

YAMAHA
ELECTRIC
GRAND
CP-80

● ELECTRIC GRAND OPERATING MANUAL

ELECTRIC GRAND CP-80

Yamaha's new CP-80 is a full 88-key electric grand piano that offers both the sound and touch characteristics of an acoustical instrument.

Until now, the touring piano player has had to sit down to an unfamiliar instrument every time he has performed. The action, the sound of the borrowed piano was always new and uncertain. Also, many studios, clubs and stages didn't have room for a full-size grand. Moreover, when the acoustic piano had to be amplified, it was extremely difficult, if not impossible, to retain the true sound.

But Yamaha has changed all that.

The exciting new Electric Grand CP-80 has the sound and feel of a full-size grand piano. Yet its size and weight have been greatly reduced, making it easy to take it anywhere. Compact, sturdy and loaded with versatility, the Electric Grand combines the artistry of musical craftsmanship with the technical skills of electronic engineering.

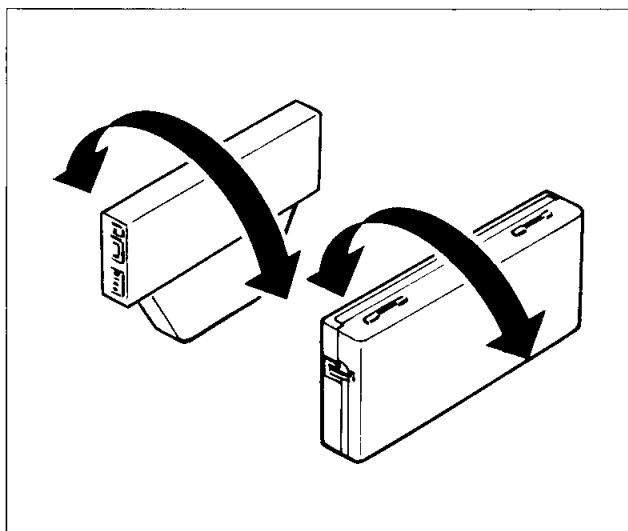
To maintain the best quality performance of YAMAHA Electric Grand CP-80 for many years, please read this manual carefully before you set it up.

This manual contains the basic information and instructions for handling.

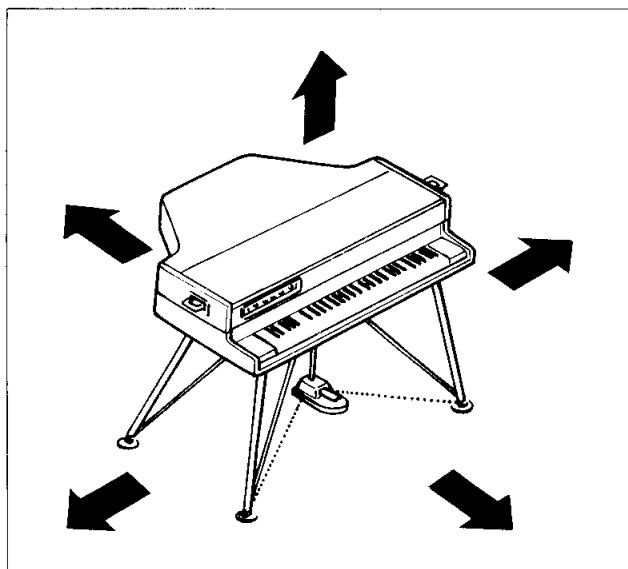
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CAUTIONS



1. The model comes in two parts. If they are stood apart separately, they may topple over. This can be dangerous.



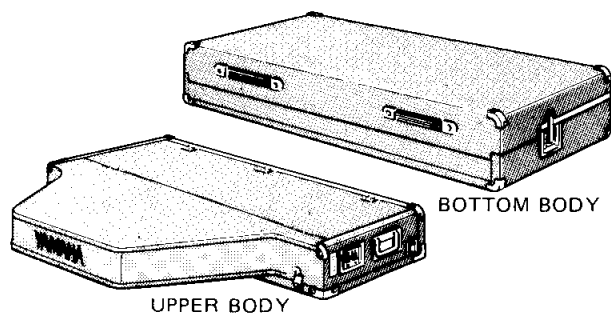
2. If the model is moved with the damper pedal attached, the function of the pedal may be impaired.
Fully assemble the model, move it to its installation location and then attach the pedal.
3. The CP-80 AC adaptor is especially designed for this instrument, and is not interchangeable with other power cords which can be purchased at any electrical appliance shops. If any other AC adaptor is used, the internal electrical circuit may be damaged and the electrical shock may be received. Take sufficient care in handling and storing this accessory, and again make sure to use this special AC adaptor when operating CP-80.

In case of using CP-80 abroad, it is required to use an AC adaptor which is suitable for the power supply voltage of the particular area.

