AKAI
professional

MPC 2000

MIDI PRODUCTION CENTER

Software Version 1.3 Addendum

Operator's Manual

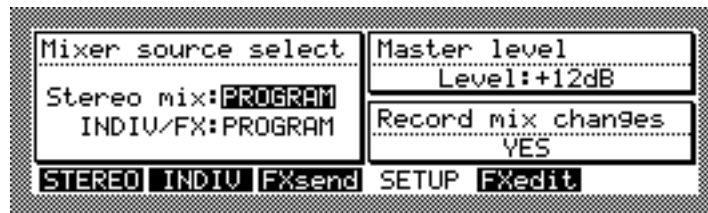# MPC2000 Version 1.3 Addendum – Contents

Mixer Mode

The procedure for Mixer Mode in version 1.3 has changed. In order to enter Mixer Mode, please follow the instructions below.
Press[MIXER] (7 on the numeric pad) while holding down the [SHIFT] button.

Setting Up the Mixer

The Mixer Setup screen appears when you press SETUP [F4] in Mixer Mode.

```
┌─────────────────────────┬──────────────────┐
│Mixer source select      │Master level      │
│                         │     Level:+12dB  │
│Stereo mix:PROGRAM       ├──────────────────┤
│   INDIV/FX:PROGRAM      │Record mix changes│
│                         │     YES          │
│ STEREO  INDIV FXsend SETUP  FXedit          │
└─────────────────────────┴──────────────────┘
```

Switching the Mixer Settings

Select either the mixer setting for each program or the master setting from Mixer source select on the left side.

```
┌─────────────────────────┐
│Mixer source select      │
│                         │
│Stereo mix:PROGRAM       │
│   INDIV/FX:PROGRAM      │
└─────────────────────────┘
```
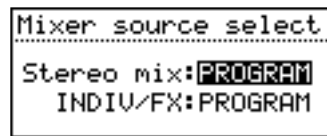
Stereo mix: This field sets the Stereo output mixing.

INDIV/FX: This field sets the Individual (Parallel) output.

The following parameters can be selected in either fields.

PROGRAM   The mixer settings for each program is applied. By selecting this mode, the mixing settings will change according to the settings of each program.

MASTER   It is possible to store a mixer setting as a master setting, in addition to the mixer setting of each program. By selecting this mode, The mixer setting will not change even if the program or sequence is changed, and the master settings will always be applied. (When the data is saved onto a disk, the data will be saved in a file with the extension ".APS".)

Setting the Master Level

To adjust the total output level of the MPC2000, use the Master Level on the top right.

```
Master level
     Level:+12dB
```
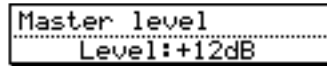
Level: This field adjusts of total volume of the MPC2000.

The MPC2000 can generate up to 32 sounds at one time. Therefore, there is a large difference in the output level when only one is generated and 32 sounds are generated. If you play many sounds at once, the sound may exceed the level and sound distorted. You can prevent distortion by lowering the Master Level. If you are not playing many sounds at one time, increase the level to cover the noise.

Recording a Mixer Setting to a Sequence

The Record Mix Changes on the bottom right enables you to record the revised mixer settings to a sequence during a sequence recording.

```
Record mix changes
       YES
```
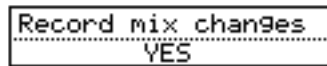
By selecting YES in this field, you can record the mixer setting changes to the sequencer. The mixing data recorded in the sequencer is displayed as follows in the STEP page and can be edited as another MIDI event.

```
STEREO LEVEL    N:64/A01    L:100  ▄▄▄▄▄
STEREO PAN      N:64/A01    P:R50  ▄▄▄▄▄
INDIV LEVEL     N:64/A01    L:100  ▄▄▄▄▄
FXsend LEVEL    N:64/A01    L:100  ▄▄▄▄▄
```

Mix Change data will be recorded as MIDI Exclusive. The following is the contents of the exclusive data.

F0 47 00 44 45 (Event Type) (Pad Number) (Value) F7

There are four types of events.

01 STEREO LEVEL
02 STEREO PAN
03 FXsend LEVEL
04 INDIV LEVEL

Pad numbers A01 ~ D16 correspond to 00 ~ 3F.
Value can be set between the range 00 ~ 64.

Stereo Output Mixer

MPC2000 has 16 pads which are divided into four pad banks each enabling the total assignment of 64 sounds. It is also possible to set the level and pan of each of the 64 sounds assigned to each pad. Press STEREO[F1] in mixer mode.
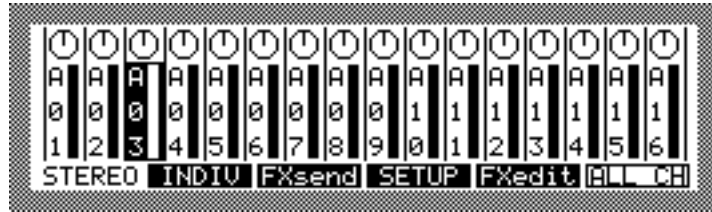
This graphically displays the stereo mixer. The above illustration shows the level and pan of pad banks A (A01 ~ A16). To display other banks, switch the bank using the [PAD BANK] key.

Level Settings

Select the pad number of the level you want to set using the [CURSOR LEFT/RIGHT] key. It is also possible to select by directly hitting the pad. When the pan on the upper level is selected, move the cursor to the level field using the [CURSOR DOWN] key.
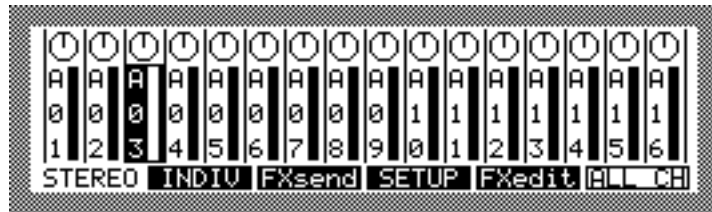
Set the level using the [DATA] wheel. The graphical level bar displayed on the screen will rise or fall accordingly.

Setting the Pan

Move the cursor to the pan field using the [CURSOR UP] key. Select the pad number of the pan you want to set using the [CURSOR LEFT/RIGHT] key. It is also possible to select it by directly hitting the pad.
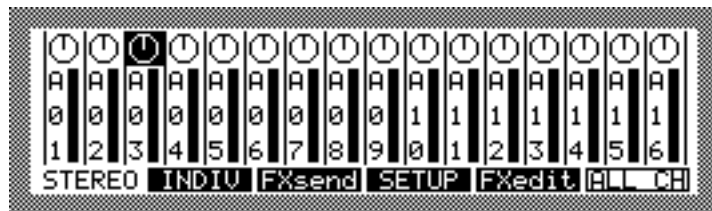
Set the pan using the [DATA] wheel. The graphical pan knob displayed on the screen will rotate accordingly.

Setting the Levels and Pans in One Step

If you press ⸝⸝⸝ ⸝⸝[F6], you can select all of the channels (pad numbers) displayed in the bank and adjust the level or pan to the same ratio in one step. Switch between level and pan adjusting using the [CURSOR UP/DOWN] key.
When you press ⸝⸝⸝ ⸝⸝[F6] again, the channels (pad numbers) which were selected in the beginning are selected.

Individual (Parallel) Out

By connecting the optional 8 parallel-out board IB-M208P, you can output the sound assigned to each pad separately from analog out.

> ***Note:*** *If you do not have 8 parallel-out board (IB-M208P) these settings do not have any effect. Press*

⸝⸝⸝⸝⸝[F2] in mixer mode to display the individual out screen.

The top part of the screen enables you to select the output jack for the sound. The bottom part sets the output level. You can also switch the bank using the [PAD BANK] key in the same fashion as the stereo mixer screen.

Individual (Parallel) Out Assign

To move the cursor to the top part of the screen use the individual (parallel) out assign [CURSOR UP] key. Select the pad number to set the output destination using the [CURSOR LEFT/RIGHT] key. It is also possible to select by directly hitting the pad.

Select the output destination using the [DATA] wheel. The numbers 1 to 8 correspond to the numbers of the output jack. If the sound assigned to the pad is stereo, the jacks can be selected in pairs in the same fashion as ¹₂, ³₄. In this case, the left sound will come out of channels 1 and 3, the right from 2 and 4 respectively.

Setting the Output Level

Move the cursor to the level field using the [CURSOR DOWN] key. Select the pad number of the volume you want to set using the [CUR-SOR LEFT/RIGHT] key. It is also possible to select by directly hitting the pads.

