

# DiscLab

## Newly Added Functions Ver.1.5

As the result of recent upgrades, the descriptions in the Owner's Manual may not accurately represent the performance of some of the features of the CDX-1. To make sure you are fully aware of the newly added functionality, please read this booklet in conjunction with the Owner's Manual while you use the CDX-1.

### ❖ CONTENTS ❖

#### Sample Pad

Compressing/expanding a sample according to the tempo at which playback was stopped .....	2
Modifying the pitch of a sample to create a new sample—Pitch Change .....	3
Making fine adjustments to the location at which a sample starts/ends .....	4
Adjusting the crossfade time .....	6

#### Sequence Track

Exchanging the contents of sequence tracks—Exchange Track .....	7
Copying the contents of a sequence track—Copy Track .....	8
Editing a specified region of a sequence track—Region In/Out .....	9

#### Multitrack Recorder

Muting (silencing) a specific audio track.....	13
Using [STATUS] to select the track whose parameters you want to adjust .....	14
Preventing tempo data from being read from a CD-RW disc .....	15
Using the tempo of a sample to modify the tempo map .....	16
Using Pads/Sequences while you mix down .....	17

#### Effect

Editing the Mastering Tool settings .....	18
Saving the mastering tool settings .....	19
Mastering Tools parameter list .....	20

#### Others

Remembering the icon that was last selected in a menu screen .....	23
Synchronization with a Sequence or Drum Machine.....	24

Copyright © 2001 ROLAND CORPORATION

All rights reserved. No part of this publication may be reproduced in any form without the written permission of ROLAND CORPORATION.

Roland Web Site: <http://www.roland.co.jp/>

# Compressing/expanding a sample according to the tempo at which playback was stopped

While playback is stopped, you can adjust the length of the sample according to the tempo of the location at which playback was stopped.

This function makes it easy to adjust the sample length to match the tempo of a sequence track. This provides an easy way by which the length of a sample recorded in a sequence track can be made to match the length of a measure in that sequence track.

The tempo at the point that playback is stopped will be one of the following.

- The tempo displayed in “Tempo” of the Rhythm Guide screen.
- If the “Beat” parameter in the Rhythm Guide screen is set to “TEMPO MAP,” the tempo of the Tempo Map.

Since this function needs to accurately calculate the tempo in order to perform a high-quality compression or expansion, **you must first perform the procedure of “Displaying the correct tempo of a sample” (Owner’s Manual; p. 77) to specify the number of beats in the original sample.**

In the case of samples for which it is difficult to calculate a tempo, such as a narration, vocal part, or a long sustained sound, set the number of beats to 0.

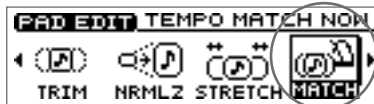
1. Press PAD RECORDING [TEMPO MATCH] twice.

Alternatively, press [TEMPO MATCH] and then press CURSOR [ ] .

The Pad Edit menu are displayed as icons.



2. Press CURSOR [ ] [ ] to select the Tempo Match Now icon.



3. Press [YES/ENTER].

The Tempo Match Now screen appears.



4. Press CURSOR [ ] [ ] [ ] [ ] to select the pad bank number and pad number for each item, and specify the desired number for each.

To set the pad bank number, turn the TIME/VALUE dial. To set the pad number, either press a pad or turn the TIME/VALUE dial.

**Source:** Specify the sample whose length you want to adjust.

**To:** Specify the pad to which the length-adjusted sample will be assigned.

5. Press [YES/ENTER].

After a while, the expand/compress sample is assigned to the destination pad.

\* If the destination pad already contains a sample, the “Overwrite?” message appears. If it is OK to overwrite the existing sample, press [YES/ENTER]. If you do not want to overwrite the existing sample, press [NO/EXIT].

6. Press [DISPLAY] to return to the Basic screen.



Compression/expansion requires more processing time than other sample editing operations. Also, the audio quality of the stretched sample may be inferior to that of the original sample.



In case the expanding/expanding level is in excess of 134% or less than 67%, the sample will not be made correct tempo.

# Modifying the pitch of a sample to create a new sample—Pitch Change

You can modify the pitch of a sample to create a new sample.

1. Press PAD RECORDING [TEMPO MATCH] twice.

Alternatively, press [TEMPO MATCH] and then press CURSOR [ ] .

The Pad Edit menu are displayed as icons.

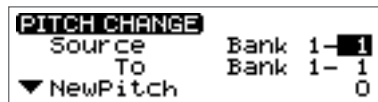


2. Press CURSOR [ ] [ ] to select the Pitch Change icon.



3. Press [YES/ENTER].

The Pitch Change screen appears.



4. Press CURSOR [ ] [ ] [ ] [ ] to select the pad bank number and pad number for each item, and specify the desired number for each.

To set the pad bank number, turn the TIME/VALUE dial. To set the pad number, either press a pad or turn the TIME/VALUE dial.

**Source:** Specify the sample whose pitch you want to adjust.

**To:** Specify the pad to which the pitch-adjusted sample will be assigned.

5. Press CURSOR [ ] to move the cursor to “NewPitch” line. Turn to TIME/VALUE dial to set the interval of the pitch changing by semitone unit.
6. Press CURSOR [ ] to move the cursor to “P.Fine” line. Turn the TIME/VALUE dial to make fine adjustments in one-cent units (1/100th of a semitone) to the amount of change from the original pitch.

7. Press CURSOR [ ] move the cursor to “Grade” line. Turn to TIME/VALUE dial to select the quality of the sound after the pitch changing process, adjustable in three levels.

“Grade” can be set in three levels (1-3) to specify the quality of the resulting sound. Higher settings will require more processing time.

8. Press [YES/ENTER].

After a while, the changing pitch sample is assigned to the destination pad.

\* If the destination pad already contains a sample, the “Overwrite?” message appears. If it is OK to overwrite the existing sample, press [YES/ENTER]. If you do not want to overwrite the existing sample, press [NO/EXIT].

