G100 III

Bass Amplifier

B100 III

\$115\(\mathbb{I}\) \ \$215\(\mathbb{I}\) \ \$412\(\mathbb{I}\)

Thank you for choosing a Yamaha MKIII Series amplifier.

The MKIII series represents the culmination of years of research, evaluation and modern design and manufacturing techniques. This effort has resulted in a line of guitar amplifiers which the professional musician can depend on for maximum reliability under the harshest of "real world" conditions, and the utmost in tonal and functional flexibility designed to meet the wide-ranging demands of contemporary musical expression. In order to obtain the greatest benefit from the features and performance provided by your MKIII series amplifier, we urge you to read this owner's manual thoroughly before use.

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# G100 Guitar Amplifier

# FEATURES

- \* 100 watts RMS into 4 or 8 ohms.
- \* A/B channel switching for an incredibly wide range of sounds.
- \* Separate tone controls for both channels, plus PRESENCE control and MID-BOOST switches.
- \* Switchable PARAMETRIC EQ. for infinite "voicing" capabilities.
- \* Remote footswitching for A/B channel selection, parametric equalizer bypass, and effects loop bypass.
- \* Effects loop SEND and RETURN with LEVEL controls.
- \* Balanced output for professional interface.

# **CAUTION**

- \* When connecting the electric guitar and the amplifier, make sure to plug in the guitar before plugging in the amplifier. Plugging in the amplifier first may cause damage to the speaker.
- \* Be sure to turn VOLUME of the amplifier counterclockwise to its minimum position when plugging or unplugging the connecting cord and turning the power supply ON and OFF.
- \* Always handle the amplifier with care. Rough handling or dropping it may cause poor performance.
- \* Check for correct voltage before connecting the power cord to your local AC outlet.
- Disconnect the power cord from the AC outlet whenever there is a thunderstorm in order to prevent accidents resulting from lightning.

# SPECIFICATIONS

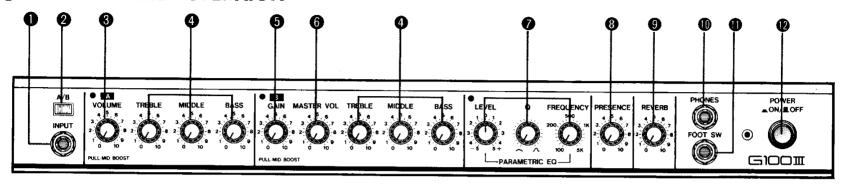
OUTPUT POWER	100W RMS @ 10% THD into 4 or 8Ω	
INPUT LEVEL/IMPEDANCE		
INPUT	-20dB (77,5mV)/1MΩ	
RETURN INPUT	-10dB (245mV)/20kΩ	
OUTPUT LEVEL		
SPEAKER OUT (8Ω)	+31,2dB (28.1V)	
SPEAKER OUT (4Ω)	+28.2dB (19.9V)	
BAL, OUTPUT $(600\Omega)$	+4dB (1.23V)	
SEND OUTPUT (10kΩ)	-10dB (245mV)	
DIRECT OUT (10kΩ)	10dB (245mV) 11dB (218mV)	
PHONES (8Ω)	-11dB (218mV)	
GAIN	70.10	
Ach (INPUT → SPEAKER OUT)	70dB 88dB	
Bch (INPUT→SPEAKER OUT) Ach (INPUT→SEND OUT)	33dB	
Ach (INPUT → BAL, OUTPUT)	58dB	
RETURN INPUT → SPEAKER OUT	47dB	
	4700	
NOISE*  Ach (all volumes → min.)	-52dB	
Bch (all volumes → min.)	-52dB	
Ach (VOLUME, TREBLE, MIDDLE,		
Bch (GAIN, MASTER VOL., TREBL	E, MIDDLE BASS → max.) -24dB	
PARAMETRIC EQUALIZER		
LEVEL	±15dB	
Q	0.35 ~ 3.0	
FREQUENCY	100Hz ∼5kHz	
REVERB	ACCUTRONICS SPRING TYPE 4EB3C1B	
POWER REQUIREMENT		
Canadian model	120V AC 60Hz	
General model	110/130/220/240V AC 50/60Hz	
POWER CONSUMPTION		
Canadian model	180W	
General model	250W	
DIMENSIONS	541 mm x 248 mm x 307 mm	
(W x H x D)	(21-1/4" × 9-3/4" × 12-1/8")	
WEIGHT	16.0 kg (35,3 lbs,)	
STANDARD ACCESSORY	TRIPLE FOOT SW	

<sup>\*</sup>Measured with a 6dB/oct, filter @12.7kHz.

