

Service  
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**VR130/02/07/39/58**



# Service Manual

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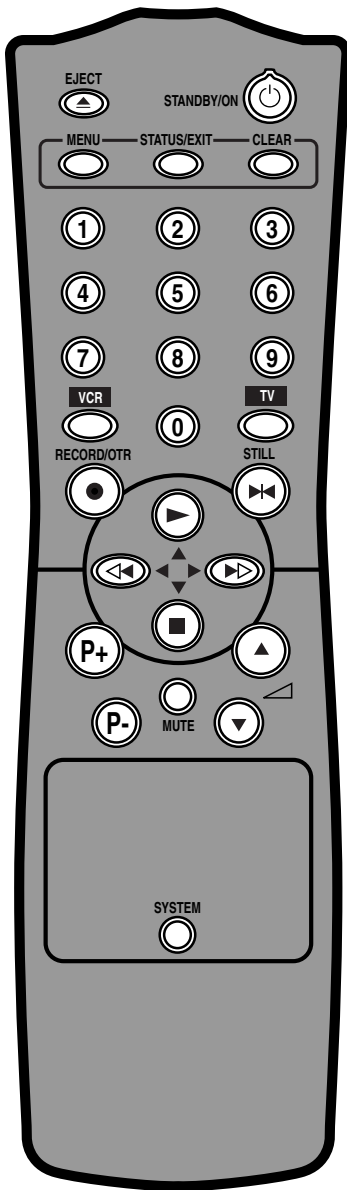
## Survey of versions:

/02	PAL B/G, VPS/PDC
/07	PAL I, Ireland
/16	PAL B/G, Spain
/39	SECAM L, L' & PAL B/G, I
/58	PAL/SECAM B/G, D/K

Safety regulations require that the set be restored to its original condition and that parts which are identical with those specified be used.



[ VR130/02, VR130/07, VR130/39, VR130/58 ]



Press button VCR on the remote control before doing VCR related functions on the remote. By pressing button TV it is possible to navigate some functions on PHILIPS TV sets.

### Buttons for VCR feature only

**VCR** To operate the VCR with the remote control.

**EJECT** To eject the cassette.

**CLEAR** To delete last entry/Clear programmed recording (TIMER).

**RECORD/OTR** To record the TV channel selected at this moment or press repeatedly to start a One-Touch Recording.

**STILL** To stop the tape (still picture).

**P+** **P-** To select the programme number. During normal playback, press to adjust the tracking.

**SYSTEM** Doesn't work in these models. [ VR130/02, VR130/07 ]

To change the video (colour) system. [ VR130/39, VR130/58 ]

**MENU** To call up main menu of VCR.

**▶▶** When tape playback is stopped, press to fast forward the tape at high speed. During playback, press to fast forward the tape while the picture stay on the screen. To store or confirm entry in the menu.

**◀◀** When tape playback is stopped, press to rewind the tape at high speed. During playback, press to rewind the tape while the picture stay on the screen. To return the cursor in the menu.

**▶▶** To play a tape, select an item in the menu of VCR.

**◻** To stop the tape, select an item in the menu of VCR.

### Buttons with TV feature

**TV** To call up additional TV functions.

**STANDBY/ON** To switch VCR or Philips TV on or off, interrupt menu function.

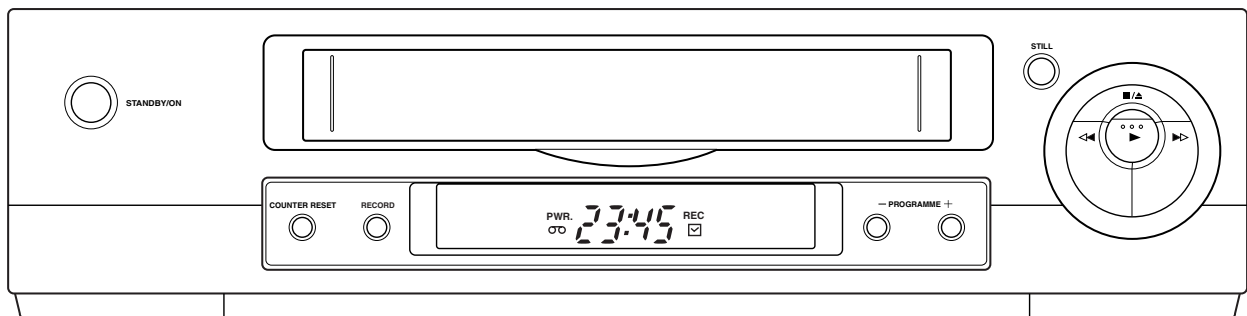
**STATUS/EXIT** To access or remove the VCR's on-screen status display. To exit on-screen menus. Or, to access or remove a status display or menu of Philips TV.

**0..9** Press to select channels at VCR or Philips TV.

**MUTE** To eliminate the TV's sound. Press again to restore the volume.

**▲** **▼** To adjust the TV's volume.

## Front of the device



**STANDBY/ON** To switch off or on, interrupt a function.

**PROGRAMME+** **PROGRAMME-** To select the programme number. During normal playback, press to adjust the tracking.

**RECORD** To record the TV channel selected at this moments.

When tape playback is stopped, press to fast forward the tape at high speed. During playback, press to fast forward the tape while the picture stay on the screen.

When tape playback is stopped, press to rewind the tape at high speed. During playback, press to rewind the tape while the picture stay on the screen.

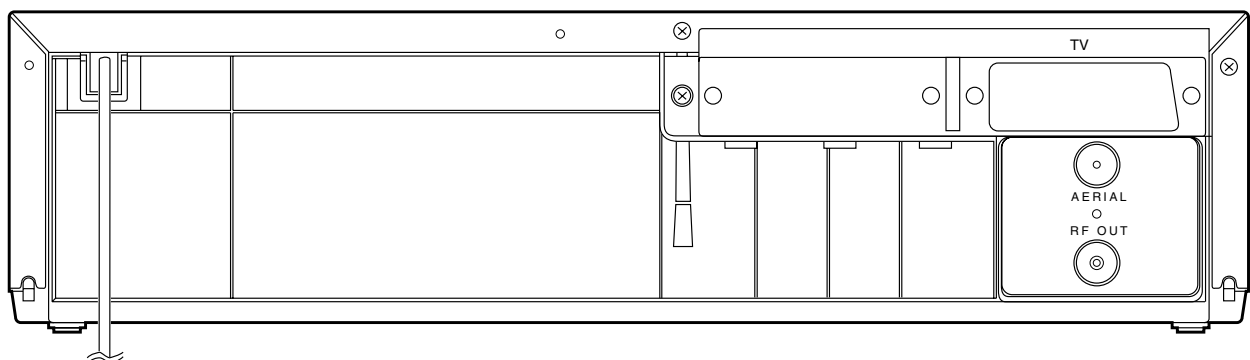
To play a tape.

To stop the tape and eject the cassette.

**STILL** To stop the tape (still picture).

**COUNTER RESET** To reset the counter.

## Back of the set



**TV** To connect the TV set(programme number).

**AERIAL** To connect the aerial cable.

**RF OUT** To connect the TV set.

[ VR130/02, VR130/07, VR130/39, VR130/58 ]

Signal Name	Function
8POUT-1	SCART 1 8Pin Output Control Signal
A-IN-1,2	Audio Signal Input 1, 2
A-OUT-1,2	Audio Signal Output 1, 2
A-MUTE-H	Audio Mute Control Signal (Mute = "H")
A-PB/REC	Normal Audio Play Back/Record Signal
A-COM	Audio Head Common
AE-H	Audio Erase Head
AFC	Automatic Frequency Control Signal
AGC	IF AGC Control Signal
AL+12V	Always +12V with AC Plug Connected
AL+5V	Always +5V with AC Plug Connected
AMPC	CTL AMP Connected Terminal
AMPVcc	AMPVcc
AMPVREF <sub>IN</sub>	V-Ref for CTL AMP
AMPVss	AMPVss (GND)
AUDIO-SW1	Audio Input/Output Switching Control Signal 1 (Mono)
AUDIO-SW2	Audio Input/Output Switching Control Signal 2 (Mono)
AVcc	A/D Converter Power Input/ Standard Voltage Input
C	C Terminal
C-CONT	Capstan Motor Control Signal
C-F/R	Capstan Motor FWD/REV Control Signal (FWD="L"/REV="H")
C-ROTA	Color Phase Rotary Changeover Signal
C-SYNC	Composite Synchronized Pulse
CLKSEL	Clock Select (GND)
COLOR-IN	SECAM or MESECAM Chroma Video Input Signal at Super Impose
CTL (+)	Playback/Record Control Signal (+)
CTL (-)	Playback/Record Control Signal (-)
CTLAMPout	To Monitor for CTL AMP Output

Signal Name	Function
D-CONT	Drum Motor Control Signal
D-FG	Drum Motor Rotation Detection Pulse
D-PG	Drum Motor Pulse Generator
D-REC-H	Delayed Record Signal
D-V- SYNC	Dummy V-sync Output
DRV-CLK	LED Clock Driver IC Control Clock
DRV-DATA	LED Clock Driver IC Control Data
DRV-STB	LED Clock Driver IC Chip Select Signal
END-S	Tape End Position Detect Signal
FE-H GND	Ground for Full Erase Head
FSC-IN [4.43MHz]	4.43MHz Clock Input
HLF	LPF Connected Terminal (Slicer)
I <sup>2</sup> C BUS- SCL	I <sup>2</sup> C BUS Control Clock
I <sup>2</sup> C BUS- SDA	I <sup>2</sup> C BUS Control Data
JK1-8P-OUT	SCART 8Pin Output Control Signal
KEY-1	Key Scan Input Signal 1
KEY-2	Key Scan Input Signal 2
LD-SW	Deck Mode Position Detector Signal
LM-FWD/REV	Loading Motor Control Signal
MOD-A	Modulator Audio Output Signal
N-A-PB	Normal Audio Playback
N-A-REC	Normal Audio Recording
OSC <sub>IN</sub>	Clock Input for letter size
OSC <sub>OUT</sub>	Clock Output for letter size
OSDVcc	OSDVcc
OSDVss	OSDVss
P-DOWN-L	Power Voltage Down Detector Signal
P-ON+44V	+44V at Power-On Signal
P-ON+5V	+5V at Power-On Signal
P-ON-H	Power On Signal at High
PG-DELAY	Video Head Switching Pulse Signal Adjusted Voltage

<b>Signal Name</b>	<b>Function</b>
POW-SAF	P-ON Power Detection Input Signal
REC-SAF-SW	Recording Safety SW Detect (With Record tab="L"/With out Record tab="H")
REMOCON-IN	Remote Control Sensor
RESET	System Reset Signal (Reset="L")
RF-SW	Video Head Switching Pulse
RGB-THROUGH	SCART 2 RGB Through Control Signal
SC2-IN	Input Signal from Pin 8 of SCART2
SECAM-H	SECAM Mode at High
ST-S	Tape Start Position Detector Signal
T-REEL	Take Up Reel Rotation Signal
TIMER+5V	+5V at Timer
TRICK-H	Special Playback = "H" in SECAM Mode
TU-AUDIO	Tuner Audio Input Signal
TU-VIDEO	Tuner Video Input Signal
TUN-SW1	Tuner System Control Signal Output
TUN-SW2	Tuner System Control Signal Output
V-ENV	Video Envelope Comparator Signal
V-IN-1,2	Video Signal Input 1, 2
V-OUT-1,2	Video Signal Output 1, 2
VIDEO-IN	Video Signal Input
VIDEO-OUT	Video Signal Output
Vss	Vss(GND)
X-IN	Main Clock Input
X-OUT	Main Clock Input
XC-IN	Sub Clock
XC-OUT	Sub Clock

# Servo/System Control Block Diagram

# BLOCK DIAGRAMS

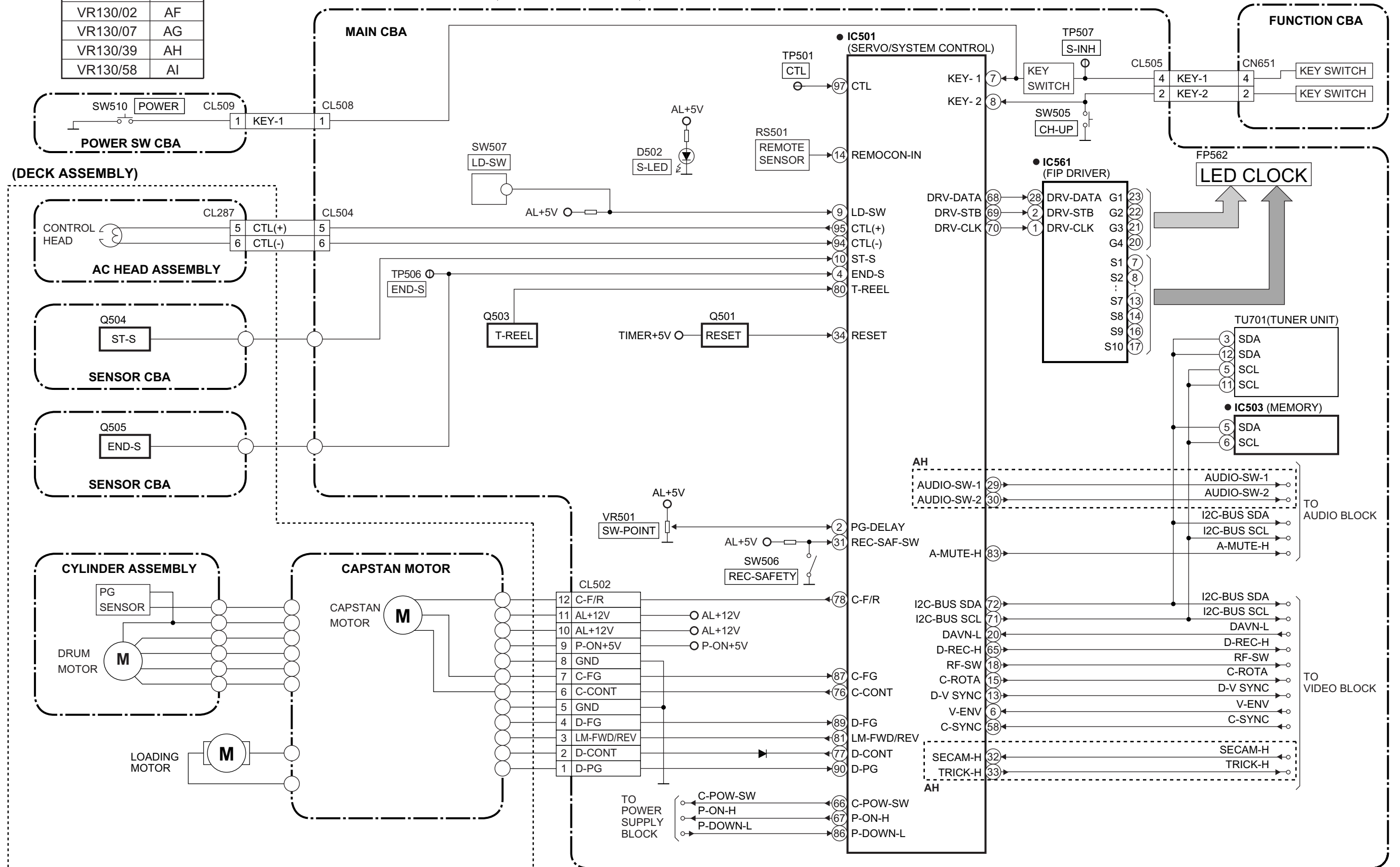
Comparison Chart of Models & Marks

Model	Mark
VR130/02	AF
VR130/07	AG
VR130/39	AH
VR130/58	AI

"●" = SMD

**NOTE FOR WIRE CONNECTORS:**  
 1. PREFIX SYMBOL "CN" MEANS CONNECTOR.  
 (CAN DISCONNECT AND RECONNECT.)  
 2. PREFIX SYMBOL "CL" MEANS WIRE-SOLDER HOLES OF THE PCB.  
 (WIRE IS SOLDERED DIRECTLY.)

**TEST POINT INFORMATION**  
 ○ :INDICATES A TEST POINT WITH A JUMPER WIRE ACROSS A HOLE IN THE PCB.  
 ⊞ :USED TO INDICATE A TEST POINT WITH A COMPONENT LEAD ON FOIL SIDE.  
 ⊙ :USED TO INDICATE A TEST POINT WITH NO TEST PIN.  
 ● :USED TO INDICATE A TEST POINT WITH A TEST PIN.



# Video Block Diagram

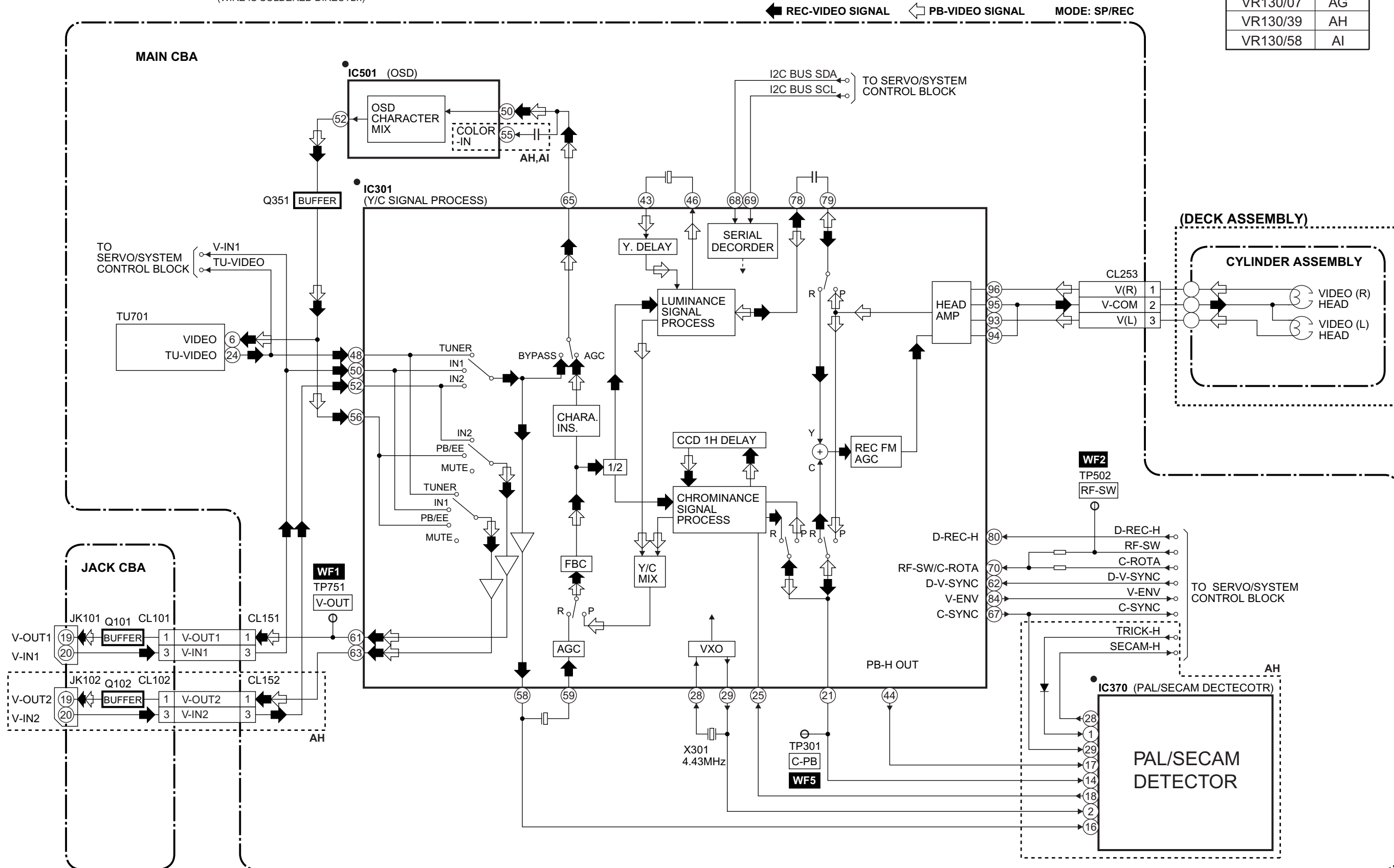
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 HOLES OF THE PCB.  
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**TEST POINT INFORMATION**  
 ○ :INDICATES A TEST POINT WITH A JUMPER WIRE ACROSS A HOLE IN THE PCB.  
 □ :USED TO INDICATE A TEST POINT WITH A COMPONENT LEAD ON FOIL SIDE.  
 ◊ :USED TO INDICATE A TEST POINT WITH NO TEST PIN.  
 ● :USED TO INDICATE A TEST POINT WITH A TEST PIN.

"●" = SMD

## Comparison Chart of Models & Marks

Model	Mark
VR130/02	AF
VR130/07	AG
VR130/39	AH
VR130/58	AI



# Audio Block Diagram

## Comparison Chart of Models & Marks

Model	Mark
VR130/02	AF
VR130/07	AG
VR130/39	AH
VR130/58	AI

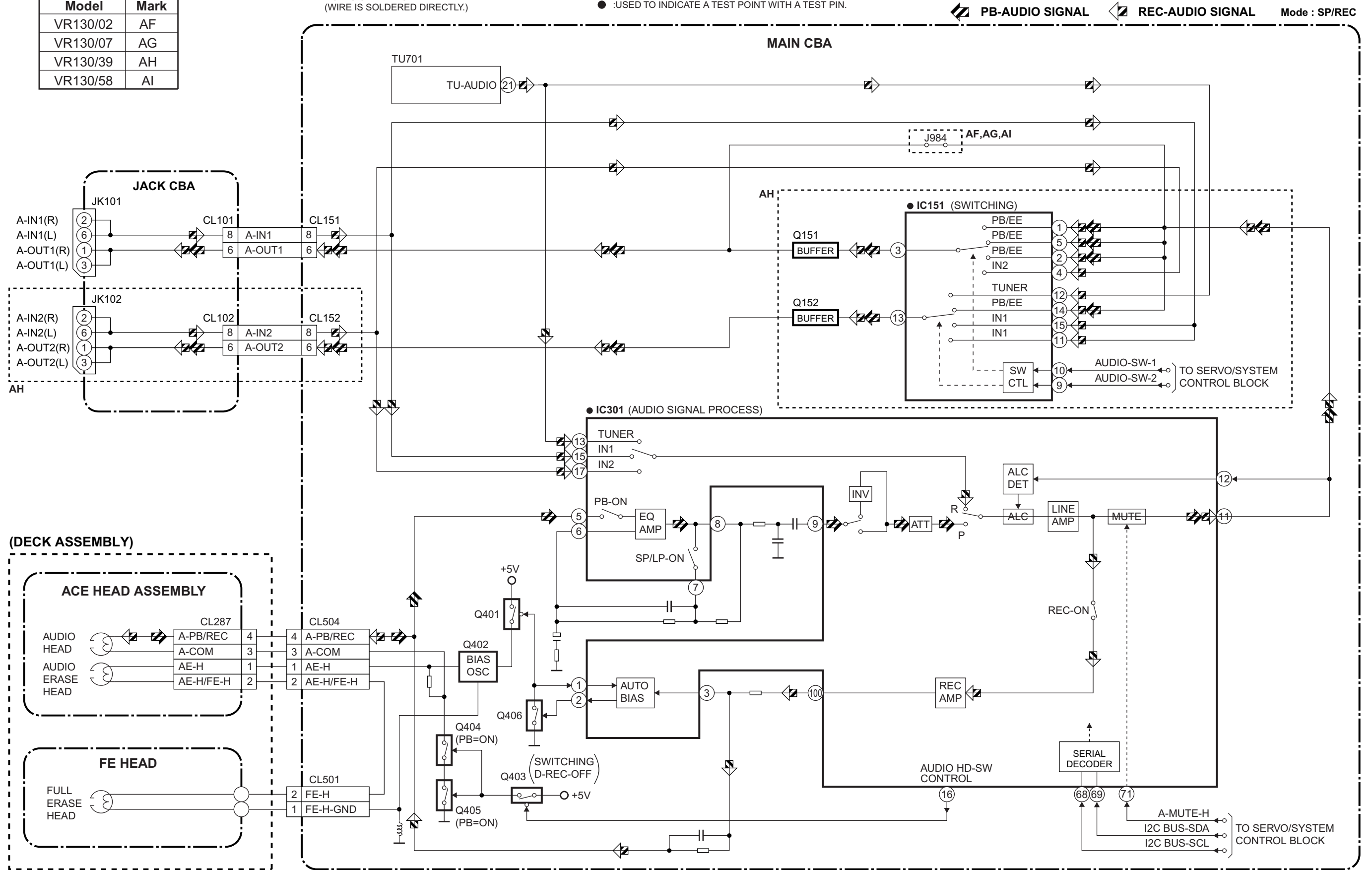
"•" = SMD

### NOTE FOR WIRE CONNECTORS:

1. PREFIX SYMBOL "CN" MEANS CONNECTOR. (CAN DISCONNECT AND RECONNECT.)
2. PREFIX SYMBOL "CL" MEANS WIRE-SOLDER HOLES OF THE PCB. (WIRE IS SOLDERED DIRECTLY.)

### TEST POINT INFORMATION

- ⊕ : INDICATES A TEST POINT WITH A JUMPER WIRE ACROSS A HOLE IN THE PCB.
- ⊞ : USED TO INDICATE A TEST POINT WITH A COMPONENT LEAD ON FOIL SIDE.
- ⊙ : USED TO INDICATE A TEST POINT WITH NO TEST PIN.
- : USED TO INDICATE A TEST POINT WITH A TEST PIN.





# Power Supply Block Diagram

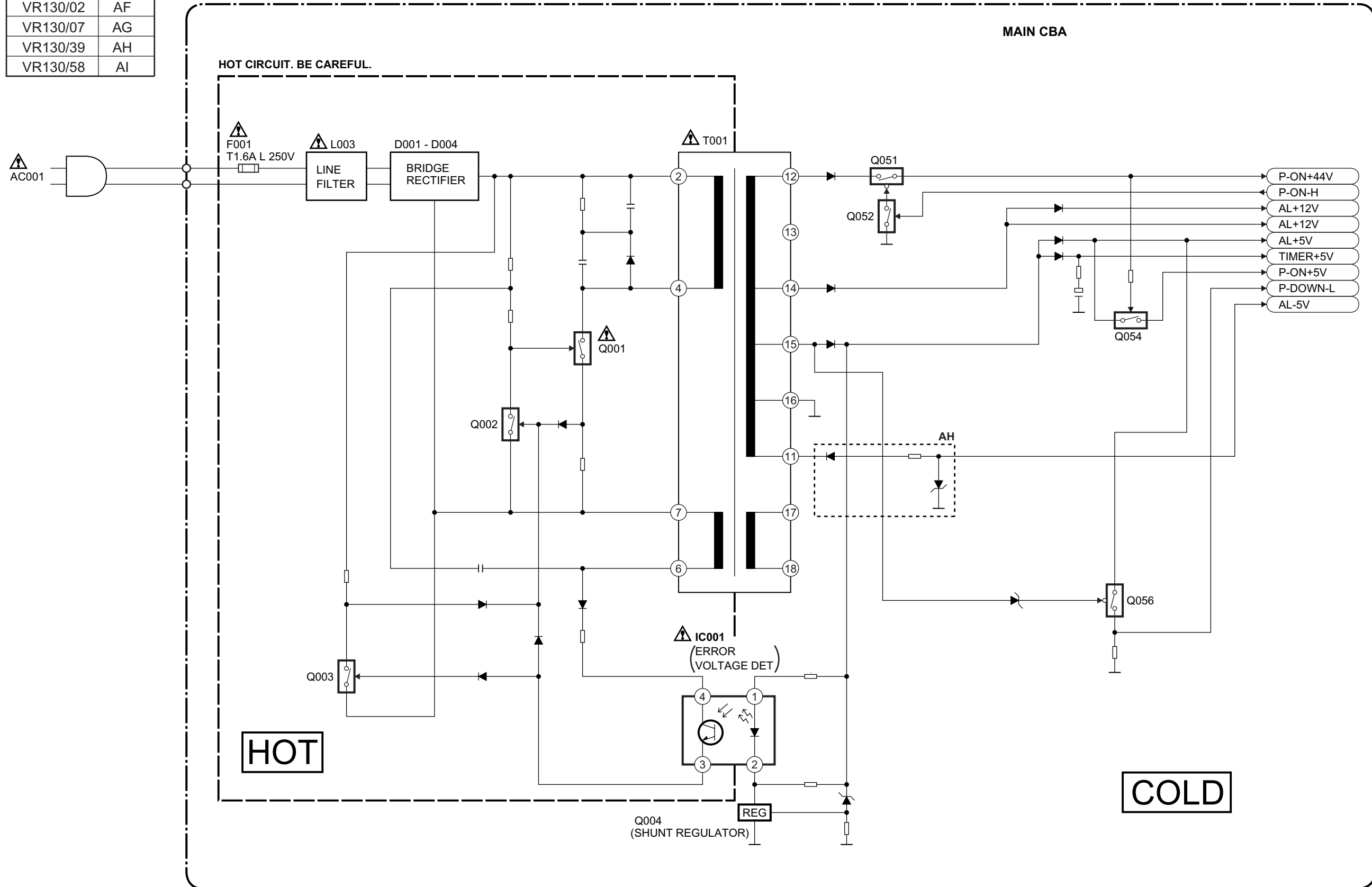
## Comparison Chart of Models & Marks

Model	Mark
VR130/02	AF
VR130/07	AG
VR130/39	AH
VR130/58	AI

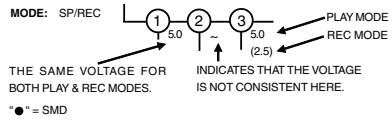
**NOTE :**  
The voltage for parts in hot circuit is measured using hot GND as a common terminal.

**CAUTION**  
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD,  
REPLACE ONLY WITH THE SAME TYPE T1.6AL/250V FUSE.

**CAUTION !**  
Fixed voltage (or Auto voltage selectable ) power supply circuit is used in this unit.  
If Main Fuse (F001) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.  
Otherwise it may cause some components in the power supply circuit to fail.



