



HEAD RUSH

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AKAI professional

Operator's Manual

WARNING

To prevent fire or shock hazard,
do not expose this appliance to
rain or moisture.



THE SYMBOLS ARE RULED BY UL STANDARDS (U.S.A.)

IMPORTANT SAFETY INSTRUCTIONS

1. Before you operate the E2, read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat register, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

PORTABLE CART WARNING



S3125A

13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. Do not expose this apparatus to dripping or splashing and ensure that no objects filled with liquids, such as vases, are placed on the apparatus.
16. Use only with the specified AC Adaptor.

WARNING

The E2 HEADRUSH is designed to be used in a standard household environment. Power requirements for electrical equipment vary from area to area. Please ensure that your AC Adaptor supplied meets the power requirements in your area. If in doubt, consult a qualified electrician or AKAI professional dealer.

FCC 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:

- 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.

CAUTION

To prevent electric shock, do not use this polarized AC power plug with an extension cord, receptacle, or other outlet unless the blades can be fully inserted to prevent blade exposure.

Afin d'éviter tout risque de décharge électrique, n' utilisez pas cette prise polarisée avec une rallonge, une prise de courant ou autre sortie à moins que les lames puissent être complètement insérées et qu'elles ne soient plus visibles.

Changes or Modifications not expressly approved by the manufacturer for compliance could void the user's authority to operate the equipment.

This appliance is not equipped with a main power switch. Even when the appliance is turned off, the power supply to the appliance is not completely turned off when the power cord is plugged in. Pull out the adaptor when not using the appliance for long periods.

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

AVIS POUR LES ACHETEURS CANADIENS DU E2

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la Class B prescrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.

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Welcome

We at AKAI professional thank you for purchasing the E2 HEADRUSH pedal. E2 has the following features.

NORMAL DELAY mode

In this mode the E2 functions as an ordinary Delay Effect. The maximum delay time is 23.8 seconds, and the delay time is set by tapping the TAP TEMPO footswitch to the desired tempo.

TAPE ECHO mode

This mode simulates a classic 4-head Tape Echo machine. The signal from each virtual head has its own independent output, or the signals from all head can be combined to the MIX output.

Looping Recorder mode

This mode allows you to play and record a phrase and immediately loop the playback so you can over-dub. An over-dubbed phrase is layered over with original phrase(s).

Rear Panel

1. MIX output

This output contains the effect added (wet) signal, plus the Input signal (Direct Signal). Connect this output to a Guitar Amplifier or the input of another Effect.

2. HEAD1/EFFECT

Only the delayed signal gets routed through this output when using NORMAL DELAY mode.
The delayed signal of HEAD 1 gets routed through this output when using TAPE ECHO mode.

3. HEAD2-4

The delayed signal of HEAD 2-4 gets routed through this output when using TAPE ECHO mode.

Note: Outputs HEAD1-HEAD4 are only used in the TAPE ECHO mode. They are not used when in the NORMAL DELAY or Looping Recorder mode.

4. DC IN

Plug the supplied AC Adaptor in here.

5. INPUT

Plug your guitar or effect in here.

6. LEVEL

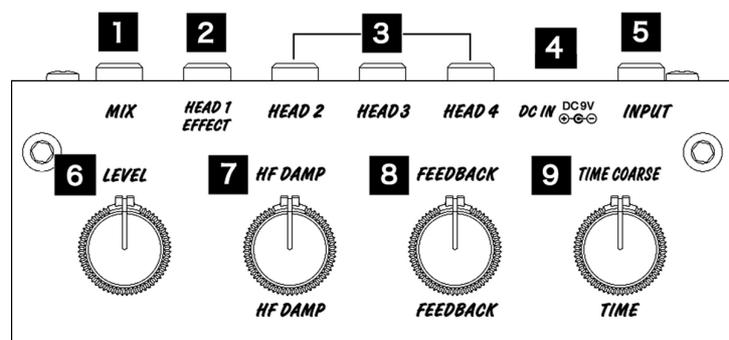
This adjusts the level of the effect sound.