Set the level with the [DATA] wheel. In the top part, set the level of the output jack. The graphical level bar on the screen will move according to the change in value.

Setting the Parallel Out and Send Level in One Step

By pressing ᗩᒪᒪ ᑢᕼ[F6] enables you to adjust the output level at the same ratio in one step. The level and output jack can be switched by pressing the [CURSOR UP/DOWN] key.
By pressing ᗩᒪᒪ ᑢᕼ[F6] the initially selected channel (pad number) is chosen.

Sending Effects

The Effect Send screen appears when you press ᖴᕽᔕᕮᑎᕸ[F3] in Mixer mode.

> ***Note:*** *To use Effect Send, it is necessary to install the optional effect board (EB16).*
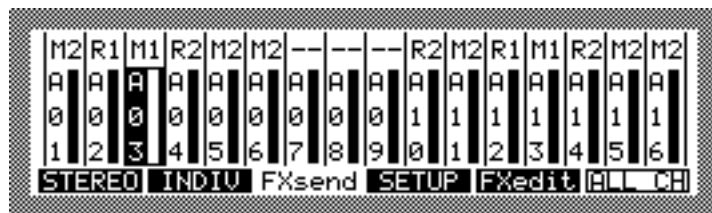
Select the effect of the sound output on the top level of the screen. Set the output level of the effect at the bottom of the screen. It is also possible to switch the banks with the [PAD BANK] key in the same fashion as the Stereo Mixer screen.

Setting the Effect Send

Move the cursor to the top of the screen with the [CURSOR UP] key. Select the channel of the output you want to set with the [CURSOR LEFT/RIGHT] key. It is also possible to select the channel by directly hitting the pad.
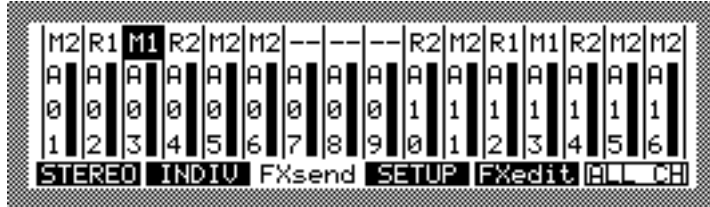
Select the output with the [DATA] wheel. `M1` and `M2` will be sent to the multi effect numbers one and two (`MULTI FX1,2`). `R1` and `R2` will be sent to reverb numbers one and two (`REVERB 1,2`).

Setting the Send Level

Move the cursor to the level field with the [CURSOR DOWN] key. Select the channel of the volume you want to set with the [CURSOR LEFT/RIGHT] key. It is also possible to select the channel by directly hitting the pad.
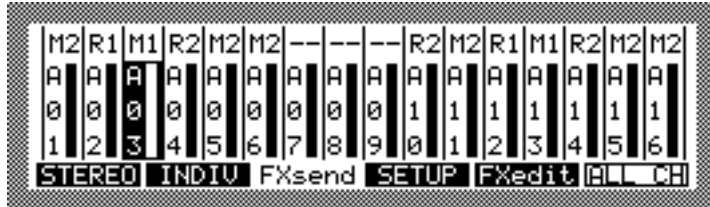
Set the level with the [DATA] wheel. Set the output level of the output set at the top of the screen. The graphical level bar displayed on the screen will rise and fall accordingly.

Setting the Effect Send Levels in One Step

By pressing `ALL CH`[F6], you can select all the channels of the displayed banks and set the level or output effect at the same ratio. The level and output effect can be switched with the [CURSOR UP/DOWN] key. By pressing `ALL CH`[F6] again, you can select the channel which was initially selected.

Channel Setting Window

When each channel (pad number) is selected, the Channel Setting window will appear by pressing the [OPEN WINDOW] key.

```
┌─────────────┤ Channel Settings ├─────────────┐
│ Note:64/A04-ELE-TOM-MID                       │
│    STEREO    │     INDIV   FX    Follow        │
│    Vol:100   │ Vol: 100    100   stereo:       │
│    Pan:L10   │ Out: 7+8    E1      YES          │
│                              ████CLOSE████      │
└───────────────────────────────────────────────┘
```
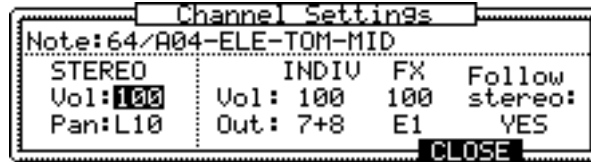
Note: This field will display the sound name assigned to the note number of the channel (pad number) to be set. It is possible to select this field and change the channel (pad number) with the [DATA] wheel. It is also possible to select the channel (pad number) by directly hitting the pad.

You can enter the level and pan of the stereo output on the left of the window.

Vol: This field sets the level. It is also possible to directly enter the number using the numeric pad.

Pan: This field sets the value of the pan.

The right side of the window enables you to enter the individual (parallel) out and Effect Send level.

Vol: This field sets the output level. It is also possible to enter the numbers directly with the numeric pad.

Out: This field selects the individual output jack or output effect.

Follow stereo: This field enables or disables the level set in Stereo Output Mixer to effect the Individual (parallel) out and Effect Send levels. When this is set to NO, the Individual (parallel) out and Effect Send levels will not be affected even if the stereo output mixer level is changed.

Effect

By installing the optional effect board (EB16), it is possible to carry out various effect processing for each sound by using the 2-path multi-effect and the 2-path reverb.

Editing the Effect

The Effect Edit screen appears when you press FXedit[F5] in Mixer mode.

```
Pgm: 1-NEW_PROGRAM_01         Edit:MULTI FX1

M1▶━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━┥REV ┝┥MIX┝
         ┌DIST┐ ┌FILT┐ ┌MOD ┐ ┌ECHO┐
STEREO INDIV FXsend SETUP FXedit ON/OFF
```

Effect Board EB16 contains a 2-path multi-effect and a 2-path reverb. The multi-effect is a module for each effect and can be edited or rearranged by each module unit.

   MULTI FX1, MULTI FX2, REVERB 1, REVERB 2

The effect settings of each of the four paths in 2 can be set by program unit. By switching the program in Pgm: field, the effect settings will also switch.

Turning Each Effect On or Off

Multi-effect contains 5 types of effects and modules of mix settings. It is possible to turn each effect and mix settings on and off.
Use the [CURSOR] key to select the effect you want on or off.

```
Pgm: 1-NEW_PROGRAM_01         Edit:MULTI FX1

M1▶━━┥DIST┝┥FILT┝━┥MOD ┝━┥ECHO┝┥REV ┝┥MIX┝
STEREO INDIV FXsend SETUP FXedit ON/OFF
```
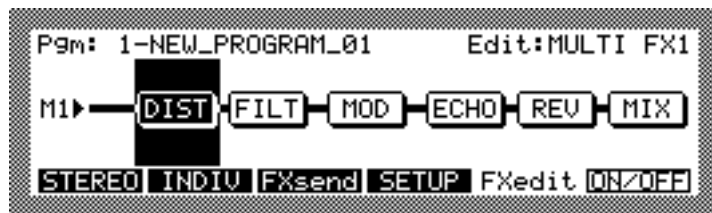
Press ON/OFF[F6] to switch between on and off.

```
Pgm: 1-NEW_PROGRAM_01         Edit:MULTI FX1

M1▶━━━━━━━┥FILT┝━┥MOD ┝━┥ECHO┝┥REV ┝┥MIX┝
     ┌DIST┐
STEREO INDIV FXsend SETUP FXedit ON/OFF
```
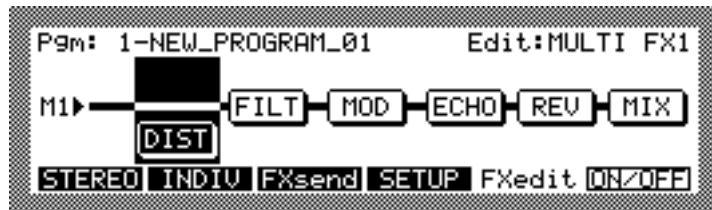
When Mix is off, all of the effect sounds will be muted regardless of the on/off status of each effect.