9. Press [DISPLAY] to return to the Basic screen.

## NOTE

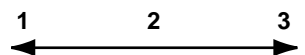
Pitch Change requires more processing time than other sample editing operations. Also, the audio quality of the stretched sample may be inferior to that of the original sample.

## MEMO

1 semitone = 100 cents

## MEMO

“Grade”



For sound with a sharp attack.

For sound with a dull attack.

# Making fine adjustments to the location at which a sample starts/ends

When you arrange samples in a sequence track to create a song, you will sometimes need to make fine adjustments to the sample's start/loop points, or to its length. By using the {Preview function} or {Scrub function}, you can make precise and detailed adjustments while listening to the sound.

## Specifying a point while you listen to the sound before and after it—Preview

The preview button [TO] means “To Now” (to the point). Each time you press [TO], a brief region of sound (one second) ending at that point will be played. By turning the TIME/VALUE dial to move the point back and forth while listening to this sound, you can easily make accurate adjustments to the point.

When you press the preview button [FROM], the preview function will play “From Now” (from the point), allowing you to hear a brief region of sound (one second) beginning at that point.

1. Press PAD RECORDING [TEMPO MATCH] twice.

Alternatively, press [TEMPO MATCH] and then press CURSOR [  ].

The Pad Edit menu are displayed as icons.





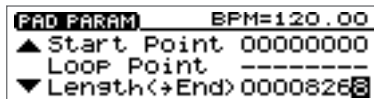
2. Press CURSOR [  ] [  ] to select the Pad Parameter icon.



3. Press [YES/ENTER].

The Pad Parameter screen appears.

4. Press CURSOR [  ] [  ] to move the cursor to the point “Start Point,” “Loop Point,” or “Length(→End)” you want to adjust.



5. Press PREVIEW [TO] or [FROM] to play back the sound as described below.

[TO]: Playback once from one second before the current point to the current point.

[FROM]: Playback once from the current location to one second after the current location.

6. While listening to the sound, turn the TIME/VALUE dial to make fine adjustments to the current point.

7. Press [DISPLAY] to return to the Basic screen.



For details on the Start/Loop point and Length, refer to “What are the Start/Loop point and Length” (Owner’s Manual; p. 78).



The sample waveform will not be displayed for PREVIEW [TO] [FROM] operations.

## Using scrub to set a point—Scrub Preview

Scrub Preview repeatedly plays an extremely brief region (45 milliseconds) either before or after the point. At the same time, the sample waveform will be displayed in the screen. While monitoring the displayed waveform and the sound, you can turn the TIME/VALUE dial to easily make precise adjustments to the point.

1. Press **PAD RECORDING [TEMPO MATCH]** twice.

Alternatively, press [TEMPO MATCH] and then press **CURSOR [ ]**.

The Pad Edit menu are displayed as icons.



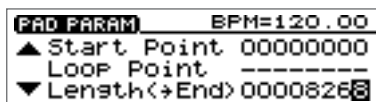
2. Press **CURSOR [ ] [ ]** to select the Pad Parameter icon.



3. Press **[YES/ENTER]**.

The Pad Parameter screen appears.

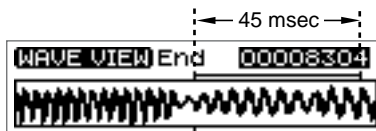
4. Press **CURSOR [ ] [ ]** to move the cursor to the point “Start Point,” “Loop Point,” or “Length(→End)” you want to adjust.



5. Press **[SCRUB]**.

[SCRUB] lights, the Wave View screen appears.

The sound either before or after the point will play repeatedly.



6. While monitoring the sound and the screen, turn the TIME/VALUE dial to make fine adjustments to the point.

As necessary, you can switch the region that is repeated, or switch the screen display.

**[TO]:** Repeatedly play from a point 45 milliseconds before the current point, up to the current point.

**[FROM]:** Playback once from the current point to one second after the current point.

**CURSOR [ ]:** Expand the waveform vertically (amplitude axis).

**CURSOR [ ]:** Shrink the waveform vertically (amplitude axis).

**CURSOR [ ]:** Expand the waveform horizontally (time axis).

**CURSOR [ ]:** Shrink the waveform horizontally (time axis).

7. Press **[SCRUB]**.

[SCRUB] go out, the Pad Parameter screen reappears.

8. Press **[DISPLAY]** to return to the Basic screen.

# Adjusting the crossfade time

You can adjust the time over which two pads will be exchanged by the Pad Crossfade function (Owner's Manual; p. 71).

1. Press [UTILITY].

The Menu are displayed as icon.

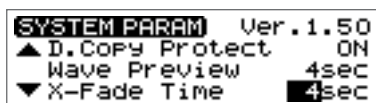
2. Press CURSOR [  ] [  ] to select the System icon.



3. Press [YES/ENTER].

The System Parameter screen appears.

4. Press CURSOR [  ] to move the cursor to "X-Fade Time" line.



5. Turn the TIME/VALUE dial to select the crossfade time: "1sec"-"10sec" (units: second).
6. Press [DISPLAY] to return to the Basic screen.

# Exchanging the contents of sequence tracks —Exchange Track

A sequence track and its corresponding audio track cannot be played back at the same time. For example, sequence track A and audio tracks 1-2 cannot be played back simultaneously. In such cases, you can exchange the contents of the sequencer track with another track, so that the sequence track and audio tracks can be played simultaneously.

1. Press **PAD SEQUENCING [EDIT]**.

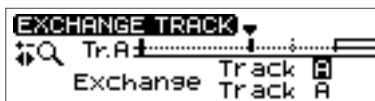
[EDIT] lights, and the Sequence Edit menu are displayed as icons.



2. Press **CURSOR** [  ] [  ] to select the **Exchange Track** icon.



3. Press **[YES/ENTER]**.

The Exchange Track screen appears.