7. HF DAMP

This adjusts the amount of high frequency signal in the delay sound when using the NORMAL DELAY or TAPE ECHO modes. Turning it to the right makes the sound "muffled" to simulate a classic analog delay effect. This can not be used on LOOPING REC mode.

8. FEEDBACK

This adjusts the amount of feedback for the delay, and controls the number of repeats when using NORMAL DELAY or TAPE ECHO mode. Increasing the value increases the number of the repeats. This is only used in NORMAL DELAY or TAPE ECHO mode.



9. TIME COARSE/TIME

TIME COARSE provides a coarse adjustment of the delay time between 0.5ms and 1.45 seconds during the NORMAL DELAY mode. TIME adjusts the delay time between 10ms and 1.45 seconds during TAPE ECHO mode. This is not used in LOOPING REC mode.

10. TIME FINE/HEAD GAP

TIME FINE provides a fine adjustment of the delay time when using the NORMAL DELAY mode. HEAD GAP adjusts the position of the virtual tape heads when using the TAPE ECHO mode. This is not used in LOOPING REC mode.

11. RATIO

This adjusts the output ratio of the HEAD 1 - 4 outputs when using the TAPE ECHO mode. This is not used on NORMAL DELAY or LOOPING REC mode.

12. MODE SELECT switch

This allows you to select the TAPE ECHO, NORMAL DELAY or LOOPING REC mode.

13. MODE LED

The LED of the selected mode will light.

14. LOOP LEVEL switch

This selects either fixed (FIX) or variable (VARI) output level of looped playback when using LOOPING REC mode. This is not used on NORMAL DELAY or TAPE ECHO mode.

15. LOOP TIME switch

This selects the maximum record time when using LOOPING REC mode. This is not used on NORMAL DELAY or TAPE ECHO mode.

16. ON/OFF, PLAY/STOP LED

This will light while the effect is active (ON) when using NORMAL DELAY or TAPE ECHO mode. This will light during Looping Playback, when using LOOPING REC mode.

17. TAP TEMPO, REC/OVER DUB LED

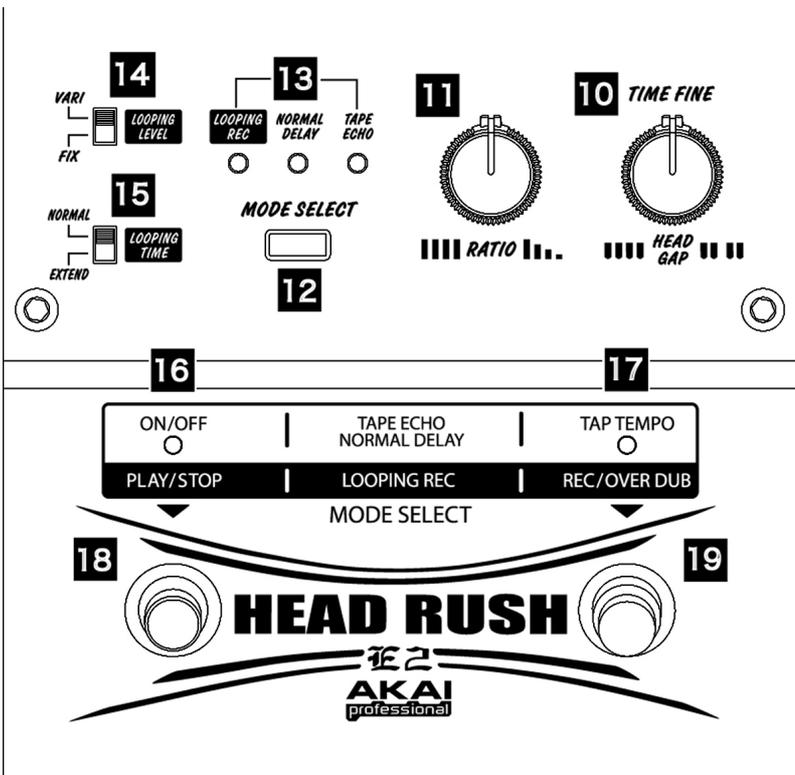
This flashes in time with the delay tempo when using NORMAL DELAY or TAPE ECHO mode. This will light while loop recording/over-dubbing when using LOOPING REC mode.

