JVC

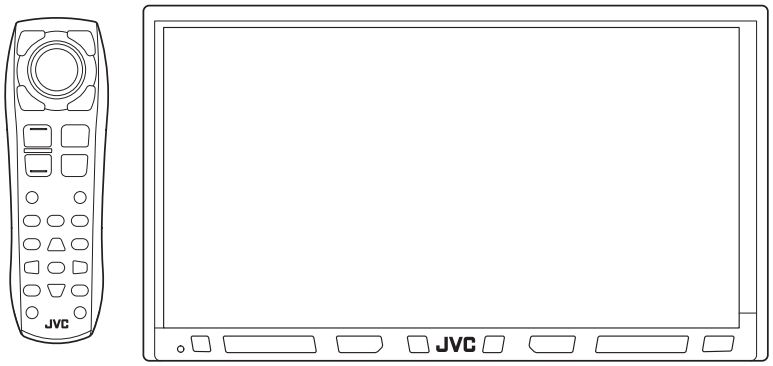
SERVICE MANUAL

DVD RECEIVER WITH MONITOR

KW-AVX810J, KW-AVX810E, KW-AVX810EU,

KW-AVX810EE, KW-AVX810U, KW-AVX810UN,

KW-AVX810UT, KW-AVX810A, KW-AVX814UI



KW-AVX810J

KW-AVX810E

KW-AVX810EE

Lead free solder used in the board (material : Sn-Ag-Cu, melting point : 219 Centigrade)
Lead free solder used in the board (material : Sn-Cu, melting point : 230 Centigrade)

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No.MA403<Rev.001>
2008/4

SPECIFICATION

KW-AVX810/J

AMPLIFIER		
Power Output	20 W RMS × 4 Channels at 4 Ω and < or = 1% THD+N	
Signal-to-Noise Ratio	80 dBA (reference: 1 W into 4 Ω)	
Load Impedance		4 Ω (4 Ω to 8 Ω allowance)
Equalizer Control Range	Frequencies	60 Hz 150 Hz 400 Hz 1 kHz 2.5 kHz 6.3 kHz 15 kHz
	Level	±10 dB
Audio Output Level LINE OUT (FRONT REAR)SUBWOOFER	Line-Out Level/Impedance	5 V/20 kΩ load (full scale)
	Output Impedance	1 kΩ
Color System		NTSC
Video Output (composite)		1 Vp-p/75 Ω
Other Terminals	Input	LINE IN VIDEO IN CAMERA IN USB input Antenna input
	Output	VIDEO OUT
	Others	CD changer OE REMOTE DIGITAL OUT (optical)
FM/AM TUNER		
Frequency Range	FM (with channel interval set to 100 kHz or 200 kHz)	87.5 MHz to 107.9 MHz
	FM (with channel interval set to 50 kHz)	87.5 MHz to 108.0 MHz
	AM (with channel interval set to 10 kHz)	530 kHz to 1 710 kHz
	AM (with channel interval set to 9 kHz)	531 kHz to 1 602 kHz
FM Tuner	Usable Sensitivity	11.3 dBf (1.0 μV/75 Ω)
	50 dB Quieting Sensitivity	16.3 dBf (1.8 μV/75 Ω)
	Alternate Channel Selectivity (400 kHz)	65 dB
	Frequency Response	40 Hz to 15 000 Hz
	Stereo Separation	35 dB
AM Tuner	Sensitivity/Selectivity	20 μV/35 dB
DVD/CD		
Signal Detection System	Non-contact optical pickup (semiconductor laser)	
Frequency Response	DVD, fs=48 kHz/96 kHz	16 Hz to 22 000 Hz
	VCD/CD	16 Hz to 20 000 Hz
Dynamic Range		93 dB
Signal-to-Noise Ratio		95 dB
Wow and Flutter		Less than measurable limit
SD		
Compatible File System	FAT 32/16/12	
Capacity	8 Mbytes to 2 Gbytes	
Data Transfer Rate	Maximum 10 Mbps	
USB		
USB Standards	USB 2.0 Full Speed	
Data Transfer Rate	Full Speed: Maximum 12 Mbytes	
	Low Speed: Maximum 1.5 Mbytes	
Compatible Device	Mass storage class	
Compatible File System	FAT 32/16/12	
Max. Current	Less than 500 mA/5V	
MONITOR		
Screen Size	7 inch wide liquid crystal display	
Number of Pixel	336 960 pixels 480 × 3 (horizontal) × 234 (vertical)	
Drive Method	TFT (Thin Film Transistor) active matrix format	
Color System	NTSC/PAL	
Aspect Ratio	16 : 9 (wide)	
GENERAL		
Power Requirement	Operating Voltage	DC 14.4 V (11 V to 16 V allowance)
Grounding System		Negative ground
Allowable Storage Temperature		-10°C to +60°C (14°F to 140°F)
Allowable Operating Temperature		0°C to +40°C (32°F to 104°F)
Dimensions (W × H × D) With trim plate and sleeve attached	Installation Size (approx.)	182 mm × 111 mm × 160 mm
		(7-3/16" × 4-3/8" × 6-5/16")
	Panel Size (approx.)	188 mm × 117 mm × 10 mm
		(7-7/16" × 4-5/8" × 7/16")
Mass (approx.)		3.3 kg (7.3 lbs) (including trims and sleeve)

Design and specifications are subject to change without notice.

KW-AVX810/E/EU

AMPLIFIER		
Maximum Power Output	Front/Rear	50 W per channel
Continuous Power Output (RMS)	Front/Rear	20 W per channel into 4 Ω 40 Hz to 20 000 Hz at no more than 0.8% total harmonic distortion
Load Impedance		4 Ω (4 Ω to 8 Ω allowance)
Equalizer Control Range	Frequencies	60 Hz 150 Hz 400 Hz 1 kHz 2.5 kHz 6.3 kHz 15 kHz
	Level	±10 dB
Signal-to-Noise Ratio		70 dB
Audio Output Level LINE OUT (FRONT REAR) SUBWOOFER	Line-Out Level/Impedance	5 V/20 kΩ load (full scale)
	Output Impedance	1 kΩ
Color System		PAL
Video Output (composite)		1 Vp-p/75 Ω
Other Terminals	Input	LINE IN VIDEO IN CAMERA IN USB input Aerial input
	Output	VIDEO OUT
	Others	CD changer OE REMOTE DIGITAL OUT (optical)
FM/AM TUNER		
Frequency Range	FM	87.5 MHz to 108.0 MHz
	AM	(MW) 522 kHz to 1 620 kHz
		(LW) 144 kHz to 279 kHz
FM Tuner	Usable Sensitivity	11.3 dBf (1.0 μV/75 Ω)
	50 dB Quieting Sensitivity	16.3 dBf (1.8 μV/75 Ω)
	Alternate Channel Selectivity (400 kHz)	65 dB
	Frequency Response	40 Hz to 15 000 Hz
	Stereo Separation	35 dB
MW Tuner	Sensitivity/Selectivity	20 μV/35 dB
LW Tuner	Sensitivity	50 μV
DVD/CD		
Signal Detection System	Non-contact optical pickup (semiconductor laser)	
Frequency Response	DVD, fs=48 kHz/96 kHz	16 Hz to 22 000 Hz
	VCD/CD	16 Hz to 20 000 Hz
Dynamic Range		93 dB
Signal-to-Noise Ratio		95 dB
Wow and Flutter		Less than measurable limit
SD		
Compatible File System	FAT 32/16/12	
Capacity	8 Mbytes to 2 Gbytes	
Data Transfer Rate	Maximum 10 Mbps	
USB		
USB Standards	USB 2.0 Full Speed	
Data Transfer Rate	Full Speed: Maximum 12 Mbytes	
	Low Speed: Maximum 1.5 Mbytes	
Compatible Device	Mass storage class	
Compatible File System	FAT 32/16/12	
Max. Current	Less than 500 mA/5V	
MONITOR		
Screen Size	7 inch wide liquid crystal display	
Number of Pixel	336 960 pixels 480 × 3 (horizontal) × 234 (vertical)	
Drive Method	TFT (Thin Film Transistor) active matrix format	
Color System	NTSC/PAL	
Aspect Ratio	16 : 9 (wide)	
GENERAL		
Power Requirement	Operating Voltage	DC 14.4 V (11 V to 16 V allowance)
Grounding System		Negative ground
Allowable Storage Temperature		-10°C to +60°C
Allowable Operating Temperature		0°C to +40°C
Dimensions (W × H × D)	Installation Size (approx.)	182 mm × 111 mm × 160 mm
With trim plate and sleeve attached	Panel Size (approx.)	188 mm × 117 mm × 10 mm
Mass (approx.)		3.3 kg (including trims and sleeve)

Design and specifications are subject to change without notice.

KW-AVX810EE

AMPLIFIER		
Maximum Power Output	Front/Rear	50 W per channel
Continuous Power Output RMS)	Front/Rear	20 W per channel into 4 Ω 40 Hz to 20 000 Hz at no more than 0.8% total harmonic distortion
Load Impedance		4 Ω (4 Ω to 8 Ω allowance)
Equalizer Control Range	Frequencies	60 Hz, 150 Hz, 400 Hz, 1 kHz, 2.5 kHz, 6.3 kHz, 15 kHz
	Level	±10 dB
Signal-to-Noise Ratio		70dB
Audio Output Level LINE OUT (FRONT REAR), SUBWOOFER "	Line-Out Level/Impedance	5 V/20 kΩ load (full scale)
	Output Impedance	1 kΩ
Color System		PAL
Video Output (composite)		1 Vp-p/75 Ω
Other Terminals	Input	LINE IN, VIDEO IN, CAMERA IN, USB input Aerial input
	Output	VIDEO OUT
	Others	CD changer, OE REMOTE, DIGITAL OUT (optical)
FM/AM TUNER		
Frequency Range	FM	87.5 MHz to 108.0 MHz
	AM	(MW) 522 kHz to 1 620 kHz
		(LW) 144 kHz to 279 kHz
FM Tuner	Usable Sensitivity	11.3 dBf (1.0 μV/75 Ω)
	50 dB Quieting Sensitivity	16.3 dBf (1.8 μV/75 Ω)
	Alternate Channel Selectivity (400 kHz)	65 dB
	Frequency Response	40 Hz to 15 000 Hz
	Stereo Separation	35 dB
MW Tuner	Sensitivity/Selectivity	20 μV/35 dB
LW Tuner	Sensitivity	50 μV
DVD/CD		
Signal Detection System	Non-contact optical pickup (semiconductor laser)	
Frequency Response	DVD, fs=48 kHz/96 kHz	16 Hz to 22 000 Hz
	VCD/CD	16 Hz to 20 000 Hz
Dynamic Range		93 dB
Signal-to-Noise Ratio		95 dB
Wow and Flutter		Less than measurable limit
SD		
Compatible File System	FAT 32/16/12	
Capacity	8 Mbytes to 2 Gbytes	
Data Transfer Rate	Maximum 10 Mbps	
USB		
USB Standards	USB 2.0 Full Speed	
Data Transfer Rate	Full Speed: Maximum 12 Mbytes	
	Low Speed: Maximum 1.5 Mbytes	
Compatible Device	Mass storage class	
Compatible File System	FAT 32/16/12	
Max. Current	Less than 500 mA/5V	
MONITOR		
Screen Size	7 inch wide liquid crystal display	
Number of Pixel	336 960 pixels: 480 × 3 (horizontal) × 234 (vertical)	
Drive Method	TFT (Thin Film Transistor) active matrix format	
Color System	NTSC/PAL	
Aspect Ratio	16 : 9 (wide)	
GENERAL		
Power Requirement	Operating Voltage	DC 14.4 V (11 V to 16 V allowance)
Grounding System		Negative ground
Allowable Storage Temperature		-10°C to +60°C
Allowable Operating Temperature		0°C to +40°C
Dimensions (W × H × D) With trim plate and sleeve attached	Installation Size (approx.)	182 mm × 111 mm × 160 mm
	Panel Size (approx.)	188 mm × 117 mm × 10 mm
Mass (approx.)		3.3 kg (including trims and sleeve)

Design and specifications are subject to change without notice.

KW-AVX810U

AMPLIFIER		
Maximum Power Output	Front/Rear	50 W per channel
Continuous Power Output RMS)	Front/Rear	20 W per channel into 4 Ω 40 Hz to 20 000 Hz at no more than 0.8% total harmonic distortion
Load Impedance		4 Ω (4 Ω to 8 Ω allowance)
Equalizer Control Range	Frequencies	60 Hz 150 Hz 400 Hz 1 kHz 2.5 kHz 6.3 kHz 15 kHz
	Level	±10 dB
Signal-to-Noise Ratio		70 dB
Audio Output Level LINE OUT (FRONT REAR) SUBWOOFER	Line-Out Level/Impedance	5 V/20 kΩ load (full scale)
	Output Impedance	1 kΩ
Color System		NTSC / PAL
Video Output (composite)		1Vp-p / 75Ω
Other Terminals	Input	LINE IN VIDEO IN CAMERA IN USB input Antenna input
	Output	VIDEO OUT
	Others	CD changer DIGITAL OUT (optical) POSITION OUT
FM/AM TUNER		
Frequency Range	FM	87.5 MHz to 108.0 MHz
	AM	531 kHz to 1 602 kHz
FM Tuner	Usable Sensitivity	11.3 dBf (1.0 μV/75 Ω)
	50 dB Quieting Sensitivity	16.3 dBf (1.8 μV/75 Ω)
	Alternate Channel Selectivity (400 kHz)	65 dB
	Frequency Response	40 Hz to 15 000 Hz
	Stereo Separation	35 dB
AM Tuner	Sensitivity/Selectivity	20 μV/35 dB
DVD/CD		
Signal Detection System	Non-contact optical pickup (semiconductor laser)	
Frequency Response	DVD, fs=48 kHz/96 kHz	16 Hz to 22 000 Hz
	VCD/CD	16 Hz to 20 000 Hz
Dynamic Range		93 dB
Signal-to-Noise Ratio		95 dB
Wow and Flutter		Less than measurable limit
SD		
Compatible File System	FAT 32/16/12	
Capacity	8 Mbytes to 2 Gbytes	
Data Transfer Rate	Maximum 10 Mbps	
USB		
USB Standards	USB 2.0 Full Speed	
Data Transfer Rate	Full Speed: Maximum 12 Mbytes	
	Low Speed: Maximum 1.5 Mbytes	
Compatible Device	Mass storage class	
Compatible File System	FAT 32/16/12	
Max. Current	Less than 500 mA/5V	
MONITOR		
Screen Size	7 inch wide liquid crystal display	
Number of Pixel	336 960 pixels: 480 × 3 (horizontal) × 234 (vertical)	
Drive Method	TFT (Thin Film Transistor) active matrix format	
Color System	NTSC/PAL	
Aspect Ratio	16 9 (wide)	
GENERAL		
Power Requirement	Operating Voltage	DC 14.4 V (11 V to 16 V allowance)
Grounding System		Negative ground
Allowable Storage Temperature		-10°C to +60°C
Allowable Operating Temperature		0°C to +40°C
Dimensions (W × H × D)	Installation Size (approx.)	170 mm × 100 mm × 160 mm
	Panel Size (approx.)	171 mm × 97 mm × 22 mm
Mass (approx.)		2.8 kg

Design and specifications are subject to change without notice.

KW-AVX810UN

AMPLIFIER		
Maximum Power Output	Front/Rear	50 W per channel
Continuous Power Output (RMS)	Front/Rear	20 W per channel into 4 Ω 40 Hz to 20 000 Hz at no more than 0.8% total harmonic distortion
Load Impedance		4 Ω (4 Ω to 8 Ω allowance)
Equalizer Control Range	Frequencies	60 Hz 150 Hz 400 Hz 1 kHz 2.5 kHz 6.3 kHz 15 kHz
	Level	±10 dB
Signal-to-Noise Ratio		70 dB
Audio Output Level LINE OUT (FRONT REAR)SUBWOOFER	Line-Out Level/Impedance	5 V/20 kΩ load (full scale)
	Output Impedance	1 kΩ
Color System		NTSC/PAL
Video Output (composite)		1 Vp-p/75 Ω
Other Terminals	Input	LINE IN VIDEO IN CAMERA IN USB input Antenna input
	Output	VIDEO OUT
	Others	CD changer DIGITAL OUT (optical) POSITION OUT
FM/AM TUNER		
Frequency Range	FM	87.5 MHz to 108.0 MHz
	AM	531 kHz to 1 602 kHz
FM Tuner	Usable Sensitivity	11.3 dBf (1.0 μV/75 Ω)
	50 dB Quieting Sensitivity	16.3 dBf (1.8 μV/75 Ω)
	Alternate Channel Selectivity (400 kHz)	65 dB
	Frequency Response	40 Hz to 15 000 Hz
	Stereo Separation	35 dB
AM Tuner	Sensitivity/Selectivity	20 μV/35 dB
DVD/CD		
Signal Detection System	Non-contact optical pickup (semiconductor laser)	
Frequency Response	DVD, fs=48 kHz/96 kHz	16 Hz to 22 000 Hz
	VCD/CD	16 Hz to 20 000 Hz
Dynamic Range		93 dB
Signal-to-Noise Ratio		95 dB
Wow and Flutter		Less than measurable limit
SD		
Compatible File System	FAT 32/16/12	
Capacity	8 Mbytes to 2 Gbytes	
Data Transfer Rate	Maximum 10 Mbps	
USB		
USB Standards	USB 2.0 Full Speed	
Data Transfer Rate	Full Speed: Maximum 12 Mbytes	
	Low Speed: Maximum 1.5 Mbytes	
Compatible Device	Mass storage class	
Compatible File System	FAT 32/16/12	
Max. Current	Less than 500 mA/5V	
MONITOR		
Screen Size	7 inch wide liquid crystal display	
Number of Pixel	336 960 pixels: 480 × 3 (horizontal) × 234 (vertical)	
Drive Method	TFT (Thin Film Transistor) active matrix format	
Color System	NTSC/PAL	
Aspect Ratio	16 : 9 (wide)	
GENERAL		
Power Requirement	Operating Voltage	DC 14.4 V (11 V to 16 V allowance)
Grounding System		Negative ground
Allowable Storage Temperature		-10°C to +60°C
Allowable Operating Temperature		0°C to +40°C
Dimensions (W × H × D)	Installation Size (approx.)	170 mm × 100 mm × 160 mm
	Panel Size (approx.)	171 mm× 97 mm × 22 mm
Mass (approx.)		2.8 kg

Design and specifications are subject to change without notice.