4. Press **CURSOR** [  ] [  ] to move the cursor, and turn the **TIME/VALUE** dial to specify the two sequence tracks that are exchanged.
5. Press **[YES/ENTER]**.  
The two sequence tracks are exchanged.
6. Press **[DISPLAY]** return to the **Basic** screen.



For details, refer to “Playing sequence tracks and audio tracks simultaneously” (Owner’s Manual; p. 97).



When you carry out the Exchange Track procedure, the entire contents of the sequence tracks will be exchanged. It is not possible to specify a region of time that will be exchanged.



The status data of the sequence tracks will also be exchanged.

# Copying the contents of a sequence track —Copy Track

The contents of a sequence track can be copied to another sequence track.

1. Press **PAD SEQUENCING [EDIT]**.

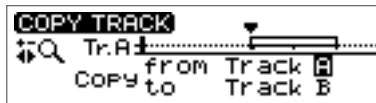
[EDIT] lights, and the Sequence Edit menu are displayed as icons.

2. Press **CURSOR [◀] [▶]** to select the Copy Track icon.



3. Press **[YES/ENTER]**.

The Copy Track screen appears.



4. Press **CURSOR [⬆]** to move the cursor to “Copy from Track.”
5. Turn to **TIME/VALUE** dial to select the copy-source track.
6. Press **CURSOR [⬇]** to move the cursor to “Copy from Track.”
7. Turn to **TIME/VALUE** dial to select the track-copy destination.
8. Press **[YES/ENTER]**.

The contents of the copy-source sequence track is copied to the copy-destination track.

9. Press **[DISPLAY]** return to the Basic screen.

## NOTE

When you execute the Copy Track operation, the entire contents of the sequence track will be copied. It is not possible to copy only a specified time region.

## NOTE

If the copy-destination sequence track has already been recorded, the entire contents will be lost.



# Editing a specified region of a sequence track —Region In/Out

In the Sequence Play List screen, you can specify a region, then edit only that region. You can also edit multiple tracks at once.

## Specifying the editing region

1. Press PAD SEQUENCING [SEQ PLAY].

[SEQ PLAY] lights, and the Sequence Play List screen appears.



2. Select the sequence tracks for playback as described in “Playing back sequence tracks” (Owner’s Manual; p. 96).

Get the “Tr.SEL” (track select) box to be highlighted in black for the track(s) in which you want to specify a region. You may select more than one track.

3. Use the REW [◀◀] / FF [▶▶] or the TIME/VALUE dial to move the “NOW” (current location) to the starting point of the segment.



4. Press [YES/ENTER].

A mini-menu “SET REGION IN” appears.



5. Press [YES/ENTER] to specify the beginning (in point) of the segment.

6. Use the REW [◀◀] / FF [▶▶] or the TIME/VALUE dial to move the “NOW” (current location) to the end point of the segment.



7. Press [YES/ENTER].

A mini-menu appears.

8. Press CURSOR [◀] to select the “SET REGION OUT.”



9. Press [YES/ENTER] to specify the end (out point) of the segment.

### NOTE

In case edit region is specified, you cannot execute editing phrase by phrase basis (Quick Edit). If you want to do such editing, please cancel the editing region as described in “Canceling an editing region” (p. 10).

For details of Quick Edit, refer to “Edit on Sequence Play List screen—Quick Edit” (Owner’s Manual; p. 106).

### MEMO

If a region has already been specified in step 4, press

CURSOR [◀] to select “SET REGION IN.”



Press [YES/ENTER] in step 5, the specified region will be cancelled, and the In point will be newly set.

## Canceling an editing region

To cancel an editing region that you've specified, perform the following.

1. Press PAD SEQUENCING [SEQ PLAY].

[SEQ PLAY] lights, and the Sequence Play List screen appears.



2. Press [YES/ENTER].

A mini-menu appears.

3. Press CURSOR [ ] to select the "CLEAR REGION."



4. Press [YES/ENTER].

The specified region are canceled.

## Editing the specified region

### Erasing Segments—Erase

This operation erases the phrases of the specified region, creating silence. If phrases exist following the region, they will not move forward.

1. Specify the region that you want to erase, as described in "Specifying the editing region" (p. 9) of this booklet.



2. Press [YES/ENTER].

A mini-menu appears.

3. Press CURSOR [ ] to select the "REGION ERASE?"



4. Press [YES/ENTER].

The specified region are erased.



## Cutting Segments—Cut


This operation cuts the phrases of the specified region. Any phrases that followed the region will be moved forward.

1. Specify the region that you want to cut, as described in “Specifying the editing region” (p. 9) of this booklet.



2. Press [YES/ENTER].  
A mini-menu appears.



3. Press CURSOR [  ] to select the “REGION CUT?”

4. Press [YES/ENTER].

The specified region are cut.





## Moving to a Another Location—Move

This operation moves the phrases of the specified region to another location. The phrases in the specified region will be erased; i.e., they will change to silence. If there were any phrases in the move-destination, they will be overwritten by the phrases from the specified region.

1. Specify the region that you want to move, as described in “Specifying the editing region” (p. 9) of this booklet.



2. Use the REW[  ]/FF [  ] or the TIME/VALUE dial to set the move-destination “NOW” (current location).



3. Press [YES/ENTER].  
A mini-menu appears.



4. Press CURSOR [  ] to select the “REGION MOVE?”

5. Press [YES/ENTER].

The specified region are moved.



## Editing a specified region of a sequence track

### Pasting to a Another Location—Paste

This operation pastes the phrases of the specified region to another location. If there were any phrases in the paste-destination, they will be overwritten by the phrases from the specified region.

1. Specify the region that you want to paste, as described in “Specifying the editing region” (p. 9) of this booklet.



2. Use the REW[ ◀ ]/FF [ ▶ ] or the TIME/VALUE dial to set the paste-destination “NOW” (current location).



3. Press [YES/ENTER].

A mini-menu appears.

