

SONY

3-856-153-11 (1)

Digital Equalizer Preamplifier

Operating Instructions _____

EN

Owner's Record

The model and serial numbers are located on the bottom of the unit.

Record the serial number in the space provided below.

Refer to these numbers whenever you call upon your Sony dealer regarding this product.

Model No. XDP-210EQ Serial No. _____

For installation and connections, see the supplied installation/connections manual.

XDP-210EQ

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Warning

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

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- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

Getting Started

Operating this unit

You can control this unit by a Sony Master unit.

Some master units have \oplus/\ominus (volume) buttons, and some have a dial.

This instructions shows as follow.

Rotate/press \oplus or \ominus .

Note

There may be a difference between the display items of this manual and the master unit.

Note in operation

- The unit has a digital volume control system. Do not down the volume of the master unit too much as doing so may cause the sound quality to deteriorate.
- When you connect this unit to the master unit, the loudness function will not work.
- The sound becomes unclear in some situations (such as when the BAS, TRE or EQ are excessively boosted).
- Two units can not be used at same time.

About operation mode

This unit has three operation modes.

Sound Control Mode

Select the item or adjust it partially.

- EQ (Graphic Equalizer): Select the equalizer curve.
- POS (Listening Position): Select the listening position.
- SUB (Subwoofer): Adjust the subwoofer volume level.

Sound control mode can adjust not only BAS, TRE, BAL, FAD but also VOL. For further details, read the master unit instructions.

Sound Tuning Mode

Tune in the item selected in the Sound Control Mode exactly.

- EQ (Graphic Equalizer): Setting and registering the equalizer curve.
- POS (Listening Position): Adjust the listening position.
- CNW (Cross Over Network): Adjust the cut-off frequency.

Name Edit Mode

EQ (Graphic Equalizer): Naming the equalizer curve.

DSP

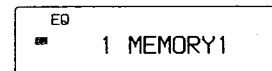
Selecting the stored equalizer curve

— Sound Control Mode

You can select the stored equalizer curve (MEMORY1 to MEMORY9) or an unadjusted curve (FLAT).

1 Press SOURCE to select a source (radio, tape, CD or MD etc.).

2 Press SOUND repeatedly until "EQ" appears.



3 Rotate/press \oplus or \ominus to select the stored equalizer curve.

After three seconds, the display goes back to the normal playback mode.

Tip

To adjust the stored equalizer curve further, press SOUND for two seconds within three seconds after following step 3 above. Then go to step 4 to 8 of "Setting and storing the equalizer curve."

Setting and storing the equalizer curve

— Sound Tuning Mode

You can adjust the 21 band frequencies to make an equalizer curve, and store up to nine curves.

Front (18 band):

30 Hz, 45 Hz, 62 Hz, 90 Hz, 130 Hz, 190 Hz, 270 Hz, 400 Hz, 580 Hz, 840 Hz, 1.2 kHz, 1.7 kHz, 2.5 kHz, 3.6 kHz, 5.2 kHz, 7.5 kHz, 11 kHz, 16 kHz

Rear (3 band):

90 Hz, 840 Hz, 7.5 kHz

1 Press SOURCE to select a source (radio, tape, CD or MD etc.).

2 Press SOUND for two seconds.

Welcome !

Thank you for purchasing the Sony Digital Equalizer Preamplifier. This unit is compatible with the Sony BUS system.

This unit provides flexible equalization using 18-band (front) and 3-band (rear) equalizer with independent control of level and frequency. The characteristics, installation position, and sound field of the speakers make it possible to arrange the frequency response and reproduce the sound quality of the original performance.

You can control this unit with a Sony Master unit which can operate a digital preamplifier.

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DSP

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- 3 Press **(SOUND)** repeatedly until "EQ" appears.



- 4 Rotate/press **(+)** or **(-)** to select an equalizer curve.

- 5 Adjust the equalizer curve.

- 1 Press **(4) (→)** to select the desired frequency.