<sup>●</sup> OdB = 0.775V RMS

<sup>•</sup> Specifications are subject to change without notice.

# CONTROL PANEL OPERAION



# **1** INPUT Jack

Standard 1/4" mono phone jack. The instrument is plugged in here,

# 2 A/B Channel Select Switch

Selects channel A or B. Channel A is the "normal" or "clean" channel, while channel B has a GAIN control in addition to a MASTER VOLUME control permitting various amounts of overdrive distortion effects.

The LED indicator for the selected channel lights to show which channel is in use. A remote footswitch can also be used for channel A/B selection (see number ① "Footswitch"). The panel A/B switch is defeated when the footswitch is used.

# **③** VOLUME/PULL-MID BOOST (Channel A)

This control adjusts the overall volume level of channel A. Pulling the control out emphasizes the midrange frequencies for a round, "fat" sound.

#### **4** TONE CONTROLS

The G100 III head features independent tone controls for channels A and B. If all knobs are set at "0", no sound is produced.

#### • TREBLE

Turn clockwise to emphasize the high-frequency range, counterclockwise to de-emphasize the high frequencies.

#### MIDDLE

Turn clockwise to emphasize the mid-frequency range, counterclockwise to de-emphasize the midrange frequencies.

#### BASS

Turn clockwise to emphasize the low-frequency range, counterclockwise to de-emphasize the bass frequencies.

# GAIN/PULL-MID BOOST (Channel B)

This control adjusts the gain level of channel B. At some point overdrive distortion will begin, and the depth of distortion will increase as the GAIN control setting is increased. The exact effect depends on the output level of your guitar pickups and the setting of the MASTER VOLUME control.

Pulling the control out emphasizes the midrange frequencies for a round, "fat" sound.

#### **6** MASTER VOLUME (Channel B)

This control sets the overall volume level of channel B. Its setting in relation to the GAIN control also determines the amount of over-drive distortion produced.

#### PARAMETRIC EQ

The PARAMETRIC EQUALIZER section incorporates three controls—LEVEL, Q and FREQUENCY—which permit exceptionally fine control over the amplifier's frequency response characteristics.

This section makes it possible to approximate the general tonal character of practically any guitar amplifier. With the remote footswitch, the PARAMETRIC EQ may be preset and "punched in" when needed for altering either the clean or overdrive sound.

#### LEVEL

Turning this knob clockwise towards "+" causes a peak at the frequency selected by the FREQUENCY knob, emphasizing this frequency region. Tuning the knob counterclockwise causes a dip, deemphasizing the selected frequency region. When this knob is at center position, no effect is obtained, regardless of the positions of the Q and FREQUENCY knobs.

#### • Q

This knob adjusts the width of the frequency band being equalized. If turned clockwise toward ( , ), a sharper characteristic is obtained, narrowing the influenced sound range.

#### FREQUENCY

This knob adjusts the frequency to be influenced. The markings show the center frequency of the peak or dip.

#### PRESENCE

Rotating the Presence control clockwise alters the response of the amplifier by boosting the high frequency range (2  $\sim$  5 KHz). The result is a brighter sound with greater clarity and "presence".

# **1** REVERB

Adjusts the amount of reverb (spring type) added to the sound. The reverb effect increases as the control is rotated clockwise.

#### PHONES Jack

A pair of low-impedance mono or stereo headphones can be plugged in here for tuning or private practice. However, the speaker will still produce the sounds made even if the headphones are plugged in. To cut all sound to the speaker, unplug its cord attached to the SPEAKER jack on the real panel.

#### **1** FOOT SW Jack

The footswitch can be plugged in here. This footswitch permits remote control of channel A/B selection, PARAMETRIC EQ on/off selection, and effects loop on/off.

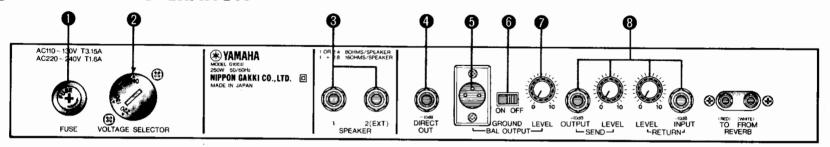
- ★ The footswitch is a special design that transmits all of the above control functions via a single-core shielded cable with standard 1/4" mono phone plugs (standard "guitar cable"). Any cable of convenient length can be used.
- ★ Indicators on the footswitch show the status of the footswitch functions.
- ★ The amplifier panel channel A/B selector will not function when the footswitch is connected.

