

Mixer Console

F8/4, F10/4, F14/4, F18/4, F26/4

User's Manual

Keep This Manual For Future Reference.

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All specification is subject to change without notice.

Mixer Console

F8/4, F10/4, F14/4, F18/4, F26/4

User's Manual

Thanks for purchasing our F series of mixing console. Both this series mixers are designed to provide to the user with an ideal balance of operability, functionality and multi-usage. In order to get the most out of your F series mixers and its functions, and to enjoy years of trouble-free use, please read this Owner's Manual thoroughly and keep it in a safe place for future reference.

Features

- * With unique creative notion, advanced audio function and individualized frame design, a professional high quality and multi-function product presents before you.
- * Components of world famous brands are adopted in this product: such as power accessory of SAMSUNG, low noise SMD resistor of TDK, SMD transistor of PHILIPS, SMT capacitance of RUBYCON etc. SMD technology is used to ensure the reliability and high quality of the device.
- * Japanese ALPS 100mm stroke slide potentiometer with smooth touch could normally be used for 10 years which is 10 times long lasting than ordinary potentiometer.
- * The environment-preserved and high efficient power switch design not only saves energy but completely solve the problem of ac noise interference.
- * The built-in effector composed of YAMAHA YSS series digital chips allows you to create professional sounding mixes without the need of additional equipment. AN EFFECT SEND and RETURN jack is also supplied to allow the use of external effectors.
- * Unique ultra heavy woof signal function can be compatible with many situations such as speaking and DISCO room, etc.
- * Provides stereo mixing ST, 2 groups of GROUP1/2 and AUX outputs to connect more power output devices so as to be competent of large construction conditions.
- * XLR input jack supplies phantom power to provide easy connection of condenser microphone which requires external power.
- * A phones jack allows monitoring every input signals, mixing effect or stereo st output signals.
- * A built-in low noise 7 bands graphic equalizer in ST channel allows you to acquire beautiful sound effect.
- * XLR mic. input jacks and TRS phone line balance input jacks are provided to handle a wide range of audio sources from mic. line level devices and stereo output synthesizers.
- * TAPE IN jacks and REC OUT jacks offer easy connection of tape decks for playback and recording.

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Important Notice

Read the following notice before using F series mixer console

Warnings

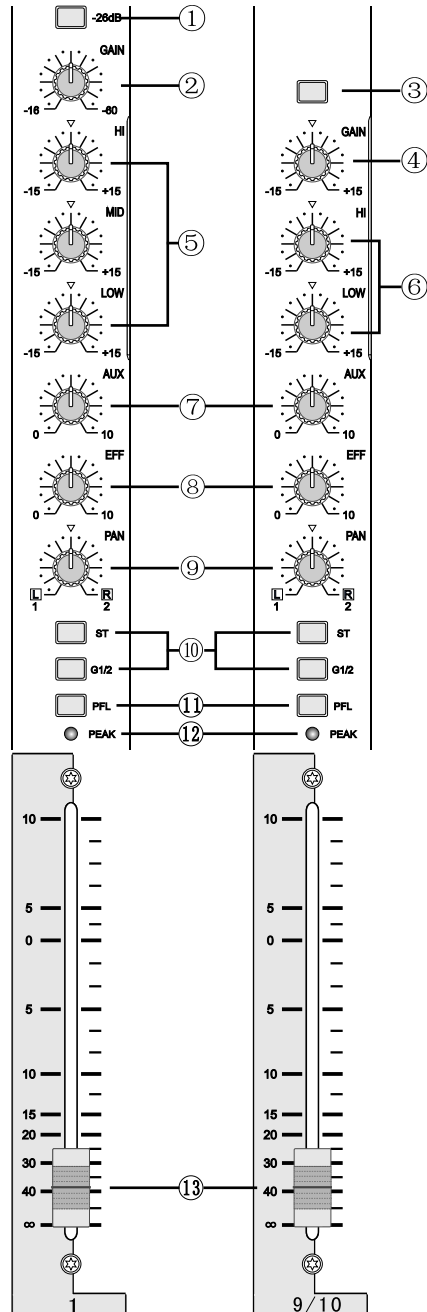
- Hold the power cord plug when disconnecting it from an AC outlet. Never pull the cord. A damaged power cord is a potential fire and electrical shock hazard.
- Don't touch the power plug with wet hands to avoid electrical shock.
- The clearance between devices should be less than 10CM to gain sufficient ventilation.
- The device should avoid water drops or spray. Don't place any bottles full of water or things alike on the device.
- The device should be kept away from heat sources like electric oven, radiator. Don't place any flame sources like lit
- The device can not be used near the place with water such as bathroom, washing room, swimming pool, kitchen trough and humid basement.
- The warning sign "⚡" on the ports of the device is a sign of being careful of electrical shock. Any of these port connected external cable should be installed by person who has been guided, or use the cable or soft cable in existence.