F30 → F45 → → F16k →
R90 → R840 → R7.5k



If you press **(1) (←)**, the frequency appear in the reverse order.

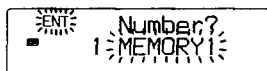
- 2 Rotate/press **(+)** or **(-)** to adjust the level.

Note

If you adjust the level too high, the sound becomes distorted. In this case, lower the level until the sound becomes normal.

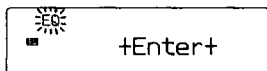
- 3 Repeat steps 1 and 2 to adjust the equalizer curve.

- 6 Press **(5) (ENTER)**.



- 7 Rotate/press **(+)** or **(-)** to select the number that you want to enter into memory.

- 8 Press **(5) (ENTER)**.



- 9 To return to the normal playback mode, press **(SOUND)** for two seconds.

To cancel setting the equalizer curve, press **(SOUND)** for two seconds after step 7.

Tip

You can label the equalizer curve by pressing **(LIST)** for two seconds after step 5 above. Then go to step 2 to 7 of "Labeling an equalizer curve".

Note

If the name of the equalizer curve flashes in the display window, the equalizer curve is not stored. To store the equalizer curve again, repeat steps 6 to 9 above.

Labeling an equalizer curve — Name Edit Mode

You can label each equalizer curve with a personalized name. You can enter up to eight characters for an equalizer curve.

- 1 Press **(SOUND)** for two seconds.

- 2 Select an equalizer curve and press **(LIST)** for two seconds.

- 3 Enter the characters.

- 1 Rotate/press **(+)** to select the desired characters.

(A → B → C → ... Z → 0 → 1 → 2 →
... 9 → + → - → * → / → \ → > → <
→ . → _)

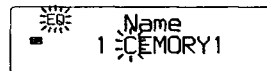


If you rotate/press **(-)**, the characters appear in the reverse order.

If you want to put a blank space between characters, select " " (under-bar).

- 2 Press **(4) (→)** after locating the desired character.

The flashing cursor moves to the next character.



If you press **(1) (←)**, the flashing cursor moves to the left.

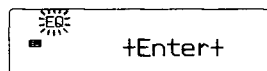
- 3 Repeat steps 1 and 2 to enter the entire name.

- 4 Press **(LIST)** for two seconds.

- 5 Press **(5) (ENTER)**.

- 6 Rotate/press **(+)** or **(-)** to select the number that you want to enter into memory.

- 7 Press **(5) (ENTER)**.



- 8 To return to the normal playback mode, press **(SOUND)** for two seconds.

Tip

To erase/correct a name, enter " " (under-bar) for each character.

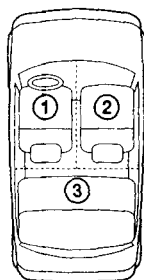
Note

When the name of the equalizer curve flashes in the display window, the equalizer curve name is not stored. To store the equalizer curve again, repeat the step 5 to 7 above rightly.

Selecting the listening position — Sound Control Mode

You can set the time for the sound to reach the listeners from the speakers.

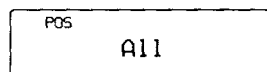
The unit can simulate a natural sound field so that you can feel as if you are in the center of the sound field wherever you sit in the car.



Display window	Center of soundfield
ALL	Normal setting (① + ② + ③)
FRONT	Front part (① + ②)
FRONT R	Right front (②)
FRONT L	Left front (①)
REAR	Rear part (③)

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- 1 Press **(SOUND)** momentarily until "POS" appears.



- 2 Rotate/press **(+)** or **(-)** to select the desired listening position.

The listening positions appear in the order shown above.

After three seconds, the display goes back to the normal playback mode.

Tip

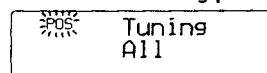
To adjust the listening position further, press **(SOUND)** for two seconds within three seconds after following step 2 above. Then go to step 4 to 8 of "Adjusting the listening position."