KW-AVX810UT

AMPLIFIER		
Maximum Power Output	Front/Rear	50 W per channel
Continuous Power Output (RMS)	Front/Rear	20 W per channel into 4 Ω 40 Hz to 20 000 Hz at no more than 0.8% total harmonic distortion
Load Impedance		4 Ω (4 Ω to 8 Ω allowance)
Equalizer Control Range	Frequencies	60 Hz 150 Hz 400 Hz 1 kHz 2.5 kHz 6.3 kHz 15 kHz
	Level	±10 dB
Signal-to-Noise Ratio		70 dB
Audio Output Level LINE OUT (FRONT REAR) SUBWOOFER	Line-Out Level/Impedance	5 V/20 kΩ load (full scale)
	Output Impedance	1 kΩ
Color System		NTSC/PAL
Video Output (composite)		1 Vp-p/75 Ω
Other Terminals	Input	LINE IN VIDEO IN CAMERA IN USB input Antenna input
	Output	VIDEO OUT
	Others	CD changer DIGITAL OUT (optical) POSITION OUT
FM/AM TUNER		
Frequency Range	FM	87.5 MHz to 108.0 MHz
	AM	531 kHz to 1 602 kHz
FM Tuner	Usable Sensitivity	11.3 dBf (1.0 μþV/75 Ω)
	50 dB Quieting Sensitivity	16.3 dBf (1.8 μV/75 Ω)
	Alternate Channel Selectivity (400 kHz)	65 dB
	Frequency Response	40 Hz to 15 000 Hz
	Stereo Separation	35 dB
AM Tuner	Sensitivity/Selectivity	20 μV/35 dB
DVD/CD		
Signal Detection System	Non-contact optical pickup (semiconductor laser)	
Frequency Response	DVD, fs=48 kHz/96 kHz	16 Hz to 22 000 Hz
	VCD/CD	16 Hz to 20 000 Hz
Dynamic Range		93 dB
Signal-to-Noise Ratio		95 dB
Wow and Flutter		Less than measurable limit
SD		
Compatible File System	FAT 32/16/12	
Capacity	8 Mbytes to 2 Gbytes	
Data Transfer Rate	Maximum 10 Mbps	
USB		
USB Standards	USB 2.0 Full Speed	
Data Transfer Rate	Full Speed: Maximum 12 Mbytes	
	Low Speed: Maximum 1.5 Mbytes	
Compatible Device	Mass storage class	
Compatible File System	FAT 32/16/12	
Max. Current	Less than 500 mA/5V	
MONITOR		
Screen Size	7 inch wide liquid crystal display	
Number of Pixel	336 960 pixels: 480 × 3 (horizontal) × 234 (vertical)	
Drive Method	TFT (Thin Film Transistor) active matrix format	
Color System	NTSC/PAL	
Aspect Ratio	16:9 (wide)	
GENERAL		
Power Requirement	Operating Voltage	DC 14.4 V (11 V to 16 V allowance)
Grounding System		Negative ground
Allowable Storage Temperature		-10°C to +60°C
Allowable Operating Temperature		0°C to +40°C
Dimensions (W × H × D)	Installation Size (approx.)	170 mm × 100 mm × 160 mm
	Panel Size (approx.)	171 mm × 97 mm × 22 mm
Mass (approx.)		2.8 kg

Design and specifications are subject to change without notice.

KW-AVX810A

AMPLIFIER		
Maximum Power Output	Front/Rear	50 W per channel
Continuous Power Output (RMS)	Front/Rear	20 W per channel into 4 Ω 40 Hz to 20 000 Hz at no more than 0.8% total harmonic distortion
Load Impedance		4 Ω (4 Ω to 8 Ω allowance)
Equalizer Control Range	Frequencies	60 Hz 150 Hz 400 Hz 1 kHz 2.5 kHz 6.3 kHz 15 kHz
	Level	±10 dB
Signal-to-Noise Ratio		70 dB
Audio Output Level LINE OUT (FRONT REAR) SUBWOOFER	Line-Out Level/Impedance	5 V/20 kΩ load (full scale)
	Output Impedance	1 kΩ
Color System		NTSC/PAL
Video Output (composite)		1 Vp-p/75 Ω
Other Terminals	Input	LINE IN VIDEO IN CAMERA IN USB input Antenna input
	Output	VIDEO OUT
	Others	CD changer DIGITAL OUT (optical) POSITION OUT
FM/AM TUNER		
Frequency Range	FM	87.5 MHz to 108.0 MHz
	AM	531 kHz to 1 602 kHz
FM Tuner	Usable Sensitivity	11.3 dBf (1.0 μV/75 Ω)
	50 dB Quieting Sensitivity	16.3 dBf (1.8 μV/75 Ω)
	Alternate Channel Selectivity (400 kHz)	65 dB
	Frequency Response	40 Hz to 15 000 Hz
	Stereo Separation	35 dB
AM Tuner	Sensitivity/Selectivity	20 μV/35 dB
DVD/CD		
Signal Detection System	Non-contact optical pickup (semiconductor laser)	
Frequency Response	DVD, fs=48 kHz/96 kHz	16 Hz to 22 000 Hz
	VCD/CD	16 Hz to 20 000 Hz
Dynamic Range		93 dB
Signal-to-Noise Ratio		95 dB
Wow and Flutter		Less than measurable limit
SD		
Compatible File System	FAT 32/16/12	
Capacity	8 Mbytes to 2 Gbytes	
Data Transfer Rate	Maximum 10 Mbps	
USB		
USB Standards	USB 2.0 Full Speed	
Data Transfer Rate	Full Speed: Maximum 12 Mbytes	
	Low Speed: Maximum 1.5 Mbytes	
Compatible Device	Mass storage class	
Compatible File System	FAT 32/16/12	
Max. Current	Less than 500 mA/5V	
MONITOR		
Screen Size	7 inch wide liquid crystal display	
Number of Pixel	336 960 pixels: 480 × 3 (horizontal) × 234 (vertical)	
Drive Method	TFT (Thin Film Transistor) active matrix format	
Color System	NTSC/PAL	
Aspect Ratio	16:9 (wide)	
GENERAL		
Power Requirement	Operating Voltage	DC 14.4 V (11 V to 16 V allowance)
Grounding System		Negative ground
Allowable Storage Temperature		-10°C to +60°C
Allowable Operating Temperature		0°C to +40°C
Dimensions (W × H × D)	Installation Size (approx.)	170 mm × 100 mm × 160 mm
	Panel Size (approx.)	171 mm × 97 mm × 22 mm
Mass (approx.)		2.8 kg

Design and specifications are subject to change without notice.

KW-AVX814UI

AMPLIFIER		
Maximum Power Output	Front/Rear	50 W per channel
Continuous Power Output (RMS)	Front/Rear	20 W per channel into 4 Ω 40 Hz to 20 000 Hz at no more than 0.8% total harmonic distortion
Load Impedance		4 Ω (4 Ω to 8 Ω allowance)
Equalizer Control Range	Frequencies	60 Hz 150 Hz 400 Hz 1 kHz 2.5 kHz 6.3 kHz 15 kHz
	Level	±10 dB
Signal-to-Noise Ratio		70 dB
Audio Output Level LINE OUT (FRONT REAR) SUBWOOFER	Line-Out Level/Impedance	5 V/20 kΩ load (full scale)
	Output Impedance	1 kΩ
Color System		NTSC/PAL
Video Output (composite)		1 Vp-p/75 Ω
Other Terminals	Input	LINE IN VIDEO IN CAMERA IN USB input Antenna input
	Output	VIDEO OUT
	Others	CD changer DIGITAL OUT (optical) POSITION OUT
FM/AM TUNER		
Frequency Range	FM	87.5 MHz to 108.0 MHz
	AM	531 kHz to 1 602 kHz
FM Tuner	Usable Sensitivity	11.3 dBf (1.0 μV/75 Ω)
	50 dB Quieting Sensitivity	16.3 dBf (1.8 μV/75 Ω)
	Alternate Channel Selectivity (400 kHz)	65 dB
	Frequency Response	40 Hz to 15 000 Hz
	Stereo Separation	35 dB
AM Tuner	Sensitivity/Selectivity	20 μV/35 dB
DVD/CD		
Signal Detection System	Non-contact optical pickup (semiconductor laser)	
Frequency Response	DVD, fs=48 kHz/96 kHz	16 Hz to 22 000 Hz
	VCD/CD	16 Hz to 20 000 Hz
Dynamic Range		93 dB
Signal-to-Noise Ratio		95 dB
Wow and Flutter		Less than measurable limit
SD		
Compatible File System	FAT 32/16/12	
Capacity	8 Mbytes to 2 Gbytes	
Data Transfer Rate	Maximum 10 Mbps	
USB		
USB Standards	USB 2.0 Full Speed	
Data Transfer Rate	Full Speed: Maximum 12 Mbytes	
	Low Speed: Maximum 1.5 Mbytes	
Compatible Device	Mass storage class	
Compatible File System	FAT 32/16/12	
Max. Current	Less than 500 mA/5V	
MONITOR		
Screen Size	7 inch wide liquid crystal display	
Number of Pixel	336 960 pixels: 480 × 3 (horizontal) × 234 (vertical)	
Drive Method	TFT (Thin Film Transistor) active matrix format	
Color System	NTSC/PAL	
Aspect Ratio	16:9 (wide)	
GENERAL		
Power Requirement	Operating Voltage	DC 14.4 V (11 V to 16 V allowance)
Grounding System		Negative ground
Allowable Storage Temperature		-10°C to +60°C
Allowable Operating Temperature		0°C to +40°C
Dimensions (W × H × D)	Installation Size (approx.)	170 mm × 100 mm × 160 mm
	Panel Size (approx.)	171 mm × 97 mm × 22 mm
Mass (approx.)		2.8 kg

Design and specifications are subject to change without notice.

SECTION 1
PRECAUTION

1.1 Safety Precautions

> ⚠ ***CAUTION*** **Burrs formed during molding may be left over on some parts of the chassis. Therefore, pay attention to such burrs in the case of preforming repair of this system.**

> ⚠ ***CAUTION*** **Please use enough caution not to see the beam directly or touch it in case of an adjustment or operation check.**

1.2 Preventing static electricity

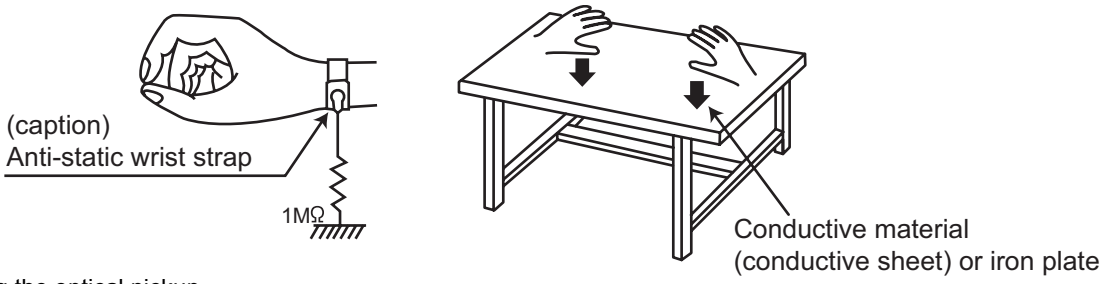
Electrostatic discharge (ESD), which occurs when static electricity stored in the body, fabric, etc. is discharged, can destroy the laser diode in the traverse unit (optical pickup). Take care to prevent this when performing repairs.

1.2.1 Grounding to prevent damage by static electricity

Static electricity in the work area can destroy the optical pickup (laser diode) in devices such as laser products.
Be careful to use proper grounding in the area where repairs are being performed.

(1) Ground the workbench
Ground the workbench by laying conductive material (such as a conductive sheet) or an iron plate over it before placing the traverse unit (optical pickup) on it.

(2) Ground yourself
Use an anti-static wrist strap to release any static electricity built up in your body.



(3) Handling the optical pickup
- In order to maintain quality during transport and before installation, both sides of the laser diode on the replacement optical pickup are shorted. After replacement, return the shorted parts to their original condition.
  (Refer to the text.)
- Do not use a tester to check the condition of the laser diode in the optical pickup. The tester's internal power source can easily destroy the laser diode.

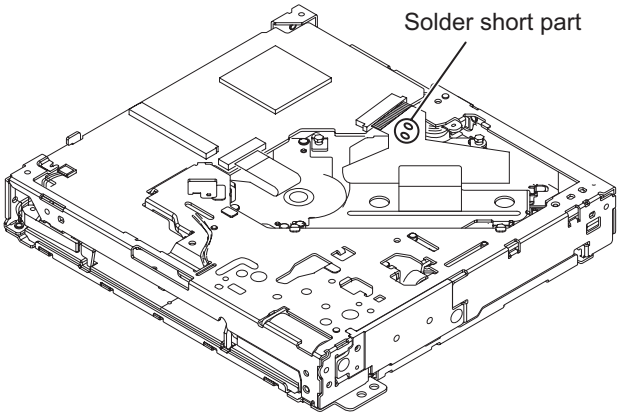
1.3 Handling the traverse unit (optical pickup)

(1) Do not subject the traverse unit (optical pickup) to strong shocks, as it is a sensitive, complex unit.
(2) Cut off the shorted part of the flexible cable using nippers, etc. after replacing the optical pickup. For specific details, refer to the replacement procedure in the text. Remove the anti-static pin when replacing the traverse unit. Be careful not to take too long a time when attaching it to the connector.
(3) Handle the flexible cable carefully as it may break when subjected to strong force.
(4) It is not possible to adjust the semi-fixed resistor that adjusts the laser power. Do not turn it.

1.4 Attention when traverse unit is decomposed

***Please refer to "Disassembly method" in the text for the pickup unit.**

- Apply solder to the short land before the card wire is disconnected from the connector on the pickup unit.
  (If the card wire is disconnected without applying solder, the pickup may be destroyed by static electricity.)
- In the assembly, be sure to remove solder from the short land after connecting the card wire.



1.5 Important for laser products

1.CLASS 1 LASER PRODUCT

2.CAUTION :
(For U.S.A.) Visible and/or invisible class II laser radiation when open. Do not stare into beam.
(Others) Visible and/or invisible class 1M laser radiation when open. Do not view directly with optical instruments.

3.CAUTION : Visible and/or invisible laser radiation when open and inter lock failed or defeated. Avoid direct exposure to beam.

4.CAUTION : This laser product uses visible and/or invisible laser radiation and is equipped with safety switches which prevent emission of radiation when the drawer is open and the safety interlocks have failed or are defeated. It is dangerous to defeat the safety switches.

5.CAUTION : If safety switches malfunction, the laser is able to function.

6.CAUTION : Use of controls, adjustments or performance of procedures other than those specified here in may result in hazardous radiation exposure.

⚠ ***CAUTION*** **Please use enough caution not to see the beam directly or touch it in case of an adjustment or operation check.**

(For U.S.A.)
CAUTION : Visible and/or invisible class II laser radiation when open. Do not stare into beam.
(Others)
CAUTION : Visible and/or invisible class 1M laser radiation when open. Do not view directly with optical instruments

ACHTUNG: Sichtbare und/oder unsichtbare Laserstrahlung der Klasse 1M bei offenen Abdeckungen. Nicht direkt mit optischen Instrumenten betrachten.

ATTENTION: Rayonnement laser visible et/ou invisible de classe 1M une fois ouvert. Ne pas regarder directement avec des instruments optiques.

VOORZICHTIG: Zichtbare en/of onzichtbare klasse 1M laserstralen indien geopend. Bekijk niet direct met optische instrumenten.

ATTENZIONE: Radiazione laser in classe 1M visibile e/o invisibile quando aperto. Non osservare direttamente con strumenti ottici.

VARNING: Synlig och/eller osynlig laserstrålning, klass 1M, när denna del är öppnad. Betrakta ej strålen med optiska instrument.

VARO!: Avattaessa olet alttiina nakyvalle ja/tai näkymättömälle luokan 1M lasersateilylle. Älä tarkastele sitä optisen laitteen läpi.

ADVARSEL: Synlig og/eller usynlig klasse 1M-laserstråling ved åbning. Se ikke direkte med optiske instrumenter.

AVISO: Radiación láser de clase 1M visible y/o invisible cuando está abierto. No mirar directamente con instrumental óptico.

PRECAUÇÃO: Radiação laser de classe 1M visível e/ou invisível quando aberto. Não olhe directamente com instrumentos ópticos.

PRECAUÇÃO: Radiação laser de classe 1M visível e/ou invisível quando aberto. Não olhe diretamente com instrumentos óticos.

ПРЕДУПРЕЖДЕНИЕ: В открытом состоянии происходит видимое и/или невидимое излучение лазера класса 1M. Не смотрите непосредственно в оптические инструменты.

UWAGA: Otwarcie spowoduje narażenie na widzialne i/lub niewidzialne promieniowanie lasera klasy 1M. Nie patrzeć bezpośrednio w przyrządy optyczne.

UPOZORNĚNÍ: Při otevření vydává viditelné popř. neviditelné laserové ozáření třídy 1M. Nedívejte se do otvoru přímo s optickými nástroji.

FIGYELMEZTETÉS: Látható és/vagy láthatatlan 1M osztályú sugárzás nyitott állapotban. Ne nézze közvetlenül optikai műszerekkel.

注意：打開蓋板可能會產生可見或不可見的 1M 級鐳射。
不要使用光學儀器直接進行窺視。

注意：打开盖板可能会产生可见或不可见的 1M 级镭射。
不要使用光学仪器直接进行窥视。

تنبيه: يوجد إشعاع ليزري مرئي و/أو غير مرئي من الفئة 1M عندما يكون الجهاز مفتوحا. تجنب النظر مباشرة داخل الجهاز باستخدام أدوات بصرية.

