65
T506	S603644	AM DET	1.05
T507	T635642	FM IFT	1.05

REF No.	CRAIG KEY No.	DESCRIPTION	MFR's SUGG RET. PRICE
MECHANISM			
1	NSP	Assy, Mech Chassis (A)	----
2	T610266	Assy, Head Base	1.15
3	W150231	Collar, Head Mtg	.25
4	3516054	Spr, Head Azimuth Adj	.25
5		Washer, Plain (M2.2x6x0.3)	.25
6	W150387	Plate Spr, Head Base	.40
7	T610503	H E A D	9.80
8	T610341	Detect Lever, End-Of-Tape	.70
9	W150804	Sensor, Detect Lever	.35
10	T610270	Spr, Detect Lever	.30
11	W150275	Spr, Head Base	.25
12	T603420	Cassette Guide (R)	.65
13	T603421	Cassette Guide (L)	.65
14	W150422	Guide (R), Cass Eject	.35
15	W150423	Guide (L), Cass Eject	.35
16	T180073	Spr, Guide	.30
17	W150347	Assy, Pinch Roller Arm (L)	1.50
18	W150273	Spr, Pinch Roller	.25
19	T610380	Assy, Sw Mtg Plate	1.60
20	W160231	Spacer, Lock Shaft (B)	1.05
21	T610530	Leaf Sw, RADIO/TAPE (S2)	2.10
22	NSP	Lug, Lead Strap	----
23	T610516	Assy, Filter PCB w/Comp	2.20
24	NSP	Wire Clamp (A)	----
26	T681341	Eject Lever	.40
27	T610271	Spr, Eject Lever	.25
28	T681342	Assy, F.Fwd Lever	1.75
32	T620500	M O T O R	13.95
33	T681311	Pulley, Motor	.50
34	W150460	Assy, Clutch/Reel Base	1.70
35	3516064	Poly-Washer, (M3x12x0.25)	.25
36	T681203	Washer, Reel Stop	.25
37	T681203	Assy, Flywheel Bracket	1.25
38	W150272	Spr, Adjust Pin	.25
39	T681213A	Pin, Cassette Adjust	.60
40	T681415	Assy, Chassis (B)	5.50
41	W150232	Collar, Flywheel Capstan	.25
42	W150260	Assy, Idler Arm (L)	1.70
43	T180057	Spr, Idler Arm	.25
44	-----	Poly-Washer, (M3.1x6x0.25)	.25
45	T681260	Assy, F.Fwd Idler	3.55
46	3516067	Washer, Flywheel	.25
47	T681205	F L Y W H E E L	3.40
48	T681261	Assy, Rewind Idler	1.65
49	T681208	B E L T	.80
50	W150267A	Assy, Flywheel Base	1.60
51	T681270	Spr, Chassis Back	.25
52	W150386	Link, Chassis	.40
53	NSP	Plate (A), Deck Mtg	----
55	NSP	Plate (C), Deck Mtg	----
56	T610342	Lever, Lock Release	.70
57	T610291	Plate Spr, Release Lever	.40
58	T610251	Lever, Auto Shut-Off	.25
59	T610272	Spr, Auto Shut-Off Lever	.25
60	T610212	Set Screw, Release Lever	.25
61	T610343	Assy, Lock Lever	1.05
62	T609271	Spr, Lock Lever	.25
63	T610344	Arm, Lock	.25
64	T610213	Set Screw, Lock Arm	.25
66	T610345	Arm, Eject	.40
67	T681345	Sub Plate	.40
68	T681271	Spr, Sub Plate	.25
69	T681272	Spr, Idler Pressure	.25
70	T635384	Stopper, Sub Plate	.25
71	T620231	Washer, F.Fwd Lever	.25
72	T620232	Poly-Washer	.25
73	T620233	Washer, Head Base	.25

