

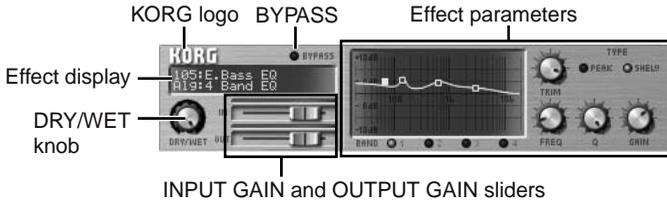
# **KORG MDE-X**

## **Owner's manual**

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# KORG MDE-X

## Objects in the screen

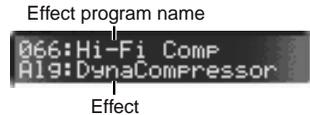


### Effect display

This area shows the contents of the effect program you are using. Normally, the top line shows the effect program name, and the lower line shows the effect you are using.

When you move the mouse pointer to a knob or slider, its parameter name and value will appear in this display.

You can edit the effect program name by double-clicking it. After editing the name, you'll need to write the effect program.



When the effect parameter and value are displayed



### Selecting an effect program

You can choose from 128 effect programs.

When you right-click (Mac: [Control] + click) the displayed effect program, a popup menu will appear. Choose an effect program from the menu.

Alternatively, you can click the KORG logo to get the popup menu, choose "Program List," and then choose an effect program from the program list that appears.

### Selecting the effect algorithm used by an effect program

When you click the effect algorithm name shown in the effect display, a popup menu will appear, allowing you to choose an effect algorithm.

### BYPASS

This bypasses the effect. When you click the LED it will light, and the effect will be bypassed.

## DRY/WET knob

Adjusts the balance between the effect sound and direct sound. The “DRY/WET” parameter can be controlled by Dynamic Modulation. To specify the dynamic modulation setting, double-click the knob. (☞ “About the Dynamic Modulation function”)

## INPUT slider [- ∞ ...+6 dB]

Adjusts the input level to the effect. Watch the input level meter located above the slider and listen to the audio output while you adjust this slider.

## OUTPUT slider [- ∞ ...+6 dB]

Adjusts the output level of the effect. Watch the output level meter located above the slider and listen to the audio output while you adjust this slider.

## Effect parameters

This area displays the parameters of the selected effect. Use the mouse to edit the parameters directly. For details on each effect, refer to “Effect parameters.”

## Popup menu

A popup menu will appear when you click the KORG logo of the effect.

### Copy MDE-X Program

Copies the effect settings to the clipboard.



### Paste MDE-X Program

Pastes the effect settings (copied previously by “Copy MDE-X Program”) from the clipboard to the effect from which you displayed the popup menu.

⚠ You won't be able to choose “Paste MDE-X Program” if the clipboard does not contain effect data.

## Program List

Displays a list of the effect programs used by each effect.

In this list you can select effects, write (update) an effect program, and load/save effect programs either individually or in banks.

## Saving an effect program

The effect programs you write will be lost when you exit the software.

If you want to keep the effect programs, you must save them on your computer as effect program data. As an example, here's how to store a single edited effect program on your computer.

- 1 Click the KORG logo to see the popup menu.
- 2 From the popup menu, choose "Program List."  
The effect program list will appear.



- 3 In the screen, click the [File] button.  
The [LoadBank], [SaveBank], [LoadProg], and [SaveProg] buttons will appear.



- 4 In the screen, click the [SaveProg] button.  
The SaveProg dialog box will appear.
  - 5 Input a filename, specify the location for saving, and click [Save].  
The single effect program will be saved on your computer as effect program data, with a filename extension of ".fxp".
- note** If you use [SaveBank] to save effect program data, all 128 effect programs will be saved, and the filename extension will be ".fxb".

## Global Settings

Here you can specify the MIDI control changes used for dynamic modulation, and specify the polarity of modulation.

Choose “Global Settings” from the popup menu to display the global settings.



### DYNAMIC MODULATION CONTROL CHANGE

**SOURCE 1–4** .....[CC#00...CC#95]

Here you can select the MIDI control change numbers that you want to use as the CC# for dynamic modulation. You can select up to four control change numbers.

**POLARITY** .....[+, +−]

Specifies the polarity of control.

With the + setting, operating the control in the positive direction (relative to the 0 value) will deepen the modulation effect. When the control is at 127, the modulation will be at the maximum depth.

With the +− setting, operating the control above or below the center position of 64 will apply modulation in the corresponding positive or negative amount. 127 is maximum, and 0 is minimum.

The factory-set defaults are; CC#1:Modulation(+), CC#2:Breath(+), CC#16(+−), and CC#17(+−).

### MIDI FILTER

**CTRL CHG** ..... [ENABLE, DISABLE]

Disables or enables MIDI control change reception.

**PROG CHG** ..... [ENABLE, DISABLE]

Disables or enables program change reception.

**AFTER T.** ..... [ENABLE, DISABLE]

Disables or enables aftertouch (channel pressure) reception.

### About MDE-X

Displays the version of the software and information about the effect plug-in.

## About the Dynamic Modulation function

Many effect parameters support Dynamic Modulation, allowing you to control these parameters from a connected external MIDI device while you perform. You can use this to make your performance more expressive. For example you might use aftertouch to control the chorus or flanger LFO speed, or use a CC# to control wah from a MIDI controller.

Of the effect parameters displayed, parameters whose knobs have an indicator on the ring support dynamic modulation. Double-click one of these knobs to view the dynamic modulation settings.



In most cases, dynamic modulation parameters consist of a “SOURCE” and “AMOUNT” settings. “SOURCE” selects the modulation source. Click “SOURCE” and choose a source from the menu that appears. “AMOUNT” specifies the amount of effect produced by dynamic modulation.

When the modulation source is at its maximum, the parameter value plus the “AMOUNT” value will be the actual value of the parameter.

For example with settings of “WET/DRY” **10:90**, “SOURCE” **After Touch**, and “AMOUNT” **+50**, the effect balance is normally **10:90**, but the proportion of effect sound will gradually increase as you apply aftertouch. When you are applying the maximum amount of aftertouch, the effect balance will be **60:40**.

**note** If you adjust the “AMOUNT” setting while dynamic modulation is being applied, the dynamic modulation effect will not change. The new setting will apply the next time you operate the dynamic modulation source.