Multi-effect

MPC2000 has a two path multi-effect and each effect is a module. It is also possible to execute various routings by rearranging the modules. Select `MULTI FX1` or `FX2` from the `Edit:` field in the FXedit screen and select `MIX` with the[CURSOR] key.

```
Pgm: 1-NEW_PROGRAM_01        Edit:MULTI FX1

M1▶──┤DIST├┤FILT├─┤ MOD ├─┤ECHO├┤ REV ├┤MIX

 STEREO  INDIV  FXsend  SETUP  FXedit ON/OFF
```
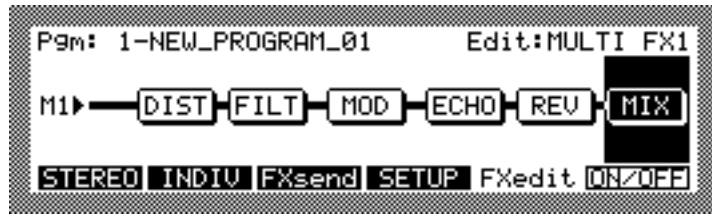
Press the [OPEN WINDOW] key to open the Effect Mixer window.

```
╔══════════Effect Mixer══════════╗
║                      Lev Pan Wid║
║Direct sig:OFF  Dist/EQ:  0 R50  ║
║Patch:         Mod/Echo:99 R50 99║
║ MOD/ECHO▶REV    Reverb:50 R50   ║
║                         CLOSE   ║
╚═════════════════════════════════╝
```
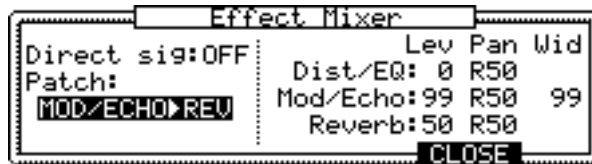
`Direct sig:` This field turns the direct sound of the signal input to an effect on or off. When it is `ON`, the level or pan of the direct sound is adjusted by the stereo mixer.

`Dist/FLT:` This field sets the output level and pan of the distortion module and the filter module.

`Mod/Echo:` This field sets the output level and pan of the modulation module and the delay/echo module. `Wid` adjusts the stereo range of the effect. When `Wid` is set to 0, the output effect sound becomes monaural.

`Reverb:` This field sets the output level and pan of the reverb module.

Setting the Effect Routing

Select the routing of the multi-effect in the `Patch:` field of the Effect Mixer window.

`MOD/ECHO>REV` is selected
The signal flow is as follows:
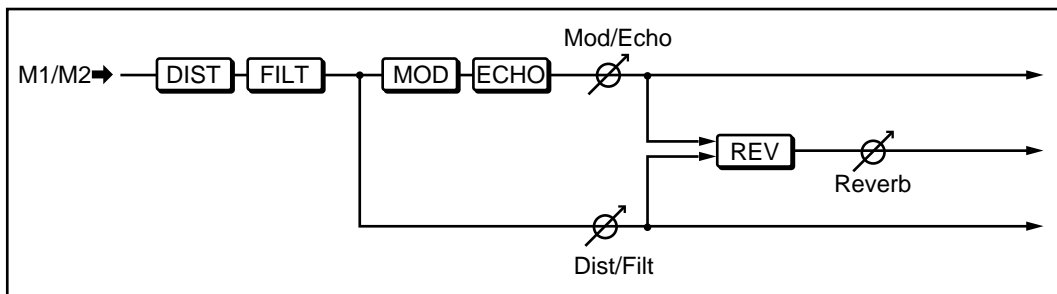
The following screen appears.
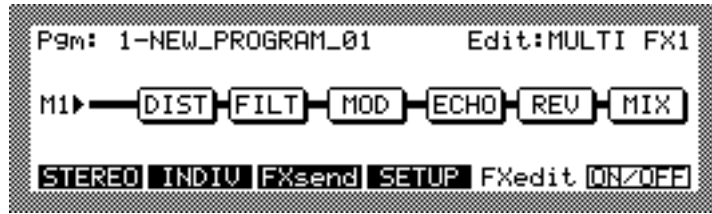
REV>MOD/ECHO is selected
The signal flow is as follows:
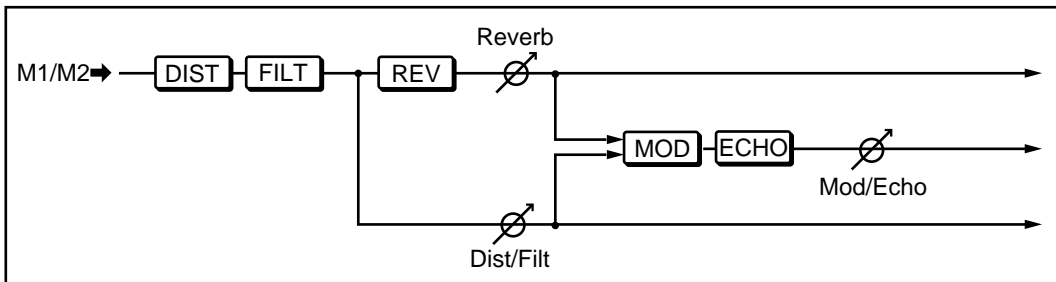
The following screen appears.
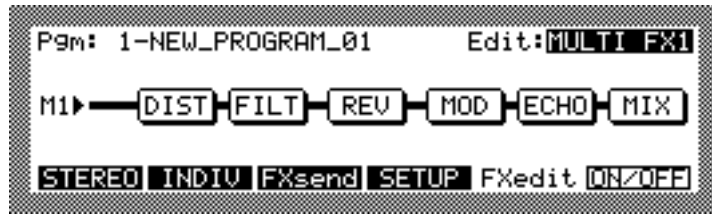
MOD/ECHO+REV is selected
The signal flow is as follows:
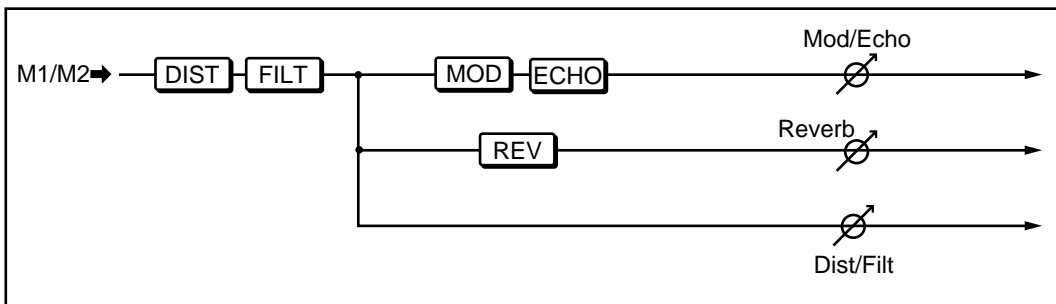
The following screen appears.
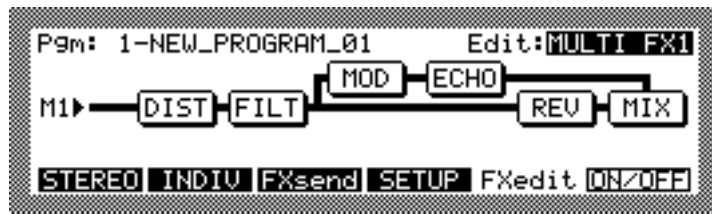
Reverb Effect

In addition to the two types of multi-effects, the MPC2000 provides two reverb-only effects. This effect can be selected directly in the FXsend screen, but it is also possible to use with with the multi-effect. It is possible to send a signal to the reverb from four points in multi-effect. Therefore, it is possible to cast a R1(R2) reverb at the same time when M1(M2) is selected in FXsend.

The following are ways to choose the original entry to send to RE-VERB 1 and REVERB 2:

Select REVERB 1 or REVERB 2 in Edit: field and select the INPUT: field with the [CURSOR] key.

```
Pgm: 1-NEW_PROGRAM_01        Edit:REVERB 1
Input:
FX1 DIST/FLT▶ ───────────────────── REV ─ MIX

 STEREO  INDIV  FXsend  SETUP  FXedit  ON/OFF
```
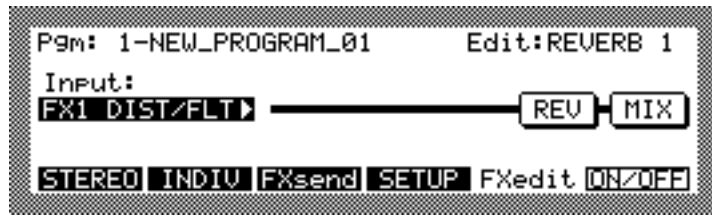
Choose the original entry from the following using the [DATA] wheel.

When R1(R2) is selected, the effect is cast on the sound of the channel selected for R1(R2) in the FXsend screen.