Main 1/5 Schematic Diagram

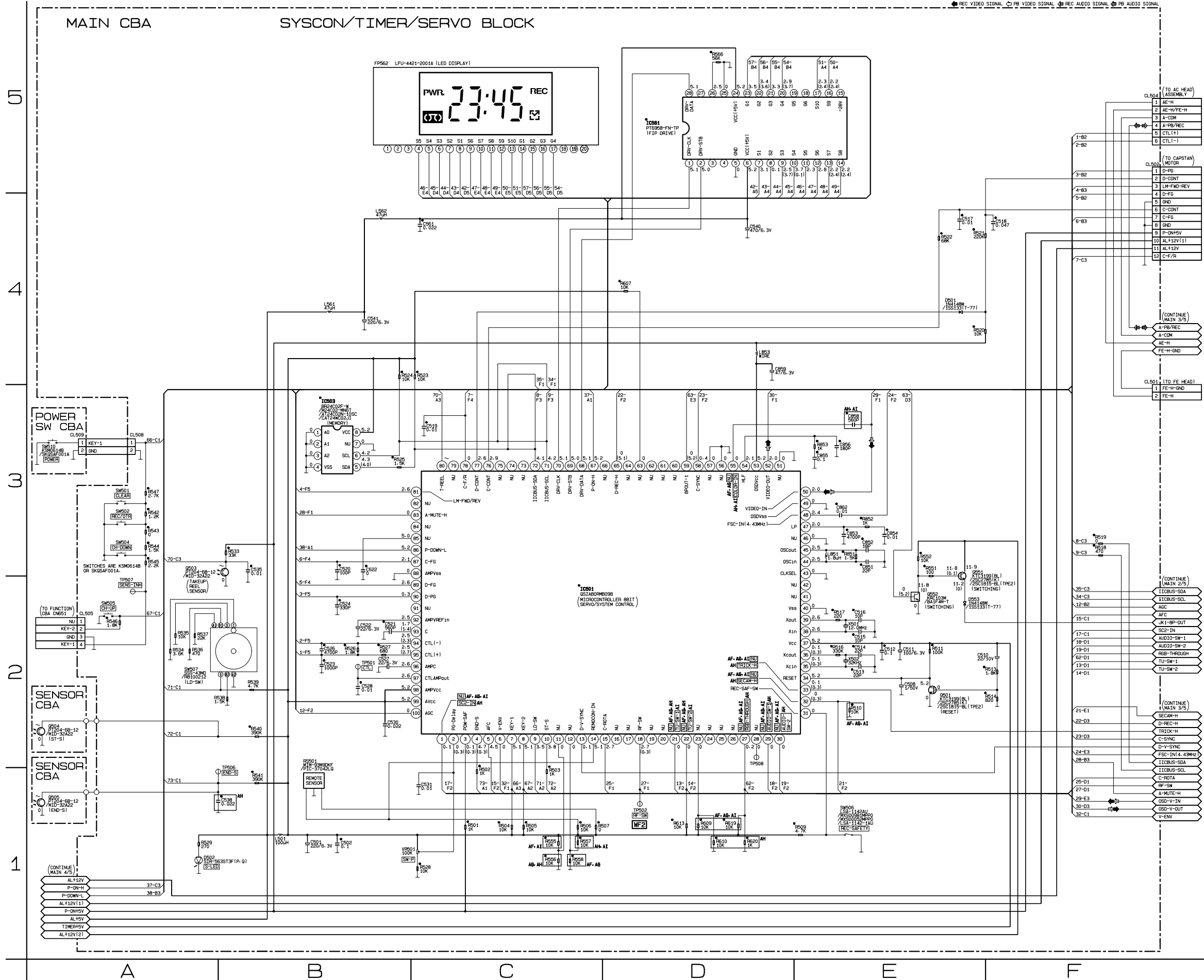


Comparison Chart of Models and Marks

MODEL	MARK	MODEL	MARK
VR130/02	AF	VR130/39	AH
VR130/07	AG	VR130/58	AI

IC501 KEY VOLTAGE CHART

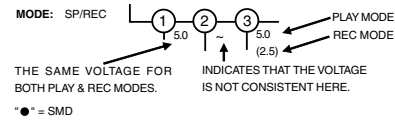
Voltage	Pin No.	
	KEY 1 (7PIN)	KEY 2 (8 PIN)
0.00 ~ 0.51V	POWER	CH UP
0.51 ~ 0.92V	-----	REW
0.92 ~ 1.27V	COUNTER RESET	PLAY
1.27 ~ 1.61V	REC/OTR	FF
1.61 ~ 1.98V	CH DOWN	PAUSE
1.98 ~ 2.39V	S-INH	-----
2.39 ~ 2.90V	-----	STOP/EJECT
2.90 ~ 3.60V	-----	-----
3.60 ~ 4.30V	-----	-----
4.30 ~ 5.00V	KEY OFF	KEY OFF



MAIN 1/5 Schematic Diagram Parts Location Guide

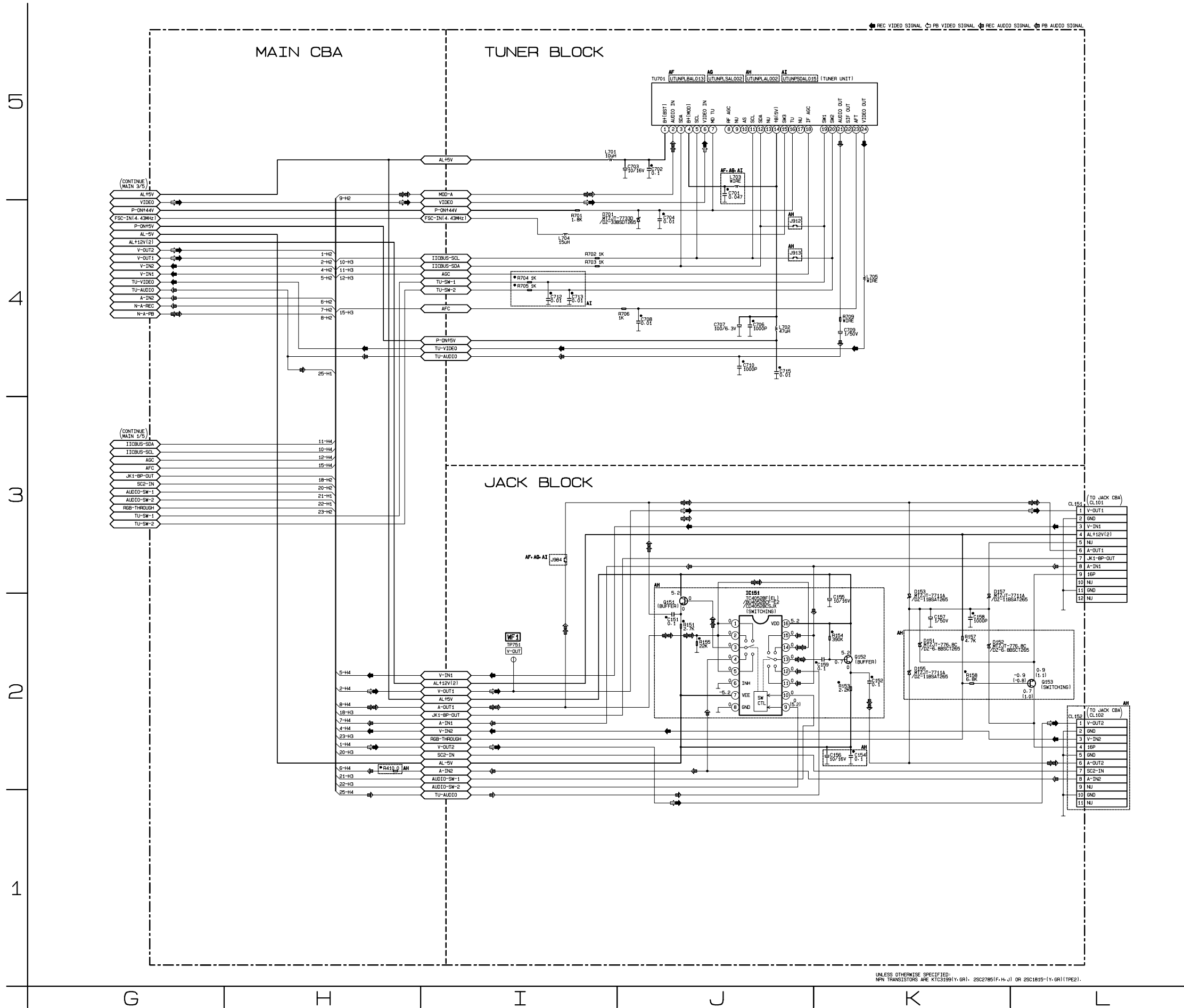
Ref No.	Position	Ref No.	Position
CAPACITORS		RESISTORS	
C501	B-1	R507	C-1
C502	B-1	R509	E-1
C508	E-2	R510	E-2
C510	F-2	R511	E-2
C511	E-2	R513	F-2
C512	E-2	R514	F-2
C513	E-2	R516	E-2
C514	E-2	R517	E-2
C515	E-2	R518	F-3
C516	E-2	R519	F-3
C517	E-4	R520	E-4
C518	F-4	R521	E-4
C519	C-3	R522	E-4
C520	B-3	R523	C-4
C521	B-2	R524	B-4
C522	B-2	R525	B-3
C523	B-2	R526	B-2
C524	B-2	R527	B-2
C526	B-2	R528	C-1
C528	B-2	R529	A-1
C529	B-2	R533	B-3
C530	B-2	R534	A-2
C531	C-1	R535	A-2
C535	B-3	R536	A-2
C538	A-1	R537	A-2
C540	D-4	R538	B-2
C541	B-4	R539	B-2
C561	C-4	R540	B-2
C622	B-3	R541	B-1
C851	E-3	R542	A-3
C852	E-3	R543	A-3
C853	E-3	R544	A-3
C854	E-3	R545	A-2
C855	E-3	R546	A-2
C856	E-3	R547	A-3
C858	E-3	R551	E-3
C859	D-4	R552	E-3
C862	E-3	R555	C-1
CONNECTORS		R566	C-1
CL501	F-4	R567	C-1
CL502	F-5	R568	C-1
CL504	F-5	R566	D-5
CL505	A-2	R607	D-4
CL508	A-3	R609	D-1
CL509	A-3	R610	D-1
DIODES		R613	D-1
D501	E-4	R619	D-1
D502	A-1	R620	D-1
D553	E-2	R851	E-3
ICS		R852	E-3
IC501	C-2	R853	E-3
IC503	B-3	SWITCHES	
IC561	D-5	SW501	A-3
COILS		SW502	A-3
L501	B-1	SW504	A-3
L561	B-4	SW505	A-2
L562	B-4	SW506	E-1
L851	E-3	SW507	A-2
L853	D-4	SW510	A-3
TRANSISTORS		VARIABLE RESISTORS	
Q501	E-2	VR501	B-1
Q503	A-3	CRYSTAL OSCILLATORS	
Q504	A-2	X501	E-2
Q505	A-1	X502	E-2
Q551	E-3	MISCELLANEOUS	
Q552	E-2	FP562	B-5
RESISTORS		RS501	B-2
TEST POINTS			
R501	C-1	TP501	B-2
R502	C-1	TP502	D-1
R503	C-1	TP502	D-1
R504	C-1	TP506	B-2
R505	C-1	TP507	A-2
R506	C-1	TP508	D-1

Main 2/5 Schematic Diagram



Comparison Chart of Models and Marks

MODEL	MARK
VR130/02	AF
VR130/07	AG
VR130/39	AH
VR130/58	AI

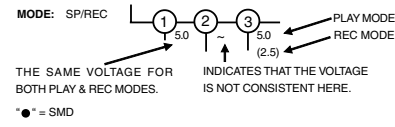


MAIN 2/5 Schematic Diagram Parts Location Guide

Ref No.	Position
<b>CAPACITORS</b>	
C151	J-2
C152	K-2
C154	K-2
C155	K-2
C156	K-2
C157	K-2
C158	K-2
C159	K-2
C701	J-5
C702	J-5
C703	J-5
C704	J-4
C706	J-4
C707	J-4
C708	J-4
C709	K-4
C710	J-4
C712	I-4
C713	I-4
C715	J-4
<b>CONNECTORS</b>	
CL151	L-3
CL152	L-2
CN701	L-4
<b>DIODES</b>	
D151	K-2
D152	K-2
D153	K-2
D155	K-2
D157	K-2
D701	I-4
<b>IC</b>	
IC151	J-2
<b>COILS</b>	
L701	I-5
L702	J-4
L703	J-5
L704	I-4
L705	K-4
<b>TRANSISTORS</b>	
Q151	J-2
Q152	K-2
Q153	L-2
<b>RESISTORS</b>	
R151	J-2
R153	K-2
R154	K-2
R155	J-2
R157	K-2
R158	K-2
R159	K-2
R410	H-1
R701	I-4
R702	I-4
R703	I-4
R704	I-4
R705	I-4
R706	J-4
R709	K-4
<b>MISCELLANEOUS</b>	
J912	J-4
J913	J-4
J984	I-3
TU701	J-5
<b>TEST POINT</b>	
TP751	I-2

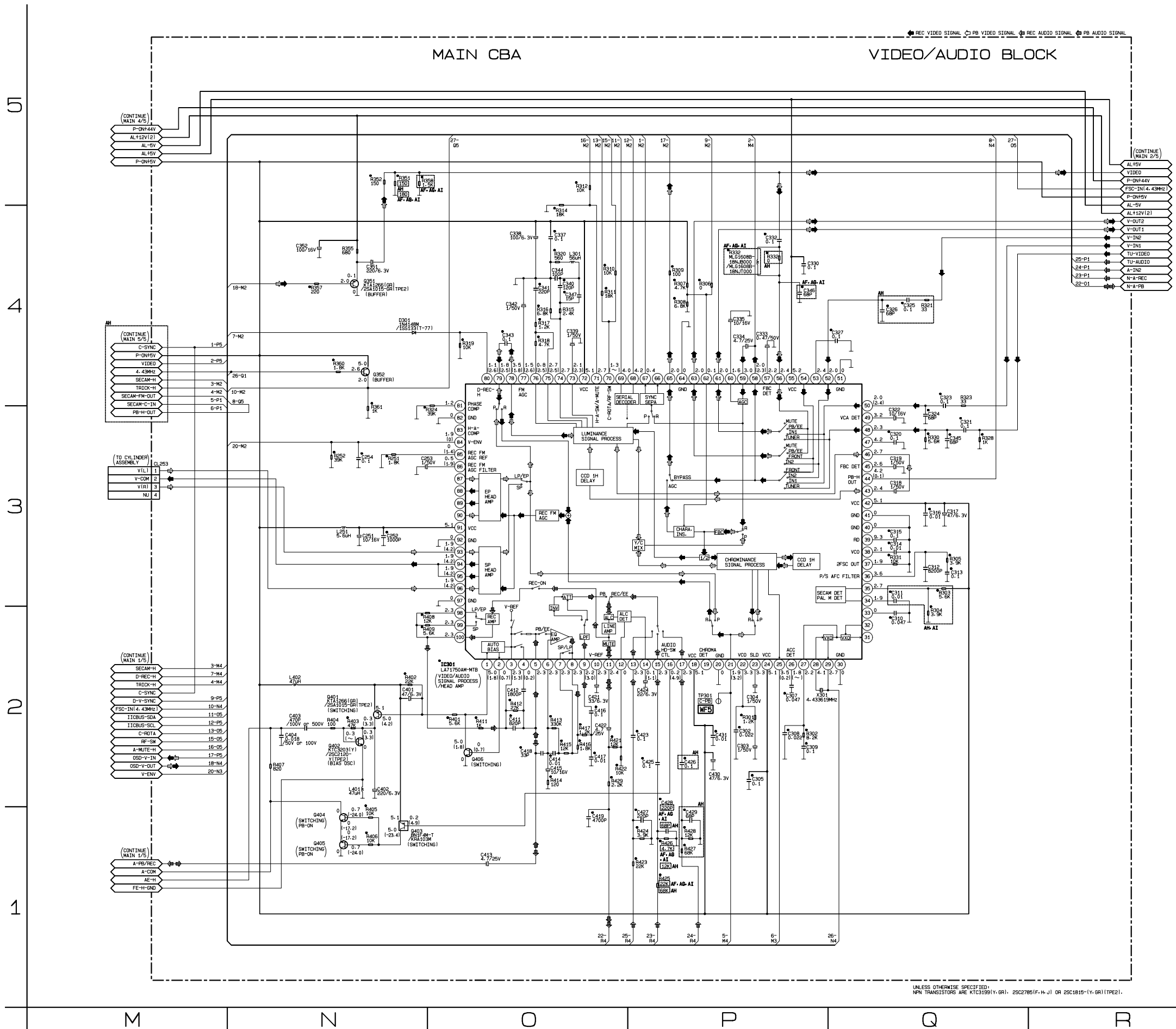
UNLESS OTHERWISE SPECIFIED:  
NPN TRANSISTORS ARE KTC3199(Y, GR), 2SC2785(F, H, J) OR 2SC1815-(Y, GR) (1PE2).

Main 3/5 Schematic Diagram



Comparison Chart of Models and Marks

MODEL	MARK
VR130/02	AF
VR130/07	AG
VR130/39	AH
VR130/58	AI



MAIN 3/5 Schematic Diagram Parts Location Guide

Ref No.	Position	Ref No.	Position	Ref No.	Position
CAPACITORS					
C251	N-3	C412	O-2	R311	O-4
C252	N-3	C413	O-1	R312	O-5
C253	O-3	C414	O-2	R314	O-4
C254	N-3	C415	O-2	R315	O-4
C302	P-2	C416	O-2	R316	O-4
C303	P-2	C417	O-2	R317	O-4
C304	P-2	C418	O-2	R318	O-4
C305	P-2	C419	O-1	R319	O-4
C307	P-2	C421	O-2	R320	O-4
C308	P-2	C422	O-2	R321	O-4
C309	P-2	C423	P-2	R323	O-4
C310	Q-2	C424	P-2	R324	O-3
C311	Q-3	C425	P-2	R328	Q-3
C312	Q-3	C426	P-2	R330	Q-3
C313	Q-3	C427	P-1	R331	Q-3
C314	Q-3	C428	P-1	R332	P-4
C315	Q-3	C429	P-1	R351	N-5
C316	Q-3	C430	P-2	R352	N-5
C317	Q-3	C431	P-2	R355	N-4
C318	Q-3	CONNECTORS		R357	N-4
C319	Q-3	CL253	M-3	R358	O-5
C320	Q-3	DIODE		R360	N-4
C321	Q-3	D301	N-4	R361	N-3
C322	Q-3	ICS		R401	O-2
C323	Q-4	IC301	O-2	R402	N-2
C324	Q-3	COILS		R403	N-2
C325	Q-4	L251	N-3	R404	N-2
C326	Q-4	L301	O-4	R405	N-1
C327	Q-4	L401	N-2	R406	N-1
C330	P-4	L402	N-2	R407	N-2
C332	P-4	TRANSISTORS		R408	O-2
C333	P-4	Q351	N-4	R409	O-2
C334	P-4	Q352	N-4	R411	O-2
C335	P-4	Q401	N-2	R412	O-2
C337	O-4	Q402	N-2	R413	O-2
C338	O-4	Q403	N-1	R414	O-2
C339	O-4	Q404	N-1	R415	O-2
C340	O-4	Q405	N-1	R416	O-2
C341	O-4	Q406	O-2	R417	O-2
C342	O-4	RESISTORS		R421	O-2
C343	O-4	R251	O-3	R422	O-2
C344	O-4	R252	N-3	R423	P-1
C345	Q-4	R301	P-2	R424	P-1
C346	P-4	R302	P-2	R425	P-1
C347	O-4	R303	Q-3	R426	P-1
C351	N-4	R304	Q-2	R427	P-1
C352	N-4	R305	Q-3	R428	P-1
C401	N-2	R306	P-4	R429	O-2
C402	N-2	R307	P-4	CRYSTAL OSCILLATORS	
C403	N-2	R308	P-4	X301	P-2
C404	N-2	R309	P-4	TEST POINT	
C411	O-2	R310	O-4	TP301	P-2

UNLESS OTHERWISE SPECIFIED:  
NPN TRANSISTORS ARE KTC1399(I-Y), 2SC2785(F-H-J) OR 2SC1815-(Y-GR)11PE21.

Main 4/5 Schematic Diagram

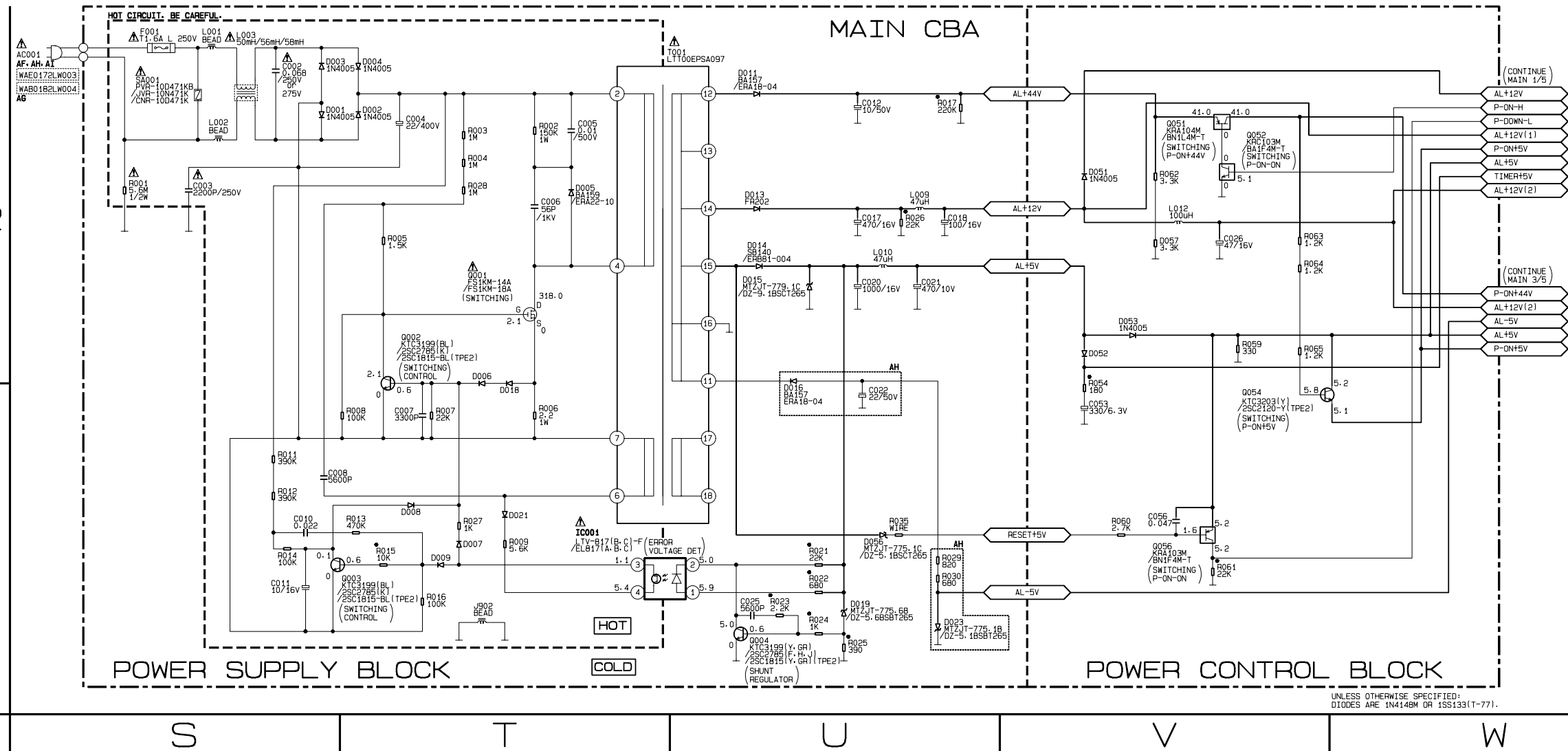
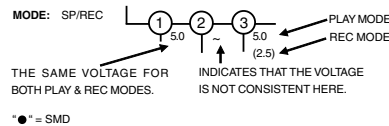
Comparison Chart of Models and Marks

MODEL	MARK
VR130/02	AF
VR130/07	AG
VR130/39	AH
VR130/58	AI

NOTE:  
THE VOLTAGE FOR PARTS IN HOT CIRCUIT IS MEASURED USING HOT GND AS A COMMON TERMINAL.

**CAUTION !**  
Fixed voltage (or Auto voltage selectable ) power supply circuit is used in this unit.  
If Main Fuse (F001) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.  
Otherwise it may cause some components in the power supply circuit to fail.

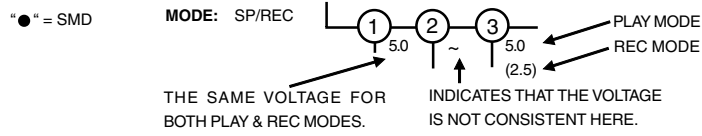
**CAUTION**  
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REPLACE ONLY WITH THE SAME TYPE FUSE.



MAIN 4/5 Schematic Diagram Parts Location Guide

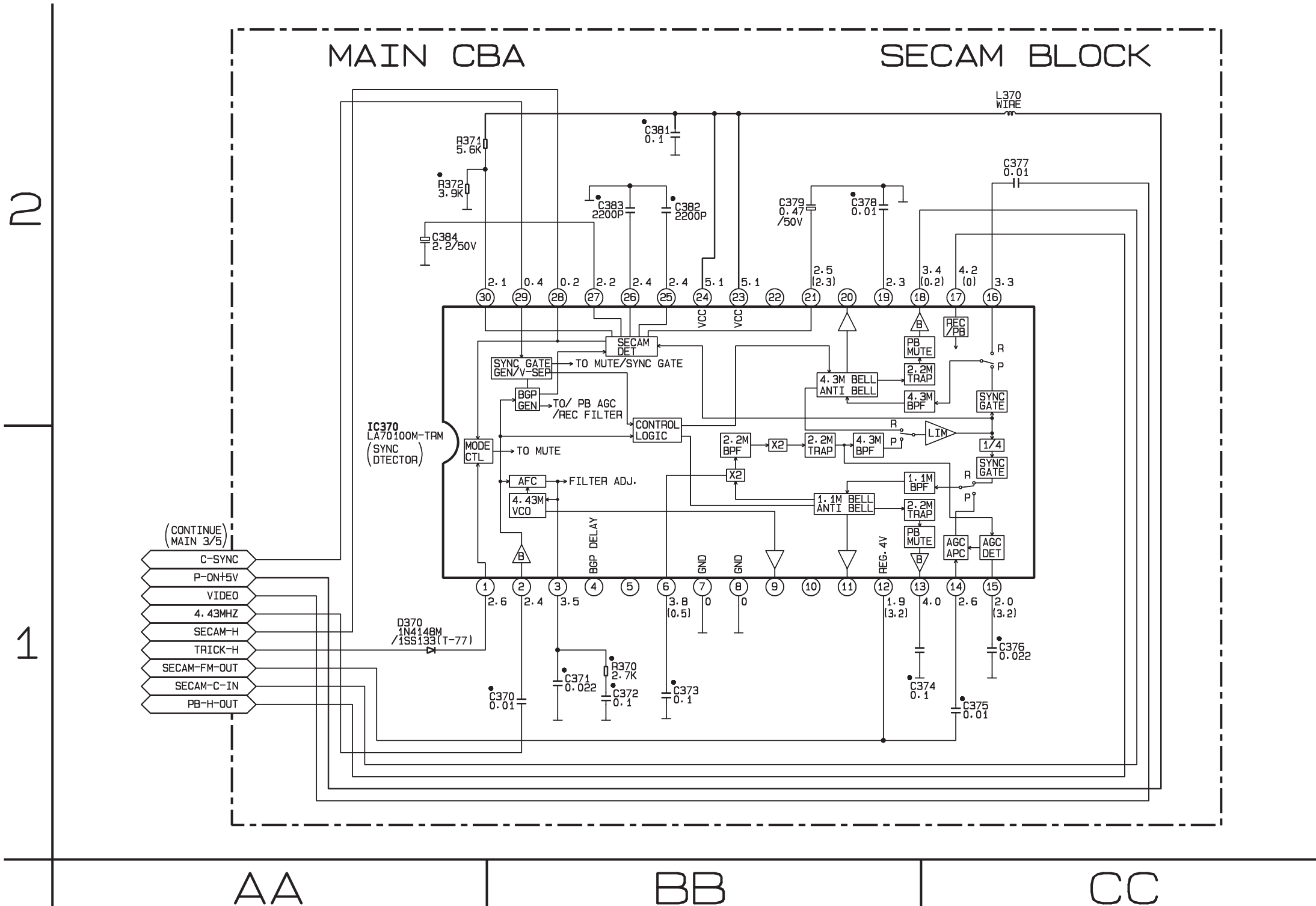
Ref No.	Position	Ref No.	Position
CAPACITORS		COILS	
C002	S-2	L012	T-1
C003	S-2	TRANSISTORS	
C004	T-2	Q001	T-2
C005	T-2	Q002	T-2
C006	T-2	Q003	T-1
C007	T-1	Q004	U-1
C008	S-1	Q051	V-2
C010	S-1	Q052	V-2
C011	S-1	Q054	V-1
C012	U-2	Q056	V-1
C017	U-2	RESISTORS	
C018	U-2	R001	S-2
C020	U-2	R002	T-2
C021	U-2	R003	T-2
C022	U-1	R004	T-2
C025	U-1	R005	T-2
C026	V-2	R006	T-1
C053	V-1	R007	T-1
C056	V-1	R008	T-1
DIODES		R009	T-1
D001	S-2	R011	S-1
D002	T-2	R012	S-1
D003	S-2	R013	T-1
D004	T-2	R014	S-1
D005	T-2	R015	T-1
D006	T-2	R016	T-1
D007	T-1	R017	U-2
D008	T-1	R021	U-1
D009	T-1	R022	U-1
D011	U-2	R023	U-1
D013	U-2	R024	U-1
D014	U-2	R025	U-1
D015	U-2	R026	U-2
D016	U-1	R027	T-1
D018	T-1	R028	T-2
D019	U-1	R029	U-1
D021	T-1	R030	U-1
D023	U-1	R035	U-1
D051	V-2	R054	V-2
D052	V-2	R059	V-2
D053	V-2	R060	V-1
D056	U-1	R061	V-1
D057	V-2	R062	V-2
ICS		R063	V-2
IC001	T-1	R064	V-2
COILS		R065	V-2
J902	T-1	MISCELLANEOUS	
L001	S-2	AC001	S-2
L002	S-2	F001	S-2
L003	S-2	SA001	S-2
L009	U-2	T001	T-2
L010	U-2		

# Main 5/5 Schematic Diagram ( AH )



## Comparison Chart of Models and Marks

MODEL	MARK
VR130/02	AF
VR130/07	AG
VR130/39	AH
VR130/58	AI



## MAIN 5/5 Schematic Diagram Parts Location Guide ( AH )

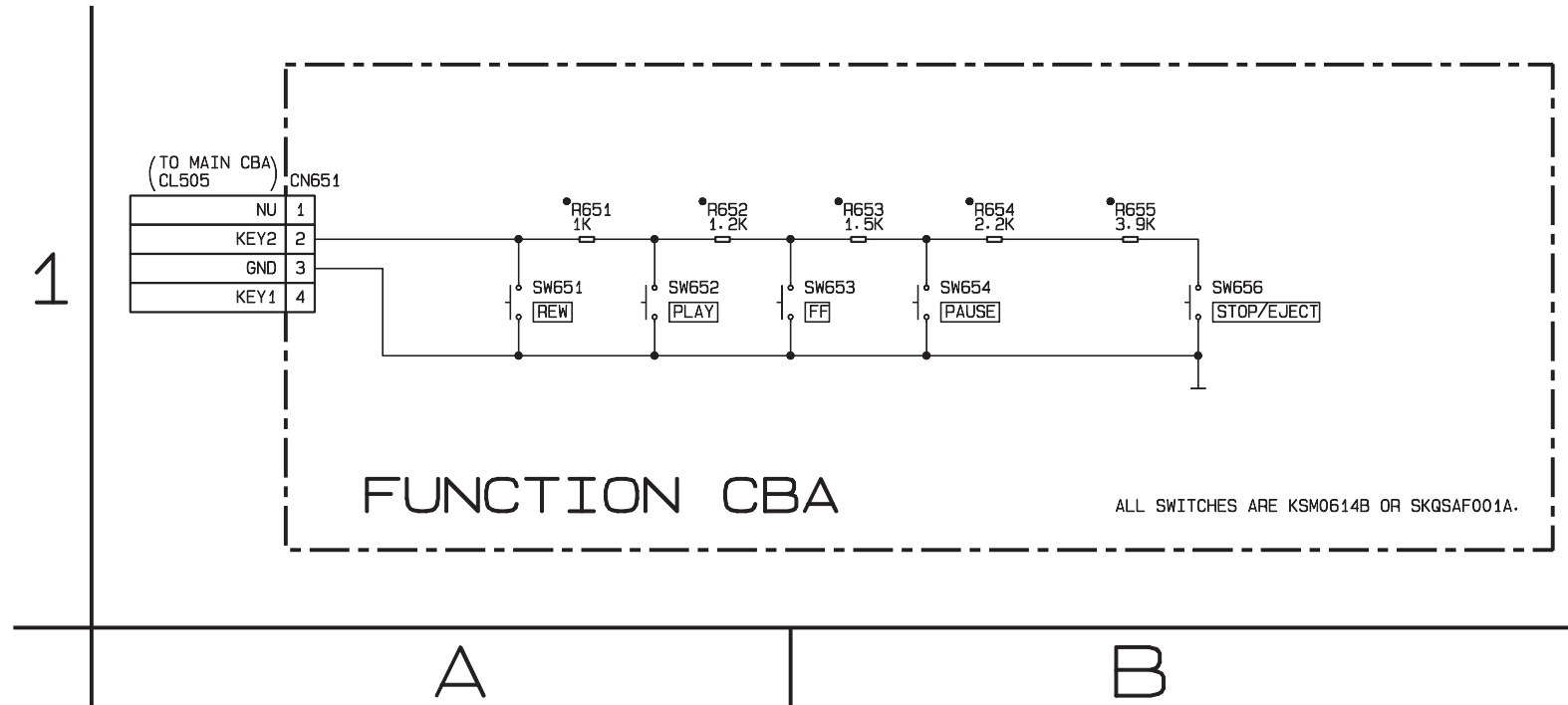
Ref No.	Position
CAPACITORS	
C370	BB-1
C371	BB-1
C372	BB-1
C373	BB-1
C374	BB-1
C375	CC-1
C376	CC-1
C377	CC-2
C378	BB-2
C379	BB-2
C381	BB-2
C382	BB-2
C383	BB-2
C384	AA-2
DIODE	
D370	AA-1
IC	
IC370	AA-1
COILS	
L370	CC-2
RESISTORS	
R370	BB-1
R371	AA-2
R372	AA-2

# Function Schematic Diagram

## Comparison Chart of Models and Marks

MODEL	MARK
VR130/02	AF
VR130/07	AG
VR130/39	AH
VR130/58	AI

• = SMD



ALL SWITCHES ARE KSM0614B OR SKQSAF001A.

