

PROTECH®

Hyper Limiter ***FS-206***

Operating Instructions

Before operating the unit, please read this manual thoroughly and retain it for future reference.



Attention on safety

Please guard.

The case where it is used by professional Tec commodity common optional AC is contained.

It explains the guard without fail to prevent the damage to harm and the property to the person and other people who use it beforehand as follows.

- It divides in the following table, and it explains the level of harm and the damage caused when a usage wrong as the content of the display is disregarded is done.

	Warning	The column of this display is "The possibility of owing the death or the serious injury, etc. is assumed" content.
	Attention	The column of this display is "The possibility that only the possibility or the physical loss or damage in which the trouble is owed occurs is assumed" content.

- It divides by the following picture display, and it explains the kind of the guarded content. (The following are one picture display example.)

	Such a picture display is an attentive "Attention rousing" content that wants to hold.
	Such a picture display is "Prohibition" content that cannot be done.
	Such a picture display is "Compulsion" content executed without fail.






About the installation

 Warning

	It doesn't put it on an unstable place.		A heavy thing is not put on the power supply code.		It doesn't set it up in the water place.
Prohibition		Prohibition		Water place use prohibition	

About the processing in abnormal circumstances

 Warning

	When this machine is dropped or is damaged, the power on/off switch is cut.		When water etc. enter in this machine, the power on/off switch is cut.		When the foreign body enters in this machine, the power on/off switch is cut.
The power supply is pulled out.	The power supply is pulled out.	The power supply is pulled out.	The power supply is pulled out.	The power supply is pulled out.	
	Smoke has risen, and when it is abnormal of hearing a strange smell and the sound etc. the power on/off switch is cut.		When the power supply code hurts, it exchanges it.		
The power supply is pulled out.	Compulsion				

Attention on safety

Please guard.

About use



Warning

 <p>Neither a container where water entered on this machine nor a small metallic thing are put.</p> <p>Prohibition</p>	 <p>The foreign body is not inserted, and not dropped from the opening of the equipment.</p> <p>Prohibition</p>	 <p>This machine is not remodeled.</p> <p>Resolution prohibition</p>
 <p>It doesn't use it in the water place.</p> <p>Water place use prohibition</p>	 <p>Neither the back cap, the cabinet nor the cover, etc. of this machine are removed.</p> <p>Resolution prohibition</p>	 <p>It is done to wet the equipment and watertight.</p> <p>Prohibition</p>

About use



Attention

About maintenance

 <p>A heavy thing is not put on this machine.</p> <p>Prohibition</p>	 <p>It doesn't take this machine.</p> <p>Prohibition</p>	 <p>When maintaining it, the switch is turned off for safety.</p> <p>The power supply is pulled out.</p>
 <p>When not using it, the power supply is pulled out for safety.</p> <p>The power supply is pulled out.</p>	 <p>The power supply is pulled out, and an external code is removed when moving.</p> <p>The power supply is pulled out.</p>	 <p>The consultation of an internal cleaning is : to the shop about once a year.</p> <p>Compulsion</p>

About after-sales service

Our product is a free repair guarantee of one year.
(I hope the carriage etc. in the customer's share.)

It does to a repair for a fee for the commodity that passes a free guaranteed term.

