

AKAI
professional

DPS16

DIGITAL PERSONAL STUDIO

Version 2.0 Addendum

WARNING

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

Operator's Manual

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Introduction

Version 2.0 of the DPS16 Operating System offers many new features and functions, especially for mastering CD, as well as functional improvements for easier operation.

New features and improvements

- NORMALIZE function added – EDIT mode
- CHANGE LEVELS function added – EDIT mode
- Exporting and importing WAV files supported – EDIT mode
- Additional Shift locate point parameter allows relocation of locate points selectable in edit – EDIT mode
- The new Track Down (Ping-Pong) screen allows easier, faster track down operation – PATCH mode
- Copying track data over the Project and/or Disk supported - V.TRACK mode
- DISC AT ONCE option added in CD-R/RW write mode - PROJECT mode
- Disk Partition function supported - DISK mode
- MULTI-BAND COMPRESSOR/EXPANDER effect added - EFFECT mode
- PITCH CORRECTOR effect has new functions - EFFECT mode

EDIT mode

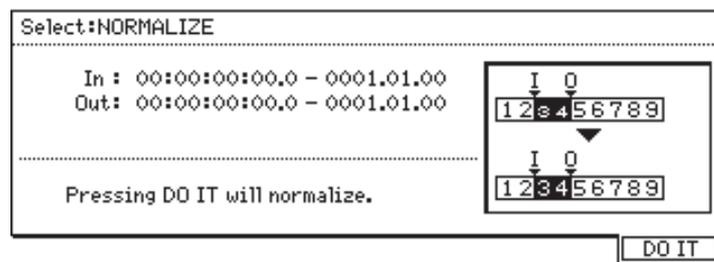
Track level change

The NORMALIZE and CHANGE LEVELS functions have been added in Edit mode allowing the levels of track data to be changed. The level changes in Mixer mode merely change the mixing balance, but not the actual levels of the track data. The new Normalize and Change Levels functions, on the other hand, actually alter the level data itself.

■ NORMALIZE

The Normalize function checks the level of designated region of selected tracks and calculate the difference between the maximum level data and the full-digital level. It then applies this difference to raise the level of whole data of selected region. The data utilize the maximum extent of the dynamic of the DPS16. When writing the songs on to the CD-R/RW, by performing normalize before hand, you can write the disc with the fullest specification of CD.

Select NORMALIZE at Select: field in Edit mode.



Set the edit region using IN point and OUT point as for other editing options and select the track(s) to edit using [RECORD SELECT] key(s).

Pressing [F6] (DO IT) key will check the track levels, display “Overall level has been increased by __dB.” (Amount of increase in dB is shown here) and process the level change. When multiple tracks are selected, the normalize is processed referenced to the level of the highest level track.

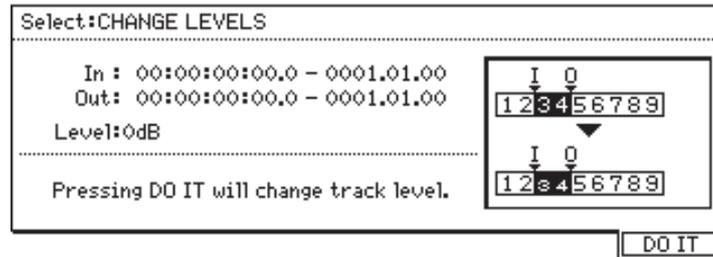
If the data contains full-digital level, the normalize finishes itself without showing “Overall level has been increased by __dB.”.

→NOTE: When the EQ level in track mix on the normalized track is raised too high, the sound may distort. In such a case, use the CHANGE LEVELS function described next to reduce the track level.

■ CHANGE LEVELS

The Change Levels function changes the level of designated region of selected tracks by specified amount.

Select CHANGE LEVELS at Select: field in Edit mode.



Set the edit region using IN point and OUT point as for other editing options and select the track(s) to edit using [RECORD SELECT] key(s).

Specify the level of change (-12 to +12dB) at Level: field and then press [F6] (DO IT) key to process the level change.

WAV file support

With the DOS formatted external media (hard disk, removable disk, etc.) connected via SCSI port, the WAV format files can now be exported (save) and/or imported (load). The WAV files are generally used sound file in computers. This function allows the user to edit the DPS16 data on the computer with an appropriate editing software and/or use the computer's sound file on the DPS16.

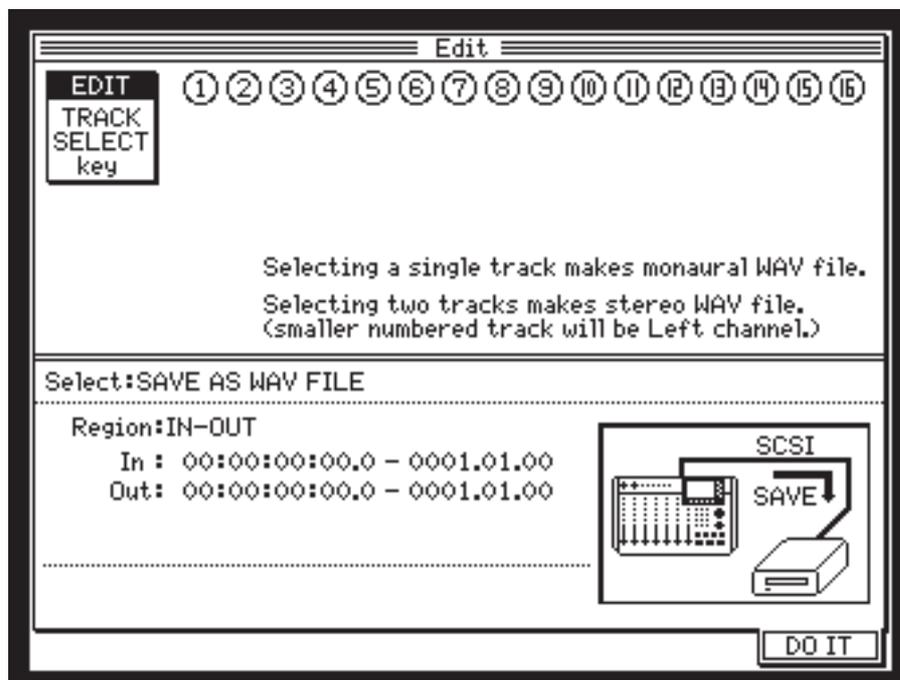
The export (save)/import (load) are found in Edit mode.

➔NOTE: It is not possible to transfer files between the DPS16 and the computer by directly connecting them via their SCSI connectors.

■ SAVE AS WAV FILE

The sound data of selected region designated by IN point and OUT point (or the entire track) can be saved on to the DOS formatted SCSI disk in WAV format.

Select SAVE AS WAV FILE at Select: field in Edit mode.



Specify the track to be saved as WAV file using [TRACK SELECT] keys.