HC260SCF

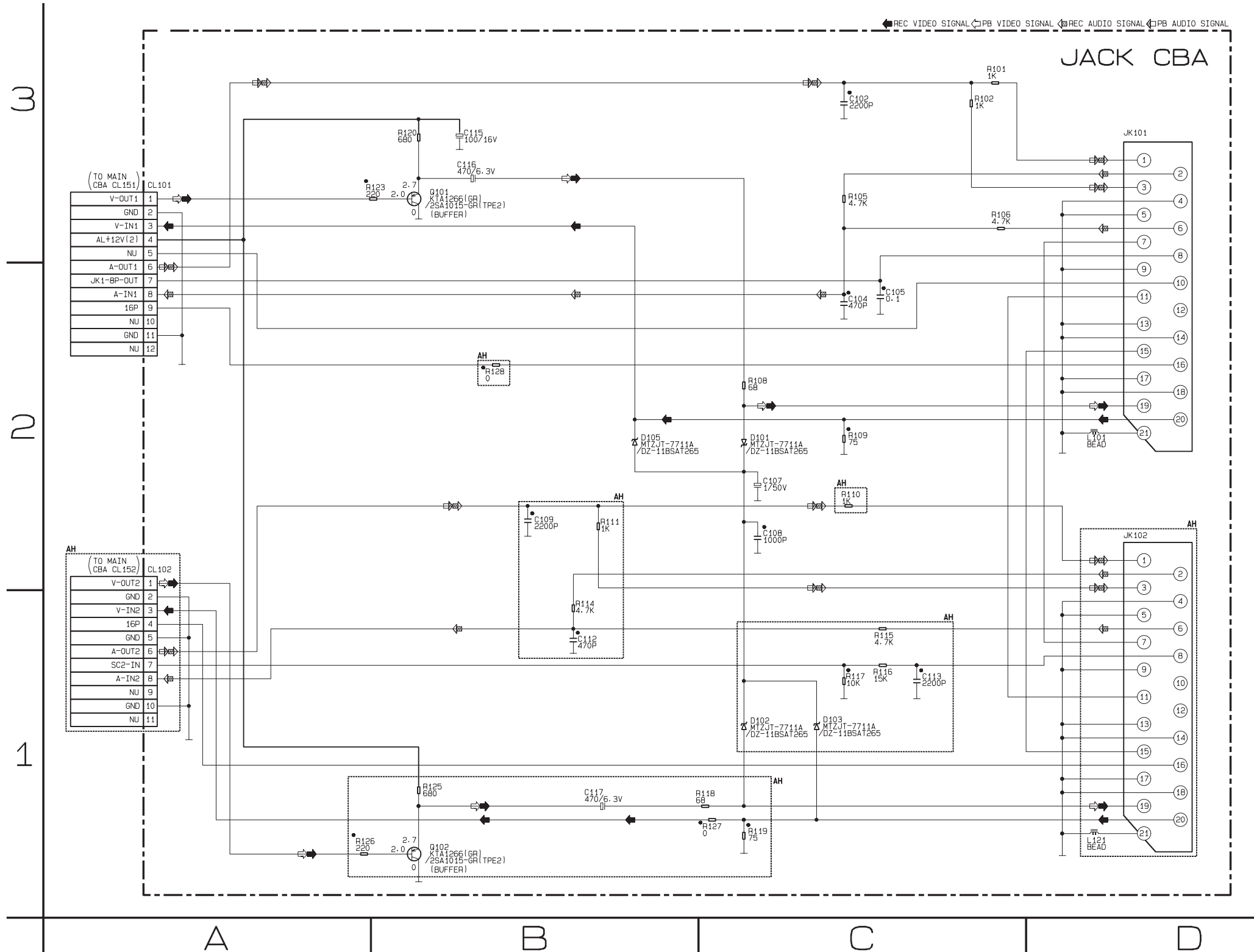
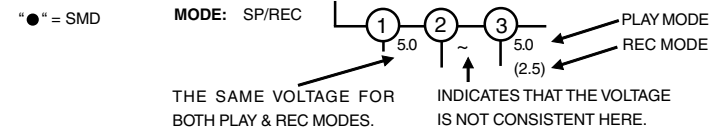
Function Schematic Diagram  
Parts Location Guide

Ref No.	Position
CONNECTOR	
CN651	A-1
RESISTORS	
R651	A-1
R652	A-1
R653	B-1
R654	B-1
R655	B-1
SWITCHES	
SW651	A-1
SW652	A-1
SW653	B-1
SW654	B-1
SW656	B-1

# Jack Schematic Diagram

## Comparison Chart of Models and Marks

MODEL	MARK
VR130/02	AF
VR130/07	AG
VR130/39	AH
VR130/58	AI



Jack Schematic Diagram Parts Location Guide

Ref No.	Position	Ref No.	Position
CAPACITORS		RESISTORS	
C102	C-3	R101	C-3
C104	C-2	R102	C-3
C105	C-2	R105	C-3
C107	C-2	R106	C-3
C108	C-2	R108	C-2
C109	B-2	R109	C-2
C112	B-1	R110	C-2
C113	C-1	R111	B-2
C115	B-3	R114	B-1
C116	B-3	R115	C-1
C117	B-1	R116	C-1
CONNECTORS		R117	C-1
CL101	A-3	R118	C-1
CL102	A-2	R119	C-1
DIODES		R120	B-3
D101	C-2	R123	B-3
D102	C-1	R125	B-1
D103	C-1	R126	A-1
D105	B-2	R127	C-1
COILS		R128	B-2
L101	D-2	MISCELLANEOUS	
L121	D-1	JK101	D-3
TRANSISTORS		JK102	D-2
Q101	B-3		
Q102	B-1		



# Main CBA Parts Location Guide

Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position
CAPACITORS		CAPACITORS		CAPACITORS		CONNECTORS		COILS		RESISTORS		RESISTORS		RESISTORS		RESISTORS	
C002	G-3	C326	D-3	C428	D-4	CL151	A-3	L001	G-4	R007	G-3	R319	C-3	R511	C-2	R853	C-1
C003	F-3	C327	D-3	C429	D-3	CL152	A-3	L002	F-3	R008	G-3	R320	C-3	R513	C-2	SWITCHES	
C004	G-3	C330	D-3	C430	D-3	CL253	C-4	L003	F-3	R009	F-2	R321	D-3	R514	C-2	SW501	B-1
C005	G-3	C332	C-3	C431	C-3	CL501	B-4	L009	G-1	R011	G-3	R323	D-2	R516	C-1	SW502	B-1
C006	G-2	C333	C-3	C501	E-1	CL502	E-2	L010	G-2	R012	G-3	R324	C-3	R517	C-1	SW504	E-1
C007	F-3	C334	C-3	C502	D-1	CL504	E-4	L012	F-1	R013	F-3	R328	D-3	R518	C-2	SW505	F-1
C008	F-2	C335	C-3	C508	C-1	CL505	F-1	L251	C-3	R014	F-3	R330	D-3	R519	C-2	SW506	C-1
C010	G-3	C337	C-3	C510	C-2	CL508	B-1	L301	C-3	R015	F-3	R331	D-3	R520	E-2	SW507	F-1
C011	G-3	C338	C-3	C511	C-1	CL509	B-1	L370	E-3	R016	F-3	R332	D-3	R521	E-2	VARIABLE RESISTORS	
C012	F-2	C339	C-3	C512	C-1	CN701	A-2	L401	B-4	R017	F-2	R351	C-2	R522	D-2	VR501	A-1
C017	G-2	C340	C-3	C513	C-1	DIODES		L402	D-3	R021	F-2	R352	C-2	R523	C-1	CRYSTAL OSCILLATORS	
C018	G-1	C341	C-3	C514	C-1	D001	G-4	L501	E-1	R022	F-2	R355	C-2	R524	C-1	X301	D-3
C020	G-2	C342	C-3	C515	C-1	D002	G-3	L561	E-1	R023	F-2	R357	D-2	R525	C-1	X501	C-1
C021	G-1	C343	C-3	C516	C-1	D003	G-3	L562	E-1	R024	F-2	R358	C-3	R526	E-1	X502	C-1
C022	F-2	C344	C-3	C517	E-2	D004	G-3	L701	A-4	R025	F-2	R360	D-3	R527	D-1	MISCELLANEOUS	
C025	F-2	C345	D-3	C518	E-2	D005	G-3	L702	A-2	R026	G-2	R361	D-3	R528	A-1	AC001	F-4
C026	F-1	C346	C-3	C519	D-1	D006	G-3	L703	A-2	R027	G-2	R370	E-3	R529	D-2	F001	G-4
C053	F-1	C347	C-3	C520	D-1	D007	F-2	L704	B-2	R028	G-3	R371	E-3	R533	E-2	FP562	D-1
C056	G-1	C351	C-3	C521	D-1	D008	G-3	L705	A-2	R029	F-2	R372	E-3	R534	F-2	J912	A-1
C151	B-3	C352	D-2	C522	D-1	D009	F-3	L851	C-2	R030	F-2	R401	C-4	R535	F-2	J913	A-1
C152	B-2	C370	D-3	C523	E-1	D011	F-2	L853	C-1	R035	G-2	R402	C-4	R536	F-2	J984	A-3
C154	B-3	C371	E-3	C524	E-1	D013	F-2	TRANSISTORS		R054	F-1	R403	B-4	R537	F-1	RS501	C-1
C155	B-2	C372	D-3	C526	E-1	D014	G-2	Q001	G-2	R059	F-1	R404	B-4	R538	E-2	SA001	F-4
C156	C-3	C373	E-3	C527	D-1	D015	G-2	Q002	G-2	R060	G-1	R405	D-4	R539	F-1	T001	G-2
C157	B-4	C374	D-3	C528	D-1	D016	F-2	Q003	F-3	R061	F-1	R406	D-4	R540	B-1	TU701	A-3
C158	B-3	C375	D-3	C530	D-1	D018	G-3	Q004	F-2	R062	F-1	R407	D-4	R541	B-1	TEST POINTS	
C159	B-2	C376	D-3	C531	C-1	D019	F-2	Q051	F-2	R063	F-1	R408	C-3	R542	B-1	TP301	G-1
C251	C-3	C377	D-3	C535	D-2	D021	F-2	Q052	F-2	R064	F-1	R409	C-3	R543	E-1	TP501	G-1
C252	C-3	C378	D-3	C538	A-3	D023	F-2	Q054	F-1	R065	F-1	R410	A-3	R544	E-1	TP502	B-1
C253	C-3	C379	E-4	C540	E-1	D051	F-2	Q056	F-1	R151	B-2	R411	C-4	R545	F-1	TP506	A-2
C254	C-3	C381	E-3	C541	E-1	D052	F-1	Q151	B-3	R153	B-2	R412	D-4	R546	G-1	TP507	G-1
C302	D-3	C382	E-4	C561	E-1	D053	G-1	Q152	B-2	R154	B-2	R413	D-4	R547	B-1	TP508	C-1
C303	D-3	C383	E-3	C622	D-2	D056	G-2	Q153	B-2	R155	B-3	R414	D-4	R551	C-2	TP751	B-2
C304	D-3	C384	E-4	C701	A-3	D057	F-1	Q351	C-2	R157	B-2	R415	D-3	R552	C-2		
C305	D-3	C401	C-4	C702	A-4	D151	B-4	Q352	D-3	R158	B-2	R416	D-3	R555	C-1		
C307	D-3	C402	C-4	C703	A-3	D152	A-3	Q401	C-4	R251	C-3	R417	D-3	R556	C-1		
C308	D-3	C403	C-4	C704	A-3	D153	B-3	Q402	B-4	R252	C-3	R421	D-4	R557	C-1		
C309	D-3	C404	C-4	C706	A-2	D155	A-3	Q403	D-4	R301	D-3	R422	D-4	R558	C-1		
C310	D-3	C411	D-4	C707	A-2	D301	C-3	Q404	D-4	R302	D-3	R423	D-3	R566	E-1		
C311	D-3	C412	D-4	C708	A-2	D370	D-3	Q405	D-4	R303	D-3	R424	D-3	R607	D-2		
C312	D-3	C413	D-4	C709	A-2	D501	E-1	Q406	D-4	R304	D-3	R425	D-4	R609	C-1		
C313	D-3	C414	D-4	C710	A-2	D502	D-2	Q501	C-1	R305	D-3	R426	D-4	R610	C-1		
C314	D-3	C415	D-4	C712	A-2	D553	C-2	Q503	D-2	R306	C-2	R427	D-4	R613	B-1		
C315	D-3	C416	D-3	C713	A-2	D701	A-2	Q504	F-3	R307	C-3	R428	D-4	R619	C-2		
C316	D-3	C417	D-3	C715	A-1	ICS		Q505	A-3	R308	C-3	R429	D-3	R620	C-2		
C317	D-3	C418	D-4	C851	C-2	IC001	F-2	Q551	C-2	R309	C-3	R501	C-1	R701	A-2		
C318	D-3	C419	D-3	C852	C-2	IC151	C-3	Q552	C-2	R310	B-2	R502	B-1	R702	A-1		
C319	D-3	C421	D-4	C853	D-2	IC301	C-3	RESISTORS		R311	B-2	R503	C-1	R703	A-1		
C320	D-3	C422	D-3	C854	D-2	IC370	E-3	R001	F-3	R312	C-2	R504	C-1	R704	B-1		
C321	D-3	C423	D-3	C855	C-1	IC501	D-1	R002	G-3	R314	C-3	R505	C-1	R705	B-1		
C322	D-3	C424	D-4	C856	C-1	IC503	C-1	R003	G-3	R315	C-3	R506	C-1	R706	A-1		
C323	D-2	C425	D-3	C858	D-2	IC561	E-1	R004	G-3	R316	C-3	R507	C-1	R709	A-2		
C324	D-3	C426	D-3	C859	C-1	COILS		R005	G-3	R317	C-3	R509	C-1	R851	C-2		
C325	D-3	C427	D-3	C862	D-2	J902	F-3	R006	G-3	R318	C-3	R510	C-1	R852	D-2		

Main CBA Top View

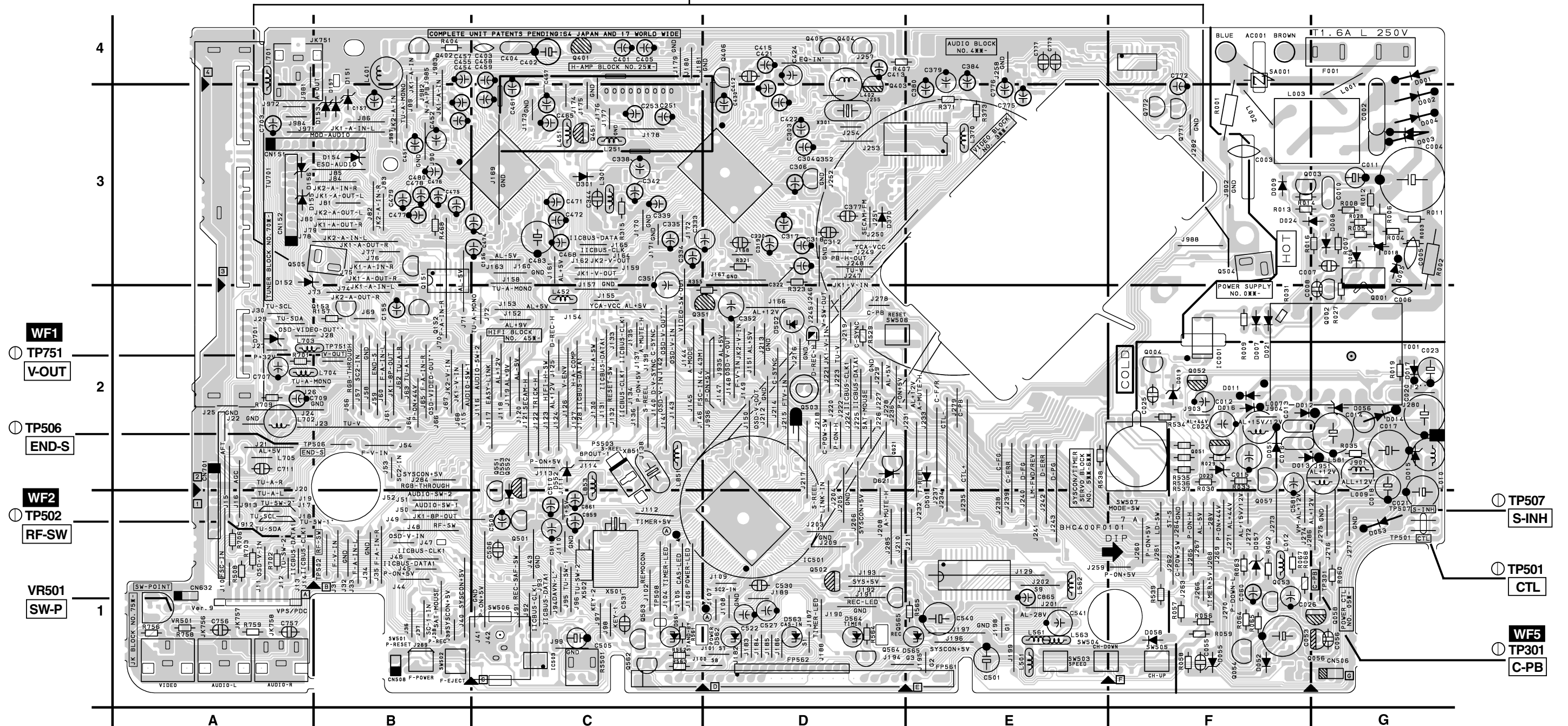
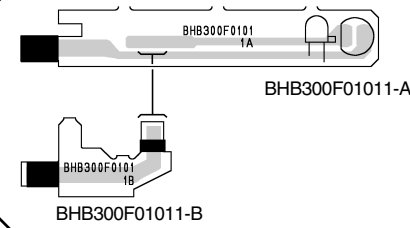
BECAUSE A HOT CHASSIS GROUND IS PRESENT IN THE POWER SUPPLY CIRCUIT, AN ISOLATION TRANSFORMER MUST BE USED. ALSO, IN ORDER TO HAVE THE ABILITY TO INCREASE THE INPUT SLOWLY, WHEN TROUBLESHOOTING THIS TYPE POWER SUPPLY CIRCUIT, A VARIABLE ISOLATION TRANSFORMER IS REQUIRED.

**CAUTION**  
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH THE SAME TYPE FUSE.

**CAUTION !**  
Fixed voltage (or Auto voltage selectable ) power supply circuit is used in this unit. If Main Fuse (F001) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.

**NOTE :**  
The voltage for parts in hot circuit is measured using hot GND as a common terminal.

Sensor CBA Top View



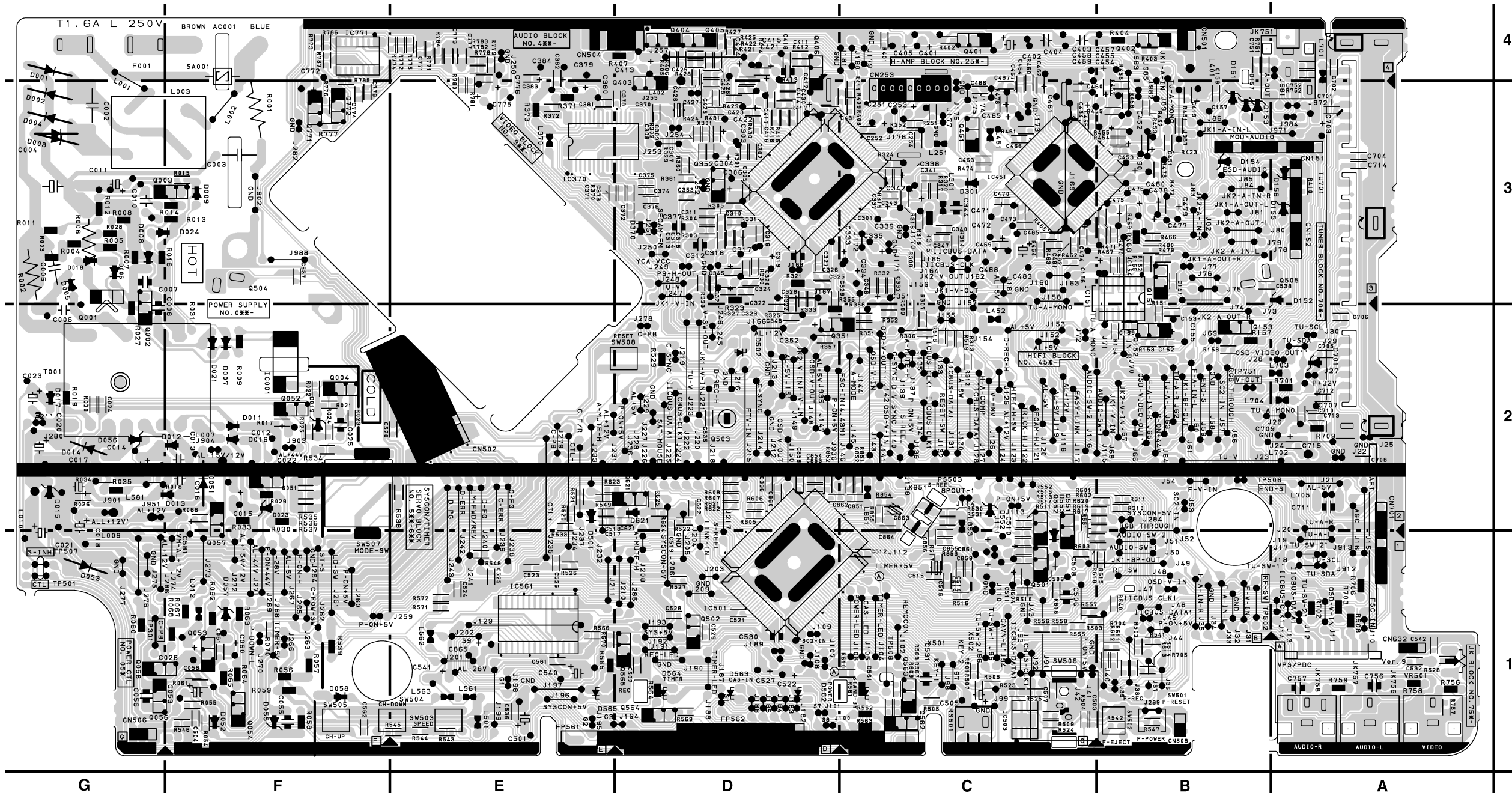
Main CBA Bottom View

BECAUSE A HOT CHASSIS GROUND IS PRESENT IN THE POWER SUPPLY CIRCUIT, AN ISOLATION TRANSFORMER MUST BE USED. ALSO, IN ORDER TO HAVE THE ABILITY TO INCREASE THE INPUT SLOWLY, WHEN TROUBLESHOOTING THIS TYPE POWER SUPPLY CIRCUIT, A VARIABLE ISOLATION TRANSFORMER IS REQUIRED.

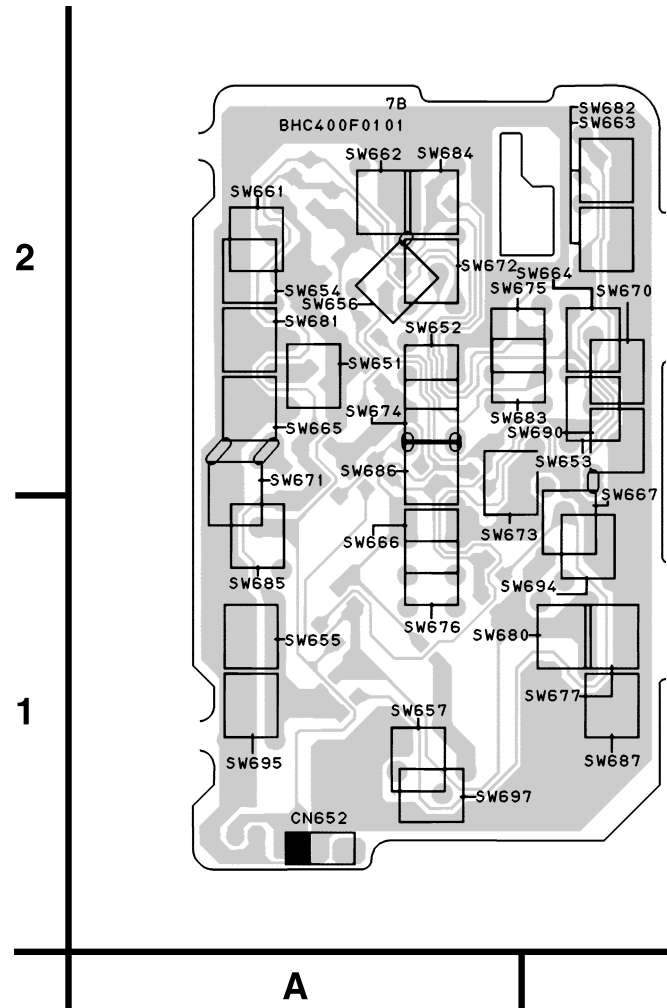
**CAUTION**  
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH THE SAME TYPE FUSE.

**CAUTION !**  
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit. If Main Fuse (F001) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.

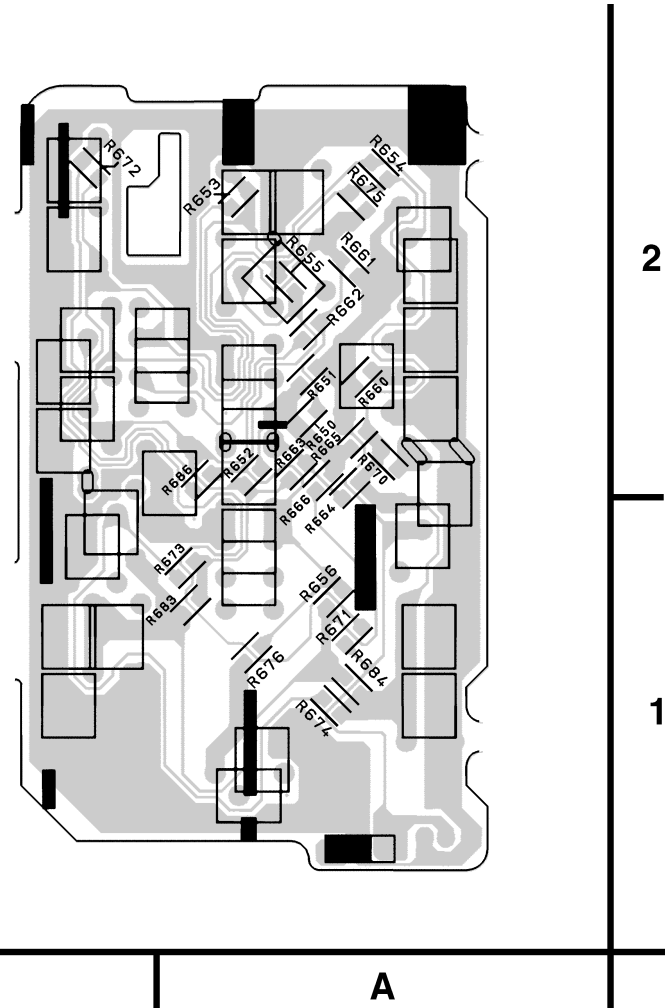
**NOTE:**  
The voltage for parts in hot circuit is measured using hot GND as a common terminal.