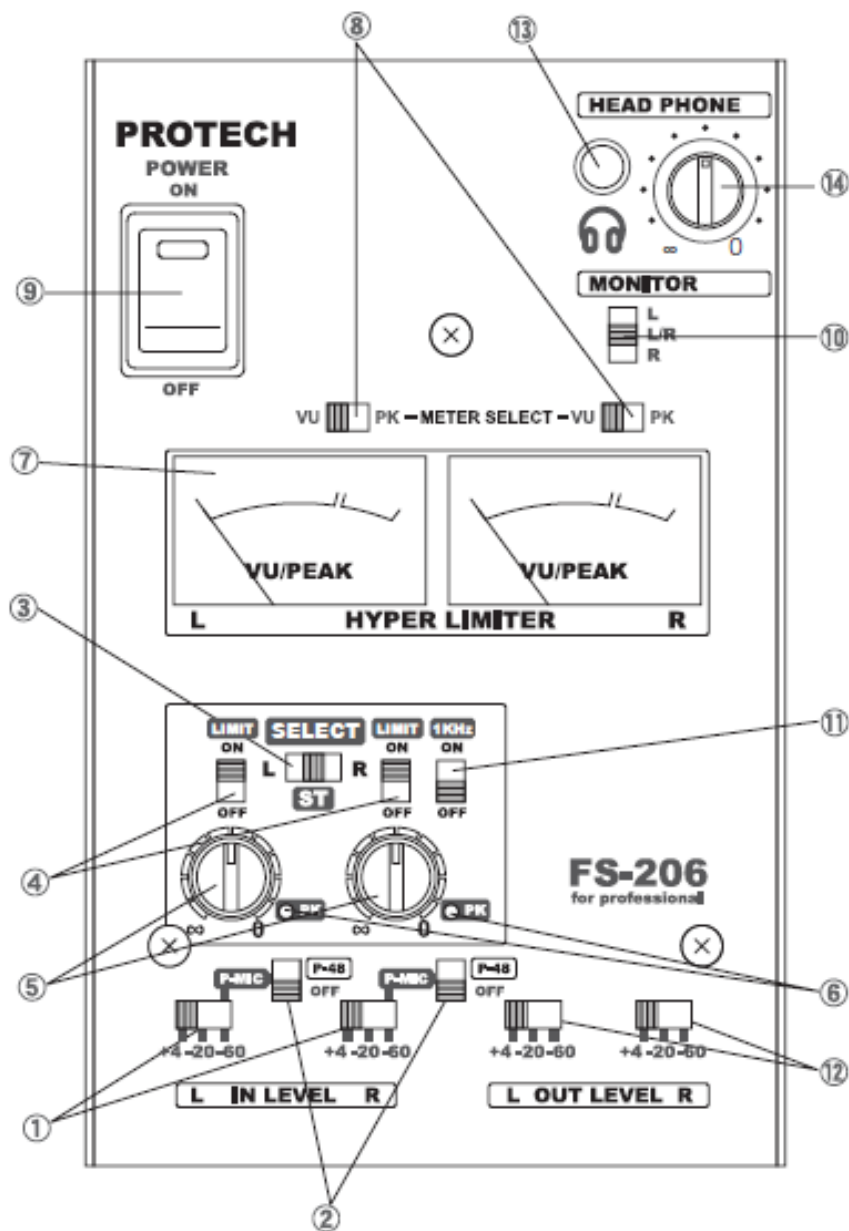
Please request the repair to the shop or our support center of purchase.

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Names and Functions of Parts 各部名称と働き

Main panel (Front panel)



Main panel (Front panel)

(1) Input level change switch

+4 : Set a switch to this position for +4dB input of line level.

-20: Set a switch to this position for –20dB input of line level.

Set to this position for consumer CD and consumer video equipment.

-60: Set a switch to this position for –60dB microphone input.

(2) Phantom 48V switch

When using phantom 48V condenser microphone, set Input level switch (1) to –60 position and set this switch to P-48.

(3) Input change switch

L : L input -> L amplifier, R amplifier

R input -> Not connected

ST: L input -> L amplifier

R input -> R amplifier

R : L input -> Not connected

R input -> L amplifier, R amplifier

(4) Hyper limiter ON/OFF switch

L/R independent Hyper limiter ON/OFF switch. Limiter works up to maximum 30dB at ON condition, and it prevents audio distortion.

(5) Level volume

It is the volume to adjust the level of L/R, each channel.

(6) Overload (PK) LED

It lights up when the signal level of L/R, each channel becomes over the standard level instantly.

(7) VU/PEAK meter

Simultaneous monitoring of L/R stereo is possible by 2 meters. VU/PEAK meter change of L/R is possible independently by Meter change switch (8).

VU (VU meter) : Upper scale. Range is –20dB to +3dB.

PK (Peak program meter) : Lower scale. Range is –60dB to 0dB.

Note: Reference level

VU: 0dB, PEAK: +4/-20/-60dBm set by Master output change switch (12) at –20dB.

Main panel (Front panel)

(8) Meter change switch

Switch to change VU/PEAK meter (7) to VU or PEAK meter. L/R can be set independently.

(9) POW switch

LIGHT: Meter LED lights up by Power ON.

ON: Turn on the power.

OFF: Turn off the power.

(10) Monitor change switch

L: L channel only is output the headphone.

ST: L and R are output simultaneously to the headphone by stereo.

R: R channel only is output the headphone.

(11) Reference audio signal (1kHz) output switch

At ON position, 1kHz reference signal is output to all outputs.

(12) Master output change switch

Can change the master output to +4/-20/-60dBm with L/R independently. Set it to the connected recorder.

