9030

ADVANCED INSTRUMENT EFFECTS PROCESSOR

ZOOM

High-Tech Tools for Artistic Expression

OPERATION MANUAL

WARNING!
Danger of explosion at incorrect battery change.
Use same type of battery or of equivalent type recommended by manufacturer.
Always discard the battery acording to the manufacturer's instructions.

ADVARSEL!
Lithiumbatteri - Eksplosionsfare ved fejlagtig händtering.
Udskiftning mä kun ske med batteri af samme fabrikat og type.
Levér det brugte batteri tilbage til leverandøren.

Congratulations and thank you for purchasing the ZOOM 9030 Advanced Instrument Effects Processor.

The 9030 is a sophisticated multi-effect device with the following features and functions:

· **A total of 47 basic individual effects, which are built into the 9030. Up to seven of these effects can be combined in a multi-effect system, enabling a wide range of signal processing applications, from the reproduction of standard sounds to the creation of special synthesizer-like effects.**

· **A logically-designed, intuitive user interface, which allows you to operate and control it as easily as you would a simple pedal effect.**

· **Built-in analog distortion effect with broad sound variation.**

· **Simultaneous control over external effect devices, through the provided send/return terminals.**

· **Real-time effect parameter modulation, which allows you to dynamically change effect parameters by using the optional 8050 foot controller and/or a MIDI keyboard.**

Please take the time to read this manual carefully, in order to get the most out of your 9030 and ensure longtime use and reliability.

Safety Precautions

Keep in mind the following safety tips and precautions for optimum safe use of the 9030.

Power Requirements

A special AC adaptor is designed for use only with the 9030. Make sure to use the included AC adaptor (AD0002). Use of another AC adaptor can cause malfunctions or damage.

Make sure to consult with your local ZOOM dealer about the use of a proper AC adaptor or voltage converter when using the AC adaptor in an area (for example, another country) where the power supply voltage is different.

Environment

Avoid using your 9030 in environments where it will be exposed to:

· Temperature extremes
· High humidity or moisture
· Excessive dust or sand
· Excessive vibration or sudden shock

Handling

Since the 9030 is a precision electronic device, avoid applying excessive force to the switches and buttons. Though the 9030 has been constructed for sturdiness and reliability, dropping, smashing, or applying too much weight to the product can cause damage.

Remodeling

Never open the case of the 9030 or attempt to modify the product in any way since this can result in damage.

Connecting cables and input and output jacks

You should always turn off the power before connecting any cables. Also make sure to disconnect all cables and the AC adaptor before moving the 9030.

Caution!

The 9030 contains a long-life lithium battery which maintains the effect programs stored to the internal memory even when the unit is turned off. With normal use, the battery should last for approximately five years. To avoid possible data loss, contact your local ZOOM dealer five years from the date of purchase and have the battery replaced by a qualified technician. Do not attempt to replace the battery yourself, since installing an improper battery could result in an explosion.

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Precautions

Electrical Interference

The 9030 uses digital circuitry that may cause interference and noise if placed too close to other electrical equipment, such as TV sets and radios. If such problems occur, move the 9030 further away from the affected equipment. Also, when fluorescent lights or devices with built-in motors are in close proximity to the 9030, the 9030 may not function properly.

Cleaning

Use a soft, dry cloth to clean the 9030. If necessary, a slightly damp cloth can also be used. Do not use any abrasive cleansers, waxes, or solvents (such as paint thinner or alcohol), since these may dull the finish or damage the surface.

Keep this manual in a safe, convenient place for future reference.

Outline of the Manual

Section I: Introduction

This section explains the terms used throughout the manual and the names and functions of the panel controls and terminals.

Section II: Tutorial

This section is a "guided tour" of the 9030 that leads you through the various functions and operations of the unit, from making all the initial connections and setting up each piece of equipment to storing your newly edited effect programs. Even if you have a lot of experience using multi-effect devices, we recommend that you take some time to look through this section.

Section III: Play Mode

This section explains in detail the operations of playing selected effect programs of the 9030. If you wish to start processing sounds as soon as possible, read this section after the Tutorial section.