#### POWER ON/OFF Switch

Pressing this switch turns AC power to the unit ON or OFF.

# G10011

# **OREAR PANEL OPERATION**



#### **1** FUSE

When replacing the fuse, be sure to first disconnect the AC cord from the outlet. Replace only with a fuse of the same type. If the fuse blows during use of the amplifier, this can be due to mishandling or to an internal defect. Please contact your dealer.

# **2** VOLTAGE SELECTOR (General model only)

Set this to your local AC mains voltage. Failure to do so will result in seriously impaired performance or even severe damage.

#### AC OUTLET (Canadian model only)

This outlet is only for equipment with a power requirement of 250W or less.

# GROUND Polarity Switch (Canadian model only)

This switch reverses the polarity of the amplifier ground. When hum and noise is a problem, set the GROUND switch for the least hum and noise.

# SPEAKER 1 and 2 (EXT) Output Jacks

These jacks are parallel outputs from the amplifier's power stage and directly drive the external speakers. Note that the minimum allowable total speaker impedance is 4 ohms. If only one enclosure is used, its impedance should be 4 or 8 ohms. If two or more enclosures are used, the total impedance must not be lower than 4 ohms, or reduced output and/or damage to the amplifier may result.

#### 4 -10dB DIRECT OUT Jack

This is a line-level (-10dB) unbalanced output that can be used to directly feed a PA or recording mixer, or another amplifier when greater power or a separate monitor system is required. This signal is taken after the output stage and represents the total sound of the amplifier's output.

# 6 +4dB BALANCED OUTPUT Connector

This is a balanced +4dB professional line level output that is ideally suited for directly feeding a sound reinforcement or recording mixer.

# **6** GROUND ON/OFF

The GROUND switch connects or disconnects the connector pin 1 ground, and should be set for minimum hum and noise with the system configuration used.

#### **BALANCED OUTPUT LEVEL**

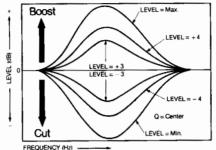
The LEVEL control adjusts the output level from the balanced connector for optimum matching with the input sensitivity of the external equipment used. Nominal output level is +4dB with the level control at center (12:00) position, +19dB at maximum setting.

# **3** SEND and RETURN

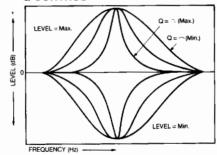
An external effects unit (echo, equalizer, compressor, etc) can be inserted into the amplifier's signal path for minimum noise levels via the SEND and RETURN connectors. The SEND jack is connected to the input of the effect unit used, and the output from the effect unit is connected to the RETURN jack. The SEND and RETURN LEVEL controls should be used to optimally match the input and output levels of the effect unit used. Nominal level is -10dB with the LEVEL controls at "3:00" position, -4dB at maximum setting. When linking amps together, the direct (-10dB) output may be routed to the effects RETURN for access to the power amp. In this case, the RETURN LEVEL controls the amount of signal sent to the power amp stage.

# PARAMETRIC EQ CHARACTERISTICS

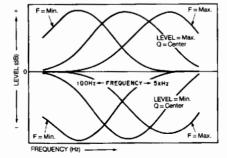
#### LEVEL CONTROL



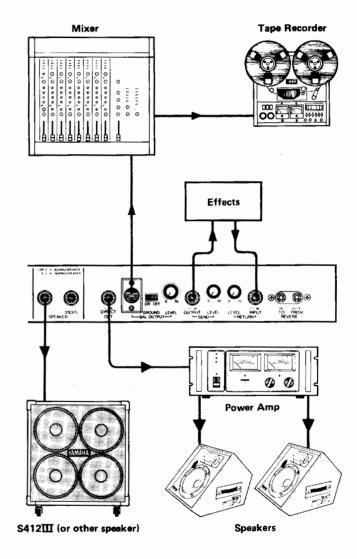
#### Q CONTROL



#### • FREQUENCY CONTROL



# **CONNECTION EXAMPLE**



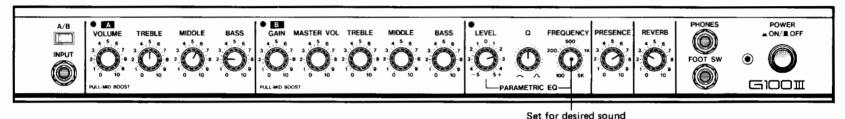
# SETTING EXAMPLES

The PARAMETRIC EQ system and other controls on these guitar amplifiers represent one of the most versatile built-in control systems available. Therefore you will probably need to experiment with the controls for a while to become familiar with their effect so that you can then proceed to create your own sounds.