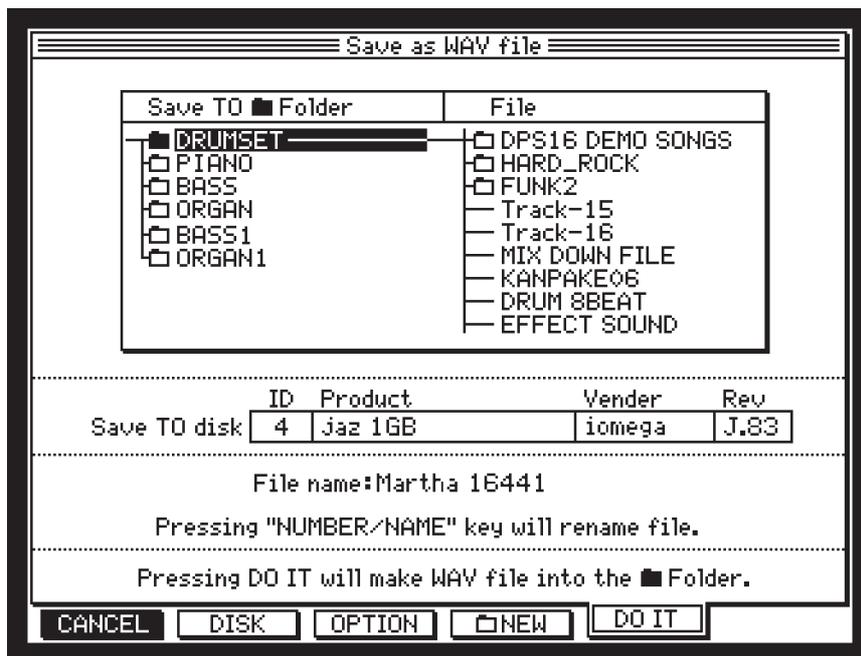
Selecting one track makes it as monaural WAV file and selecting two tracks makes it as stereo WAV file. In stereo WAV file, the smaller numbered track will be the Left channel.

Specify the data region to save at Region: field.

IN-OUT Saves the data between IN point and OUT point.

ALL Saves the entire data of selected track(s).

Pressing [F6] (DO IT) key shows the Save as WAV file window.



→NOTE: When DOS formatted disk is not found, the Disk List window will appear. For the operation of Disk List window, refer to Disk Select of this document.

The upper half of the screen shows the directory of the selected disk. The information on the disk to be saved (Save TO disk field) is indicated in the middle and the name of the file to be saved underneath it (File name: field).

The file name is the name of the selected track (name of virtual track). When the stereo file is selected, the track name of the Left channel will be displayed. By pressing [NUMBER/NAME] key, the file can be renamed here.

The directory window is divided into two sides. The left side lists the folder names and the right side lists the names of folders and files contained inside the folder on the left.

Move the cursor in vertical direction with [JOG] wheel or Up/Down cursor keys and change the hierarchy (left/right) with Left/Right cursor keys.

Save TO Folder	File
<ul style="list-style-type: none"> ■ DRUMSET □ PIANO □ BASS □ ORGAN □ BASS1 □ ORGAN1 	<ul style="list-style-type: none"> □ DPS16 DEMO SONGS □ HARD_ROCK □ FUNK2 — Track-15 — Track-16 — MIX DOWN FILE — KANPAKE06 — DRUM 8BEAT — EFFECT SOUND

The left side list only shows the folders but the files in the same hierarchy are not displayed.

The right side list shows the contents of the folder selected in the left side list.

When Right cursor key is pressed while the folder is selected in the right side list, the hierarchy of the selected folder moves to the left and the contents of that folder are shown on right side list.

Save TO Folder	File
<ul style="list-style-type: none"> □ DRUMSET ■ PIANO □ BASS □ ORGAN □ BASS1 □ ORGAN1 	<ul style="list-style-type: none"> — PIANO RIFF-A — RIFF-B — BACKING-A — PATARN 44

When the Left cursor key is pressed while the cursor is on the left list, it moves to the higher hierarchy. The root directory is shown as [ROOT] and there's no higher hierarchy exists.

Save TO Folder	File
<ul style="list-style-type: none"> ■ [ROOT] 	<ul style="list-style-type: none"> □ DRUMSET □ PIANO □ BASS □ ORGAN □ BASS1 □ ORGAN1

The sound data will be saved into the same hierarchy as the right side list (in the folder selected on the left list).

Move the cursor and select the folder you want to save the data into on the left list (the folder icon becomes inverted).

Pressing [F6] (DO IT) key initiates the save.

Create New Folder

The new folder can be created to save the data into it.

The new folder will be created inside the folder selected (icon inverted) on the left list of the directory window.

Pressing [F4] (NEW) key in Save as WAV file window will show New Folder window.



Pressing [F5] (DO IT) key, after the folder is named following the [NUMBER/NAME] key press, will create the new folder and the directory window shows the new folder being selected on its left list.

Disk Select

To select the disk to save to, press [F2] (DISK) key to show Disk List window and select the disk in the list.

ID	Status	Product	Vender	Rev
ATA	NOW SELECTED	IBM-DJNA-370910		J740
0	(no device)			
1	BACKUP DISK	jaz 2GB	iomega	E.17
2	NOT FORMATTED	jaz 2GB	iomega	E.17
3	(no device)			
4	RECORDABLE DISK	jaz 1GB	iomega	J.83
5	DPS16			2.0
6	CD-R/RW	MP6200S	RICOH	2.20
7	(inhibit)			

Below the table are three buttons: 'CANCEL' on the left, 'FORMAT' in the center, and 'SELECT' on the right.

The DOS formatted disk appears as [FAT] at Status column on the list.

The DOS formatted disks can only be selected to save the file in WAV format.

Disk Format

The Disk can be formatted in the Disk List window. However, the format function in this window is different from that of DISK mode and the disk will be formatted in DOS format only which the WAV format files can be saved/loaded.

Pressing [F3] (FORMAT) key while Disk List window is displayed makes CAUTION!! window to appear for confirmation and pressing [F5] (DO IT) key will initiate the format.