Section IV: Edit Mode

This section explains the operations of the Edit mode, in which the Patches of the 9030 are edited. The parameters of the basic effect programs are also explained in this section. If you wish to start editing your own effect programs, read this section after the Tutorial section.

Section V: Utility Mode and Pop-up Menu

This section explains the remaining miscellaneous operations of the 9030, such as naming of the effect programs, MIDI operations in the Utility Mode, and the convenient pop-up menu.

Section VI: Example Applications -- Remote Control and Real-time Modulation

This section explains how to control the 9030 remotely by using the optional 8050 foot controller and MIDI devices such as a synthesizer. If you are using the 9030 with a MIDI keyboard (or other MIDI device), you should read this section to get the most out of your equipment.

Section I: Introduction

This section explains some of the terms used throughout the manual, as well as the names and functions of the panel controls and terminals.

Terms Used in the Manual

Effect Module

The 9030 consists of basic effect blocks, which are listed below. Each block is referred to as an "effect module." The following are the types of effect modules:

- COMP (Compressor group)
- EXT (External effect)
- DIST (Distortion group)
- EQ (Equalizer group)
- AMP (Amp simulation group)
- EFF 1 (Miscellaneous effects 1)
- EFF 2 (Miscellaneous effects 2)
- SFX (Special effects)
- REV (Reverb & echo group)

Effect Types

Each effect module has several different effect programs, which are referred to as effect types. See page 19 for information on the kinds of effect types. One effect type can be selected for each effect module.

Patch

The 9030 allows you to use a maximum of seven effect modules simultaneously. A group of effect modules, each with their own effect type settings, is referred to as a Patch. The 9030 can store up to 99 Patches in the internal memory (Patch numbers 1 - 99).

Parameter

The elements which determine the sound of an effect are referred to as parameters. Parameter values can be set for each effect module for making Patches on the 9030.

Page

Each screen of the display is referred to as a "page." When the parameter is too large to be displayed on a single screen, its settings are divided over several display pages.

Mode

The functions of the 9030 can be roughly divided into three different categories or types. These types are referred to as "modes" and are described below.

- Play Mode -- In this mode, Patches can be selected and played. When the power is turned on, the 9030 is automatically set to this mode.

- Edit Mode -- In this mode, the parameters of each Patch can be edited.

- Utility Mode -- This mode is used for naming Patches and setting the MIDI channel.

Block Diagram

Patch

```
INPUT─COMP─EXT─DIST─EQ─AMP─┬─EFF1─EFF2─┬─REV─OUTPUT
            \ ↑ /          └──SFX──────┘
         Effect module
```
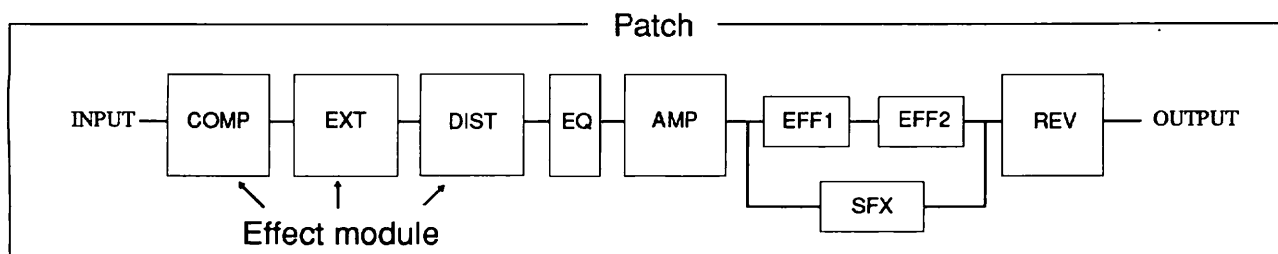
Names and Functions of the Controls and Terminals

Front Panel

(1) Input gain volume

For adjusting the level of the input signal. This control affects both the Hi-Z INPUT terminal on the front panel and the INPUT terminal on the rear panel.

(2) Input level indicator

For monitoring the level of the input signal. When an input signal is received, the LED at the bottom lights up in green and changes in color to amber as the level becomes greater. When a high level signal capable of causing distortion is input, the LED at the top lights up in red.