احتياط: هنگامی که باز گردد، تشعشع مرئی و یا نامرئی کلاس 1M لیزر وجود دارد. با لوازم چشمی مستقیماً به آن نگاه نکنید.

주의: 개방하면 가시 및/또는 비가시 클래스 1M 레이저 방사선이 나옵니다. 광학 기구로 직접 들여다보지 마십시오.

REPRODUCTION AND POSITION OF LABELS and PRINT

WARNING LABEL and PRINT

CAUTION	ATTENTION	AVISO	VARNING	注意	CAUTION
VISIBLE AND/OR INVISIBLE CLASS 1M LASER RADIATION WHEN OPEN. DO NOT VIEW DIRECTLY WITH OPTICAL INSTRUMENTS. IEC60825-1:2001 (ENG)	RAYONNEMENT LASER VISIBLE ET/OU INVISIBLE DE CLASSE 1M UNE FOIS OUVERT. NE PAS REGARDER DIRECTEMENT AVEC DES INSTRUMENTS OPTIQUES. (FRA)	RADIACIÓN LÁSER DE CLASE 1M VISIBLE Y/O INVISIBLE CUANDO ESTÁ ABIERTO. NO MIRAR DIRECTAMENTE CON INSTRUMENTAL ÓPTICO. (ESP)	SYNLIG OCH/ELLER OSYNLIG LASERSTRÅLNING, KLASS 1M, NÄR DENNA DEL ÄR ÖPPNAD. BETRAKTA EJ STRÅLEN MED OPTISKA INSTRUMENT. (SWE)	ここを開くと可視及び/または不可視のクラス1M レーザー放射が出ます。光学装置で直接見ないでください。 (JPN)	VISIBLE AND/OR INVISIBLE CLASS II LASER RADIATION WHEN OPEN. DO NOT STARE INTO BEAM. FDA 21 CFR (ENG) LV44609-003A

SECTION 2
SPECIFIC SERVICE INSTRUCTIONS

This service manual does not describe SPECIFIC SERVICE INSTRUCTIONS.

SECTION 3
DISASSEMBLY

3.1 Main body (Used figure are KW-AVX810E)

3.1.1 Removing the Front chassis (See Fig.1 to 5)

(1) Press **D** button, remove the Front panel. (See Fig.1)
(2) From the bottom side of main body, insert screwdriver to hole of the third gear from hole a of the bottom chassis, and the turn the gear to clockwise until Front bracket comes up. (See Fig.2)
(3) Remove the two screws **A** attaching the both side of Front bracket. (See Fig.3)
(4) Remove the three screws **B** attaching the FPC cover. (See Fig.4)
(5) Disconnect the card wires from Front bracket connected to connector CN803 and CN804 of the Panel board. (See Fig.5)
(6) Remove the four screws **C** attaching the both side of Front chassis. (See Fig.3)
(7) Disengage two hooks **a** engaged both side of Front chassis. (See Fig.3)

Fig.1

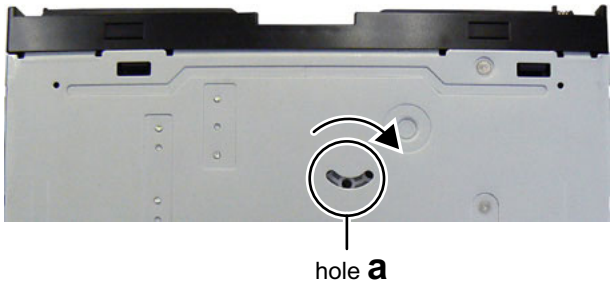


Fig.2

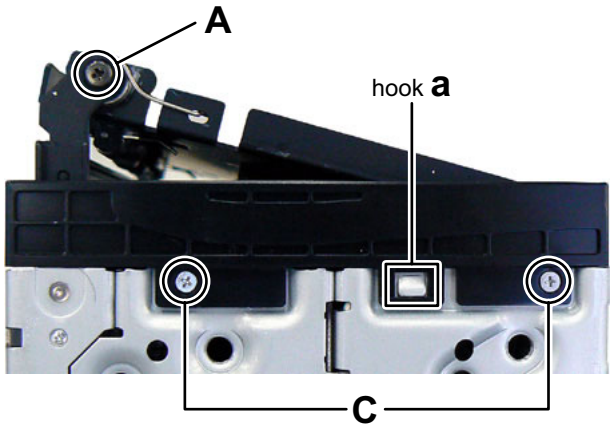


Fig.3

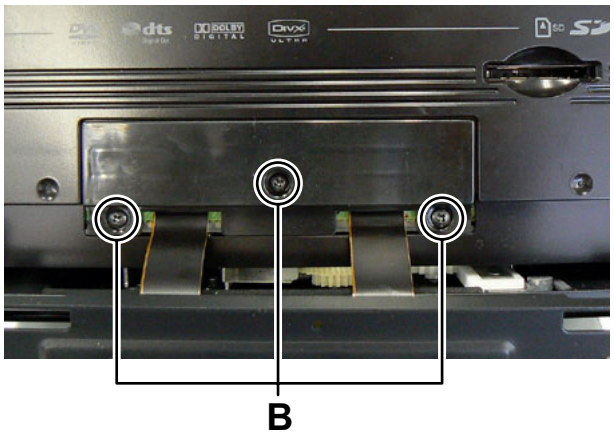


Fig.4

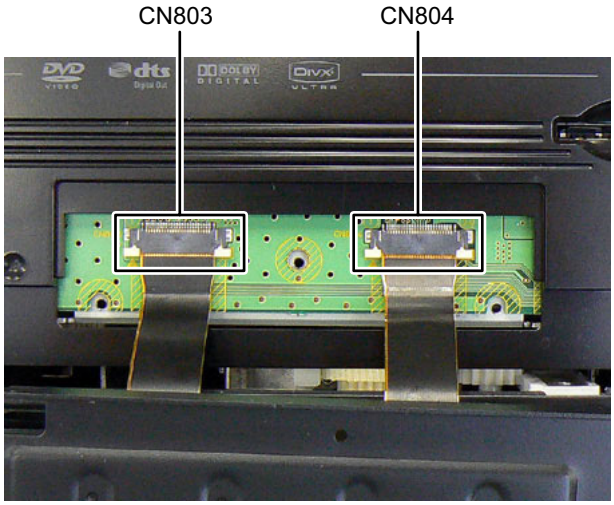


Fig.5

3.1.2 Removing the Heat sink (See Fig.6)

(1) Remove the two screws **D** and four screws **E** attaching the Heat sink.

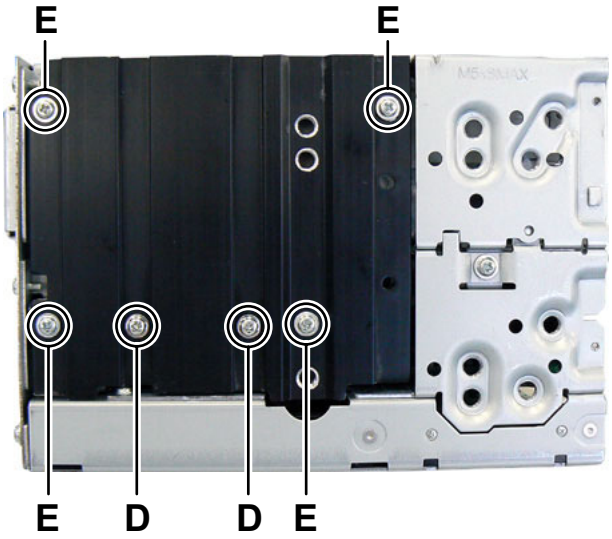


Fig.6

3.1.3 Removing the Rear bracket (See Fig.7 to 9)

(1) Remove the three screws **F** attaching the Rear heat sink. (See Fig.7)

(2) Remove the nine screws **G** and one screw **H** attaching the rear bracket. (See Fig.8)

(3) Disconnect the connector wire from Car cable connected to connector CN601 of the Sub board. (See Fig.9)

(4) Disconnect he connector wire from Fan connected to connector CN604 of the Sub board. (See Fig.9)

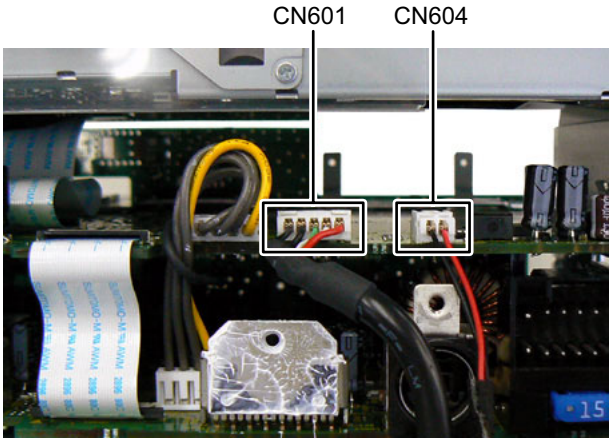


Fig.9

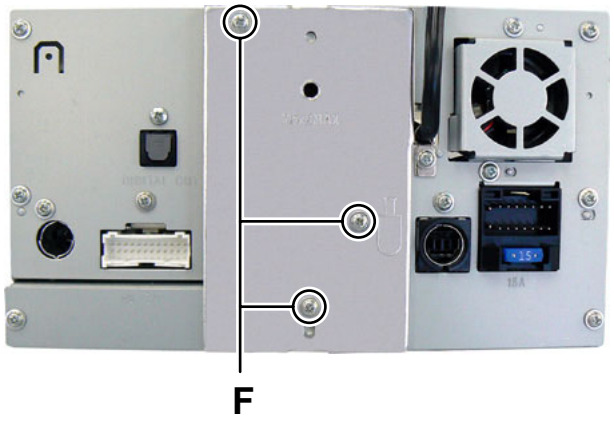


Fig.7

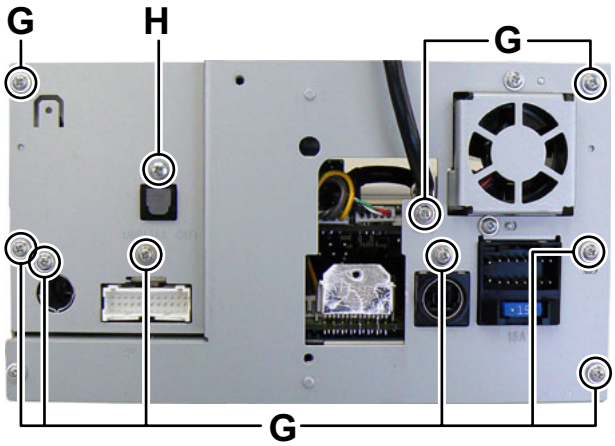


Fig.8

3.1.4 Removing the Top chassis (See Fig.10 to 13)

(1) Remove the two screws **J** attaching the Front board. (See Fig.10)
(2) Disconnect the card wire from Main board connected to connector CN605 of the Sub board. (See Fig.11)
(3) Disconnect the connector wire from Main board connected to connector CN607 of the Sub board. (See Fig.11)
(4) Remove the four screws **K** attaching the both side of Top chassis. (See Fig.12, 13)

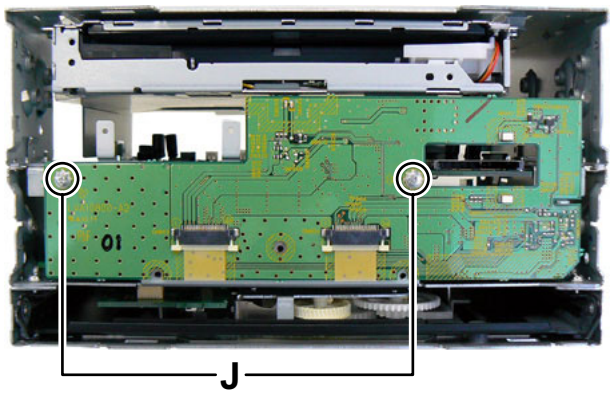


Fig.10

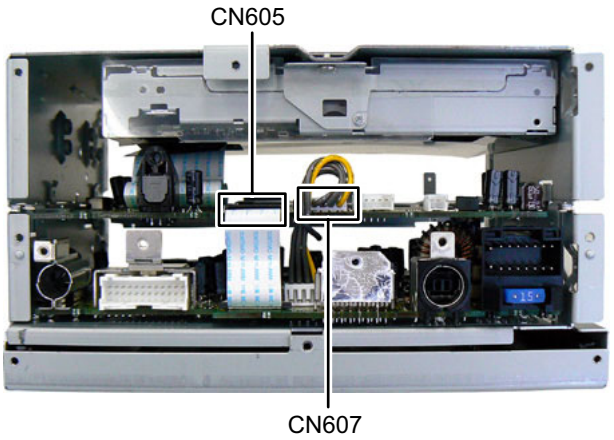


Fig.11

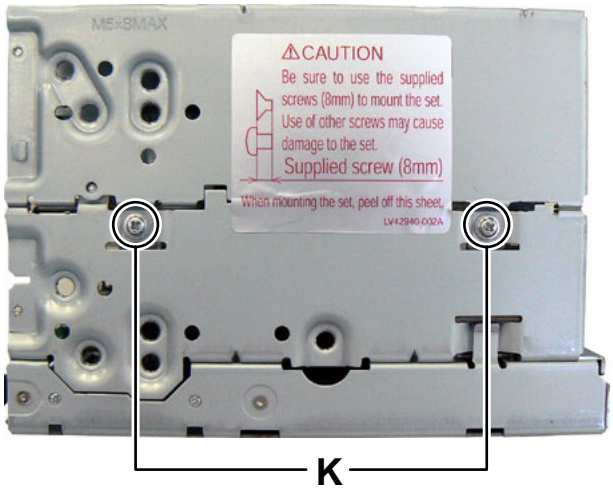


Fig.12

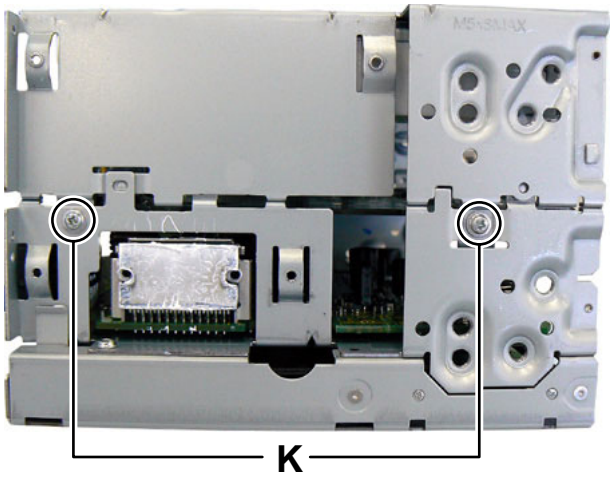


Fig.13

3.1.5 Removing the Main board (See Fig.14)

(1) Disconnect the connector wire from Mecha switch board connected to connector CN961 of the Main board.
(2) Remove the four screws **L** attaching the Main board.

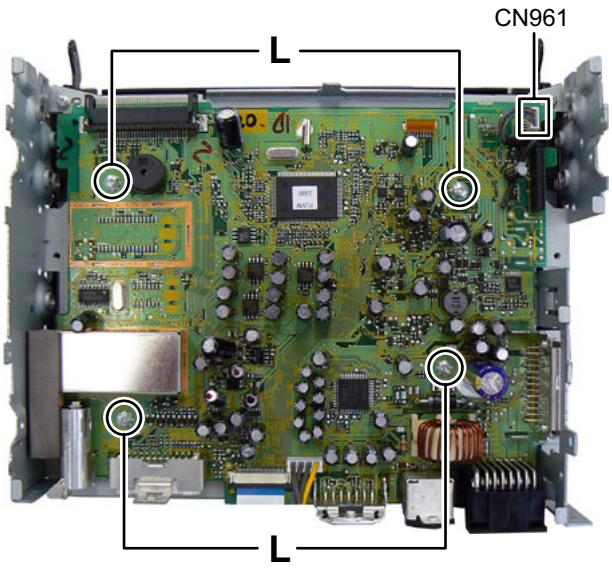


Fig.14

3.1.6 Removing the Sub board (See Fig.15, 16)

(1) Remove the five screws **M** attaching the Sub board. (See Fig.15)
(2) Disconnect the card wire from DVD mechanism connected to connector CN602 of the Sub board. (See Fig.16)

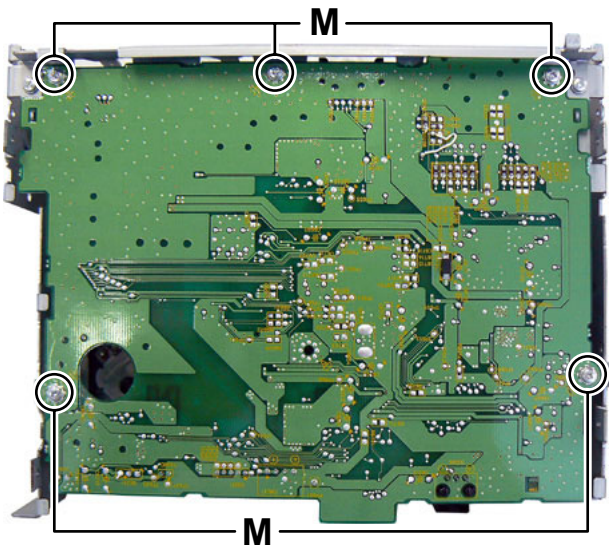


Fig.15

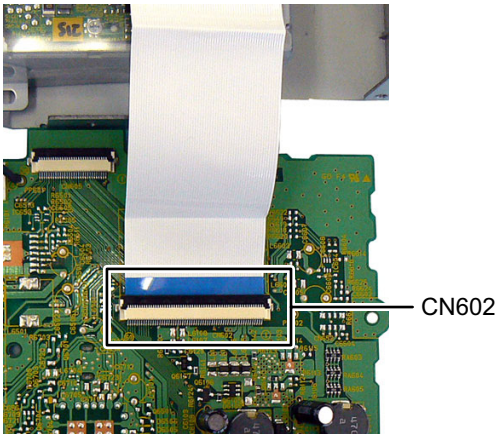


Fig.16

3.1.7 Removing the DVD mechanism (See Fig.17, 18)

(1) Remove the two screws **N** attaching the Front board bracket. (See Fig.17)