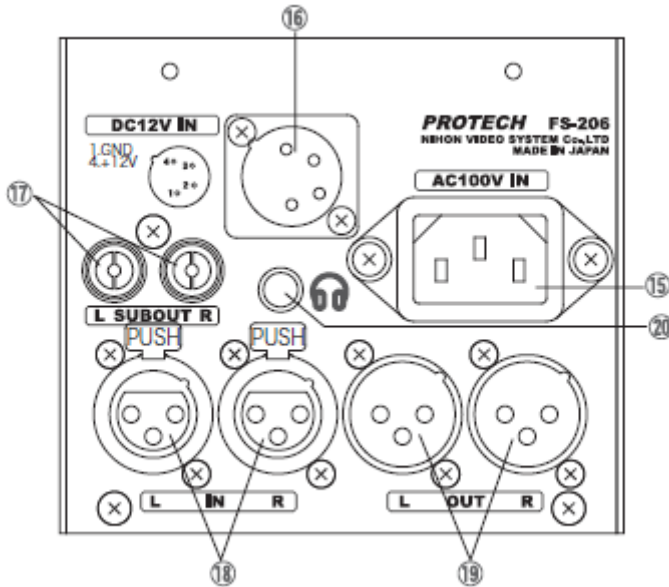
(13) Mini headphone jack

Mini plug (ϕ 3.5) stereo headphone jack.

(14) Headphone monitor level volume

Volume to adjust the monitor level selected by the monitor change switch (10).

Connector panel (Top panel)



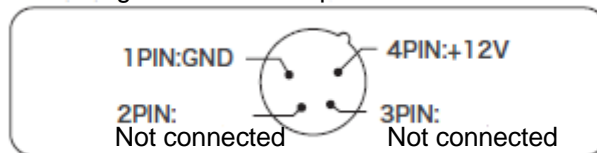
(15) AC input connector

Connector to input AC power with supplied AC cable.

(16) Canon 4pin DC12V input connector

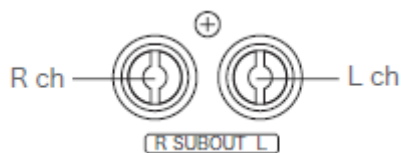
Canon 4pin connector to input the power from outside (Input voltage: DC6 – 16V)

Pin assignment: Canon 4pin Male



(17) Sub output connector (RCA)

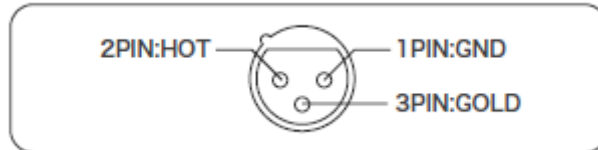
RCA sub output. Output level for consumer type recorder is -10dBV .



Connector panel (Top panel)

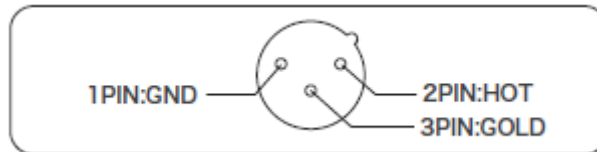
(18) Input connector Canon XLR 3pin Female

Pin assignment: Canon XLR 3pin Female



(19) Output connector Canon XLR 3pin Male

Pin assignment: Canon XLR 3pin Male



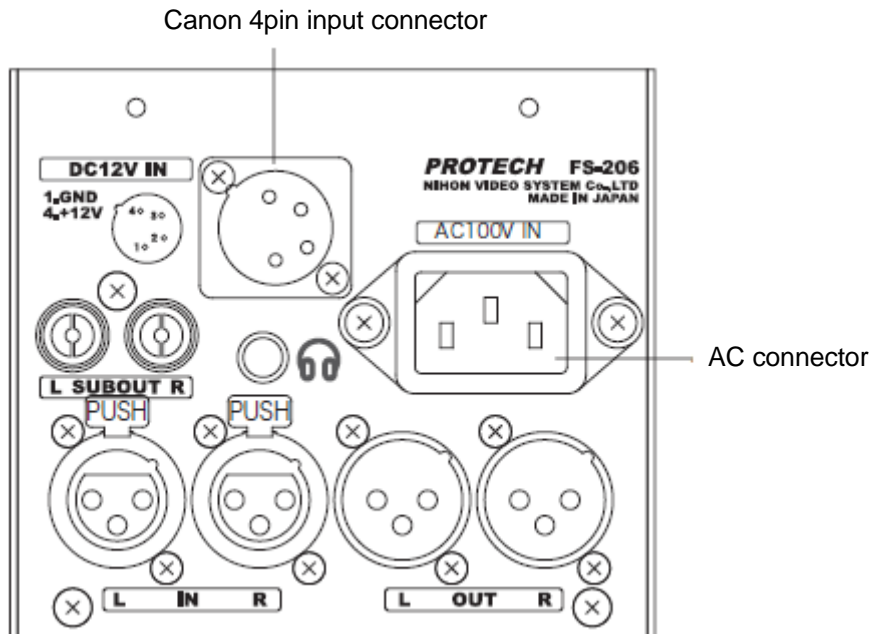
(20) Mini headphone jack

Mini plug (ϕ 3.5) stereo headphone jack.