(3) HI-Z INPUT (high impedance input) terminal

For connection of instruments such as electric guitar and bass. This terminal cannot be used simultaneously with the INPUT terminal on the rear panel. When both terminals are connected, the Hi-Z INPUT terminal has priority.

(4) PHONES (headphone) terminal

For connection of a set of stereo headphones.

(5) Headphone volume

For adjusting the level output through the stereo headphones.

(6) PATCH NO. (Patch number) indicator

Indicates the Patch number (1 - 99) of the selected Patch. When storing an edited Patch, the destination Patch number is indicated.

(7) PATCH ▼ key, PATCH ▲ (COMPARE) key

• In the Play mode, this key is used to select Patches. The Patch number increases by one each time the PATCH ▲ key is pressed, and decreases by one upon each press of the PATCH ▼ key.

• In the Edit mode, PATCH ▲ key is used in monitoring to compare the Patch currently being edited with the original Patch (the Patch as it was before editing).

(8) Display

Shows various information necessary in operating the 9030, such as Patch names, effect parameter values and other messages.

(9) Effect indicator

Displays the condition of each effect module.

• In the Play mode, the indicators for effect modules that are currently ON light up in red. The indicators for those modules that are OFF light up in green.

• In the Edit mode, the indicator for the module which is currently being edited flashes.

The indicators for the modules which are ON light up in amber when all the effects of the 9030 are bypassed (temporarily cancelled) from the Play mode and the Utility mode.

Front Panel
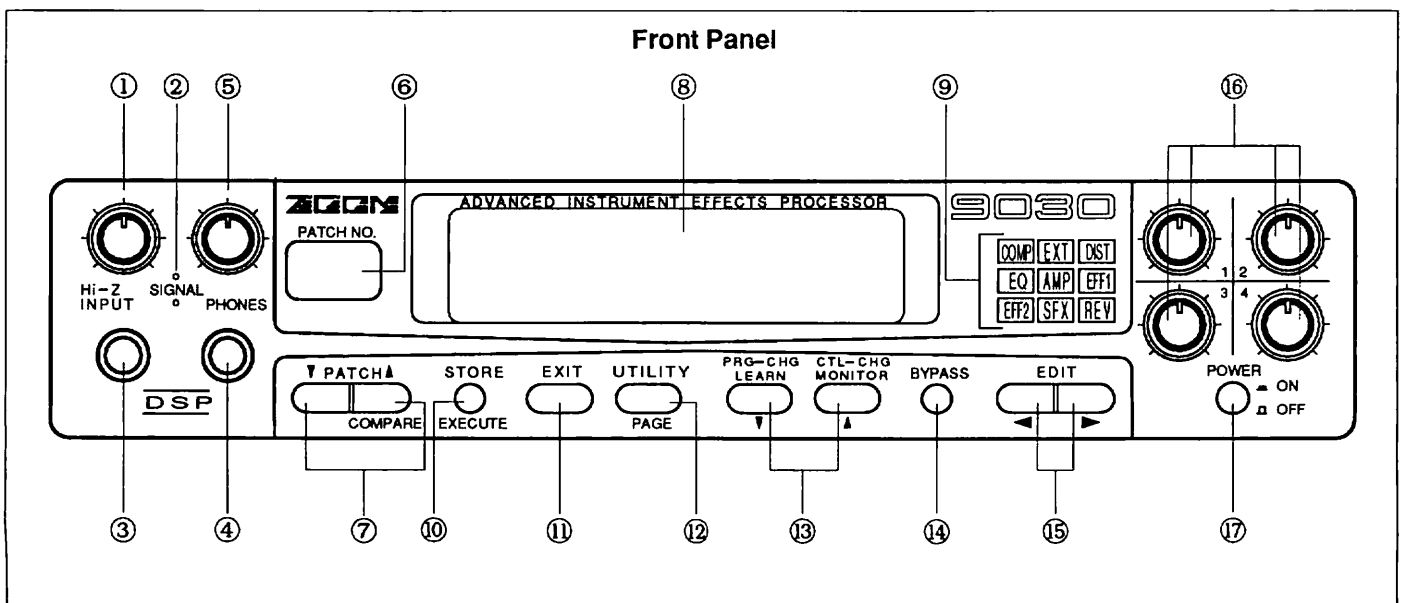
(10) STORE/EXECUTE key

• In the Play mode and the Edit mode, this key is used to open the Store menu.