Although the actual sound will depend on the type of guitar and pickups you use, the following are a few examples of control settings that produce some "basic" sounds, which you can use as a starting point for finding your own.

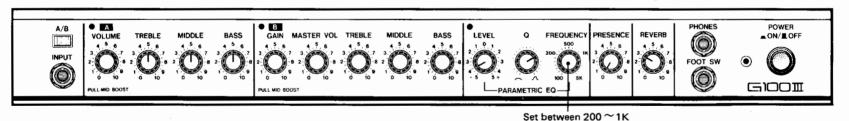
#### 1. Basic Blues

This setting uses Channel A. Sweep the PARAMETRIC EQ FREQUENCY across its entire range to find the best sound. Lower FREQUENCY settings produce a "darker" sound, while higher settings produce a brighter sound.



#### 2. Mellow Jazz

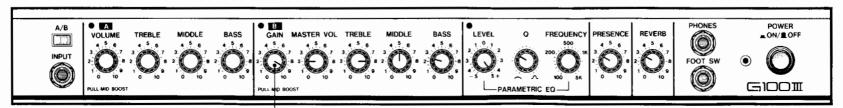
Channel A. This setting produces a warm, round tone ideally suited to jazz chord progressions and melody lines. Set the PARAMETRIC EQ FREQUENCY control between 200 and 1K for the desired sound.



#### 3. Rock Overdrive 1

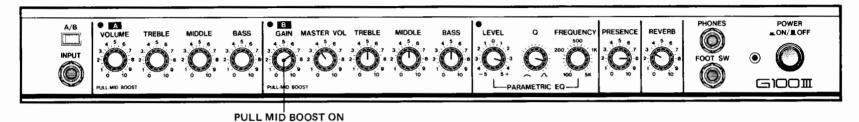
For this sound we've used the GAIN and MASTER VOLUME controls on Channel B to create some overdrive distortion. The GAIN control PULL MID BOOST function is ON. The PARAMETRIC EQ FREQUENCY control can be set anywhere between about 200 and 5K for a broad range of tones.

for desired sound



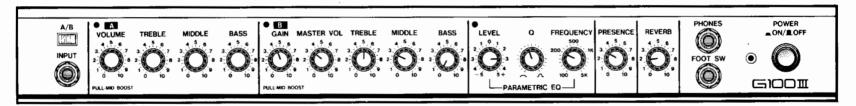
#### 4. Rock Overdrive 2

This is a "lighter" overdrive sound, also using the GAIN and MASTER VOLUME controls on Channel B. The GAIN control PULL MID BOOST function is ON.



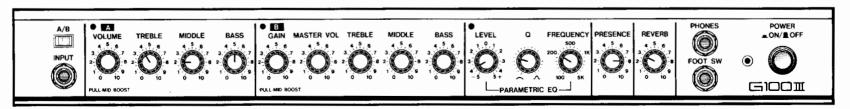
### 5. Country

This setting produces a thin-yet-gutsy sound for country picking. This same sound also has a 50's rock feel. The GAIN and MASTER VOLUME controls are used to add a touch of distortion.