When M1(M2) is selected, the effect is cast on the sound of the channel selected for M1(M2) in the FXsend screen.

When FX1(FX2) DIST/FLT is selected, the effect is cast after the sound passes the multi-effect DISTORTION and 4-BAND FILTER.

When FX1(FX2) MOD/ECHO is selected, the effect is cast after the sound passes the multi-effect MODULATION and ECHO.

When FX1(FX2) REVERB is selected, the effect is cast after the sound passes the multi-effect REVERB.

Each patch (The effect routing selected in the Patch: field of the Effect Mixer window) of the multi-effect has a corresponding signal flow as shown below.

MOD/ECHO>REV is selected
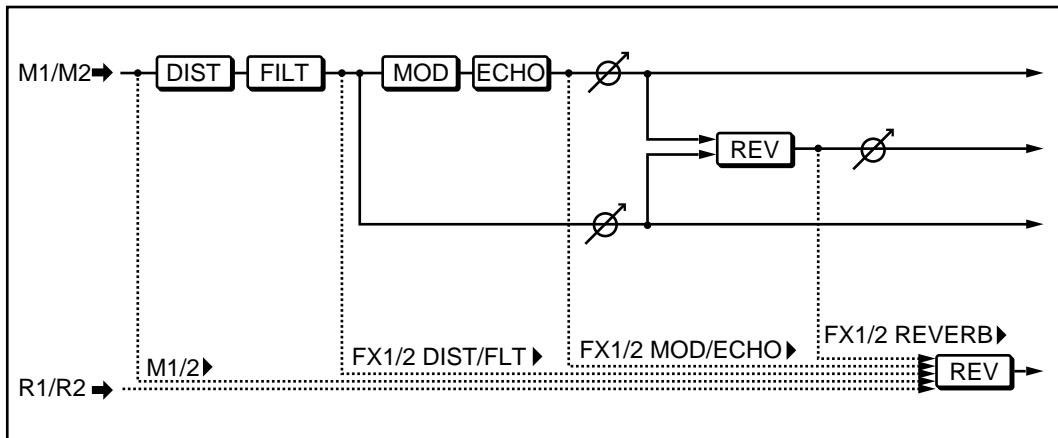
REU>MOD/ECHO is selected
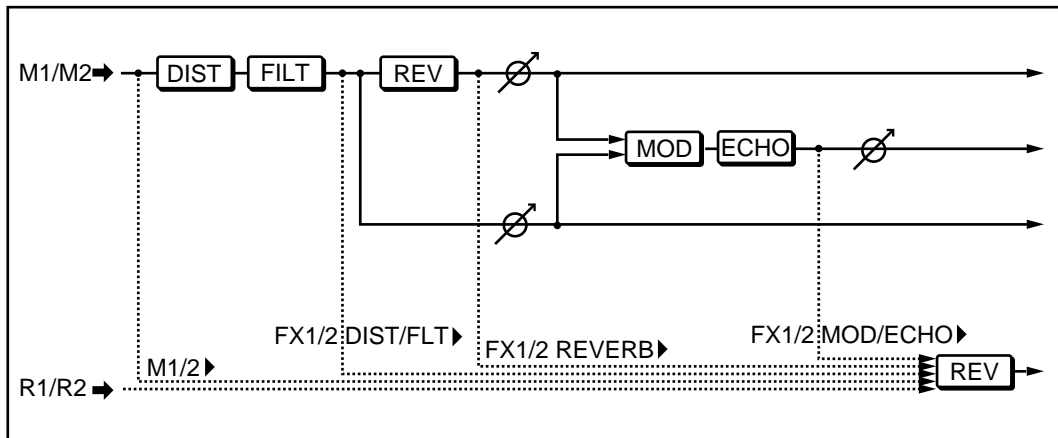
MOD/ECHO+REU is selected
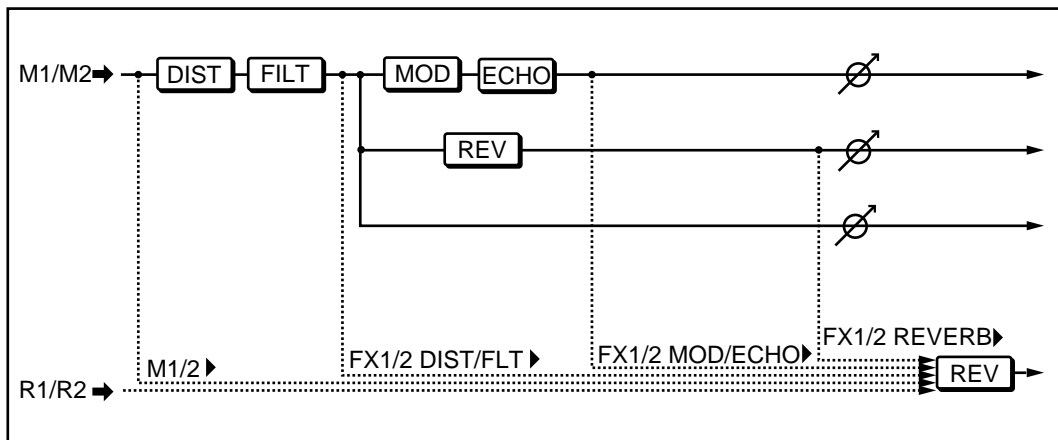
The output level and pan is set in the Effect Mixer window.
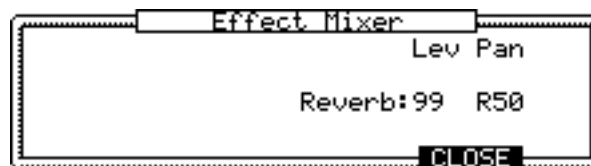
Editing Each Effect

When the ⟁⟁⟁⟁ field is MULTI FX1(2), the window to set each effect can be opened by selecting an effect (DIST, FILT, MOD, ECHO, REV) with the [CURSOR] key and pressing the [OPEN WINDOW] key.

```
┌──────── DISTORTION/RINGMOD ────────┐
│  <DISTORTION>    ┊  <RINGMOD>       │
│   Gain:99        ┊   Freq:5000Hz    │
│  Level:99        ┊  Depth:99%       │
└──── SOLO ┊BYPASS┊ CLOSE ┊MIXER ─────┘
```
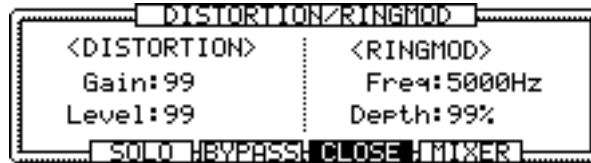
The function keys are common throughout all windows.

By pressing SOLO[F2], you can listen to the effect currently open while this window is opened and ignore other effects.

By pressing BYPASS[F3] you can bypass the current effect while the window is opened.

By pressing MIXER[F5], the Effect Mixer Window opens.

Distortion/Ring Modulator

Distortion simulates the distorted sound produced by overloading the entry signal.
Ring modulator is an effect that changes the key by using the internal oscillator. It produces a metallic sound with no scale.

```
┌──────── DISTORTION/RINGMOD ────────┐
│  <DISTORTION>    ┊  <RINGMOD>       │
│   Gain:99        ┊   Freq:5000Hz    │
│  Level:99        ┊  Depth:99%       │
└──── SOLO ┊BYPASS┊ CLOSE ┊MIXER ─────┘
```
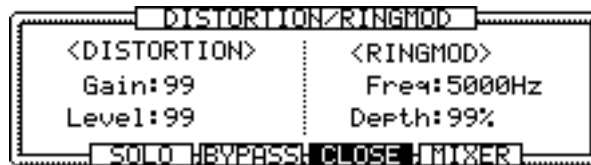
<DISTORTION>
Gain: This field adjusts the gain of the distortion. The distortion increases as the value increases.

Level: This field adjusts the effect level.

<RINGMOD>
Freq: This field sets the anomality frequency. A low value produces a tremolo effect and a high value produces a bell-like effect.

Depth: This field adjusts the depth of the effect .