Operation

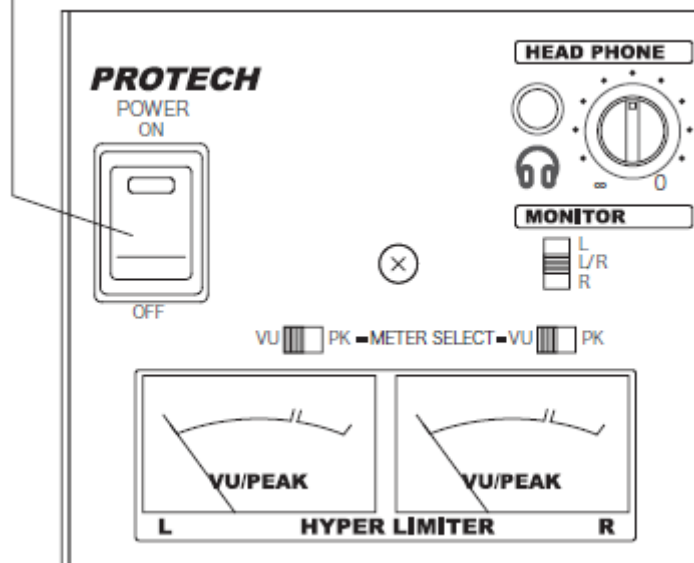
Power On

1. Connect the power to AC connector or Canon 4pin input connector.



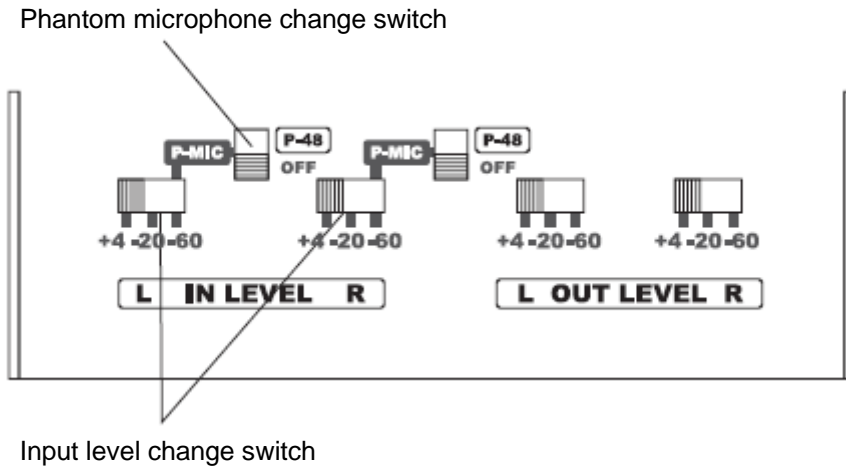
2. Set POW switch to ON.