REF No.	CRAIG KEY No.	DESCRIPTION	MFR's SUGG RET. PRICE
CABINET & CHASSIS			
101	T620010	Assy, Front Escutcheon	4.90
	T610011	Slide Bar	.60
	T611084	Inlay, Slide Bar	.35
103	T681077	Dial Scale	1.75
104	T681041	Assy, Cass Door	2.80
105	T681212	Shaft, Cass	.50
106	T681081	Dial Pointer	.35
107	T681082	Slider, Dial Pointer	.30
108	T681273	Spr, Cass Door	.25
109	T620380	Assy, Dial String Frame	2.10
110	T681381	Holder, Dial Lamp	.50
111	T681550	Pilot Lamp, Dial Scale	1.55
112	S602012	Cont, TUNING/FADER (VR4)	8.00
113	T603570	Cont, VOL/BAL & TONE w/Sw(VR1,2,3)	9.95
114	3148118	Washer, Cont Locator	.25
115	T681330A	Bushing, Dial Frame	.40
116	-----	Washer, Plain (3/8"x16x1.0)	.25
117	3148117	Hex Nut, Cont (3/8"x12.5x2.5)	.25
118	S633027	Knob, TONE/FADER	1.50
119	S633026	Knob, VOL/TUNING	1.50
122	T610050	Bottom Case	5.75
123	T620517	Assy, Amp PCB w/Comp	20.85
125	NSP	Shield Box, Choke Coll	----
	T610670	Choke Coll	1.80