Operating Notes

- Using a mobile telephone near this unit may induce noise. If noise occurs, use the phone away from the unit.
- XLR-type connectors are wired as follow:
Pin 1 : ground, pin 2 : hot (-), pin 3 : cold (+)
- The performance of components with moving and touching functions such as switches, rotary controls, faders and connectors deteriorates over time. The rate of deterioration depends on the operating environment and is unavoidable. Consult your dealer about replacing defective components.

2 Channel Control Section

Channel Control Section



The F10/4' Spanet is used for all following illustrations on this manual.

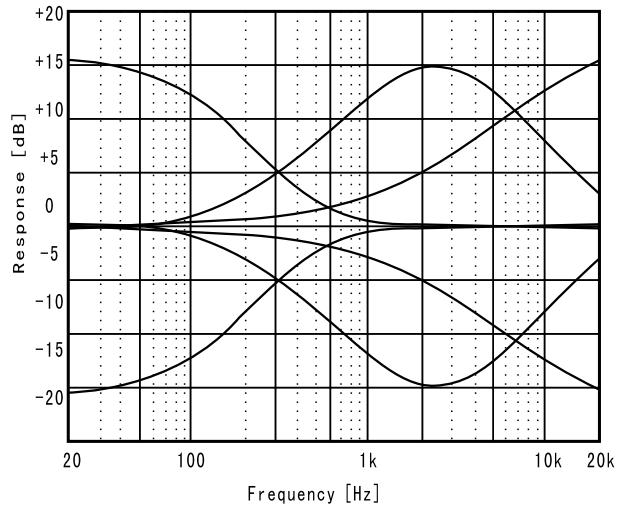
- ① Monaural Input, 26dB Fader Switch
-60 to +16 indicates the MIC input adjustment level. LINE input adjustment level indicates -34 to +10 when pressing 26dB Fader switch.
- ② ④ GAIN Control
GAIN Control adjusts the input signal level entering the mixer to an optimum level. To obtain an optimum balance between the S/N ratio and dynamic range, adjust the level so that the peak indicator (2) occasionally lights.

- ③ Stereo input , It can lotus or TRS type input jacks.

- ⑤ ⑥ Equalizer
Provides +/-15dB of control over high, mid and low frequency ranges at the center frequencies listed below.

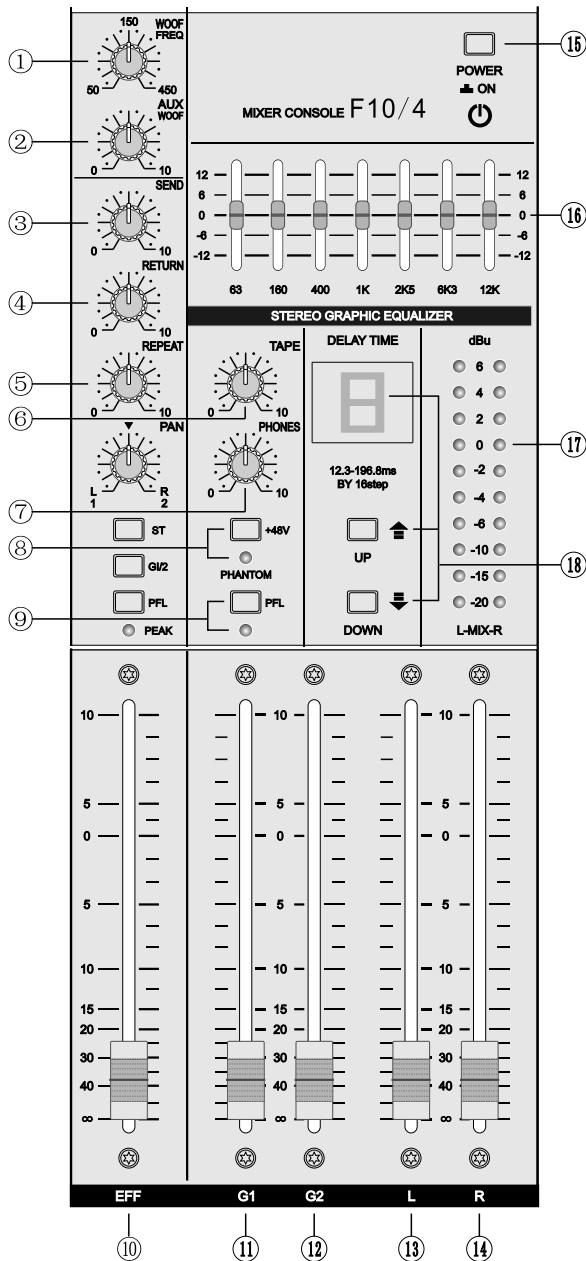
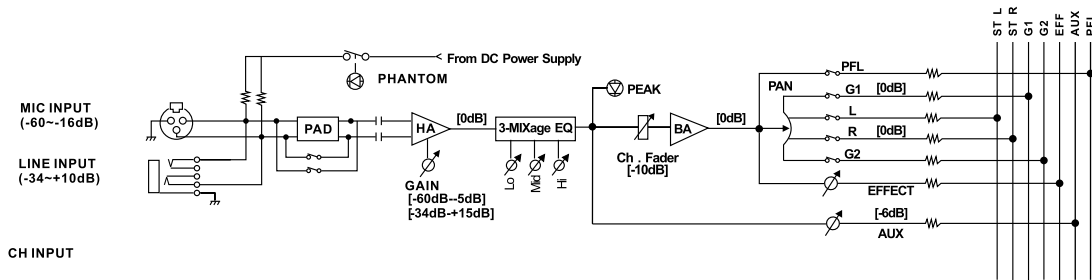
Frequency response will be flat when the knob is positioned at " 0 "