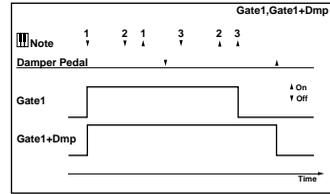
## DYNAMIC MODULATION SOURCE

The following dynamic modulation sources are available.

### Gate1, Gate1+Dmp (Gate1+ Damper)

**Gate1** uses note-on/off to control the parameter. The effect will be at maximum while the note is on, and will stop when note-off occurs.

**Gate1+Dmp** uses note-on/off + damper on/off to control the parameter. Even if note-off is received, the effect will continue at maximum until CC#64 (damper pedal) Off is received.

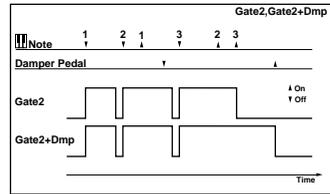


### Gate2, Gate2+Dmp (Gate2+Damper)

**Gate2** uses note-on/off (retriggered) to control the parameter.

**Gate2+Dmp** uses note-on + damper on/off (retriggered) to control the parameter.

These two sources operate in essentially the same way as Gate1 and Gate1+Dmp, but Gate2 and Gate2+Dmp will retrigger the target parameter at every note-on. (Gate1 and Gate1+Dmp retrigger only at the first note-on.)



### Note Number

Use the note number to control the parameter.

### Velocity

Use velocity to control the parameter.

### After Touch

Use aftertouch (channel pressure) to control the parameter.

### Pitch Bend

Use pitch bend to control the parameter.

### CC#00...CC#95

Use a MIDI control change to control the parameter. To specify the CC#s you want to use and the polarity for each CC#, click the KORG logo to open the popup menu, and choose "Global Settings."

## About the TEMPO SYNC function

You can use TEMPO SYNC on effects that have an LFO (such as a flanger) or on the LCR BPM Delay effect. This lets you apply modulation that is synchronized to the tempo, or specify the delay time in terms of a note value so that it will remain synchronized even if you adjust the tempo.

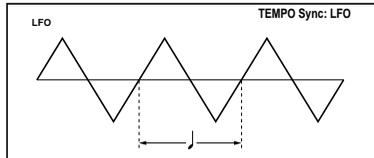
### Example 1. LFO

“TEMPO Sync”: **On**

“Base Note”: **1/4** (♩)

“Times”: **1**

In this example, one cycle of the LFO will be the same length as a quarter note.



### Example 2. Delay time

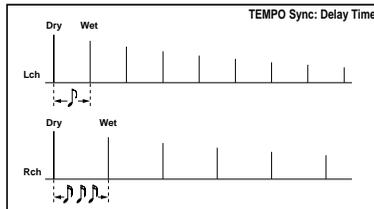
“L Delay Base Note”: **1/8** (♩)

“Times”: **1**

“R Delay Base Note”: **1/16** (♩)

“Times”: **3**

In this example, the left channel delay time is set to an eighth note, and the right channel delay time is set to a sixteenth note triplet.



**note** A “T” appended to the note value for “Base Note” indicates a triplet.

## Effect parameters

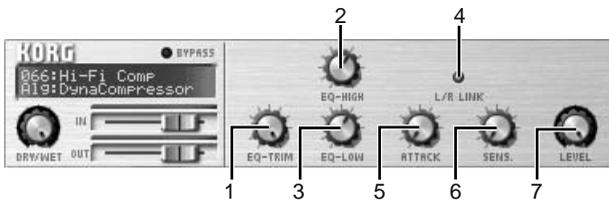
An effect program can use one of nineteen effect types.

**note** Parameters that support dynamic modulation are indicated by the  $D^{mod}$  symbol.

### No Effect

Choose this if you don't want to use an effect. The input will be output without change.

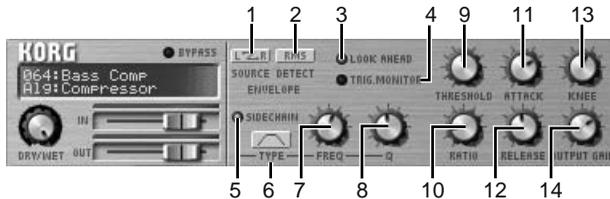
### DynaCompressor (DNC1)



This is a stereo compressor that compresses the input signal, making it more consistent and punchy. It is especially effective when used on piano or drums. Processing is performed in stereo, and you can link the left and right channels or use them independently.

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| <p><b>1. EQ-TRIM</b> .....[-24dB...0dB]<br/>Adjusts the input level to the equalizer.</p> <p><b>2. EQ-HIGH</b> .....[-15dB...+15dB]<br/>Adjusts the gain of the high-frequency equalizer.</p> <p><b>3. EQ-LOW</b> .....[-15dB...+15dB]<br/>Adjusts the gain of the low-frequency equalizer.</p> <p><b>4. L/R Link</b>..... [L R, L+R]<br/>Specifies whether the operation of the left and right channels will be linked, or whether they will operate independently.</p> <p><b>5. ATTACK</b> .....[0.1ms...500ms]<br/>Adjusts the strength of the compressor's attack.</p> | <p><b>6. SENS.</b> .....[1...100]<br/>Adjusts the sensitivity.</p> <p><b>7. LEVEL</b> (<math>D^{mod}</math>).....[0...100]<br/>Adjusts the output level.<br/>When you double-click the "LEVEL" knob, the following dynamic modulation parameters will appear.</p> <p><b>SOURCE</b> .....[Off, Gate1...CC#**]<br/>Selects the source that will modulate the output level.</p> <p><b>AMOUNT</b> .....[-100...+100]<br/>Specifies the amount by which the output level will be modulated.</p> |
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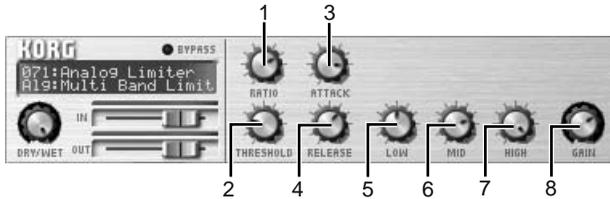
## Compressor (CP1)



This is a stereo compressor that compresses the portion of the sound that exceeds a specified level, preventing unwanted peaks from occurring. By applying a filter to the trigger signal you can freely specify the band to which the compressor responds. The left and right channels can also be linked.