POW switch

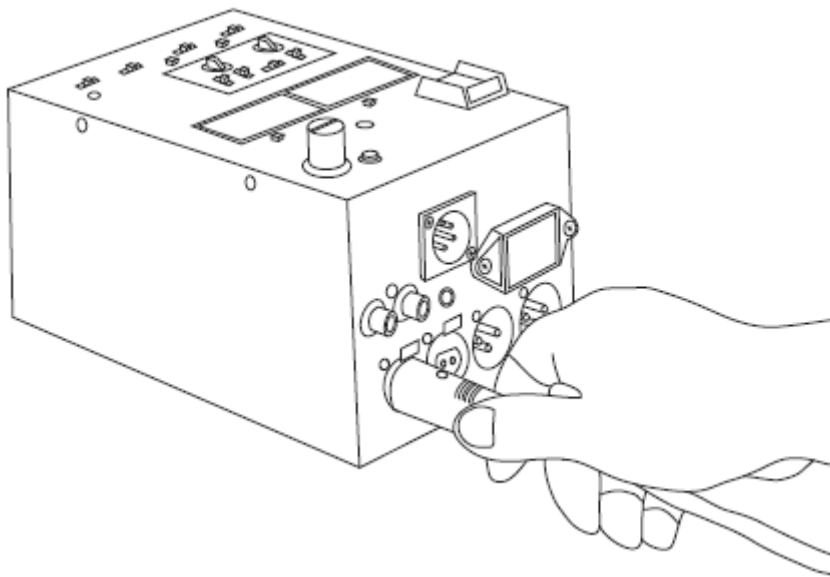


Connect audio input

1. Set Input level change switch according to the input level.



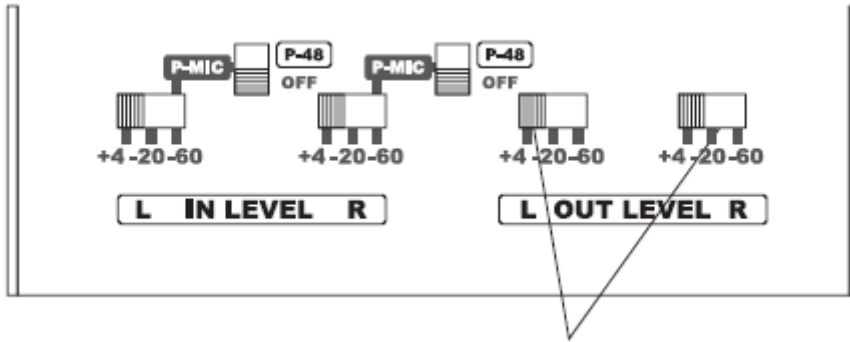
2. Set P-MIC to P-48 when condenser microphone is connected.
3. Connect the cable to Canon 3pin input connector



From LINE, microphone, etc

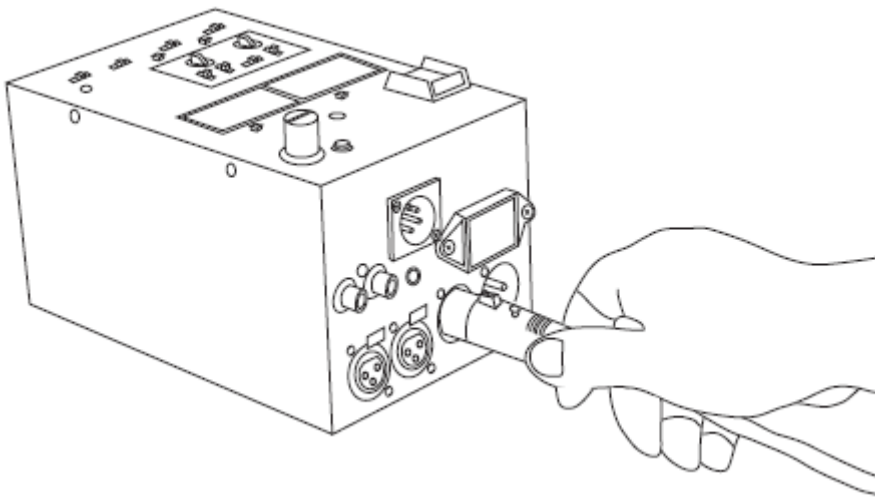
Connect audio output to recorder

1. Set Master level change switch to +4/-20/-60 according to the connecting recorder.



Output level change switch

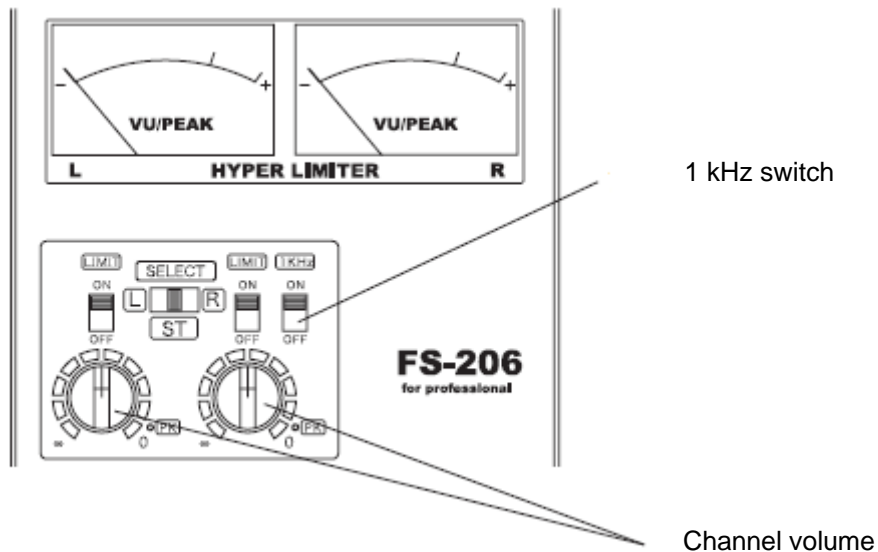
2. Connect the cable to the output connector.