• In the Utility mode, this key is used to execute operations.

(11) EXIT key

This key is used to leave the Edit mode or Utility mode and return to the Play mode.

(12) UTILITY/PAGE key

• In the Play mode, this key is used to enter the Utility mode.

• In the Edit mode, this key is used as a "page" key for calling up each "page" included in the Edit mode.

• In the Utility mode, this key is used as a page key for calling up the pages included in the Utility mode.

(13) PRG-CHG LEARN key (also DEC ▼ key: decrement) / CTL-CHG MONITOR key (also INC ▲ key: increment)

• In the Play mode, this key is used to call up the pop-up menu. (See page 50 for information on the pop-up key.)

• In the Edit mode, this key is used mainly for selecting the effect type.

• In the Utility mode, this key is used to input data.

(14) BYPASS key

• In the Play mode or Utility mode, this key is used to turn all the effect modules on and off. (Only the direct sound is output when the modules are off.)

• In the Edit mode, this key is used to turn each effect module ON/OFF.

(15) EDIT < / > keys

• In the Play mode, this key is used to enter the Edit mode.

• In the Edit mode, this key is used to select the effect module for editing.

• In the Utility mode, this key is used as a cursor position control for moving the cursor in the display to the left and right.

(16) Data Entry Controls 1 - 4

These controls are used to change parameter values. Up to four parameters can be set simultaneously, providing operation ease and convenience similar to that of a pedal effect.

(17) Power switch

For turning the power to the 9030 on and off.

Rear Panel

(1) AC adaptor terminal
For connection of the included AD0002 AC adaptor.

(2) REMOTE IN terminal
For connection with a controller equipped with a ZOOM remote out terminal, such as the optional 8050 Advanced Foot Controller.

(3) MIDI terminals
For connection to other MIDI devices, such as a synthesizer or to a computer (via MIDI interface). These are used for remotely controlling the 9030 from a synthesizer, or for storing data of the 9030 to a computer.

(4) OUTPUT terminals
For connection to an amplifier/speaker system, mixer, etc. The method of output changes depending on the output mode (See page 44)selected.

(5) EXTERNAL SEND/RETURN terminal
For connection of an external effect device. The 9030 can memorize the setting of the signal level sent to the connected external effect, as well as the ON/OFF status of the effect.

(6) INPUT terminal
For connection of musical instruments with relatively low output impedance, such as a synthesizer or rhythm machine. This terminal cannot be used simultaneously with the Hi-Z INPUT terminal on the front panel. When both terminals are connected, the Hi-Z INPUT terminal has priority.