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|---|--|
| <p><b>1. SOURCE</b> ..... [L, R, L R, L+R]<br/>Selects the input source whose level will be detected.</p> <p><b>2. DETECT</b> ..... [PEAK, RMS]<br/>Selects whether the level will be detected from the peak or from the RMS average.</p> <p><b>3. LOOK AHEAD</b> ..... [Off, On]<br/>Selects whether level detection will look ahead.</p> <p><b>4. TRIG.MONITOR</b> ..... [Off, On]<br/>Switches monitoring between the effect output and the trigger signal.</p> <p><b>5. SIDE CHAIN</b> ..... [Off, On]<br/>Switches the filter that is applied to the trigger signal.</p> <p><b>6. TYPE</b> .... [ \ (LPF), / (BPF), / (HPF), \ (BRF) ]<br/>Selects the type of filter applied to the trigger signal.</p> <p><b>7. FREQ</b> ..... [20.0Hz... 12.0kHz]<br/>Specifies the center frequency of the filter applied to the trigger signal.</p> | <p><b>8. Q</b> ..... [0.5...10.0]<br/>Adjusts the bandwidth of the filter applied to the trigger signal.</p> <p><b>9. THRESHOLD</b> ..... [-40.0dB...0.0dB]<br/>Adjusts the level at which compression will be applied.</p> <p><b>10. RATIO</b> ..... [1:1... ∞ :1]<br/>Adjusts the compression ratio.</p> <p><b>11. ATTACK</b> ..... [0.1ms...500.0ms]<br/>Adjusts the attack time.</p> <p><b>12. RELEASE</b> ..... [1.0ms...5000.0ms]<br/>Adjusts the release time.</p> <p><b>13. KNEE</b> ..... [0.0dB...30.0dB]<br/>Adjusts how suddenly the signal will be compressed. Higher settings of this parameter will produce softer compression.</p> <p><b>14. OUTPUT GAIN</b> ..... [- ∞ dB...+24.0dB]<br/>Adjusts the output gain.</p> |
|---|--|

## Multi Band Limiter (MBL1)



This is a stereo multi-band limiter that divides the input signal into low, mid, and high-frequency bands, and applies limiting to each band. Since this lets you control the dynamics independently for each frequency band, you can adjust the loudness of the low, mid, and high-frequency bands in a way unlike an equalizer.

**1. RATIO** ..... [1:1... ∞ :1]  
Adjusts the compression ratio.

**2. THRESHOLD** .....[-40.0dB...0.0dB]  
Adjusts the level at which compression will be applied.

**3. ATTACK** .....[0.1ms...500.0ms]  
Adjusts the attack time.

**4. RELEASE** .....[1.0ms...5000.0ms]  
Adjusts the release time.

**5. LOW** .....[-40.0dB...0.0dB]  
Adjusts the trigger signal gain for the low-frequency region.

**6. MID** .....[-40.0dB...0.0dB]  
Adjusts the trigger signal gain for the mid-frequency region.

**7. HIGH** .....[-40.0dB...0.0dB]  
Adjusts the trigger signal gain for the high-frequency region.

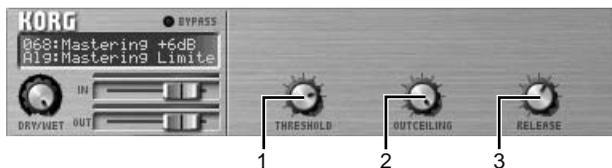
**8. GAIN** ( $D_{mod} \leq$ ) ..... [- ∞ dB...+24.0dB]  
Adjusts the output gain.  
When you double-click the “GAIN” knob, the following dynamic modulation parameters will appear.

**SOURCE** .....[Off, Gate1...CC#\*\*]  
Selects the source that will modulate the output gain.

**AMOUNT** .....[-100...+100]  
Specifies the amount by which the output gain will be modulated.

**note** If you want to avoid compressing a specific frequency region, lower the setting for that region to a point below the “THRESHOLD” level. With this setting, the limiter for that region will not respond, and compression will not be applied.

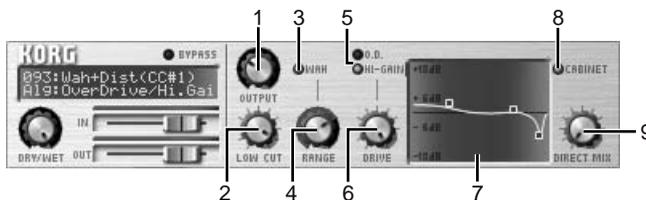
## Mastering Limiter (ML1)



This is a mastering limiter. You can use it effectively to make the sound subjectively louder, or to adjust the level.

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|--|---|
| <p><b>1. THRESHOLD</b> .....[-30.0dB...0.0dB]<br/>Adjusts the level at which compression will be applied. The output level will automatically increase by the amount of compression.</p> | <p><b>2. OUTCEILING</b> ..... [-30.0dB...0.0dB]<br/>Adjusts the output level.</p> |
| <p><b>3. RELEASE</b> ..... [0.01ms...1000.0ms]<br/>Adjusts the release time.</p>   |   |

## OverDrive/Hi. Gain + Wah (ODW1)



This is a distortion effect with two modes; overdrive and high-gain. It provides wah, a three-band equalizer, and an amp simulator to give you a wide range of distortion sounds. This effect is ideal for organ or guitar sounds.

- |  |  |
|--|--|
| <p><b>1. OUTPUT</b> (D<sup>mod</sup>) ..... [0.0...50.0]<br/>Adjusts the output level.<br/>“OUTPUT” is the input level to the three-band equalizer. If the signal clips in the three-band equalizer, adjust this “OUTPUT” parameter.<br/>When you double-click the “OUTPUT” knob, the following dynamic modulation parameters will appear.</p> | <p><b>SOURCE</b> ..... [Off, Gate1...CC#**]<br/>Selects the source that will modulate the output level.</p> <p><b>AMOUNT</b> ..... [-100...+100]<br/>Specifies the amount by which the output level will be modulated.</p> |
| <p><b>2. LOW CUT</b> ..... [THRU, 180.0Hz]<br/>Adjusts the amount of low-frequency cut that is applied at the input to the distortion. You can produce a sharper distortion by cutting the low-frequency before the signal enters the distortion unit.</p>   |  |

**3. WAH .....[Off, On]**

Switches the wah on/off.