4 Band Filter

This is a four band filter. It consists of a high-pass filter, two middle pitch band pass filters, and a low pass filter. The frequency of each band is variable and can overlap each other. The scale of the middle pitch filter can be changed to produce an auto-wow effect.

```
┌───────────────4-BAND FILTER────────────┐
│HIGH:16kHz -12dB   Q   <F-MOD>  depth    │
│MID1:6k3Hz +12dB   99 | 9.9Hz       99   │
│MID2:1k0Hz +12dB   99 | 9.9Hz       99   │
│ LOW:500Hz +12dB                         │
│        SOLO BYPASS CLOSE MIXER          │
└─────────────────────────────────────────┘
```
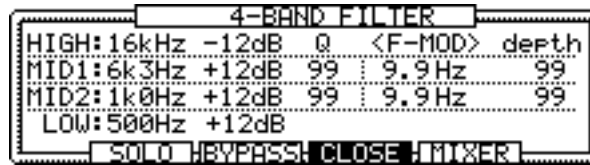
Set the center frequency and gain for each bandwidth.

The two middle-pitch Q's adjust the Q's of the filter. The larger the number, the wider the effect.

<F-MOD> depth adjust the anomal frequency and sweep volume.

Modulation

Modulation produces various effects such as phaser, flanger, chorus, rotary speaker, auto-pan, and pitch-shifter.

<Phaser>
Select PHASE SHIFT in the Type: field in Modulation window. The effect adds a hissing effect to the sound.

```
┌───────────────MODULATION───────────────┐
│Type:PHASE SHIFT                         │
│                        Speed:1.5Hz      │
│                        Depth:25         │
│                        Feedback:   0    │
│        SOLO BYPASS CLOSE MIXER          │
└─────────────────────────────────────────┘
```
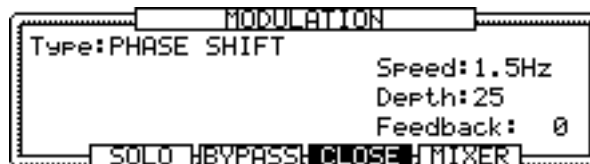
Speed: This field adjusts the speed of the phase effect.

Depth: This field adjusts the degree of the effect.

Feedback: This field adjusts the signal volume that returns to the input from the effect output.

<Flanger>
Select FLANGE in the Type: field in the Modulation window. This effect also adds a hissing effect, but provides a deeper sound.

```
┌───────────────MODULATION───────────────┐
│Type:FLANGE                              │
│                        Speed:1.5Hz      │
│                        Depth:25         │
│                        Feedback:+00     │
│        SOLO BYPASS CLOSE MIXER          │
└─────────────────────────────────────────┘
```

Speed: This field adjusts the speed of the flange effect.

Depth: This field adjusts the degree of the effect.

Feedback: This field adjusts the signal volume that returns to the input from the effect output.

<Chorus>
Select CHORUS in the Type: field in the Modulation window. This effect produces a sound effect similar to the playing of multiple instruments.

```
┌─────────────── MODULATION ───────────────┐
│ Type:CHORUS                               │
│                        Speed:1.5Hz        │
│                        Depth:25           │
│                        Feedback:   0      │
│         SOLO  BYPASS  CLOSE  MIXER         │
└───────────────────────────────────────────┘
```

Speed: This field adjusts the speed of the chorus effect.

Depth: This field adjusts the degree of the effect.

Feedback: This field adjusts the signal volume that returns to the input from the effect output.

<Rotary Speaker>
Select ROTARY SPEAKERS in the Type: field in the Modulation window. This effect simulates the sound of a rotary speaker.

```
┌─────────────── MODULATION ───────────────┐
│ Type:ROTARY SPEAKERS                      │
│                     │ MIDI control #:127  │
│ Speed1:0.5Hz        │  Acceleration:2.0s  │
│  Depth:30           │       Speed2:6.5Hz  │
│         SOLO  BYPASS  CLOSE  MIXER         │
└───────────────────────────────────────────┘
```

Speed1: This field sets the rotating speed of the rotary speaker.

Depth: This field adjusts the degree of the effect.

MIDI control#: This field sets the MIDI controller which changes the rotating speed. The controller can be randomly chosen from 128 types of MIDI controllers.

Acceleration: This field sets the time it takes to change the rotating speed of the speakers from Speed 1 to Speed 2 (or vice versa). This produces a real-life effect.

Speed2: This field sets the speed of the rotating speakers. You can switch between the value set in this filed and the Speed1: with the MIDI controller.

> **Note:** *The switch between Speed 1 and Speed 2 borders at MIDI control level 64.*

<Modulation and Auto-pan>
Select FMOD/AUTOPAN in the Type: filed in Modulation window. This effect produces various effects such as vibratos and Doppler's effects.

```
┌─────────────── MODULATION ───────────────┐
│ Type:FMOD/AUTOPAN      │ <AUTOPAN>        │
│ <F-MOD>  Speed:0.5Hz   │ Speed:0.5Hz      │
│          Depth:99      │ Depth:99         │
│          Feedback:99   │ Mode:TREM        │
│         SOLO  BYPASS  CLOSE  MIXER         │
└───────────────────────────────────────────┘
```

<F-MOD>

Speed: This field adjusts the anomal frequency.

Depth: This field adjusts the degree of the effect.

Feedback: This field adjusts the amount of feedback.

<AUTOPAN>

Speed: This adjusts the speed of the left and right swing.

Depth: This field adjusts the width of the effect.

Mode: This field sets the type of effect.

PAN   This simply swings the pan left and right.
L>R   The level increases as the pan swings from left to right and decreases as it swings from right to left. This produces the effect of the sound rotating.
R>L   This provides the opposite effect of the above.
TREM   This does not pan the sound but produces a tremolo effect.

<Pitch Shifter>

Select PITCH SHIFT in the Type: field of Modulation window. This effect produces a shift in the pitch of the original sound.

```
┌──────────────MODULATION──────────────┐
│Type:PITCH SHIFT      Left    Right    │
│               Tune:- 0.05     0.05    │
│                                       │
│     SOLO  BYPASS  CLOSE   MIXER       │
└───────────────────────────────────────┘
```

Tune: This field sets the volume of the shift. The effect is processed in stereo and it is necessary to set both the left and right tune.

<Pitch Shifter and Feedback>

Select PITCH+FEEDBACK in the Type: field of the Modulation window. This effect adds a delay effect to the pitch shift.

> ***Note:*** *When this type is selected in MODULATION effect, it uses the delay circuit and ignores the DELAY/ECHO effect described later in this manual.*

```
┌──────────────MODULATION──────────────┐
│Type:PITCH+FEEDBACK   Left    Right    │
│               Tune:- 0.05     0.05    │
│              Delay:  275ms    275ms   │
│            Feedback:  99        99     │
│     SOLO  BYPASS  CLOSE   MIXER       │
└───────────────────────────────────────┘
```
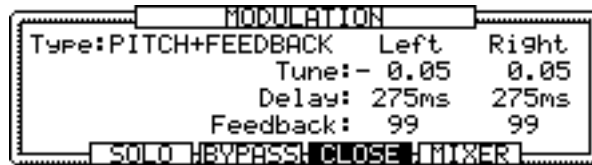
Tune: This field sets the shift volume. The effect is processed in stereo and it is necessary to set both the left and right tune.

Delay: This field sets the delay time between 0 and 335 ms. ÉtThe effect is processed in stereo and it is necessary to set both the left and right delay.

Feedback: This field sets the feedback volume. The effect is processed in stereo and it is necessary to set both the left and right feedback.

Delay/Echo

Delay/Echo is an effect which broadens the sound by overlaying sounds slightly delayed on the original sound. MPC2000 has four modes to choose from.

<MONO LEFT>
Select `MONO LEFT` in the `Type:` field in DELAY/ECHO window. A monaural delay effect is cast upon the input from LEFT.

```
┌─────────────── DELAY/ECHO ──────────────┐
│ Type:MONO LEFT        Feedback:00%      │
│                  Feedback delay:335ms   │
│                      HF damping:20kHz   │
│                L/R delay offset:+00%    │
│───────── SOLO ┃BYPASS┃ CLOSE ┃MIXER─────│
└─────────────────────────────────────────┘
```
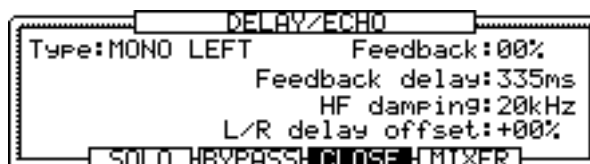
`Feedback:` This field adjust the feedback volume.

`Feedback delay:` This filed adjusts the delay time between 0 ~ 670ms.

`HF damping:` This field sets the frequency of the high frequency contained in the sound within the feedback loop you want to remove.

`L/R delay offset:` By setting this field to a number other that 0, you can create a panning delay effect. Set the ratio against time set in `Feedback delay:` field. When the value is positive, the effect runs from right to left, when negative, the effect runs from left to right.