Rear Panel

DC9V 1.0A | REMOTE IN | MIDI OUT | MIDI IN | OUTPUT R | OUTPUT L | EXTERNAL RETURN | EXTERNAL SEND | INPUT

① ② ③ ④ ⑤ ⑥
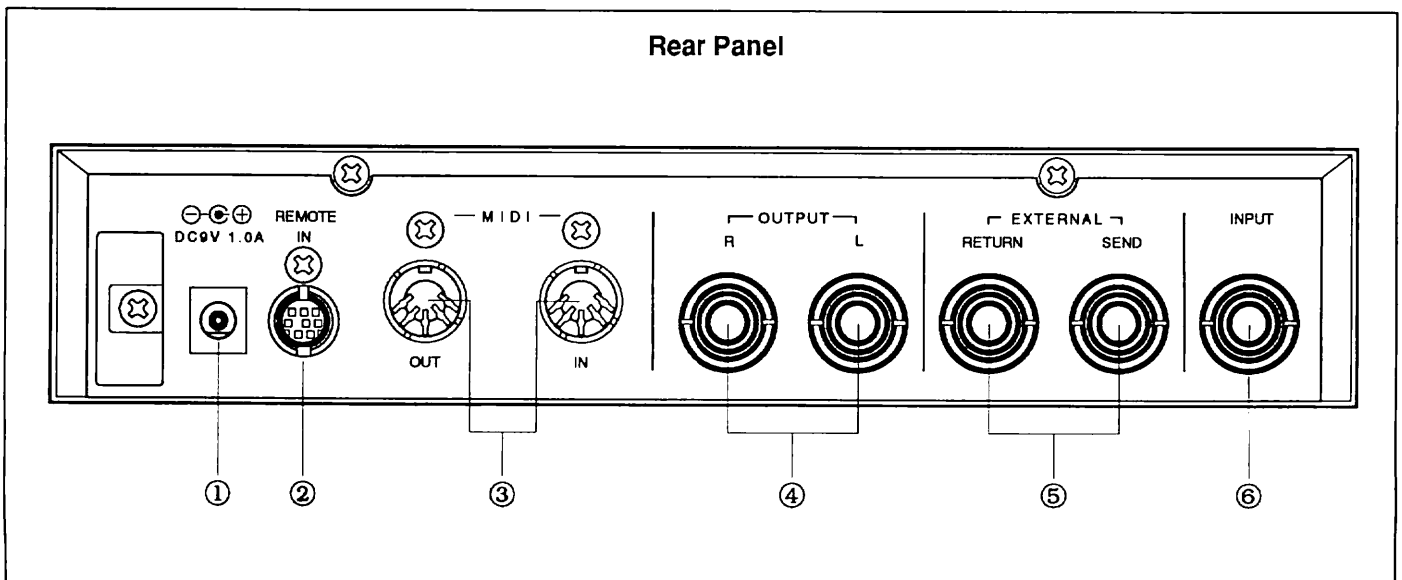
Section II: Tutorial

This section provides a guided tour of the 9030 that takes you step-by-step through the various functions and operations of the unit. We recommend that you read through this section while actually operating the 9030 in order to better understand the structure of 9030 and to get accustomed to the various operations.

Connections

1. Connect the AC adaptor.

Connect the AC adaptor to the 9030, and plug it into the outlet. Do NOT turn on the power yet.

2. Connect the musical instrument and the amplifier/speaker system to the 9030.

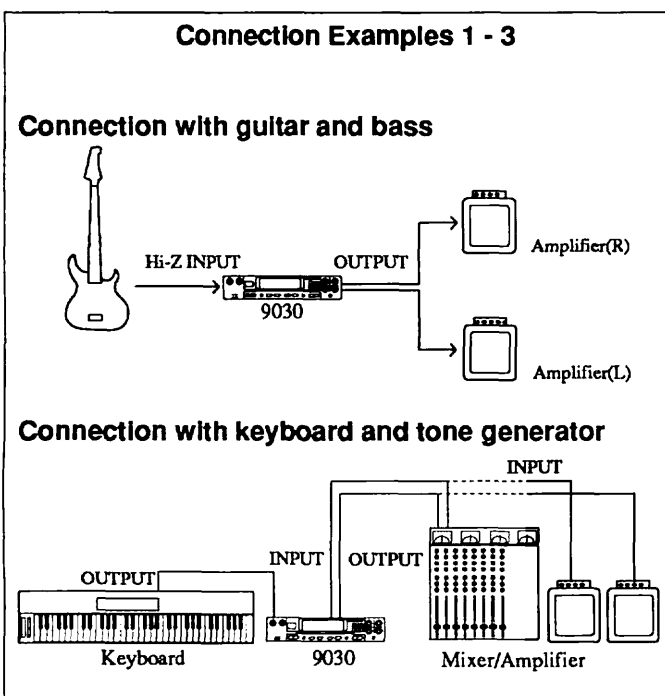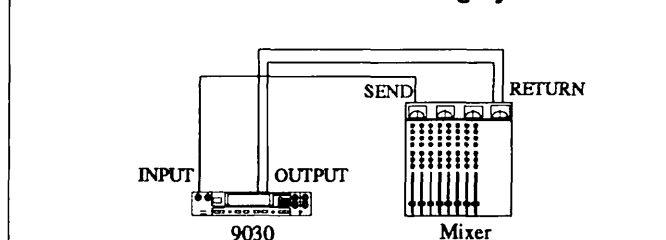Connect the output of the musical instrument to the input terminal of the 9030. Connect a guitar or bass to the Hi-Z INPUT terminal on the front panel, and musical instruments such as a keyboard or rhythm machine, whose output impedance is comparatively low, to the INPUT terminal on the rear panel.