(2) Remove the three screws **P** attaching the DVD mechanism. (See Fig.18)

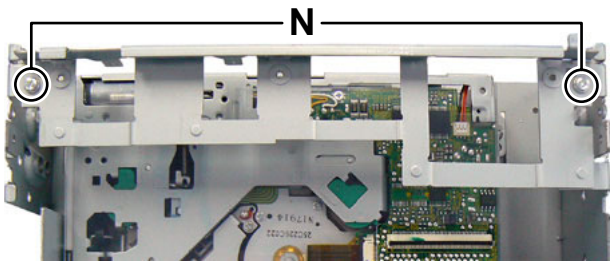


Fig.17

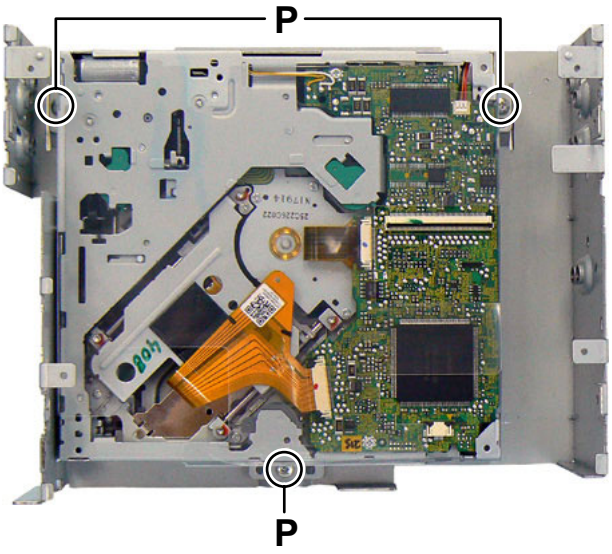


Fig.18

3.2 Monitor section (Used figure are KW-AVX810E)

3.2.1 Removing the Rear cover (See Fig.1 to 3)

(1) Remove the ten screws **A** and five screws **B** attaching the Rear cover. (See Fig.1, 2)

(2) Disconnect the card wire from Panel board connected to connector CN881 of the Connection board. (See Fig.3)

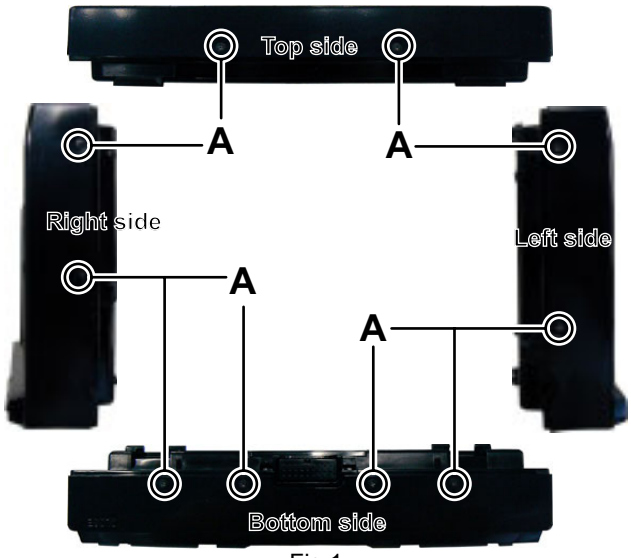


Fig.1

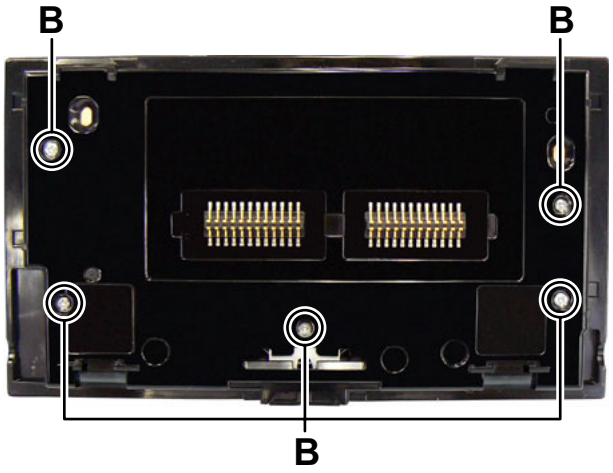


Fig.2

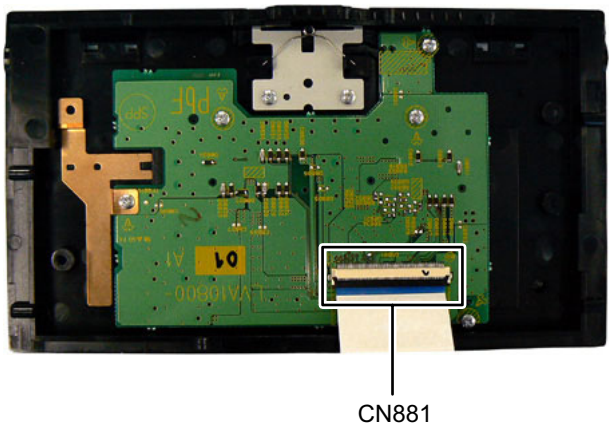


Fig.3

3.2.2 Removing the Connection board (See Fig.4)

(1) Remove the five screws **C** attaching the Connection board.

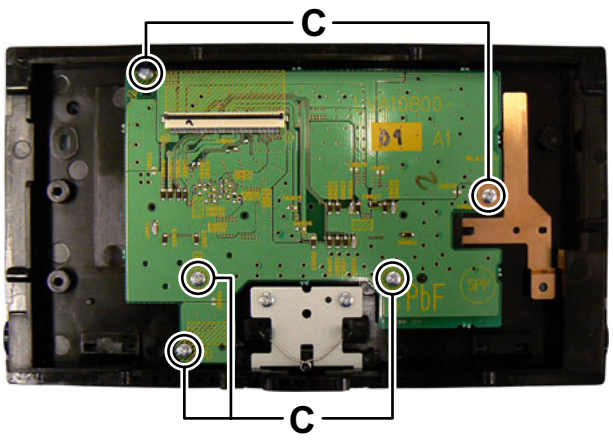


Fig.4

3.2.3 Removing the Panel board (See Fig.5)

(1) Disconnect the connector wire from LCD module connected to connector CN403 of the Panel board.
(2) Disconnect the card wire from LCD module connected to connector CN401 of the Panel board.
(3) Disconnect the card wire from Switch board connected to connector CN501 and CN502 of the Panel board.
(4) Remove the four screws **D** attaching the Panel board.

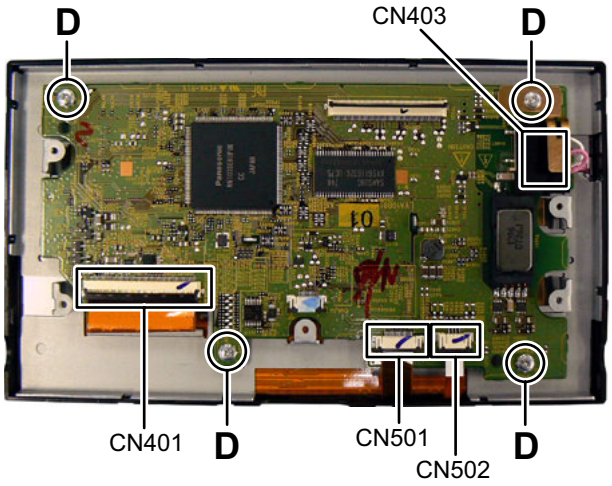


Fig.5

3.2.4 Removing the LCD module (See Fig.6)

(1) Disengage six hooks **a** engaged Panel bracket.

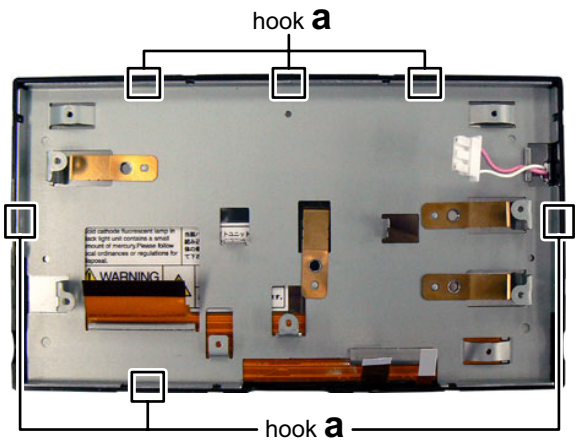


Fig.6

3.3 DVD mechanism

3.3.1 Removing the Traverse mechanism assembly (See Fig.1 to 6)

(1) Solder the short land section on the flexible wire of pickup. (See Fig.1)

Caution:

* Solder the short land section on the flexible wire of pickup before disconnecting the flexible wire form the connector CN101 on the Front end board.
If the flexible wire is disconnected without attaching the solder, the pickup may be destroyed by static electricity.
* When attaching the Traverse mechanism assembly, remove the solder from the short land section after connection the flexible wire to the connector CN101 on the Front end board.

(2) Voltage supply to TP79 and TP81 approx DC 3.0V until Clamper is shift to loading complete position. (See Fig.2)

(3) Disconnect the flexible wires from Traverse mechanism assembly connected to connector CN101 and CN164 of the Front end board. (See Fig.2)

(4) Remove the five screws **A** attaching the Top cover assembly. (See Fig.3)

(5) From the bottom side, disconnect the connector wire from Top cover assembly connected to connector CN2 of the Front end board. (See Fig.4)

(6) From the bottom side, remove the spring from Traverse mechanism assembly. (See Fig.5)

(7) From the top side, pull up the traverse mechanism and disengage three dumper positions. (See Fig.6)

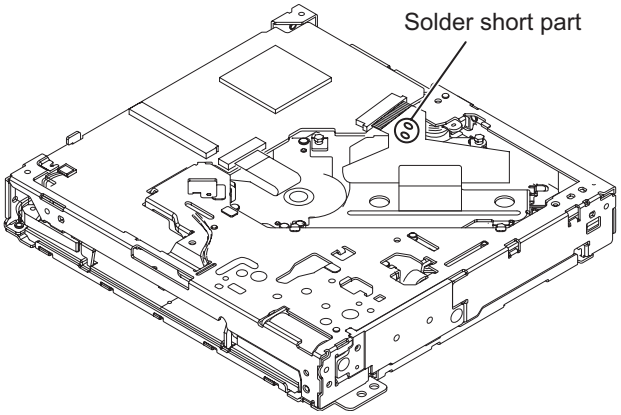


Fig.1

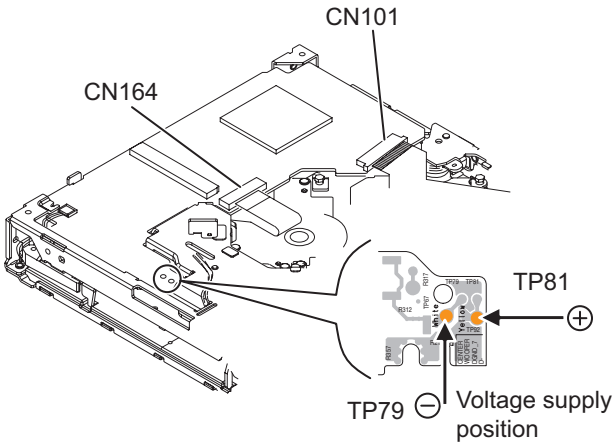


Fig.2

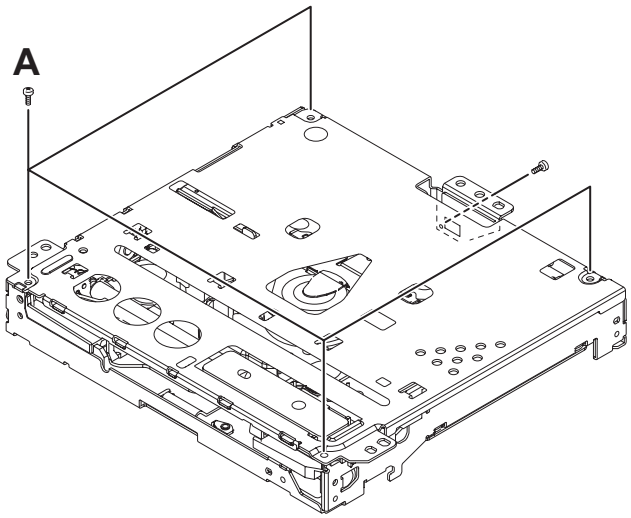


Fig.3

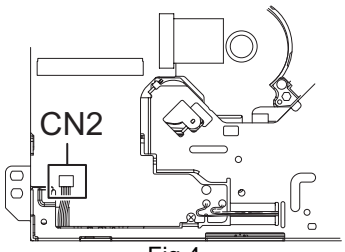


Fig.4

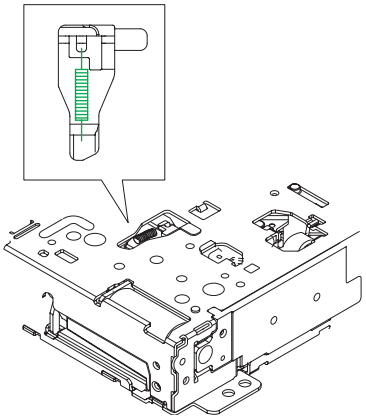


Fig.5

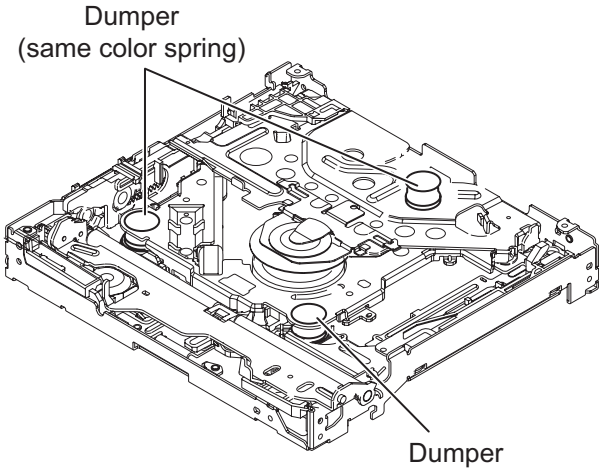


Fig.6

3.3.2 Removing the Front end board (See Fig.7)

(1) Remove the Motor wires from loading motor soldered to TP79 and TP81 of the Front end board.
(2) Remove the two screws **B** attaching the Front end board.

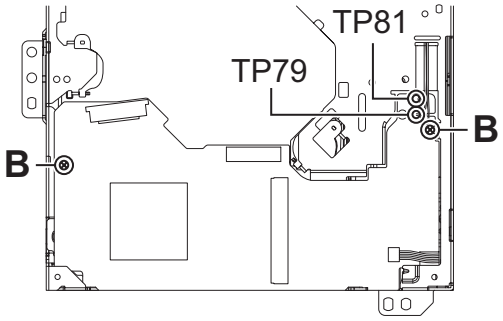


Fig.7

3.3.3 Removing the Loading arm assembly (See Fig.8)

(1) Remove the Loading arm spring L from Loading arm assembly.
(2) Slide to left side and then disengage hook **a** then hook **b**.

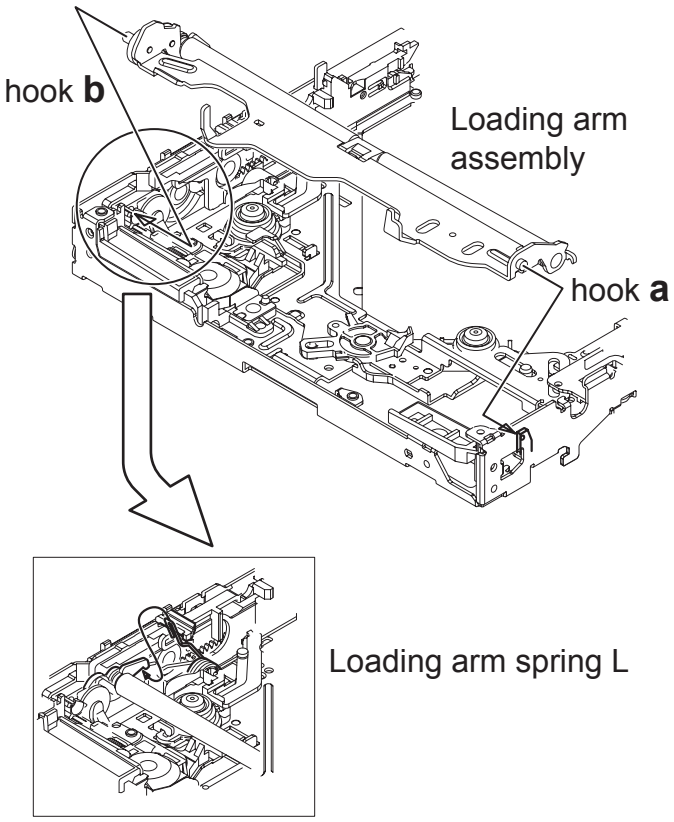


Fig.8

3.3.4 Removing the Gear base assembly (See Fig.9, 10)

(1) Remove the Loading arm spring L. (See Fig.9)

(2) Remove the two screws **C** attaching the Gear base assembly. (See Fig.10)

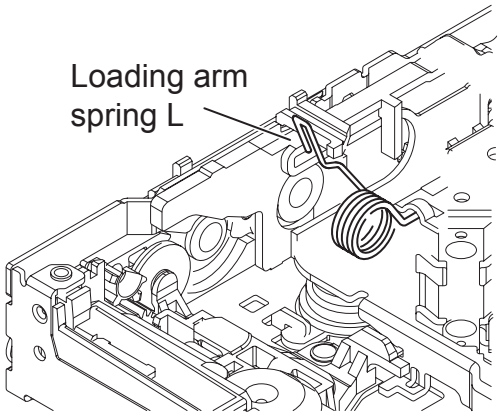


Fig.9

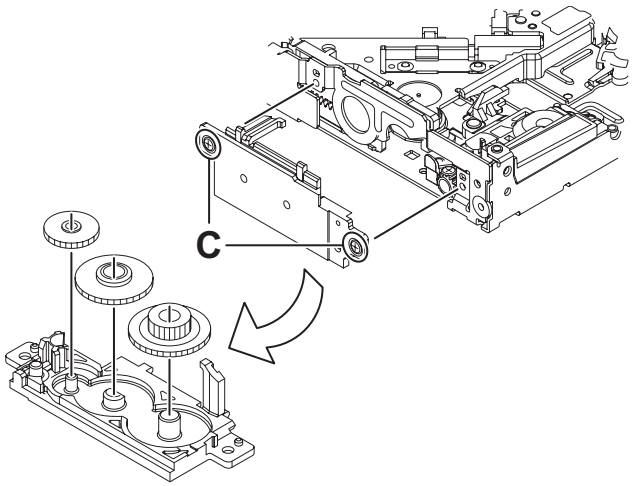


Fig.10

3.3.5 Removing the Loading arm holder. (See Fig.11)

(1) Remove the two screws **D** attaching the Loading arm holder.