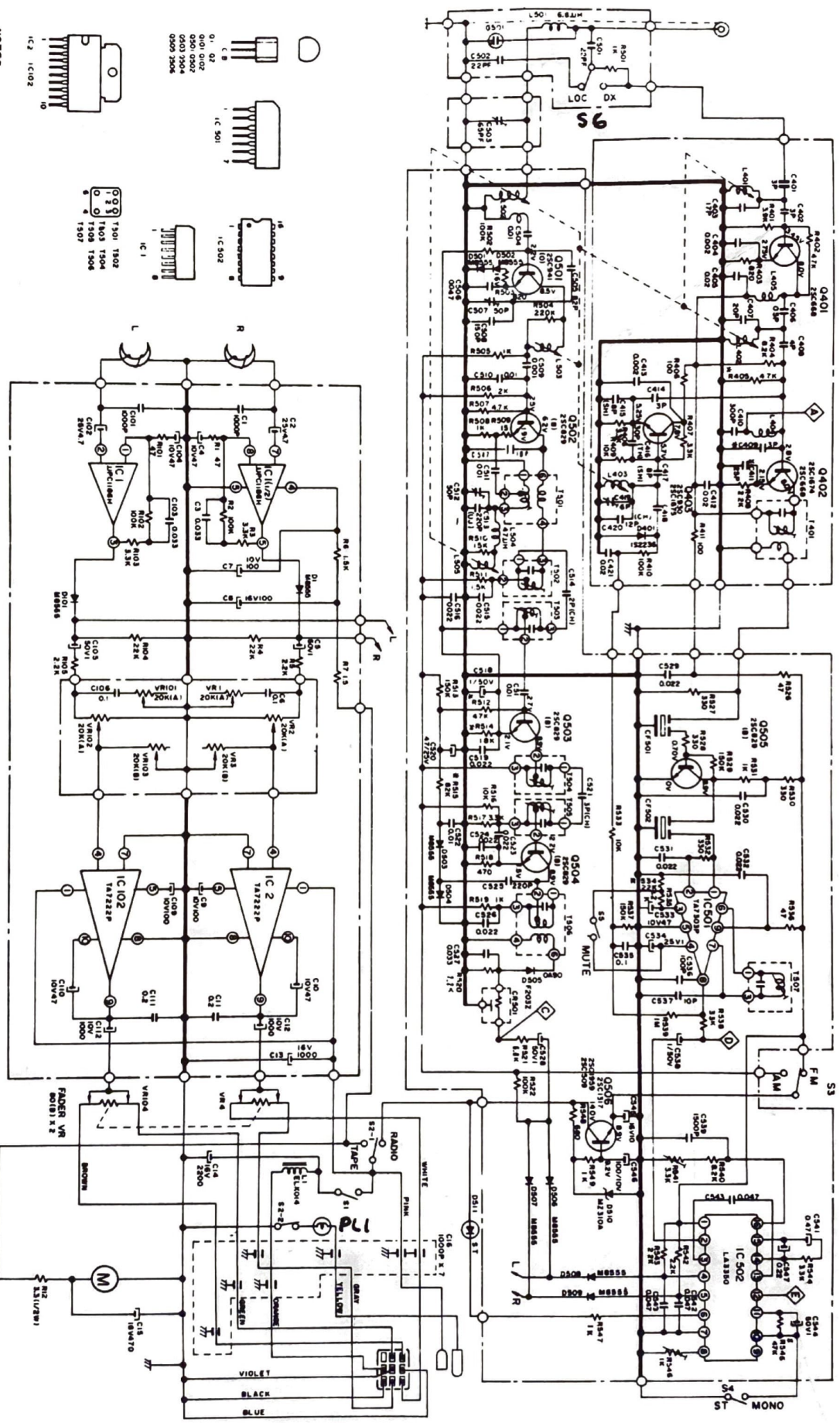
REF No.	CRAIG KEY No.	DESCRIPTION	MFR's SUGG RET. PRICE
CABINET & CHASSIS (CONTINUED)			
127	T681616A	Feed-Thru-Cap	.30
128	T620601	Assy, Feed-Thru-Cap(1000pFx7)	2.55
129	T638620	9P Pwr/Sp Conn (Unit Side)	3.90
130	T684623	Terminal Plug (Yellow), Dimmer	1.05
131	T684611	Terminal So (Pink), Power Ant	1.05
132	T681343	Lever, DX Sw	.50
133	T681520	Assy, Ant PCB w/Comp	4.70
	T681532	Push Sw, DX (S6)	2.30
134	3149014	Ant Receptacle	2.35
135	T620516	Assy, FM/AM IF & MPX PCB w/Comp	28.95
136	NSP	Assy, Capacitor Bkt	----
137	NSP	Plate, Tuner Mtg	----
138	S603022	Assy, Tuner Mech w/FM RF PCB	26.10
139	T603213	Assy, Tuning Shaft Joint	1.05
140	T681670	Assy, Ant Trimmer (100pF)	2.10
141	W160802	Cup, Trimmer	.30
142	T681026	Push Button (A), ST/MUTE/FM	.40
143	T681027	Push Button (B), EJECT/DX	.40
144	T681028	Inlay, Select Button	.25
145	T681533	Push Sw, ST/MUTE/FM (S4,5 & S3)	2.65
146	T681524	PCB, Sw Mtg	5.05
147	SLP119B	LED, ST Ind	.95
148	T610382	Bushing, ST LED	.30
149	T681430	Cushion, Sw Plate	.30
150	NSP	Plate, Sw Mtg	----
151	T681344	Plate, Eject Button	.25
152	T610274	Assy, Dial String Spr	.70
153	T610051	Top Case	3.70
154	S681015	Seal, Adj Hole	.30
155	-----	Label, Transit Screw	----
156	S636431	Bushing, Pwr/Sp Leads	.45
157	S603385	Clamp, Pwr/Sp Leads	.40
158	-----	Washer, Plain (M2x4.3x0.3)	.25
159	NSP	Cushion, Button	----

REF No.	CRAIG KEY No.	DESCRIPTION	MFR's SUGG RET. PRICE
SEMICONDUCTORS			
IC1	UPC1186H	IC, Pre-Amp	4.10
IC2,102	TA7222P	IC, Amp	6.85
IC501	TA7303P	IC, FM IF	5.35
IC502	LA3350	IC, FM MPX	8.00
Q401	2SC668	Transistor	1.80
Q402	2SC1674	Transistor	1.50
Q403	2SC1675	Transistor	1.30
Q501	2SC941	Transistor	1.30
Q502,503,504,505	2SC829	Transistor	1.85
Q506	2SC1317	Transistor	1.80
D1,101,501,502,503,504,506,507,508,509	M8555	Diode	1.00
D401	1S2236	Diode	.95
D505	OA90	Diode	.70
D510	MZ310A	Zener Diode	.75
D511	SLP119B	LED, ST Ind	.95