Connection Examples 1 - 3

Connection with guitar and bass

Hi-Z INPUT   OUTPUT   Amplifier(R)
9030   Amplifier(L)

Connection with keyboard and tone generator

INPUT
INPUT   OUTPUT
OUTPUT
Keyboard   9030   Mixer/Amplifier

Connection with PA and recording system

SEND   RETURN
INPUT   OUTPUT
9030   Mixer

Now connect the OUTPUT terminal of the 9030 to the amplification system or mixer. When using a mono signal, connect it to the L/MONO terminal; when using stereo signals, connect both outputs of the 9030 to the amplification system.

3. Turn on the power of the devices in the following order:

1) The musical instruments which are connected to the 9030, such as a keyboard or sound source module.
2) The 9030.
3) The amplifier/speaker or mixer system.

This order is important to prevent speaker damage. Turn off the power in the reverse order.

Setup

After completing all of the connections, you will have to match the level settings of the 9030 to those of the musical instrument and the amplification system. This may seem to be a bit involved and troublesome. However, once it's accomplished, you should never have to make these settings again, as long as you keep the current connections intact.

### 1. Adjust the input gain level while playing the connected musical instrument.

Begin the setup operation by setting the levels of the connected equipment. Set the musical instrument to the level at which you normally play, then adjust the input gain level of the 9030 so that the red LED on the 9030 occasionally lights up when the volume is at the maximum.

2. Press the UTILITY/PAGE key.

Set the 9030 to match the characteristics and the playback method of the amplification or mixer system. Enter the Utility Mode of the 9030 by pressing the UTILITY/PAGE key. The display shown below will appear.
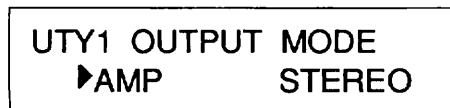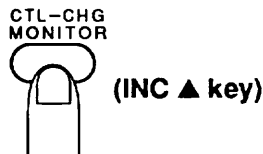
Note:
You may have to press the UTILITY/PAGE key several times if the top line of the display differs from the FL display shown below. The information indicated in the bottom line of the display differs depending on the setting.

UTILITY

```
┌──────────────────────────┐
│  UTY1  OUTPUT  MODE      │
│   ▶ LINE        STEREO   │
└──────────────────────────┘
```
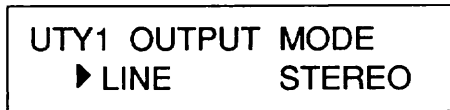
From this display, you can set the characteristics and playback method of the 9030. The mark " ▶ " in the display is called the cursor, and only the parameter indicated by this cursor can be set. Try pressing the EDIT < / > keys now. The cursor should move between the parameters on the left and right.

3. Change the settings by using the DEC ▼/INC ▲ keys.

With the cursor in front of the left parameter, press the INC ▲ key, then the DEC ▼ key. "LINE" and "AMP" will alternately appear at the left in the display.

```
┌──────────────────────────┐
│  UTY1  OUTPUT  MODE      │
│   ▶ LINE        STEREO   │
└──────────────────────────┘
```

CTL-CHG
MONITOR

(INC ▲ key)

```
┌──────────────────────────┐
│  UTY1  OUTPUT  MODE      │
│   ▶AMP          STEREO   │
└──────────────────────────┘
```

The parameter currently shown at the cursor position is the function used to change the characteristics of the 9030 to match those of the playback system. The 9030 is designed to provide consistently high sound quality whether played through a conventional audio system or a guitar amplifier. Select LINE when using a conventional audio system or when recording directly to a tape recorder, and select AMP when using a guitar amplifier.

4. Move the cursor to the right parameter by pressing the EDIT > key.

EDIT

```
┌──────────────────────────┐
│  UTY1  OUTPUT  MODE      │
│   AMP          ▶STEREO   │
└──────────────────────────┘
```
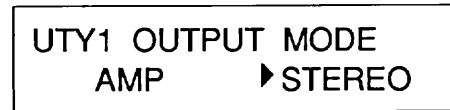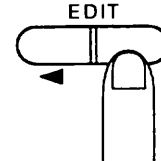
The parameter on the right determines the type of output for the 9030. Select "STEREO" when using stereo outputs, and select "MONO" when outputting a mono signal. Set it accordingly for the playback system you use.