18. ON/OFF, PLAY/STOP switch

This turns the effect ON or OFF by tapping it during NORMAL DELAY or TAPE ECHO mode. This also turns the loop playback to start or to stop during LOOPING REC mode.

19. TAP TEMPO, REC/OVER switch

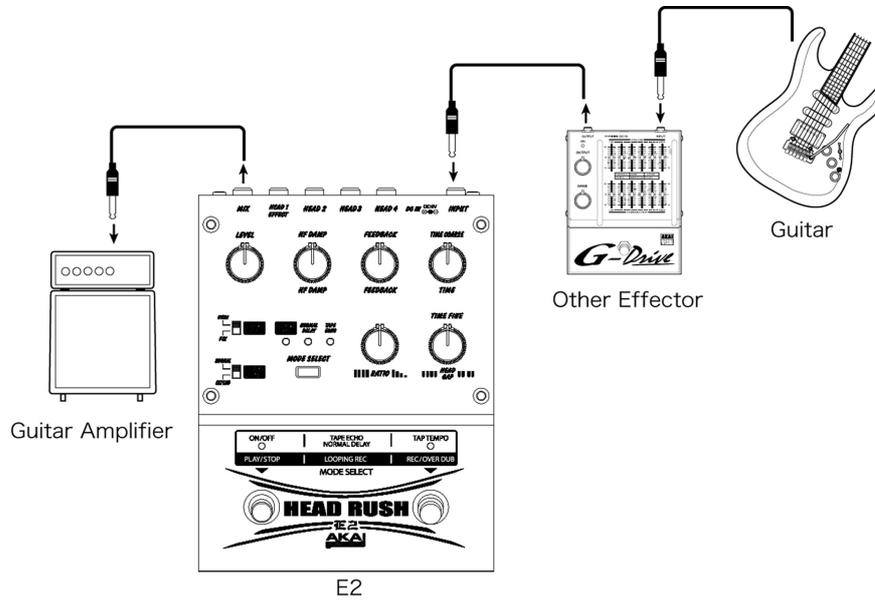
This sets the delay time by tapping it twice during NORMAL DELAY or TAPE ECHO mode. This also turns the loop recording/over-dubbing on during LOOPING REC mode.



Connecting E2 to External device

The diagram below demonstrates how you can connect the E2 to external devices.

Please note that this is just one example, so when you actually connect your devices, refer to the device's operator's manual.



Note : You can also connect multiple outputs of the E2 to multiple guitar amplifiers and the direct(dry) sound and effect(wet) sound can be amplified separately. Refer to the Normal Delay Application (page 4) and the Tape Echo Application (page 6) for the details.

Basic Operation

Selecting mode

Pressing the MODE SELECT button changes the mode and the selected mode LED lights up.

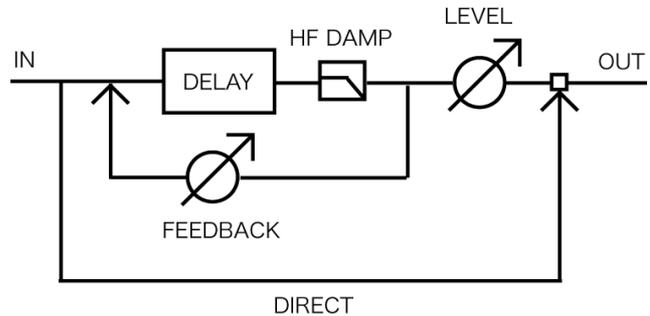
Selecting mode with Footswitches

You can change the mode by pressing the two footswitches simultaneously. Now you can change modes with your foot while playing your guitar.

NORMAL DELAY mode

Basic Operation

1. Select NORMAL DELAY mode by pressing the MODE SELECT switch.
You can also change the mode by pressing the two footswitches simultaneously.
2. Set the delay time by tapping the right footswitch (TAP TEMPO) twice.
The delay time is set from the tempo of the two taps. The red LED on the right side(TAP TEMPO) flashes in time with the delay tempo. The maximum delay time is 23.8 seconds.
3. Tap the left footswitch (ON/OFF), and the green LED on the left side(ON/OFF) lights and the effect is switched on. Tap it again, and the effect is switched off.