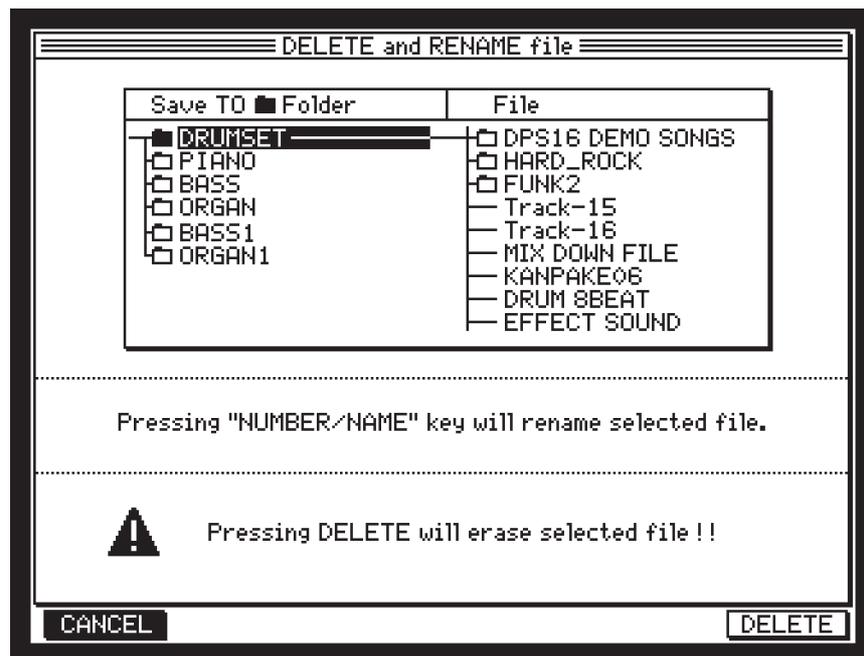
WARNING

Formatting will erase all the data contained in the disk and it's irreversible. Take great care on selecting disk to format.

OPTION

The existing file or folder can also be renamed and/or deleted.

Pressing [F3] (OPTION) key makes DELETE and RENAME file window to appear.



Renaming

Select the file or folder to be renamed by cursor and press [NUMBER/NAME] key followed by the key presses for the appropriate name.

Delete File

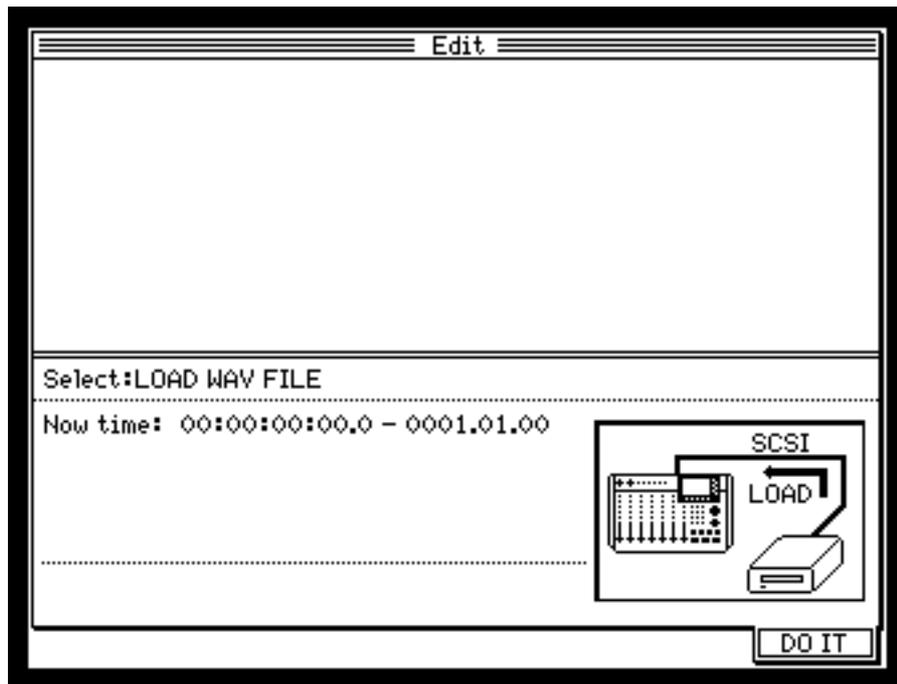
Select the file or folder to be deleted and then press [F6] (DELETE) key to delete it.

The folder that contains files cannot be deleted. Delete the files and folders contained within, first.

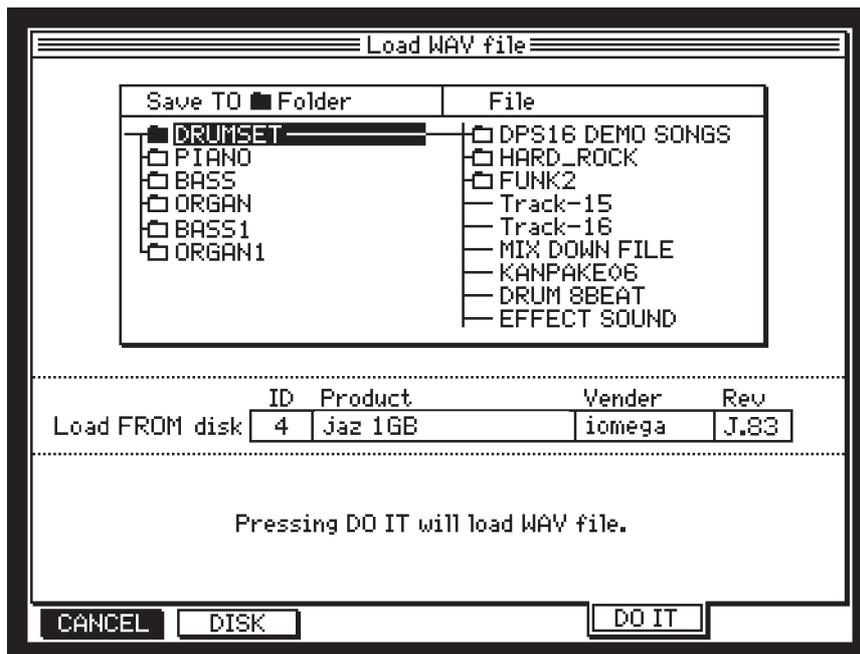
■ LOAD WAV FILE

It will load the WAV format file and place it at Now time.

Select LOAD WAV FILE at Select: field in Edit mode.

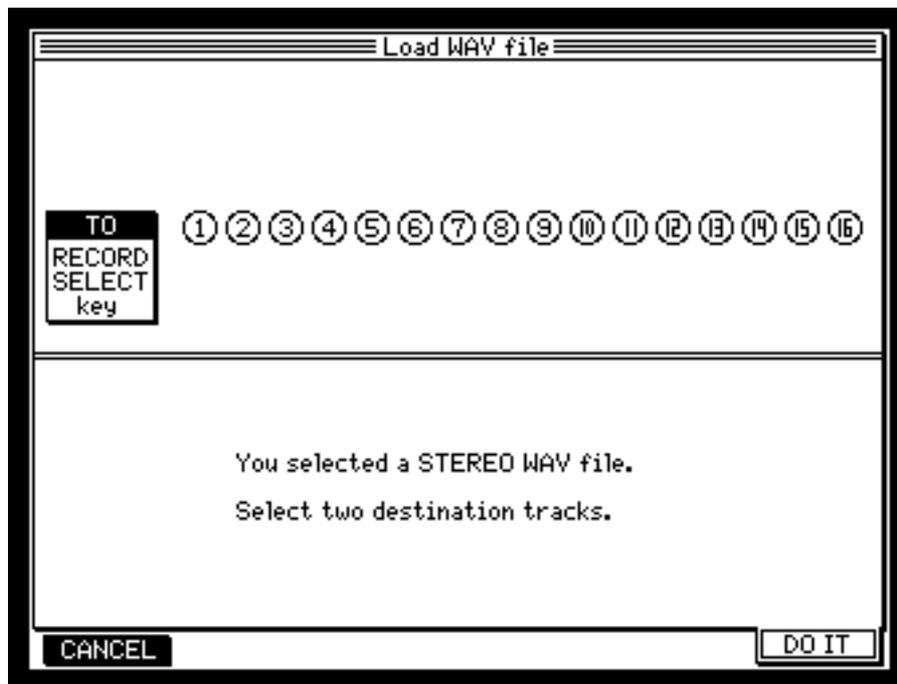


Pressing [F6] (DO IT) key makes Load WAV file window to appear.