Function CBA Top View



Function CBA Bottom View

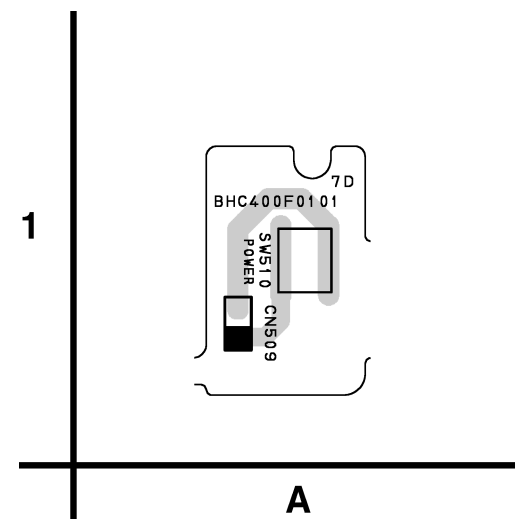


Function CBA Parts Location Guide

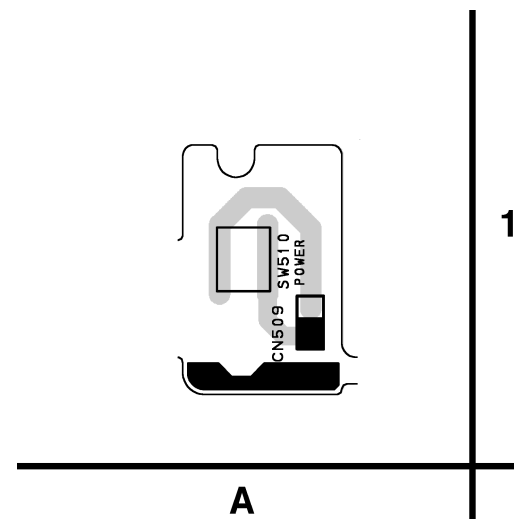
Ref No.	Position	Ref No.	Position
CONNECTORS		SWITCHES	
CN651	A-1	SW651	A-2
RESISTORS		SW652	A-2
R651	A-2	SW653	B-2
R652	A-1	SW654	A-2
R653	A-2	SW656	A-2
R654	A-2		
R655	A-2		

BHC400F01017-B

Power SW CBA Top View

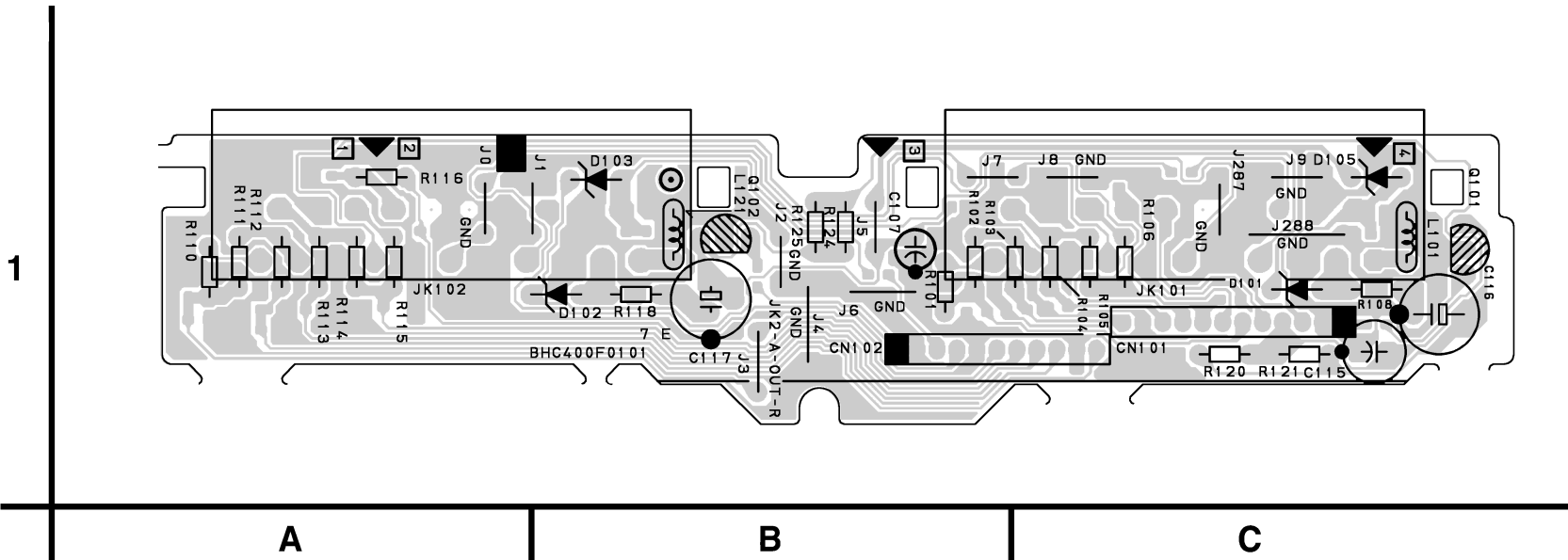


Power SW CBA Bottom View

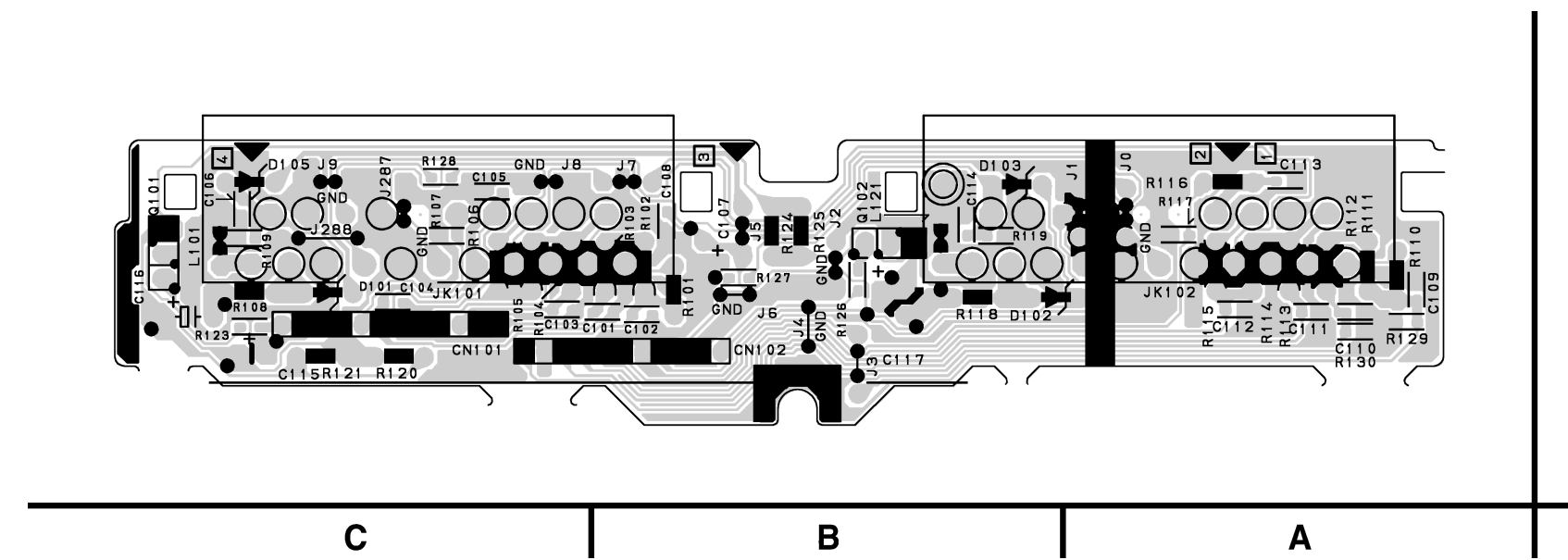


BHC400F01017-D

# Jack CBA Top View



# Jack CBA Bottom View



JACK CBA Parts Location Guide

Ref No.	Position	Ref No.	Position
CAPACITORS		RESISTORS	
C102	B-1	R101	B-1
C104	C-1	R102	B-1
C105	C-1	R105	C-1
C107	B-1	R106	C-1
C108	B-1	R108	C-1
C109	A-1	R109	C-1
C112	A-1	R110	A-1
C113	A-1	R111	A-1
C115	C-1	R114	A-1
C116	C-1	R115	A-1
C117	B-1	R116	A-1
CONNECTORS		R117	A-1
CL101	C-1	R118	B-1
CL102	B-1	R119	B-1
DIODES		R120	C-1
D101	C-1	R123	C-1
D102	B-1	R125	B-1
D103	B-1	R126	B-1
D105	C-1	R127	B-1
COILS		R128	C-1
L101	C-1	MISCELLANEOUS	
L121	B-1	JK101	C-1
TRANSISTORS		JK102	A-1
Q101	C-1		
Q102	B-1		

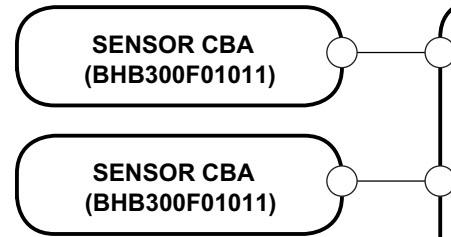
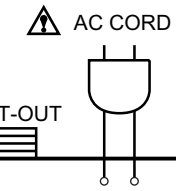
BHC400F01017-E

# WIRING DIAGRAM

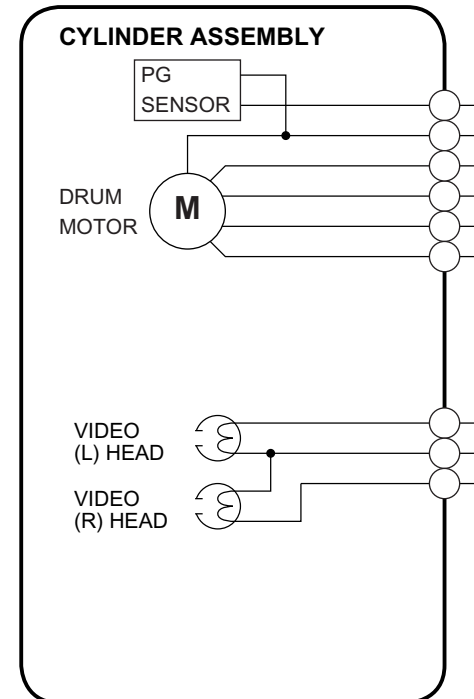
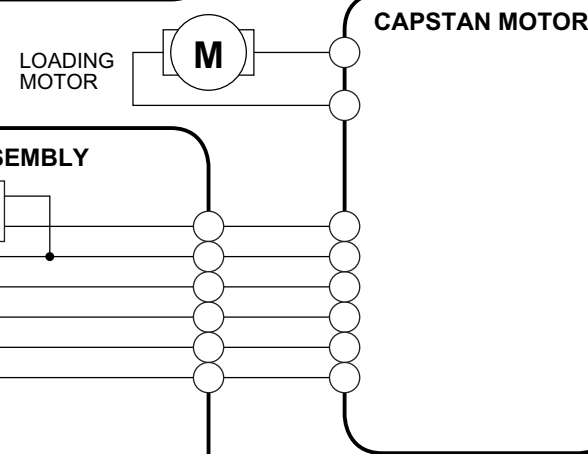
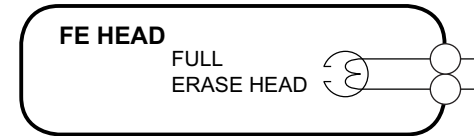
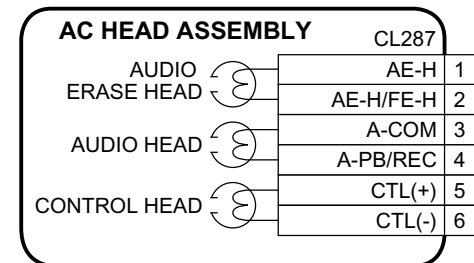
## Comparison Chart of Models & Marks

Model	Mark
VR130/02	AF
VR130/07	AG
VR130/39	AH
VR130/58	AI

**NOTE FOR WIRE CONNECTORS:**  
 1. PREFIX SYMBOL "CN" MEANS CONNECTOR.  
 (CAN DISCONNECT AND RECONNECT.)  
 2. PREFIX SYMBOL "CL" MEANS WIRE-SOLDER  
 HOLES OF THE PCB.  
 (WIRE IS SOLDERED DIRECTLY.)



### (DECK ASSEMBLY)



Terminal	Label
1	AE-H
2	AE-H/FE-H
3	A-COM
4	A-PB/REC
5	CTL(+)
6	CTL(-)

Terminal	Label
2	FE-H
1	FE-H GND

Terminal	Label
12	C-F/R
11	AL+12V
10	AL+12V
9	P-ON+5V
8	GND
7	C-FG
6	C-CONT
5	GND
4	D-FG
3	LM-FWD/REV
2	D-CONT
1	D-PG

Terminal	Label
1	V(L)
2	V-COM
3	V(R)
4	NU

**MAIN CBA (BHC400F01017A)**

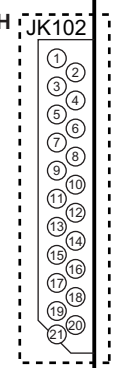
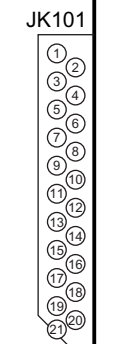
Terminal	Label
1	V-OUT1
2	GND
3	V-IN1
4	AL+12V(2)
5	NU
6	A-OUT1
7	JK1-8P-OUT
8	A-IN1
9	16P
10	NU
11	GND
12	NU

Terminal	Label
1	V-OUT1
2	GND
3	V-IN1
4	AL+12V(2)
5	NU
6	A-OUT1
7	JK1-8P-OUT
8	A-IN1
9	16P
10	NU
11	GND
12	NU

Terminal	Label
1	V-OUT2
2	GND
3	V-IN2
4	16P
5	GND
6	A-OUT2
7	SC2-IN
8	A-IN2
9	NU
10	GND
11	NU

Terminal	Label
1	V-OUT2
2	GND
3	V-IN2
4	16P
5	GND
6	A-OUT2
7	SC2-IN
8	A-IN2
9	NU
10	GND
11	NU

**JACK CBA (BHC400F01017E)**



Terminal	Label
1	KEY-1
2	GND

Terminal	Label
1	KEY-1
2	GND

**POWER SW CBA (BHC400F01017D)**

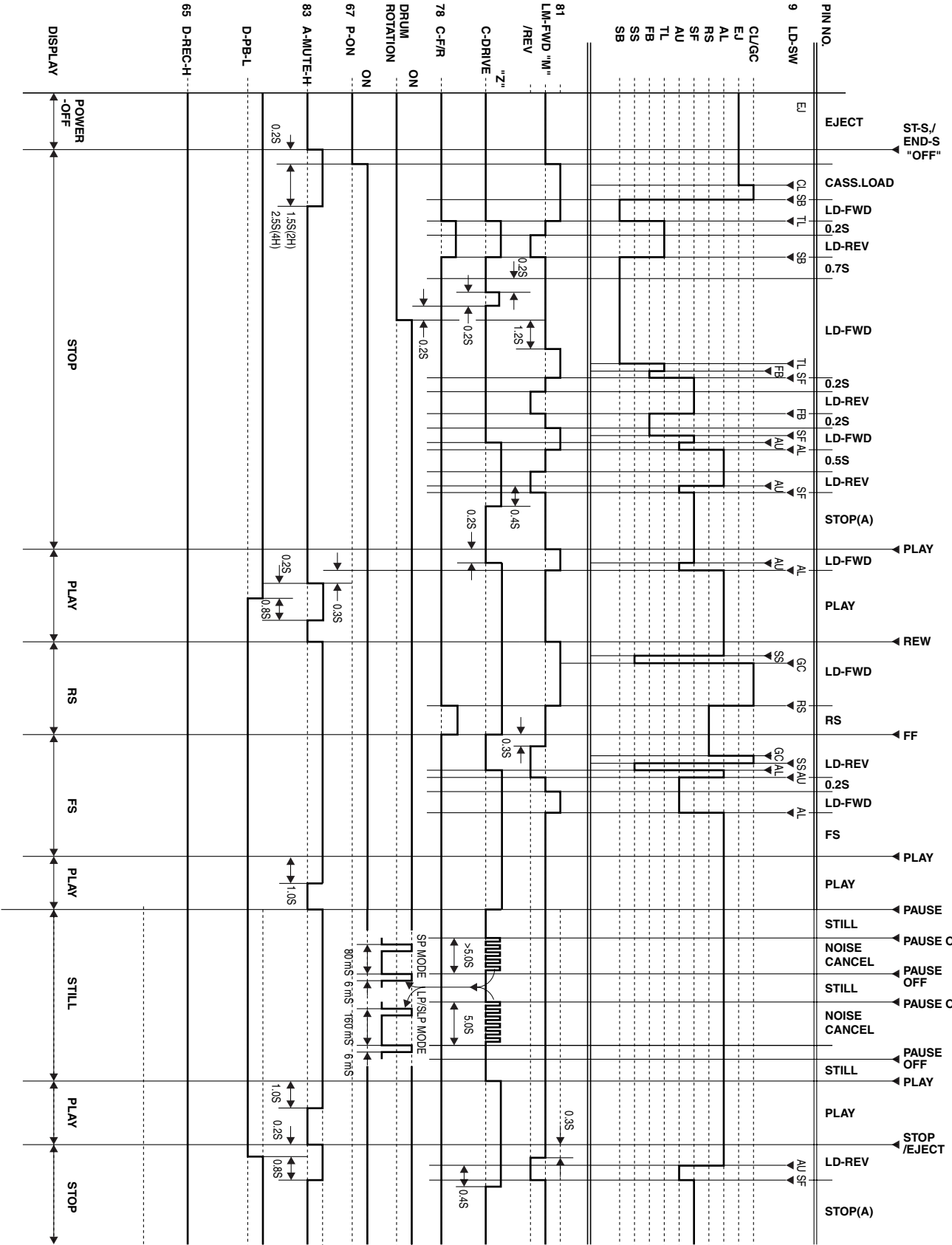
Terminal	Label
1	NU
2	KEY2
3	GND
4	KEY1

Terminal	Label
1	NU
2	KEY2
3	GND
4	KEY1

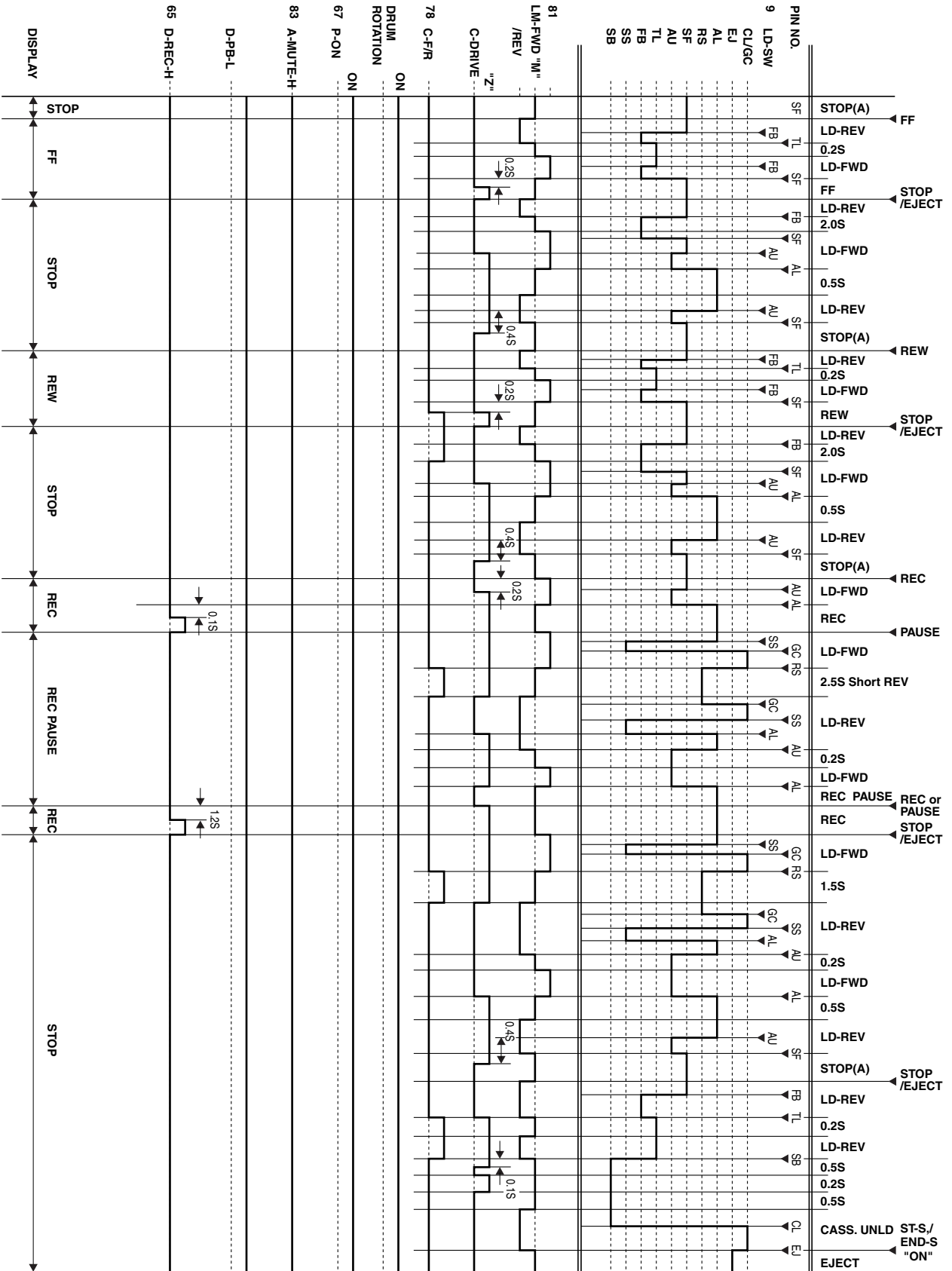
**FUNCTION CBA (BHC400F01017B)**

[ VR130/02, VR130/07, VR130/39, VR130/58 ]

1. EJECT (POWER OFF) -> CASSETTE IN (POWER ON) -> STOP(B) -> STOP(A) -> PLAY -> RS -> FS -> PLAY -> STILL -> PLAY -> STOP(A)



2. STOP(A) -> FF -> STOP(A) -> REW -> STOP(A) -> REC -> PAUSE -> PAUSE or REC -> STOP(A) -> EJECT





[ VR130/02, VR130/07, VR130/39, VR130/58 ]

Comparison Chart of Models and Marks

Model	Mark
VR130/02	AF
VR130/07	AG
VR130/39	AH
VR130/58	AI

IC501( SERVO / SYSTEM CONTROL IC )

“H” ≥ 4.5V, “L” ≤ 1.0V

Pin No.	Mark	IN/OUT	Signal Name	Function	Active Level
1	AF, AG, AI	-	N.U.	Not Used	-
	AH	IN	SC2-IN	Input Signal from Pin 8 of SCART2	A/D
2		IN	PG-DELAY	Video Head Switching Pulse Signal Adjusted Voltage	A/D
3		IN	POW-SAF	P-ON Power Detection Input Signal	A/D
4		IN	END-S	Tape End Position Detect Signal	A/D
5		IN	AFC	Automatic Frequency Control Signal	A/D
6		IN	V-ENV	Video Envelope Comparator Signal	A/D
7		IN	KEY-1	Key Scan Input Signal 1	A/D
8		IN	KEY-2	Key Scan Input Signal 2	A/D
9		IN	LD-SW	Deck Mode Position Detector Signal	A/D
10		OUT	ST-S	Tape Start Position Detector Signal	A/D
11		-	N.U.	Not Used	-
12		-	N.U.	Not Used	-
13		OUT	D-V-SYNC	Dummy V-sync Output	H/Hi-z
14		IN	REMOCON-IN	Remote Control Sensor	L

Pin No.	Mark	IN/OUT	Signal Name	Function	Active Level
15		OUT	C-ROTA	Color Phase Rotary Changeover Signal	H/L
16		-	N.U.	Not Used	-
17		-	N.U.	Not Used	-
18		OUT	RF-SW	Video Head Switching Pulse	H/L
19		-	N.U.	Not Used	-
20		-	N.U.	Not Used	-
21	AF, AG, AH	-	N.U.	Not Used	-
	AI	OUT	TUN-SW1	Tuner System Control Signal Output	H/L
22	AF, AG, AH	-	N.U.	Not Used	-
	AI	OUT	TUN-SW2	Tuner System Control Signal Output	H/L
23		-	N.U.	Not Used	-
24		-	N.U.	Not Used	-
25		-	N.U.	Not Used	-
26		-	N.U.	Not Used	-
27	AF, AG, AI	-	N.U.	Not Used	-
	AH	OUT	RGB-THROUGH	SCART 2 RGB Through Control Signal	L/Hi-z
28		-	N.U.	Not Used	-
29	AF, AG, AI	-	N.U.	Not Used	-
	AH	OUT	AUDIO-SW1	Audio Input/Output Switching Control Signal 1 (Mono)	Z/L
30	AF, AG, AI	-	N.U.	Not Used	-
	AH	OUT	AUDIO-SW2	Audio Input/Output Switching Control Signal 2 (Mono)	Z/L

Pin No.	Mark	IN/OUT	Signal Name	Function	Active Level
31		IN	REC-SAF-SW	Recording Safety SW Detect (With Record tab="L"/ With out Record tab="H")	H
32	AF, AG, AI	-	N.U.	Not Used	-
	AH	IN	SECAM-H	SECAM Mode at High	H/L
33	AF, AG, AI	-	N.U.	Not Used	-
	AH	OUT	TRICK-H	Special Playback = "H" in SECAM Mode	H
34		IN	RESET	System Reset Signal (Reset="L")	L
35		IN	XC-IN	Sub Clock	-
36		OUT	XC-OUT	Sub Clock	-
37		-	Vcc	Vcc	-
38		IN	X-IN	Main Clock Input	-
39		OUT	X-OUT	Main Clock Input	-
40		-	Vss	Vss(GND)	-
41		-	N.U.	Not Used	-
42		-	N.U.	Not Used	-
43		IN	CLKSEL	Clock Select (GND)	L
44		IN	OSC <sub>IN</sub>	Clock Input for letter size	-
45		OUT	OSC <sub>OUT</sub>	Clock Output for letter size	-
46		-	N.U.	Not Used	-
47		-	LP	LP	-
48		IN	FSC-IN [4.43MHz]	4.43MHz Clock Input	-
49		-	OSDV <sub>ss</sub>	OSDV <sub>ss</sub>	-
50		IN	VIDEO-IN	Video Signal Input	-
51		-	N.U.	Not Used	-
52		OUT	VIDEO-OUT	Video Signal Output	-
53		-	OSDV <sub>cc</sub>	OSDV <sub>cc</sub>	-
54		-	HLF	LPF Connected Terminal (Slicer)	-

Pin No.	Mark	IN/OUT	Signal Name	Function	Active Level
55	AF, AG	-	N.U.	Not Used	-
	AH, AI	IN	COLOR-IN	SECAM or MESECAM Chroma Video Input Signal at Super Impose	Z/L
56		-	N.U.	Not Used	-
57		-	N.U.	Not Used	-
58		IN	C-SYNC	Composite Synchronized Pulse	PULSE
59		OUT	8POUT-1	SCART 1 8Pin Output Control Signal	H/L
60		-	N.U.	Not Used	-
61		-	N.U.	Not Used	-
62		-	N.U.	Not Used	-
63		-	N.U.	Not Used	-
64		-	N.U.	Not Used	-
65		OUT	D-REC-H	Delayed Record Signal	L
66		-	N.U.	Not Used	-
67		IN	P-ON-H	Power On Signal at High	H
68		OUT	DRV-DATA	LED Clock Driver IC Control Data	H/L
69		OUT	DRV-STB	LED Clock Driver IC Chip Select Signal	H/L
70		OUT	DRV-CLK	LED Clock Driver IC Control Clock	H/L
71		OUT	I <sup>2</sup> C BUS-SCL	I <sup>2</sup> C BUS Control Clock	H/L
72		IN/OUT	I <sup>2</sup> C BUS-SDA	I <sup>2</sup> C BUS Control Data	H/L
73		-	N.U.	Not Used	-
74		-	N.U.	Not Used	-
75		-	N.U.	Not Used	-
76		OUT	C-CONT	Capstan Motor Control Signal	PWM
77		OUT	D-CONT	Drum Motor Control Signal	PWM
78		OUT	C-F/R	Capstan Motor FWD/REV Control Signal (FWD="L"/ REV="H")	H/L
79		-	N.U.	Not Used	-

Pin No.	Mark	IN/OUT	Signal Name	Function	Active Level
80		IN	T-REEL	Take Up Reel Rotation Signal	PULSE
81		OUT	LM-FWD/REV	Loading Motor Control Signal	H/L/Hi-z
82		-	N.U.	Not Used	-
83		OUT	A-MUTE-H	Audio Mute Control Signal (Mute = "H")	H
84		-	N.U.	Not Used	-
85		-	N.U.	Not Used	-
86		IN	P-DOWN-L	Power Voltage Down Detector Signal	L
87		IN	C-FG	Capstan Motor Rotation Detection Pulse	PULSE
88		-	AMPVss	AMPVss (GND)	-
89		IN	D-FG	Drum Motor Rotation Detection Pulse	PULSE
90		IN	D-PG	Drum Motor Pulse Generator	PULSE
91		-	N.U.	Not Used	-
92		-	AMPVRE FIN	V-Ref for CTL AMP	-
93		-	C	C Terminal	-
94		OUT	CTL (-)	Playback/Record Control Signal (-)	H/L
95		OUT	CTL (+)	Playback/Record Control Signal (+)	H/L
96		-	AMPC	CTL AMP Connected Terminal	-
97		-	CTLAMP out	To Monitor for CTL AMP Output	PULSE
98		-	AMPVcc	AMPVcc	-
99		-	AVcc	A/D Converter Power Input/ Standard Voltage Input	-
100		-	N.U.	Not Used	-

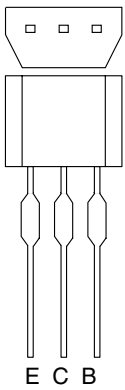
**Notes:**

Abbreviation for Active Level:

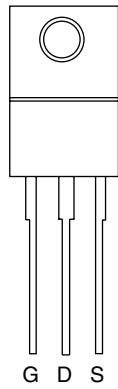
PWM -----Pulse Wide Modulation

A/D-----Analog - Digital Converter

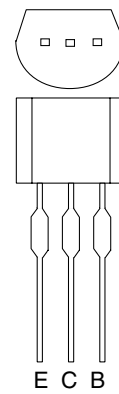
[ VR130/02, VR130/07, VR130/39, VR130/58 ]



BN1F4M-T  
BA1F4M-T  
KTA1266(GR)  
KRA104M  
KTC3199(Y,GR,BL)  
2SC2785(J.H.F.K)  
KRA103M  
KRC103M  
BN1L4M-T  
2SA1015-GR(TPE2)

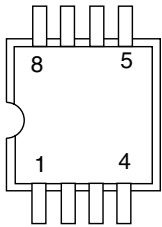


FS1KM-18A  
FS1KM-14A

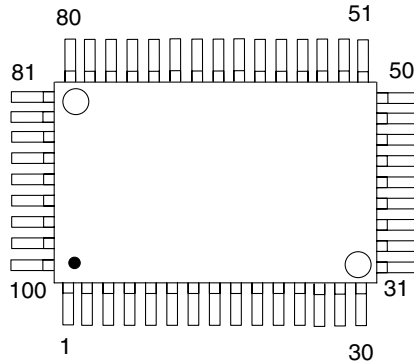


2SC1815-Y(TPE2)  
2SC1815-GR(TPE2)  
2SC2120-Y(TPE2)  
KTC3203(Y)  
2SC1815-BL(TPE2)

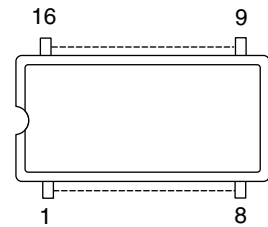
CAT24WC02JI  
BR24C02F-W  
AT24C02N-10SC  
M24C02-MN6T



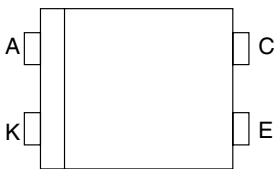
LA71750AM-MTB  
QSZAB0RMB098



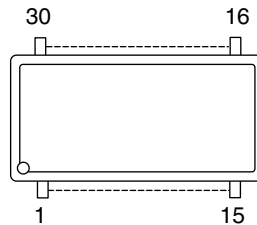
TC4052BF(EL)  
BU4052BCF-E2  
CD4052BCSJX



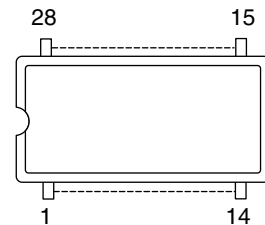
LTV-817(B,C)-F  
EL817(A,B,C)



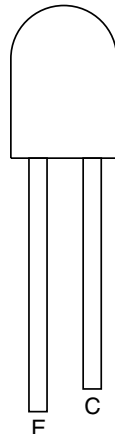
LA70100M-TRM



PT6958-FN-TP



PT204-6B-12  
MID-32A22



**Note:**

- A: Anode
- K: Cathode
- E: Emitter
- C: Collector
- B: Base
- R: Reference
- S: Source
- G: Gate
- D: Drain

**PRODUCT SAFETY NOTE:** Products marked with a ▲

have special characteristics important to safety.  
 Before replacing any of these components, read carefully  
 the product safety notice in this service manual.  
 Don't degrade the safety of the product through improper servicing.

**NOTES:**

Parts that not assigned part numbers (-----) are not available.

Tolerance of Capacitors and Resistors are noted with the following symbols.