4. Avoid exposure of CP-80 to direct sun, humidity, dust and so on, and place it on a level surface free from any shock.
5. To remove dust or stains on the upper/the bottom parts of the main body or on the keyboard, use either neutral detergent or soft dry cloth.
6. Make sure to operate CP-80 in the right way according to the instruction so as not to apply unnatural force on switches, controls and others.
7. Be careful not to catch your finger between the upper and the bottom parts of the main body.
8. CP-80 is designed to operate with the power supply of DC 16-20 volts. Never apply commercial power supply voltage as it is.

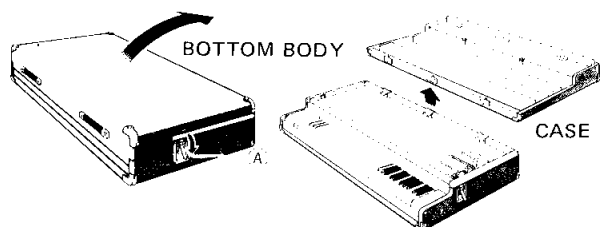
ASSEMBLY

1. CHECK THE TOP AND BOTTOM UNITS.



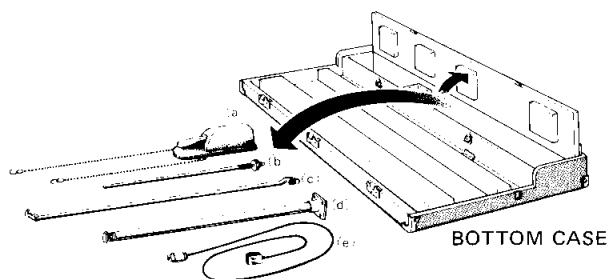
2. REMOVING THE BOTTOM UNIT FROM THE CASE.

Release hooks (A) both at the left and right. Then set the case upright and detach the unit from the hooks.



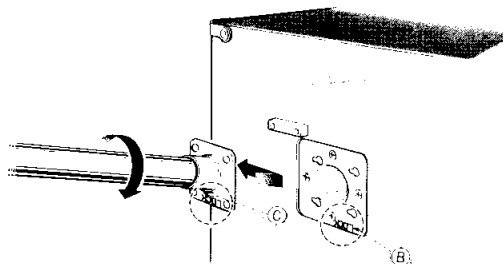
3. REMOVING THE PART CONTAINED IN THE BOTTOM CASE.

- (a) Pedal
- (b) Pedal Rod
- (c) Foot stays (2 with screws, 2 without)
- (d) Feet (4)
- (e) AC Adaptor



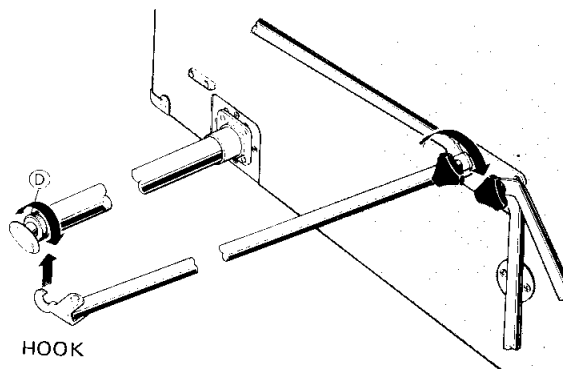
4. ATTACHING THE FEET

Set the bottom unit upright on the keyboard. Insert the feet in the lock (B) direction, and after sliding them into the grooves, rotate them in the lock (C) direction and secure.



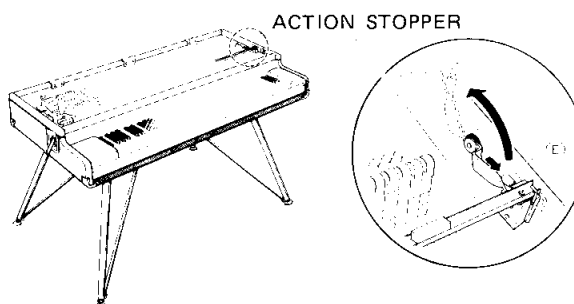
5. MOUNTING THE FOOT STAYS

Place the two stays with screws over the two stays without screws, and secure them temporarily. Then attach the hooks and tighten rings (D). Finally, tighten the stay screws.



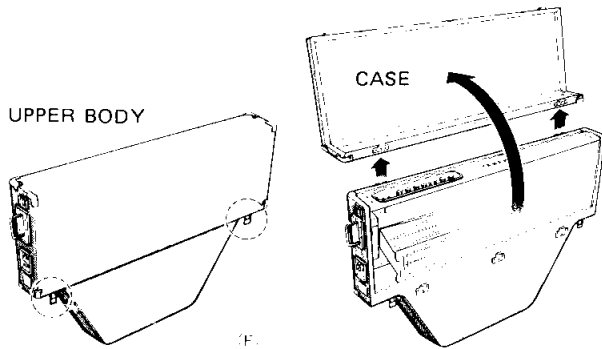
6. SETTING THE BOTTOM UNIT ON ITS FEET

First, set the bottom unit upright, and then depress the buttons (E) at either side. Remove the action stoppers. (Take out the horn jack cords (2) from the back of the hammer.)