Adjusting the listening position — Sound Tuning Mode

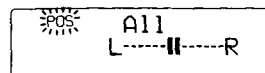
Note

When you adjust the listening position, set the balance and fader control to the center position.

- 1 Press **(SOUND)** for two seconds.
- 2 Press **(SOUND)** repeatedly until "POS" appears.
- 3 Rotate/press **(+)** or **(-)** repeatedly until the desired listening position appears.



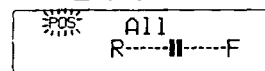
- 4 Press **(4) (→)**.



- 5 Rotate/press **(+)** or **(-)** to adjust the center of the sound field to the left or right. Then set the center of the sound field.

(+): Center moves to the R (right).
(-): Center moves to the L (left).

- 6 Press **(4) (→)**.



- 7 Rotate/press **(+)** or **(-)** to adjust the center of the sound field to the front or rear.

(+): Center moves to the F (Front).
(-): Center moves to the R (Rear).

- 8 Press **(SOUND)** for two seconds. When the listening position setting is complete, the normal playback mode appears.

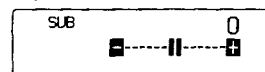
Adjusting the level of the subwoofer(s)

— Sound Control Mode

You can adjust the subwoofer level independently of the speakers.

- 1 Press **(SOURCE)** to select a source (radio, tape, CD or MD etc.).

- 2 Press **(SOUND)** repeatedly until "SUB" appears.



- 3 Rotate/Press **(+)** or **(-)** to adjust the level.

After three seconds, the display goes back to the normal playback mode.

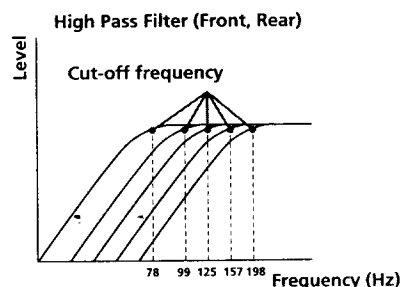
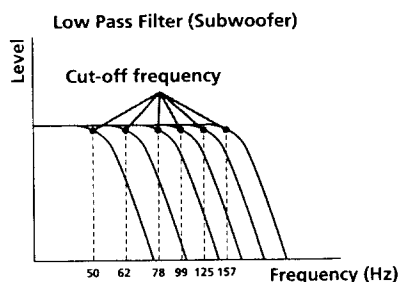
Tip

To adjust the cut-off frequency of the subwoofer(s), press **(SOUND)** for two seconds within three seconds after following step 3. Then go to step 3 to 4 of "Adjusting the cut-off frequency."

Adjusting the cut-off frequency — Crossover Network (CNW)

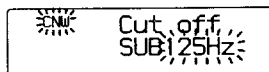
— Sound Tuning Mode

To match the characteristics of the connected speakers or subwoofer(s), you can cut the unwanted high, middle and low frequency signals entering the speakers or subwoofer(s). By setting the cut-off frequency (see the diagram below), the speakers will output only the most suitable frequency signals so that you can get a clearer sound image.



1 Press **(SOUND)** for two seconds.

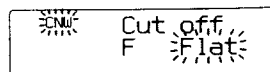
2 Press **(SOUND)** repeatedly until "CNW" appears.



3 Adjust the cut-off frequency

① Press **(1)** (←) or **(4)** (→) to select the line out.

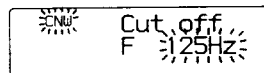
SUB (Subwoofer) ↔ F (Front)
↔ R (Rear)



② Rotate/press **(+)** to select the desired cut-off frequency.

Subwoofer :
50 Hz → 62 Hz → 78 Hz → 99 Hz → 125 Hz
→ 157 Hz

Front, Rear:
Flat → 78 Hz → 99 Hz → 125 Hz → 157 Hz
→ 198 Hz



If you rotate/press **(-)**, the cut-off frequency appear in the reverse order.