**4. RANGE (D<sup>mod</sup>) .....[0.0...10.0]**

Adjusts the range over which the center frequency of the wah will be swept. When you double-click the “RANGE” knob, the following dynamic modulation parameter will appear.

**SOURCE.....[Off, Gate1...CC#\*\*]**

Selects the modulation source that will control the wah.

**5. TYPE.....[O.D., HI GAIN]**

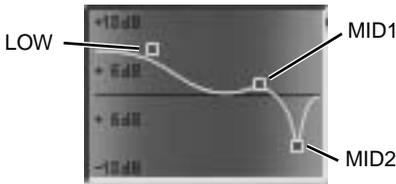
Switches between overdrive and high-gain distortion.

**6. DRIVE..... [1.0...100.0]**

Adjusts the depth of distortion. The depth of distortion is determined by the size of the input signal itself together with this “DRIVE” parameter. Since raising “DRIVE” will increase the overall volume, you’ll need to use “OUTPUT” to adjust the volume.

**7. 3 Band EQ**

This is a three-band EQ with LOW, MID1, and MID2. Set the three points by dragging them with the mouse. For LOW you can set the frequency and gain, and for MID1 and MID2 you can set the frequency, bandwidth, and gain.



Set the frequency (“FREQ”) by dragging a point to left/right, set the gain (“GAIN”) by dragging up/down, and set the bandwidth (“Q”) by holding down the [Alt] key (Mac: [Option] key) and dragging to left/right. For any of these parameters, you can make fine adjustments by holding down the [Shift] key while you drag.

**LOW**

**FREQ .....[20.0Hz...20.0kHz]**

Specifies the center frequency of the low-range equalizer band (shelving type).

**GAIN.....[-18.0dB...+18.0dB]**

Adjusts the gain of the low-range equalizer band.

**MID 1**

**FREQ .....[20.0Hz...20.0kHz]**

Specifies the center frequency of the MID1 equalizer band (peaking type).

**Q.....[0.50...10.00]**

Adjusts the bandwidth of the MID1 equalizer band.

**GAIN.....[-18.0dB...+18.0dB]**

Adjusts the gain of the MID1 equalizer band.

**MID 2**

**FREQ .....[20.0Hz...20.0kHz]**

Specifies the center frequency of the MID2 equalizer band (peaking type).

**Q.....[0.50...10.00]**

Adjusts the bandwidth of the MID2 equalizer band.

**GAIN.....[-18.0dB...+18.0dB]**

Adjusts the gain of the MID2 equalizer band.

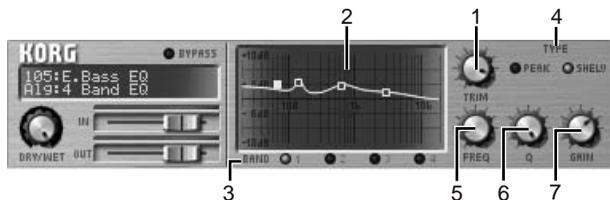
**8. CABINET ..... [Off, On]**

Switches the cabinet simulator on/off.

**9. DIRECT MIX .....[0.0...50.0]**

Adjusts the amount of direct sound that is mixed with the distortion.

## 4 Band EQ (EQ4)

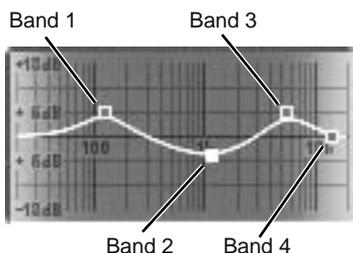


This is a stereo four-band parametric equalizer. Bands 1 and 4 allow you to choose either peaking or shelving types.

**1. TRIM**.....[-24.0dB...0.0dB]  
Adjusts the input level.

### 2. EQ display

Use the mouse to drag the four points that control band 1, band 2, band 3, and band 4. For each band, you can specify the frequency, bandwidth, and gain. To adjust the parameters of each band, use the mouse to drag the points in the “EQ display” located in the center. Alternatively, you can click one of the “BAND select” buttons located below the EQ display to select a band, and use the knobs to adjust the parameters of that band.



Set the frequency (“FREQ”) by dragging a point to left/right, set the gain (“GAIN”) by dragging up/down, and set the bandwidth (“Q”) by holding down the [Alt] key (Mac: [Option] key) and dragging to left/right. For any of these parameters, you can make fine adjustments by holding down the [Shift] key while you drag.

**3. BAND select** ..... [BAND1...BAND4]  
These buttons select the band adjusted by the knobs located at the right.

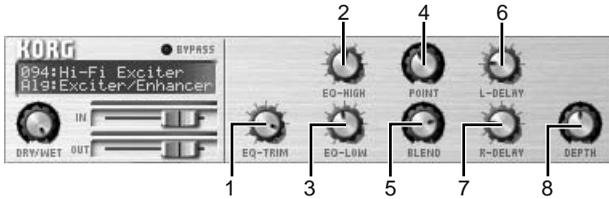
**4. BAND 1/4 TYPE** ..... [PEAK, SHELVE]  
Selects the filter type for band 1 and band 4. This parameter will be displayed and can be selected if band 1 or band 4 are selected in the EQ display “BAND select.”

**5. FREQ** ..... [20.0Hz...20.0kHz]  
Specifies the center frequency of each band. Use the EQ display or “BAND select” to select a band, and then adjust this parameter.

**6. Q**.....[0.50...10.00]  
Adjusts the bandwidth of each band. Use the EQ display or “BAND select” to select a band, and then adjust this parameter.

**7. GAIN** ..... [-18.0dB...+18.0dB]  
Adjusts the gain of each band. Use the EQ display or “BAND select” to select a band, and then adjust this parameter.

## Exciter/Enhancer (EXH1)



This effect combines an exciter which adds sparkle and improved definition to the sound, and an enhancer which adds spaciousness and presence.

**1. EQ-TRIM** .....[-24.0dB...0.0dB]  
Adjusts the input level to the equalizer.

**2. EQ-HIGH** .....[-15.0dB...+15.0dB]  
Adjusts the gain of the high-range equalizer.

**3. EQ-LOW** .....[-15.0dB...+15.0dB]  
Adjusts the gain of the low-range equalizer.

**4. POINT** ( $D_{mod}$ ) ..... [0.0...70.0]  
Specifies the frequency region that the exciter will emphasize. As you increase this value, the emphasized frequency region will extend further downward.