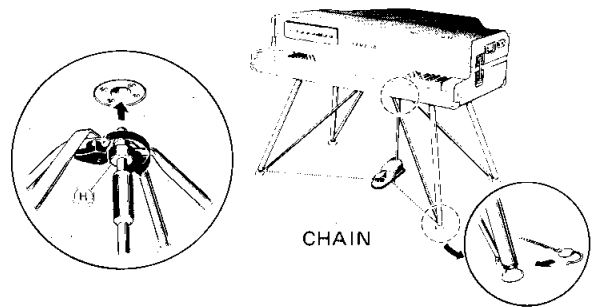
7. REMOVING THE TOP UNIT FROM THE CASE

Stand the top unit up with the YAMAHA identification plate face down, and remove hooks (F). Then set the case upright and detach the unit from the hooks.



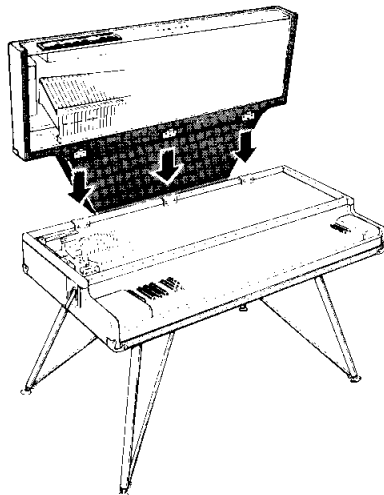
10. ATTACHING THE PEDAL

Insert the pedal rod securely into the pedal. Then align the bar with the pedal opening and secure it using ring (H). Finally, hook the chains into place.



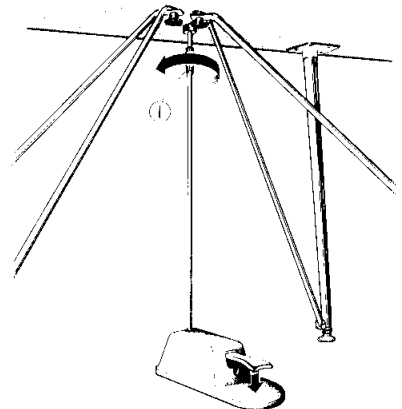
8. MOUNTING THE TOP UNIT

Lift the top unit up vertically, slide it into the hooks and mount.



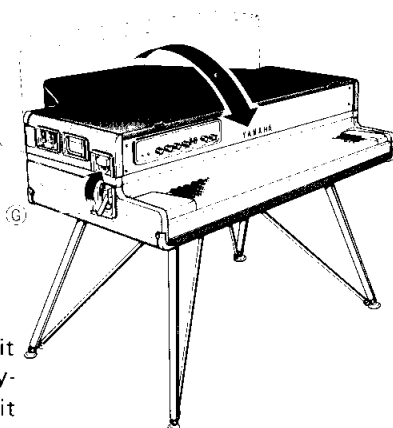
11. ADJUSTING THE PEDAL

Press the pedal down a little at a time with your foot and adjust with ring (I) so that there is no more play. (Play will increase if rotated in the direction of the arrow, and decrease if rotated in the opposite direction.)



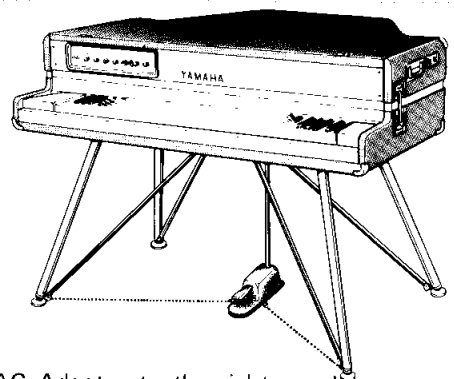
9. SECURING THE TOP UNIT

Lower the top unit down onto the keyboard, and secure it to the bottom unit with hooks (G) at either side.