(2) Remove the Loading arm spring R.

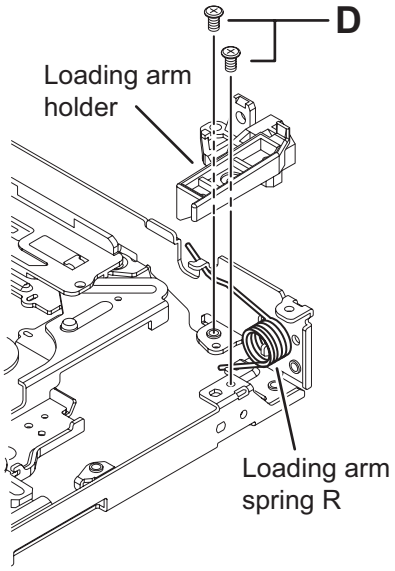


Fig.11

3.3.6 Removing the Loading moor assembly (See Fig.12)

(1) Remove the three screws **E** attaching the Loading motor assembly.

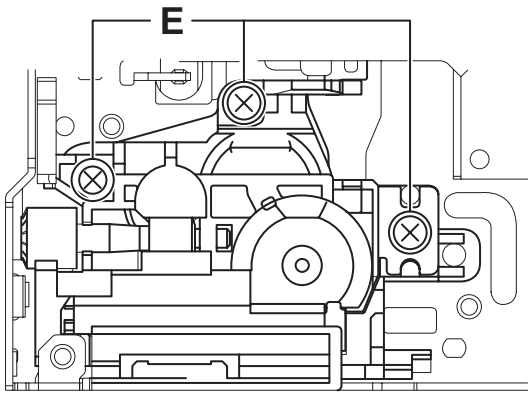


Fig.12

3.3.7 Removing the Slide cam assembly (See Fig.13)

(1) Slide to backward the Slide cam assembly and the remove the Slide cam spring.
(2) Slide to frontward the slide cam assembly, and then take out it.

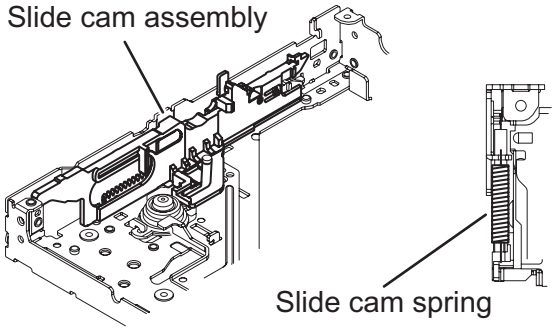


Fig.13

3.3.8 Removing the Photo board (See Fig.14)

(1) Pressing the hook **c** and then slide to backward (slide to the arrow side) the Disc plate.
(2) Remove the one screw **F** attaching the Photo board.

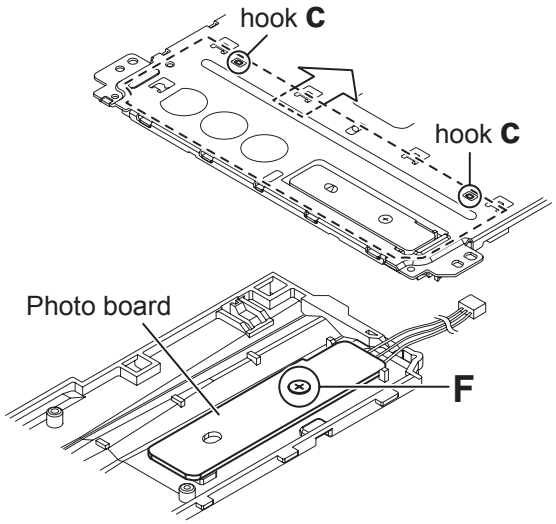


Fig.14

3.3.9 Removing the Loading motor (See Fig.15 to 18)

(1) Remove the A wheel gear. (See Fig.15)
(2) Remove the A worm gear, M connect gear and M wheel gear by sequentially. (See Fig.16)
(3) Remove the two screws **G** attaching the Loading motor. (Se Fig.17)
(4) When attaching the Loading motor, motor wire should arrange to figure. (See Fig.18)

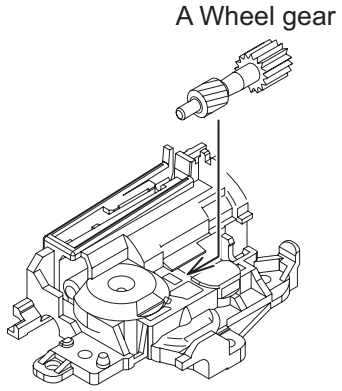


Fig.15

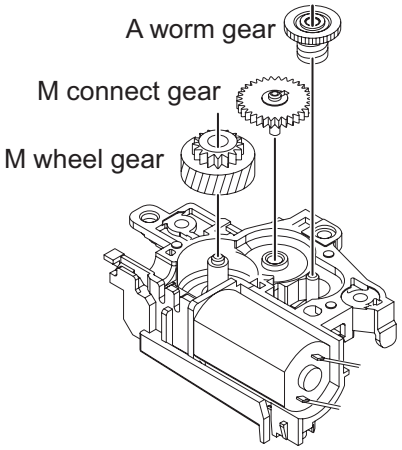


Fig.16

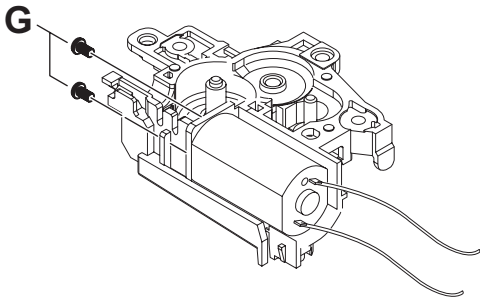


Fig.17

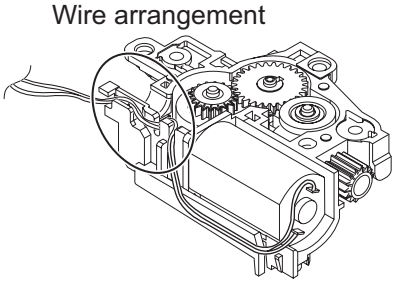


Fig.18

3.3.10 Removing the Roller assembly (See Fig.19)

(1) Remove the Slit washer.
(2) Remove the R middle gear.
(3) Remove the R connect gear.
(4) Snap off the part **a** of the Roller assembly.
(5) Lift up the part **b** of the Roller assembly, and then release part **c** (When release part **c**, R collar R is easy to come off, does not lose it).

CAUTION:

When reattach the Roller assembly, Middle gear should keep direction and Slit washer should be change new part.

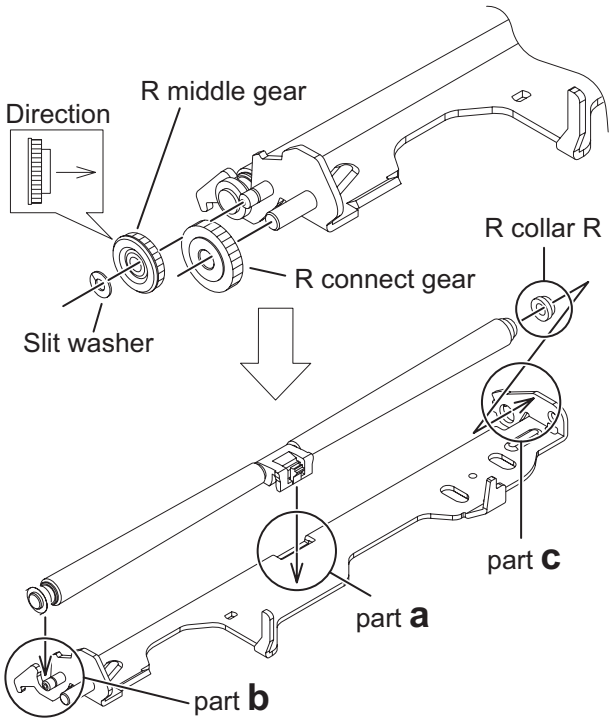


Fig.19

3.3.11 Removing the Roller (See Fig.20)

(1) Remove the Slit washer.
(2) Pull out the Roller shaft.

CAUTION:

When reattach the Roller shaft, Slit washer should be change new part.

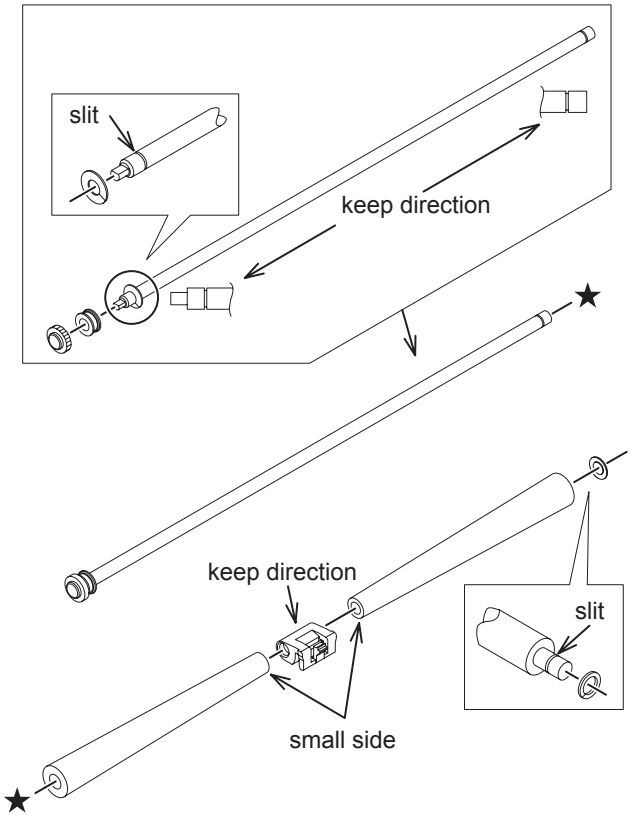


Fig.20

SECTION 4
ADJUSTMENT

4.1 Test instruments required for adjustment

(1) Digital oscilloscope (100MHz)
(2) Electric voltmeter
(3) Digital tester
(4) Tracking offset meter
(5) Test Disc : VT501 or VT502
(6) Extension cable : EXTCN001-6P (CN851 - CN961) X1
EXTFP001-30P(CN802-WR981)x1
EXTFP001-12P(CN606-CN801)x1
EXTXD002-60PF(CN606-CN401)x1
(CN503-CN881)x1
EXTDV001-30P(CN981-CN605)x1
EXTLX001-4P(CN982-CN607)x1
(7) Extension studs : STDV001-3P

4.2 Standard measuring conditions

Power supply voltage DC14.4V(10.5 to 16V)
Load impedance 20K.(2 Speakers connection)
Output Level Line out 2.5V (Vol. MAX)

4.3 Standard volume position

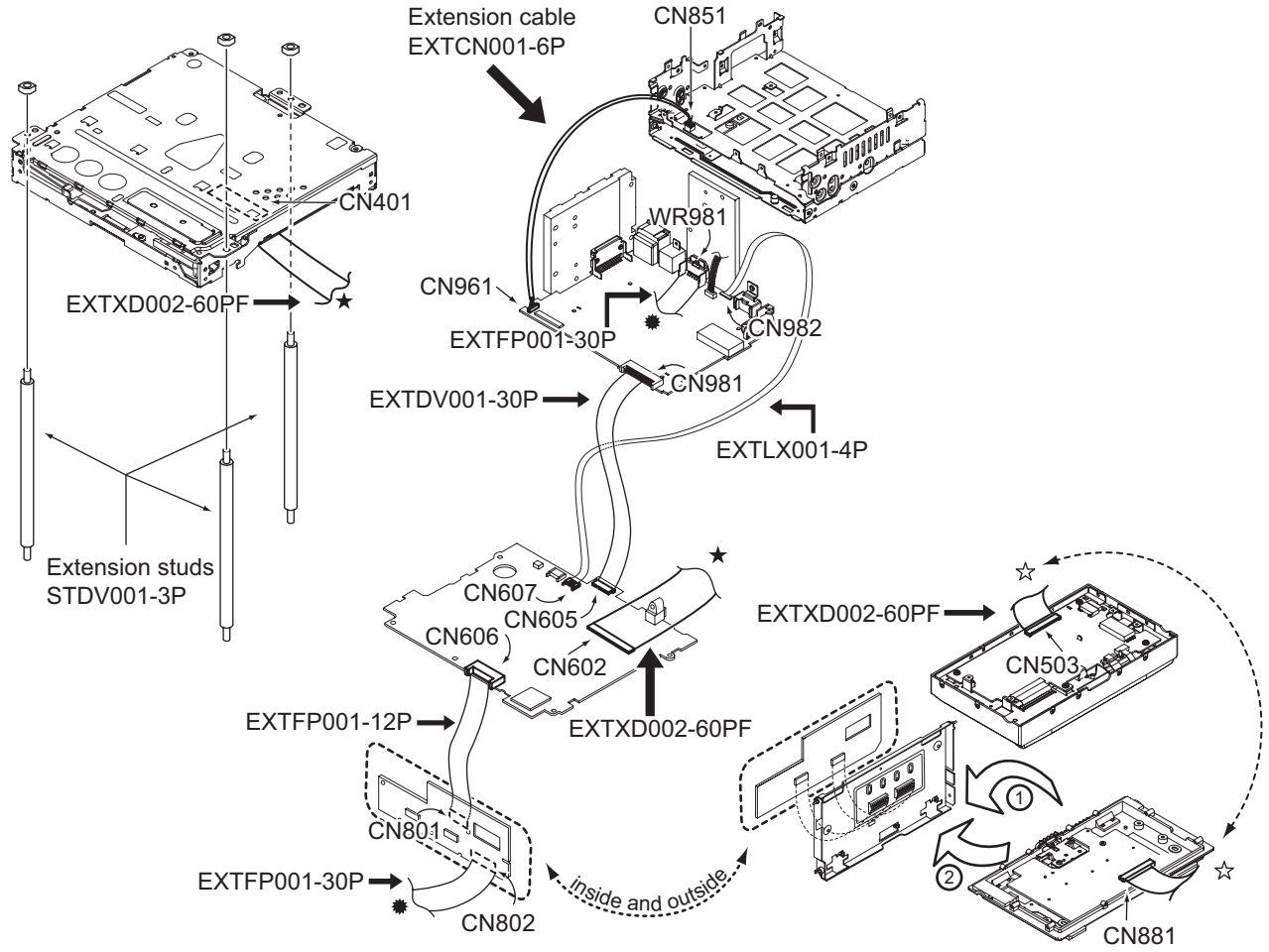
Balance and Bass &Treble volume : Indication"0"
Loudness : OFF

4.4 Dummy load

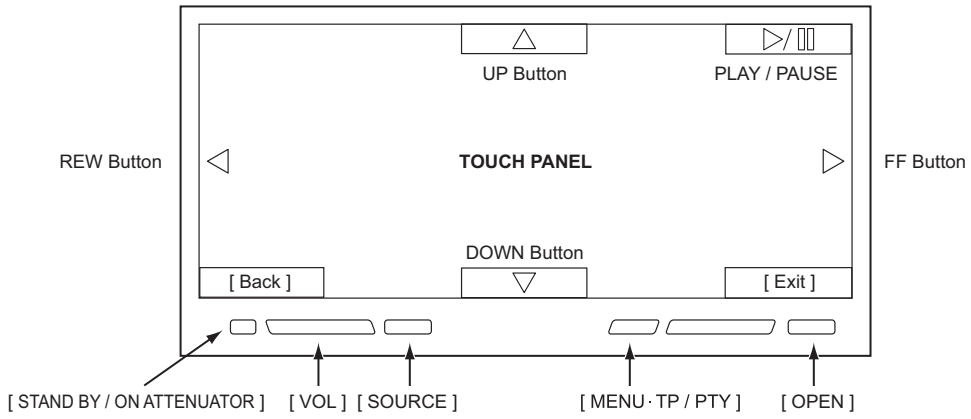
Exclusive dummy load should be used for AM,and FM.
For FM dummy load, there is a loss of 6dB between SSG output and antenna input.
The loss of 6dB need not be considered sincedirect reading of figures are applied in this working standard.

4.5 How to connect the extension cable for adjusting

Caution:
Be sure to attach the heat sink and rear bracket onto the power amplifier IC and regulator IC respectively, before supply the power.
If voltage is applied without attaching these parts, the power amplifier IC and regulator IC will be destroyed by heat.



4.6 Service mode



4.6.1 Service mode 1 (Indication of a service mode 1 is nothing.)

Keep this state more 2 seconds while continuing pressing the [STANDBY/ON ATTENUATOR] button and [OPEN] button sequentially.