<MONO L+R>
Select `MONO L+R` in the `Type:` field of the Delay/Echo window. This merges the stereo input signals and produces a monaural delay effect.

```
┌─────────────── DELAY/ECHO ──────────────┐
│ Type:MONO L+R         Feedback:00%      │
│                  Feedback delay:335ms   │
│                      HF damping:20kHz   │
│                L/R delay offset:+00%    │
│───────── SOLO ┃BYPASS┃ CLOSE ┃MIXER─────│
└─────────────────────────────────────────┘
```

`Feedback:` This field adjusts the feedback volume.

`Feedback delay:` This adjusts the delay time between 0 ~ 670ms.

`HF damping:` This field sets the high frequency contained in the sound within the feedback group.

`L/R delay offset:` When this field is set to any number other than 0, it produces a panning delay effect. Set the ratio against time set in `Feedback delay:` field. When the value is positive, the effect runs from right to left, when negative, the effect runs from left to right.

> ***Note:*** *When the monaural type is selected in DELAY/ECHO, the sounds will merge even if MODULATION effect with stereo effect is selected. To maintain the stereo effect of MODULATION, select the following stereo type DELAY/ECHO effects.*

<X-OVER L&R>
Select X-OVER L&R in the Type: field of Delay/Echo window. This returns the feedback signals of the stereo input signals after reversing the left and right signals. This produces an interesting pan delay effect.
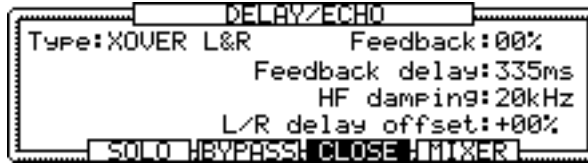
```
╔══════════════DELAY/ECHO══════════════╗
║ Type:XOVER L&R       Feedback:00%     ║
║                 Feedback delay:335ms  ║
║                     HF damping:20kHz  ║
║               L/R delay offset:+00%   ║
╟──────── SOLO │BYPASS│ CLOSE │MIXER────╢
╚═══════════════════════════════════════╝
```

Feedback: This field adjusts the feedback volume.

Feedback delay: This field adjusts the delay time between 0 and 335ms.

HF damping: This field sets the high frequency contained in the sound within the feedback group.

L/R delay offset: When this field is set to any number other than 0, it produces a panning delay effect. Set the ratio against time set in Feedback delay: field. When the value is positive, the effect runs from right to left, when negative, the effect runs from left to right.

<STEREO>
Select STEREO in the Type: field of Delay/Echo window. This produces a delay effect to the inputs from both LEFT and RIGHT.

```
╔══════════════DELAY/ECHO══════════════╗
║ Type:STEREO          Left     Right   ║
║             Feedback:  00%      00%   ║
║       Feedback delay: 335ms    335ms  ║
║          HF damping:  20kHz    20kHz  ║
╟──────── SOLO │BYPASS│ CLOSE │MIXER────╢
╚═══════════════════════════════════════╝
```

Feedback: This field adjusts the feedback volume. The feedback volume of both left and right can be set individually.

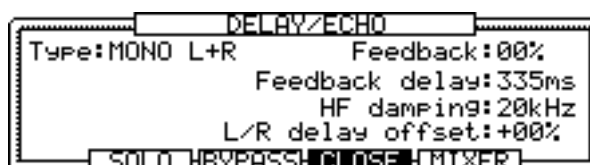Feedback Delay: This field adjusts the delay time between 0 and 335ms. The delay time of both left and right can be set individually.

HF damping: This field sets the high frequency contained in the sound within the feedback group. This can be set for left and right individually.

Reverb

The reverb effect adds an echo to the original sound. MPC2000 provides 3 main types: Hall (room) Gate, and Reverse.

<HALL, ROOM>
Select from LARGE HALL, SMALL HALL, LARGE ROOM, SMALL ROOM in the Type: field in the Reverb window. This produces the popular spaced reverb effect.

```
 ┌────────────── REVERB ──────────────┐
 │ Type:LARGE HALL                     │
 │  Predelay:90ms          Near:99     │
 │        Time:99    LF damping:1k0Hz  │
 │     Diffuse:99    HF damping:20kHz  │
 └──── SOLO ┤BYPASS┤ CLOSE ┤MIXER ─────┘
```
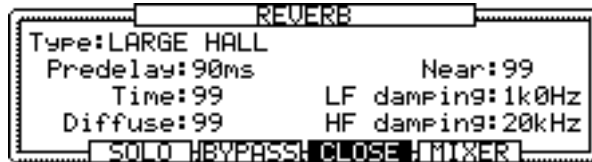
Predelay: This field adjusts the delay time from the generation of the sound to the beginning of the reverb.

Time: This field adjusts the time it takes for the reverb to diminish and dissolve.

Diffuse: This field sets the density of the reflecting sound of the reverb sound. When the value is low, the echo effect is emphasized. When it is high, a smoother effect can be expected.

Near: This adjusts the distance from the sound source. The larger the value, the closer the sound the smaller the value, the more distant the sound becomes.

LF damping: This field cuts the low frequency contained in the reverb.

HF damping: This field cuts the high frequency contained in the reverb.

<GATE>
Select GATED 1 and GATED 2 in the Type: field of the Reverb window. This produces an effect similar to a reverb sound that is forcedly cut. The decay characteristics differ between GATE 1 and GATE 2. GATE 2 sounds more synthetic.

```
 ┌────────────── REVERB ──────────────┐
 │ Type:GATED 1                        │
 │  Predelay:90mS                      │
 │        Time:99                      │
 │     Diffuse:99                      │
 └──── SOLO ┤BYPASS┤ CLOSE ┤MIXER ─────┘
```

Predelay: This field adjusts the delay time from the generation of the sound to the start of the reverb.

Time: This field adjusts the time it takes for the reverb to dissolve.

Diffuse: This field sets the density of the reflecting sound of the reverb sound. When the value is low, the echo effect is emphasized. When it is high, a smoother effect can be expected.

<REVERSE>
Select REVERSE in the Type: field of Reverb window. The decay effect is produced in reverse.

```
┌──────────────── REVERB ─────────────────┐
│ Type:REVERSE                             │
│  Predelay:90mS                           │
│       Time:99                            │
│  Diffuse:99                              │
│      SOLO  BYPASS  CLOSE   MIXER         │
└──────────────────────────────────────────┘
```

Predelay: This field adjusts the delay time from the generation of the sound to the start of the reverb.

Time: This field adjusts the time it takes for the reverb to dissolve.

Diffuse: This field sets the density of the reflecting sound of the reverb sound. When the value is low, the echo effect is emphasized. When it is high, a smoother effect can be expected.
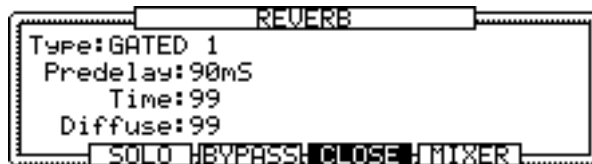
Copying an Effect

Four sets of effect settings (MULTI FX1,2, REVERB1,2) can be saved for each program. The settings of each set can be copied. The Copy Effect Settings Window will open by pressing the [OPEN WINDOW] key when the Pgm: field is selected on the FXedit screen.

```
┌──────── Copy Effect Settings ────────┐
│        Pgm:01-STUDIO_SET             │
│ COPY   Set:MULTI FX1                 │
│  ⇩     ..........................    │
│        Pgm:01-STUDIO_SET             │
│        Set:REVERB 2                  │
│                    CANCEL  DO IT     │
└──────────────────────────────────────┘
```

Top Pgm: This field selects the name of the program you want to copy.

Top Set: This field selects the effect set of the copy origin.

Bottom Pgm: This field selects the name of the program you want to copy.

Bottom Set: This field selects the effect set of the copy destination.

> ***Note:*** *The effect settings can only be copied when MULTI FX is the copy origin and REVERB is selected as the copy destination or when the REVERB is the copy origin and MULTI FX is selected as the copy destination.*

Press DO IT [F5] to copy.

Flash ROM

By installing the optional flash ROM board FMX008M, you can save the data stored on the disk to a flash ROM. Saving the sound data on a flash ROM saves RAM space. Also, if you save the operating system to a flash ROM, you can start the MPC2000 without inserting a disk. When you are installing a flash ROM, please refer to the manual of the flash ROM.