- HIGH: 10kHz (shelving)
- MID: 2.5kHz(peaking)
- LOW: 100Hz(shelving)



- ⑦ AUX Control
controls the signal level sent from each channel to the AUX bus.
- ⑧ EFFECT Control
Controls the signal level sent from each channel to the EFFECT bus.
This control is located after the channel fader, so its level will also be affected by the channel faded setting.
- ⑨ PAN Control
The PAN control knobs set the position within the stereo field of each signal which is sent to the ST bus L-R, GROUP bus 1-2.
- ⑩ ST, GROUP Select Switches
Used to send each channel signal to STEREO bus L-R and GROUP bus 1-2. When the switch is on (▲), the signal is sent to the relative bus. When the switch is on (■), the signal isn't sent to the relative bus.
- ⑪ PFL Switch
Used to monitor its channel signal. The signal adds into PFL bus when pressing the switch.
- ⑫ PEAK Indicator
The indicator detects peaks in the signal after it has passed the EQ.
The indicator will light red when the level reaches +17dB warning that clipping is imminent.
- ⑬ Channel Fader
Controls the output level of the input channel signal and adjusts the volume balance between channels.
* Levels of unused faders should be lowered.

Master Control Section 3



- ① WOOF FREQ Ultra Woof Trap Frequency Control
50-450Hz frequency range, -24dB/octave adjustable wave trapper suitable for providing all low frequency sound boxes with adequate sound sources.
- ② AUX/WOOF auxiliary AUX and Ultra WOOF Control
Controls the signals sent to AUX OUT and WOOF OUT jacks from AUX bus.
- ③ SEND Control
Controls the signal input level that is sent from EFFECT bus to SEND jack and the built-in DSP digital effects.
- ④ RETURN Control
Controls the signal level that is sent to the stereo bus (mixed with) or GROUP 1-2 from RETURN jack input signal or built-in dsp digital effector output signal.
- ⑤ REPEAT CONTROL
Controls the mixing depth of the built -in digital effects i.e. The times of mixing repetition. Excessive mixing repetition could turn the sound vague.
- ⑥ TAPE INPUT CONTROL
Controls the signal level that is sent from TAPE INPUT(LorR) jack input signal to STEREO bus (LorR)
- ⑦ PHONES CONTROL
Controls the signal leve that is sent to PHONES jack.
- ⑧ PHANTOM +48V SWITCH
Turn the phantom power on/off for all channels. turn the switch on when you are using condenser microphone, +48V dc power is supplied to pin 2 and pin3 of the XLR type MIC INPUT connector and the LED lights. If phantom power is not required, make sure the switch is off.

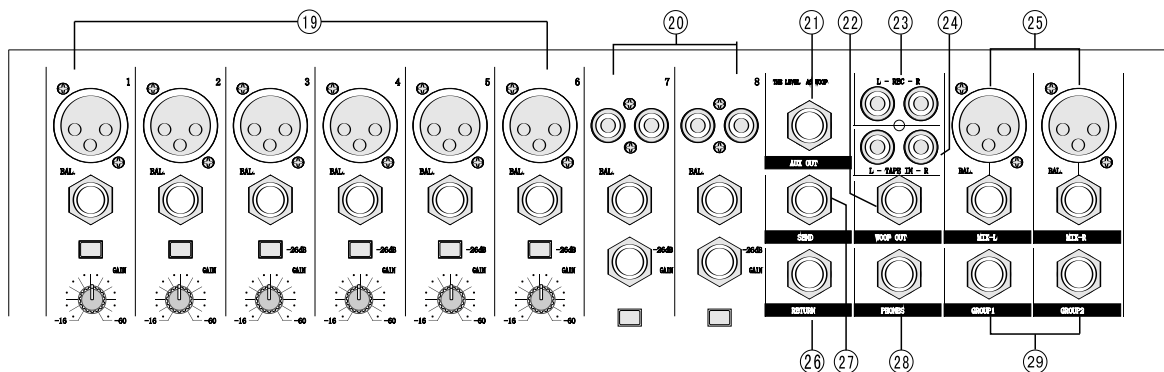
Note: With this switch turned on, it is not a problem to connect balanced dynamic microphones or line level devices however, hum or malfunction may occur when connecting unbalanced devices or devices for which the center of the transformer is ungrounded.