4. Press CURSOR [ ▾ ] to select the “REGION PASTE?”



5. Press [YES/ENTER].

The specified region are pasted.



### Inserting to a Another Location—Insert

This operation inserts the phrases of the specified region to another location. If there were any phrases in the inserting location of backward, they will be moved back for duration of specified region.

1. Specify the region that you want to insert, as described in “Specifying the editing region” (p. 9) of this booklet.



2. Use the REW[ ◀ ]/FF [ ▶ ] or the TIME/VALUE dial to set the insert-destination “NOW” (current location).



3. Press [YES/ENTER].

A mini-menu appears.

4. Press CURSOR [ ▾ ] to select the “REGION INSERT?”



5. Press [YES/ENTER].

The specified region are inserted.



# Muting (silencing) a specific audio track

During playback, you can switch audio tracks between muted (silent) and playing statuses.

1. **During playback, press [STATUS] for the audio track that you want to mute (silence).**

[STATUS] will change from green to blinking, and the sound of that audio track will be muted (silenced).

2. **Once again, press the [STATUS] key that you caused to blink in step 1.**

[STATUS] will change from blinking to lighting solidly in green, and that audio track will resume playing.



An audio track whose [STATUS] was dark when playback began cannot be switched to Play status by pressing [STATUS] during playback. ([STATUS] will not light in green.)

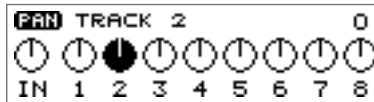
# Using [STATUS] to select the track whose parameters you want to adjust

When you want to adjust an audio track's mixer settings (pan, equalizer), or loop effect settings, you can also press [STATUS] for that audio track to select it directly.

## Setting the left/right position (pan) of each audio track

1. Hold down TRACK EDIT [PAN] and press AUDIO TRACK [STATUS] that you want to adjust.

The pan setting screen appears.

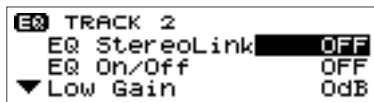


2. Turn the TIME/VALUE dial to set the pan.
3. Press [DISPLAY] to return to the Basic screen.

## Adjusting the tone of each audio track

1. Hold down TRACK EDIT [EQ] and press AUDIO TRACK [STATUS] that you want to adjust.

The equalizer setting screen appears.



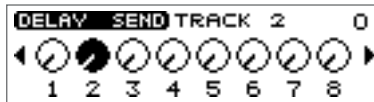
2. Press CURSOR [ ] [ ] to move the cursor to the line of the parameter you want to adjust.
3. Turn the TIME/VALUE dial to change the value.
  - For details on the parameters, refer to “Mixer effect parameter functions” (Owner’s Manual; p. 174).
4. Press [DISPLAY] to return to the Basic screen.

## Editing the loop effect settings

### Chorus/delay/doubling

1. Hold down LOOP EFFECT [DELAY], and press AUDIO TRACK [STATUS] that you want to adjust.

The equalizer setting screen appears.

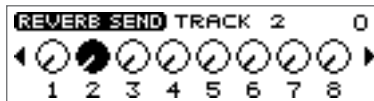


2. Turn the TIME/VALUE dial to adjust the send level.
3. Press [DISPLAY] to return to the Basic screen.

### Reverb

1. Hold down LOOP EFFECT [REVERB], and press AUDIO TRACK [STATUS] that you want to adjust.

The equalizer setting screen appears.



2. Turn the TIME/VALUE dial to adjust the send level.
3. Press [DISPLAY] to return to the Basic screen.

### MEMO

In step 1, you can hold down [DELAY] and press PAD [STATUS] to select “PAD.”



For details on setting the effect parameters, refer to “Editing the loop effect settings” (Owner’s Manual; p. 145–146).

### MEMO

In step 1, you can hold down [REVERB] and press PAD [STATUS] to select “PAD.”

# Preventing tempo data from being read from a CD-RW disc

When pads or sequences are stored in internal memory, you can specify that the tempo data of a song saved on a CD-RW disc not be loaded when you insert a CD-RW disc on which pads or sequences have been saved.

1. Press [UTILITY].

The Menu are displayed as icon.

2. Press CURSOR [  ] [  ] to select the System icon.



3. Press [YES/ENTER].

The System Parameter screen appears.

4. Press CURSOR [  ] to move the cursor to "T.Map LoadCinfirm" line.



5. Turn the TIME/VALUE dial to select "ON."

● **T.Map LoadCinfirm (Tempo Map Load Confirm):**

**ON:** You will be able to select whether the tempo data saved on the CD-RW disc will be loaded.

**OFF:** The tempo data saved on the CD-RW disc will be loaded.

6. Press [DISPLAY] to return to the Basic screen.

## If "T.Map LoadConfirm" is "ON"

Insert a CD-RW disc on which pads/sequences have been saved.

If internal memory contains pads/sequences, a message of "Load PAD/SEQ data?" will be displayed.

If you press [NO/EXIT] at this time, a message of "Use song's tempo map?" (use the tempo data of the song saved on the CD-RW disc?) will be displayed. Press either [NO/EXIT] or [YES/ENTER] to select whether to load the tempo data from the song on the CD-RW disc.

**[NO/EXIT]:** The tempo data in internal memory will be preserved. The tempo data of the song saved on the CD-RW disc will not be loaded.

**[YES/ENTER]:** The tempo data of the song saved on the CD-RW disc will be loaded. The tempo data in internal memory will be overwritten.

# Using the tempo of a sample to modify the tempo map

Here's how you can easily modify the tempo map to match a drum loop sample on which your song is based.

1. Press [UTILITY].

The Menu are displayed as icon.

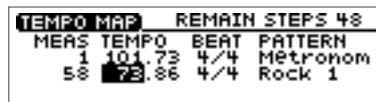
2. Press CURSOR [◀] [▶] to select the Tempo Map icon.



3. Press [YES/ENTER].

The Tempo Map Setting screen appears.