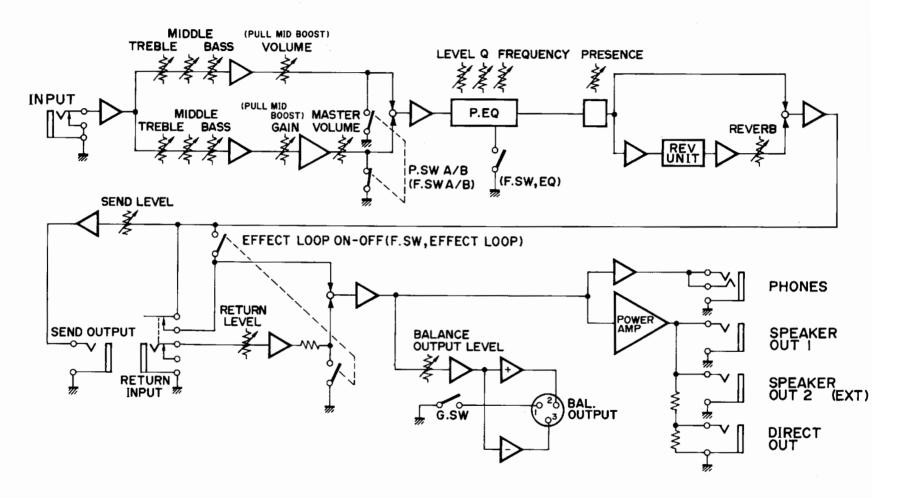


# 6. Rhythm Backing

Channel A. Here we have a full but laid back sound for rhythm backing.



# **BLOCK DIAGRAM**



# **B100** Bass Amplifier

# FEATURES

- \* 100 watts RMS into 4 or 8 ohms.
- \* Active tone controls.
- \* Dual, footswitchable parametric equalizers.
- \* Balanced output for professional interface flexibility.
- \* Built-in CROSSOVER for biamping capability.
- \* PRE AMP OUT/POWER AMP IN for access to internal circuitry.

# CAUTION

- \* When connecting the electric guitar and the amplifier, make sure to plug in the guitar before plugging in the amplifier. Plugging in the amplifier first may cause damage to the speaker.
- \* Be sure to turn VOLUME of the amplifier counterclockwise to its minimum position when plugging or unplugging the connecting cord and turning the power supply ON and OFF.
- \* Always handle the amplifier with care. Rough handling or dropping it may cause poor performance.
- \* Check for correct voltage before connecting the power cord to your local AC outlet.
- \* Disconnect the power cord from the AC outlet whenever there is a thunderstorm in order to prevent accidents resulting from lightning.

# SPECIFICATIONS

OUTPUT POWER	100W RMS @ 10% THD into 4 or 8Ω
INPUT LEVEL/IMPEDANCE	
INPUT	−20dB (77,5mV)/1MΩ
POWER AMP IN	-10dB (245mV)/20kΩ
OUTPUT LEVEL	
SPEAKER OUT (8Ω)	+31,2dB (28.1V)
PRE AMP OUT $(10k\Omega)$	-10dB (245mV)
HPF OUTPUT (10kΩ)	-10dB (245mV)
LPF OUTPUT (10kΩ)	-10dB (245mV)
BAL OUTPUT (600Ω)	+4dB (1.23V)
PHONES (8Ω)	-11dB (218mV)
GAIN	
INPUT → SPEAKER OUT	64dB
INPUT → PRE AMP OUT	20dB
INPUT → BAL OUTPUT	50dB
POWER AMP IN → SPEAKER OUT	41dB
NOISE*	
All volumes → min.	-55dB
VOLUME, TREBLE, MIDDLE, BASS → m	ax. —45dB
PARAMETRIC EQUALIZER	
LEVEL	±15dB
Q	0,35~3,0
FREQUENCY	50Hz ~ 2,5kHz
PRESET LEVEL	±10dB
POWER REQUIREMENT	
Canadian model	120V AC 60Hz
General model	110/130/220/240V AC 50/60Hz
POWER CONSUMPTION	
Canadian model	180W
General model	250W
DIMENSIONS	
(W x H x D)	566 mm x 198 mm x 307 mm
	(22-1/4" x 7-3/4" x 12-1/8")
WEIGHT	14.8 kg (32.6 lbs)
STANDARD ACCESSORIES	FOOT SWITCH

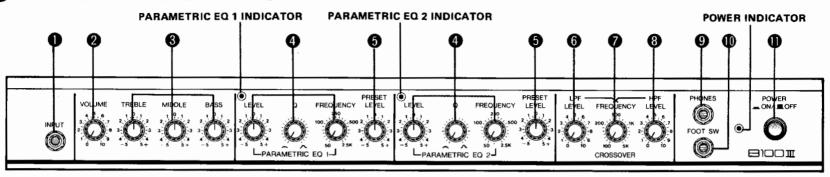
<sup>\*</sup> Measured with a 6dB/oct. filter @12.7kHz

<sup>•</sup> OdB = 0.775V RMS

<sup>•</sup> Specifications are subject to change without notice.

# **B100Ⅲ**

# **● CONTROL PANEL OPERATION**



# ● INPUT jack

Standard 1/4" mono phone jack. The instrument is plugged in here.