5. Press the EXIT key after completing the settings.

Doing this exits from the Utility mode and enters the Play mode, for selection of Patches.

Note:
The FL display below shows one example display from the Play mode. The actual display will differ depending on the settings made and the Patch which was last selected.

```
┌──────────────────────────┐
│    ADVANCED  PITCH2      │
│    LI N/ ST  LV L  100   │
└──────────────────────────┘
```
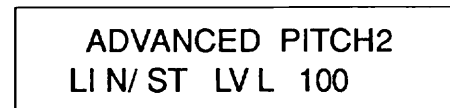
6. Adjust the level of the playback system.

Set the volume of the playback system to an appropriate level while playing the connected instrument. This completes the setup preparation.

Using Effects

Now that you can finally hear the sound, try out the various effects of the 9030.

Selecting Patches

1. Check that all the devices are connected correctly and the power is turned on.

2. Set the 9030 to the Play mode.

When 9030 is in another mode, press the EXIT key repeatedly until the Play mode display appears.

Helpful Hint:
If you have "wandered" into some unfamiliar 9030 operation, pressing the EXIT key repeatedly is an easy and convenient way to return you to the familiar territory of the Play mode.

In the Play mode, the currently selected Patch number (1 - 99) is shown by the PATCH NO. indicator and the following information is also displayed:

(1)

```
 ADVANCED PITCH2
LI N / ST  LVL  100
```

(2)   (3)

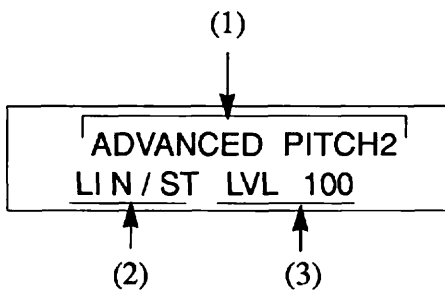(1) Patch name
(2) Output mode (The playback method you selected in the setup operation above is indicated here.)
(3) Master level (This is the master volume of the direct sound and the effect sound. It can be set independently for each Patch.)

3. Select the Patch by using the PATCH ▼/▲ keys.

Press the PATCH ▼/▲ keys while playing the connected musical instrument. Notice that the effect sounds are changed one after another.

Select the next highest Patch number by pressing the PATCH ▲ key once, and select the next lowest Patch number by pressing the PATCH ▼ key.

Helpful Hint:
It is possible to switch the Patches with your foot if you use the 8050. See page 52 for more information.

Bypassing Effects

The 9030 has a function that allows you to bypass, or temporarily cancel, all effects while playing.

1. Make sure that the 9030 is in the Play mode.

2. Bypass the current effect by using the BYPASS key.

Press the BYPASS key while in the Play mode. The "BYP" indication at the bottom right of the display flashes, and only the direct (or "dry") instrument sound is output from the 9030.

BYPASS

```
 ADVANCED PITCH2
LI N / ST  LVL  100  BYP
```
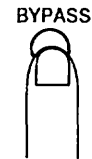
3. The bypass function is released when the BYPASS key is pressed again, and operation returns to the previous condition.

Helpful Hint:
The bypass function is especially convenient when tuning a guitar or bass, or checking how much effect is being applied to the sound.

Adjusting the Master Volume

1. Change the master volume by using Data Entry Control 1.

Data Entry Control 1 at the right side of the display functions as a master volume control in the Play mode.

Try rotating Data Entry Control 1 to the left then the right while playing the connected instrument. The value of the "LVL" parameter in the display changes and the level of the direct sound or effect sound changes. (The letter " E " which means "Edited" appears in the FL display.)

```
ADVANCED  PITCH2
LI N / ST  LVL  100
```



```
ADVANCED  PITCH2
B LI N / ST  LVL   80
```

Helpful Hint:

The master volume setting made here can be set independently and stored for each Patch as part of the data included in the Patch. See page 15 for more on storing operations.