4. Press CURSOR [▲] [▼] to move the cursor to tempo whose tempo you want to change.



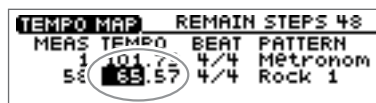
5. Press the pad that contains the desired tempo data.

For example, if the sample tempo is “65.57”, a message of “Tempo → 65.57 Are you sure? (OK to change the tempo to 65.57?) will be displayed.

6. Press [YES/ENTER].

The tempo map will be changed to the tempo of the sample.

If you press [NO/EXIT], the tempo map will not be changed.



7. Press [DISPLAY] to return to the Basic screen.

## MEMO

The tempo of a sample is displayed in the upper right of the pad parameter screen. For details, refer to “Displaying the correct tempo of a sample” (Owner’s Manual; p. 77).



For the procedure used to create a tempo map, refer to “Setting the tempo and rhythm pattern of the song—Tempo Map” (Owner’s Manual; p. 117).



# Using Pads/Sequences while you mix down

You can play sequence tracks and pads while mixing down. This can be done in any combination: for example, you can mix down sequence tracks and pads together with audio tracks, or mix down only pads and/or sequences.

Even if a CD-RW disc is not inserted, you can mix down just pads/sequences if internal memory contains pads/sequences.

- \* ***When you mix down using pads/sequences, the time available for the mixdown will be the remaining amount of sampling memory. For this reason, if you need to perform lengthy mixdowns, we recommend that you expand the memory. The time available for mixdown can be checked in the Song Information screen (Owner's Manual; p. 39).***

**1. Press AUDIO TRACK RECORD [MIX DOWN].**

If the pads/sequences contained in the CDX-1's internal memory, a message of "Also use PAD/SEQ for Mixdown?" appears, [MIX DOWN] blinks.

If you press [YES/ENTER], you will be able to use pads/sequences, and [MIX DOWN] will light.

If you do not want to use pads/sequences, press [NO/EXIT]. For the subsequent steps, refer to step 1 of "Mixing down" (Owner's Manual; p. 133).

**2. If you want to use sequence tracks, press [SEQ PLAY] to make it light.**

For sequence tracks that you want to include in the mixdown. For details, refer to "Playing sequence tracks and audio tracks simultaneously" (Owner's Manual; p. 96).

**3. For audio tracks that you want to include in the mixdown, press [STATUS] to make the button light in green.**

**4. Make sure that master track [STATUS] light in red.**

**5. Press ZERO [◀◀] to return the SONG POSITION to "00:00:00-00" (beginning of the song).**

Alternatively, you can move to a desired location so that recording will start from that point.

**6. Press PLAY [▶].**

Mixdown begins.

If you play samples pressing pads during mix down is processing, the sample sounds in pads will be mixed down together. However, please be careful that sample sound dose not come out in case four stereo (incl. audio track and sequence track) are outputted. In such case, the pads goes out.

**7. When mixdown is finished, press STOP [■].**

The screen will ask "Do you want to burn a CD? "

If you want to create an audio CD, press [YES/ENTER] and continue with the procedure "Writing to a CD-R disc" (Owner's Manual; p. 135).

If you want to make sure that the result of mixdown, press [NO/EXIT]. For details, refer to "Listen to the result of Mixing down" (Owner's Manual; p. 135).



When CD recorder screen or CD player screen is appearing, you cannot switch to mix down eves pressing [MIX DOWN].



If you mix down without a CD-RW disc, the "Data Type" will be "Standard."



If you mix down without a CD-RW disc in step 1, a message of "Also use PAD/SEQ for Mixdown?" will not appears.



If you mix down without a CD-RW disc, step 3 will not be necessary.



A sequence track and its corresponding audio track cannot be played back simultaneously. If you are unable in step 3 to select an audio track that you want to mix down, you must first exchange sequence tracks so that the desired tracks can be played back simultaneously. For details, refer to "Exchanging the content of sequence tracks—Exchange Track" (p. 7) in this booklet.

# Editing the Mastering Tool settings

You can edit the mastering tool settings while you listen to the mixdown. Select one of the preset patches (P01–P21) that is closest to what you have in mind, and edit the patch settings

## MEMO

You can also edit the mastering tool settings in the CD Burning screen or CD Recorder screen. However, it will not be possible to audition the results of the mastering tool before writing to the CD-R disc.

## ? Mastering Tools

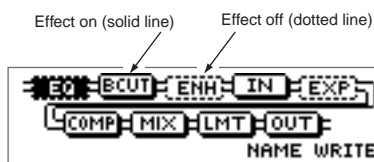
The mastering tools are a convenient set of tools that divide the sound into high-frequency, mid-frequency, and low-frequency ranges, and make the volume consistent so that the audio CD can be created with the optimal levels.

1. In step 1 of “Listen to the result of Mixing down” (Owner’s Manual; p. 133), the Mastering track screen appears.



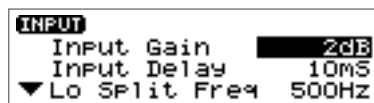
2. Make sure that [MASTERING TOOLS] lights in red. If [MASTERING TOOLS] is dark, press [MASTERING TOOLS], and it will go light in red.
3. Press CURSOR [▲] to move the cursor to “MTK” line.
4. Turn the TIME/VALUE dial to select the mastering tool patch that you want to edit.
5. Press [YES/ENTER]. The mastering tools effect block screen appears.

6. Press CURSOR [▲] [▼] [◀] [▶] to select an effect, and turn the TIME/VALUE dial to turn the effect on/off.



7. Press CURSOR [▲] [▼] [◀] [▶] to select the effect whose parameters you want to edit, and press [YES/ENTER].

The parameter setting screen for the selected effect appears.



8. Press CURSOR [▲] [▼] to select a parameter, and turn the TIME/VALUE dial to edit the value. For details on each parameter, refer to “Mastering Tools parameter list” (p. 20–22) in this booklet.
9. If you would like to edit another effect, press [NO/EXIT] to return to the previous screen, and repeat steps 6–8.