③ Repeat steps ① and ② to select the cut-off frequency.

4 Press **(SOUND)** for two seconds.

When the cut-off frequency setting is complete, the display goes back to the normal playback mode.

Tip

To adjust the subwoofer level, select "SUB" by pressing **(1)** (←) or **(3)** (→) after step 3 above. Then rotate/press **(+)** or **(-)** to adjust the level. When you finish adjusting the subwoofer level, press **(SOUND)** for two seconds.

Listening to each program source in its registered equalizer curve

— Source Sound Memory

You can listen to the same source (CD, MD, TAPE, FM, AM, TV and AUX) always in the same equalizer curve and sound characteristics (bass, treble and subwoofer level) even after changing the program source or turning the unit on and off again.

Note

"LSM" (Last Sound Memory) appears on the TV display when you have selected an equalizer curve.

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Digital Equalizer

Registering an equalizer curve onto each disc

— Disc Sound Memory (DSM)
(CD/MD changer or CD/MD player with
program memory function)

Once you have registered the desired equalizer curve and the sound characteristics (bass, treble and subwoofer level) onto the discs, you can enjoy the same equalizer curve every time you play them. You can register up to 200 discs.

- 1 Play the desired disc.
- 2 Select the equalizer curve, and adjust the sound characteristics.
- 3 Press **(SHIFT)**, then press **(3)** (PLAY MODE) repeatedly until "DSM SET" appears.

CD1 SCHUBERT
DSM set

- 4 Press **(5)** (ENTER) momentarily.

DSM
+Enter+

When the DSM setting is complete, the display will go back to the normal playback mode.

Changing the stored equalizer curve

Play the disc whose equalizer curve you want to change, and follow the "Setting and storing the equalizer curve".

Erasing the stored equalizer curve

- 1 Press **(SHIFT)**, then press **(3)** (PLAY MODE) repeatedly until "DSM SET" appears.
- 2 Press **(5)** (ENTER) for two seconds.

DSM
+Delete+

Additional Information

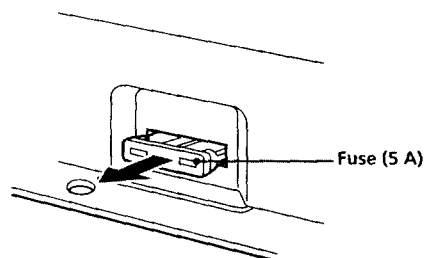
Precautions

- If your car was parked in direct sunlight resulting in a considerable rise in temperature inside the car, allow the unit to cool off before switching on.
- If no power is being supplied to the unit, check the connections first. If everything is in order, check the fuse.
- For safety reasons, keep your car audio volume moderate so that you can still hear sounds outside your car.
- If you connect this unit to the XDP-U50D and XDP-U50DMK2, this unit will not work.

If you have any questions or problems concerning your unit that are not covered in this manual, please consult your nearest Sony dealer.

Fuse replacement

If the fuse blows, check the power connection and replace the fuse. If the fuse blows again after replacement, there may be an internal malfunction. In such a case, consult your nearest Sony dealer.



Warning

When replacing the fuse, be sure to use one matching the amperage stated above the fuse holder. Never use a fuse with an amperage rating exceeding the one supplied with the unit as this could damage the unit.

Specifications

Power requirements	12 V DC car battery (negative ground)
Current drain	1 A
Frequency response	8 Hz — 20 kHz (FRONT)
Signal-to-noise ratio	105 dB (FRONT) (JIS-A)
Harmonic distortion	0.005 % (FRONT)
Separation	95 dB at 1 kHz
Tone controls	Bass ± 10 dB at 310 Hz Treble ± 10 dB at 3.1 kHz
Input/output terminals	BUS input (2) Line input (RCA jack) (2) Line output (RCA jack) (3) Optical digital input (2)
Dimensions	Approx. 245 \times 145 \times 40 mm (9 $\frac{3}{4}$ \times 5 $\frac{3}{4}$ \times 1 $\frac{5}{8}$ in.) (w/h/d)
Mass	Approx. 1.2 kg (2 lb. 10 oz.)
Supplied accessories	BUS cable (2 m) (1) Mounting screw (4)
Optional accessories	BUS cable (supplied with RCA pin cord) RC-61 (1 m), RC-62 (2 m) RCA pin cord RC-63 (1 m), RC-64 (2 m), RC-65 (5 m) Optical cable RC-97 (2 m)