To recorder

Adjust level

1. Set Reference audio signal (1kHz) output switch to ON position and send 1kHz reference signal. Adjust the input level of the connected recorder to the reference level. Set Reference audio signal (1kHz) output switch to OFF after finish of adjustment.



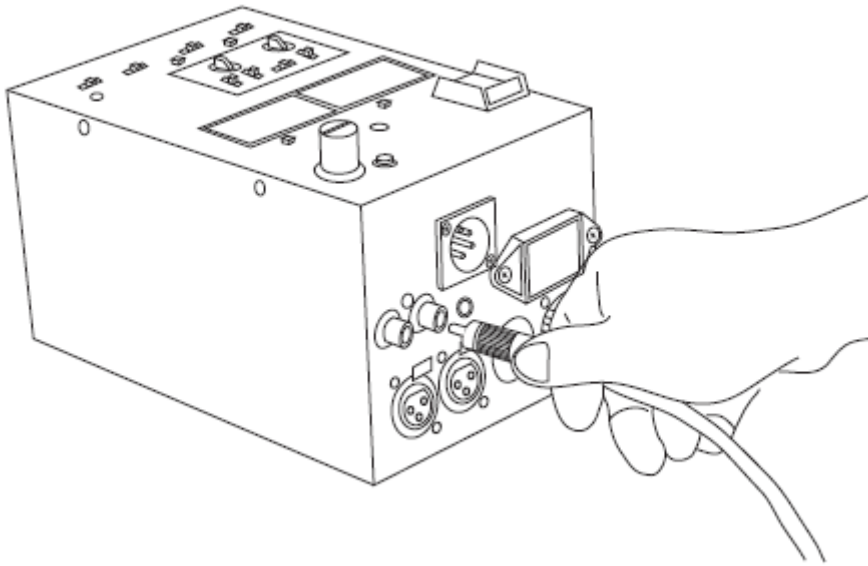
2. Set Input change switch to the used channel. Adjust the channel volume to the proper level while seeing the meter at the OFF condition of Hyper limiter ON/OFF switch.
Note) Recommendable level is that PEAK indicator lights up a little sometimes.

Turn on Hyper limiter ON/OFF switch

1. Set Hyper limiter ON/OFF switch to ON position, then the hyper limiter circuit works. It reacts quickly to the excessive input and suppresses level to a correct level. With this, recording can be made without worrying of the distortion of over level.

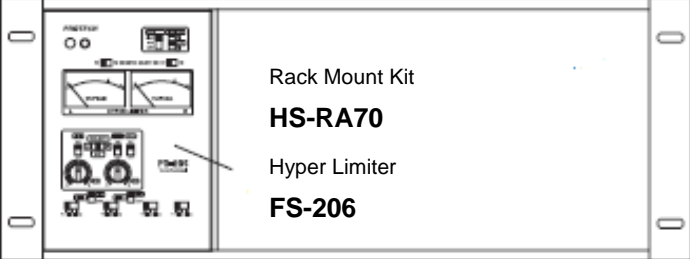


■ Connect sub audio output to a recorder

When connect to RCA equipment, connect to RCA connector of Monitor panel. Output is -10dBv .