If you want to save the current effect settings, perform the procedure described in “Saving mastering tools settings,” below.

- \* Edited effect settings are temporary. If you return to the previous screen without saving the edited patch, “TMP” will be displayed in front of the patch name. While “TMP” is displayed, newly selecting a different patch will cause the edited patch to revert to its previous state, and your edits will be lost.



## NOTE

“IN” (input), “MIX” (mixer), and “OUT” (output) of the effect block are always on. These cannot be turned off.

# Saving the mastering tool settings

You can assign a name (patch name) to the mastering tool settings you've edited, and save your settings. This procedure is a continuation of "Editing the mastering tool settings," above.

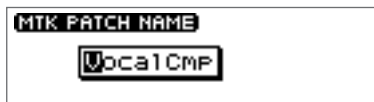
Your edited patch can be saved at one of twenty-one patch numbers U01–U21, and recalled at any time, just like a preset patch.



1. In the mastering tools effect block screen, press CURSOR [  ] to select "NAME."



2. Press [YES/ENTER].

The Patch Name input screen appears.



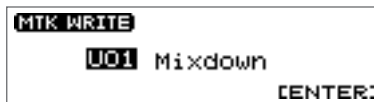
3. Press CURSOR [  ] [  ] to move to the desired character location, and turn the TIME/VALUE dial to input patch name.
4. When you are finished inputting the patch name and editing the settings of each effect, press [NO/EXIT] to return to the effect block screen.

5. Press CURSOR [  ] to select "WRITE."



6. Press [YES/ENTER].

The Patch-save screen appears.



7. Turn the TIME/VALUE dial to select the patch-save destination (U01–U21).
  8. After you have specified the patch-save destination, press [YES/ENTER].
- When the data has been saved, you're returned to the Mastering track screen.

## MEMO

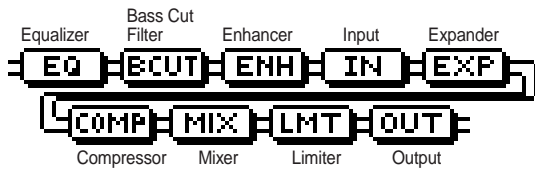
You can input a patch name of up to eight characters.

## MEMO

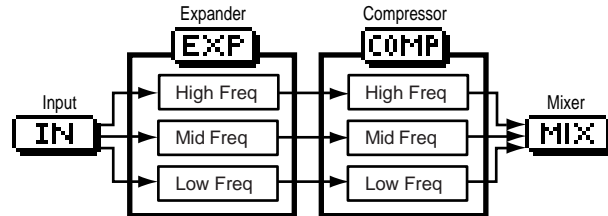
Patches are stored in internal memory.

# Mastering Tools parameter list

The Mastering Tools is compressor that splits sounds into different frequency band to unify their volumes.



\* Below shows the signal form "INPUT" to "MIXER."



Parameter (full name)	Setting	Function
<b>● EQ (Equalizer): A 4-band equalizer.</b>		
Effect On/Off (Effect On/Off)	OFF, ON	This parameter turns the equalizer effect on/off.
Input Gain (Input Gain)	-24→+12 dB	This parameter sets the overall volume before passing through the equalizer.
Low Type (Low Type)	SHELV, PEAKING	This parameter sets the type of the low frequency band equalizer (Shelving type or peaking type).
Low Gain (Low Gain)	-12→+12 dB	This parameter sets the gain (amount of boost or cut) for the bass equalizer.
Low Freq (Low Frequency)	20 Hz–2.00 kHz	This parameter sets the central frequency for the low equalizer.
Low Q (Low Q) *1	0.3–16.0	This parameter sets the range of change in gain for the frequency set by "Low Freq." A larger value results in a narrower range of change.
Low-Mid Gain (Low Middle Gain)	-12→+12 dB	This parameter sets the gain (amount of boost or cut) for the low-midrange equalizer.
Low-Mid Freq (Low Middle Frequency)	20 Hz–8.00 kHz	This parameter sets the central frequency for the low-midrange equalizer.
Low-Mid Q (Low Middle Q)	0.3–16.0	This parameter sets the range of change in gain for the frequency set by "Low-Mid Freq." A larger value results in a narrower range of change.
High-Mid Gain (High Middle Gain)	-12→+12 dB	This parameter sets the gain (amount of boost or cut) for the high-midrange equalizer.
High-Mid Freq (High Middle Frequency)	20 Hz–8.00 kHz	This parameter sets the central frequency for the high-midrange equalizer.
High-Mid Q (High Middle Q)	0.3–16.0	This parameter sets the range of change in gain for the frequency set by "High-Mid Freq." A larger value results in a narrower range of change.
High Type (High Type)	SHELV, PEAKING	This parameter sets the type of the High frequency band equalizer (Shelving type or peaking type).
High Gain (High Gain)	-12→+12 dB	This parameter sets the gain (amount of boost or cut) for the treble equalizer.
High Freq (High Frequency)	1.40–2.00 kHz	This parameter sets the central frequency for the high equalizer.
High Q (High Q) *1	0.3–16.0	This parameter sets the range of change in gain for the frequency set by "High Freq." A larger value results in a narrower range of change.
Output Level (Output Level)	-24→+12 dB	This parameter adjusts the volume after the equalizer stage.
<b>● B CUT (Bass Cut Filter):</b>		
Effect On/Off (Effect On/Off)	OFF, ON	This parameter turns the bass cut filter effect on/off.
Bass Cut Freq (Bass Cut Frequency)	THRU, 20 Hz–2.00 kHz	This parameter sets the frequency for cutting off undesired low frequency band sounds such as pop noise.
<b>● ENH (Enhancer): This effect enhances the definition of the sound, and pushes it to the forefront.</b>		
Effect On/Off (Effect On/Off)	OFF, ON	This parameter turns the enhancer effect on/off.
Sensitivity (Sensitivity)	0–100	Adjusts the manner in which the enhancer will be applied relative to the input signals.
Enhancer Freq (Enhancer Frequency)	1.00 –10.0 kHz	Adjusts the frequency at which the enhancer effect will begin to be applied. The effect will be made apparent in the frequencies above the frequency set here.
Mix Level (Mix Level)	-24→+12 dB	Adjusts the amount of phase-shifted sound of the range set by "Frequency" that is to be mixed with the input.