➔NOTE: When DOS formatted disk is not found, the Disk List window will appear. For the operation of Disk List window, refer to Disk Select section of Save as WAV file window.

Select the file to be loaded in a similar manner as in Save as WAV file window and press [F5] (DO IT) key. The window to specify the track(s) to load will appear.



The display in the lower section changes according to the file selected in the directory window.

Press [RECORD SELECT] key to specify the track(s) to load.

Select one track when the selected file is monaural or select two tracks when the file is in stereo. Press [F6] (DO IT) key to initiate the load.

The loaded file data will overwrite the data after Now time of the selected track.

Disk Select

Press [F2] (DISK) key in Load WAV file window to see the Disk List window. Select the disk you want to load the files from in a similar manner as in Save as WAV file window. For the details of its operation, refer to Disk Select section in Save as WAV file window.

V.TRACK mode

Track Copy

The Copy Tracks screen has been added in V.TRACK mode. You can now copy the track data over the different project and/or different disk.

➔NOTE: By the implementation of COPY key, the ERASE key in ASSIGN window is now moved to [F4].

Pressing [F2] (COPY) key in V.TRACK mode makes Copy Tracks screen to appear.

Track		Virtual Track	Source disk ID=4 Project=Martha 16441	
1		23-Perc7 L		
2		2-Perc1 R		
3		3-G. Gt Amb L		
4		4-G. Gt Amb R		
5		5-A. pf off L		
6		6-A. pf off R		
7		7-A. pf on L		
8		8-A. pf on R		
9		9-B. Gt Amb		
10		10-B. Dr		
11		11-Snare		
12		12-H. Tom		
13		33-M. voice 4		
14		54-M. harm R		
15		95-F. voice 2		
16		120-F. harm L		

COPY	
1-Martha L	
2-Martha R	
3-G. Gt Amb L	
4-G. Gt Amb R	
5-A. pf off L	
6-A. pf off R	
7-A. pf on L	
8-A. pf on R	
9-B. Gt Amb	

Select

ASSIGN COPY DISK PROJECT DO IT

The left list always shows the physical tracks of the current project. The destination track of copy is specified here. The right list shows the virtual tracks in the copy source project. The source track of copy is specified here. Above the right list shows the disk ID and Project of the copy source.

To copy over the project and/or disk, press [F4] (DISK) and/or [F5] (PROJECT) keys to select the source project/disk.

Disk Select

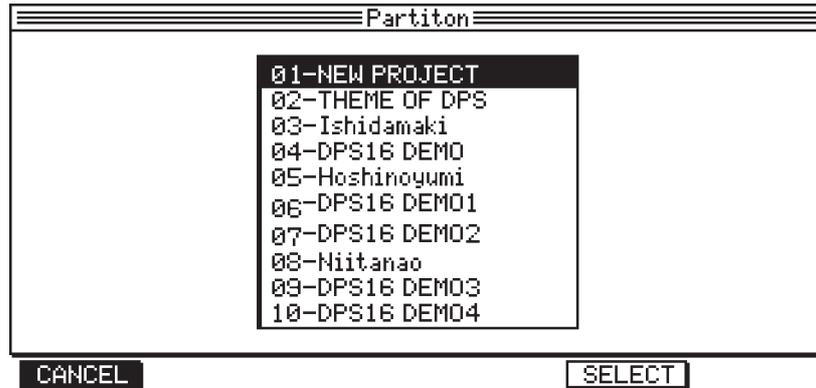
Pressing [F4] (DISK) key shows Disk List window. Use Up/Down cursor keys to move the cursor to source disk (display inverted) and press [F6] (SELECT) key to select it.

ID	Status	Product	Vender	Rev
ATA	NOW SELECTED	IBM-DJNA-370910		J740
0	(no device)			
1	BACKUP DISK	jaz 2GB	iomega	E.17
2	NOT FORMATTED	jaz 2GB	iomega	E.17
3	(no device)			
4	RECORDABLE DISK	jaz 1GB	iomega	J.83
5	DPS16			2.0
6	CD-R/RW	MP6200S	RICOH	2.20
7	(inhibit)			

CANCEL SELECT

When the disk is partitioned, the Partition window appears. If the partition is not used, the Project window will be displayed.

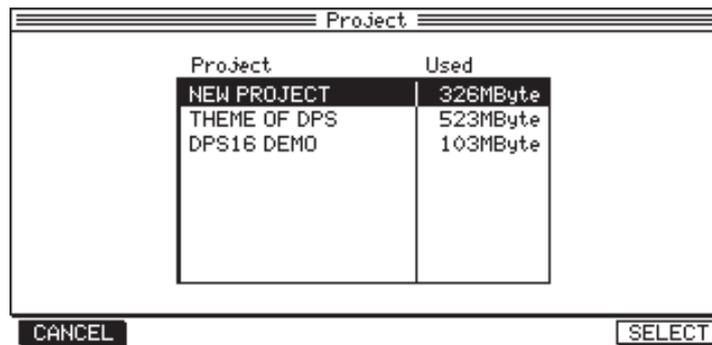
Partition Select



Similarly, use Up/Down cursor keys to move the cursor to the project (display inverted) that contains the track data of copy source and press [F5] (SELECT) key to select it. When the partition is selected, the Project window appears to show the list of project.