Formatting a Flash ROM

When you are using a flash ROM, it is necessary to format the ROM first. Enter Disk mode by pressing [DISK] (3 on the numeric pad) while holding down the [SHIFT] key. Select F-ROM in the Device: field and press FORMAT [F3] to display the format screen.

```
Device:F-ROM                          FLASH
                                       ROM

    /!\   THIS WILL ERASE THE ENTIRE ROM!!
 LOAD   SAVE  FORMAT DELETE          [DO IT]
```

Press DO IT [F6].

```
            Format F-ROM
    /!\   THIS WILL ERASE
            THE ENTIRE ROM!!
          CANCEL DO IT
```
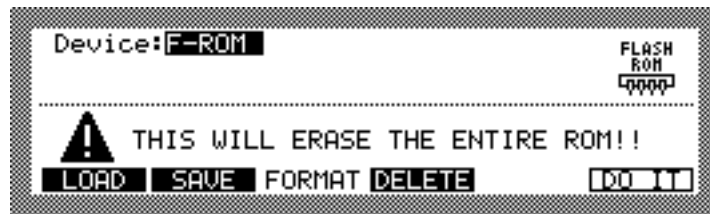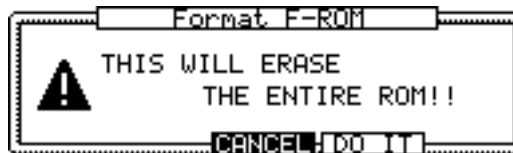
The above message appears, and the format begins when you press DO IT [F5].

> *Note:* *Once the formatting is executed, all of the data on the flash ROM will be erased.*

Saving to a Flash ROM

You can save data on a flash ROM in the same way you would a floppy disk or SCSI device. Press SAVE[F2] in disk mode.

```
Type:Save a sound
File:BASS_DRUM#01P_SND       Size:   167K
                     SAVE  FLASH  Device:F-ROM
                   ┌─┐    ROM  Frag'd=   630k
                   └┼┼┘ ⟹  ▭▭  Free=    700k
  LOAD   SAVE  FORMAT DELETE          DO IT
```

File: This field selects the file you want to save to.

Device: This field selects F-ROM.

Frag'd= This field shows the hollow memory size of fragmented data. Please refer to Flash ROM Fragmentation described later in this manual.

Press DO IT[F6].

```
╔════════ Save ALL file ════════╗
║                               ║
║ File name:ALL_SEQ_SONG1   .ALL║
║                               ║
║            CANCEL SAVE         ║
╚═══════════════════════════════╝
```

Press SAVE[F5] to save the file.

Loading from a Flash ROM

You can read data from a flash ROM in the same way you would load from an ordinary disk. Press LOAD[F1] in Disk mode.

```
View:ALL files
File:AMB-KICK-5       .SND     Size:   167K
Device:F-ROM  FLASH  LOAD       Free memory
              ROM          ┌─┐   snd:   600K
Type:MPC2000  ▭▭  ⟹  └┼┼┘  seq:   120K
  LOAD   SAVE  FORMAT DELETE          DO IT
```
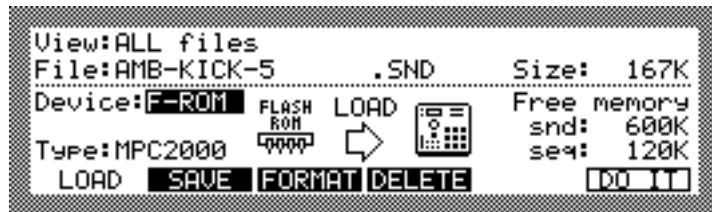
File: This field selects the file you want to load.

Device: Select F-ROM in this field and press DO IT[F6].

> **Note:** *When you are loading from a flash ROM, you cannot load if you have a sound of the same name on the MPC2000 RAM.*

Deleting Data from a Flash ROM

You can delete a file from the flash ROM in the same way you would from an ordinary disk. Press DELETE[F4] in Disk mode.

```
View:ALL files
File:AMB-KICK-5    .SND    Size:   167K
Device:F-ROM         FLASH DELETE
                      ROM        ⟶    🗑   Frag=   630k
Type:MPC2000                              Free=   700k
  LOAD   SAVE  FORMAT DELETE            DO IT
```

File: This selects the file you want to remove.

Select F-ROM in the Device: field and press DO IT[F6].

```
     Delete F-ROM Sound
  ⚠   This sound is in use.
      Pressing DO IT will
      delete immediately!!
         CANCEL DO IT
```
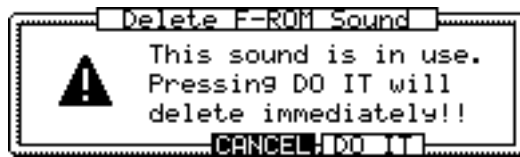
The file will be removed when DO IT[F5] is pressed.

Flash ROM Fragmentation

When MPC2000 writes data on the flash ROM, it writes consecutively in the available area. However, when flash ROM data is deleted, vacant space develops between the data unless the data is written in the last available space. Wave pattern data which is saved to the flash ROM is directly generated, and always needs to be one link of data. In such a case, the MPC2000 will not write to an area if the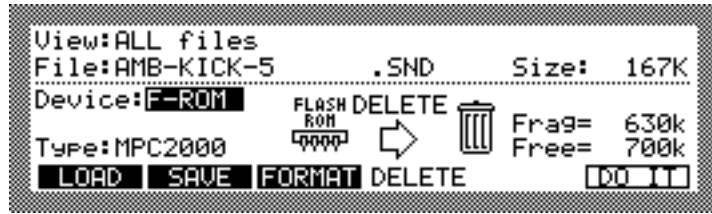 area is too small for the wave pattern data and will write in another available space. Therefore, there may be cases when a wave pattern data cannot be saved to the flash ROM even if the total available space is larger than the data size of the wave pattern. This type of available disk space sandwiched between data appears on the Frag'd= field of the Save screen. The MPC2000 can organize the data allocation and increase the available consecutive disk space. Select F-ROM in the Device: field of each Disk mode screen and press the [OPEN WINDOW] key.

```
     F-ROM Fragmentation
  ▬      ▬   ▬       ▬
  ▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓

  Pressing ARRANG will arrange data.
              CLOSE ARRANG
```

The window will display the data fragmentation. The colored area is where the data exists. Press ARRANG[F5] to solve the fragmentation.

```
┌─────────────────────────────────┐
│         Arrange F-ROM           │
│  THIS PROCESS WILL TAKE A WHILE! │
│  ⚠     IT'S NOT POSSIBLE TO     │
│        ABORT, ONCE INITIATED!   │
│              CLOSE  DO IT       │
└─────────────────────────────────┘
```
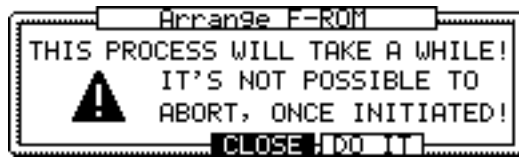
Press ░░ ░░ [F5] to execute the rearrangement.

> *Note: Do not turn the MPC2000 off during the arrangement. The data in the flash ROM will be destroyed and cannot be recovered.*

```
┌─────────────────────────────────┐
│       F-ROM Fragmentation       │
│  ▓▓▓▓▓▓▓▓░░░░░░░░░░░░░░░░░░░░░░░ │
│  ├─┼─┼─┼─┼─┼─┼─┼─┼─┼─┼─┼─┼─┤    │
│                                 │
│          Processing.....        │
└─────────────────────────────────┘
```

The above window will appear during the process.

> *Note: It will take several minutes to complete the arrange.*

Editing a Sound within the Flash ROM

When the sound data stored on the flash ROM is loaded, only the location information of the data is loaded to the RAM and the wave pattern data is not loaded. Therefore, it is possible to handle more data on the RAM. However, to edit the wave pattern data within the flash ROM, it is necessary to load the wave pattern data temporarily to the RAM.