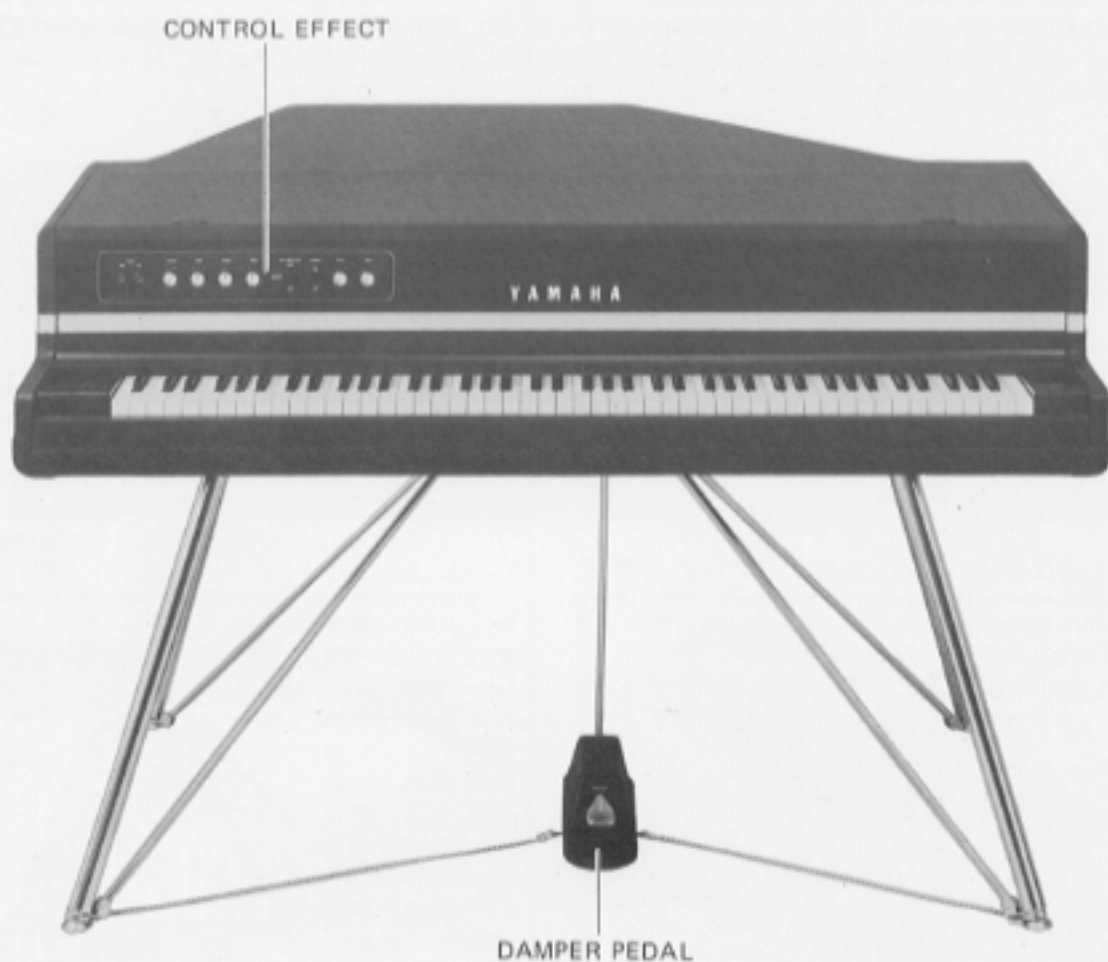


12. COMPLETING THE ASSEMBLY

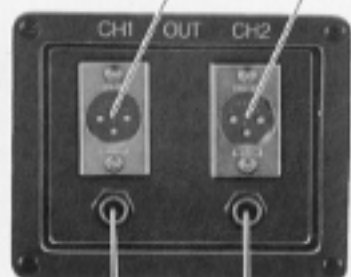
Connect the AC Adaptor to the right panel and the output cord to the left panel. You have now completed the assembly. (Refer to BLOCK diagram for details on the connections.)



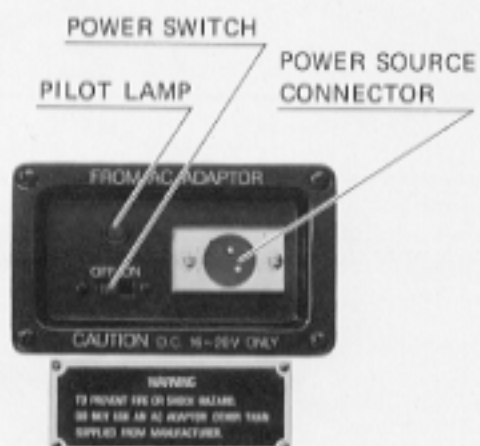
NAMES AND FUNCTIONS



LINE OUT (CANNON CONNECTOR)



JACK OUT



CONTROL EFFECT



PATCH (IN/OUT)

Mixing with tremolo is achieved by connecting a separate effector such as echo machine, phase shifter etc. to the Patch out/in jacks. And more unique sound is produced.

VOLUME

The volume control sets the volume at the phone jack outputs, but does not affect the level of the line outputs.

BASS, MIDDLE, TREBLE

The three tone controls set the tonal character of both the XLR and the phone jack outputs. The CP-80's frequency response is "flat" when all three tone controls are centered (No. 5 position), and the controls have center detents to help you quickly achieve the "flat" setting. Each tone control affects the entire keyboard, not just one section.

The three tone controls allow the musician to alter the piano's sound character to fit the mood of the performance. Experimenting will allow you to determine the optimum setting for a given style of music.

BRILLIANCE LEVEL

The level of the high frequency range is selected by shifting the switch to HIGH, MEDIUM or LOW.

TREMOLO

When the switch is turned on, the tone of CP-80 is produced through the right and left speakers with 180 degrees phase difference, that is, as the stereo-phantic sound system.

DEPTH

The DEPTH control sets the intensity of the tremolo effect.

The modulation percentage may be varied from 15% to 40%.

SPEED

When the control is turned clockwise, the tremolo effect speeds up.

The modulation frequency may be varied from 0.8Hz to 10Hz.