When you double-click the “POINT” knob, the following dynamic modulation parameters will appear.

**SOURCE**..... [Off, Gate1...CC#\*\*]  
Selects the source that will modulate the emphasized frequency region.

**AMOUNT** ..... [-100...+100]  
Specifies the amount by which the emphasized frequency region will be modulated.

**5. BLEND** ( $D_{mod}$ ) ..... [-100.0... 100.0]  
Adjusts the depth of the exciter effect. Positive (+) and negative (-) settings produce a different pattern of emphasized frequencies.

When you double-click the “BLEND” knob, the following dynamic modulation parameters will appear.

**SOURCE**..... [Off, Gate1...CC#\*\*]  
Selects the source that will modulate the depth of the exciter effect.

**AMOUNT** ..... [-100...+100]  
Specifies the amount by which the depth of the exciter effect will be modulated.

**6. L-DELAY** ..... [0.0ms...50.0ms]  
Specifies the delay time for the left channel of the exciter. You can control the sense of stereo or the sense of depth by slightly skewing the left and right delay times.

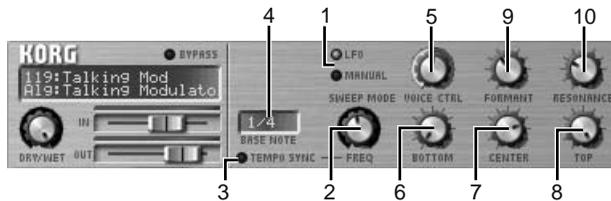
**7. R-DELAY** ..... [0.0ms...50.0ms]  
Specifies the delay time for the right channel of the exciter.

**8. DEPTH** ( $D_{mod}$ ) ..... [0.0... 100.0]  
Adjusts the depth of the enhancer effect. When you double-click the “DEPTH” knob, the following dynamic modulation parameters will appear.

**SOURCE** ..... [Off, Gate1...CC#\*\*]  
Selects the source that will modulate the depth of the enhancer effect.

**AMOUNT** ..... [-100...+100]  
Specifies the amount by which the depth of the enhancer effect will be modulated.

## Talking Modulator (TM1)



This effect applies a human vocal character to the input signal. By using dynamic modulation to vary the tone, you can create the impression of a “talking” synthesizer or guitar

**1. SWEEP MODE** ..... [LFO, MANUAL]  
Selects whether the effect will be controlled by a modulation source or by the LFO.

**2. FREQ** (D<sub>mod</sub>) ..... [0.02Hz...20.0Hz/1...16]  
Adjusts the LFO speed.  
When you double-click the “FREQ” knob, the following dynamic modulation parameters will appear.

**SOURCE** ..... [Off, Gate1...CC#\*]  
Selects the source that will modulate the LFO speed.

**AMOUNT** ..... [-100...+100]  
Specifies the amount by which the LFO speed will be modulated.

**3. TEMPO SYNC** ..... [Off, On]  
If this is **Off**, the LFO speed will be the frequency specified by “FREQ”. If this is **On**, the LFO speed will be the cycle length specified by the “BASE NOTE” and “FREQ” parameters, relative to the tempo specified by the host application.

**4. BASE NOTE** ..... [1/16...1/1]  
Selects the note value in terms of which the LFO speed will be specified.

**5. VOICE CTRL** (D<sub>mod</sub>) ..... [Bottom...Center...Top]  
Controls the vocal character.  
When you double-click the “VOICE CTRL” knob, the following dynamic modulation parameter will appear.

**SOURCE** ..... [Off, Gate1...CC#\*]  
Selects the source that will modulate the vocal character.

**6. BOTTOM** ..... [a, i, u, e, o]  
Specifies the vowel at the bottom of the control range.

**7. CENTER** ..... [a, i, u, e, o]  
Specifies the vowel at the center of the control range.

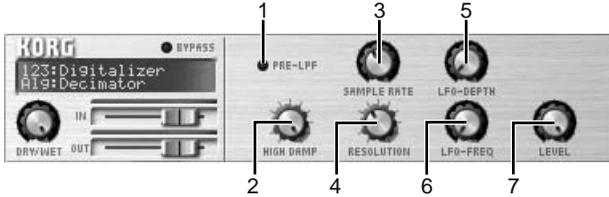
**8. TOP** ..... [a, i, u, e, o]  
Specifies the vowel at the top of the control range.

Example: if you’ve set “TOP” to a, “CENTER” to i, and “BOTTOM” to u  
With “SWEEP MODE” set to **MANUAL**, and **Pitch Bend** assigned as the dynamic modulation source for “VOICE CTRL,” moving the pitch bend wheel from top to bottom will cause the vocal character to shift from “aah” to “eeh” to “ooh”.  
If you set “SWEEP MODE” to LFO, the LFO will cyclically vary the vocal character through the range “aah,” “eeh,” “ooh,” “eeh,” “aah” ...

**9. FORMANT** ..... [-100.0...+100.0]  
Adjusts the frequency range at which the effect is applied. Set this to a larger value if you want to apply the effect to higher pitches, or set it to a lower value if you want to apply the effect to lower pitches.

**10. RESONANCE** ..... [0.0...100.0]  
Adjusts the strength of resonance. Increasing this value will give the sound a more distinctive character.

## Decimator (DCM1)



This effect lowers the sampling frequency or bit-depth of the data, giving the sound a rougher character reminiscent of an inexpensive sampler. The typical noise of a sampler is also simulated.

**1. PRE-LPF** .....[Off, On]

Selects whether the high-frequency aliasing noise produced by down-sampling will be present. On samplers with a low sampling frequency, inputting a high-frequency sound that is too high for the sampler to play back correctly will generate a noise whose pitch is unrelated to the original sound. Turning “PRE-LPF” **On** will limit the occurrence of this noise.

If you set “SAMPLE RATE” to about 3 kHz and turn “PRE-LPF” **Off**, a ring-modulator-like sound will be produced.

**2. HIGH DAMP** ..... [20Hz...Thru]

Adjusts the amount of the high-frequency range that will be cut.