4 Master Control Section

- ⑨ PFL Select Switch
Press on PFL Switch to monitor PFL bus signals, and the LED lights. Press off PFL Switch to monitor STEREO mixing output Signals.
- ⑩ EFFECT Fader
Controls the signal level that is sent to the STEREO bus (mixed L with R) or GROUP 1-2 from the RETURN jack input signal or built-in digital effector output signal.
- ⑪ GROUP1 Fader
Controls the signal level that is sent to GROUP1 output jack from GROUP1 bus.
- ⑫ GROUP2 Fader
Controls the signal level that is sent to GROUP2 output jack from GROUP2 bus.
- ⑬ MIX L Fader
Controls the signal level that is sent to MIX L output jack from L bus.
- ⑭ MIX R Fader
Controls the signal level that is sent to MIXR output jack from L bus.
- ⑮ Power Switch
Stand-by power switch. Press on the power to withdraw stand-by.
(Note: The system is not disconnected with the electric power when the switch is OFF, otherwise, it is stand-by. Please pull out the Plug as it is not used.)
- ⑯ 7 Bands STEREO GRAPHIC EQUALIZER
A 7 Bands STEREO GRAPHIC EQUALIZER provides tone adjustment to the signal that is output to the MIX OUT. Each band of 63, 160, 400, 1k, 2.5k, 6.3k and 12kHz provides a +/-12dB boost or cut.
- ⑰ ST LEVEL METER
The LED indicates the output signal levels of mixed MIX-L and MIX-R signals. " 0 " indicates the normal level, and the yellow indicator lights when clipping is imminent, while the red indicator lights indicates the signal is clipped.
- ⑱ Mixer DELAY TIME
Adjusts built-in effects delay time from 12.3ms to 196.8ms by 16 steps and shown on digital displayer. Press UP key to prolong time, DOWN to shorten. Reference of Displayer and DELAY TIME is as follow:

Display Value	0	1	2	3	4	5	6	7	8	9	A	b	C	d	E	F
Delay Time	12.3	24.6	36.9	49.2	61.5	73.8	86.1	98.4	110.7	123	135.3	147.6	159.5	172.2	184.4	196.8

Every time the power is ON, DELAY TIME resets to 135.3ms which corresponds to Value A.


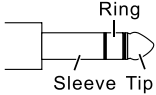


Master Control Section or Connector Section 5

- ⑲ INPUT Jack
 * MIC/LINE balanced XLR type microphone/line input jacks (1: Ground 2: Hot 3: Cold). These input jacks are compatible with 20-600 Ω microphones.
 * MIC/LINE balanced TRS phone type Mic/Line input jacks (T: Hot R: Cold S: Ground). These input jacks are compatible with 600 Ω microphones.
- ⑳ INPUT Jacks (F8/4: CH5-8, F10/4: CH7-10, F14/4: CH11-14, F18/4: CH15-18, F26/4: CH23-26)
 Unbalanced phone type and RCA pin type stereo line input jack.
 These inputs are compatible with 600 Ω line level devices.
- ㉑ AUX OUTPUT Jack
 Unbalanced TRS type output jacks with a normal output/impedance of +4dB/600 Ω .
 The signal is AUX bus signal level and it is controlled with AUX knob.
- ㉒ WOOFER OUTPUT Jack
 Unbalanced TRS type output jacks with a normal output/impedance of +4dB/600 Ω
 The signal is controlled with AUX knob in synchronization to output ultra-heavy bass signals.
- ㉓ REC OUT (L, R) Jack
 With an external DAT recorder or cassette recorder connected to these jacks, you can record the same signal that is sent from STEREO bus jacks. The signal sent from these jacks is not affected by the (L, R) Master Fader or Graphic EQ settings. Make recording level adjustments on the recording device.
- ㉔ TAPE IN (L, R) Jack
 These are RCA input jacks which is connected with external DAT recorder or CD player. The signal received by these jacks is sent to the STEREO bus. In this case, TAPE IN control is used to adjust the input level of the signal.
- ㉕ MIX OUT (L, R) Jack
 Standard balanced XLR and TRS type output jacks with a normal output/impedance of +4dB/600 Ω These jacks deliver stereo output of the mixed signal and are connected to power amplifier etc. that drives the main speakers. The output can also be used for recording with the signal level controlled by the left (L), right(R) Master Fader.
- ㉖ RETURN Jack
 Signals received by this TRS type jack is sent to STEREO bus. These jacks are normally used to receive a output signal from an external effector such as reverb, delay setting etc.
- ㉗ SEND Jack
 These are impedance unbalanced TRS type output jack with a normal output/impedance of +4dB/600 Ω . The EFFECT bus signal is output from SEND jack. The jack can be used to send signal to an external effector or a monitor system like a cue-box.
- ㉘ PHONES Jack
 Stereo phone type output jack for connecting a set of headphones (nominal output/impedance of 3mW/40 Ω). This signal can be selected with the PFL Switch from the stereo signals of the STEREO bus or single channel signal of the PFL bus. Its signal level can be controlled with PHONES knob. It can also be connected with a monitor system with a nominal output/impedance of +4dB/10k Ω .