DAMPER PEDAL

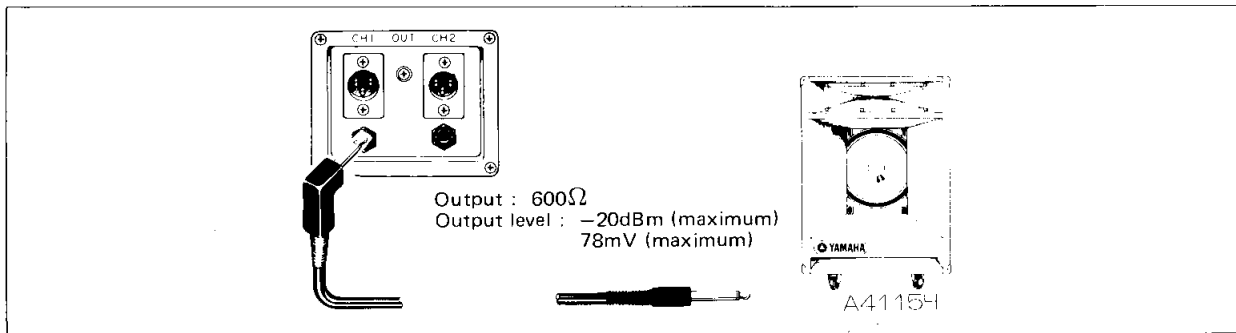
The damper pedal controls attenuation time. When you keep stepping it on, naturally attenuated tone is produced.

CONNECTION TO THE OTHER SYSTEMS

As YAMAHA Electric Grand CP-80 has the same functions as a grand piano, it offers enough volume level for your own playing. But when playing it on stage or in the hall, make sure to connect it to the speaker system.

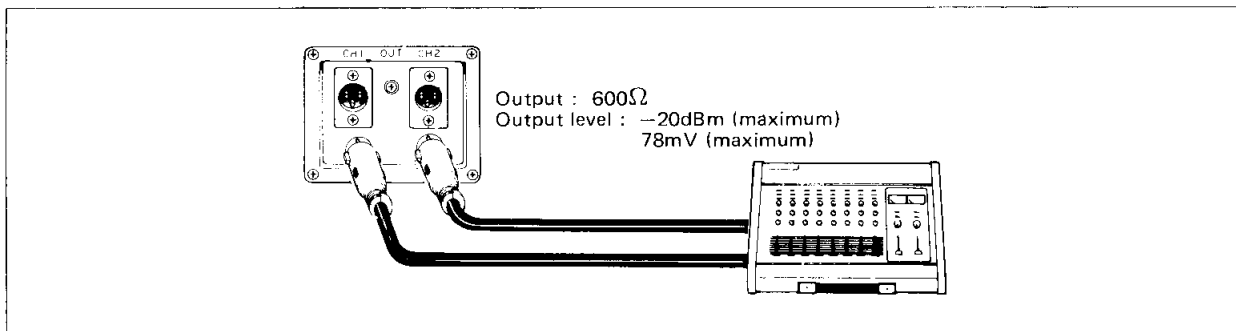
JACK OUTPUT TERMINAL

Use the phone to phone patch cable in making the direct connection to an amplifier from the musical instrument.



LINE OUTPUT TERMINAL (CANNON CONNECTOR)

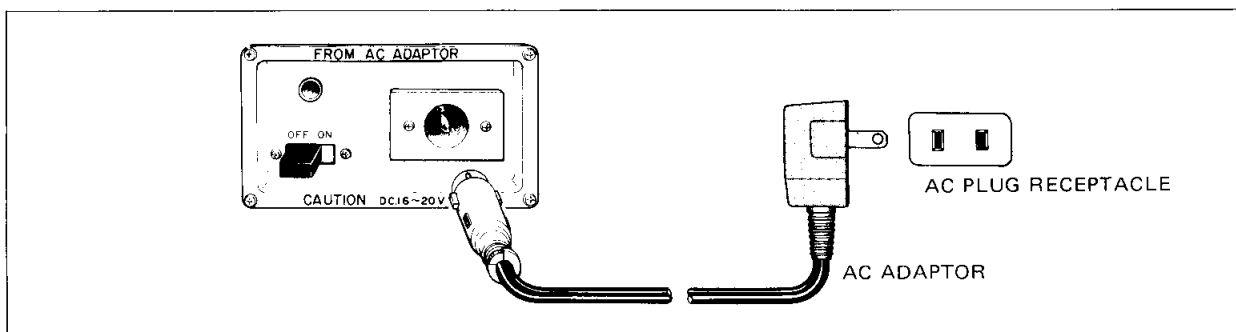
Use the cannon cord in making the connection to the PA system with the complicated wiring system. Also use cannon cord at the time of recording. (Cannon cord is not provided as an accessory.)



AC ADAPTOR AND POWER SWITCH

Plug firmly the AC Adaptor for CP-80 into both the power terminal on the right panel and AC plug receptacle.