# Mastering Tools parameter list

- **IN (Input): Specify the frequency points at which the original sound will be divided, so that the expander/compressor can be applied independently to the low, mid, and high frequency ranges.**

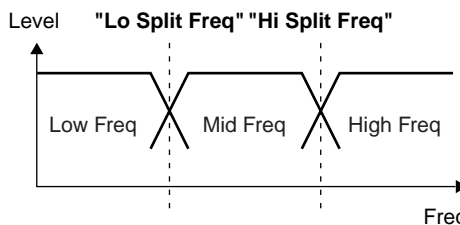
Input Gain (Input Gain)	-24– +12dB	This parameter sets the overall volume before entering expander/compressor.
Input Delay (Input Delay)	0–10 ms	This parameter sets the length of delay to add to the direct sound input.
Lo Split Freq (Low Split Frequency)	20–800 Hz	This parameter sets the frequency at which the direct sound is split into three bands (on the low frequency band side).
Hi Split Freq (High Split Frequency)	1.60–16.0 kHz	This parameter sets the frequency at which the direct sound is split into three bands (on the High frequency band side).

### Effect of “Input Delay” under Input

With ordinary compressors, a moment of delay occurs to suppress a level over instance after it has been detected. With Mastering Tool, this problem is bypassed by using the input sound only for level detection and adding a specified length of delay to the sound for processing and output. “Input Delay” under Input is the setting of the delay time for this purpose. Note that supplying Delay Time causes time difference between input and output of audio signals.

### Splitting into frequency bands

To split into High, middle and low frequency bands, “Low Split Freq” (Low Split Frequency) and “High Split Freq” (High Split Frequency) under Input are used to specify frequencies.



- **EXP (Expander): Expands the dynamic range (the proportion between the loudest and softest sounds) at a certain ratio.**

Effect On/Off (Effect On/Off)	OFF, ON	This parameter turns the expander effects on/off.
Low Threshold (Low Threshold)	-80–0 dB	This parameter sets the volume at which the expander for the low frequency band starts working.
Mid Threshold (Middle Threshold)	-80–0 dB	This parameter sets the volume at which the expander for the middle frequency band starts working.
Hi Threshold (High Threshold)	-80–0 dB	This parameter sets the volume at which the expander for the high frequency band starts working.
Low Ratio (Low Ratio)	1:1.0–1:16.0, 1:INF	This parameter sets the ratio at which the output in the low frequency band is increased when the input level has dropped below the low threshold level.
Mid Ratio (Middle Ratio)	1:1.0–1:16.0, 1:INF	This parameter sets the ratio at which the output in the middle frequency band is increased when the input level has dropped below the middle threshold level.
High Ratio (High Ratio)	1:1.0–1:16.0, 1:INF	This parameter sets the ratio at which the output in the middle frequency band is increased when the input level has dropped below the High threshold level.
Low Attack (Low Attack)	0–100 ms	This parameter sets the time until when the low frequency band expander starts working after the input level has exceeded the low threshold level.
Mid Attack (Middle Attack)	0–100 ms	This parameter sets the time until when the middle frequency band expander starts working after the input level has exceeded the middle threshold level.
High Attack (High Attack)	0–100 ms	This parameter sets the time until when the High frequency band expander starts working after the input level has exceeded the High threshold level.
Low Release (Low Release)	50–5000 ms	This parameter sets the time until when the low frequency band expander stops working after the input level has dropped below the low threshold level.
Mid Release (Middle Release)	50–5000 ms	This parameter sets the time until when the middle frequency band expander stops working after the input level has dropped below the middle threshold level.
High Release (High Release)	50–5000 ms	This parameter sets the time until when the High frequency band expander stops working after the input level has dropped below the High threshold level.

## Mastering Tools parameter list

### ● COMP (Compressor) \*2: Compressor the entire output signals when the input volume exceeds a specified value.

Effect On/Off (Effect On/Off)	OFF, ON	This parameter turns the compressor effects on/off.
Low Threshold (Low Threshold)	-24–0 dB	This parameter sets the volume at which the compressor for the low frequency band starts working.
Mid Threshold (Middle Threshold)	-24–0 dB	This parameter sets the volume at which the compressor for the middle frequency band starts working.
Hi Threshold (High Threshold)	-24–0 dB	This parameter sets the volume at which the compressor for the high frequency band starts working.
Low Ratio (Low Ratio)	1:1.0–1:16.0, 1:INF	This parameter sets the ratio at which the output in the low frequency band is suppressed when the input level has exceeded the low threshold level.
Mid Ratio (Middle Ratio)	1:1.0–1:16.0, 1:INF	This parameter sets the ratio at which the output in the middle frequency band is suppressed when the input level has exceeded the middle threshold level.
High Ratio (High Ratio)	1:1.0–1:16.0, 1:INF	This parameter sets the ratio at which the output in the High frequency band is suppressed when the input level has exceeded the High threshold level.
Low Attack (Low Attack)	0–100 ms	This parameter sets the time until when the low frequency band compressor starts working after the input level has exceeded the low threshold level.
Mid Attack (Middle Attack)	0–100 ms	This parameter sets the time until when the middle frequency band compressor starts working after the input level has exceeded the middle threshold level.
High Attack (High Attack)	0–100 ms	This parameter sets the time until when the High frequency band compressor starts working after the input level has exceeded the High threshold level.
Low Release (Low Release)	50–5000 ms	This parameter sets the time until when the low frequency band compressor stops working after the input level has dropped below the low threshold level.
Mid Release (Middle Release)	50–5000 ms	This parameter sets the time until when the middle frequency band compressor stops working after the input level has dropped below the middle threshold level.
High Release (High Release)	50–5000 ms	This parameter sets the time until when the High frequency band compressor stops working after the input level has dropped below the High threshold level.