Screen indication

NO EJECT? *1
EMERGENCY EJECT *2

Exchanging it operate a menu of a service mode with the [UP] button and [DOWN] button. Operate choice of a menu with a [PLAY/PAUSE] button.

*1 : When an [PLAY/PAUSE] button is pushed in NO EJECT indication, it is set by an EJECT prohibition mode.
When an [PLAY/PAUSE] button is pushed in EJECT OK indication, it is aet by a normal mode.

*2 : Forced EJECT movement

A screen becomes normal indication after an PLAY/PAUSE button was pushed.

4.6.2 Service mode 2

Keep this state more 2 seconds while continuing pressing the [MENU or TP/PTY] button, [SOURCE] button and TOUCH PANEL [DOWN] button sequentially.

Screen indication

SERVICE MODE 2
- INITIALIZE ALL
- INITIALIZE
- INITIALIZE DVD
- INITIALIZE BT
- TOUCH PANEL CARIBRATION
- TOUCH PANEL CHECK MODE

Exchanging it operate a menu of a service mode with the [UP] button and [DOWN] button. Operate choice of a menu with a [PLAY/PAUSE] button.

INITIALIZE ALL

NOW ...
INITIALIZE ALL

INITIALIZE ALL
OK **

INITIALIZE ALL
(Each EEPROM is initialized by a factory shipment state.)
- Main micron EEPROM initialization (user entry domain, error history,speaker setting, subarea of J-version, data to pre-set)
- Panel micon EEPROM initialization (picture adjustment data)
- DVD unit EEPROM initialization (except a permanent domain)
- Bluetooth (Module/Hideaway) EEPROM initialization
- After clear completion, a screen returns to normal indication after OK indication was

INITIALIZE

NOW ...
INITIALIZE

INITIALIZE
OK **

INITIALIZE (Initialization of a user area of each EEPROM)
- Main micron EEPROM initialization (a user entry domain)
  (a user entry domain, speaker setting, subarea of J-version, data to pre-set)
- Panel micron EEPROM initialization (picture adjustment data)
- DVD unit EEPROM initialization (except a permanent domain)
- Bluetooth (Module/Hideaway) EEPROM initialization
- After clear completion, a screen returns to normal indication after OK indication was displayed for three seconds.

INITIALIZE DVD

INITIALIZE DVD
OK **

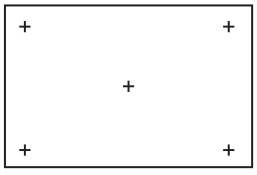
Full initialization of EEPROM of a DVD unit
(It is included a permanent domain)
After clear completion, this indication is continued till an effective key is input.

INITIALIZE BT

INITIALIZE BT
OK **

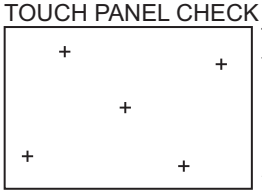
Full initialization of EEPROM of Bluetooth (Module/Hideaway)
After clear completion, this indication is continued till an effective key is input.

TOUCH PANEL CALIBRATION



Push the center of a + character displayed in turn.

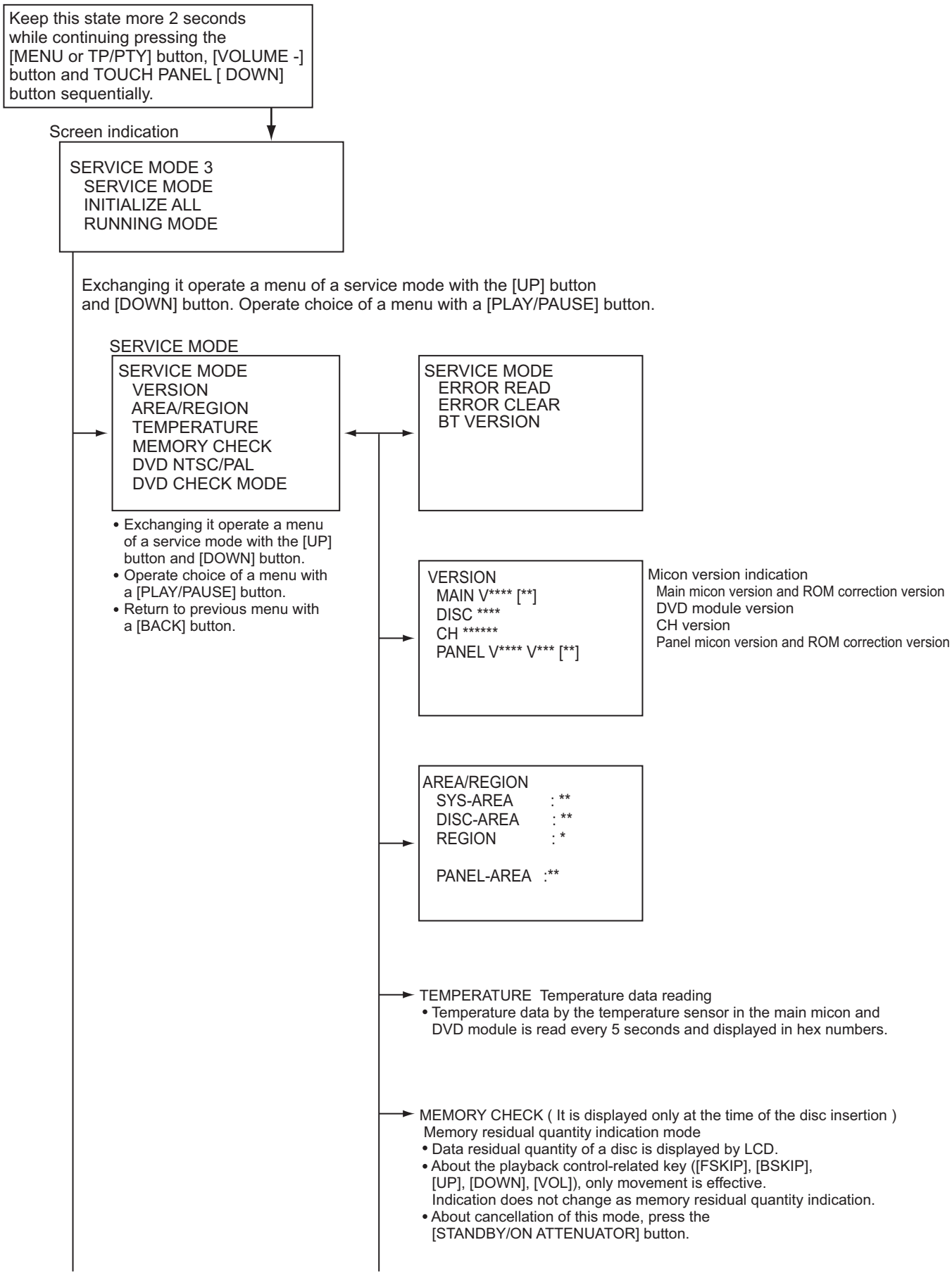
TOUCH PANEL CHECK MODE

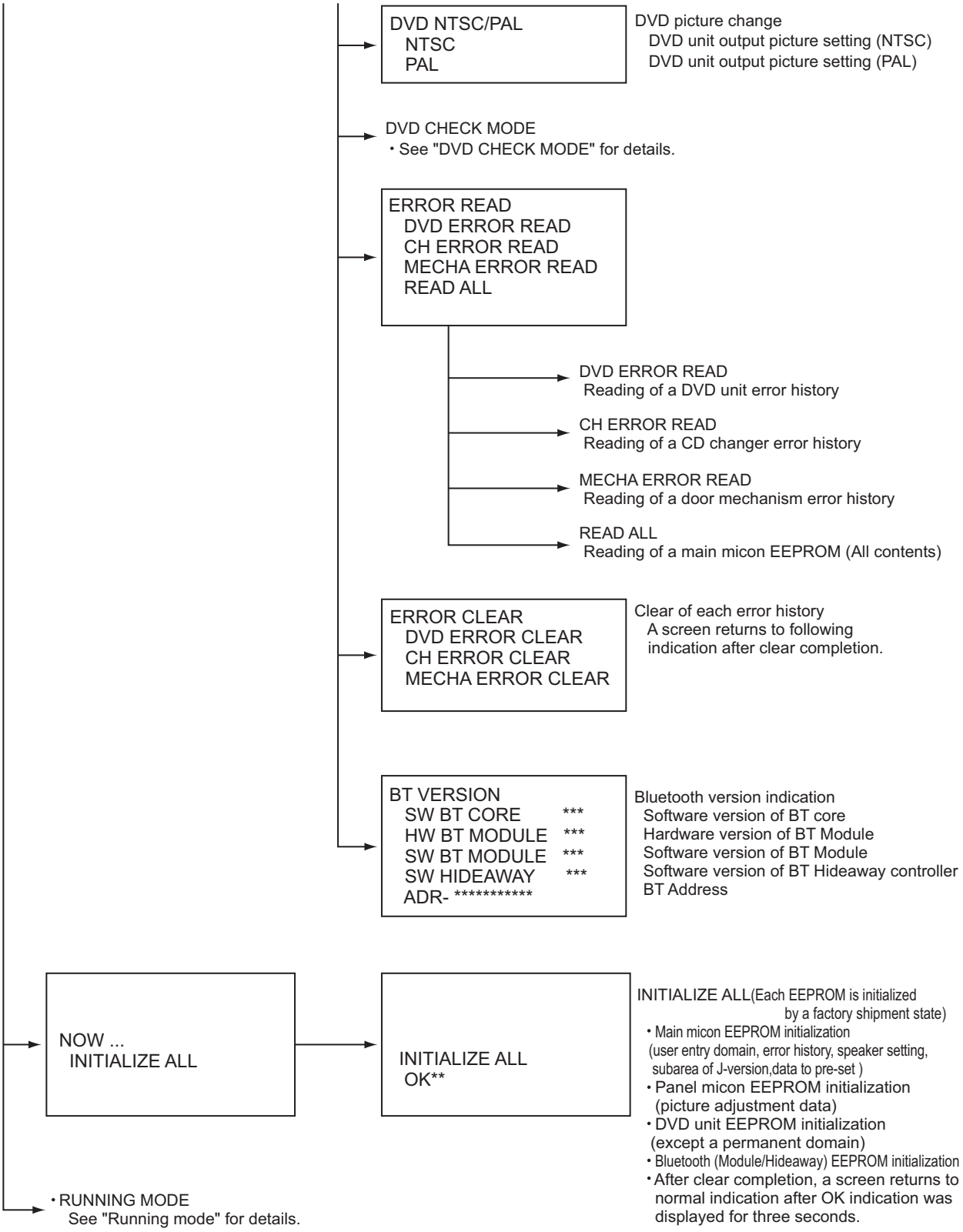


The confirmation mode that the calibration of the touch panel was performed definitely.

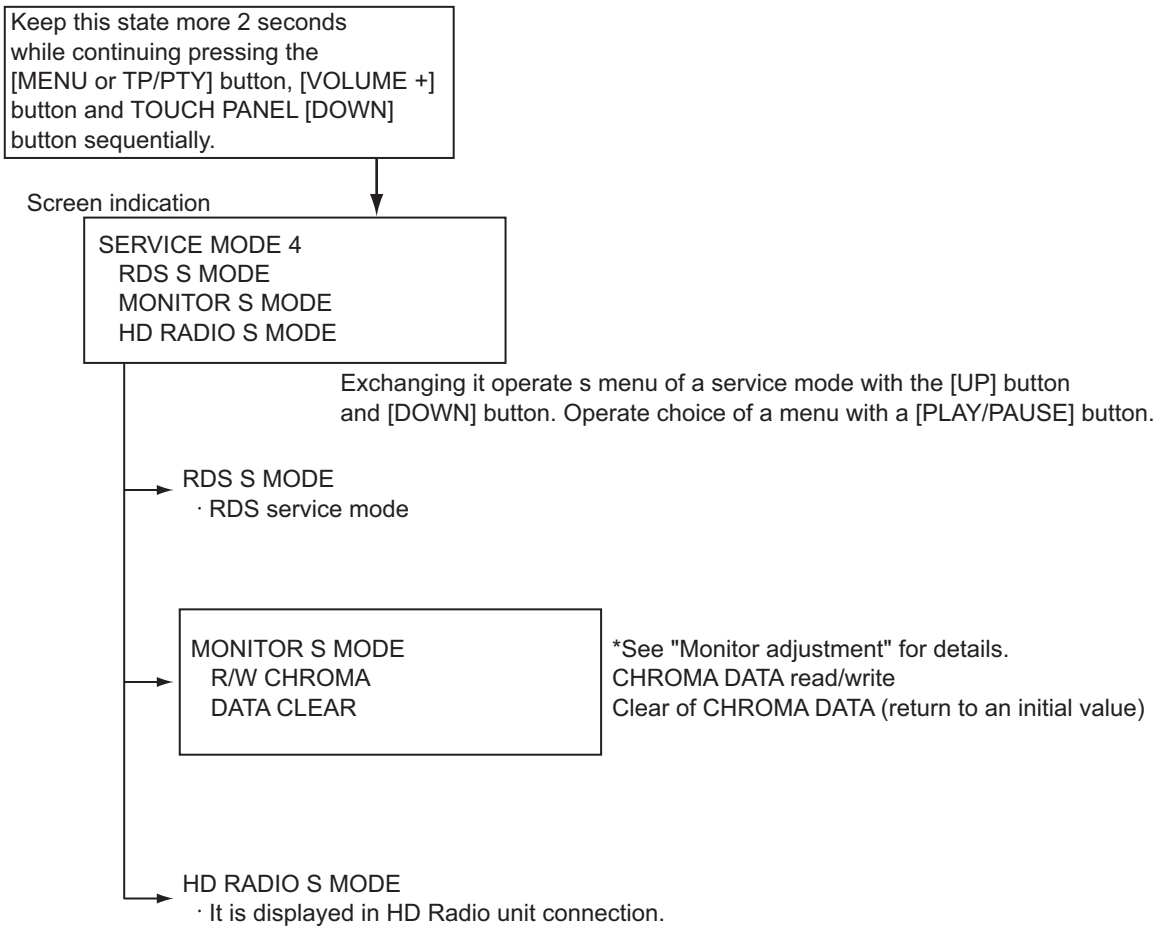
*Return to previous menu with a [DISP] button.

4.6.3 Service mode 3

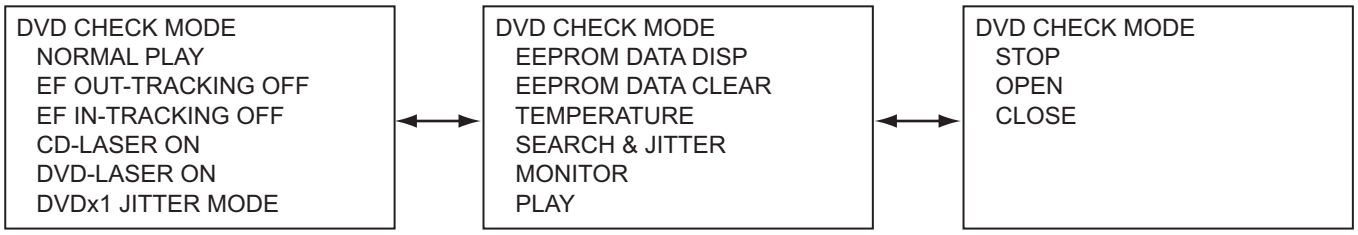



DVD NTSC/PAL
NTSC
PAL
DVD picture change
DVD unit output picture setting (NTSC)
DVD unit output picture setting (PAL)
DVD CHECK MODE
・See "DVD CHECK MODE" for details.
ERROR READ
DVD ERROR READ
CH ERROR READ
MECHA ERROR READ
READ ALL
DVD ERROR READ
Reading of a DVD unit error history
CH ERROR READ
Reading of a CD changer error history
MECHA ERROR READ
Reading of a door mechanism error history
READ ALL
Reading of a main micon EEPROM (All contents)
ERROR CLEAR
DVD ERROR CLEAR
CH ERROR CLEAR
MECHA ERROR CLEAR
Clear of each error history
A screen returns to following
indication after clear completion.
BT VERSION
SW BT CORE ***
HW BT MODULE ***
SW BT MODULE ***
SW HIDEAWAY ***
ADR- **********
Bluetooth version indication
Software version of BT core
Hardware version of BT Module
Software version of BT Module
Software version of BT Hideaway controller
BT Address
NOW ...
INITIALIZE ALL
INITIALIZE ALL
OK**
INITIALIZE ALL(Each EEPROM is initialized
by a factory shipment state)
・Main micon EEPROM initialization
(user entry domain, error history, speaker setting,
subarea of J-version,data to pre-set)
・Panel micon EEPROM initialization
(picture adjustment data)
・DVD unit EEPROM initialization
(except a permanent domain)
・Bluetooth (Module/Hideaway) EEPROM initialization
・After clear completion, a screen returns to
normal indication after OK indication was
displayed for three seconds.
・RUNNING MODE
See "Running mode" for details.

4.6.4 Service mode 4



4.7 DVD check mode



Exchanging it operate a menu of a service mode with the [UP] button and [DOWN] button. Operate choice of a menu with a [PLAY/PAUSE] button.

Command	Mechanism unit operation	Indication contents
NORMAL PLAY	Start at normal speed (After start, jitter is measured by an inner position.)	Laser current value, jitter value
EF OUT-TRACKING OFF	Tracking off the outermost position of CD	For EF phase error
EF IN-TRACKING OFF	Tracking off the innermost position of CD	For EF phase error
CD-LASER ON	CD_LD lights and laser current is displayed.	Laser current value, jitter value
DVD-LASER ON	DVD_LD lights and laser currrent is displayed	Laser current value, jitter value
DVDx1 JITTER MODE	DVD x1 jitter measuring mode (for use in mechanism adjustment)	Laser current value, jitter value
EEPROM DATA DISP	Contents of EEPROM is displayed.	EEPROM address EEPROM contents
EEPROM DATA CLEAR	Contents of EEPROM is initialized.	EEPROM address EEPROM contents
TEMPERATURE	Temperature indication	Temperature is displayed in hex numbers.
SEARCH & JITTER	The search and jitter measurement to an appointed position of DVD.	Position measured with VT-501 jitter value
MONITOR	Monitor terminal setting	
PLAY	DVD x1 stopped start (After start, jitter is measured by an inner position.)	Not displayed.
STOP	Disc stopped, LD-OFF	Not displayed.
OPEN	OPEN	Not displayed.
CLOSE	CLOSE	Not displayed.