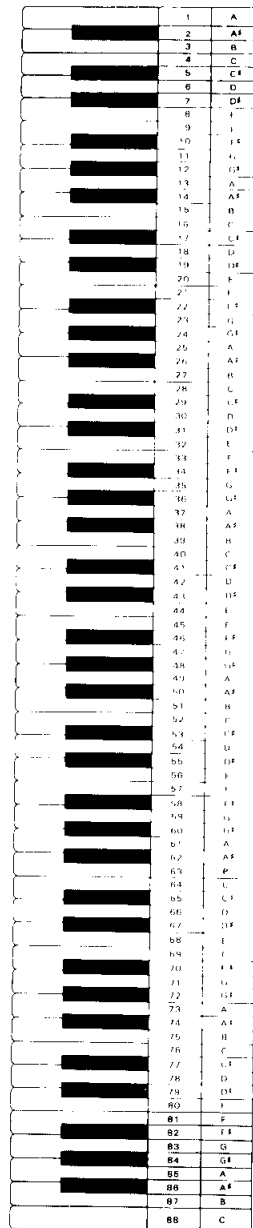
When the power switch is turned on, the pilot lamp is lighted. You are now ready to play YAMAHA Electric Grand CP-80.



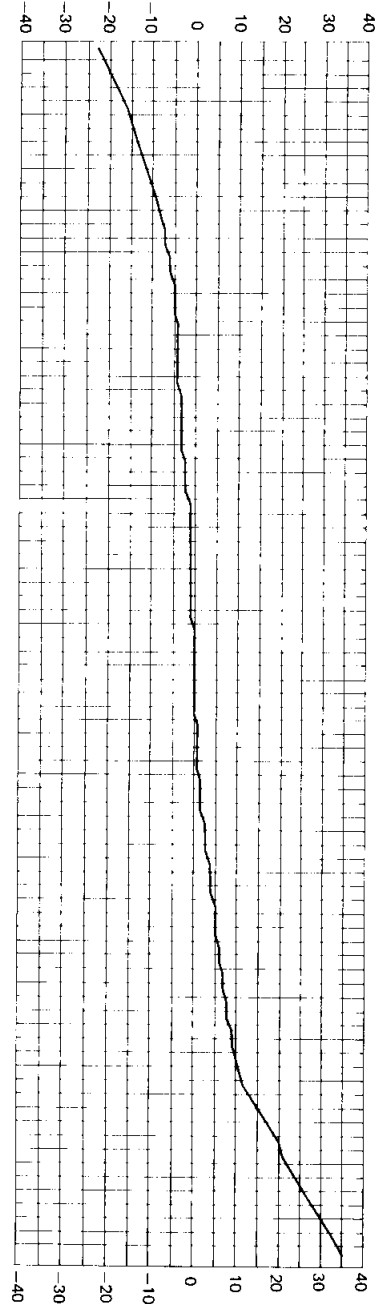
CP-80 SPECIFICATIONS

1. Keys 88 Keys $\frac{1}{4}$ (A₂ ~ c₅)
2. Actions GP action
3. Hammers Rubber (urethane) + artificial leather
4. Pickups Piezo-electric elements 88 nos.
Independent pickup system
5. Controls Volume control
Tone control
BASS, MIDDLE, TREBLE
Brilliance level
HIGH, MEDIUM, LOW
Tremolo effect
TREMOLLO Switch (ON/OFF)
SPEED $0.8 \pm 0.5 \sim 10 \pm 1$ Hz
continuously variable
DEPTH more than 40% max,
less than 15% min.
6. Pedal Damper pedal
7. Others PATCH OUT
-20 dBm 600 Ω Unbalanced
PATCH IN
-20 dBm 100k Ω Unbalanced
Power SW
Pilot lamp
Line out (2 nos.)
-20 dBm 600 Ω Balanced
Jack out (2 nos.)
-20 dBm 600 Ω Unbalanced
8. Rated power consumption US. CANADIAN
AC120V 60Hz 5W (GA50063)
AUSTRALIAN, S. AFRICAN
AC220V 50Hz 6VA (GA50065)
EUROPEAN
AC220V 50Hz 6VA (GA50066)
GENERAL
AC220 ~ 240V
50Hz 6VA (GA50069)
60Hz 5.5VA (GA50069)

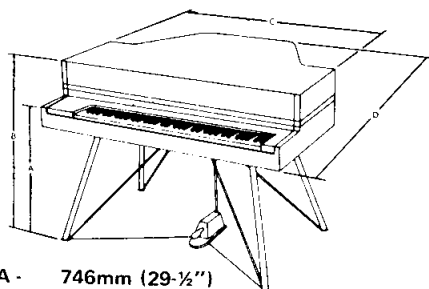
Designated key and string numbers



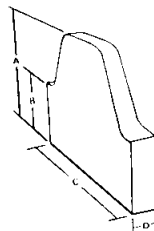
Tuning curve of the CP-80



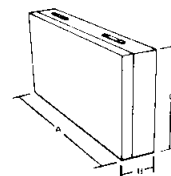
NOTE: Values may be varied with modification of specifications.