C.....±0.25%    D.....±0.5%    F.....±1%  
 G.....±2%        J.....±5%        K.....±10%  
 M.....±20%      N.....±30%      Z.....+80/-20%

<b>ELECTRICAL PARTS LIST</b>			VR130/02	VR130/07	VR130/39	VR130/58
Pos.	▲ 12 NC	Description				
<b>MCV CBA</b>						
Consists of the following						
		MAIN CBA (MCV-A)	1	1	1	1
		FUNCTION CBA (MCV-B)	1	1	1	1
		POWER SW CBA (MCV-D)	1	1	1	1
		JACK CBA (MCV-E)	1	1	1	1
		SENSOR CBA				
		MAIN CBA (MCV-A)	1	1	1	1
2B7	9965 000 12286	SHIELD ASSEMBLY HC460ED	1	1	1	1
2B8	9965 000 08566	BUSH, LED(F) H3700UD	1	1	1	1
AC001	▲ 9965 000 08666	AC CORD PE8B2CB1H0A-057	1		1	1
AC001	▲ 9965 000 12174	AC CORD PQ8B1V51H0A-05B		1		
<b>CAPACITORS</b>						
C002	▲ 9965 000 09743	METALLIZED FILM CAP. 0.068UF/250V M	1	1	1	1
C003	▲ 9965 000 06522	SAFETY CAP. 2200PF/250V	1	1	1	1
C004	9965 000 06566	ELECTROLYTIC CAP. 22UF/400V M(L?Z)	1	1	1	1
C005	4822 126 14142	CERAMIC CAP. B K 0.01UF/500V	1	1	1	1
C006	4822 126 14141	CERAMIC CAP. SL K 56PF/1KV	1	1	1	1
C007		CERAMIC CAP.(AX) X K 3300PF/16V	1	1	1	1
C008		CERAMIC CAP.(AX) X K 5600PF/16V	1	1	1	1
C010		FILM CAP.(P) 0.022UF/50V J	1	1	1	1
C011		ELECTROLYTIC CAP. 10UF/16V M	1	1	1	1
C012		ELECTROLYTIC CAP. 10UF/50V M H7	1	1	1	1
C017		ELECTROLYTIC CAP. 470UF/16V M	1	1	1	1
C018		ELECTROLYTIC CAP. 100UF/16V M	1	1	1	1
C020		ELECTROLYTIC CAP. 1000UF/16V M	1	1	1	1
C021		ELECTROLYTIC CAP. 470UF/10V M	1	1	1	1
C022		ELECTROLYTIC CAP. 22UF/50V M H7			1	
C025		CERAMIC CAP.(AX) X K 5600PF/16V	1	1	1	1
C026		ELECTROLYTIC CAP. 47UF/16V M H7	1	1	1	1
C053		ELECTROLYTIC CAP. 330UF/6.3V M	1	1	1	1
C056		CERAMIC CAP.(AX) F Z 0.047UF/16V	1	1	1	1
C151		CHIP CERAMIC CAP. F Z 0.1UF/50V			1	
C152		CHIP CERAMIC CAP. F Z 0.1UF/50V			1	
C154		CHIP CERAMIC CAP. F Z 0.1UF/50V			1	
C155		ELECTROLYTIC CAP. 10UF/16V M H7			1	
C156		ELECTROLYTIC CAP. 10UF/16V M H7			1	
C157		ELECTROLYTIC CAP. 1UF/50V M H7	1	1	1	1

ELECTRICAL PARTS LIST			VR130/02	VR130/07	VR130/39	VR130/58
Pos.	▲ 12 NC	Description				
C158		CHIP CERAMIC CAP. B K 1000PF/50V	1	1	1	1
C159		CHIP CERAMIC CAP. F Z 0.1UF/50V			1	
C251		ELECTROLYTIC CAP. 10UF/16V M H7	1	1	1	1
C252		CHIP CERAMIC CAP. B K 1000PF/50V	1	1	1	1
C253		ELECTROLYTIC CAP. 1UF/50V M H7	1	1	1	1
C254		CHIP CERAMIC CAP. F Z 0.1UF/50V	1	1	1	1
C302		CHIP CERAMIC CAP. B K 0.022UF/50V	1	1	1	1
C303		ELECTROLYTIC CAP. 1UF/50V M H7	1	1	1	1
C304		ELECTROLYTIC CAP. 1UF/50V M H7	1	1	1	1
C305		CHIP CERAMIC CAP. F Z 0.1UF/50V	1	1	1	1
C307		CHIP CERAMIC CAP. B K 0.047UF/50V	1	1	1	1
C308		CHIP CERAMIC CAP. B K 0.022UF/50V	1	1	1	1
C309		CHIP CERAMIC CAP. F Z 0.1UF/50V	1	1	1	1
C310		CHIP CERAMIC CAP. B K 0.047UF/50V	1	1	1	1
C311		CHIP CERAMIC CAP. B K 0.01UF/50V			1	1
C312		CERAMIC CAP.(AX) Y M 8200PF/16V	1	1	1	1
C313		CHIP CERAMIC CAP. F Z 0.1UF/50V	1	1	1	1
C314		CHIP CERAMIC CAP. B K 0.01UF/50V	1	1	1	1
C315		CHIP CERAMIC CAP. F Z 0.1UF/50V	1	1	1	1
C316		CHIP CERAMIC CAP. B K 0.01UF/50V	1	1	1	1
C317		ELECTROLYTIC CAP. 47UF/6.3V M H7	1	1	1	1
C318		ELECTROLYTIC CAP. 1UF/50V M H7	1	1	1	1
C319		ELECTROLYTIC CAP. 1UF/50V M H7	1	1	1	1
C320		CHIP CERAMIC CAP. F Z 0.1UF/50V	1	1	1	1
C321		CHIP CERAMIC CAP. F Z 0.1UF/50V	1	1	1	1
C322		ELECTROLYTIC CAP. 10UF/16V M H7	1	1	1	1
C323		CHIP CERAMIC CAP. F Z 0.1UF/50V	1	1	1	1
C324		CHIP CERAMIC CAP. CH J 68PF/50V	1	1	1	1
C325		CHIP CERAMIC CAP. F Z 0.1UF/50V			1	
C326		CHIP CERAMIC CAP. CH J 68PF/50V			1	
C327		CHIP CERAMIC CAP. F Z 0.1UF/50V	1	1	1	1
C330		CERAMIC CAP.(AX) F Z 0.1UF/50V	1	1	1	1
C332		CHIP CERAMIC CAP. F Z 0.1UF/50V	1	1	1	1
C333		ELECTROLYTIC CAP. 0.47UF/50V M H7	1	1	1	1
C334		ELECTROLYTIC CAP. 4.7UF/25V M NP H7	1	1	1	1
C335		ELECTROLYTIC CAP. 10UF/16V M H7	1	1	1	1
C337		CHIP CERAMIC CAP. F Z 0.1UF/50V	1	1	1	1
C338		ELECTROLYTIC CAP. 100UF/6.3V H7	1	1	1	1
C339		ELECTROLYTIC CAP. 1UF/50V M H7	1	1	1	1
C340		CHIP CERAMIC CAP. CH J 120PF/50V	1	1	1	1
C341		CHIP CERAMIC CAP. CH J 220PF/50V	1	1	1	1
C342		ELECTROLYTIC CAP. 1UF/50V M H7	1	1	1	1
C343		CHIP CERAMIC CAP. F Z 0.1UF/50V	1	1	1	1
C344		CERAMIC CAP.(AX) B K 100PF/50V	1	1	1	1
C345		CHIP CERAMIC CAP. CH J 68PF/50V	1	1	1	1
C346		CHIP CERAMIC CAP. CH J 68PF/50V	1	1		1
C347		CHIP CERAMIC CAP. CH J 15PF/50V	1	1	1	1
C351		ELECTROLYTIC CAP. 220UF/6.3V M H7	1	1	1	1
C352		ELECTROLYTIC CAP. 100UF/16V M H7	1	1	1	1
C370		CHIP CERAMIC CAP. B K 0.01UF/50V			1	
C371		CHIP CERAMIC CAP. B K 0.022UF/50V			1	
C372		CHIP CERAMIC CAP. F Z 0.1UF/50V			1	1
C373		CHIP CERAMIC CAP. F Z 0.1UF/50V			1	1
C374		CHIP CERAMIC CAP. F Z 0.1UF/50V			1	1
C375		CHIP CERAMIC CAP. B K 0.01UF/50V			1	1
C376		CHIP CERAMIC CAP. B K 0.022UF/50V			1	1
C377		CERAMIC CAP.(AX) Y M 0.01UF/16V			1	1
C378		CHIP CERAMIC CAP. B K 0.01UF/50V			1	1
C379		ELECTROLYTIC CAP. 0.47UF/50V M H7			1	1

ELECTRICAL PARTS LIST			VR130/02	VR130/07	VR130/39	VR130/58
Pos.	▲ 12 NC	Description				
C381		CHIP CERAMIC CAP. F Z 0.1UF/50V			1	1
C382		CHIP CERAMIC CAP. B K 2200PF/50V			1	
C383		CHIP CERAMIC CAP. B K 2200PF/50V			1	
C384		ELECTROLYTIC CAP. 2.2UF/50V M H7			1	
C401		ELECTROLYTIC CAP. 47UF/6.3V M H7	1	1	1	1
C402		ELECTROLYTIC CAP. 220UF/6.3V M H7	1	1	1	1
C403		CERAMIC CAP. B K 470PF/100V	1	1	1	1
C404		FILM CAP.(P) 0.018UF/100V J	1	1	1	1
C411		CHIP CERAMIC CAP. CH J 820PF/50V	1	1	1	1
C412		CERAMIC CAP.(AX) X K 1800PF/16V	1	1	1	1
C413		ELECTROLYTIC CAP. 4.7UF/25V M H7	1	1	1	1
C414		CHIP CERAMIC CAP. B K 0.01UF/50V	1	1	1	1
C415		ELECTROLYTIC CAP. 10UF/16V M H7	1	1	1	1
C416		CHIP CERAMIC CAP. F Z 0.1UF/50V	1	1	1	1
C417		CHIP CERAMIC CAP. B K 0.01UF/50V	1	1	1	1
C418		CHIP CERAMIC CAP. CH J 33PF/50V	1	1	1	1
C419		CHIP CERAMIC CAP. B K 4700PF/50V	1	1	1	1
C421		ELECTROLYTIC CAP. 33UF/6.3V M H7	1	1	1	1
C422		ELECTROLYTIC CAP. 4.7UF/25V M H7	1	1	1	1
C423		CHIP CERAMIC CAP. F Z 0.1UF/50V	1	1	1	1
C424		ELECTROLYTIC CAP. 22UF/6.3V M H7	1	1	1	1
C425		CHIP CERAMIC CAP. F Z 0.1UF/50V	1	1	1	1
C426		CHIP CERAMIC CAP. F Z 0.1UF/50V			1	
C427		CHIP CERAMIC CAP. CH J 220PF/50V	1	1	1	1
C428		CHIP CERAMIC CAP. CH J 220PF/50V	1	1		1
C428		CHIP CERAMIC CAP. CH J 68PF/50V			1	
C429		CHIP CERAMIC CAP. CH J 68PF/50V			1	
C430		ELECTROLYTIC CAP. 47UF/6.3V M H7	1	1	1	1
C431		CHIP CERAMIC CAP. B K 0.01UF/50V	1	1	1	1
C501		ELECTROLYTIC CAP. 220UF/6.3V M	1	1	1	1
C502		CHIP CERAMIC CAP. F Z 0.1UF/50V	1	1	1	1
C508		ELECTROLYTIC CAP. 1UF/50V M H7	1	1	1	1
C510		ELECTROLYTIC CAP. 22UF/10V M H7	1	1	1	1
C511		ELECTROLYTIC CAP. 100UF/6.3V H7	1	1	1	1
C512		CHIP CERAMIC CAP. F Z 0.1UF/50V	1	1	1	1
C513		CHIP CERAMIC CAP. CH J 22PF/50V	1	1	1	1
C514		CHIP CERAMIC CAP. CH J 22PF/50V	1	1	1	1
C515		CHIP CERAMIC CAP. CH D 10PF/50V	1	1	1	1
C516		CHIP CERAMIC CAP. CH D 10PF/50V	1	1	1	1
C517		CHIP CERAMIC CAP. B K 0.01UF/50V	1	1	1	1
C518		CHIP CERAMIC CAP. B K 0.047UF/50V	1	1	1	1
C519		CHIP CERAMIC CAP. B K 0.01UF/50V	1	1	1	1
C520		CHIP CERAMIC CAP. CH J 100PF/50V	1	1	1	1
C521		CHIP CERAMIC CAP. CH J 560PF/50V	1	1	1	1
C522		ELECTROLYTIC CAP. 22UF/6.3V M H7	1	1	1	1
C523		CHIP CERAMIC CAP. B K 1000PF/50V	1	1	1	1
C524		CHIP CERAMIC CAP. CH J 330PF/50V	1	1	1	1
C526		CHIP CERAMIC CAP. B K 4700PF/50V	1	1	1	1
C527		ELECTROLYTIC CAP. 22UF/6.3V M H7	1	1	1	1
C528		CHIP CERAMIC CAP. B K 0.01UF/50V	1	1	1	1
C530		CERAMIC CAP.(AX) F Z 0.022UF/25V	1	1	1	1
C531		CERAMIC CAP.(AX) Y M 0.01UF/16V	1	1	1	1
C535		CHIP CERAMIC CAP. B K 0.01UF/50V	1	1	1	1
C538		CHIP CERAMIC CAP. B K 0.022UF/50V			1	
C540		ELECTROLYTIC CAP. 470UF/6.3V M	1	1	1	1
C541		ELECTROLYTIC CAP. 220UF/6.3V M H7	1	1	1	1
C561		CHIP CERAMIC CAP. B K 0.022UF/50V	1	1	1	1
C622		CHIP RES.(1608) 1/10W 0 OHM	1	1	1	1
C701		CHIP CERAMIC CAP. B K 0.047UF/50V	1	1		1

ELECTRICAL PARTS LIST			VR130/02	VR130/07	VR130/39	VR130/58
Pos.	▲ 12 NC	Description				
C702		CHIP CERAMIC CAP. F Z 0.1UF/50V	1	1	1	1
C703		ELECTROLYTIC CAP. 10UF/16V M H7	1	1	1	1
C704		CHIP CERAMIC CAP. B K 0.01UF/50V	1	1	1	1
C706		CHIP CERAMIC CAP. B K 1000PF/50V	1	1	1	1
C707		ELECTROLYTIC CAP. 100UF/6.3V H7	1	1	1	1
C708		CHIP CERAMIC CAP. B K 0.01UF/50V	1	1	1	1
C709		ELECTROLYTIC CAP. 1UF/50V M H7	1	1	1	1
C710		CHIP CERAMIC CAP. B K 1000PF/50V	1	1	1	1
C712		CHIP CERAMIC CAP. B K 0.01UF/50V				1
C713		CHIP CERAMIC CAP. B K 0.01UF/50V				1
C715		CHIP CERAMIC CAP. B K 0.01UF/50V	1	1	1	1
C851		CHIP CERAMIC CAP. CH J 22PF/50V	1	1	1	1
C852		CHIP CERAMIC CAP. CH J 18PF/50V	1	1	1	1
C853		CHIP CERAMIC CAP. B K 4700PF/50V	1	1	1	1
C854		CHIP CERAMIC CAP. B K 0.01UF/50V	1	1	1	1
C855		CHIP CERAMIC CAP. F Z 0.1UF/50V	1	1	1	1
C856		CHIP CERAMIC CAP. CH J 180PF/50V	1	1	1	1
C858		CHIP CERAMIC CAP. CH J 560PF/50V			1	1
C859		ELECTROLYTIC CAP. 47UF/6.3V M H7	1	1	1	1
C862		CHIP CERAMIC CAP. B K 0.01UF/50V	1	1	1	1
<b>DIODES</b>						
D001	4822 130 31933	RECTIFIER DIODE 1N4005	1	1	1	1
D002	4822 130 31933	RECTIFIER DIODE 1N4005	1	1	1	1
D003	4822 130 31933	RECTIFIER DIODE 1N4005	1	1	1	1
D004	4822 130 31933	RECTIFIER DIODE 1N4005	1	1	1	1
D005	5322 130 34979	RECTIFIER DIODE BA159	1	1	1	1
D006	4822 130 30621	SWITCHING DIODE 1N4148M	1	1	1	1
D007	4822 130 30621	SWITCHING DIODE 1N4148M	1	1	1	1
D008	4822 130 30621	SWITCHING DIODE 1N4148M	1	1	1	1
D009	4822 130 30621	SWITCHING DIODE 1N4148M	1	1	1	1
D011	4822 130 41487	RECTIFIER DIODE BA157	1	1	1	1
D013	4822 130 83883	RECTIFIER DIODE FR202	1	1	1	1
D014	5322 130 81917	SCHOTTKY BARRIER DIODE SB140	1	1	1	1
D015	9965 000 09323	ZENER DIODE DZ-9.1BSCT265	1	1	1	1
D016	4822 130 41487	RECTIFIER DIODE BA157			1	
D018	4822 130 30621	SWITCHING DIODE 1N4148M	1	1	1	1
D019	9965 000 08622	ZENER DIODE DZ-5.6BSBT265	1	1	1	1
D021	4822 130 30621	SWITCHING DIODE 1N4148M	1	1	1	1
D023	9965 000 12904	ZENER DIODE DZ-5.1BSBT265			1	
D051	4822 130 31933	RECTIFIER DIODE 1N4005	1	1	1	1
D052	4822 130 30621	SWITCHING DIODE 1N4148M	1	1	1	1
D053	4822 130 31933	RECTIFIER DIODE 1N4005	1	1	1	1
D056	9965 000 09182	ZENER DIODE DZ-5.1BSCT265	1	1	1	1
D057	9965 000 12891	CARBON RES. 1/4W J 3.3K OHM	1	1	1	1
D151	9965 000 12177	ZENER DIODE DZ-6.8BSCT265			1	
D152	9965 000 12177	ZENER DIODE DZ-6.8BSCT265			1	
D153	9965 000 12178	ZENER DIODE DZ-11BSAT265	1	1	1	1
D155	9965 000 12178	ZENER DIODE DZ-11BSAT265			1	
D301	4822 130 30621	SWITCHING DIODE 1N4148M	1	1	1	1
D370	4822 130 30621	SWITCHING DIODE 1N4148M			1	
D501	4822 130 30621	SWITCHING DIODE 1N4148M	1	1	1	1
D502	9965 000 05250	LED SIR-563ST3F P	1	1	1	1
D553	4822 130 30621	SWITCHING DIODE 1N4148M	1	1	1	1
D701	9965 000 09183	ZENER DIODE DZ-33BSDT265	1	1	1	1
F001	▲ 9965 000 13786	FUSE 21301.6M	1	1	1	1
FH001	4822 256 10461	FUSE HOLDER MSF-015	1	1	1	1
FH002	4822 256 10461	FUSE HOLDER MSF-015	1	1	1	1
FP562	9965 000 09307	LED DISPLAY LFU-4421-2001A	1	1	1	1
<b>IC's</b>						



<b>ELECTRICAL PARTS LIST</b>				<b>VR130/02</b>	<b>VR130/07</b>	<b>VR130/39</b>	<b>VR130/58</b>
<b>Pos.</b>	<b>▲</b>	<b>12 NC</b>	<b>Description</b>				
IC001	▲	4822 130 11655	PHOTOCOUPLER LTV-817B-F	1	1	1	1
IC151		5322 209 17147	IC:SWITCHING TC4052BF(EL)			1	
IC301		9965 000 12180	IC:Y/C/A LA71750AM-MTB	1	1	1	1
IC370		9965 000 12255	IC:SECAM LA70100M-TRM			1	
IC501		9965 000 13787	MICROCONTROLLER 16BIT M37762MCA-1A6GP	1	1	1	1
IC503		9965 000 06554	IC:MEMORY BR24C02F-W	1	1	1	1
IC561		9965 000 12183	IC:LED DRIVER PT6958-FN-TP	1	1	1	1
J902		4822 526 10685	BEAD CORE B16 RH 3.5X10X1.3	1	1	1	1
JW001		9965 000 13788	FLAT CABLE, 8P AWG26#2651/P1.25/150	1	1	1	1
JW002		9965 000 13793	FLAT CABLE, 9P AWG26#2651/P1.25/150			1	
JW003		9965 000 13680	FLAT CABLE, 2P AWG26#2651/P1.25/120	1	1	1	1
<b>COILS</b>							
L001		4822 526 10685	BEAD CORE B16 RH 3.5X10X1.3	1	1	1	1
L002		4822 526 10685	BEAD CORE B16 RH 3.5X10X1.3	1	1	1	1
L003	▲	9965 000 12188	LINE FILTER 50MH LF-4Z-E503	1	1	1	1
L009		9965 000 05627	CHOKE COIL 47UH-K	1	1	1	1
L010		9965 000 05627	CHOKE COIL 47UH-K	1	1	1	1
L012		4822 157 10649	INDUCTOR 100UH-K-26T	1	1	1	1
L251		9965 000 08652	INDUCTOR 5.6UH-K-26T	1	1	1	1
L301		4822 157 63316	INDUCTOR 56UH-K-26T	1	1	1	1
L370			PCB JUMPER D0.6-P5.0			1	
L401		9965 000 05627	CHOKE COIL 47UH-K	1	1	1	1
L402		9965 000 05627	CHOKE COIL 47UH-K	1	1	1	1
L501		4822 157 10649	INDUCTOR 100UH-K-26T	1	1	1	1
L561		4822 157 11509	INDUCTOR 47UH-K-26T	1	1	1	1
L562		4822 157 11509	INDUCTOR 47UH-K-26T	1	1	1	1
L701		4822 157 10889	INDUCTOR 10UH-K-26T	1	1	1	1
L702		9965 000 05627	CHOKE COIL 47UH-K	1	1	1	1
L703			PCB JUMPER D0.6-P5.0	1	1		1
L704		4822 157 11511	INDUCTOR 15UH-K-26T	1	1	1	1
L851		9965 000 08629	INDUCTOR 1.8UH-K-26T	1	1	1	1
L853			PCB JUMPER D0.6-P5.0	1	1	1	1
<b>TRANSISTORS</b>							
Q001	▲	9965 000 06568	FET FS1KM-18A	1	1	1	1
Q002		4822 130 10923	TRANSISTOR KTC3199(BL)	1	1	1	1
Q003		4822 130 10923	TRANSISTOR KTC3199(BL)	1	1	1	1
Q004		4822 130 10103	TRANSISTOR KTC3199(Y)	1	1	1	1
Q051		4822 130 42292	RES. BUILT-IN TRANSISTOR KRA104M	1	1	1	1
Q052		4822 130 10098	RES. BUILT-IN TRANSISTOR KRC103M	1	1	1	1
Q054		4822 130 42292	TRANSISTOR KTC3203(Y)	1	1	1	1
Q056		4822 130 10145	RES. BUILT-IN TRANSISTOR KRA103M	1	1	1	1
Q151		9965 000 05643	TRANSISTOR 2SC2785(F)			1	1
Q152		4822 130 10103	TRANSISTOR KTC3199(Y)			1	1
Q153		9965 000 05643	TRANSISTOR 2SC2785(F)			1	1
Q351		4822 130 42959	TRANSISTOR KTA1266(GR)	1	1	1	1
Q352		4822 130 10103	TRANSISTOR KTC3199(Y)	1	1	1	1
Q401		4822 130 42959	TRANSISTOR KTA1266(GR)	1	1	1	1
Q402		4822 130 42292	TRANSISTOR KTC3203(Y)	1	1	1	1
Q403		4822 130 10145	RES. BUILT-IN TRANSISTOR KRA103M	1	1	1	1
Q404		4822 130 10103	TRANSISTOR KTC3199(Y)	1	1	1	1
Q405		4822 130 10103	TRANSISTOR KTC3199(Y)	1	1	1	1
Q406		4822 130 10103	TRANSISTOR KTC3199(Y)	1	1	1	1
Q501		4822 130 10923	TRANSISTOR KTC3199(BL)	1	1	1	1
Q503		9965 000 08630	PHOTO TRANSISTOR PT204-6B-12	1	1	1	1
Q551		4822 130 10923	TRANSISTOR KTC3199(BL)	1	1	1	1
Q552		4822 130 10098	RES. BUILT-IN TRANSISTOR KRC103M	1	1	1	1
<b>RESISTORS</b>							
R001	▲	9965 000 08653	CARBON RES. 1/2W K 5.6M OHM	1	1	1	1
R002		9965 000 08635	METAL OXIDE FILM RES. 1W J 150K OHM	1	1	1	1

ELECTRICAL PARTS LIST			VR130/02	VR130/07	VR130/39	VR130/58
Pos.	▲ 12 NC	Description				
R003		CARBON RES. 1/4W J 1M OHM	1	1	1	1
R004		CARBON RES. 1/4W J 1M OHM	1	1	1	1
R005		CARBON RES. 1/6W G 1.5K OHM	1	1	1	1
R006		METAL OXIDE FILM RES. 1W J 2.2 OHM	1	1	1	1
R007		CARBON RES. 1/6W J 22K OHM	1	1	1	1
R008		CARBON RES. 1/6W J 100K OHM	1	1	1	1
R009		CARBON RES. 1/6W G 5.6K OHM	1	1	1	1
R011		CARBON RES. 1/4W J 390K OHM	1	1	1	1
R012		CARBON RES. 1/4W J 390K OHM	1	1	1	1
R013		CARBON RES. 1/6W J 470K OHM	1	1	1	1
R014		CARBON RES. 1/6W J 100K OHM	1	1	1	1
R015		CHIP RES.(1608) 1/10W J 10K OHM	1	1	1	1
R016		CARBON RES. 1/6W J 100K OHM	1	1	1	1
R017		CHIP RES.(1608) 1/10W J 220K OHM	1	1	1	1
R021		CHIP RES.(1608) 1/10W J 22K OHM	1	1	1	1
R022		CHIP RES.(1608) 1/10W J 680 OHM	1	1	1	1
R023		CHIP RES.(1608) 1/10W J 2.2K OHM	1	1	1	1
R024		CHIP RES.(1608) 1/10W J 1K OHM	1	1	1	1
R025		CHIP RES.(1608) 1/10W J 390 OHM	1	1	1	1
R026		CHIP RES.(1608) 1/10W J 22K OHM	1	1	1	1
R027		CARBON RES. 1/6W J 1K OHM	1	1	1	1
R028		CARBON RES. 1/4W J 1M OHM	1	1	1	1
R029		CARBON RES. 1/4W J 820 OHM			1	
R030		CARBON RES. 1/4W J 680 OHM			1	
R035		PCB JUMPER D0.6-P5.0	1	1	1	1
R054		CHIP RES.(1608) 1/10W J 180 OHM	1	1	1	1
R059		CARBON RES. 1/6W J 330 OHM	1	1	1	1
R060		CARBON RES. 1/6W J 2.7K OHM	1	1	1	1
R061		CHIP RES.(1608) 1/10W J 22K OHM	1	1	1	1
R062	9965 000 12891	CARBON RES. 1/4W J 3.3K OHM	1	1	1	1
R063		CARBON RES. 1/4W J 1.2K OHM	1	1	1	1
R064		CARBON RES. 1/4W J 1.2K OHM	1	1	1	1
R065		CARBON RES. 1/4W J 1.2K OHM	1	1	1	1
R151		CHIP RES.(1608) 1/10W J 2.7K OHM			1	
R153		CHIP RES.(1608) 1/10W J 2.2K OHM			1	
R154		CHIP RES.(1608) 1/10W J 390K OHM			1	
R155		CHIP RES.(1608) 1/10W J 22K OHM			1	
R157		CARBON RES. 1/6W J 4.7K OHM			1	
R158		CHIP RES.(1608) 1/10W J 6.8K OHM			1	
R251		CHIP RES.(1608) 1/10W J 1.8K OHM	1	1	1	1
R252		CHIP RES.(1608) 1/10W J 39K OHM	1	1	1	1
R301		CHIP RES.(1608) 1/10W J 1.2K OHM	1	1	1	1
R302		CHIP RES.(1608) 1/10W J 8.2K OHM	1	1	1	1
R303		CHIP RES.(1608) 1/10W J 5.6K OHM			1	1
R304		CHIP RES.(1608) 1/10W J 3.9K OHM			1	1
R305		CHIP RES.(1608) 1/10W J 3.9K OHM	1	1	1	1
R306		CHIP RES.(1608) 1/10W 0 OHM	1	1	1	1
R307		CHIP RES.(1608) 1/10W J 4.7K OHM	1	1	1	1
R308		CHIP RES.(1608) 1/10W J 6.8K OHM	1	1	1	1
R309		CHIP RES.(1608) 1/10W J 100 OHM	1	1	1	1
R310		CHIP RES.(1608) 1/10W J 10K OHM	1	1	1	1
R311		CHIP RES.(1608) 1/10W J 18K OHM	1	1	1	1
R312		CHIP RES.(1608) 1/10W J 10K OHM	1	1	1	1
R314		CHIP RES.(1608) 1/10W J 18K OHM	1	1	1	1
R315		CARBON RES. 1/6W J 2.4K OHM	1	1	1	1
R316		CHIP RES.(1608) 1/10W J 6.8K OHM	1	1	1	1
R317		CHIP RES.(1608) 1/10W J 1.2K OHM	1	1	1	1
R318		CHIP RES.(1608) 1/10W J 4.7K OHM	1	1	1	1
R319		CHIP RES.(1608) 1/10W J 10K OHM	1	1	1	1

# ELECTRICAL PARTS LIST

ELECTRICAL PARTS LIST			VR130/02	VR130/07	VR130/39	VR130/58
Pos.	▲ 12 NC	Description				
R320		CHIP RES.(1608) 1/10W J 560 OHM	1	1	1	1
R321		CARBON RES. 1/6W J 33 OHM			1	
R323		CARBON RES. 1/6W J 33 OHM	1	1	1	1
R324		CHIP RES.(1608) 1/10W J 39K OHM	1	1	1	1
R328		CHIP RES.(1608) 1/10W J 1K OHM	1	1	1	1
R330		CHIP RES.(1608) 1/10W J 5.6M OHM	1	1	1	1
R331		CHIP RES.(1608) 1/10W J 10K OHM	1	1	1	1
R332		CHIP INDUCTOR MLG1608B18NJB000	1	1		1
R332		CHIP RES.(1608) 1/10W 0 OHM			1	
R351		CHIP RES.(1608) 1/10W J 180 OHM	1	1		1
R351		CHIP RES.(1608) 1/10W J 150 OHM			1	
R352		CHIP RES.(1608) 1/10W J 150 OHM	1	1	1	1
R355		CARBON RES. 1/4W J 680 OHM	1	1	1	1
R357		CHIP RES.(1608) 1/10W J 220 OHM	1	1	1	1
R358		CHIP RES.(1608) 1/10W J 1.5K OHM	1	1		1
R360		CHIP RES.(1608) 1/10W J 1.8K OHM	1	1	1	1
R361		CHIP RES.(1608) 1/10W J 1K OHM	1	1	1	1
R370		CHIP RES.(1608) 1/10W J 2.7K OHM			1	
R371		CARBON RES. 1/6W J 5.6K OHM			1	
R372		CHIP RES.(1608) 1/10W J 3.9K OHM			1	
R401		CHIP RES.(1608) 1/10W J 5.6K OHM	1	1	1	1
R402		CHIP RES.(1608) 1/10W J 22K OHM	1	1	1	1
R403		CHIP RES.(1608) 1/10W J 47K OHM	1	1	1	1
R404		CARBON RES. 1/6W J 100 OHM	1	1	1	1
R405		CHIP RES.(1608) 1/10W J 10K OHM	1	1	1	1
R406		CHIP RES.(1608) 1/10W J 10K OHM	1	1	1	1
R407		CARBON RES. 1/6W J 820 OHM	1	1	1	1
R408		CHIP RES.(1608) 1/10W J 12K OHM	1	1	1	1
R409		CHIP RES.(1608) 1/10W J 5.6K OHM	1	1	1	1
R410		CHIP RES.(1608) 1/10W 0 OHM			1	
R411		CHIP RES.(1608) 1/10W J 1K OHM	1	1	1	1
R412		CHIP RES.(1608) 1/10W J 27K OHM	1	1	1	1
R413		CHIP RES.(1608) 1/10W J 330K OHM	1	1	1	1
R414		CHIP RES.(1608) 1/10W J 120 OHM	1	1	1	1
R415		CHIP RES.(1608) 1/10W J 12K OHM	1	1	1	1
R416		CHIP RES.(1608) 1/10W J 1.8K OHM	1	1	1	1
R417		CHIP RES.(1608) 1/10W J 1.2K OHM	1	1	1	1
R421		CHIP RES.(1608) 1/10W J 12K OHM	1	1	1	1
R422		CHIP RES.(1608) 1/10W J 10K OHM	1	1	1	1
R423		CHIP RES.(1608) 1/10W J 22K OHM	1	1	1	1
R424		CHIP RES.(1608) 1/10W J 3.9K OHM	1	1	1	1
R425		CHIP RES.(1608) 1/10W J 22K OHM	1	1		1
R425		CHIP RES.(1608) 1/10W J 68K OHM			1	
R426		CHIP RES.(1608) 1/10W J 4.7K OHM	1	1		1
R426		CHIP RES.(1608) 1/10W J 12K OHM			1	
R427		CHIP RES.(1608) 1/10W J 68K OHM			1	
R428		CHIP RES.(1608) 1/10W J 12K OHM			1	
R429		CHIP RES.(1608) 1/10W J 2.2K OHM	1	1	1	1
R501		CHIP RES.(1608) 1/10W J 1K OHM	1	1	1	1
R502		CHIP RES.(1608) 1/10W J 1K OHM	1	1	1	1
R503		CHIP RES.(1608) 1/10W J 1K OHM	1	1	1	1
R504		CHIP RES.(1608) 1/10W J 10K OHM	1	1	1	1
R505		CHIP RES.(1608) 1/10W J 10K OHM	1	1	1	1
R506		CHIP RES.(1608) 1/10W J 10K OHM	1	1	1	1
R507		CHIP RES.(1608) 1/10W 0 OHM	1	1	1	1
R508		CARBON RES. 1/6W J 1K OHM	1	1	1	1
R509		CHIP RES.(1608) 1/10W J 4.7K OHM	1	1	1	1
R510		CHIP RES.(1608) 1/10W J 10K OHM	1	1		1
R511		CHIP RES.(1608) 1/10W J 100K OHM	1	1	1	1