#### VOLUME control

This knob controls the output power. Turning it clockwise increases the volume.

When connecting or disconnecting a bass, always turn the volume fully counterclockwise.

# ACTIVE TONE CONTROLS/FLAT AT CENTER (12 O'CLOCK) POSITION

#### • TREBLE

Turn clockwise to emphasize the high-frequency range, counterclockwise to de-emphasize the high frequencies.

#### MIDDLE

Turn clockwise to emphasize the mid-frequency range, counterclockwise to de-emphasize the midrange frequencies.

#### BASS

Turn clockwise to emphasize the low-frequency range, counterclockwise to de-emphasize the bass frequencies.

#### PARAMETRIC EQUALIZER

Two complete parametric equalizers are provided.

These sections incorporate three controls-LEVEL, Q and FREQUENCY which permit exceptionally fine control over the amplifier's response characteristics. It is possible to approximate the general tonal character of practically any bass sound. With the remote footswitch, the PARAMETRIC EQ's may be preset and "punched in" when needed for altering the sound.

#### LEVEL

Turning this knob clockwise towards "+" causes a peak at the frequency selected by the FREQUENCY knob, emphasizing that frequency region. Turning the knob counter-clockwise causes a dip, de-emphasizing the selected frequency region. When this knob is at center position, no effect is obtained, regardless of the positions of the Q and FREQUENCY knobs.

The center frequency is set with the FREQUEN-CY knob, and boost or cut can be obtained within a maximum range of +/- 15dB.

#### • Q

This knob adjusts the width of the frequency band being equalized. If turned clockwise toward ( ), a sharper characteristic is obtained, narrowing the influenced sound range.

#### FREQUENCY

This knob adjusts the frequency to be influenced. The markings show the center frequency of the peak or dip.

The center frequency can be continuously set between 50Hz and 2.5kHz.

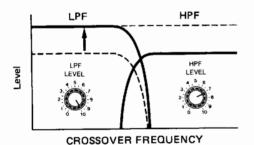
#### 6 PRESET LEVEL

The preset level controls the overall volume of the equalized sound. It may be used to achieve unity gain or for boost, if required.

#### 6 LPF LEVEL

This control sets the output level to the LPF OUTPUT. The level of all frequencies below the crossover frequency will be affected by this control.

At "5" (12 o'clock) an output level of -10dB is gained.



### **O** CROSSOVER FREQUENCY

This control sets the crossover frequency (cutoff frequency) of the LPF output and HPF output. The range can be set from 100Hz to 5kHz.

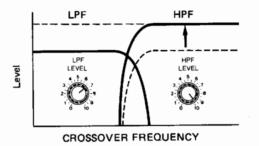
The balance should be adjusted so that an accurate balance between high and low frequency is obtained.

#### (B) HPF LEVEL

This control sets the output level to the HPF OUTPUT.

The level of all frequencies above the crossover frequency will be affected by this control.

At "5" (12 o'clock) an output level of -10dB is gained.



#### **BI-AMP SYSTEM**

This unit has a built-in crossover. The preamp output signal is split into high frequencies and low frequencies. Separate power amps (or channels of a stereo amp) process the highs and lows apart from one another. It allows the power amps to run or efficiently resulting in greater SPL's and clarity.

A system set up in this way is referred to as a bi-amp system.

Where a bi-amp system is not set up (i.e. where there is no connection between the LPF OUTPUT and the HPF OUTPUT), the LPF LEVEL, CROSSOVER FREQUENCY, and HPF LEVEL knobs have no effect.

#### PHONES jack

A pair of low-impedance mono or stereo headphones can be plugged in here for tuning or private practice. However, the speaker will still produce the sounds made even if the headphones are plugged in. To cut all sound to the speaker, unplug its cord attached to the SPEAKER jack on the real panel.

#### FOOT SW

The foot switch, which is provided, is connected here. When the foot switch is used, the parametric equalizers can be turned ON and OFF while playing by foot operation.

Because the foot switch makes it possible to operate EQ1 and EQ2 simultaneously with one foot, they can be switched instantaneously.

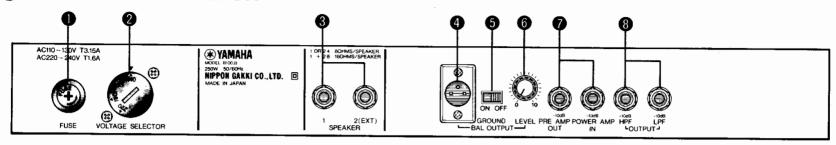
 Always use the foot switch which is provided. Use of another foot switch can cause a breakdown, so adequate care should be taken.