NOTE: When this jack for connected to a monitor system, an insertion cable may be used.
 (Tip:L, ring:R, Sleeve: Ground)

- ㉙ GROUP (1, 2) OUTPUT
 These are impedance balanced TRS type output jack that deliver the GROUP bus 1-2 signals with a normal output/impedance of +4dB/60 Ω . These jacks are normally connected to the input jacks of MONITOR, external reverb or to the loudspeaker amplifier etc. The output signal level is controlled with GROUP (1, 2) Fader.

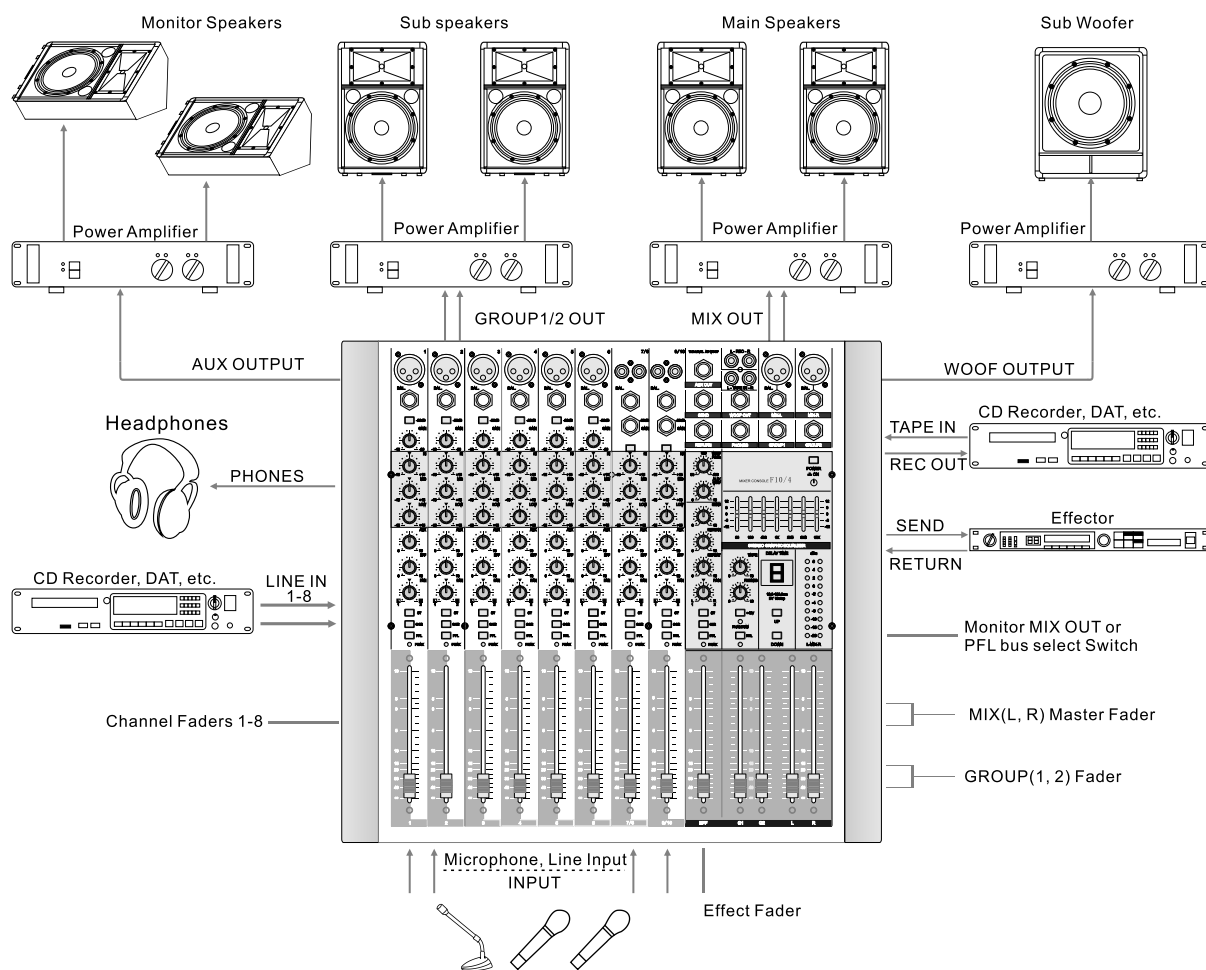
MIC INPUT, LINE INPUT ST OUTPUT	Pin 1: ground Pin 2: hot (+) Pin 3: cold (-)	
MIC INPUT, LINE INPUT, SEND, AUX OUTPUT, WOOF OUTPUT, ST OUTPUT, GROUP OUTPUT	Tip: hot (+) Ring: cold (-) Sleeve: ground	
PHONES	Tip: L Ring: R Sleeve: ground	
RETURN INPUT	Tip: input Ring: output Sleeve: ground	