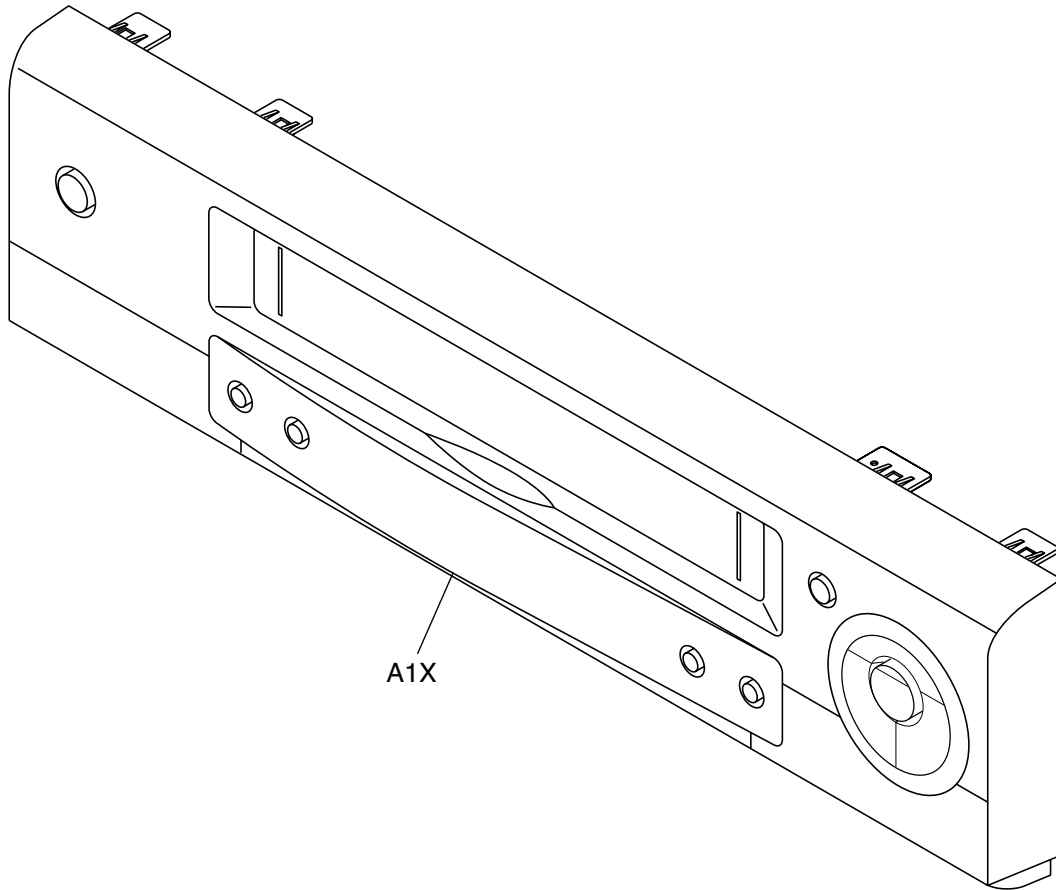
ELECTRICAL PARTS LIST			VR130/02	VR130/07	VR130/39	VR130/58
Pos.	▲ 12 NC	Description				
R513		CHIP RES.(1608) 1/10W J 1.8K OHM	1	1	1	1
R514		CHIP RES.(1608) 1/10W J 820 OHM	1	1	1	1
R516		CHIP RES.(1608) 1/10W J 330K OHM	1	1	1	1
R517		CHIP RES.(1608) 1/10W J 220 OHM	1	1	1	1
R518		CHIP RES.(1608) 1/10W J 470 OHM	1	1	1	1
R519		CHIP RES.(1608) 1/10W 0 OHM	1	1	1	1
R520		CHIP RES.(1608) 1/10W J 10K OHM	1	1	1	1
R521		CHIP RES.(1608) 1/10W J 220K OHM	1	1	1	1
R522		CHIP RES.(1608) 1/10W J 68K OHM	1	1	1	1
R523		CHIP RES.(1608) 1/10W J 10K OHM	1	1	1	1
R524		CHIP RES.(1608) 1/10W J 10K OHM	1	1	1	1
R525		CHIP RES.(1608) 1/10W J 1.5K OHM	1	1	1	1
R526		CHIP RES.(1608) 1/10W J 1.8K OHM	1	1	1	1
R527		CHIP RES.(1608) 1/10W J 680 OHM	1	1	1	1
R528		CHIP RES.(1608) 1/10W J 10K OHM	1	1	1	1
R529		CARBON RES. 1/4W J 270 OHM	1	1	1	1
R533		CHIP RES.(1608) 1/10W J 33K OHM	1	1	1	1
R534		CARBON RES. 1/6W G 3.6K OHM	1	1	1	1
R535		CARBON RES. 1/6W G 10K OHM	1	1	1	1
R536		CARBON RES. 1/6W G 470 OHM	1	1	1	1
R537		CARBON RES. 1/6W G 22K OHM	1	1	1	1
R538		CARBON RES. 1/6W G 1.5K OHM	1	1	1	1
R539		CARBON RES. 1/6W G 4.7K OHM	1	1	1	1
R540		CHIP RES.(1608) 1/10W J 390K OHM	1	1	1	1
R541		CHIP RES.(1608) 1/10W J 390K OHM	1	1	1	1
R542		CHIP RES.(1608) 1/10W J 1.2K OHM	1	1	1	1
R543		CHIP RES.(1608) 1/10W 0 OHM	1	1	1	1
R544		CHIP RES.(1608) 1/10W J 1.5K OHM	1	1	1	1
R545		CHIP RES.(1608) 1/10W J 2.2K OHM	1	1	1	1
R546		CHIP RES.(1608) 1/10W J 1.8K OHM	1	1	1	1
R547		CHIP RES.(1608) 1/10W J 2.7K OHM	1	1	1	1
R551		CHIP RES.(1608) 1/10W J 100 OHM	1	1	1	1
R552		CHIP RES.(1608) 1/10W J 10K OHM	1	1	1	1
R555		CHIP RES.(1608) 1/10W J 10K OHM	1			1
R556		CHIP RES.(1608) 1/10W J 10K OHM		1	1	
R557		CHIP RES.(1608) 1/10W J 10K OHM			1	1
R558		CHIP RES.(1608) 1/10W J 10K OHM	1	1		
R566		CHIP RES.(1608) 1/10W J 56K OHM	1	1	1	1
R607		CHIP RES.(1608) 1/10W J 10K OHM	1	1	1	1
R609		CHIP RES.(1608) 1/10W J 10K OHM	1	1		1
R610		CHIP RES.(1608) 1/10W J 10K OHM			1	
R613		CHIP RES.(1608) 1/10W J 10K OHM	1	1	1	1
R619		CHIP RES.(1608) 1/10W J 10K OHM	1	1		1
R620		CHIP RES.(1608) 1/10W J 1K OHM			1	
R701		CARBON RES. 1/6W J 1.8K OHM	1	1	1	1
R702		CARBON RES. 1/6W J 1K OHM	1	1	1	1
R703		CARBON RES. 1/6W J 1K OHM	1	1	1	1
R704		CHIP RES.(1608) 1/10W J 1K OHM				1
R705		CHIP RES.(1608) 1/10W J 1K OHM				1
R706		CARBON RES. 1/6W J 1K OHM	1	1	1	1
R709		PCB JUMPER D0.6-P5.0	1	1	1	1
R851		CHIP RES.(1608) 1/10W J 1.5K OHM	1	1	1	1
R852		CHIP RES.(1608) 1/10W J 1K OHM	1	1	1	1
R853		CHIP RES.(1608) 1/10W J 1K OHM	1	1	1	1
RS501	9965 000 12287	REMOTE RECEIVER MIM-93M9DKF	1	1	1	1
SA001	▲ 9965 000 08602	SURGE ABSORBER CNR-10D471K	1	1	1	1
<b>SWITCHES</b>						
SW501	4822 276 13954	TACT SWITCH KSM0614B	1	1	1	1
SW502	4822 276 13954	TACT SWITCH KSM0614B	1	1	1	1

ELECTRICAL PARTS LIST			VR130/02	VR130/07	VR130/39	VR130/58
Pos.	▲ 12 NC	Description				
SW504	4822 276 13954	TACT SWITCH KSM0614B	1	1	1	1
SW505	4822 276 13954	TACT SWITCH KSM0614B	1	1	1	1
SW506	9965 000 12192	LEAF SWITCH MXS00052MPP0	1	1	1	1
SW507	9965 000 09194	ROTARY MODE SWITCH R8100212	1	1	1	1
T001	▲ 9965 000 09203	PULSE TRANS SA-00901B	1	1	1	1
TP301		PCB JUMPER D0.6-P9.5	1	1	1	1
TP501		PCB JUMPER D0.6-P6.0	1	1	1	1
TP502		PCB JUMPER D0.6-P10.0	1	1	1	1
TP506		PCB JUMPER D0.6-P5.0	1	1	1	1
TP507		PCB JUMPER D0.6-P6.0	1	1	1	1
TP508		PCB JUMPER D0.6-P23.0	1	1	1	1
TP751		PCB JUMPER D0.6-P5.0	1	1	1	1
TU701	9965 000 12893	TUNER UNIT TMDG1-632A	1			
TU701	9965 000 12901	TUNER UNIT TMDG1-635A		1		
TU701	9965 000 12256	TUNER UNIT TMDZ2-731A			1	
TU701	9965 000 13033	TUNER UNIT TMDG2-731A				1
VR501	9965 000 05260	CARBON P.O.T. 100K OHM B	1	1	1	1
X301	9965 000 05629	X'TAL 4.433619MHZ	1	1	1	1
X501	9965 000 12194	X'TAL 12.000MHZ	1	1	1	1
X502	9965 000 12288	X'TAL 32.768KHZ(20PPM)	1	1	1	1
		FUNCTION CBA (MCV-B)	1	1	1	1
CN651		ANGLE PIN HEADER, 3P 6029B-1-03Z002-T	1	1	1	1
R651		CHIP RES.(1608) 1/10W J 1K OHM	1	1	1	1
R652		CHIP RES.(1608) 1/10W J 1.2K OHM	1	1	1	1
R653		CHIP RES.(1608) 1/10W J 1.5K OHM	1	1	1	1
R654		CHIP RES.(1608) 1/10W J 2.2K OHM	1	1	1	1
R655		CHIP RES.(1608) 1/10W J 3.9K OHM	1	1	1	1
<b>SWITCHES</b>						
SW651	4822 276 13954	TACT SWITCH KSM0614B	1	1	1	1
SW652	4822 276 13954	TACT SWITCH KSM0614B	1	1	1	1
SW653	4822 276 13954	TACT SWITCH KSM0614B	1	1	1	1
SW654	4822 276 13954	TACT SWITCH KSM0614B	1	1	1	1
SW656	4822 276 13954	TACT SWITCH KSM0614B	1	1	1	1
		POWER SW CBA (MCV-D)	1	1	1	1
SW510	4822 276 13954	TACT SWITCH KSM0614B	1	1	1	1
<b>JACK CBA (MCV-E)</b>						
			1	1	1	1
ZL022	4822 502 30752	SCREW, P-TIGHT M3X10 WASHER HEAD+	1	1	1	1
A5	9965 000 12894	JACK BOARD(1-21P) HC461BD	1	1		1
A5	9965 000 12196	JACK BOARD(2-21P) HC460ED			1	
<b>CAPACITORS</b>						
C102		CHIP CERAMIC CAP. B K 2200PF/50V	1	1	1	1
C104		CHIP CERAMIC CAP. CH J 470PF/50V	1	1	1	1
C105		CHIP CERAMIC CAP. F Z 0.1UF/50V	1	1	1	1
C107		ELECTROLYTIC CAP. 1UF/50V M H7	1	1	1	1
C108		CHIP CERAMIC CAP. B K 1000PF/50V	1	1	1	1
C109		CHIP CERAMIC CAP. B K 2200PF/50V			1	
C112		CHIP CERAMIC CAP. CH J 470PF/50V			1	
C113		CHIP CERAMIC CAP. B K 2200PF/50V			1	
C115		ELECTROLYTIC CAP. 100UF/16V M H7	1	1	1	1
C116		ELECTROLYTIC CAP. 470UF/6.3V M	1	1	1	1
C117		ELECTROLYTIC CAP. 470UF/6.3V M			1	
<b>DIODES</b>						
D101	9965 000 12178	ZENER DIODE DZ-11BSAT265	1	1	1	1
D102	9965 000 12178	ZENER DIODE DZ-11BSAT265			1	
D103	9965 000 12178	ZENER DIODE DZ-11BSAT265			1	
D105	9965 000 12178	ZENER DIODE DZ-11BSAT265	1	1	1	1
JK101	9965 000 12197	RGB CONNECTOR MRC-021V-01	1	1	1	1
JK102	9965 000 12197	RGB CONNECTOR MRC-021V-01			1	
<b>COILS</b>						

<b>ELECTRICAL PARTS LIST</b>			<b>VR130/02</b>	<b>VR130/07</b>	<b>VR130/39</b>	<b>VR130/58</b>
<b>Pos.</b>	<b>▲ 12 NC</b>	<b>Description</b>				
L101	4822 526 10685	BEAD CORE B16 RH 3.5X10X1.3	1	1	1	1
L121	4822 526 10685	BEAD CORE B16 RH 3.5X10X1.3			1	
<b>TRANSISTORS</b>						
Q101	4822 130 42959	TRANSISTOR KTA1266(GR)	1	1	1	1
Q102	4822 130 42959	TRANSISTOR KTA1266(GR)			1	
<b>RESISTORS</b>						
R101		CARBON RES. 1/4W J 1K OHM	1	1	1	1
R102		CARBON RES. 1/4W J 1K OHM	1	1	1	1
R105		CARBON RES. 1/6W J 4.7K OHM	1	1	1	1
R106		CARBON RES. 1/6W J 4.7K OHM	1	1	1	1
R107		CHIP RES.(1608) 1/10W 0 OHM	1	1	1	1
R108		CARBON RES. 1/4W J 68 OHM	1	1	1	1
R109		CHIP RES.(1608) 1/10W J 75 OHM	1	1	1	1
R110		CARBON RES. 1/4W J 1K OHM			1	
R111		CARBON RES. 1/4W J 1K OHM			1	
R114		CARBON RES. 1/6W J 4.7K OHM			1	
R115		CARBON RES. 1/6W J 4.7K OHM			1	
R116		CARBON RES. 1/6W J 15K OHM			1	
R117		CHIP RES.(1608) 1/10W J 10K OHM			1	
R118		CARBON RES. 1/4W J 68 OHM			1	
R119		CHIP RES.(1608) 1/10W J 75 OHM			1	
R120		CARBON RES. 1/6W J 680 OHM	1	1	1	1
R123		CHIP RES.(1608) 1/10W J 220 OHM	1	1	1	1
R125		CARBON RES. 1/6W J 680 OHM			1	
R126		CHIP RES.(1608) 1/10W J 220 OHM			1	
R127		CHIP RES.(1608) 1/10W 0 OHM			1	
R128		CHIP RES.(1608) 1/10W 0 OHM			1	
<b>SENSOR CBA</b>						
Q504	9965 000 08630	PHOTO TRANSISTOR PT204-6B-12	1	1	1	1
Q505	9965 000 08630	PHOTO TRANSISTOR PT204-6B-12	1	1	1	1

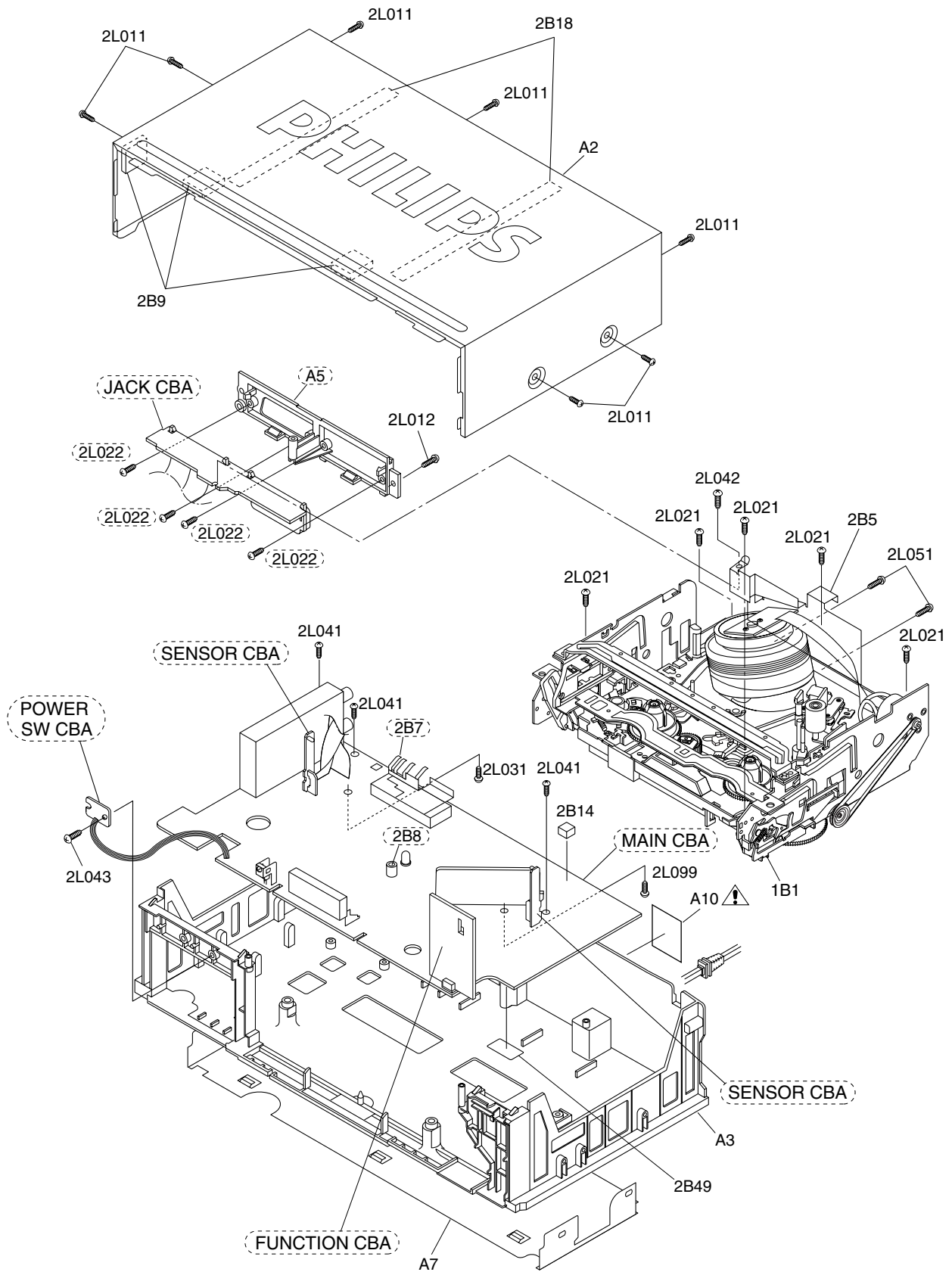
[ VR130/02, VR130/07, VR130/39, VR130/58 ]

Front Panel



[ VR130/02, VR130/07, VR130/39, VR130/58 ]

Cabinet

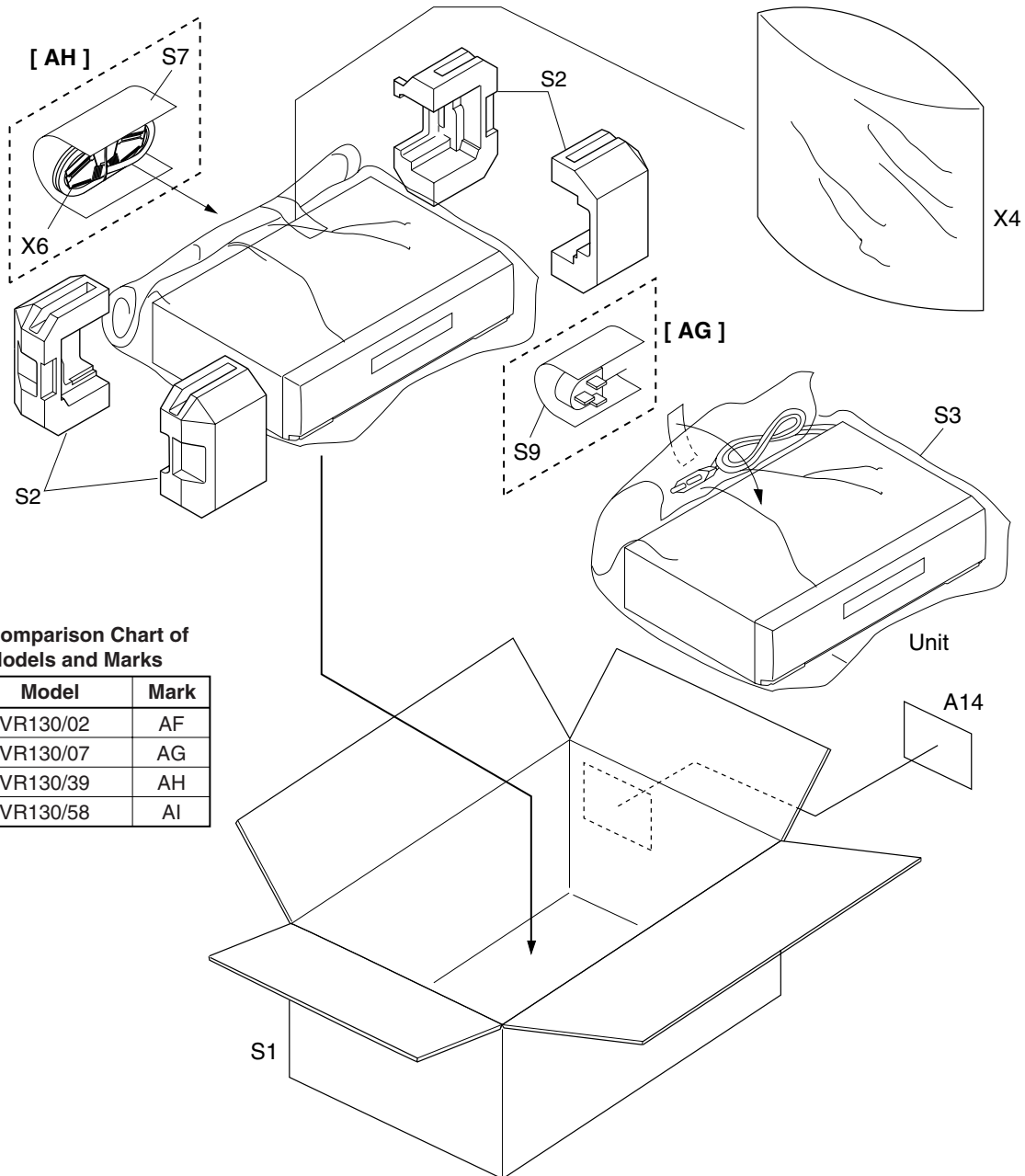
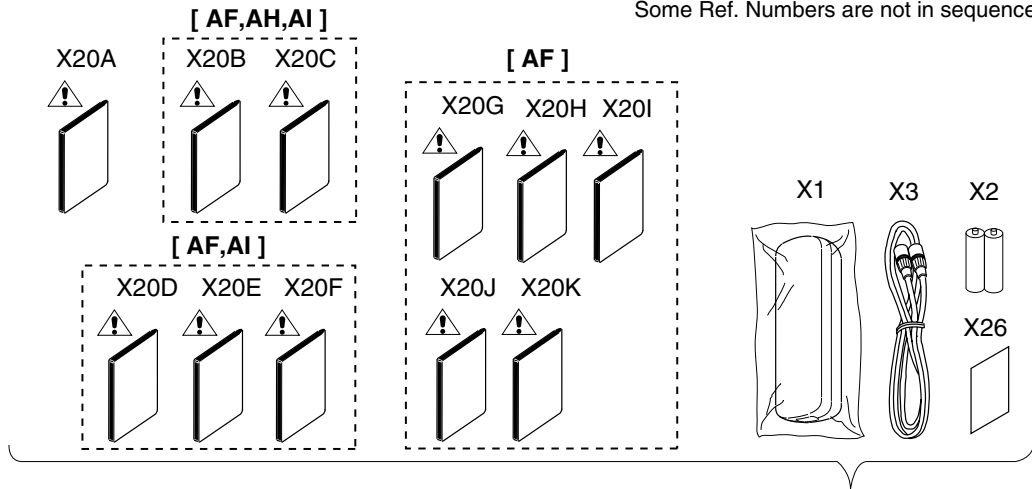




[ VR130/02, VR130/07, VR130/39, VR130/58 ]

Packing

Some Ref. Numbers are not in sequence.



Comparison Chart of Models and Marks

Model	Mark
VR130/02	AF
VR130/07	AG
VR130/39	AH
VR130/58	AI

**PRODUCT SAFETY NOTE:** Products marked with a ▲

have special characteristics important to safety.  
 Before replacing any of these components, read carefully  
 the product safety notice in this service manual.  
 Don't degrade the safety of the product through improper servicing.

<b>MECHANICAL PARTS LIST</b>			<b>VR130/02</b>	<b>VR130/07</b>	<b>VR130/39</b>	<b>VR130/58</b>
<b>Pos.</b>	<b>▲ 12 NC</b>	<b>Description</b>				
A1X	9965 000 13791	FRONT ASSEMBLY HC262FD			1	
A1X	9965 000 13783	FRONT ASSEMBLY HC260ED	1	1		1
A2	9965 000 12164	CASE, TOP HC460ED	1	1	1	1
A3	9965 000 12165	CHASSIS HC461BD	1	1	1	1
A7	9965 000 12166	PANEL, BOTTOM HC461BD	1	1	1	1
A9	9965 000 09192	SPRING, DOOR H7220UD U15	1	1	1	1
A10	▲	LABEL, RATING HC260ED	1			
A10	▲	LABEL, RATING HC261BD		1		
A10	▲	LABEL, RATING HC262FD			1	
A10	▲	LABEL, RATING HC269ED				1
A14		LABEL, BAR CODE HC260ED	1			
A14		LABEL, BAR CODE HC261BD		1		
A14		LABEL, BAR CODE HC262FD			1	
A14		LABEL, BAR CODE HC269ED				1
1B1	9965 000 13674	DECK ASSEMBLY CZD011/VM1520	1	1		1
1B1	9965 000 13792	DECK ASSEMBLY CZD011/VM1521			1	
2B5	9965 000 12168	SHEILD, CYLINDER HC460ED	1	1	1	1
2B9	9965 000 12378	CUSHION HC460ED	1	1	1	1
2B14	9965 000 12379	CUSHION(PCB) HC460ED	1	1	1	1
2B18	9965 000 12400	FIBER, TOP CASE HC460ED	1	1	1	1
2B49	9965 000 12402	CHASSIS FIBER HC460ED	1	1	1	1
2L011	9965 000 12403	SCREW, P-TIGHT 3X12 BIND HEAD+	1	1	1	1
2L012	9965 000 12403	SCREW, P-TIGHT 3X12 BIND HEAD+	1	1	1	1
2L021	4822 502 30752	SCREW, P-TIGHT M3X10 WASHER HEAD+	1	1	1	1
2L031	9965 000 12171	SCREW, B-TIGHT M3X8 BIND HEAD+	1	1	1	1
2L041	4822 502 14012	P-TIGHT SCREW 3X8 BIND +	1	1	1	1
2L042	4822 502 14012	P-TIGHT SCREW 3X8 BIND +	1	1	1	1
2L043	4822 502 14012	P-TIGHT SCREW 3X8 BIND +	1	1	1	1
2L051	4822 502 14018	SCREW, S-TIGHT M3X5 BIND HEAD+	1	1	1	1
2L099	9965 000 13027	SCREW, P-TIGHT M3X8 BIND HEAD+	1	1	1	1
		PACKING				
S1		GIFT BOX CARTON HC260ED	1			
S1		GIFT BOX CARTON HC261BD		1		
S1		GIFT BOX CARTON HC262FD			1	
S1		GIFT BOX CARTON HC269ED				1
S2		STYROFOAM HC460ED	1		1	1
S2		STYROFOAM HC461BD		1		
S3		UNIT, BAG V4010PA	1	1	1	1
S7		21P PAD HC463FD			1	
S9		AC PAD HC461BD		1		
X1	9965 000 13785	REMOTE CONTROL UNIT 364/CRC006	1	1	1	1
X3	4822 320 50377	RF CORD PAL 1.2M	1	1	1	1
X4		ACCESSORY BAG K8092BA	1	1	1	1
X6	9965 000 12420	21P SCART CABLE CE1009020085210			1	

## [ VR130/02, VR130/07, VR130/39, VR130/58 ]

Before following the procedures described below, be sure to remove the deck assembly from the cabinet. (Refer to CABINET DISASSEMBLY INSTRUCTIONS on page 1-7-1.)

All the following procedures, including those for adjustment and replacement of parts, should be done in Eject mode; see the positions of [41] and [42] in Fig. DM1 on page 2-4-13. When reassembling, follow the steps in reverse order.

STEP /LOC. No.	START-ING No.	PART		REMOVAL		INSTALLATION
				Fig. No.	REMOVE/*UNHOOK/ UNLOCK/RELEASE/ UNPLUG/DESOLDER	ADJUSTMENT CONDITION
[1]	[1]	Guide Holder A	T	DM3	2(S-1)	
[2]	[1]	Cassette Holder Assembly	T	DM4		
[3]	[2]	Slider L	T	DM5	(S-2)	
[4]	[2]	Slider R	T	DM5	(S-3)	
[5]	[4]	Lock Lever	T	DM5	(S-4),*(P-1)	
[6]	[2]	C Plate	T	DM5		
[7]	[7]	Cylinder Assembly	T	DM1,DM6	Desolder, 3(S-5)	
[8]	[8]	Loading Motor Assembly	T	DM1,DM7	Desolder, LDG Belt, 2(S-6)	
[9]	[9]	AC Head Assembly	T	DM1,DM7	(S-7)	
[10]	[2]	Tape Guide Assembly	T	DM1,DM8	*(P-2)	
[11]	[10]	Door Opener B	T	DM1,DM8	*(L-1),*(L-2)	
[12]	[11]	Pinch Arm (B)	T	DM1,DM8	*(P-3)	
[13]	[12]	Pinch Arm (A) Assembly	T	DM1,DM8		
[14]	[14]	FE Head	T	DM1,DM9	(S-8)	
[15]	[15]	Prism	T	DM1,DM9	(S-9)	
[16]	[2]	Slider Shaft	T	DM10	(S-10),*(L-3)	
[17]	[16]	C Drive Lever L	T	DM10		
[18]	[16]	C Drive Lever R	T	DM10		
[19]	[7],[10]	Capstan Motor	B	DM2,DM11	3(S-11), Cap Belt	
[20]	[20]	Clutch Assembly	B	DM2,DM12	(C-1)	
[21]	[20]	FF Arm	B	DM2,DM12		
[22]	[22]	Cam Holder F	B	DM2,DM13	(C-2)	
[23]	[23]	Cam Gear (B)	B	DM2,DM13	(C-3),*(P-4)	
[24]	[24]	Mode Gear	B	DM2,DM14	(C-4)	
[25]	[20],[23], [24]	Mode Lever	B	DM2,DM14	(C-5), *(L-4)	
[26]	[22]	Worm Holder	B	DM2,DM14	(S-12)	
[27]	[26]	Pulley Assembly	B	DM2,DM14		
[28]	[25],[26]	Cam Gear (A)	B	DM2,DM14		
[29]	[25]	Idler Assembly	B	DM1,DM15	*(L-5)	
[30]	[25]	BT Arm	B	DM2,DM15	*(P-5)	
[31]	[25]	Loading Arm S (B) Assembly	B	DM2,DM15		(+)Refer to Alignment Sec.Pg.2-4-19
[32]	[31]	Loading Arm T (B) Assembly	B	DM2,DM15		(+)Refer to Alignment Sec.Pg.2-4-19
[33]	[2],[25]	M Brake T Assembly	T	DM1,DM16	*(P-6)	

STEP /LOC. No.	START-ING No.	PART		REMOVAL		INSTALLATION
				Fig. No.	REMOVE/*UNHOOK/ UNLOCK/RELEASE/ UNPLUG/DESOLDER	ADJUSTMENT CONDITION
[34]	[2],[25]	M Brake S Assembly	T	DM1,DM16	*(P-7)	
[35]	[34]	Tension Lever Sub Assembly	T	DM1,DM16		
[36]	[35]	T Lever Holder	T	DM1,DM16	*(L-6)	
[37]	[33]	M Gear	T	DM1,DM16	(C-6)	
[38]	[2],[15]	Sensor Gear	T	DM1,DM16	(C-7)	
[39]	[33]	Reel T	T	DM1,DM16		
[40]	[35]	Reel S	T	DM1,DM16		
[41]	[31],[35]	Moving Guide S Preparation	T	DM1,DM17		
[42]	[32]	Moving Guide T Preparation	T	DM1,DM17		
[43]	[19]	TG Post Assembly	T	DM1,DM17	*(L-7)	
[44]	[19],[28]	Rack Assembly	R	DM18		(+)Refer to Alignment Sec.Pg.2-4-20
[45]	[44]	F Door Opener	R	DM18		
[46]	[46]	Cleaner Lever Assembly	T	DM1,DM6		Type A
					*(L-8)	Type B
[47]	[46]	CL Post	T	DM6	*(L-9)	Type A
↓ (1)	↓ (2)	↓ (3)	↓ (4)	↓ (5)	↓ (6)	↓ (7)

(1): Follow steps in sequence. When reassembling, follow the steps in reverse order.