Hint: You can change the delay time by tapping the right Footswitch while the effect is on.

Fine setting

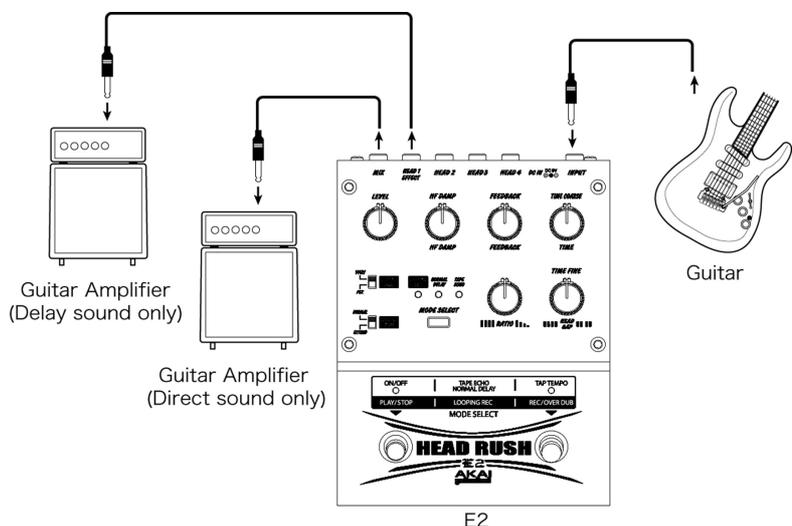
In the NORMAL DELAY mode, only controls with yellow letters can be used.

- LEVEL:** Adjusts the output level of the effect sound.
- HF DAMP:** Decreases the amount of high frequency in the effect signal. Turning it to the right decreases the amount of high frequency and makes the sound like a classic analog delay effect.
- FEEDBACK:** Adjusts the amount of feedback of the delay sound (Adjusts the number of repeats.) Turning it to the right increases the number of repeats.
- TIME COARSE:** This is a course adjustment of the delay time. It's used to adjust shorter delay times. The range of the delay time with this control is between 0.5ms and 1.45 seconds. Use the Footswitch if you want to set the delay time longer than 1.45 seconds.
- TIME FINE:** This is a fine adjustment of the delay time set by the TIME COARSE.

Application

Sending out the delay sound and the direct sound separately using two amplifiers.

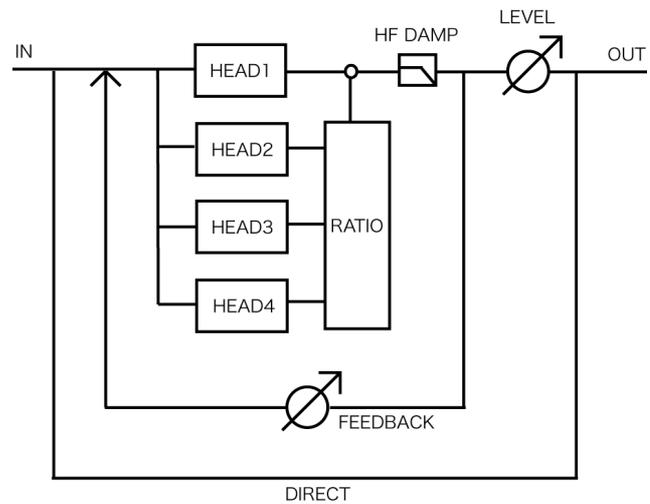
This allows the delay sound and the direct sound to be heard separately by connecting the MIX output to one amplifier, and the EFFECT output to a separate amplifier.



TAPE ECHO mode

Basic Operation

1. Select TAPE ECHO mode by pressing the MODE SELECT switch.
Note: You can also change the mode by pressing the two Footswitches simultaneously.
2. Set the delay time by tapping the right Footswitch (TAP TEMPO) twice.
The delay time is calculated based on the tempo of the two taps. The right red LED (TAP TEMPO) flashes in time with the delay time. The maximum delay time is 5.9 seconds.
3. Tap the left Footswitch (ON/OFF), and the left green LED (ON/OFF) lights, indicating the effect is on. Tap it again and the effect is off.