REF No.	CRAIG KEY No.	DESCRIPTION	MFR's SUGG RET. PRICE
MISCELLANEOUS ELECTRICAL			
S1		MAIN POWER Sw(See VOL Cont)	
S2	T610530	Leaf Sw, RADIO/TAPE	2.10
S3	T681533	Push Sw, AM/FM	2.65
S4	T681533	Push Sw, ST/MONO	2.65
S5	T681533	Push Sw, MUTE	2.65
S6	T681532	Push Sw, LOC/DX	2.30
VR1,101		VR 20K, TONE Cont	
VR2,102		VR 20K, VOL Cont	
VR3,103	T603570	VR 20K, BAL Cont	9.95
S1		Sw, MAIN POWER	
VR4,104	S602012	VR 80 Ohms, FADER Cont	8.00
R541	W110590	Semi-Fixed Res 3.3K Ohm	.70
R546	W110591	Semi-Fixed Res 1K Ohm	.70
G501	3148142	Neon Lamp	.70
PL1	T681550	Pilot Lamp, Dial Scale	1.55

REF No.	DESCRIPTION	REF No.	DESCRIPTION
HARDWARE (0.25c OR NOTED)			
81	Scr, PH M2x2	91	E-Ring M1.2
82	Scr, BH M2x3	92	E-Ring M1.5
83	Scr, BH M2x5	93	E-Ring M2
84	Scr, BH M2.6x3	94	E-Ring M2.5
85	Scr, BH M2.6x4	95	E-Ring M3
86	Scr, BH M3x4	96	CS-Ring (CS-20)M2
87	Scr, BH M3x6	97	Scr, FH M3x4
88	Scr, FH M2.6x4	98	Scr, PH M2.6x3
89	Scr, FH M2.6x5	99	Scr, BH M2x4
90	Scr, BH M2.6x5		