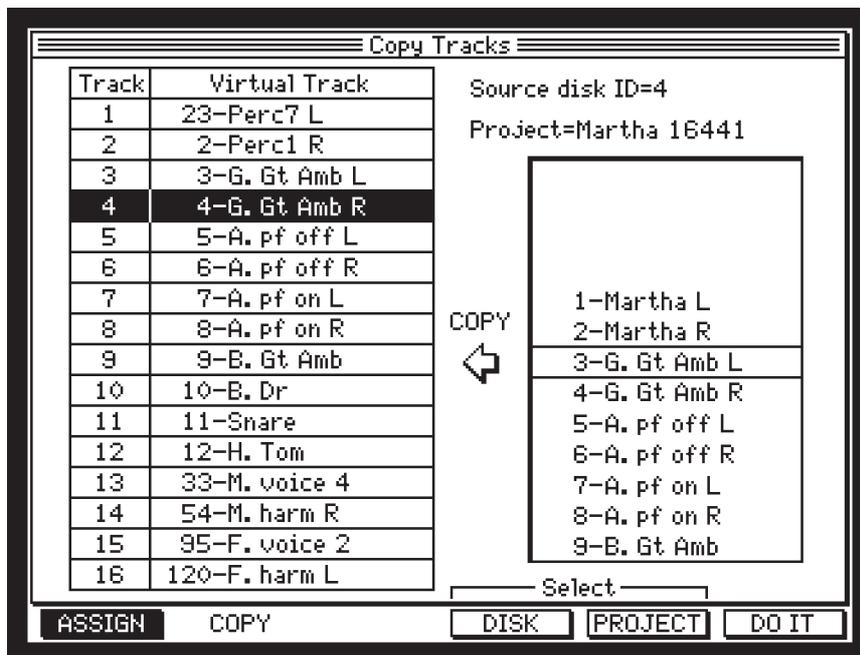
Project Select

Pressing [F5] (PROJECT) key, or after the disk (or partition) is selected, the Project window appears.



Use Up/Down cursor keys to move the cursor to the source project (display inverted) and press [F6] (SELECT) key to select it. When the project is selected, the screen returns to Copy Tracks screen.

Copy Track Select



Select the copy destination track in the left list Copy Tracks screen. Use Up/Down cursor keys or [JOG] wheel to select it.

Use Right cursor key to move the cursor to the right list, the copy source list. The destination track number now appears inverted.

Use [JOG] wheel or Up/Down cursor keys to select the source track (display inverted).

Pressing [F6] (DO IT) key initiates the copy.

➤NOTES:

When the sampling rate of copy source and that of copy destination are different, the pitch of the copied track will change.

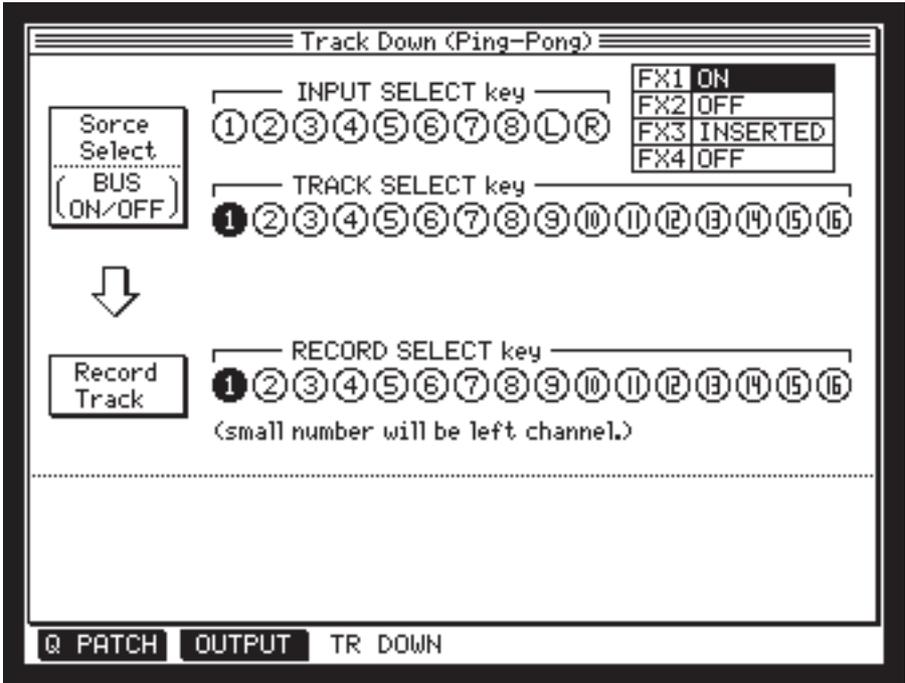
When the bit rate of copy source and that of copy destination are different, the bit rate will be changed to that of copied project.

PATCH mode

Track Down screen

The Track Down (Ping-Pong) screen has been added in PATCH mode. This Track Down screen is to make it easier to set up the mixing of multiple tracks into stereo (or monaural) tracks. It is also convenient when bouncing the mixed down stereo tracks, while inserting the mastering effect such as Multi-Band Compressor, into another stereo tracks.

Pressing [F3] (TR DOWN) key in PATCH mode makes Track Down (Ping-Pong) screen to appear.



Select the stereo tracks (or monaural) to be mixed down with [TRACK SELECT] keys.

Selecting the input using [INPUT SELECT] keys makes it possible to mix the external material as mix source. It is used when the external effect units are used and/or when you want to record the external sound modules playing at the same time.

When you want to record the internal effect sound as well, set the FX field (upper right corner) of desired FX to ON. The insert effect, however, is shown as INSERTED and cannot be set to ON.

Then press [RECORD SELECT] key to select record tracks. You can select up to 2 tracks only. When 2 tracks are selected, the smaller numbered track will be the left channel.

This sets up the track down complete. Return to the MAIN screen and record as you would normally do the ping-pong recording.

➔NOTE: The Track Down (Ping-Pong) screen allows the setups in Quick Patch screen, BUS setups in MIXER mode, and ping-pong recording setups in EFFECT mode in one screen. The changes in Track Down (Ping-Pong) screen will be reflected to Quick Patch screen, BUS setups in MIXER mode and ping-pong recording setups in EFFECT mode accordingly.

PROJECT mode

Writing CD-R/RW as DISC AT ONCE

When writing the project on to the CD-R/RW, the writing the multiple songs in one go (DISC AT ONCE) mode has been supported, in addition to the writing a single song (TRACK AT ONCE) mode.

In DISC AT ONCE mode, the track ID can be set freely and the interval between the songs can also be set freely, it can be set to play the next song immediately.

In a similar manner, the index ID can also be set.

Track ID

It is used to select the song (track) in play on the CD players. With the conventional TRACK AT ONCE mode, the Track ID is always placed at the beginning of the song. In DISC AT ONCE mode, the Track ID can be positioned freely.

Index ID

This is used to specify the certain point in the song. There are some CD players which do not support the Index ID.

Mode in comparison

TRACK AT ONCE Writes one song at a time. The Track ID is always placed at the beginning of the song and the fixed interval of 2 seconds is used between the songs. The songs can be added to the disc later until FINISH process is used.

DISC AT ONCE Writes the whole disc. The Track ID and Index ID can be positioned freely. The songs cannot be added later once the disc is used in this mode.

The procedure to write the CD-R/RW in DISC AT ONCE mode is as follows. Refer to the appropriate operation procedure in each step.

Mix down to 2 tracks/Stereo

Record all material in 44.1kHz/16bit mode when writing to the CD-R/RW disc. The Multi-Band Compressor can then be applied to the mixed down data to balance the levels, or Normalize function can be used to maximize the overall level, to make the disc in higher quality.

Create the project for DISC AT ONCE

Project is created at 44.1kHz/16bit to comply with the CD specifications.