Hint: You can change the delay time by tapping the right Footswitch while the effect is on.

Fine setting

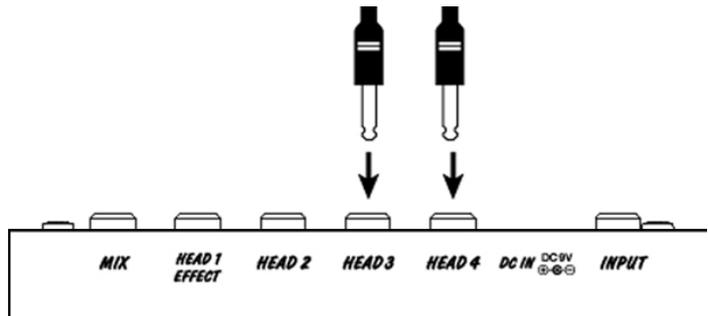
In the TAPE ECHO mode, only the controls with blue lettering can be used.

- LEVEL :** Adjusts the output level of the effect sound.
- HF DAMP :** Decreases the amount of high frequency in the effect sound. Turning it to the right decreases the amount of high frequency and makes the sound like a classic analog delay effect.
- FEEDBACK :** Adjusts the amount of feedback in the delay sound (Adjusts the number of repeats.) Turning it to the right increases the number of repeats.
- TIME :** Adjusts the delay time. Use this to adjust shorter delay times that are difficult to set by tapping the Footswitch. The range of the delay time available with this control is between 10 ms and 1.45 seconds. Use the Footswitch if you want to set delay times longer than 1.45 seconds.
- RATIO :** Adjusts the output ratio of the four Heads. Turning it to the left makes the output ratio of the four Heads equal, turning it to the right sets it so the output level of HEAD 1 remains high and HEAD 2-4 gradually decrease in level.
- HEAD GAP :** Adjusts the interval between the four virtual Heads. Turning it to the left creates the same interval between each of the four Heads, turning it to the right creates a different interval between each of the four Heads. Using a combination of HEAD GAP, FEEDBACK, and RATIO adjustments it's possible to get a Random Delay Effect.

Application

Change the number of Heads

If you connect a plug to any head (HEAD 1 - 4), the delay sound of the HEAD does not get routed through the MIX output. For example, if you connect the plugs to HEAD 3 & 4, only the delay sound from HEAD 1 & 2 gets routed through the MIX output.



So you can mute unnecessary delay sounds by connecting plugs to the HEADs.

Sound on Sound

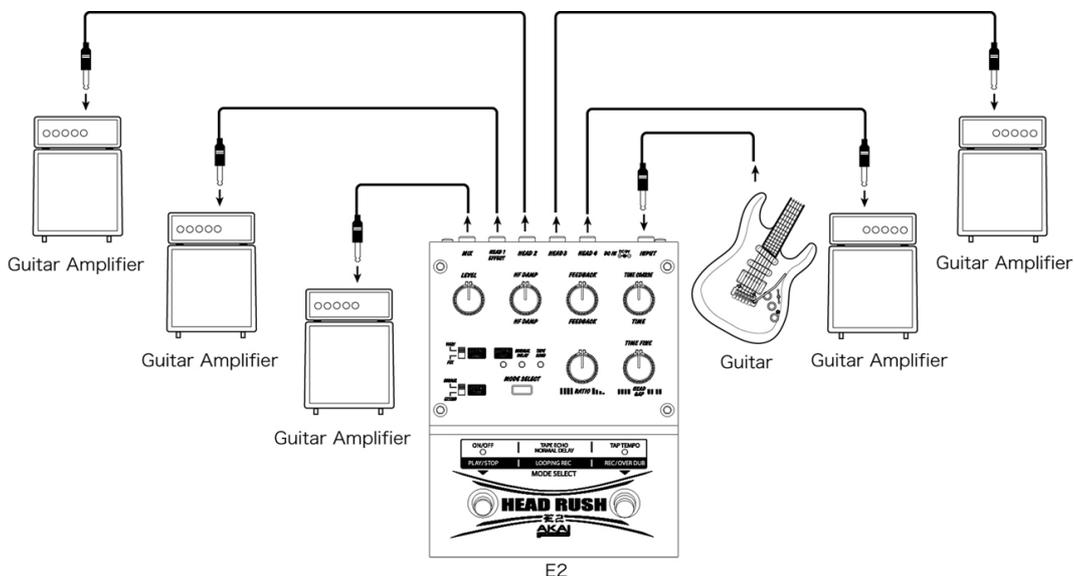
This allows you to mix the direct signal (your playing sound) and the delay signal, create a harmony part, and add your solo and your backing sounds to the mix.