SCHEMATIC DIAGRAM



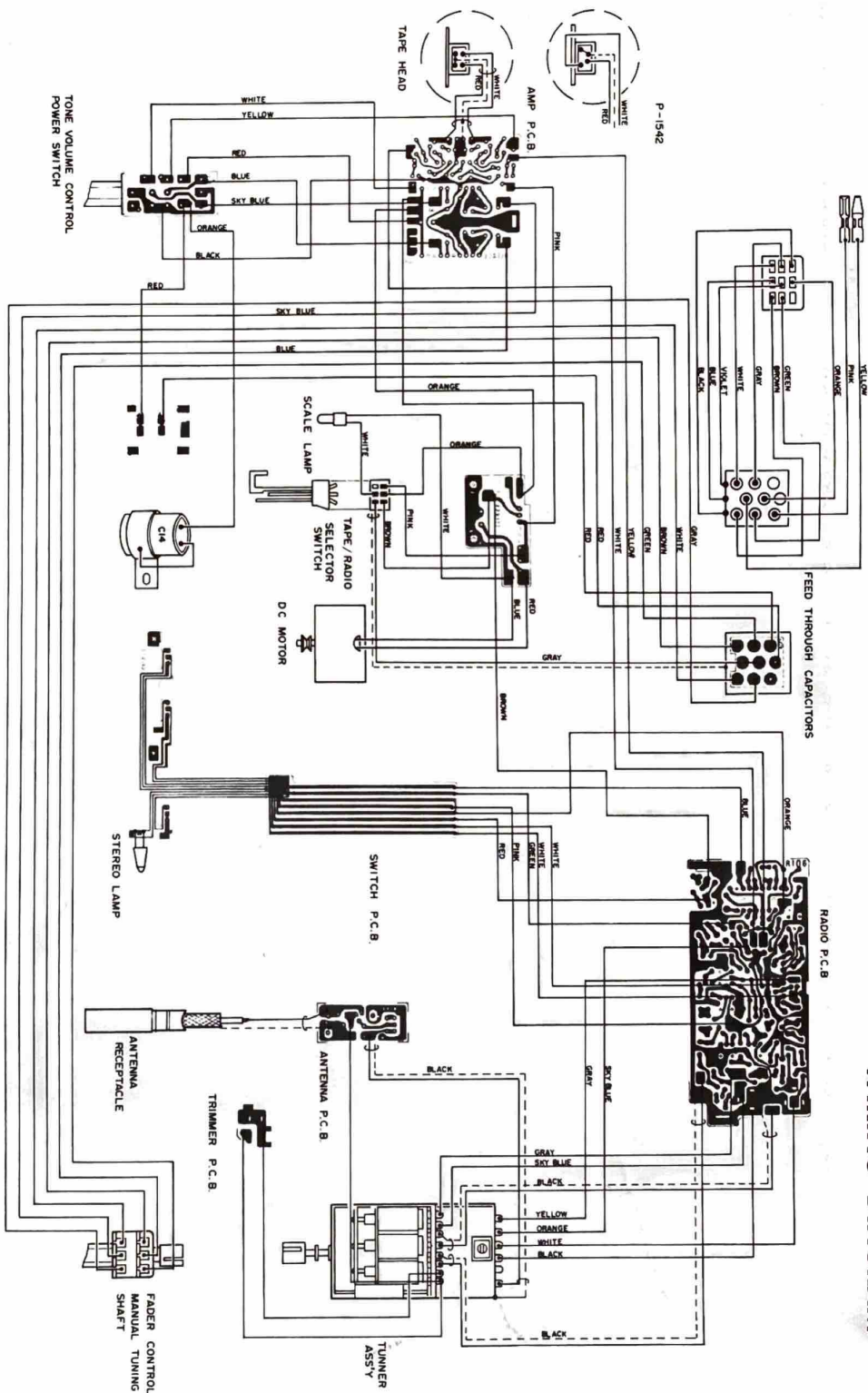
NOTES

- 1) X MARK INDICATES ADJUSTABLE IN PRODUCTION.
 - 2) ALL RESISTANCE VALUES IN OHMS AND 1/4 WATTS UNLESS OTHERWISE SPECIFIED.
 - 3) ALL CAPACITANCE VALUES IN MICRO FARADS EXCEPT P FOR PICO FARAD.
 - 4) VOLTAGES TAKE FROM GROUNDING METAL AT NO SIGNAL INPUT/TESTER BY 20K/V.
- * SUBJECT TO MINOR CHANGE WITHOUT NOTICE.

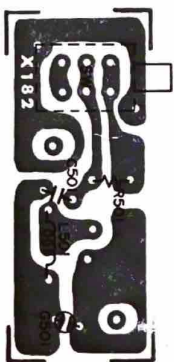
IC TERMINAL VOLTAGE (VOLT)

IC PIN NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
IC 501	1.65	1.65	0	1.1	0	1.8	3.8	4.5	6.5							
IC 502	8.9	2.6	4.6	6.8	6.8	0.2	0	0.2	6.1	2.0	2.0	2.4	2.0	2.0	2.0	2.6
IC 1	0.7	0.8	5.2	7	0	5.2	0.8	0.7								
IC 2, IC 102	1.4	—	—	0	1.8	—	0	0	2.0	1.3						