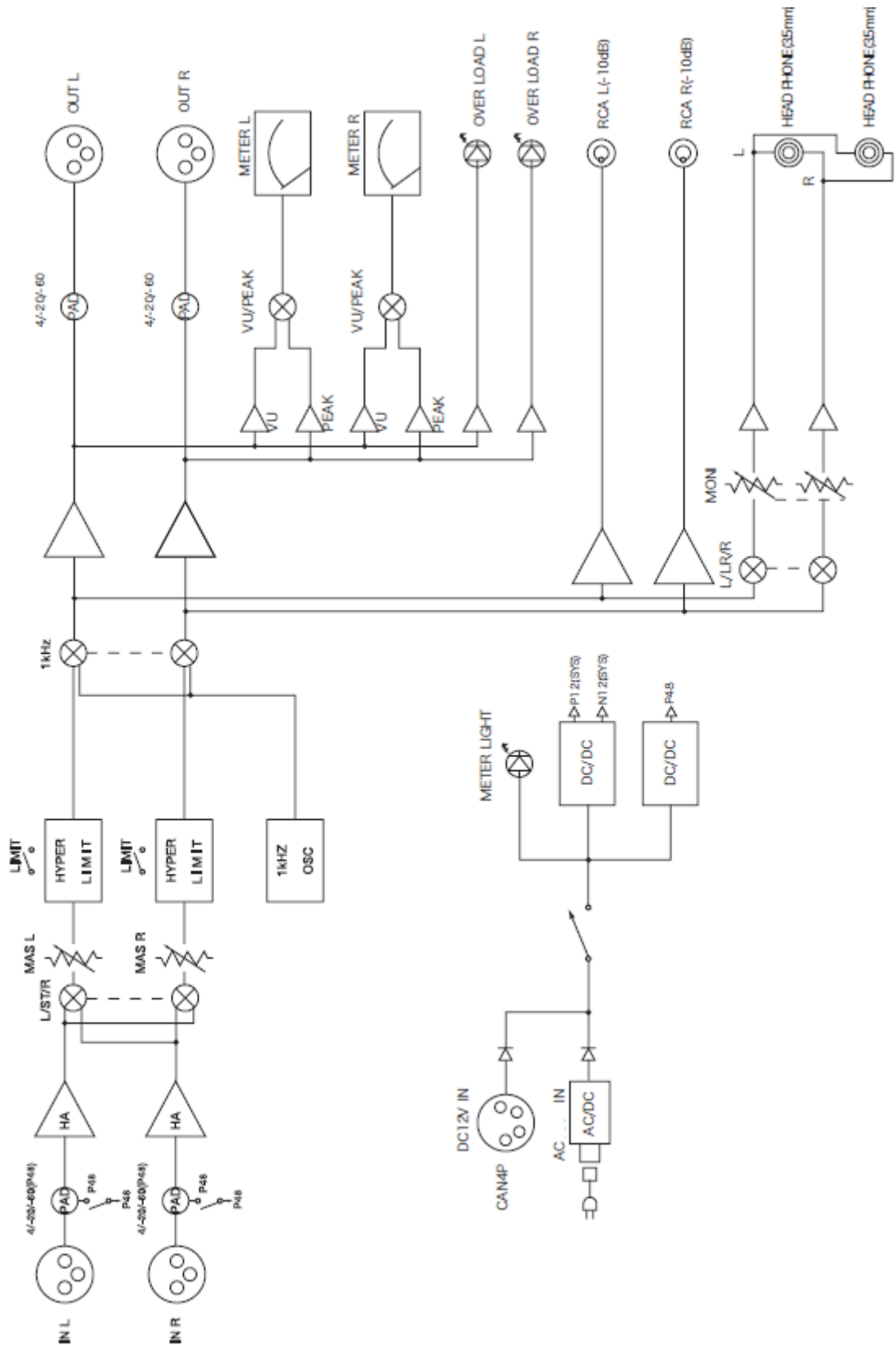


To recorder

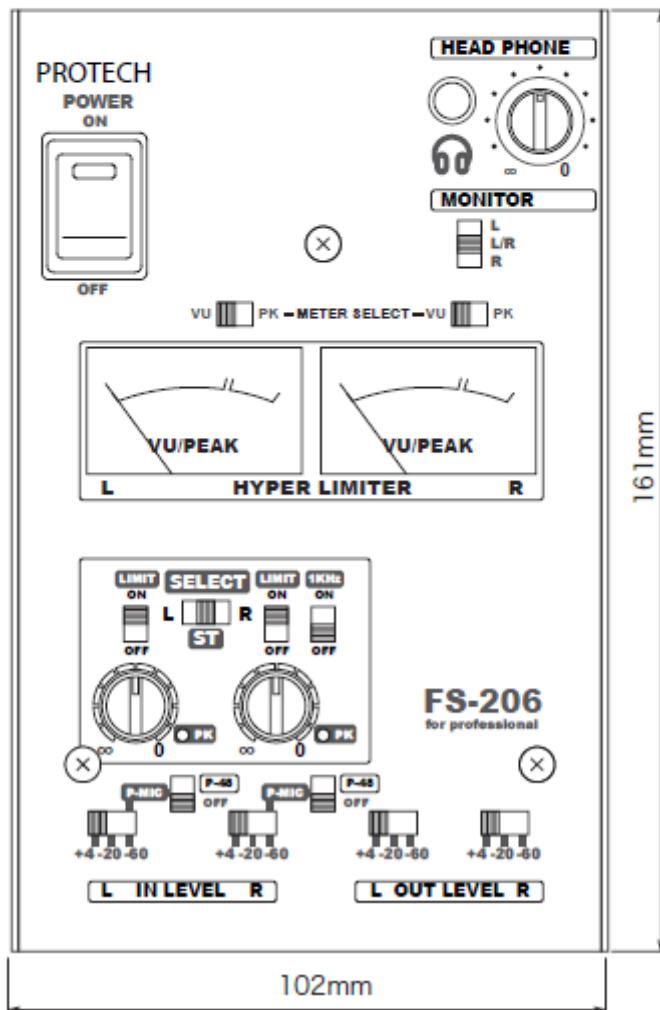
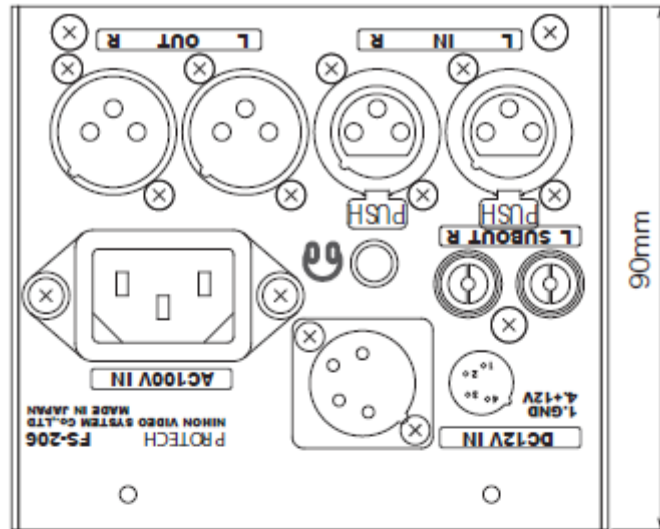
Option