**3. SAMPLE RATE** ( $D_{mod}$ ) ..... [1.0kHz...48.0 kHz]

Specifies the sampling frequency  
When you double-click the “FS” knob, the following dynamic modulation parameters will appear.

**SOURCE**.....[Off, Gate1...CC#\*\*]

Selects the source that will modulate the sampling frequency.

**AMOUNT** ..... [-100...+100]

Specifies the amount by which the sampling frequency will be modulated.

**4. RESOLUTION** .....[4bit...24bit]

Specifies the bit-depth. Lower settings will produce a rougher and more distorted sound. Since this setting will affect the volume, you’ll need to use “LEVEL” to re-adjust the volume.

**5. LFO-DEPTH** ( $D_{mod}$ ).....[0.0...100.0]

Adjusts the depth to which the LFO will modulate the sampling frequency.  
When you double-click the “FREQ” knob, the following dynamic modulation parameters will appear.

**SOURCE** .....[Off, Gate1...CC#\*\*]

Selects the source that will modulate the LFO speed.

**AMOUNT** ..... [-100...+100]

Specifies the amount by which the LFO speed will be modulated.

**6. LFO-FREQ** ( $D_{mod}$ ) .....[0.02Hz...20.0Hz]

Adjusts the LFO speed.  
When you double-click the “DEPTH” knob, the following dynamic modulation parameters will appear.

**SOURCE** .....[Off, Gate1...CC#\*\*]

Selects the source that will modulate the LFO modulation depth.

**AMOUNT** ..... [-100...+100]

Specifies the amount by which the LFO modulation depth will be modulated.

**7. LEVEL** ( $D_{mod}$ ).....[0.0...100.0]

Adjusts the output level.  
When you double-click the “LEVEL” knob, the following dynamic modulation parameters will appear.

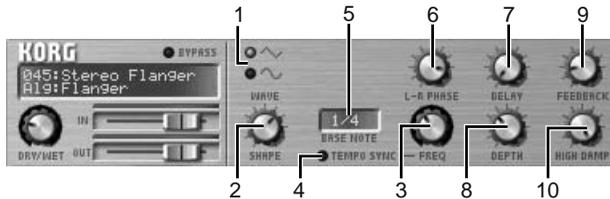
**SOURCE** .....[Off, Gate1...CC#\*\*]

Selects the source that will modulate the output level.

**AMOUNT** ..... [-100...+100]

Specifies the amount by which the output level will be modulated.

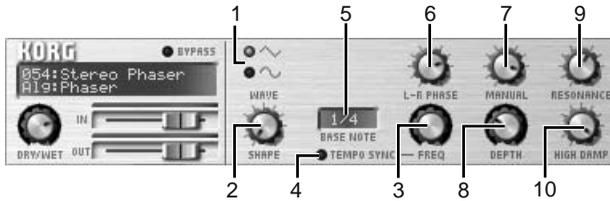
## Flanger (FL1)



This effect adds an intense sensation of modulation and pitch movement. It is effective when applied to sounds that contain a rich overtone structure. This is a stereo effect, and you can skew the LFO between left and right to control the spaciousness of the effect.

- 1. WAVE** ..... [Tri, Sin]  
Selects the LFO waveform.
- 2. SHAPE** ..... [-100.0...+100.0]  
Specifies the degree to which the LFO waveform will be deformed.
- 3. FREQ** ( $D^{mod}$ ) ..... [0.02Hz...20.0Hz/1...16]  
Adjusts the LFO speed.  
When you double-click the “FREQ” knob, the following dynamic modulation parameters will appear.
- SOURCE** ..... [Off, Gate1...CC#\*\*]  
Selects the source that will modulate the LFO speed.
- AMOUNT** ..... [-100...+100]  
Specifies the amount by which the LFO speed will be modulated.
- 4. TEMPO SYNC** ..... [Off, On]  
If this is **Off**, the LFO speed will be the frequency specified by “FREQ”. If this is **On**, the LFO speed will be the cycle length specified by the “BASE NOTE” and “FREQ” parameters, relative to the tempo specified by the host application.
- 5. BASE NOTE** ..... [1/16...1/1]  
Selects the note value in terms of which the LFO speed will be specified.
- 6. L-R PHASE** ..... [-180.0...+180.0]  
Specifies the phase difference between the left and right LFO.
- 7. DELAY** ..... [0.0ms...50.0ms]  
Specifies the delay time from the original sound.
- 8. DEPTH** ..... [0.0...100.0]  
Adjusts the LFO modulation depth.
- 9. FEEDBACK** ..... [-100.0...+100.0]  
Adjusts the amount of feedback.
- 10. HIGH DAMP** ..... [20.0Hz...THRU]  
Adjusts the amount of high-frequency attenuation for the feedback.

## Phaser (PS 1)



This is a stereo phaser effect that shifts the phase of the sound to create a sense of modulation. It is particularly effective when applied to electric piano sounds. You can skew the LFO between left and right to control the spaciousness of the effect.

**1. WAVE** ..... [Tri, Sin] Selects the LFO waveform.

**2. SHAPE** ..... [-100.0...+100.0] Specifies the degree to which the LFO waveform will be deformed.

**3. FREQ (D<sup>mod</sup>)** ..... [0.02Hz...20.0Hz/1...16] Adjusts the LFO speed. When you double-click the “FREQ” knob, the following dynamic modulation parameters will appear.

**SOURCE** ..... [Off, Gate1...CC#\*\*] Selects the source that will modulate the LFO speed.

**AMOUNT** ..... [-100...+100] Specifies the amount by which the LFO speed will be modulated.

**4. TEMPO SYNC** ..... [Off, On] If this is **Off**, the LFO speed will be the frequency specified by “FREQ”. If this is **On**, the LFO speed will be the cycle length specified by the “BASE NOTE” and “FREQ” parameters, relative to the tempo specified by the host application.

**5. BASE NOTE** ..... [1/16...1/1] Selects the note value in terms of which the LFO speed will be specified.

**6. L-R PHASE** ..... [-180.0...+180.0] Specifies the phase difference between the left and right LFO.

**7. MANUAL** ..... [0.0...100.0] Specifies the frequency at which the effect will be applied.

**8. DEPTH (D<sup>mod</sup>)** ..... [0.0...100.0] Adjusts the LFO modulation depth. When you double-click the “DEPTH” knob, the following dynamic modulation parameters will appear.