4.8 Error code tablets

Mechanism error code

Error contents	Details	Error code	Detailed error code
Disc loading error ③ D1 time out		09	0013
Eject error ③ B1 time out ④ C1 time out		01 01	0023 0024
Error in loading wait	Loading of a running mode Disc was pulled out in a wait.	09	0031

Disc error code

Error contents	Details	Error code	Detailed error code
TOC read error	TOC lead movement of a CD is not completed.	84	0059
First track access error	Even if TOC reading passes after the end with CD running mode for 30 seconds, the first track access is not finished.	80	0060
Last track access error	Even if first track passes after the end with CD running mode for 30 seconds, the last track access is not finished.	80	0061
T1 access error	Even if T1 access passes in a DVD runnung mode for 30 seconds, it is not finished.	80	0069
T12 access error	Even if T12 access passes in a DVD runnung mode for 30 seconds, it is not finished.	80	0070
T24 access error	Even if T24 access passes in a DVD runnung mode for 30 seconds, it is not finished.	80	0071
Read-in area read error	Read-in area read operation of DVD is not completed.	84	0072
DVD L1 layer adjustment error	Adjustment of L1 layer of DVD is not finishhed normally. (including focus jump failure)	80	0074
DVD L0 layer adjustment error	Adjustment of L0 layer of DVD is not finishhed normally. (including focus jump failure)	80	0075
NO DISC judgment	Judgment without disc	80	0090
It is NO DISC by start failure	Start is impossible	80	0091
It is stopped by playback inability.	Stop in running mode playback	80	0093
Logic format NG	Logic format analysis inability or non-correspondence logic format	80	0094
Seek access error	It cannot arrive at an aim address even if it passes for 15 seconds.	80	0095

Error codes of panel mechanism

* As for two columns of the beginning of the error code, as for error contents, two columns of middle, number of the pulse counts, last two columns are a purpose position and movement directions.

Error contents	code
Time out	OB
Position error by the external force	OC
Abnormal voltage ①	F3
Abnormal voltage ②	F5
Abnormal voltage ③	F7
Abnormal voltage ④	F8

When assumed last two columns XY;, as for X, as for purpose position, Y, is a movement direction.

Purpose position	X
CLOSE	1
5 degrees	2
10 degrees	3
15 degrees	4
20 degree	5
25 degrees	6
30 degrees	7
OPEN	8

Movement direction	Y
Open direction	0
Close direction	1

Detail	Error code
It is time-out during movement to the closed position.	0B**11
It is time-out during 5 degrees tilt movement.(open direction)	0B**20
It is time-out during 5 degrees tilt movement.(close direction)	0B**21
It is time-out during 10 degrees tilt movement.(open direction)	0B**30
It is time-out during 10 degrees tilt movement.(close direction)	0B**31
It is time-out during 15 degrees tilt movement.(open direction)	0B**40
It is time-out during 15 degrees tilt movement.(close direction)	0B**41
It is time-out during 20 degrees tilt movement.(open direction)	0B**50
It is time-out during 20 degrees tilt movement.(close direction)	0B**51
It is time-out during 25 degrees tilt movement.(open direction)	0B**60
It is time-out during 25 degrees tilt movement.(close direction)	0B**61
It is time-out during 30 degrees tilt movement.(open direction)	0B**70
It is time-out during 30 degrees tilt movement.(close direction)	0B**71
It is time-out during movement to the open position.	0B**80
It is position error during close position stop.	0C0011
It is position error during 5 degree tilt position stop.	0C0020
It is position error during 10 degree tilt position stop.	0C0030
It is position error during 15 degree tilt position stop.	0C0040
It is position error during 20 degree tilt position stop.	0C0050
It is position error during 25 degree tilt position stop.	0C0060
It is position error during 30 degree tilt position stop.	0C0070
It is position error during open position stop.	0C0080
Detect abnormal voltage ①	F3**XY
Detect abnormal voltage ②	F5**XY
Detect abnormal voltage ③	F7**XY
Detect abnormal voltage ④	F8**XY

Note: "**" of the above error code is the number of the pulse counts at the time of the error outbreak.

4.9 Running mode

Indication	Explanation	Operation contents of 1 cycle	In mecha error	In disc error
RUNNING1 MECHA	Door mecha running 1	Panel close ↔ Panel open	-	-
RUNNING2 MECHA	Door mecha running 2	Panel close → 5 degrees → 10 degrees → 15 degrees → 20 degrees 25 degrees → 30 degrees → Panel open	-	-
RUNNING 3 MECHA	Door mecha running 3	Panel close → 5 degrees → ···· → 30 degrees → ···· → 5 degrees → Panel close	-	-
RUNNING4 DVD	DVD+Door mecha running1	Loading → Eject → Wait for 5 seconds+Door open/close	Stop	-
RUNNING5 DVD	DVD+Door mecha running2	Loading → Eject → Wait for 5 seconds+Door open/close	Retry	-
RUNNING6 DVD	DVD+Door mecha running3	Loading → Playback → Eject → Wait for 5 seconds+Door open/close	Stop	Stop
RUNNING7 DVD	DVD+Door mecha running4	Loading → Playback → Eject → Wait for 5 seconds+Door open/close	Retry	Stop
RUNNING8 DVD	DVD+Door mecha running5	Loading → Playback → Eject → Wait for 5 seconds+Door open/close	Stop	Retry
RUNNING9 DVD	DVD+Door mecha running6	Loading → Playback → Eject → Wait for 5 seconds+Door open/close	Retry	Retry

* Cancellation of running1,2 and 3 : Press the [EJECT] key
* In running 1,2 and 3 cancellation, a door does not stop at the position and moves to a panel position.
* Cancellation of running4 to 9 : Press the [POWER] key
* The number of count and an error cord are displayed in running.

Playback contents in a running mode

- CD
  The first track is played for 30 seconds.→The last track is played for 30 seconds.
  (The last track is played in the case of less than till the last for 30 seconds.)
- DVD
  2layer disc (Pit disc)
  Title 1 (the L0 layer internal circumference) is played for 30 seconds. →Title 12 (L0 layer circumference) is played for 30 seconds.
  →Title 24 (L1layer internal circumference) is played for 30 seconds.

  2layer disc (Recordable disc)
  Title 1 (the L0 layer internal circumference) is played for 30 seconds.→Title 13 (L0 layer circumference) is played for 30 seconds.
  →Title 24 (L1layer internal circumference) is played for 30 seconds.

  1layer disc
  First chapter of title 1 is played for 30 seconds.→ The last chapter of title 1 is played for 30 seconds.

4.10 Monitor adjustment

* When adjusting, switch on the main unit and insert a test disc (VT-501). And play the test disc and pause it.

(1) Set the service mode 4.
(2) Exchanging it operate a menu of a service mode with the [UP] button and [DOWN] button.
(3) Change data with the [B.SKIP]/[F.SKIP] buttons.
(4) Write data with a [PLAY/PAUSE] button.

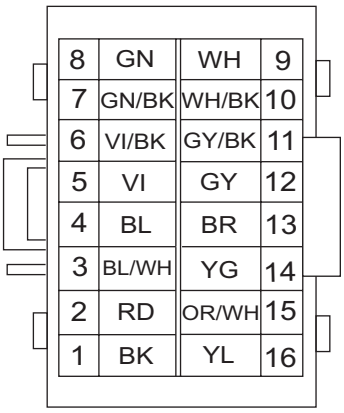
Indication	Minimum value	Maximum value	Initial value	Reference register value		Detail
00001	00000	00001	00000	00000	Fix	Color amplitude revision ON/OFF
00002	00000	00003	00000	00000	Fix	Color amplitude revision CAS
00003	00000	00063	00000	00000	Fix	Color amplitude revision APC
00004	00000	00003	00000	00000	Fix	Color amplitude revision CUS
00005	00000	00063	00000	00000	Fix	Color amplitude revision APU
00006	00000	00001	00000	00000	Fix	Black level extension ON/OFF
00007	00000	00001	00000	00000	Fix	Black level extension FUNCTION
00008	00000	00511	00000	00000	Fix	Black level extension START POINT
00009	00000	00511	00000	00000	Fix	Black level extension OFFSET
00010	00000	00255	00128	00128	Adjust	Enhancer revision effect adjustment (NTSC)
00011	00000	00255	00128	00128	Adjust	Enhancer revision effect adjustment (PAL)
00012	00000	00255	00064	00064	Adjust	Limiter of the horizontal enhancer (NTSC)
00013	00000	00255	00068	00068	Adjust	Limiter of the horizontal enhancer (PAL)
00014	00000	00255	00000	00000	Adjust	Filter choice of the horizontal enhancer (NTSC)
00015	00000	00255	00000	00000	Adjust	Filter choice of the horizontal enhancer (PAL)
00016	00000	00003	00001	00001	Adjust	Tap change of the brightness outline revision (NTSC)
00017	00000	00003	00001	00001	Adjust	Tap change of the brightness outline revision (PAL)
00018	00000	00127	00000	00000	Adjust	Adjustment of the quantity of brightness outline core ring (NTSC)
00019	00000	00127	00000	00000	Adjust	Adjustment of the quantity of brightness outline core ring (PAL)
00020	00000	00006	00000	00000	Adjust	Adjustment of the brightness outline revision gain (NTSC)
00021	00000	00006	00000	00000	Adjust	Adjustment of the brightness outline revision gain (PAL)
00022	00000	00255	00125	00125	Fix	Change in TINT of the whole picture (NTSC)
00023	00000	00255	00125	00125	Fix	Change in TINT of the whole picture (PAL)
00024	00000	00255	00090	00090	Fix	Change with the deepness of the color of the whole picture (NTSC)
00025	00000	00255	00100	00100	Fix	Change with the deepness of the color of the whole picture (PAL)
00026	00000	00255	00131	00131	Adjust	Tint adjustment (NTSC)
00027	00000	00255	00131	00131	Adjust	Tint adjustment (PAL)
00028	00000	00255	00051	00051	Adjust	Color adjustment (NTSC)
00029	00000	00255	00051	00051	Adjust	Color adjustment (PAL)
00030	00000	00511	00094	00094	Fix	Set the offset DC of the input video signal (NTSC)
00031	00000	00511	00094	00094	Fix	Set the offset DC of the input video signal (PAL)
00032	00000	00001	00000	00000	Fix	Quantity of transmission revision of the YUV DC
00033	00000	00255	00016	00016	Fix	Quantity of transmission revision of the YUV DC
00034	00000	01023	00320	00320	Adjust	Contrast adjustment between the black - white (NTSC)
00035	00000	01023	00322	00322	Adjust	Contrast adjustment between the black - white (PAL)
00036	00000	00511	00348	00348	Fix	Conversion coefficients from YUV to RGB (PRCL)
00037	00000	00255	00210	00210	Fix	Conversion coefficients from YUV to RGB (PBCL)
00038	00000	00255	00210	00210	Fix	Conversion coefficients from YUV to RGB (YCL)
00039	00000	00255	00158	00158	Fix	Conversion coefficients from YUV to RGB (BCL)
00040	00000	00511	00267	00267	Fix	Conversion coefficients from YUV to RGB (RCL)
00041	00000	00001	00001	00001	Fix	Noise shaving (NTSC)
00042	00000	00001	00001	00001	Fix	Noise shaving (PAL)
00043	00000	00127	00029	00029	Adjust	Black level adjustment (NTSC)
00044	00000	00127	00028	00028	Adjust	Black level adjustment (PAL)
00045	00000	00127	00058	00058	Fix	Gain setting of Red signal (NTSC)
00046	00000	00127	00059	00057	Fix	Gain setting of Red signal (PAL)
00047	00000	00127	00057	00057	Fix	Gain setting of Green signal (NTSC)
00048	00000	00127	00059	00056	Fix	Gain setting of Green signal (PAL)
00049	00000	00127	00054	00054	Fix	Gain setting of Blue signal (NTSC)
00050	00000	00127	00053	00053	Fix	Gain setting of Blue signal (PAL)
00051	00000	00127	00061	00061	Fix	Set the cut-off of the Red signal (NTSC)
00052	00000	00127	00061	00061	Fix	Set the cut-off of the Red signal (PAL)
00053	00000	00127	00061	00061	Fix	Set the cut-off of the Green signal (NTSC)
00054	00000	00127	00061	00061	Fix	Set the cut-off of the Green signal (PAL)
00055	00000	00127	00061	00061	Fix	Set the cut-off of the Blue signal (NTSC)

Indication	Minimum value	Maximum value	Initial value	Reference register value		Detail
00056	00000	00127	00061	00061	Fix	Set the cut-off of the Blue signal (PAL)
00057	00000	00001	00001	00001	Fix	ON/OFF change of the gamma revision
00058	00000	00255	00007	00007	Fix	Adjust 1 gamma revision point position of a Red signal
00059	00000	00255	00015	00015	Fix	Adjust 2 gamma revision point position of a Red signal
00060	00000	00255	00023	00023	Fix	Adjust 3 gamma revision point position of a Red signal
00061	00000	00255	00031	00031	Fix	Adjust 4 gamma revision point position of a Red signal
00062	00000	00255	00039	00039	Fix	Adjust 5 gamma revision point position of a Red signal
00063	00000	00255	00047	00047	Fix	Adjust 6 gamma revision point position of a Red signal
00064	00000	00255	00055	00055	Fix	Adjust 7 gamma revision point position of a Red signal
00065	00000	00255	00017	00017	Fix	Appoint gamma revision gain 1 of the Red signal
00066	00000	00255	00031	00031	Fix	Appoint gamma revision gain 2 of the Red signal
00067	00000	00255	00032	00032	Fix	Appoint gamma revision gain 3 of the Red signal
00068	00000	00255	00032	00032	Fix	Appoint gamma revision gain 4 of the Red signal
00069	00000	00255	00036	00036	Fix	Appoint gamma revision gain 5 of the Red signal
00070	00000	00255	00042	00042	Fix	Appoint gamma revision gain 6 of the Red signal
00071	00000	00255	00058	00058	Fix	Appoint gamma revision gain 7 of the Red signal
00072	00000	00255	00088	00088	Fix	Appoint gamma revision gain 8 of the Red signal
00073	00000	00255	00007	00007	Fix	Adjust 1 gamma revision point position of a Green signal
00074	00000	00255	00015	00015	Fix	Adjust 2 gamma revision point position of a Green signal
00075	00000	00255	00023	00023	Fix	Adjust 3 gamma revision point position of a Green signal
00076	00000	00255	00031	00031	Fix	Adjust 4 gamma revision point position of a Green signal
00077	00000	00255	00039	00039	Fix	Adjust 5 gamma revision point position of a Green signal
00078	00000	00255	00047	00047	Fix	Adjust 6 gamma revision point position of a Green signal
00079	00000	00255	00055	00055	Fix	Adjust 7 gamma revision point position of a Green signal
00080	00000	00255	00017	00017	Fix	Appoint gamma revision gain 1 of the Green signal
00081	00000	00255	00031	00031	Fix	Appoint gamma revision gain 2 of the Green signal
00082	00000	00255	00032	00032	Fix	Appoint gamma revision gain 3 of the Green signal
00083	00000	00255	00032	00032	Fix	Appoint gamma revision gain 4 of the Green signal
00084	00000	00255	00036	00036	Fix	Appoint gamma revision gain 5 of the Green signal
00085	00000	00255	00042	00042	Fix	Appoint gamma revision gain 6 of the Green signal
00086	00000	00255	00058	00058	Fix	Appoint gamma revision gain 7 of the Green signal
00087	00000	00255	00088	00088	Fix	Appoint gamma revision gain 8 of the Green signal
00088	00000	00255	00007	00007	Fix	Adjust 1 gamma revision point position of a Blue signal
00089	00000	00255	00015	00015	Fix	Adjust 2 gamma revision point position of a Blue signal
00090	00000	00255	00023	00023	Fix	Adjust 3 gamma revision point position of a Blue signal
00091	00000	00255	00031	00031	Fix	Adjust 4 gamma revision point position of a Blue signal
00092	00000	00255	00039	00039	Fix	Adjust 5 gamma revision point position of a Blue signal
00093	00000	00255	00047	00047	Fix	Adjust 6 gamma revision point position of a Blue signal
00094	00000	00255	00055	00055	Fix	Adjust 7 gamma revision point position of a Blue signal
00095	00000	00255	00017	00017	Fix	Appoint gamma revision gain 1 of the Blue signal
00096	00000	00255	00031	00031	Fix	Appoint gamma revision gain 2 of the Blue signal
00097	00000	00255	00032	00032	Fix	Appoint gamma revision gain 3 of the Blue signal
00098	00000	00255	00032	00032	Fix	Appoint gamma revision gain 4 of the Blue signal
00099	00000	00255	00036	00036	Fix	Appoint gamma revision gain 5 of the Blue signal
00100	00000	00255	00042	00042	Fix	Appoint gamma revision gain 6 of the Blue signal
00101	00000	00255	00058	00058	Fix	Appoint gamma revision gain 7 of the Blue signal
00102	00000	00255	00088	00088	Fix	Appoint gamma revision gain 8 of the Blue signal
00103	00000	00255	00060	00060	Adjust	Adjust the horizontal indication point of the picture (NTSC)
00104	00000	00255	00060	00060	Adjust	Adjust the horizontal indication point of the picture (PAL)
00105	00000	00255	00010	00010	Adjust	Adjust the vertical indication point of the picture (NTSC)
00106	00000	00255	00010	00010	Adjust	Adjust the vertical indication point of the picture (PAL)
00107	00000	00127	00042	00042	Fix	AD clock gain adjustment (NTSC)
00108	00000	00127	00042	00042	Fix	AD clock gain adjustment (PAL)
00109	00000	00007	00001	00001	Fix	Noise reduction of the Y signal (NTSC)
00110	00000	00007	00001	00001	Fix	Noise reduction of the Y signal (PAL)
00111	00000	00003	00032	00032	Fix	Choose a YC separation filter (NTSC)
00112	00000	00003	00048	00048	Fix	Choose a YC separation filter (PAL)
00113	00000	00007	00000	00000	Fix	Color pulling out filter setting (NTSC)
00114	00000	00007	00000	00000	Fix	Color pulling out filter setting (PAL)
00115	00000	00007	00001	00001	Adjust	Choose com movement mode and color BPF (NTSC)
00116	00000	00007	00004	00004	Adjust	Choose com movement mode and color BPF (PAL)
00117	00000	01023	00180	00180	Fix	Vertical dot cancellation setting (NTSC)
00118	00000	01023	00180	00180	Fix	Vertical dot cancellation setting (PAL)
00119	00000	00063	00001	00001	Adjust	Noise reduction setting (NTSC)
00120	00000	00063	00001	00001	Adjust	Noise reduction setting (PAL)