- A - 746mm (29- $\frac{1}{2}$ "')
- B - 947mm (37- $\frac{1}{4}$ "')
- C - 1,460mm (57- $\frac{1}{2}$ "')
- D - 1,150mm (45- $\frac{1}{4}$ "')
- Height to keyboard 733mm (28- $\frac{3}{4}$ "')
- Weight - 121 kg (266 lbs 13 ounce)



- A - 1,006mm (39- $\frac{1}{2}$ "')
- B - 481mm (19"')
- C - 1,460mm (57- $\frac{1}{2}$ "')
- D - 173mm (6- $\frac{3}{4}$ "')
- Weight - 76 kg (167 lbs 9 ounce)



- A - 1,460mm (57- $\frac{1}{2}$ "')
- B - 248mm (9- $\frac{3}{4}$ "')
- C - 656mm (25- $\frac{3}{4}$ "')
- Weight - 66 kg (145 lbs 8 ounce)

Specifications subject to change without notice.

A4115H SPECIFICATIONS

A4115H amplifier specifications

Output Power: 100 Watts continuous average sine wave power into an 8-ohm load at 0.1% T.H.D.

Frequency Response: 10Hz to 30kHz +0, -1dB with the INPUT LEVEL switch in the "0dBm" position; 40Hz to 50kHz +0, -3dB with the INPUT LEVEL SWITCH in the "-20dBm" position.

Power Bandwidth: 20Hz to 20kHz at 100 watts into an 8-ohm load at 0.1% T.H.D.

Total Harmonic Distortion: Less than 0.01% at 80 watts into 8 ohms.

Damping Factor: 90 from 20Hz to 3kHz, with an 8-ohm load.

Hum and Noise: -73dB (0.17mV)*

Slew Rate: 25 volts per microsecond

Input Sensitivity (input level for 100-watts into an 8-ohm load): 0dB (0.775 volts) with the INPUT LEVEL switch set at the "0dBm" position; -20dB (77.5mV) with the INPUT LEVEL switch set at the "-20dBm" position.

Input Impedance: 8k-ohms with the INPUT LEVEL CONTROL at the maximum clockwise position.

A4115H speaker specifications

System Impedance: 8-ohms nominal, 7-ohms minimum.

Sensitivity: 101dB SPL at 1 meter with 1 watt input (DIN and JIS standard)*; 52dB SPL at 30 feet, 1 milliwatt input (EIA standard).

Frequency Response: 70Hz to 15kHz, ±6dB (referred to 101dB SPL).

Dispersion: 70-degrees horizontal by 40-degrees vertical (angles between 6dB down points at 1kHz).

Crossover Transition Frequency and Slope: 2kHz at 12dB/octave

Enclosure Type: Combination: front-loaded horn/ducted-port bass reflex, with separate high frequency horn/compression driver.

Finish: Black leatherette with metal corner caps and black (removable) grille.

Dimensions:

Height: 908mm (35-3/4")

Width: 610mm (24")

Depth: 452mm (17-3/4")

Weight: 58kg (127.9 lbs.)

A4115H controls & jacks

Input Jacks: Two (parallel) standard tip-sleeve phone jack which accept unbalanced, line level sources.

Input Level Control: An input attenuator controls the volume level of the amplifier.

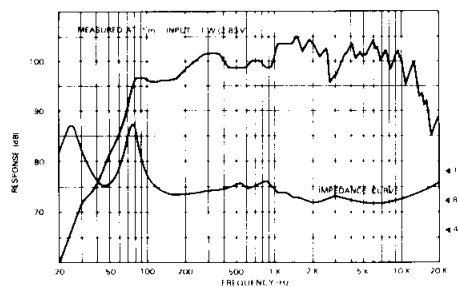
Input Level Switch: A slide switch selects -20dBm or 0dBm nominal input level; for compatibility with low or high level lines.

H.F. Level Control: An "L-Pad" attenuator (for constant impedance) adjusts the volume level of the high-frequency driver.

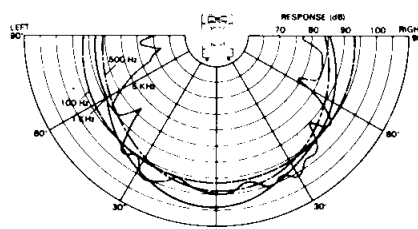
Driver (Loudspeaker)	Model	Nominal Cone Diameter	Voice Coil Diameter	Nominal Impedance	Sensitivity **	Continuous Pink-Noise Power Rating	Peak Power	Rated Power Bandwidth	Magnet Weight	Flux Density
Woofer	JA3803	15" (38cm)	2.6" (6.6cm)	8 ohms	99dB	120 Watts	240 Watts	20Hz-20kHz	6.0kg (13.2 lbs.)	12,500 Gauss
Horn/Driver	JA4201	—	1.6" (4.2cm)	8 ohms	104dB	20 Watts	40 Watts	2kHz-20kHz	2.2kg (4.8 lbs.)	16,000 Gauss

NOTE: The Yamaha S4115H speaker system is identical to the A4115H, except it contains no amplifier.