### ● MIX (Mixer): Adjust the volume of the low, mid, and high frequency ranges, and mix them.

Low Level (Low Level)	-80–+6 dB	This parameter sets the volume in the low frequency band after passing through the expander and compressor.
Mid Level (Middle Level)	-80–+6 dB	This parameter sets the middle frequency band volume after passing through the expander and compressor.
High Level (High Level)	-80–+6 dB	This parameter sets the volume in the High frequency band after passing through the expander and compressor.

### ● LMT (Limiter): Prevents distortion by suppressing signals at High levels.

Effect On/Off (Effect On/Off)	OFF, ON	This parameter turns the limiter effects on/off.
Threshold (Threshold)	-24–0 dB	This parameter sets the volume at which the limiter starts working.
Attack (Attack)	0–100 ms	This parameter sets the time until when the limiter starts working after the input level has exceeded threshold level.
Release (Release)	50–5000 ms	This parameter sets the time until when the limiter stops working after the input level drops below the threshold level.

### ● OUT (Output): Provides settings concerning overall output.

Level (Level)	-80– +6 dB	This parameter sets the overall volume after passing through the limiter.
Soft Clip (Soft Clip)	OFF, ON	By turning this ON, suppresses conspicuous distortion that may occur when the effect of compressor/limiter has been applied excessively.
Dither (Dither)	OFF, 8–24 bit	This parameter smooths the transition where the sound disappears.



\*1 If “Low Type” or “High Type” is set to “SHELV” (Shelving Type), the setting for “Lo Q” or “High Q” is invalid.

\*2 With Compressor (COMP), the level is automatically adjusted to the optimal with the settings for “Threshold” and “Ratio”. Setting “Attack” to a relatively long time may cause distortion. For this reason, a margin of -6 dB is provided. Adjust the Mixer (MIX) level as required.

# Remembering the icon that was last selected in a menu screen

You can cause the icon that was last selected in the following menu screens to be remembered. This is convenient when you are repeatedly using the same menu item to edit, since you will not have to re-select the desired icon each time.

Button	Screen
[UTILITY]	Utility Menu Screen
PAD SEQUENCING [TEMPO MAP]	Pad Edit Menu Screen
PAD SEQUENCING [EDIT]	Sequence Edit Menu Screen

## NOTE

The data identifying the last-selected icon in each screen will be discarded when the power is turned off. The next time the power is turned on, the icon at the beginning of the menu will always be selected when you open a menu screen.

**1. Press [UTILITY].**

The Menu are displayed as icon.

**2. Press CURSOR [ ◀ ] [ ▶ ] to select the System icon.**



**3. Press [YES/ENTER].**

The System Parameter screen appears.

**4. Press CURSOR [ ▾ ] to move the cursor to "Keep Last Menu" line.**



**5. Turn the TIME/VALUE dial to select "ON."**

● **Keep Last Menu:**

**ON:** The last-selected icon will be remembered when you access a menu screen.

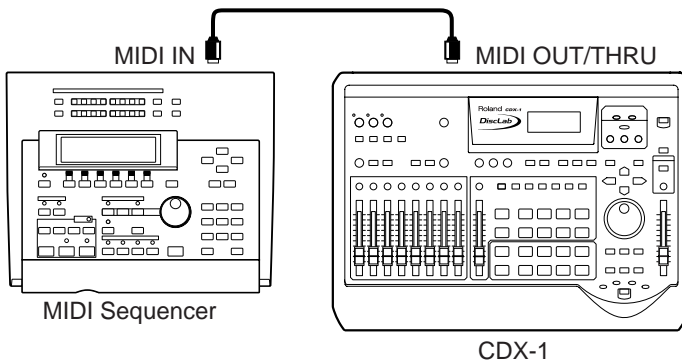
**OFF:** The first icon of the menu will be selected when you access a menu screen.

**6. Press [DISPLAY] to return to the Basic screen.**

# Synchronization with a Sequence or Drum Machine

You can cause a MIDI sequencer or rhythm machine to operate in synchronization with the button operations of the CDX-1.

1. Use a MIDI cable to connect the CDX-1 and your MIDI sequencer as shown in the diagram.

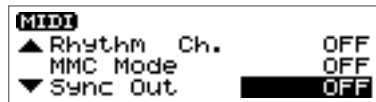


2. Press [UTILITY].  
The Menu are displayed as icon.
3. Press [YES/ENTER].  
The MIDI settings screen appears.

4. Press CURSOR [◀] [▶] to select the MIDI icon.



5. Press CURSOR [⏴] to move the cursor to "Sync Out" line.



6. Turn the TIME/VALUE dial to select "MIDI CLK."

● Sync Out:

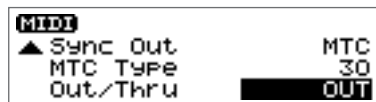
Select whether or not the synchronization signals that will sent from the MIDI OUT/THRU connector.

**OFF:** Synchronization signals are not sent.

**MTC:** MIDI Time Code is sent.

**MIDI CLK:** MIDI Clock is sent.

7. Press CURSOR [⏴] to move the cursor to "Out/Thru" line.



8. Turn the TIME/VALUE dial to select "OUT."

9. Press [DISPLAY] to return to the Basic screen.

10. Make settings on your MIDI sequencer so that it can receive MTC from an external device, and prepare it to play back MIDI song data.

For details on using, refer to the Owner's Manual for your MIDI sequencer.

11. When the CDX-1 begins playing, the MIDI sequencer will also begin playing in sync with it.