Example setting

1. Turn the FEEDBACK, HF DAMP, HEAD GAP, and RATIO fully counter-clockwise.
2. Set the LEVEL to the maximum position by turning it fully clockwise.
3. Select the number of Heads.
E.g. In the case you want to get the delay sounds with one beat later, if you use only HEAD 1-3, you can get just the delay of one bar. (4 beats). In this case, you should connect a plug to HEAD 4 and mute the delay sound of HEAD 4.
4. Set the delay time by tapping the right Footswitch so the delay time matches the rhythm.
5. Turn the effect ON by tapping the left Footswitch and play your guitar. You can get three separate delay sounds after you play.

Sending out separate delay sound and direct sound using multiple amplifiers.

This allows the delay sounds and the direct sound to sound separately by connecting the MIX output and HEAD 1-4 outputs to each amplifier.



LOOPING REC mode

Basic Operation

1. Select LOOPING REC mode by pressing the MODE SELECT switch.
Note: You can also change the mode by pressing both Footswitches simultaneously.
2. Set the LEVEL control to the maximum position by turning it fully clockwise.
3. Tap the right Footswitch (REC/OVER DUB) at the point you want to start the recording. The red LED on the right lights up and the recording starts.
4. Tap the right Footswitch again, and the red LED on the right turns off and the recording stops. The green LED on the left lights and the parts you recorded begin looping playback.
5. If you want to over-dub to your recorded sound, tap the right Footswitch. The red LED on the right lights and over-dubbing starts. You can now record a new phrase.
6. When you tap the left Footswitch (PLAY/STOP), the red LED turns off and over-dub recording stops, and the recording, with over-dub part, begins looping playback.

This allows you to over-dub record many times by repeating procedures 5 & 6.

About OVER DUB

If you want to do OVER DUB recording, you must drop out of recording before half of the maximum recording time is used. While you're recording your first part (above procedure 3), the right red LED will start blinking at 3 seconds before half of the maximum recording time is used. If you want to Over-dub a part, tap the left Footswitch before this LED finishes blinking.

Hints: During Over-dub, if you tap the right Footswitch, it discards the Over-dubbed phrase and retains only your first recorded phrase.

For example, during a live performance, you can record and play many phrases using over-dub, then after the song progresses, you can easily return to the first recorded phrase.

Hints: During playback of the looping phrase, if you tap the left Footswitch, the playback will stop. If you tap the left Footswitch again, playback of the looping phrase will start from the start point.

Hints: If you start the recording and the recording reaches the maximum recording time without tapping the left Footswitch (i.e. you don't stop the recording), the recording will automatically stop and start looping the phrase.

Fine Setting

In the LOOPING REC mode, only the LEVEL control, LOOP LEVEL switch, and LOOP TIME switch can be used.

LEVEL : Adjusts the output level of the looping sound.

LOOP LEVEL switch

When the LOOP LEVEL switch is set to VARI, it allows you to adjust the output level of the looping sound with the LEVEL control.

When the LOOP LEVEL switch is set to FIX, the output level of the looping sound is set at the maximum level. (LEVEL control does not work)

Hints: When you want to change the mode between LOOPING REC and other modes while playing your guitar, you can change the mode by pressing both Footswitches at once.

But it may be inconvenient since the LEVEL settings are common between LOOPING REC and the other modes. In this case, as the LEVEL on LOOPING REC is usually set to maximum, you can use the LEVEL control as other DELAY mode by setting LOOP LEVEL switch to FIX.