#### POWER ON/OFF Switch

Pressing this switch turns AC power to the unit ON or OFF.

# **B100III**

# ● REAR PANEL OPERATION



# FUSE

When replacing the fuse, be sure to first disconnect the AC cord from the outlet. Replace only with a fuse of the same type. If the fuse blows during use of the amplifier, this can be due to mishandling or to an internal defect. Please contact your dealer.

# VOLTAGE SELECTOR (General model only)

Set this to your local AC mains voltage. Failure to do so will result in seriously impaired performance or even severe damage.

#### AC OUTLET (Canadian model only)

This outlet is only for equipment with a power requirement of 250W or less.

# GROUND Polarity Switch (Canadian model only)

This switch reverses the polarity of the amplifier ground. When hum and noise is a problem, set the GROUND switch for the least hum and noise.

# SPEAKER 1 and 2 (EXT) Output Jacks

These jacks are parallel outputs from the amplifier's power stage and directly drive the external speakers. Note that the minimum allowable total speaker impedance is 4 ohms. If only one enclosure is used, its impedance should be 4 or 8 ohms. If two or more enclosures are used, the total impedance must not be lower than 4 ohms, or reduced output and/or damage to the amplifier may result.

# 4+4dB BALANCED OUTPUT Connector

This is a balanced +4dB professional line level output that is ideally suited for directly feeding a sound reinforcement or recording mixer.

#### **6** GROUND ON/OFF

The GROUND switch connects or disconnects the connector pin 1 ground, and should be set for minimum hum and noise with the system configuration used.

# **6** BALANCED OUTPUT LEVEL

The LEVEL control adjusts the output level from the balanced connector for optimum matching with the input sensitivity of the external equipment used. Nominal output level is +4dB with the level control at center (12:00) position, +19dB at maximum setting.

#### PRE AMP OUT/POWER AMP IN

These jacks provide the user with access to the output of the preamp section and the input to the power amp. This is useful for recording the preamp output, driving additional power amplifiers, or as an effects loop for some type of signal processors (Delays, Equalizers) that will operate more quiently after the preamp stage. A signal from another preamplifier can also be sent to the power amp stage via the POWER AMP IN jack, bypassing the internal preamp circuitry. PREAMP OUT and POWER AMP IN level is — 10dB.

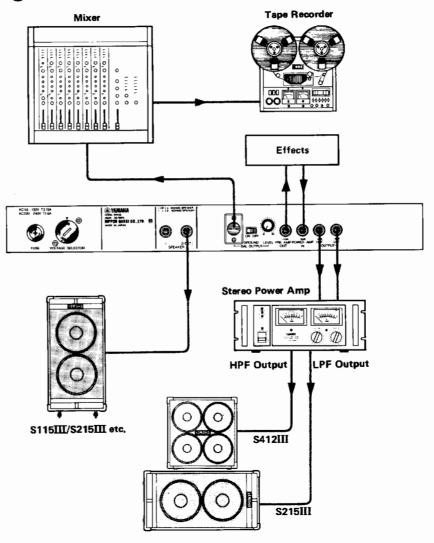


#### A HPF OUTPUT/LPF OUTPUT

These outputs send the high and low frequency signals to outboard power amps and speakers. If only the LPF OUTPUT jack is used, the low frequencies are sent to an external power amp, and the high frequencies are automatically sent to the internal power amp.

If only the HPF output jack is used, a "full range" signal is sent to the internal power amp. If both HPF and LPF outputs are used, the internal power amp receives a "full range" signal and all bi-amping occurs in the outboard power amp/speaker equipment used.