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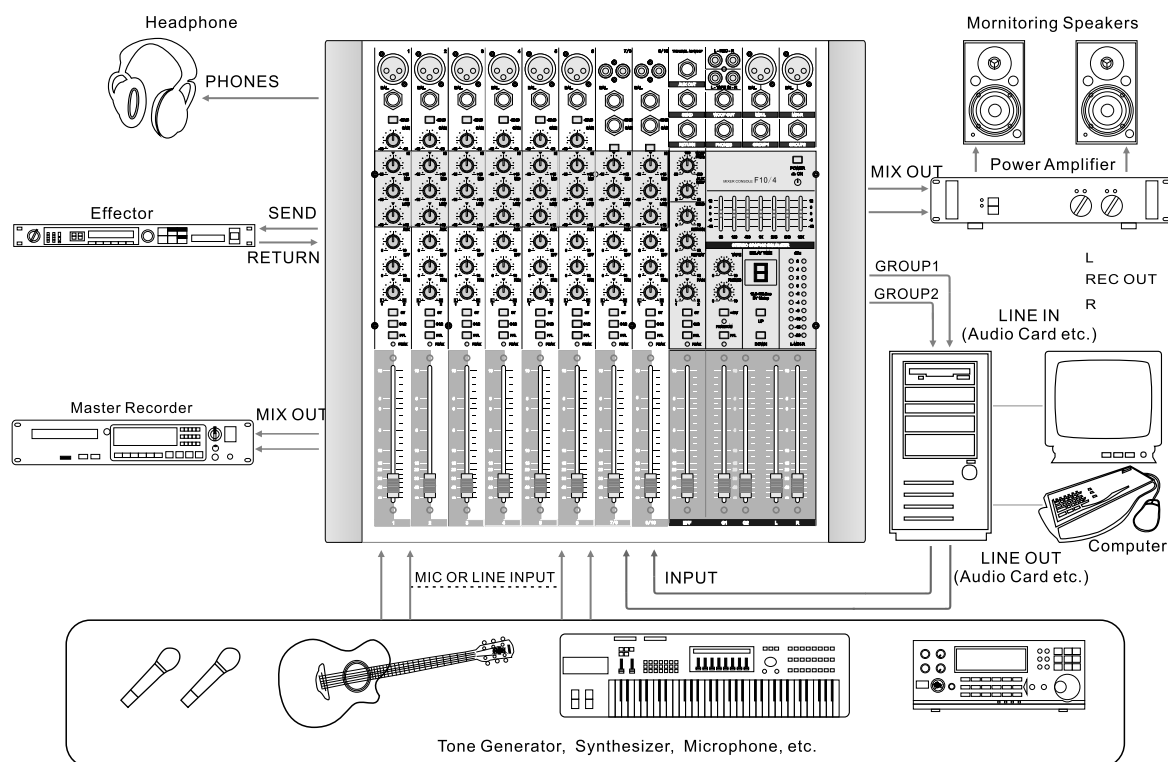
Application

Example 1.) Relevant Connecting with Large Performance



- ① Connect line input devices or microphones to the INPUT jacks and connect the power amplifier that is used to drive main speakers to MIX OUT jack. If necessary, you may use more amplifiers to connect to AUX OUT separately so as to drive Monitor Speakers, connect to GROUP 1/2 as to drive Sub speakers, connect to WOOF OUT as to drive Sub Woofer.
- ② Use the GAIN Control on each channel to adjust the level of input signal from the device or microphone that is connected to the input channel (refer to page 2), and use the channel Fader to adjust the level of output signal that is sent to the Master section. Basically, you should set the Channel Fader close the "0" position.
- ③ Use MIX L/R Master Fader to adjust signal level of power amplifier that is used to drive main speakers. Use GROUP 1/2 Fader to adjust signal level of power amplifier sent to Sub speakers. Use AUX OUT Control to adjust signal level of power amplifier used to drive Monitor Speakers. Use WOOF OUT Control to adjust signal level of power amplifier used to drive Sub Woofer. Basically, you should set all the Channel Faders to the "0" position. If necessary, you may connect monitor devices (a pair of earphones, monitor speaker etc.), recording devices, effectors etc. to the whole system.
- ④ Connect the power cord to AC 220V socket, then turn on the power of the system.
- ⑤ Turn on the power of power amplifier.

Example 2: Home Recording



Procedure

<Preparations>

- ① Connect a tone generator, synthesizer, microphone, etc. to the INPUT jacks and connect a master recorder such as MD or CD or computer to the MIX OUT jacks.
- ② Connect the LINE jack of a computer audio card to REC jack and connect a pair of monitoring power amplifier device to MIX OUT jack.
- ③ Connect the LINE OUT jack of a computer to TAPE IN and 2 selectable channel jacks.
- ④ Use the GAIN Control on each channel to adjust the level of input signal from tone generator, synthesizer, microphone, etc. that is connected to each input channel (refer to page 2), and use the channel Fader to adjust the level of output signal that is sent to the Master section. Basically, you should set the Channel Fader close the "0" position.

<Recording >

- ① Select the channel you want to record to the computer by pressing its GROUP 1/2 Select switch. Also, select the channel you want to monitor by pressing ST Select Switch.
- ② Use the GROUP 1,2 Master Fader to adjust the signal level sent to the computer.