Press [TRIM] (or 5 on the numeric pad) while holding down the [SHIFT] key.

```
┌─────────────────────────────────┐
│Rom:B-D-LOOP      (ST) PLAY X:AFTR END│
│ St:    105    End:  85242  View:LEFT│
│  ╷▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓  │
│ TRIM   LOOP  znEDIT PARAMS  CUT  PLAY X│
└─────────────────────────────────┘
```

The screen will look almost like the conventional trim screen, but if the wave pattern selected is data on the flash ROM, the ░░░░ field of the conventional trim screen should turn to a ░░░░ field. Move the cursor to the ░░░░ field and press the [OPEN WINDOW] key.

```
┌─────────────────────────────────┐
│             SOUND               │
│    To edit, copy to RAM first.  │
│ <Sound spec.>      Rate:44.1kHz │
│  Type:STEREO       Size:100kbytes│
│   DELETE          CLOSE  COPY    │
└─────────────────────────────────┘
```
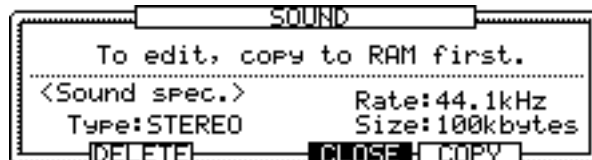
Press COPY[F5] here to open the Copy window.

```
┌──────────── Copy to RAM ────────────┐
│      Rom:ABCDEFGHIJKLMNO            │
│              ⇩COPY                  │
│ New name:Sound002                   │
│                     CANCEL  DO IT   │
└─────────────────────────────────────┘
```
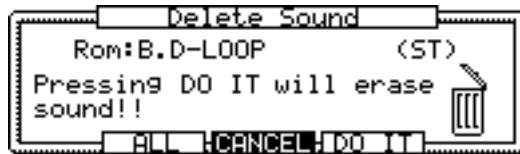
Name the sound and press DO IT[F5]. The wave pattern data on the flash ROM will be copied to the RAM.

> *Note: You cannot use a name that exists on the flash ROM.*

Press DELETE[F2] in the Sound window to open the Delete window.

```
┌──────────── Delete Sound ───────────┐
│    Rom:B.D-LOOP          (ST)      │
│ Pressing DO IT will erase          │
│ sound!!                            │
│             ALL  CANCEL  DO IT     │
└─────────────────────────────────────┘
```

Press DO IT[F5] to delete the sound.

> *Note: What is actually being deleted here is the location informa-*
> *tion of the sound data within the flash ROM. If you want*
> *to delete the wave pattern data from the flash ROM, do it*
> *from Disk mode.*

Press ALL[F2] to delete all the sound data within the RAM and the wave pattern data location information within the flash ROM.

Saving the Operating System to a Flash ROM

By saving the operating system to a flash ROM, you can start the MPC2000 without inserting the system disk when you turn the power on. To save the operating system, press [DISK] (or 4 on the numeric pad) while holding the [SHIFT] key and press SAVE[F2].

```
┌─────────────────────────────────────┐
│ Type:Save a sound                   │
│ File:BASS_DRUM#01P_SND     Size:  167K │
│                                     │
│            SAVE  FLASH Device:F-ROM │
│        ▢    ⇨    ROM   Frag'd= 630k │
│                       Free=    700k │
│ LOAD    SAVE  FORMAT DELETE  DO IT  │
└─────────────────────────────────────┘
```

Select Copy Operating System in the Type: field and in-sert the floppy disk containing the operating system and press DO IT[F6].

> *Note: You need the master floppy disk to save the operating sys-*
> *tem. You cannot select the operating system copied to de-*
> *vices as the hard disk as the copy source.*

Once the operating system is loaded on the main device, the following window appears.

```
┌──────┤ Select destination ├──────┐
│                     ┊                     │
│ OS file:            ┊FLASH Device:F-ROM   │
│ Ver.:1.01           ┊ ROM                 │
│ Size:300k           ┊ ⊏⊐⊏⊐⊐  Free: 1119K  │
│              CANCEL┊ DO IT                │
└──────────────────────────────────┘
```

Select F-ROM in the Device: field and press DO IT [F5].

> ***Note:*** *You cannot save more than two operating systems on one flash ROM.*

By saving the operating system onto the flash ROM, it will automatically load when the power is turned on. At the same time, if you have APS or ALL files saved, these will also be loaded. By doing this, you can prepare you self so you can play as soon as you turn the power on.

> ***Note:*** *If there are multiple APS or ALL files, the MPC2000 will load the first file it has found.*
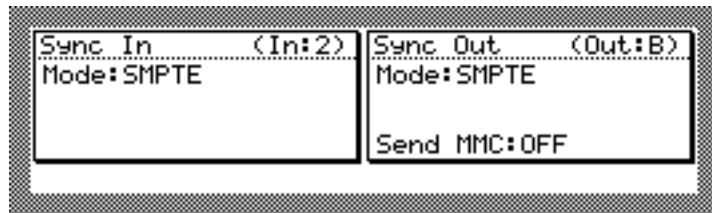
Synchronizing with the SMPTE

By installing the optional SMPTE board IB-M20T, you can synchronize using SMPTE. SMPTE is the time code signal containing absolute time information.

Connecting

Enter the time code from an external device to the SMPTE IN jack on the rear panel. To output the time code to external devices, connect the external device to the SMPTE OUT jack.

Setting Directions

SMPTE synchronizing is set in the same way as MIDI synchronizing. Press [MIDI/SYNC] (or 9 on the numeric pad) while holding the [SHIFT] key and display the MIDI/SYNC mode screen.

```
Sync In       (In:2)  Sync Out     (Out:B)
Mode:SMPTE            Mode:SMPTE

                     Send MMC:OFF
```

To Synchronize with External SMPTE

Select SMPTE in the Mode: field on the left. When doing so, the In: field settings are ignored.

```
Sync In       (In:2)
Mode:SMPTE
```
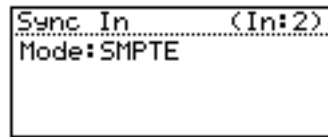
Synchronizing an External Device using SMPTE

Select SMPTE in the Mode: field on the right. The settings in the Out: field are only valid for MMC send.
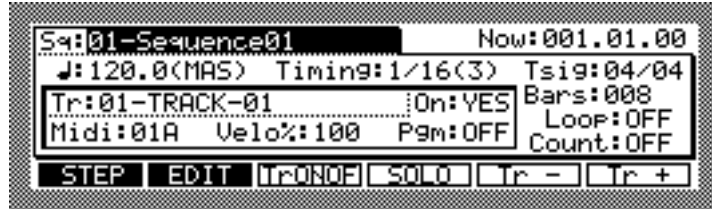
```
Sync Out     (Out:B)
Mode:SMPTE

Send MMC:OFF
```
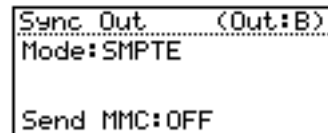
For frame rate settings or other details regarding synchronization, refer to MIDI/SYNC Mode in chapter 10 of the MPC2000 Operator's Manual.

Other Revisions

Additional Track On/Off Key

A `TrONOF` [F3] key has been added to the MAIN screen.

```
Sq:01-Sequence01          Now:001.01.00
♩:120.0(MAS)  Timing:1/16(3)  Tsig:04/04
Tr:01-TRACK-01         On:YES  Bars:008
Midi:01A   Velo%:100   Pgm:OFF  Loop:OFF
                                Count:OFF
   STEP    EDIT  TrONOF   SOLO   Tr -    Tr +
```

By pressing this key, you can switch the track on or off directly, where as you had to switch in the `On:` field previously.

Turning the Tracks On or Off using the Drum Pad

The following window opens when you press the [OPEN WINDOW] key when the `On:` field is selected.

```
╔══════Press pads to Track ON/OFF══════╗
║(Unused)(Unused)(Unused)(Unused)║
║(Unused)(Unused)(Unused)(Unused)║
║(Unused)(Unused)(Unused)(Unused)║
║(Unused)(Unused)(Unused)(Unused)║
║   Tr:01-16(PAD BANK A)    CLOSE ║
╚═══════════════════════════════════════╝
```

This window enables you to turn each of the tracks 1 to 64 on or off with the pad. The tracks that are on are displayed in reverse. The above example shows tracks 1 to 16 on. To display tracks 17 and above, press the pad bank key.

```
╔══════Press pads to Track ON/OFF══════╗
║(Unused)(Unused)(Unused)(Unused)║
║(Unused)(Unused)(Unused)(Unused)║
║(Unused)(Unused)(Unused)(Unused)║
║(Unused)(Unused)(Unused)(Unused)║
║   Tr:17-32(PAD BANK B)    CLOSE ║
╚═══════════════════════════════════════╝
```

The Automatic Extension Function of the Sequence Bar

When you are recording a sequence, bars are automatically added when your recording exceeds the number of bars set in the `Bar:` field.

> **Note:** *The sequence will return to the first bar when the `LOOP:` field is `ON`.*