 <p>Rack Mount Kit HS-RA70</p> <p>Hyper Limiter FS-206</p>	
 <p>L/R mixing cable 20/200 MA-20/200</p> <p>It is possible to use as the input-side limiter function built-in 2ch mixer by using this mixing adapter (MA-20/200).</p> <p>MA-20 : 20cm MA-200: 2m</p>	 <p>Canon mini-jack cable (1.5m) for consumer type camera MC-100</p> <p>Adaptor for FS-205 to use consumer camera (1.5m). It is the adapter which made it possible to connect the microphone* to the camcorder which doesn't have audio input terminal.</p> <p>The microphone*: It has the directive output with Canon terminal or 1 rank-up microphone.</p>

Block Diagram



Dimension



Main Specifications

Input part	Audio	XLR 3pin (female) L/R x each1	
	Input level	Microphone: -60dBs variable continuously Line: -20dBm to +4dBm variable continuously	
	Impeadance	3kohm \pm 10%	
	DC	XLR 4pin (male) x1 BP-90 type connector x1	
Output part	Master audio output	XLR 3pin (male) L/R x each1	
	Sub audio output	RCA L/R x each1	
	Headphone monitor	3.5 ϕ stereo mini jack x1	
	Maximum output	L/R +20dBm	
	Audio output level	L OUT +4,0,-20,-60dBm	
		R OUT +4,0,-20,-60dBm	
		Electronic balanced output which fits in with the 600 ohm load	
		Unbalanced output	
RCA OUT (L/R) -10dBs			
	MONI OUT -6dBs		
	Unbalanced output which fits in with the equal to or more than 8 ohm load		
General characteristic	Frequency characteristic	Line 50Hz - 15KHz \pm 1.0dB MONI 50Hz - 15 \pm 3.0dB	
	S/N	Equal to or more than 53dB (at -60dBm input)	
		Equal to or more than 72dB (at +4dBm input)	
		MONI equal to or more than 60dB (30kHz L, P, F use, input 600 ohm branch)	
Distortion percentage	Microphone and line: Equal to or less than 0.2 % MONI : Equal to or less than 2% (50Hz - 15KHz)		
Built-in circuit	Phantom power supply	P-48V(+48V) is equipped in each channel Total 30mA of maximum supply current for 2ch	
	Oscillater	1kHz	
	Audio level meter	VU/Peak change type It is possible to change VU/Peak by each channel.	
	Limiter	Each input-side independent 2 systems	
		Independent ON/OFF possible	
Power	AC input	AC100V - AC220V	
	External DC input	DC6V - 16V Max. 0.5A	
	Power consumption	approx. 0.2A	
General	Temperature Operation	From 0 degree C to 40 degree C	
	Storage	From -20 degree C to 50 degree C	
	Weight	approx. 1.1Kg	
	Dimension	102x161x90mm (WxHxD)	
Option	HS-RA70	VSE-500 FS-206 Rack-mount hardware	
	MA20	L/R mixing cable 20cm	
	MA200	L/R mixing cable 200cm	
	MC-100	Canon mini-jack cable for consumer type camera	
Accessory	AC cable		