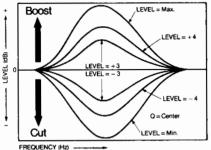
# **● CONNECTION EXAMPLE**



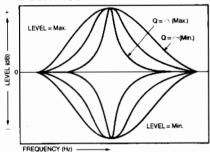
# **B100III**

# ●PARAMETRIC EQ CHARACTERSTICS

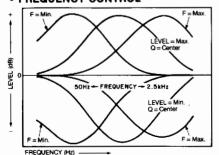
#### • LEVEL CONTROL



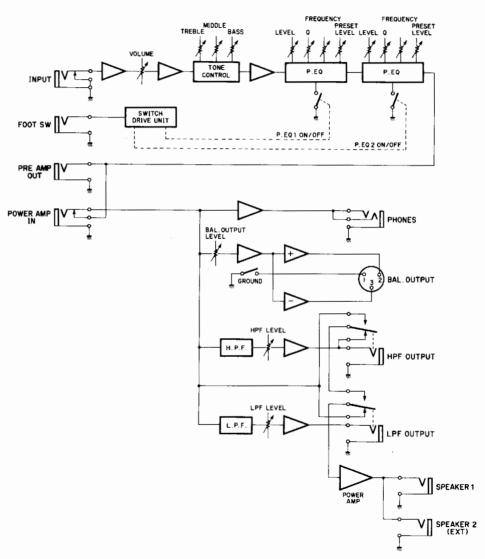
#### • Q CONTROL



#### • FREQUENCY CONTROL



# **BLOCK DIAGRAM**



# S115 M/S215 M/S412 M Speaker Enclosure

# **CAUTION**

- \* Be very careful when you stack the speakers. Remove the casters in order to prevent slips and falls. Pull the casters hard to remove them, and push them in hard to replace them.
- \* Do not move the amp while it is in use, and protect it from shocks and jolts.
- \* Remember that your SPEAKER can be damaged by dust, humidity and frost, as well as too much heat.

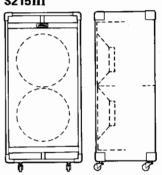
# SPECIFICATIONS

Model	S115III	S215III	_S412III
Speakers	JA3812 (15") x 1	JA3812 (15") x 2	JA3111 (12") x 4
Power	120W	240W	240W
Impedance	8Ω	4Ω	8Ω
Dimensions (W x H x D)*	565x655x387mm (22-1/4"x25-3/4"x 15-1/4")	565×1,160×441mm (22-1/4"×45-5/8"× 17-3/8")	710x770x387mm (28"x30-1/4"x 15-1/4")
Weight*	33.0kg (72.8 lbs)	61.0 kg (134.5 lbs)	45,0 kg (99.2 lbs)
Accessories	CONNECTING CORD		

<sup>\*</sup>Includes casters.

# S215III

**S115III** 

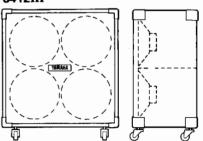


# • LOUDSPEAKER SPECIFICATIONS

Model Number	JA3812	JA3111
Cone Diameter	38 cm (15")	30 cm (12")
Voice Coil Diameter	66φmm	52φmm
Magnetic Ass'y Weight	FERRITE: 6.1 kg (13.4 lbs)	FERRITE: 2.6 kg (5.7 lbs)
Frequency Response	50Hz ~5.5kHz	45Hz ∼7kHz
Output Level (1m/W)	98.5dB	96dB
Maximum Output (RMS)	120W	60W
Nominal Impedance	8Ω	8Ω
Free-Air Resonance Frequency	39Hz	58Hz

<sup>•</sup> Specifications subject to change without notice.

### S412III

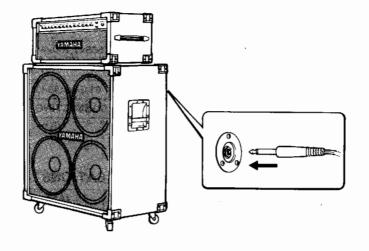


# \$115III/\$215III/\$412III

# CONNECTION

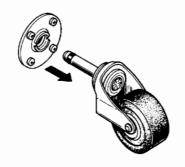
With the connecting cord provided as an accessory, connect the phone jack on the back of the speaker and speaker output jack of the amplifier head. At this time, please be sure to keep the power switch of the amplifier head OFF.

\* As the impedance rating of S115III and S412III is  $8\Omega$  and that of S215III is  $4\Omega$ , they will match just about any amplifier head. When more than two speakers are combined with an amplifier head, the total impedance of the speakers should match the rated impedance of the amplifier head. A mismatch of impedance may cause reduced output of the amplifier head, distortion or damage.



# **CASTER REMOVAL**

Casters of S115III, S215III and S412III are removable for the convenience of setting speakers in a stack or loading them for transportation. Lay the speaker on its side and pull the caster hard for removal and push it in hard for installation.



# S115III/S215III/S412III

# **● RECOMMENDED AMP-SPEAKER COMBINATIONS**