Copy the mixed down 2 track/Stereo to the project

Collect the songs you want to write to the CD-R/RW into the project for DISC AT ONCE using the Copy Tracks function. Copy each song to different tracks.

Sequence the copied songs in desired order

Place the collection of songs in desired order with desired intervals using Edit function. All the songs must to be on the same 2 tracks in order to write the disc in DISC AT ONCE mode.

➔NOTE: For the songs that overlap to each other, it is required first to make the overlapped data of two songs using ping-pong recording.

Place Track ID and Index ID

The Track ID and Index ID are specified with locate points. The locate points of their names starting with the letter “#” will be used as Track ID, while those of names starting with “&” will be used as Index ID.

Track ID

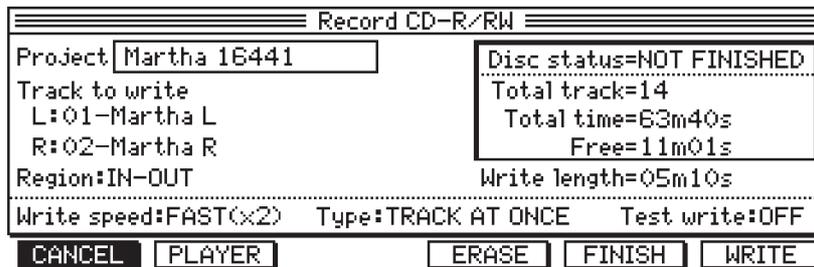
Set the locate point as usual to the desired point. Normally, it is placed at the beginning of the song. Name it starting with the letter “#”. The rest of the name is irrelevant for identifying, so you may use the title of the song for easier recognition.

Index ID

Set the locate point as usual to the desired point. Name it starting with the letter “&”. The rest of the name is irrelevant for identifying.

Writing to CD-R/RW disc

Pressing [F2] (CD-R) key in PROJECT mode makes the following window to appear.



The Type: field to specify the CD-R/RW writing mode has been added in the bottom center. Refer to the Operator’s Manual for the details of operation as other fields are the same as those in the previous version.

Select DISC AT ONCE at Type: field and then press [F5] (WRITE) key. Refer to the Operator’s Manual for the rest of operations as they are the same as those in previous release.

DISK mode

Disk Partition

This function is to divide the disk in several partitions. When a large disk is used, partitioning makes it easier and more effective to manage the files. Also, the time required for ALIGN becomes less.

Disk List				
ID	Status	Product	Vender	Rev
ATA	NOW SELECTED	IBM-DJNA-370910		J740
0	(no device)			
1	BACKUP DISK	jaz 2GB	iomega	E.17
2	NOT FORMATTED	jaz 2GB	iomega	E.17
3	(no device)			
4	RECORDABLE DISK	jaz 1GB	iomega	J.83
5	DPS16			2.0
6	CD-R/RW	MP6200S	RICOH	2.20
7	(inhibit)			

Self ID:5 (Press DISK key to enter.)

ID	Product	Vender	Rev
Current Disk	ATA IBM-DJNA-370910		J740

Partition	Name	Free	Size
1	PARTITION-01	00.0G	10G

FORMAT PART COPY ALIGN SELECT

The partition number, name, free space and total size of the partition are indicated under the Current Disk information.

Create Partition

The disk format procedure has been changed to support partition function.

To create the partition, it is necessary to format the disk. For this reason, if you want to make partitions on the currently used disk, you should make a back up disk first before formatting and reload the data afterwards.

Move the cursor on to the drive you want to format in Disk List screen in DISK mode and press [F1] (FORMAT). Then specify the type of format (FORMAT/ERASE) in Format Disk window and press [F6] (DO IT). This makes Partition window to appear.

Partiton	
Number of partitions:08	
Size=1087M	

Disk will be equally divided by the number of partitions.	
CANCEL	DO IT

Specify the number of partitions at Number of partitions field. The disk will be equally divided into the number of partitions specified and the partition size will be shown at Size = field. Each partition will be named as "Partition xx" (where xx is the partition number) as default name.

➔Note: The size of the last partition may be smaller than the size shown depending on the disk capacity.

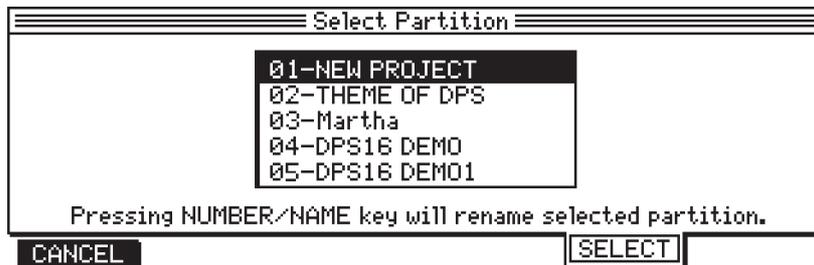
Pressing [F5] (DO IT) key makes CAUTION!! window to appear.



Pressing [F6] (DO IT) key will initiate the formatting.

Partition Select

Pressing [F3] (PART) key in DISK mode makes Select Partition window to appear. The partition is selected here.



Move the cursor with Up/Down cursor keys or [JOG] wheel to the desired partition and press [F5] (SELECT) key to select it. The partition is selected and it returns to Disk List screen.

When the current disk is changed, the Select Partition window will also come up to select the partition.

Pressing [NUMBER/NAME] key in Select Partition window can rename the selected partition.

EFFECT mode

Additional Effects

MULTI-BAND COMP/EXPANDER

This is a 4-band multi-band stereo compressor/expander. This limits/expands the dynamic ranges by suppressing the signal higher than the specified level.

Pressing [F2] (EXPAND) or (COMP) key toggles between the compressor and expander.

Change the parameter while pressing [F3] (ALL) key will change the parameter values in all bands by the same amount.

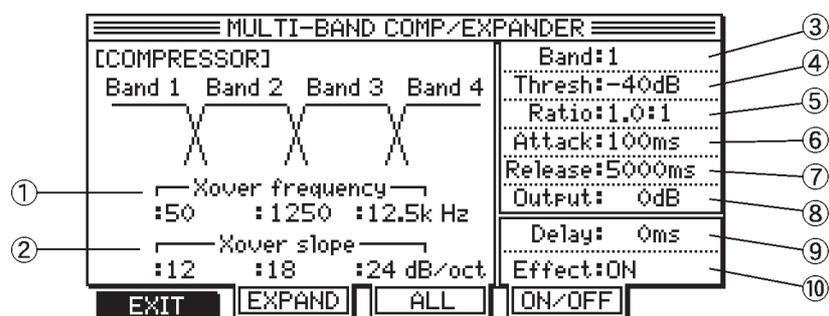
►NOTES :

The MULTI-BAND COMP/EXPANDER can be selected for FX1 only. Since the MULTI-BAND COMP/EXPANDER is always used in stereo, the FX2 functions as the MULTI-BAND COMP/EXPANDER. The settings on FX1 are reflected to FX2 as well.