<Mixing>

- ① Select the channel you want to send to master recorder by pressing ST Select Switch. Use the Master Fader to adjust the signal level output to the master recorder. Choose whether press the ST key on EFFECT channel or not to send the built-in effects signals to the master recorder.
- ② Use the master Fader that is connected to a pair of monitoring power amplifier devices to adjust the volume of monitoring speakers.

8 Specifications

General Specifications

Frequency Response (CH MIC INPUT TO MIX OUT, AUX PHONES, SEND)	20Hz~20kHz+1dB, -3dB @+4dB, 600Ω (Input Gain control at minimum level)	
Total harmonic distortion (CH MIC INPUT TO MIX OUT, PHONES, SEND)	<0.1%(THD+N) @+14dB, 20Hz-20kHz, 600Ω	
Hum & Noise (Rs=150Ω, 20Hz~20kHz, INPUT GAIN=Max, Input sensitivity=-60dB) *Measured with 12.7kHz, -6dB/oct. Low pass filter. (Equivalent to 20kHz, -∞dB/oct. Filter.)	-128dB	Equivalent input noise
	-95dB	Residual output noise
	-64dB (68dB/S/N)	MIX OUT: Master fader and one channel fader at nominal level, channel assign switch ON.
	-88dB (92dB/S/N)	MIX OUT: Master fader at nominal level, all channel assign switches OFF.
	-89dB (93dB/S/N)	GROUP OUT Master fader at nominal level, all channel assign switches OFF.
	-82dB (86dB/S/N)	AUX OUT, EFFECT SEND/PHONES OUT: Master level control at nominal level, all channel send control at minimum level.
Maximum voltage gain	84dB CH MIC INPUT TO MIX OUT (CH TO MIX) 84dB CH MIC INPUT TO GROUP OUT (CH TO G1/2) 84dB CH MIC INPUT TO AUX OUT, EFFECT SEND (PRE) 86dB CH MIC INPUT TO WOOF OUT 58dB CH LINE INPUT TO MIX OUT (CH TO MIX)	
Monaural/INPUT Gain Control	44dB variable	
Crosstalk at 1kHz	-70dB adjacent input, -70dB input to output	
Input channel equalization	±15dB Maximum HIGH: 10kHz (shelving) MID: 2.5kHz (peaking) LOW: 100Hz (shelving) *Turn over/roll off frequency of shelving: 3dB below maximum variable level.	
Monaural and Stereo INPUT Peak Indicator	RED: EACH CHANNEL, WHEN THE LEVEL OF THE POST EQ SIGNAL FOR EACH CHANNEL EXCEEDS +17DB, THE INDICATOR WILL LIGHT.	
Meters	10 points LED x 2	
Graphic equalizer	7 bands (63, 160, 400, 1K, 2.5K, 6.3K, 12kHz) ±12dB Maximum	
Internal digital effect	16 types ECHO effect	
Phantom power	+48V (balanced): Supplied when the PHANTOM + 48V switch is ON.	
Power supply	110V-220V/50-60Hz AC power	
Power consumption	F26/4: 60W F18/4: 50W F14/4: 50W F10/4: 40W F8/4: 40W	
Dimensions (W x H x D)	F26/4: 89X10X40, F18/4: 69X10X40, F14/4: 54X10X40, F10/4: 43X10X40, F8/4: 37X10X40	
Weight	F26/4: 12kg F18/4: 10kg F14/4: 7.5kg F10/4: 6kg F8/4: 5kg	

0dB=0.775Vrms

Input Specifications

Input connector	Gain Control	Input Impedance	Nominal Impedance	Input Level			Connector Type
				Sensitivity*1	Nominal	Input Impedance	
MIC INPUT (1-n*5)	-60	5kΩ	50-600Ω mics	-80 dB (0.078mV)	-60 dB (0.775mV)	-40dB (7.75mV)	XLR-3-31type*2
	-16			-36 dB (12.3mV)	-16 dB (123mV)	+4 dB (1.23V)	
LINE INPUT (1-n*6)	-34	50kΩ	600Ω lines	-54 dB (1.55mV)	-34 dB (15.5mV)	-14 dB (155mV)	TRS jack (TRS) *2
	+10			-10 dB (245mV)	+10 dB (2.45V)	+30 dB (24.5V)	
RETURN (L,R)		10kΩ	600Ω lines	-12 dB (195mV)	+4 dB (1.23V)	+20 dB (7.75V)	TRS jack*3
TAPE IN (L,R)		10kΩ	600Ω lines	-26 dBV (50.1mV)	-10 dBV (316mV)	+10 dBV (3.16mV)	RCA pin jack

*1 Input sensitivity: the lowest level that will produce the nominal output level when the Unit is set to maximum gain.

*2 XLR type connector, TRS jack(T=cold, S=ground): impedance balanced type.