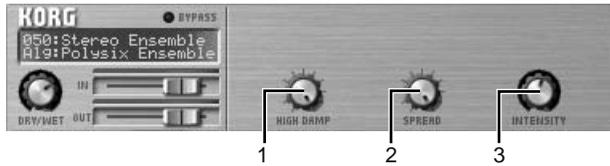
**SOURCE** ..... [Off, Gate1...CC#\*\*] Selects the source that will modulate the LFO modulation depth.

**AMOUNT** ..... [-100...+100] Specifies the amount by which the LFO modulation depth will be modulated.

**9. RESONANCE** ..... [-100.0...+100.0] Adjusts the amount of resonance. Positive (+) and negative (-) settings will cause the peak to occur in different ways. If you want the overtones to be emphasized when the direct sound and effect sound are mixed, set “RESONANCE” and “WET/DRY” both to positive (+) values or both to negative (-) values.

**10. HIGH DAMP** ..... [20.0Hz...THRU] Adjusts the cutoff frequency for the high-frequency attenuation applied to the resonance.

## Polysix Ensemble (PES1)



This simulates the ensemble effect built into the Polysix, producing a rich chorus sound. You can skew the LFO between left and right to control the spaciousness of the effect.

### 1. HIGH DAMP.....[20.0Hz...THRU]

Adjusts the attenuation of the high-frequency region.

### 2. SPREAD .....[0.0...10.0]

Adjusts the panning of the effect sound.

### 3. INTENSITY (D<sup>mod</sup>) .....[0.0...10.0]

Adjusts the depth of the effect.

When you double-click the “INTENSITY” knob, the following dynamic modulation parameters will appear.

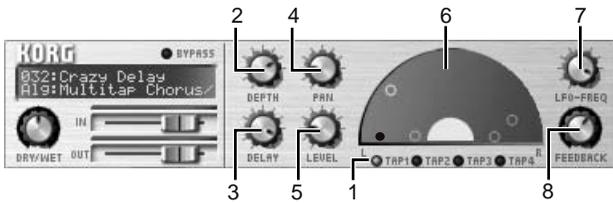
#### SOURCE.....[Off, Gate1...CC#\*\*]

Selects the source that will modulate the effect depth.

#### AMOUNT..... [-100...+100]

Specifies the amount by which the effect depth will be modulated.

## MultiTap Chorus/Delay (DLM1)



This is a tap delay with four choruses of differing LFO phase. By specifying the delay time, modulation depth, output level, and panning independently for each chorus, you can create a complex sense of stereo. You can also fix several of the choruses, and use this as an effect that combines chorus and delay.

**1. TAP select** ..... [TAP1...TAP4]

Selects the tap delay that you want to adjust. You can set the “DEPTH,” “DELAY,” “PAN,” and “LEVEL” parameters for the selected tap delay.

- TAP1: LFO phase = 0 degrees
- TAP2: LFO phase = 180 degrees
- TAP3: LFO phase = 90 degrees
- TAP4: LFO phase = 270 degrees

**2. DEPTH** ..... [0.0...30.0]

Adjusts the modulation depth of the chorus.

**3. DELAY** ..... [1.0ms...570.0ms]

Adjusts the delay time.

**4. PAN** ..... [L6.00...R6.00]

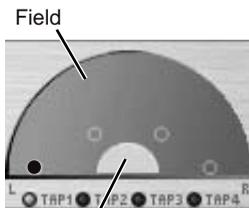
Adjusts the stereo position.

**5. LEVEL** ..... [0.0...30.0]

Adjusts the output level.

**6. DELAY/PAN display**

This area shows the “DELAY” and “PAN” settings for each tap delay in a semi-circular field.



Original sound

The tap delay settings selected by “TAP select” are indicated by the ● symbol, and the others are indicated by the ○ symbols. As the “DELAY” setting is increased, the ● and ○ symbols will move farther from the original sound (shown in the field as a semi-circle). The symbols will be located between left and right according to the “PAN” setting.

You can also drag the ○ or ● symbols to set the “DELAY” and “PAN” of the corresponding tap delay.

**7. LFO FREQ** ..... [0.02Hz...13.0Hz]

Specifies the LFO speed.

**8. FEEDBACK (D<sup>mod</sup>)** ..... [-100.0...+100.0]

Adjusts the amount of feedback for the TAP1 delay.

When you double-click the “FEEDBACK” knob, the following dynamic modulation parameters will appear.

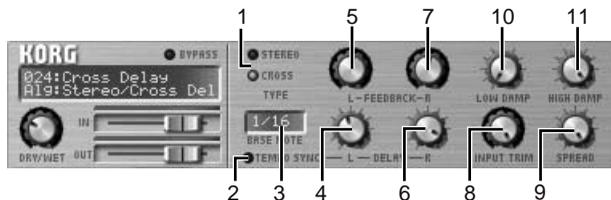
**SOURCE** ..... [Off, Gate1...CC#\*]

Selects the source that will modulate the feedback amount.

**AMOUNT** ..... [-100...+100]

Specifies the amount by which the feedback amount will be modulated.

## Stereo/Cross Delay (DLC1)



This is a stereo delay. You can also change the feedback connection and use it as a cross-feedback delay in which the delay sound alternates between left and right.

**1. TYPE**..... [STEREO, CROSS]  
Selects either stereo delay or cross-feedback delay.

**2. TEMPO SYNC**.....[Off, On]  
If this is **Off**, the delay time will be specified by “DELAY-L” or “DELAY-R.” If this is **On**, the delay time will be specified by the “BASE NOTE” and “DELAY-L” or “DELAY-R” parameters, relative to the tempo specified by the host application.

**3. BASE NOTE**..... [1/16...1/1]  
Selects the note value in terms of which the delay time will be specified.

**4. DELAY-L** .....[0ms...680ms]  
Specifies the delay time for the left channel.

**5. FEEDBACK-L** ( $D^{mod}$ ) ..... [-100.0...+100.0]  
Adjusts the amount of feedback for the left channel.  
When you double-click the “FEEDBACK-L” knob, the following dynamic modulation parameters will appear.