The MULTI-BAND COMP/EXPANDER is used as insert effect. The output of FX1 is used as left channel and that of FX2 is right channel.

When the MULTI-BAND COMP/EXPANDER is selected, the rest of effects are not available for use.

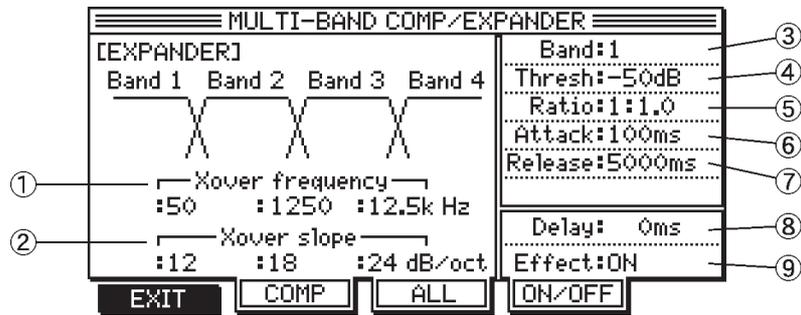
Compressor window



	Parameter	Setting range	Function
①	Xover frequency	50 - 12.5kHz	Sets the frequency ranges (13 steps) of each band.
②	Xover slope	6 - 24dB/oct	Sets the cut-off curbs (6dB step) at crossover section.
③	Band	1 - 4	Selects the band.
④	Thresh	-40dB - 0dB	Adjusts the threshold level at which the effect is enabled.
⑤	Ratio	1.0 - 50	Adjusts the compression ratio for signals that exceeded the threshold level.
⑥	Attack	0.5 - 100ms	Adjusts the attack time of the effect.
⑦	Release	50 - 5000ms	Adjusts the release time of the effect.
⑧	Output	-25dB - +25dB	Adjusts the level of the effect sound.
⑨	Delay	0 - 100ms	Adjusts the amount of delay for input signal.
⑩	Effect	ON/BYPASS	Selects whether the effect is enabled (ON) or bypassed (BYPASS).

① and ② settings are common to Expander. ④ – ⑧ settings are for each band. ⑨ – ⑩ settings are for the whole Compressor.

Expander window



	Parameter	Setting range	Function
①	Xover frequency	50 - 12.5kHz	Sets the frequency ranges (13 steps) of each band.
②	Xover slope	6 - 24dB/oct	Sets the cut-off curbs (6dB step) at crossover section.
③	Band	1 - 4	Selects the band.
④	Thresh	-inf, -50dB - 0dB	Adjusts the threshold level at which the effect is enabled.
⑤	Ratio	1.0 - 50	Adjusts the compression ratio for signals that exceeded the threshold level.
⑥	Attack	0.5 - 100ms	Adjusts the attack time of the effect.
⑦	Release	50 - 5000ms	Adjusts the release time of the effect.
⑧	Delay	0 - 100ms	Adjusts the amount of delay for input signal.
⑨	Effect	ON/BYPASS	Selects whether the effect is enabled (ON) or bypassed (BYPASS).

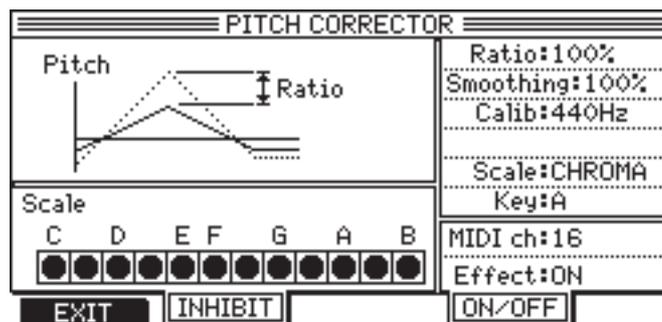
① and ② settings are common to Compressor. ④ – ⑦ settings are for each band. ⑧ - ⑨ settings are for the whole Expander.

➔NOTE: When the MULTI-BAND COMP/EXPANDER is selected, the parameters available for Q-link are for Compressor side only.

Changes in effect

PITCH CORRECTOR

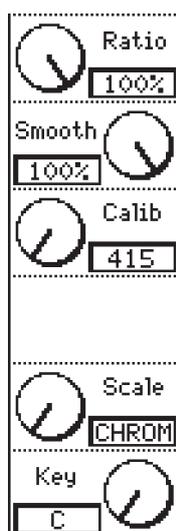
The changes made on the Pitch Corrector are change in Scale window display, addition of Smoothing parameters and INHIBIT function key, and more options at Scale: field available to make this effect easier to use.



The display style of Scale has been changed. The Note names are always shown and black dots changes their position according to the key selected.

The Smoothing parameter has been added. This retains the vibrato components in the input signal to make it sound more natural. The setting range is 0 – 100%. The setting of 100% takes all vibrato components away and making it smaller value makes vibrato sound more natural.

At the same time, Smooth control has been added in Q-link panel.



The MIDI ch parameter has been added. When MIDI, the new option at the Scale: field, is selected, the MIDI channel to receive MIDI notes is specified here. When the scale is selected other than MIDI, this setting is ignored.

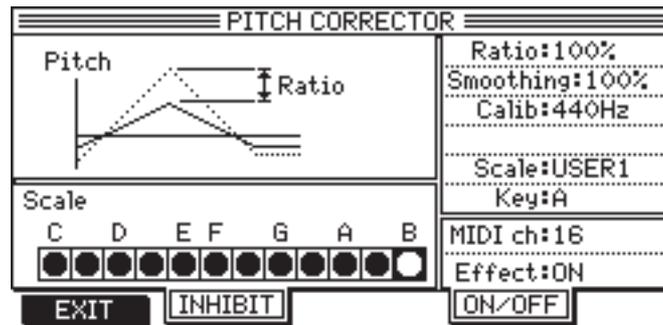
The [F2] (INHIBIT) key has been added. When this key is pressed while the effect is on, the key is inverted, the ratio of pitch correct becomes zero (no pitch correction applied) as long as key is held pressed.

The more scale options are added. The options of USER1/USER2 which the user can specify their own scales and MIDI which allows to specify the pitch via the MIDI note from an external MIDI keyboard have been added.

USER1/USER2

When USER1/USER2 is selected, you can freely assign the key that the pitch is corrected to.

Pressing the Left cursor key makes the cursor move on to the Scale display area.



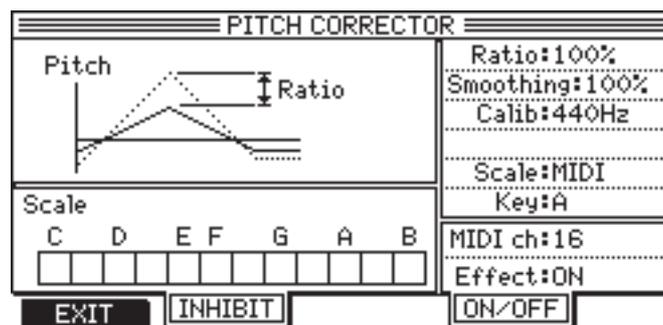
Move the cursor with the Left/Right cursor keys and use [JOG] wheel to turn each key on and off.