These numbers are also used as identification (location) No. of parts in the figures.

(2): Indicates the part to start disassembling with in order to disassemble the part in column (1).

(3): Name of the part

(4): Location of the part: T=Top B=Bottom R=Right L=Left

(5): Figure Number

(6): Identification of parts to be removed, unhooked, unlocked, released, unplugged, unclamped, or desoldered.

P=Spring, W=Washer, C=Cut Washer, S=Screw, \*=Unhook, Unlock, Release, Unplug, or Desolder

e.g., 2(L-2) = two Locking Tabs (L-2).

(7): Adjustment Information for Installation

(+):Refer to Deck Exploded Views for lubrication.

### Top View

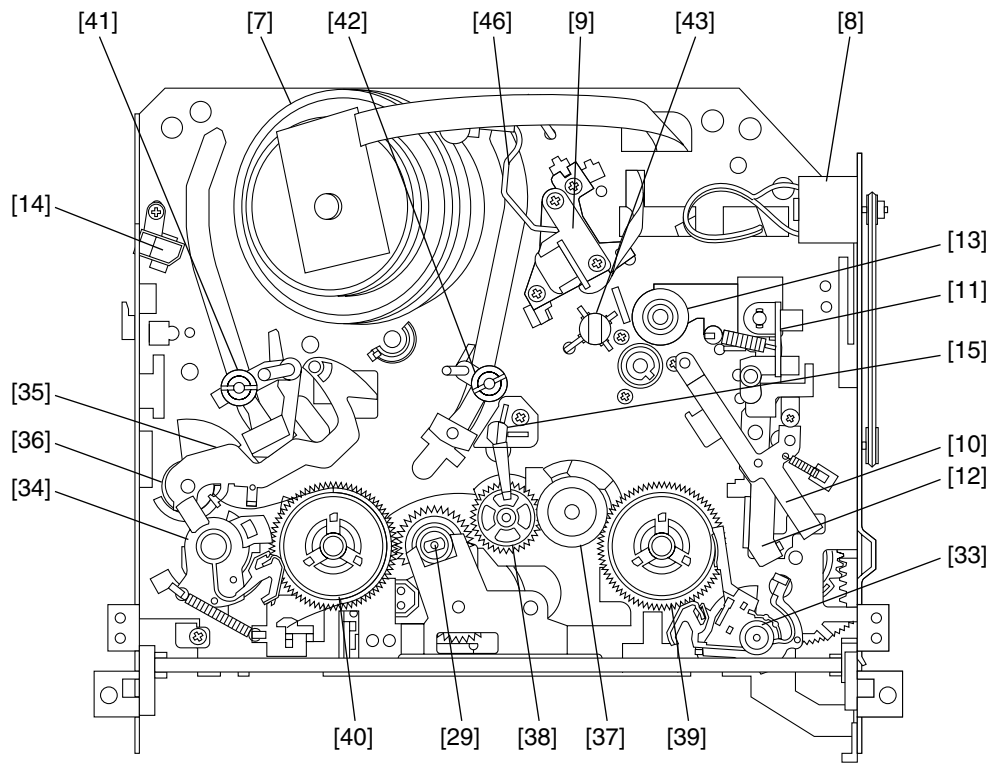


Fig. DM1

### Bottom View

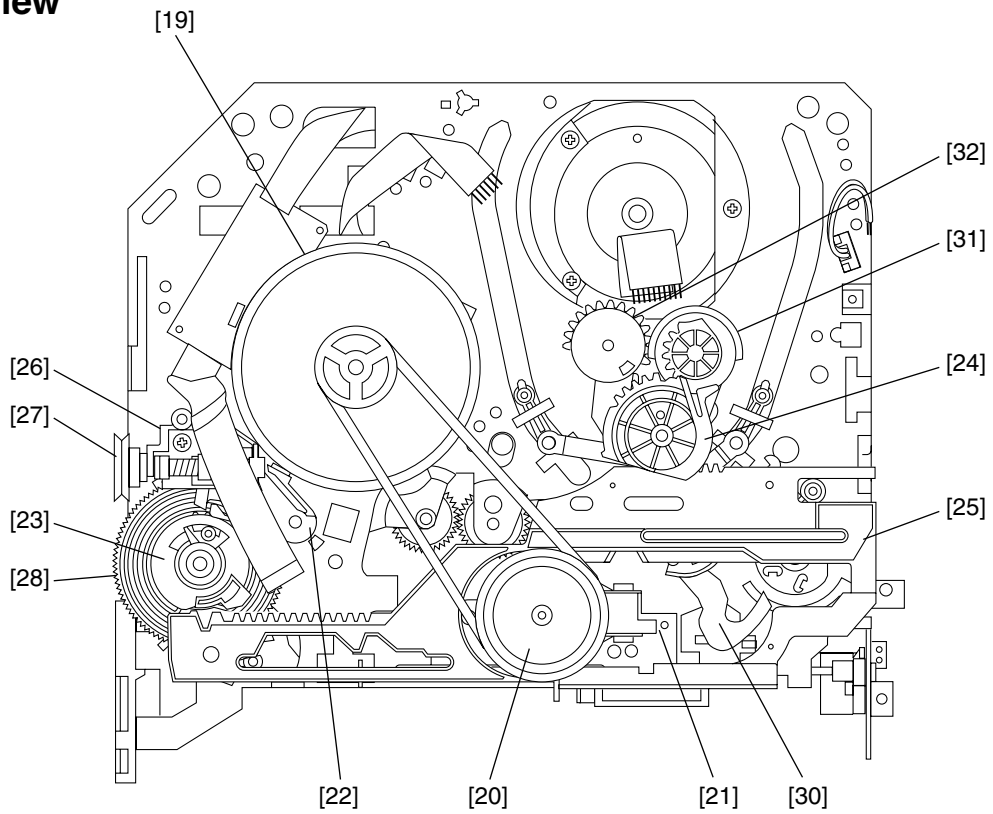
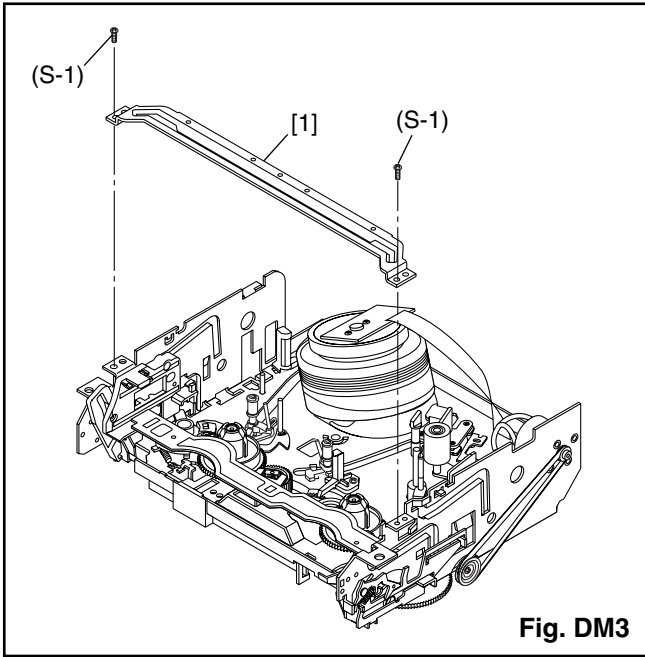
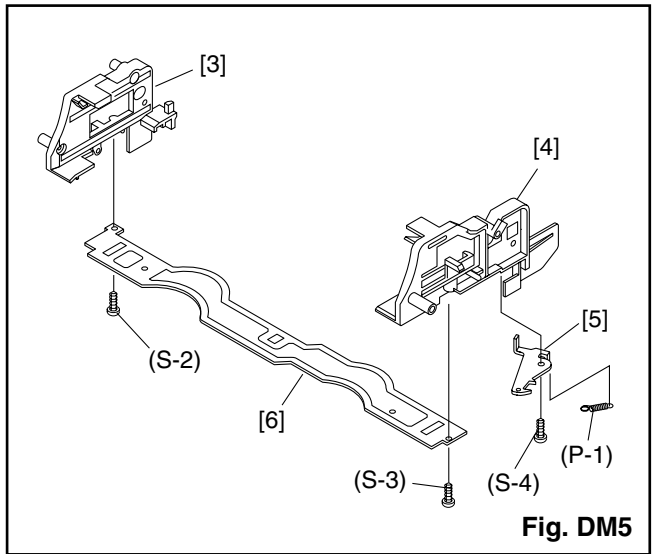


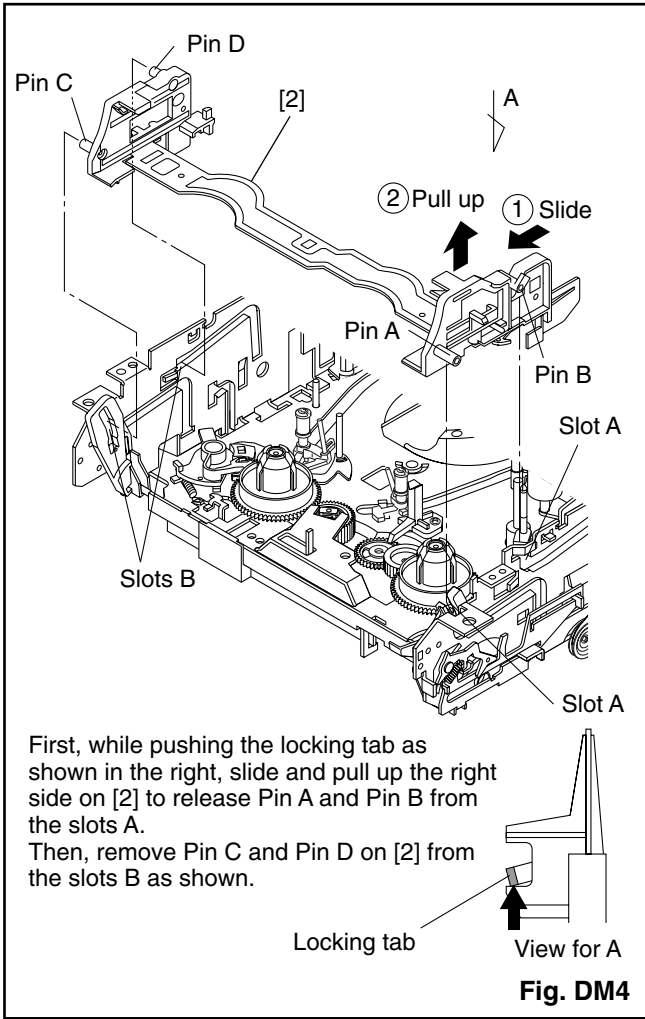
Fig. DM2



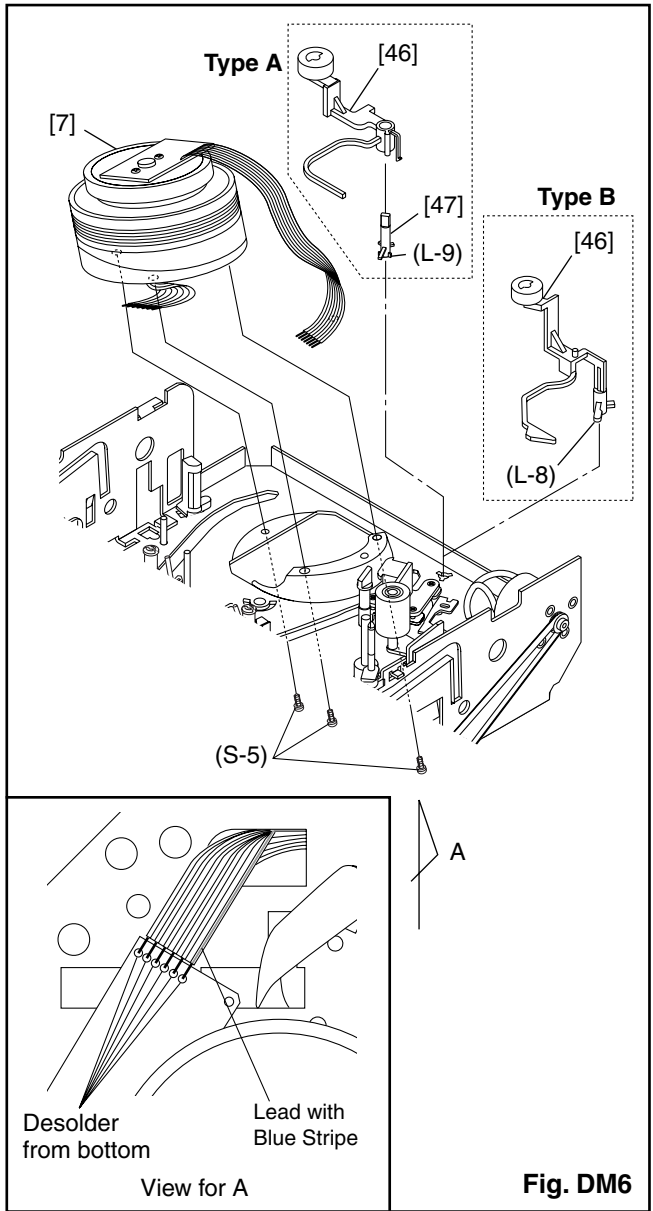
**Fig. DM3**



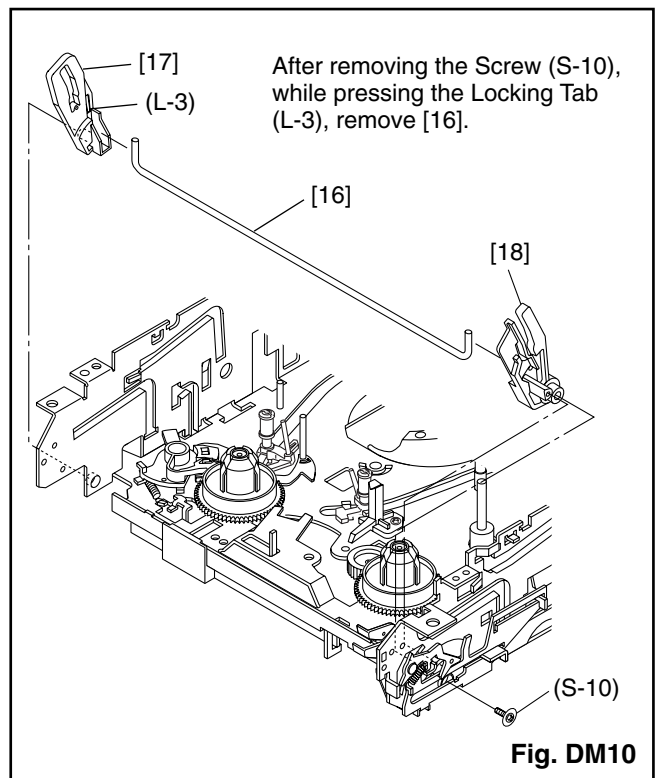
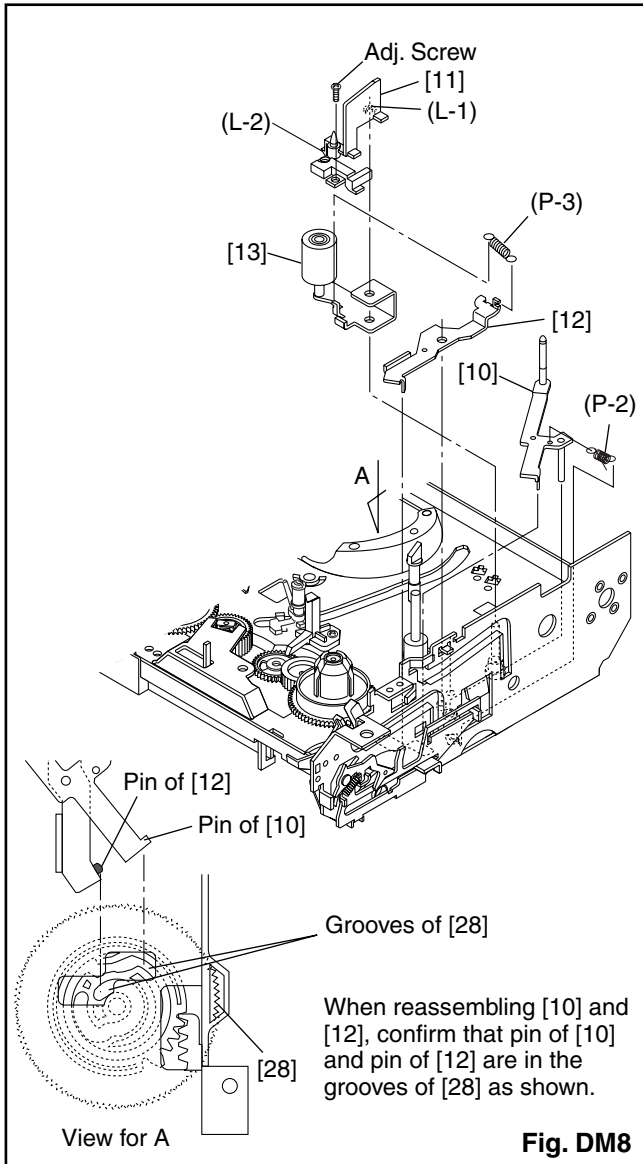
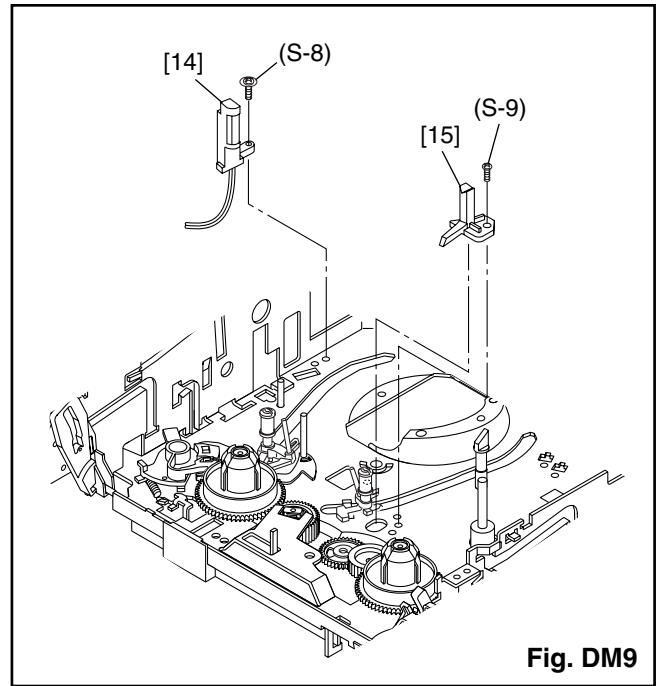
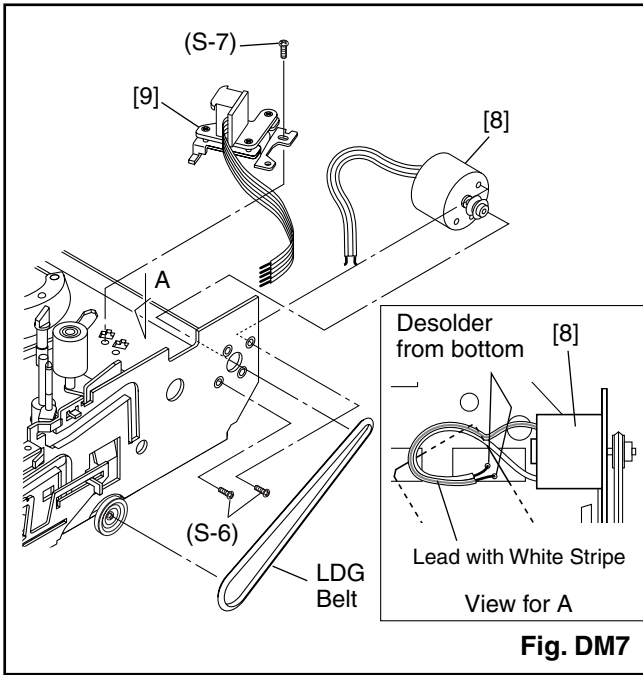
**Fig. DM5**

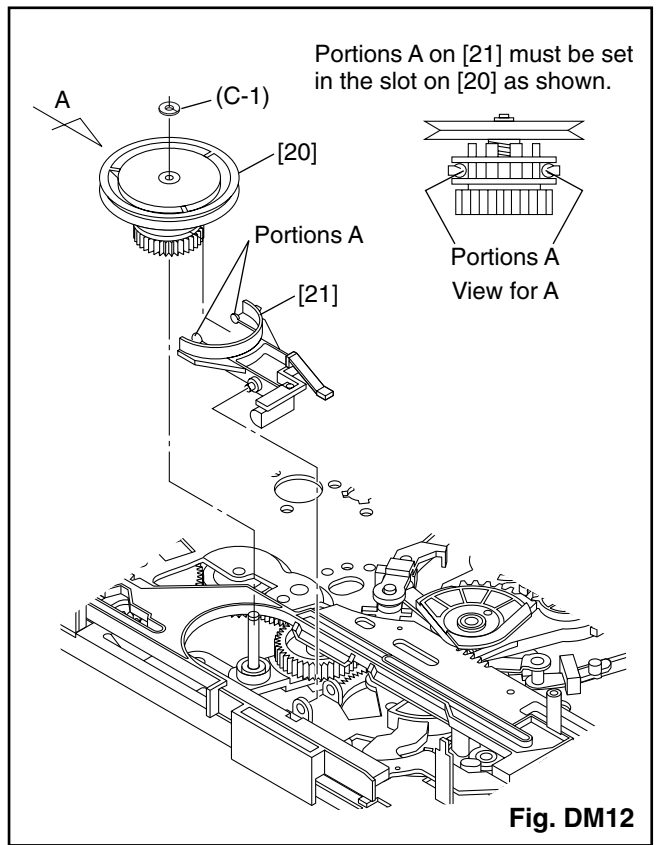
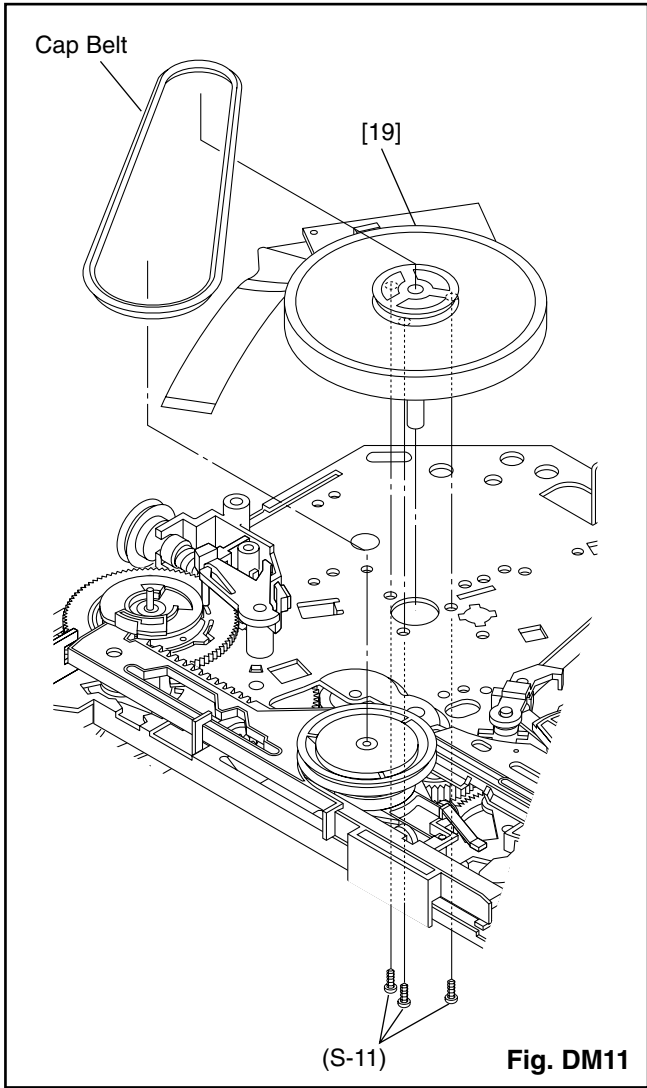


**Fig. DM4**

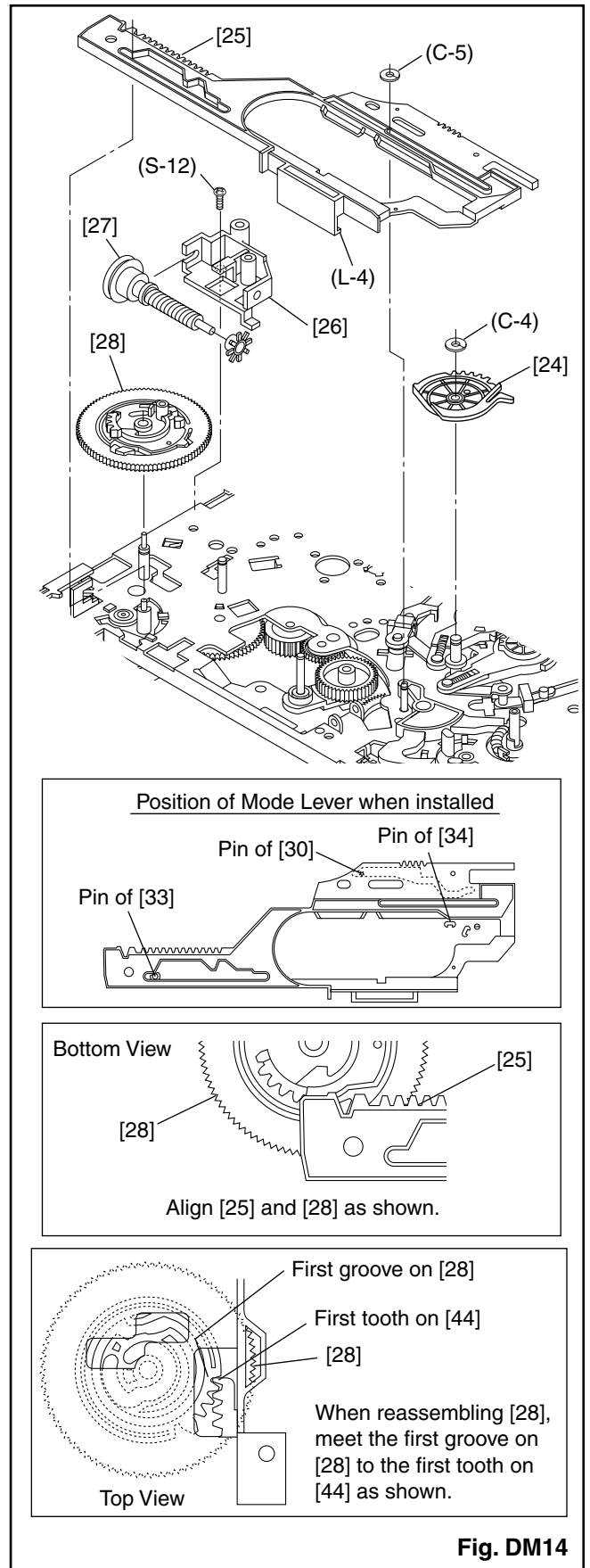
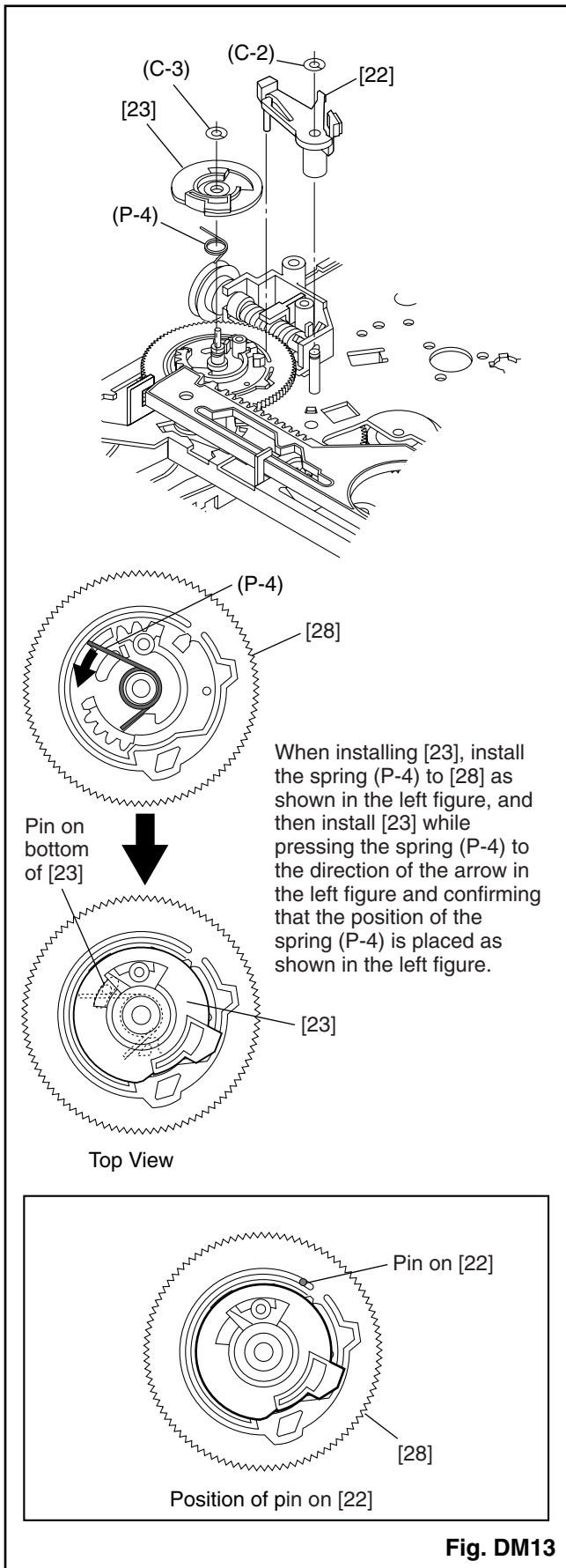