**SOURCE**.....[Off, Gate1...CC#\*\*]  
Selects the source that will modulate the feedback amount.

**AMOUNT**..... [-100...+100]  
Specifies the amount by which the feedback will be modulated.

**6. DELAY-R**.....[0ms...680ms]  
Specifies the delay time for the right channel.

**7. FEEDBACK-R** ( $D^{mod}$ ) .....[-100.0...+100.0]  
Adjusts the amount of feedback for the right channel.  
When you double-click the “FEEDBACK-R” knob, the following dynamic modulation parameters will appear.

**SOURCE** ..... [Off, Gate1...CC#\*\*]  
Selects the source that will modulate the feedback amount.

**AMOUNT** ..... [-100...+100]  
Specifies the amount by which the feedback amount will be modulated.

**8. INPUT TRIM** ( $D^{mod}$ ).....[0.0...100.0]  
Adjusts the input level.  
When you double-click the “INPUT TRIM” knob, the following dynamic modulation parameters will appear.

**SOURCE** ..... [Off, Gate1...CC#\*\*]  
Selects the source that will modulate the input level.

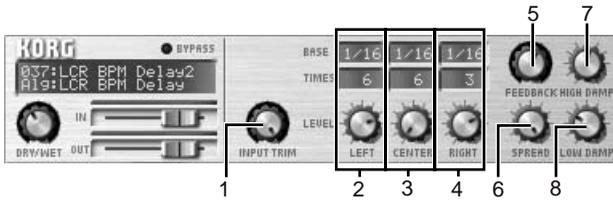
**AMOUNT** ..... [-100...+100]  
Specifies the amount by which the input level will be modulated.

**9. SPREAD**.....[0.0...50.0]  
Adjusts the width to which the effect sound will be panned.

**10. LOW DAMP** ..... [1.00Hz...5.30kHz]  
Specifies the cutoff frequency for the low-frequency attenuation.

**11. HIGH DAMP** ..... [20.0Hz...THRU]  
Specifies the cutoff frequency for the high-frequency attenuation.

## LCR BPM Delay (DLB1)



This is an LCR delay in which the delay time can be synchronized to the song tempo. You can synchronize to MIDI clock, or input the tempo beforehand to synchronize to a realtime performance. The delay time can be specified in terms of a note value.

**1. INPUT TRIM (D<sup>mod</sup>)** ..... [0.0...100.0]

Adjusts the amount of modulation for the input level.

When you double-click the “INPUT TRIM” knob, the following dynamic modulation parameters will appear.

**SOURCE**..... [Off, Gate1...CC#\*\*]

Selects the source that will modulate the input level.

**AMOUNT** ..... [-100...+100]

Specifies the amount by which the input level will be modulated.

**2. LEFT**

Specifies the delay time for the left channel tap delay.

**BASE** ..... [1/16...1/1]

Selects the note value in terms of which the delay time will be specified.

**TIMES** ..... [1...16]

Specifies the delay time as a multiple of the above note value.

**3. CENTER**

Specifies the delay time for the center channel tap delay.

**BASE** ..... [1/16...1/1]

Selects the note value in terms of which the delay time will be specified.

**TIMES** ..... [1...16]

Specifies the delay time as a multiple of the above note value.

**4. RIGHT**

Specifies the delay time for the right channel tap delay.

**BASE**..... [1/16...1/1]

Selects the note value in terms of which the delay time will be specified.

**TIMES**..... [1...16]

Specifies the delay time as a multiple of the above note value.

**5. FEEDBACK (D<sup>mod</sup>)** ..... [-100.0...+100.0]

Adjusts the amount of feedback for the center channel tap delay.

When you double-click the “FEEDBACK” knob, the following dynamic modulation parameters will appear.

**SOURCE** ..... [Off, Gate1...CC#\*\*]

Selects the source that will modulate the feedback amount.

**AMOUNT** ..... [-100...+100]

Specifies the amount by which the feedback amount will be modulated.

**6. SPREAD**..... [0.0...50.0]

Adjusts the width to which the effect sound will be panned.

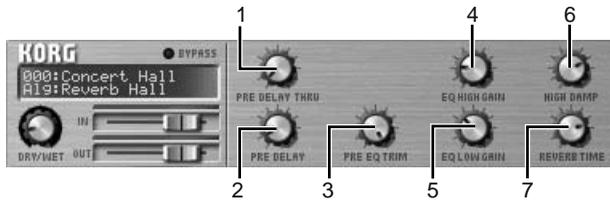
**7. HIGH DAMP** ..... [20.0Hz...THRU]

Specifies the cutoff frequency for the high-frequency attenuation.

**8. LOW DAMP**..... [1.00Hz...5.30kHz]

Specifies the cutoff frequency for the low-frequency attenuation.

## Reverb Hall (RVH1)



This is a hall-type reverb that simulates the reverberation of a mid-sized concert hall or ensemble hall.

- |   |  |
|---|--|
| <p><b>1. PRE DELAY THRU</b> .....[0.0%...100.0%]<br/>Adjusts the proportion of undelayed sound that will be mixed. This lets you emphasize the attack.</p> <p><b>2. PRE DELAY</b> .....[0.0ms...200.0ms]<br/>Specifies the delay time that follows the direct sound. This controls the spaciousness of the hall.</p> <p><b>3. PRE EQ TRIM</b>.....[-24.0dB...0.0dB]<br/>Adjusts the input level to the equalizer.</p> | <p><b>4. EQ HIGH GAIN</b>..... [-15.0dB...+15.0dB]<br/>Adjusts the gain of the high-frequency equalizer.</p> <p><b>5. EQ LOW GAIN</b> ..... [-15.0dB...+15.0dB]<br/>Adjusts the gain of the low-frequency equalizer.</p> <p><b>6. HIGH DAMP</b> ..... [20.0Hz...THRU]<br/>Specifies the cutoff frequency for the high-frequency attenuation.</p> <p><b>7. REVERB TIME</b> ..... [0.10s... 10.00s]<br/>Specifies the reverb time.</p> |
|---|--|

## Reverb Smooth Hall (RVH2)



This is a hall-type reverb that simulates the reverberation of a large hall or stadium, producing reverberation that has a smooth release.

The effect parameters are the same as for Reverb Hall.

## Reverb Wet Plate (RVP1)



This is a plate reverb that produces a warm and dense reverberation effect. The effect parameters are the same as for Reverb Hall.

## Reverb Dry Plate (RVP2)



This is a plate reverb that produces a dry-sounding (light) reverberation effect. The effect parameters are the same as for Reverb Hall.

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