When the Right cursor key is pressed at B key, the cursor moves back to the right side field. The key setting is ignored.

MIDI

When MIDI is selected, the MIDI note key of MIDI input from the external keyboard is shown in Scale display area and the pitch is changed to that key.

Specify the MIDI channel on which the MIDI notes is received at MIDI ch: field.



➔NOTE: The range of pitch correction is one octave higher or lower than the pitch of input signal.

✍ **TIP:** The primary purpose of the pitch corrector is to correct a slightly out of tune vocal lines. This is especially useful in multi-part vocal harmonies. Further, it can be used to make special machine-like, formant shifting vocal effect.

The input must be a solo vocal, if possible, without any EQ, Reverb, etc.. (these can be applied later). Only effect that recommended before the pitch corrector is a compressor. The level should be even and not less than -20dB. This offers 13 preset scales for Scale parameter. The pitch of the input signal is always corrected to the nearest pitch of the scale. In another word, if the deviation of the input signal is less than 40 cents (100 cent = 1 semitone), the result is always correct, even if you choose CHROMA, the chromatic scale which contains all 12 keys in octave.

In practice, however, especially when there is a large step in melody, the deviations in attack part of a new note are often much larger than that.

Based on this fact, it is recommended to choose the scale that contains as few notes as necessary, reducing the possibility of wrong correction. Try to find a scale, by changing the Scale and Key parameters, that contains the least notes that are used in the melody. It is very important as well to adjust the calibration base, i.e. CALIB, to the tuning of the recording.

If none of the preset scales fits to the melody, one of the two user scales, i.e. USER1/USER2 that you can edit, can be used.

In a critical example, when the melody contains both the E and F and the vocal is 60 cents sharp at the attack of the E. You naturally select the scale which contains both E and F. However, since the scale contains the E and F, this would wrongly correct it to the F instead of E. In such a case, try copying the same scale to the USER1 and USER2. Edit one of the scales and delete the E and delete the F from the other scale and switch these two scales in the middle of the song using the Q-link knob or [JOG] wheel.

The MIDI option can be selected at Scale. With this, the vocal line is corrected to the key of MIDI note input. When the keyboard is played to the vocal, vocal is tuned to the notes of the keyboard played. Further, as the pitch is corrected within one upper or lower octave of input pitch, unlike the normal pitch correction, it sounds mechanical when the amount of correction is large, but otherwise usable as special effect.

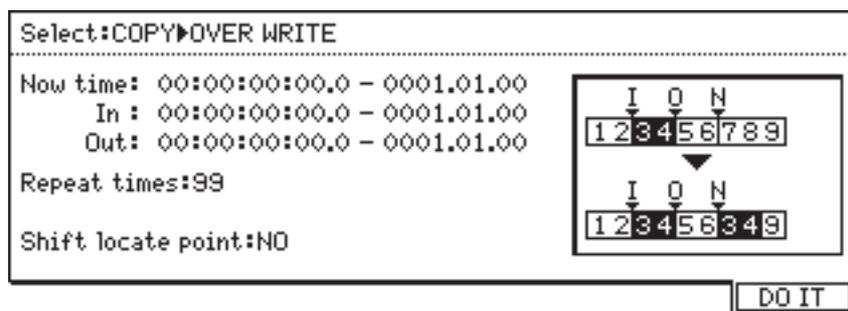
When the correction is too perfect, it may sound artificially clean and unnatural, you may reduce the lower correction ratio than 100%. Also, if you reduce the Smoothing parameter to less than 100%, small short-time fluctuations or a vibrato will not be smoothed out completely making the sound more natural.

Other Changes

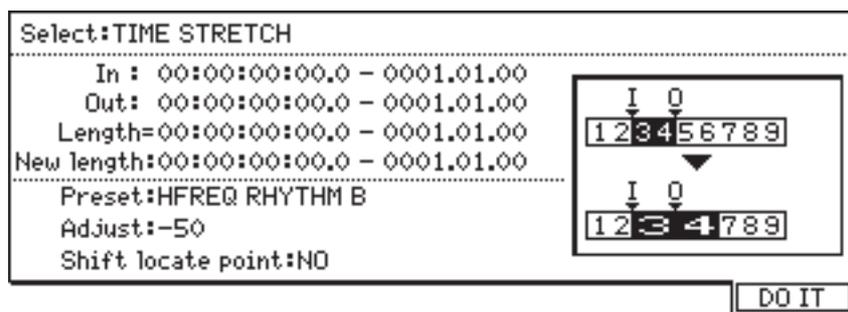
• Shift locate point

The Shift locate point: field has been added to the COPY>OVER WRITE, COPY>INSERT, CUT>OVER WRITE, CUT>INSERT, INSERT SILENCE, CUT>DISCARD, CUT>MOVE, TIME STRETCH and STRETCH>MOVE in EDIT mode.

The new field appears, in COPY>OVER WRITE, COPY>INSERT, CUT>OVER WRITE, CUT>INSERT, INSERT SILENCE, CUT>DISCARD and CUT>MOVE windows as;



and in TIME STRETCH and STRETCH>MOVE windows as follows.



This Shift locate point selects if the locate points are moved according to the edit performed. The options are;

- NO The data will be moved, but the locate points will not be moved.
- ALL All locate points will be moved by the edit.
- ONLY #& The locate points named with “#” and “&” letters, which are used as Track ID and Index ID when writing the CD-R/RW in DISC AT ONCE mode, will only be moved by the edit.
- EXCEPT #& The locate points other than those named with “#” and “&” will be moved by the edit.

- **Assign locate point to IN/OUT point**

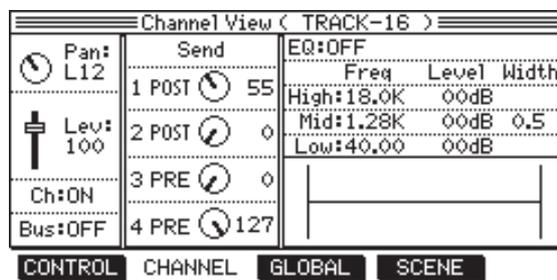
When [GO TO] key is pressed while the cursor is at any one of Now time/In/Out points in EDIT mode, the Locate List window is displayed. Select the locate point as usual and press [F6] (⇧) key. This closes the window without locating and the locate point is now copied to the field where the cursor was previously in EDIT mode.

- **Effect Title in Q-link**

When EFFECT is selected for Q-link display, the name of effect type is shown at the top of display.

- **Channel shown in Channel View**

In the Channel View window in MIXER mode, the selected channel is shown in its title bar.



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