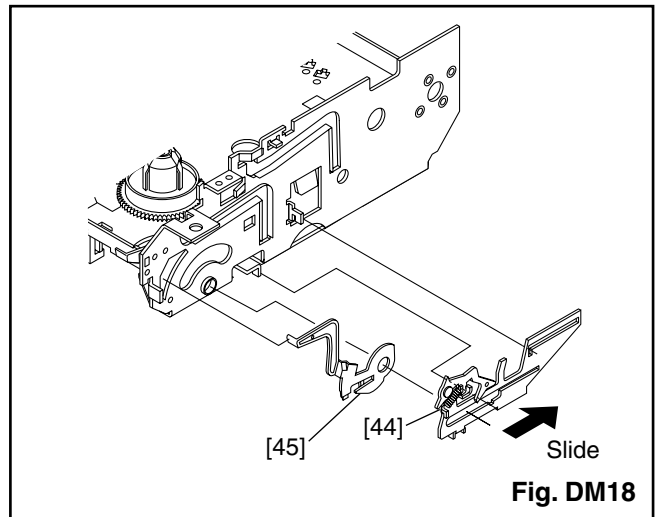
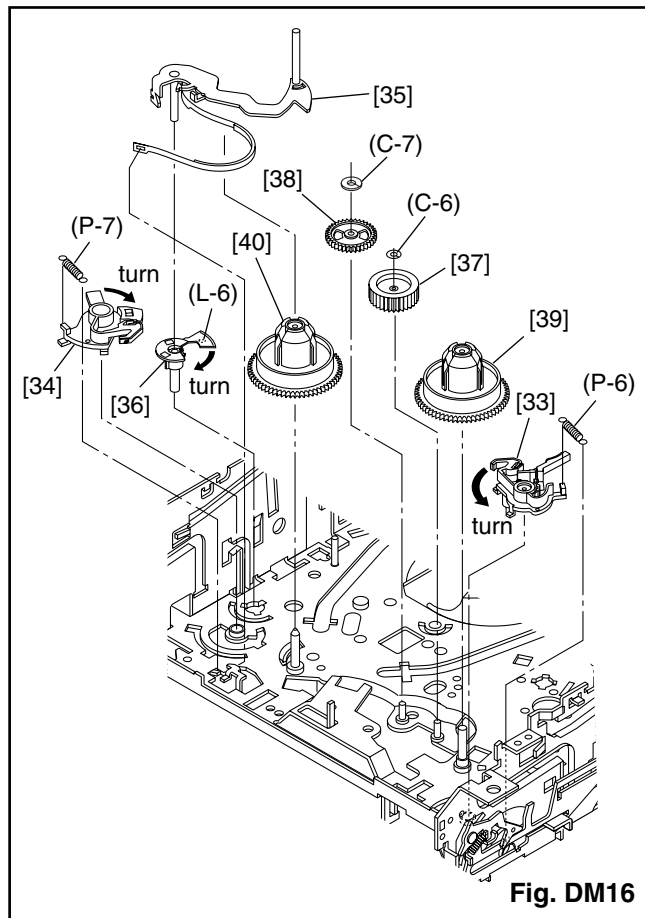
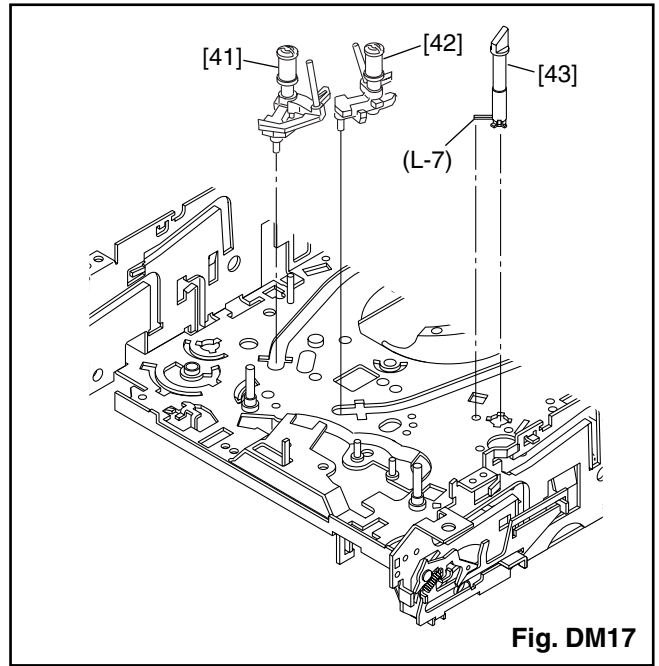
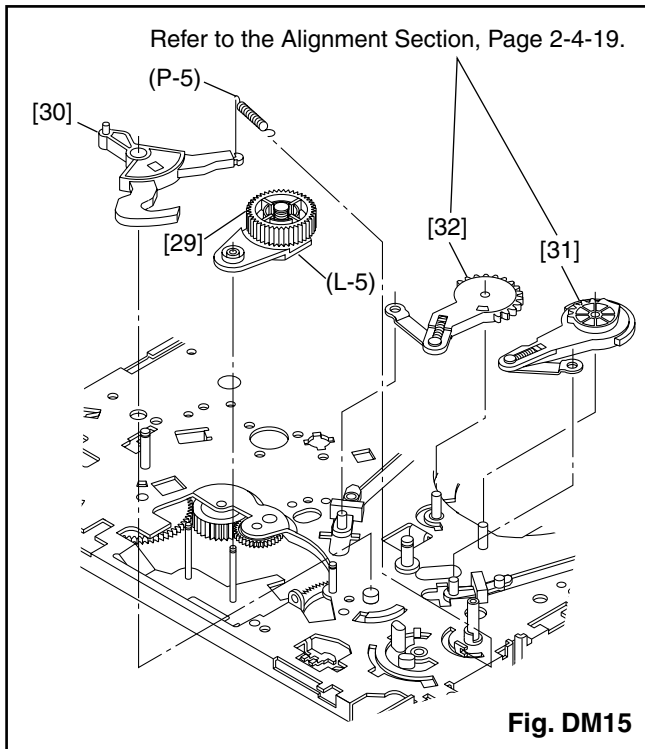
**Fig. DM6**











[ VR130/02, VR130/07, VR130/39, VR130/58 ]

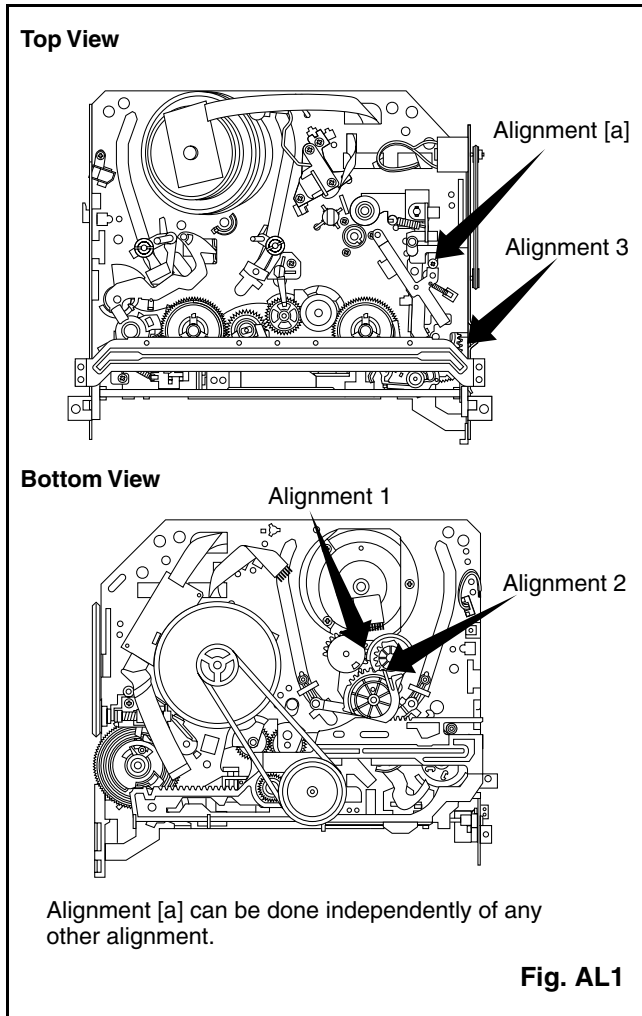
The following procedures describe how to align the individual gears and levers that make up the tape loading/unloading mechanism. Since information about the state of the mechanism is provided to the System Control Circuit only through the Mode Switch, it is essential that the correct relationship between individual gears and levers be maintained.

**All alignments are to be performed with the mechanism in Eject mode**, in the sequence given. Each procedure assumes that all previous procedures have been completed.

**IMPORTANT:**

If any one of these alignments is not performed properly, even if off by only one tooth, the unit will unload or stop and it may result in damage to the mechanical or electrical parts.

**Alignment points in Eject Position**



Alignment 1

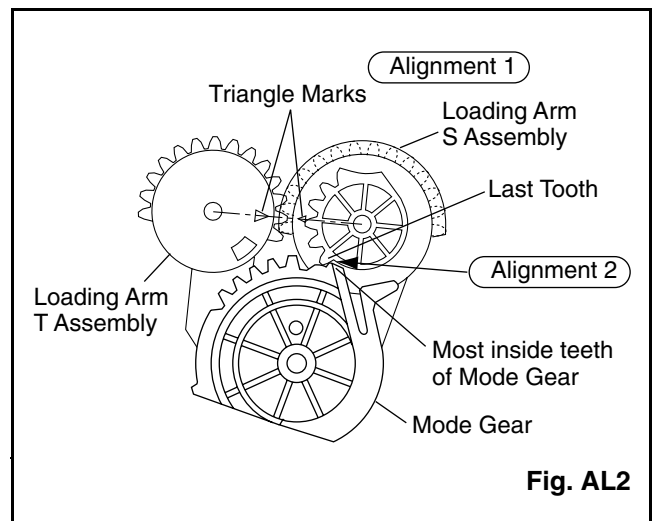
**Loading Arm, S and T Assembly**

Install Loading Arm S and T Assembly so that their triangle marks point to each other as shown in Fig. AL2.

Alignment 2

**Mode Gear**

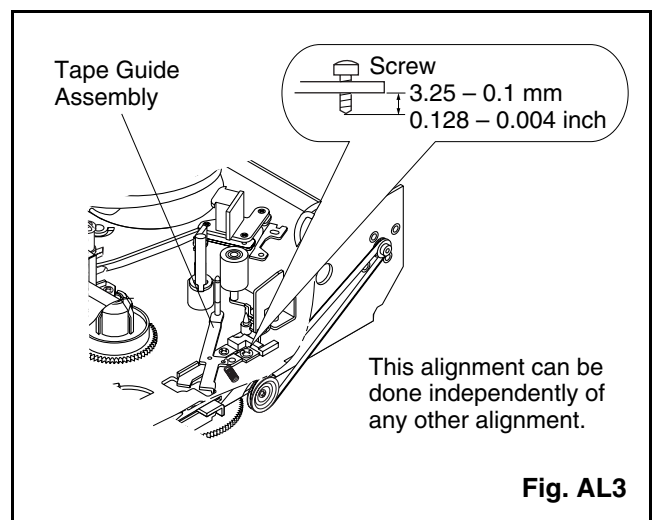
Keeping the two triangles pointing at each other, install the Loading Arm T Assembly so that the last tooth of the gear meets the most inside teeth of the Mode Gear. See Fig. AL2.



Alignment [a]

**Tape Guide Assembly**

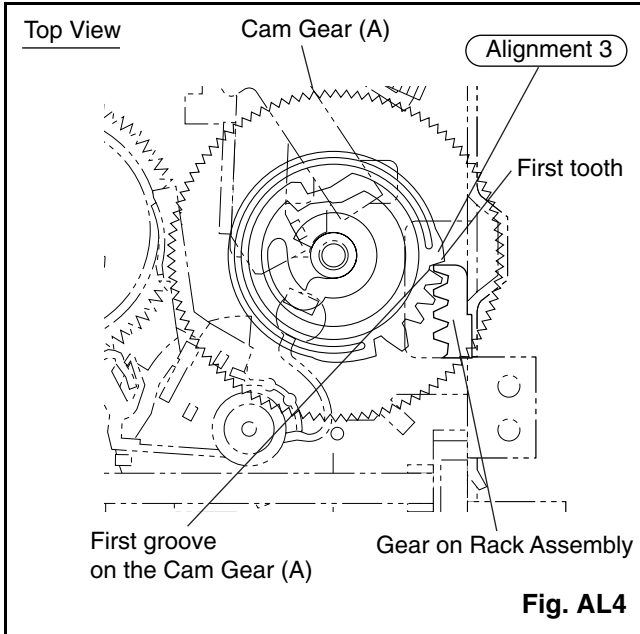
Measurement of the screw must be as specified in Fig. AL3.



### Alignment 3

#### **Cam Gear (A), Rack Assembly**

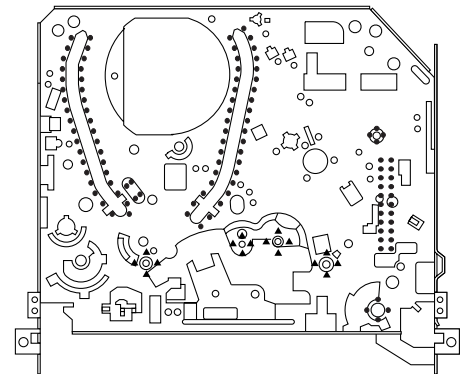
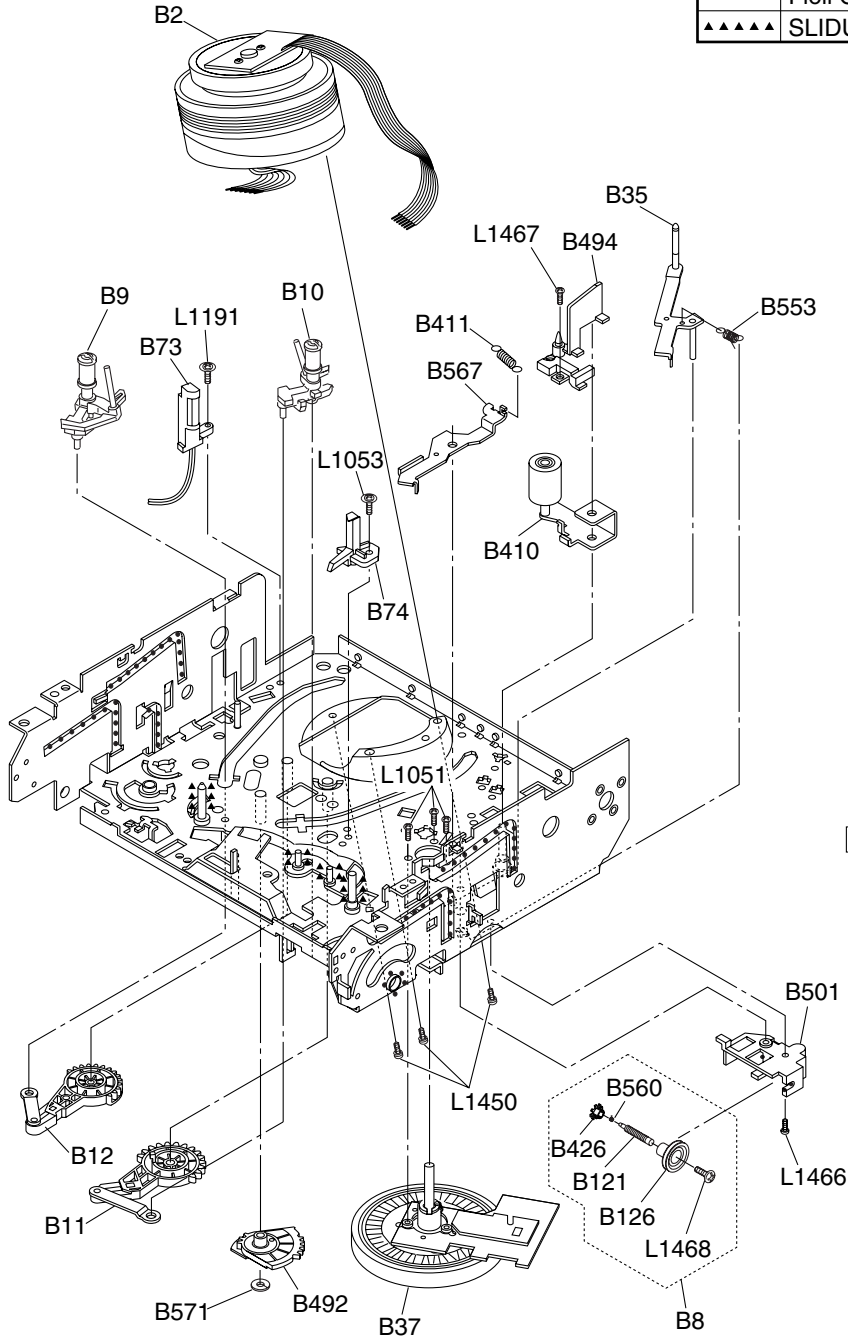
Install the Rack Assembly so that the first tooth on the gear of the Rack Assembly meets the first groove on the Cam Gear (A) as shown in Fig. AL4.



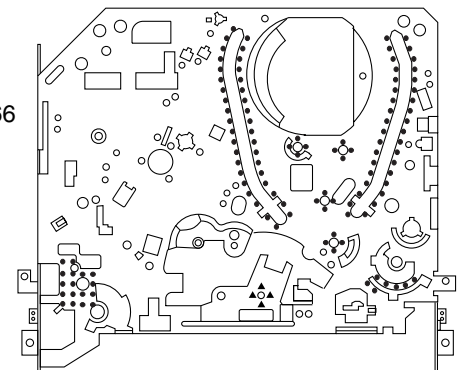
[ VR130/02, VR130/07, VR130/39, VR130/58 ]

Deck Mechanism View 1

Mark	Description	Part No.
•••••	Floil G-374G (Blue grease)	0VZZ00109
▲▲▲▲▲	SLIDUS OIL #150	0VZZ00226



Chassis Assembly  
Top View (Lubricating Point)



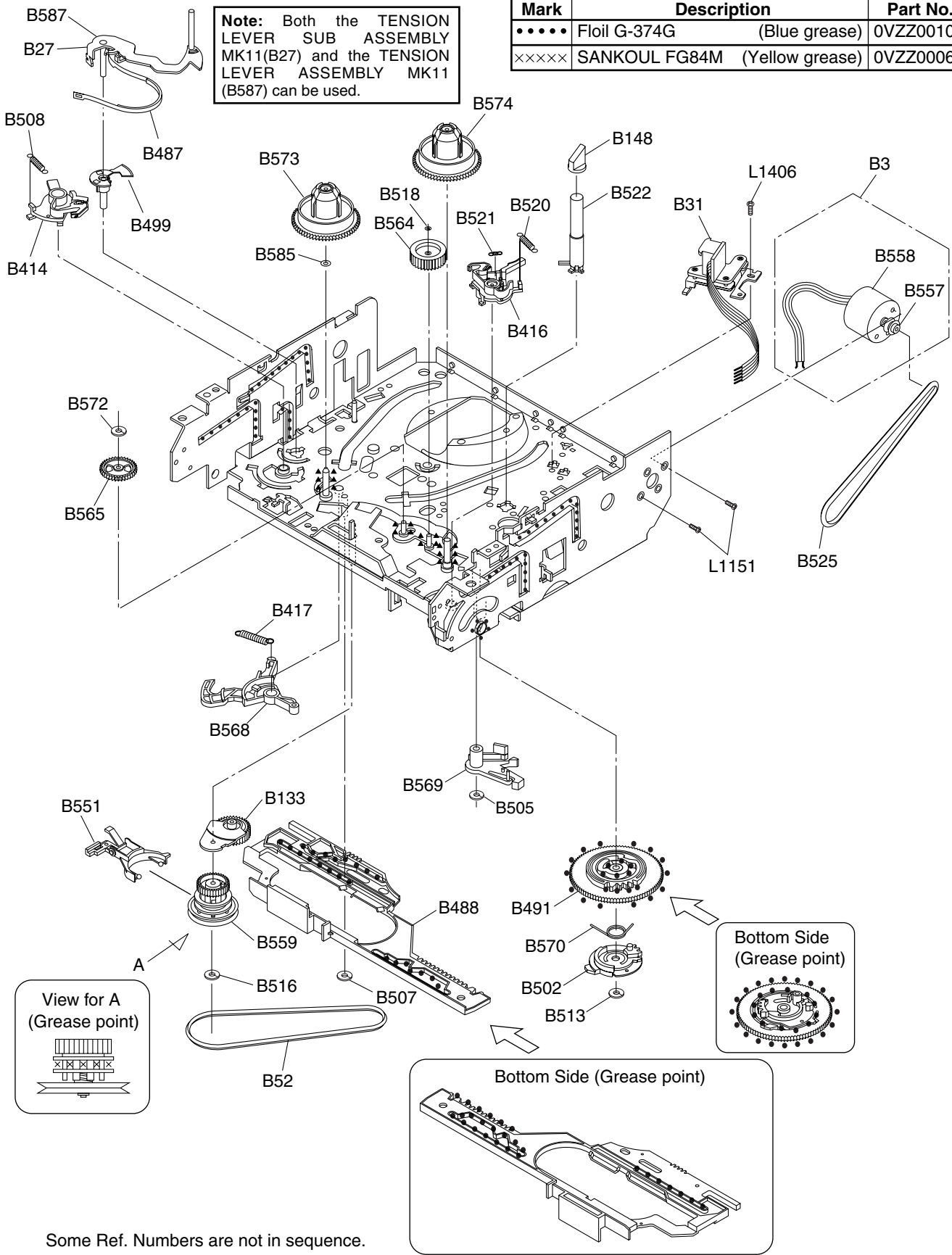
Chassis Assembly  
Bottom View (Lubricating Point)

Some Ref. Numbers are not in sequence.

# Deck Mechanism View 2

**Note:** Both the TENSION LEVER SUB ASSEMBLY MK11(B27) and the TENSION LEVER ASSEMBLY MK11 (B587) can be used.

Mark	Description	Part No.
•••••	Floil G-374G (Blue grease)	0VZZ00109
×××××	SANKOUL FG84M (Yellow grease)	0VZZ00062



Some Ref. Numbers are not in sequence.

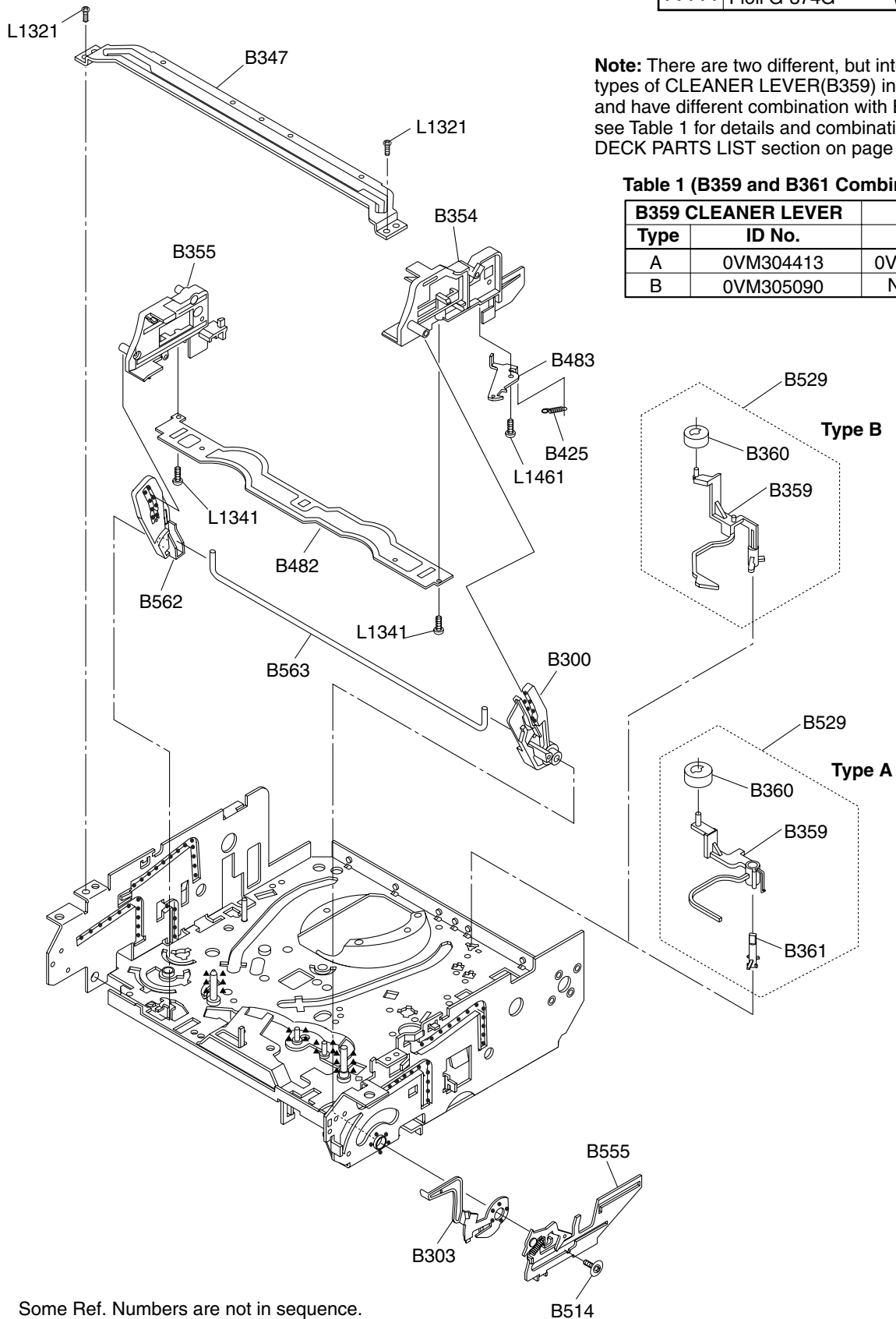
# Deck Mechanism View 3

Mark	Description
•••••	Floil G-374G (Blue grease)

**Note:** There are two different, but interchangeable types of CLEANER LEVER(B359) in this model, and have different combination with B361. Please see Table 1 for details and combination. (Refer to DECK PARTS LIST section on page 2-6-1.)

**Table 1 (B359 and B361 Combination)**

B359 CLEANER LEVER		B361
Type	ID No.	ID No.
A	OVM304413	OVM411114
B	OVM305090	Not used



Some Ref. Numbers are not in sequence.

DECK PARTS LIST		
Pos.	▲ 12 NC	Description
B2	9965 000 12895	CYLINDER ASS. MK11 PAL 2HD 2SP
B2	9965 000 12909	CYLINDER ASS. MK11 PAL 2HD 1SP / for VR130/39
B3	9965 000 12202	LOADING MOTOR ASS. MK11
B8	9965 000 12203	PULLEY ASS. MK11
B9	9965 000 08560	MOVING GUIDE S PREP. MK10
B10	9965 000 08431	MOVING GUIDE T PREP. MK10
B11	9965 000 12204	LOADING ARM ASS. MK11
B12	9965 000 12205	LOADING ARM ASS. MK11
B27	9965 000 12206	TENSION LEVER MK11
B31	9965 000 12207	AC HEAD ASS. MK11
B35	9965 000 12208	TAPE GUIDE ASS. MK11
B37	9965 000 12367	CAPSTAN MOTOR
B52	9965 000 08593	CAP BELT MK10
B73	9965 000 12896	FE HEAD ASS. MK11
B74	9965 000 08555	PRISM MK10
B121	9965 000 12211	WORM MK11
B126	9965 000 12212	PULLEY MK11
B133	9965 000 08437	IDLER ASS. MK10
B148	9965 000 12368	TG CAP MK11
B300	9965 000 12214	C DRIVE LEVER R MK11
B303	9965 000 12215	F DOOR OPENER MK11
B347	9965 000 08445	GUIDE HOLDER A MK10
B354	9965 000 12216	SLIDER R MK11
B355	9965 000 12217	SLIDER L MK11
B359	9965 000 12416	CLEANER LEVER MK11
B360	9965 000 06561	CLEANER ROLLER MK9
B410	9965 000 13685	PINCH ARM(A) ASS.(Y) MK11
B411	9965 000 08453	PINCH SPRING MK10
B414	9965 000 12369	M BRAKE S ASS. MK11
B416	9965 000 12370	M BRAKE T ASS. MK11
B417	9965 000 13686	TENSION SPG(190256) MK11
B425	9965 000 08457	LOCK LEVER SPRING MK10
B426	9965 000 08458	KICK PULLEY MK10
B482	9965 000 12222	C PLATE MK11
B483	9965 000 08461	LOCK LEVER MK10
B487	9965 000 08462	BAND BRAKE MK10
B488	9965 000 13025	MODE LEVER(PB) MK11
B491	9965 000 12224	CAM GEAR(A) MK11
B492	9965 000 12225	MODE GEAR MK11
B494	9965 000 12226	DOOR OPENER B MK11
B499	9965 000 08467	T LEVER HOLDER MK10
B501	9965 000 12227	WORM HOLDER MK11
B502	9965 000 08469	CAM GEAR(B) MK10
B505	9965 000 12372	PSCW(625504) MK11
B507	9965 000 05342	REEL WASHER MK9 5*2.1*0.5
B508	9965 000 08470	S BRAKE SPRING MK10
B513	9965 000 08471	PSCW(752605) MK10

DECK PARTS LIST		
Pos.	▲ 12 NC	Description
B514	9965 000 12228	SCREW RACK MK11
B516	9965 000 05342	REEL WASHER MK9 5*2.1*0.5
B518	4822 532 13159	P.S.W CUT 1.6X4.0X0.5T
B520	9965 000 08481	T BRAKE SPRING MK10
B521	9965 000 08482	SOFT SPRING MK10
B522	9965 000 12373	TG POST ASS. MK11
B525	9965 000 12230	LDG BELT MK11
B529	9965 000 12231	CLEANER ASS. MK11
B551	9965 000 12374	FF ARM MK11
B553	9965 000 12233	REV SPRING MK11
B555	9965 000 12234	RACK ASS. MK11
B557	9965 000 08519	MOTOR PULLEY U5
B558	9965 000 12235	LOADING MOTOR
B559	9965 000 12375	CLUTCH ASS. MK11
B560	9965 000 08522	KICK SPRING MK10
B562	9965 000 08524	C DRIVE LEVER L MK10
B563	9965 000 08525	SLIDER SHAFT MK10
B564	9965 000 09315	M GEAR MK10
B565	9965 000 12238	SENSOR GEAR MK11
B567	9965 000 08544	PINCH ARM(B) MK10
B568	9965 000 08545	BT ARM MK10
B569	9965 000 12239	CAM HOLDER F MK11
B570	9965 000 08550	CAM RACK SPG MK10
B571	4822 532 13158	P.S.W F 6*2.55*0.5
B572	4822 532 13159	P.S.W CUT 1.6X4.0X0.5T
B573	9965 000 12241	REEL S MK11
B574	9965 000 12376	REEL T MK10
B585	9965 000 13687	PSW(317505) MK11
B587	9965 000 13688	TENSION LEVER ASS. MK11
L1051	9965 000 05359	SCREW, B-TIGHT M2.6X6 PAN HEAD+
L1053	9965 000 05375	SCREW, S-TIGHT M2.6X8 WASHER HEAD+
L1151	9965 000 08642	SCREW, SEMS M2.6X4 PAN HEAD+
L1191	9965 000 05375	SCREW, S-TIGHT M2.6X8 WASHER HEAD+
L1321	4822 502 14009	SCREW, S-TIGHT M3X6 BIND HEAD+
L1341	4822 502 14669	SCREW, P-TIGHT M2.6X6 BIND HEAD+
L1406	9965 000 08643	AC HEAD SCREW MK9
L1450	4822 502 14671	SCREW, SEMS M2.6X5 PAN HEAD+
L1461	4822 502 30471	SCREW, P-TIGHT M2.6X6 WASHER HEAD+
L1466	9965 000 05364	SCREW, S-TIGHT M2.6X6 BIND HEAD+
L1467	9965 000 12251	SCREW, S-TIGHT M2.6X5 WASHER HEAD+
L1468	9965 000 12252	SCREW, B-TIGHT M1.7X12