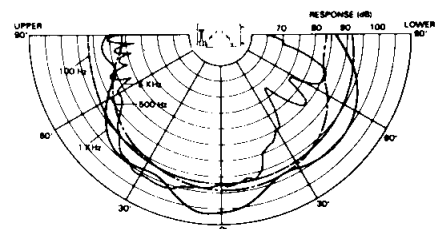
A4115H Frequency Response



A4115H Horizontal 180° dispersion



A4115H Vertical 180° dispersion



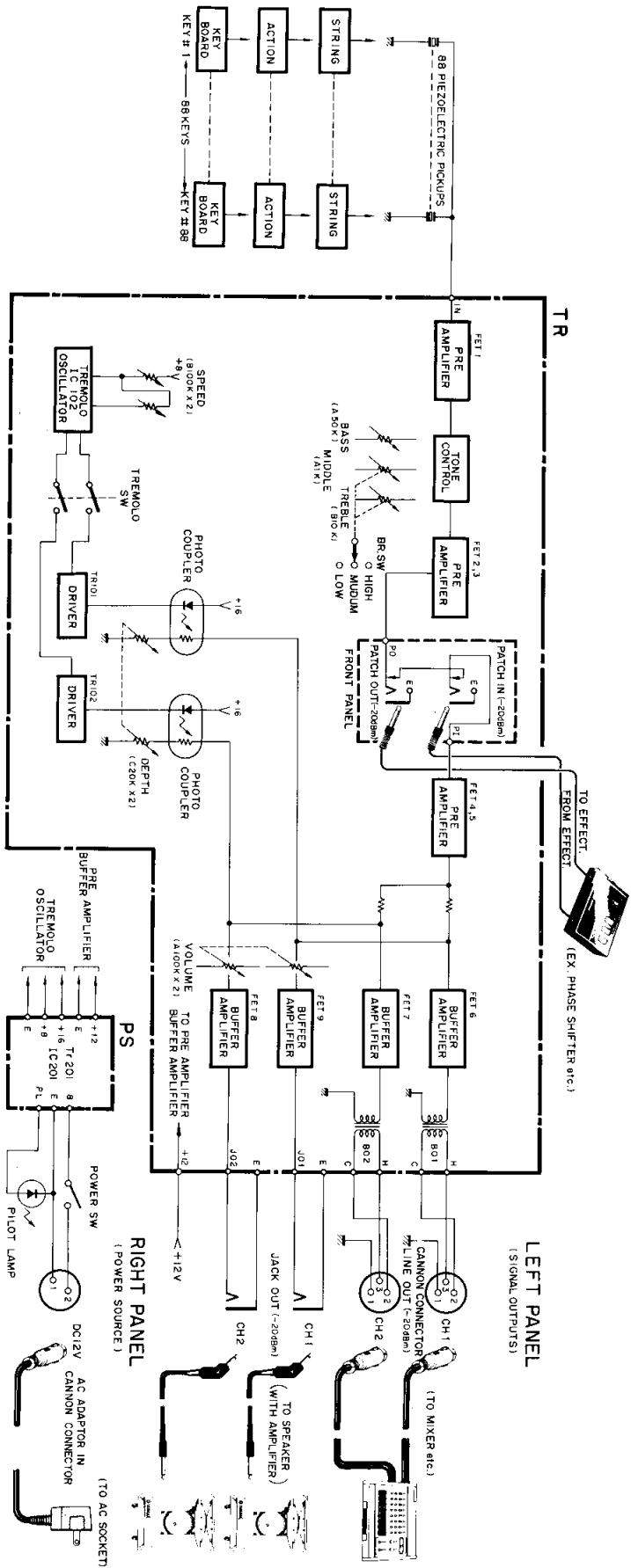
*Measured with a 6dB/octave filter at 12.5kHz (equivalent to a 20kHz filter with infinite dB/octave attenuation).

*Sensitivity at 4 feet, with 1 watt is 1.75dB below DIN/JIS standard.

† Sensitivity is extremely significant, since an increase of only 3dB in sensitivity is equivalent to doubling the amplifier power. In other words, a 50-Watt amp used with a speaker that is 3dB more sensitive than another speaker, will produce the same sound level as a 100-Watt amp used with the less sensitive speaker.

Specifications subject to change without notice.

CP-80 BLOCK DIAGRAM



NOTE:
Make sure to use the specified AC Adaptor as indicated
hereby:

- AC ADAPTORS
- JAPANESE MODEL : GAS0061 AC100V 50/60Hz
 - U.S. and CANADIAN MODEL : GAS0062 AC120V 60Hz
 - AUSTRALIAN and S. AFRICAN MODEL : GAS0065 AC230V 50/60Hz
 - EUROPEAN MODEL : GAS0068 AC230V 50Hz
 - GENERAL EXPORT MODEL : GAS0069 AC220 - 240V 50/60Hz
- with Primary Cord
with Plug U.S. CANADIAN MODEL TYPE

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