*4 TRS jack (1/0) (T=out R=in S=gnd): unbalanced type

*5 n=6 (F8/4), n=8 (F10/4), n=12 (F14/4), n=16 (F18/4), n=24 (F26/4)
*6 n=6 (F8/4), n=8 (F10/4), n=12 (F14/4), n=16 (F18/4), n=24 (F26/4)
• 0dB=0.775Vrms, 0dBV=1Vrms

Output Specifications

Output connector	Output Impedance	Nominal Impedance	Output Level		Connector Type
			Nominal	Max. before clipping	
MIX OUT (L,R)	150Ω	600Ω lines	+4dB (1.23V)	+24dB (12.3V)	XLR-3-32type*1
GROUPAUX OUT, SEND	100Ω	600Ω lines	+4dB (1.23V)	+20dB (7.75V)	Phone jack (TRS)*2
AUX OUT, WOOF OUT	100Ω	600Ω lines	+4dB (1.23V)	+20dB (7.75V)	phone jack (TRS)*2
PHONES(L,R)	100Ω	40Ω phones	3mW	75mW	ST phone jack (TRS) *3
REC OUT (L,R)	600Ω	10kΩ lines	-10dBV (316mV)	+10dBV (31.6V)	RCA pin jack

*1 XLR type connector: balanced type

*2 Phone jack (TRS) (T=hot, R=cold S=ground): impedance balanced type.

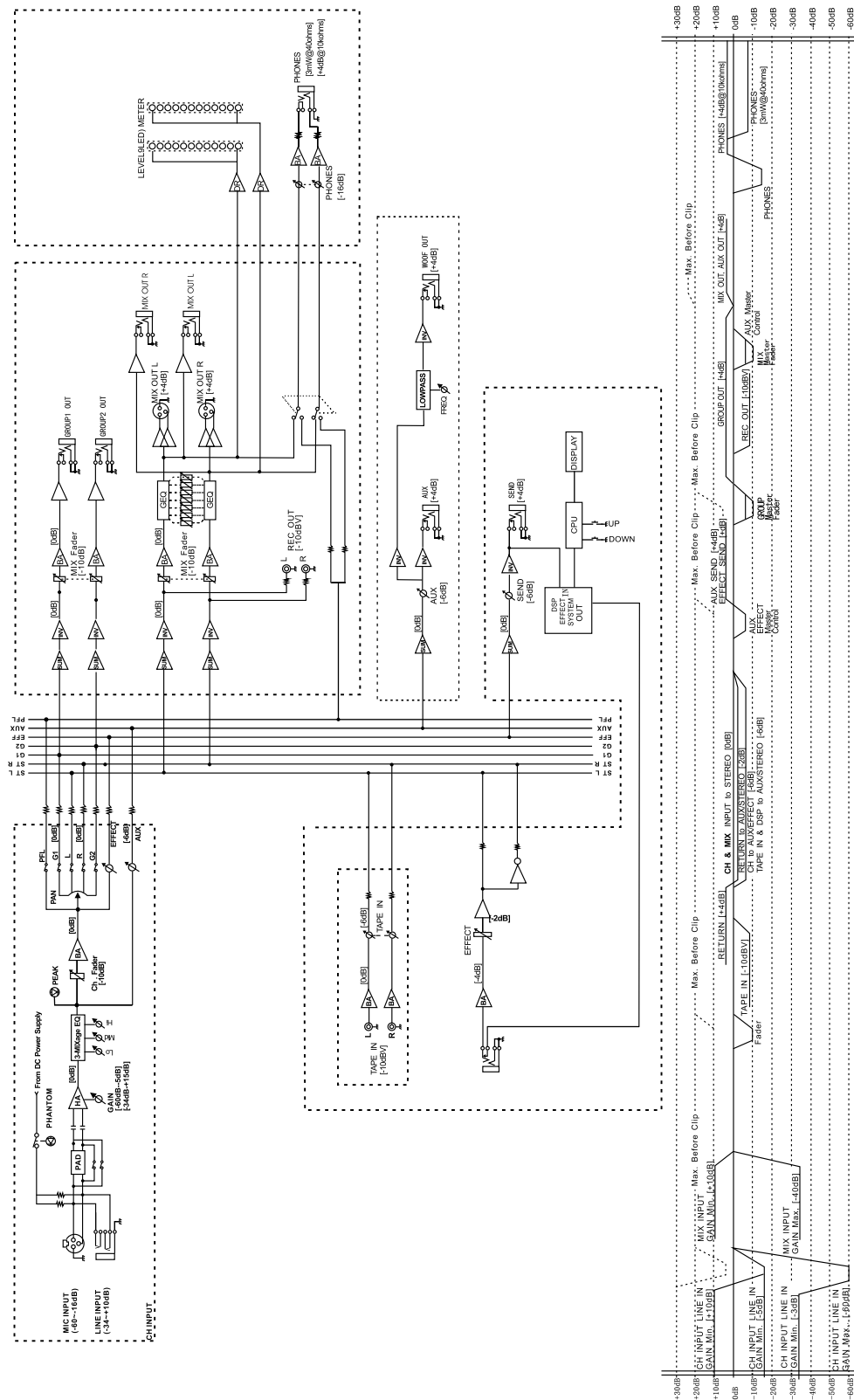
*3 MIX phone jack (TRS) (T=L, R=R S=ground): unbalanced type.

• 0dB=0.775Vrms, 0dBV=1Vrms

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Block and Level Diagrams



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