Optional equipment

Master unit (which can operate a digital preamplifier)
XR-C900, CDX-C910, CDX-C710 etc.
CD changer
CDX-91 (equipped with a digital output)
CDX-52, CDX-71, CDX-72, CDX-81, CDX-T60, CDX-T62 etc.
MD changer
MDX-60
Source selector (compatible with an analog system)
XA-C30
Source selector (compatible with a digital system)
XA-U40D
TV tuner
XT-U400V etc.
Power amplifier
XM-Series
Speakers
XS-Series

Design and specifications subject to change without notice.

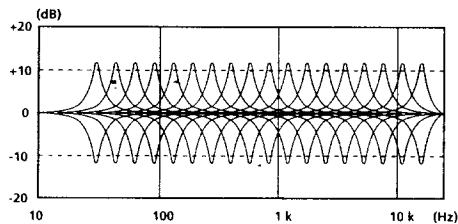
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Digital Equalizer/Additional Information

Frequency response

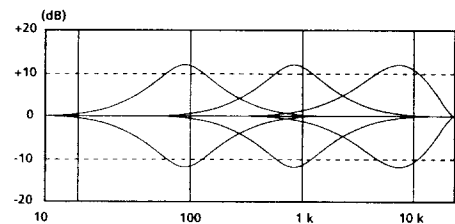
Front Equalizer (± 12 dB)

$f_0 = 30, 45, 62, 90, 130, 190, 270, 400, 580, 840, 1.2k, 1.7k, 2.5k, 3.6k, 5.2k, 7.5k, 11k, 16kHz$



Rear Equalizer (± 12 dB)

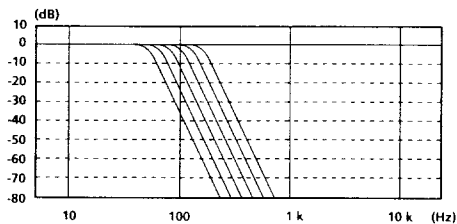
$f_0 = 90, 840, 7.5kHz$



(Hz)

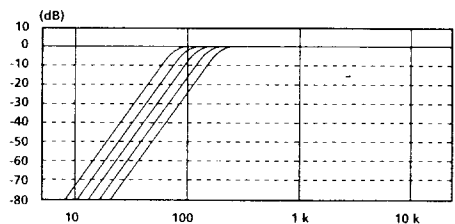
Low Pass Filter (-36 dB/oct)

$f_0 = 50, 62, 78, 99, 125, 157$ Hz



High Pass Filter (-24 dB/oct)

$f_0 = 78, 99, 125, 157, 198$ Hz



(Hz)

Troubleshooting guide

The following check help you remedy most problems that you may encounter with you unit.
Before going through the checklist below, check the connection and operating procedures.

Problem	Cause/Solution
The POWER indicator does not light up.	The ground lead is not securely connected. Ground the lead securely to a metal part of the car.
	Check the battery voltage (10.5 — 16 V).
Alternator noise is heard.	The power connecting leads are run too close to the RCA pin cords. → Keep the leads away from the cords.
	The RCA pin cords are run too close to other electrical cables of the car. → Keep the cords away from the cables.
No sound	The ground lead is not securely connected. → Ground the lead securely to a metal part of the car.
	The POWER indicator lights up when the master unit turns on. → Check the amplifier and speaker connections.
	The POWER indicator does not light up when the master unit turns on. → Check the BUS cable, RCA pin cord and optical cable connections.

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