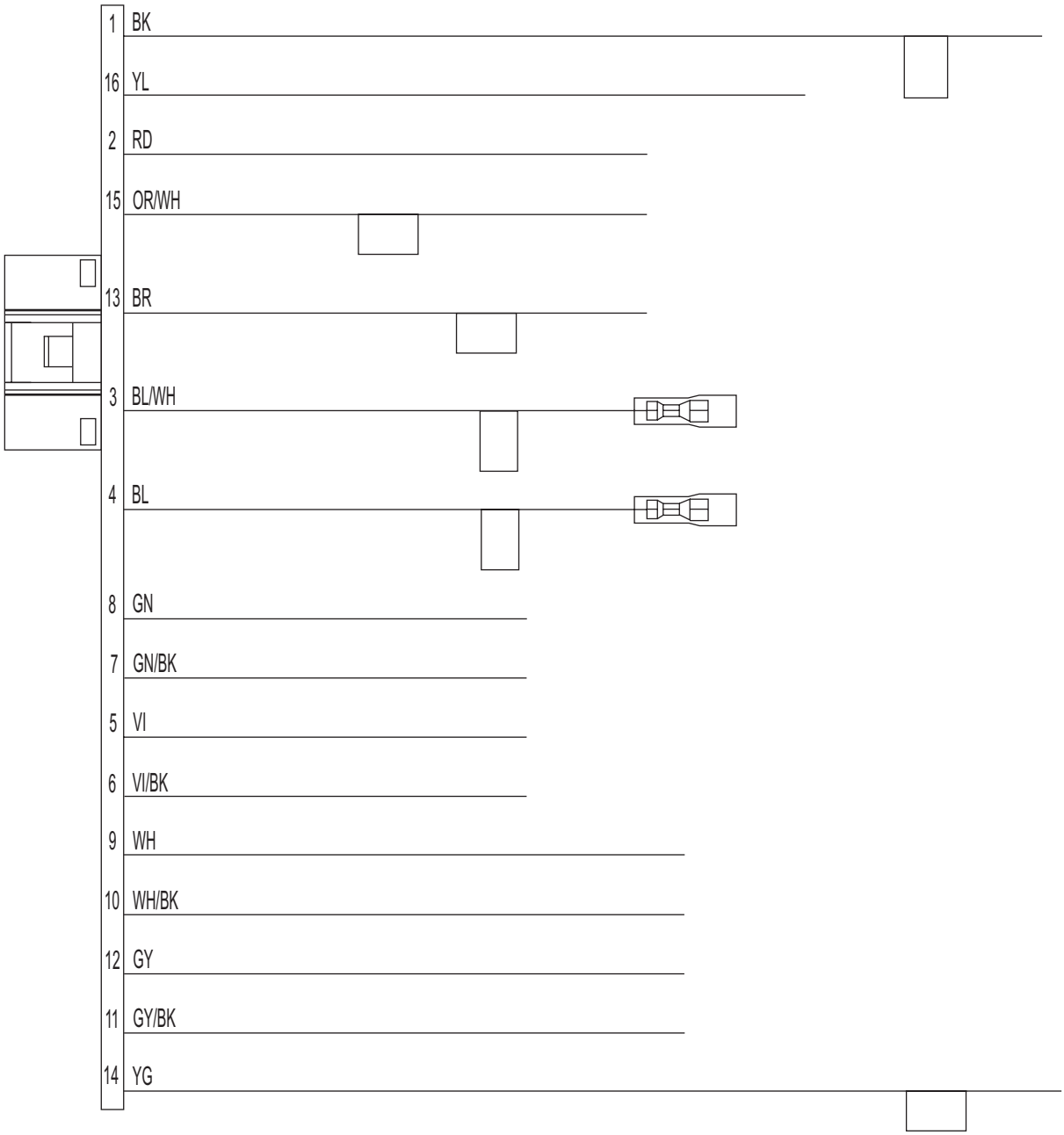
Indication	Minimum value	Maximum value	Initial value	Reference register value		Detail
00121	00000	01023	00338	00338	Fix	Quantity of brightness adjustment setting (NTSC)
00122	00000	01023	00338	00338	Fix	Quantity of brightness adjustment setting (PAL)
00123	00000	00255	00168	00168	Fix	Brightness gain adjustment (NTSC)
00124	00000	00255	00168	00168	Fix	Brightness gain adjustment (PAL)
00125	00000	00511	00140	00140	Adjust	Color signal output level setting (NTSC)
00126	00000	00511	00096	00096	Adjust	Color signal output level setting (PAL)
00127	00000	00006	00004	00004	Fix	ACC movement mode setting
00128	00000	00255	00033	00033	Fix	C signal filter characteristic setting of the Y/C separation part (NTSC)
00129	00000	00255	00033	00033	Fix	C signal filter characteristic setting of the Y/C separation part (PAL)
00130	00000	16383	02464	02464	Fix	Amplitude killer off level setting
00131	00000	16383	02472	02472	Fix	Amplitude killer on level setting
00132	00000	00127	00071	00071	Fix	Clamp DC level adjustment setting
00133	00000	00015	00015	00015	Fix	Clamp speed adjustment setting
00134	00000	00063	00049	00049	Fix	Noise filter band setting of horizontal synchronization signal and vertical synchronizing signal (NTSC)
00135	00000	00063	00049	00049	Fix	Noise filter band setting of horizontal synchronization signal and vertical synchronizing signal (PAL)
00136	00000	65535	14976	14976	Fix	Horizontal phase comparison gain setting (NTSC)
00137	00000	65535	14976	14976	Fix	Horizontal phase comparison gain setting (PAL)
00138	00000	00063	00055	00055	Fix	Horizontal loop filter setting 1
00139	00000	00015	00010	00010	Fix	Horizontal loop filter setting 2
00140	00000	00015	00007	00007	Fix	Horizontal loop filter setting 3
00141	00000	00015	00001	00001	Fix	Synchronization separation burst clock setting (NTSC)
00142	00000	00015	00001	00001	Fix	Synchronization separation burst clock setting (PAL)
00143	00000	00255	00252	00252	Fix	Free run center value setting of horizontal synchronization signal (NTSC)
00144	00000	00255	00252	00252	Fix	Free run center value setting of horizontal synchronization signal (PAL)
00145	00000	00511	00326	00326	Fix	DOKIDET 01
00146	00000	00511	00082	00082	Fix	DOKIDET 02
00147	00000	00511	00033	00033	Fix	DOKIDET 03
00148	00000	00026	00000	00000	Fix	Unused
00149	00000	00026	00000	00000	Fix	Unused
00150	00000	00255	00128	00128	Fix	Subcareer center frequency setting (NTSC)
00151	00000	00255	00000	00000	Fix	Unused
00152	00000	00255	00128	00128	Fix	Subcareer center frequency setting (PAL)
00153	00000	00255	00000	00000	Fix	Unused
00154	00000	00255	00018	00018	Adjust	Coordinate the delay of the C signal with a Y signal (NTSC)
00155	00000	00255	00023	00023	Adjust	Coordinate the delay of the C signal with a Y signal (PAL)
00156	00000	00255	00105	00098	Adjust	Coordinate the VCOM amplitude of the LCD (NTSC)
00157	00000	00255	00104	00096	Adjust	Coordinate the VCOM amplitude of the LCD (PAL)
00158	00000	00255	00051	00051	Adjust	Coordinate VCOM center value of the LCD (NTSC)
00159	00000	00255	00051	00051	Adjust	Coordinate VCOM center value of the LCD (PAL)
00160	00000	00009	00004	00004	Fix	Set a variable range of the indication VSYNC frequency (NTSC)
00161	00000	00009	00006	00006	Fix	Set a variable range of the indication VSYNC frequency (PAL)
00162	00040	00110	00090	00090	Fix	Set time when indication VSYNC frequency changes (NTSC)
00163	00040	00110	00060	00060	Fix	Set time when indication VSYNC frequency changes (PAL)
00164	00000	00007	00000	00000	Fix	CLAMP MODE (NTSC)
00165	00000	00007	00000	00000	Fix	CLAMP MODE (PAL)

SECTION 5
TROUBLESHOOTING

5.1 16 PIN CORD DIAGRAM (for J, A, U series)

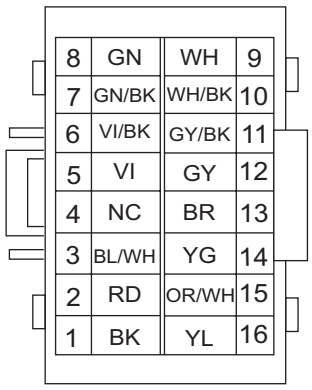


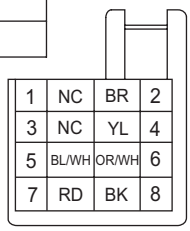
BK	Black	GY	Gray
RD	Red	BR	Brown
BL	Blue	YG	YellowGreen
WH	White	OR	Orange
VI	Violet	YL	Yellow
GN	Green		

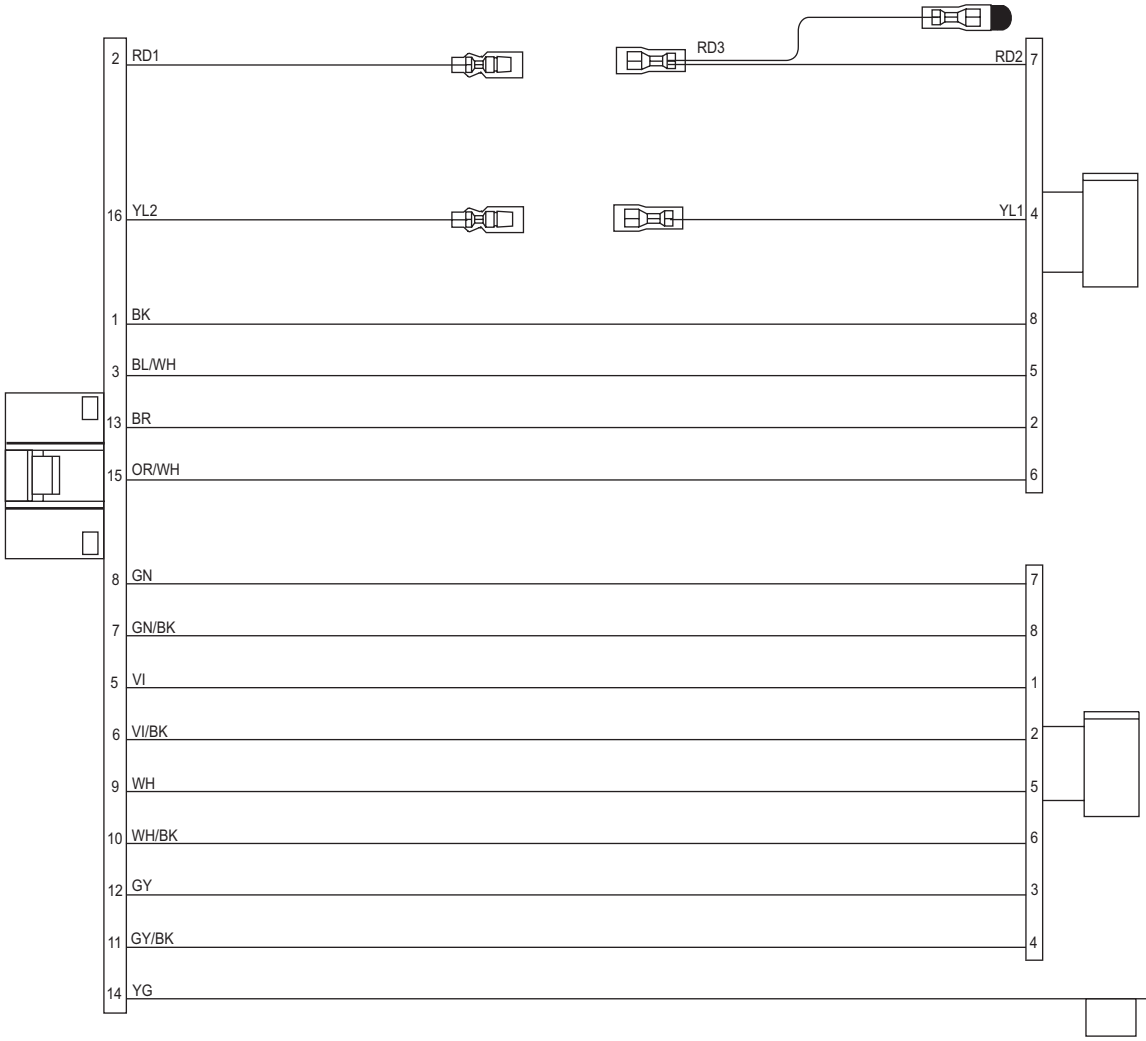


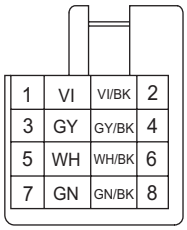
5.2 16 PIN CORD DIAGRAM (for E, EE)

BK	Black	GY	Gray
RD	Red	BR	Brown
BL	Blue	YG	YellowGreen
WH	White	OR	Orange
VI	Violet	YL	Yellow
GN	Green		

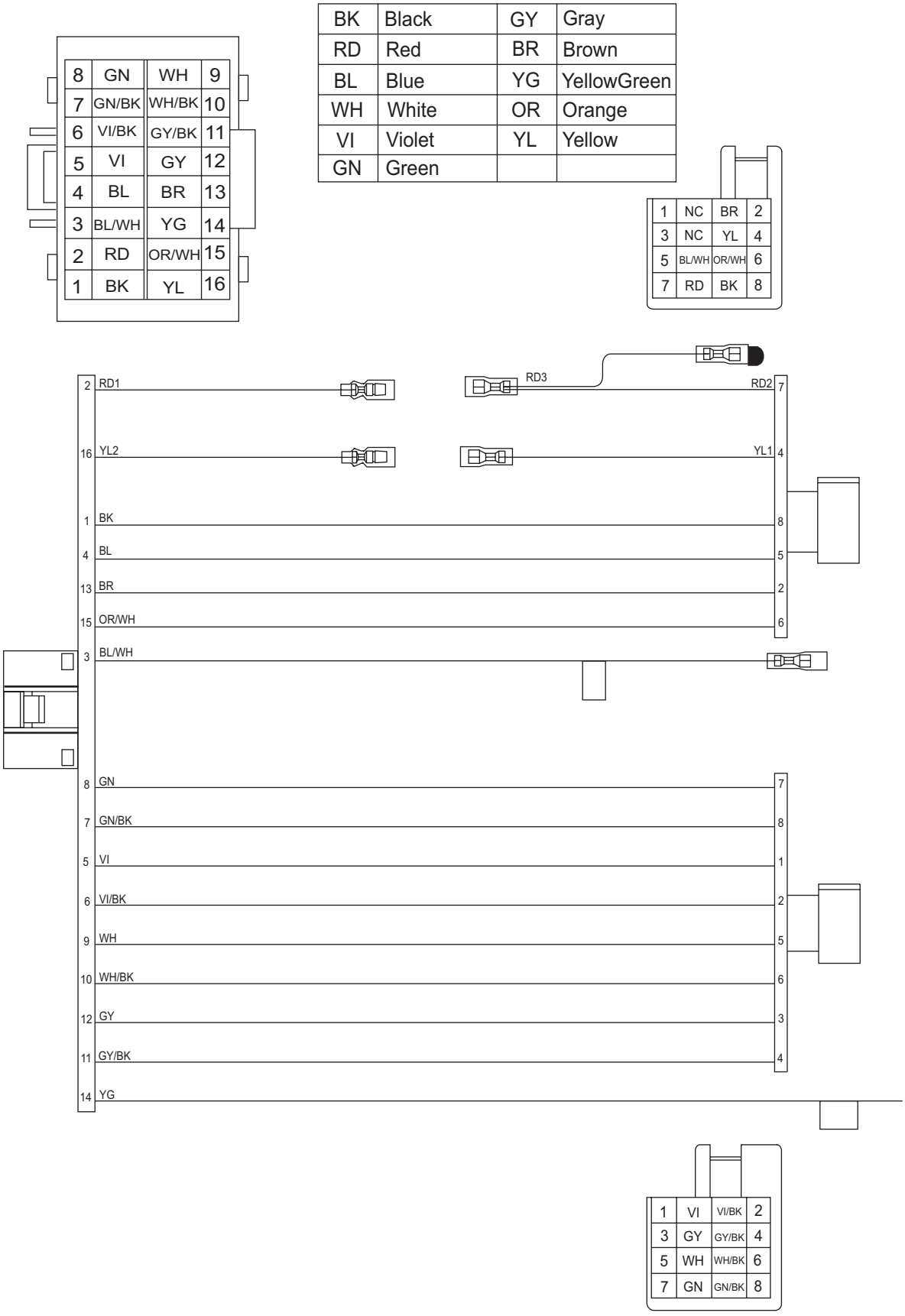








5.3 16 PIN CORD DIAGRAM (for EU)



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