LOOP TIME switch

You can select the maximum recording time between NORMAL and EXTEND depending on your needs.

NORMAL : This offers the best sound quality.

Sampling Frequency: 44.1 KHz / Maximum Recording time: 23.8 seconds (11.9 seconds on Over-Dub)

EXTEND : This offers the maximum recording time.

Sampling Frequency: 29.4 KHz/ Maximum Recording time: 35.6 seconds (17.8 seconds on Over-Dub)

Specifications

Connectors	INPUT (Input impedance : 500k ohms or more) MIX OUT (Output impedance : 1k ohms or less) HEAD1/EFFECT - HEAD4 (Output impedance : 1k ohms) DC IN (9Volts)
Controls	LEVEL, HF DAMP, FEEDBACK, TIME COARSE/TIME, TIME FINE/HEAD GAP, RATIO, MODE SELECT, LOOP LEVEL, LOOP TIME, FOOTSWITCH x 2
Indicator	MODE LED x 3, EFFECT ON/OFF x 1, TEMPO x 1
Functions	Mode : NORMAL DELAY, TAPE ECHO, LOOPING RECORDER Sampling Rate : 44.1 kHz (29.4kHz in LOOP TIME : EXTEND) Sampling Resolution : 16 bit linear Delay Time : NORMAL DELAY = 23.8 sec., TAPE ECHO = 5.9 sec Recording Time : LOOPING REC = 23.8 sec. (11.9 sec, in over-dub), EXTEND = 35.6 sec. (17.8 sec. in over-dub)
Power requirements	9V DC/160mA, AC-adaptor
Dimensions	140 (W) x 183.5 (D) x 65 (H) mm
Weight	1150g
Accessories	Operator's Manual, AC-adaptor

*** Specifications are subject to change without notice. ****

The image features the AKAI professional logo centered on a white background. The logo consists of the word "AKAI" in a bold, black, sans-serif font, positioned above the word "professional" in a white, lowercase, sans-serif font. The "professional" text is contained within a black rectangular box with a small notch on its bottom-left corner. To the right of the logo, there are two large, stylized circular patterns. Each pattern is composed of a thick black outer ring and a thin white inner ring. The area between these rings is filled with a halftone dot pattern that fades out towards the center of the circles. The top circle is positioned in the upper right quadrant, and the bottom circle is in the lower right quadrant.

AKAI
professional

AKAI Professional Limited Warranty

This Limited warranty against defects in materials and workmanship applies only to the original purchaser and is effective for one year from the date of purchase. Fill out the registration card and mail to AKAI Professional USA Corp. within ten days of the date of purchase. Defective parts will be repaired or replaced without charge if the product is returned to any authorized AKAI Professional dealer, AKAI Professional service center, or AKAI Professional USA Corp. Transportation costs are not included in this warranty

AKAI PROFESSIONAL'S LIABILITY FOR ANY INCIDENTAL AND CONSEQUENTIAL DAMAGES, IS EXPRESSLY EXCLUDED. ANY IMPLIED WARRANTIES ARE LIMITED TO THE DURATION OF THE EXPRESS WRITTEN WARRANTY SET OUT HEREIN. THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THOSE DESCRIBED ON THE FACE OF THIS WARRANTY CARD. THIS WARRANTY BECOMES IF THE PRODUCT HAS BEEN DAMAGED BY ALTERATION, MISUSE, ACCIDENT, OR NEGLIGENCE.

A Return Authorization number must be obtained from AKAI Professional (USA) Corp. prior to the return of any AKAI Professional product. A copy of the sales receipt may be requested as proof of original purchase.

This warranty gives you specific legal rights and you may have other rights which may vary from state to state. This warranty is valid only in U.S.A.

Akai Professional USA Corp.
100 Exchange Place
Pomona CA, 91768
Ph: 909-869-8870 Fax: 909-869-8892
www.akaipro.com

OWNER REGISTRATION CARD

This card must be filled out and mailed to AKAI Professional within 10 days of purchase.

Date of purchase

Dealer's Name

City **State** **Zip**

Model :..... **E2 HEADRUSH**

Serial :.....