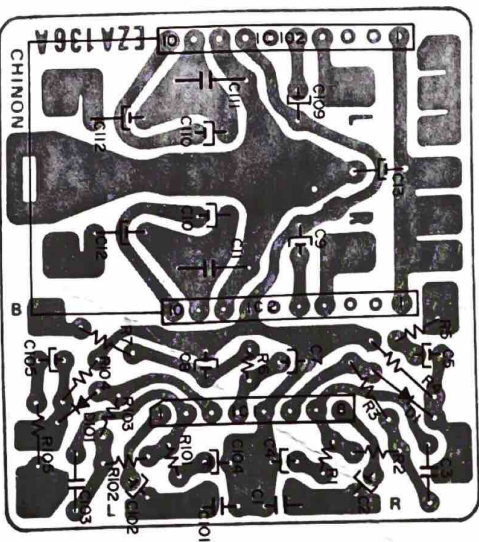
WIRING DIAGRAM



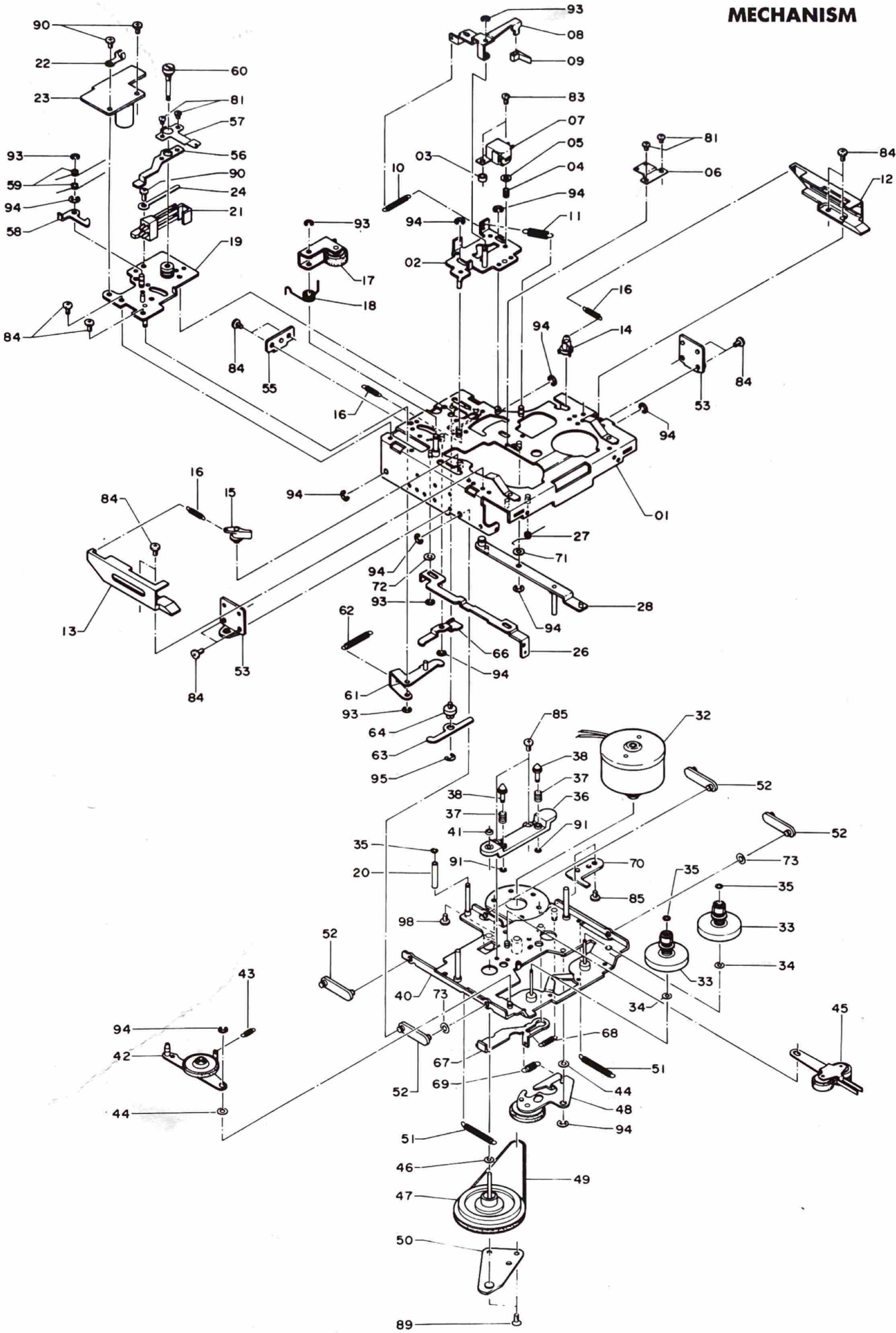
ANT/ SW PCB



PRE-AMP/AMP P.C.B.



MECHANISM



CABINET & CHASSIS