Editing Effects

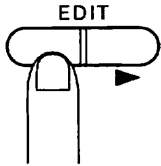The Patches in the user memory of the 9030 can be edited and stored to any Patch number.

1. Select the Patch to be edited in the Play mode.

2. Enter the Edit mode by pressing the EDIT < / > keys.

The Patches of the 9030 consist of nine different types of effect modules, including a compressor group and a distortion group. (Up to seven effect modules can be used at the same time.) In the edit mode, each effect module is called up to the display individually and the parameters of the module can be set.

For example, when you enter the Edit mode from the Play mode by pressing the EDIT < key, the display shown below appears. This display is for editing the REV (reverb) effect module. The effect indicator "REV" lights up in red, indicating that the reverb module parameters can currently be edited.


```
TYP  RvT  PDI COL  MIX
Rv2  2 .4     60    5   40
```

Note:

The FL display shown above is only an example. The actual values will differ depending on the Patch selected in the Play mode.

If you enter the Edit mode from the Play mode by pressing the EDIT > key, the FL display will show the COMP (compressor group) effect module for editing. In either case, pressing the EDIT < key or EDIT > key several times toward the same direction returns operation to the Play mode.

Helpful Hint:

It may be easy to think of the operation as circulating around the Play mode (as shown in the chart below) when selecting effect modules with the EDIT < / > keys.

3. Change parameter values by rotating the appropriate Data Entry Control.

Data Entry Controls 1 - 4 are used in order to change the values in the Edit mode. Try rotating Data Entry Control 4 to the left then to the right. The value at the bottom right of the display ((5) in the FL display chart on the next page) changes and the sound will also change. (In this example, the level of the reverb changes.)

Circulation of the effect modules and the play mode

```
┌─────────────────────────────┐
│  TYP  RvT  PDI  COL  MIX     │
│  Rv2  2 .4   60    5   40     │
└─────────────────────────────┘
    ↑     ↑     ↑     ↑    ↑
   (1)   (2)   (3)   (4)  (5)
```

```
┌─────────────────────────────┐
│  TYP  RvT  PDI  COL  MIX     │
│ ⊟Rv2  2 .4   60    5   50     │
└─────────────────────────────┘
```

The letter "⊟" is displayed at the left of the display when the value is changed. The "⊟" mark indicates that the parameter in the Patch has been changed.

Try rotating the other Data Entry Controls (1 - 3) in the same way. The parameter values of (2), (3) and (4) in the above illustration will change.

Note:

Parameter (1) in the chart above will not change even though the corresponding Data Entry Control is rotated. This is a special parameter which is used to select the effect type, and it can be used only when changing the type of effect (for example, from reverb to multi-tap delay) by using the DEC ▼/INC ▲ keys.

When the effect type is changed, other parameters are also changed (for example, from the reverb parameters to the multi-tap delay parameters). Refer to Section IV for details.

4. Call up other pages by using the UTILITY/PAGE key.

Press the UTILITY/PAGE key. This calls up another page of the REV effect module parameters.

UTILITY

```
┌─────────────────────────────┐
│  t y p  DES CTL  (%)  SRC    │
│ ⊟Rv 2  RvT   1  -100   2     │
└─────────────────────────────┘
    ↑     ↑     ↑     ↑    ↑
   (1)   (2)   (3)   (4)  (5)
```
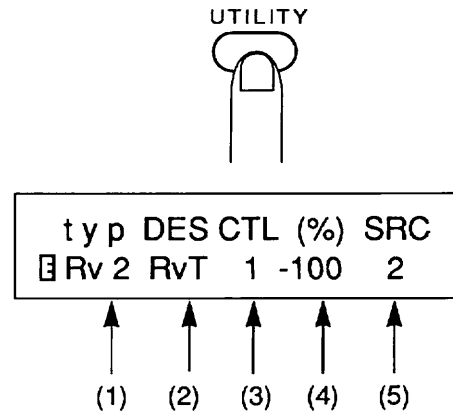
Note that new parameters are displayed in positions (2), (3) and (4). The parameter values of (2) through (5) can be edited by using Data Entry Controls 1 - 4 on this page, as well.

Helpful Hint:

When editing the parameters of the effect module, remember that the parameters are divided over two or three display pages.

5. Return to the first page by pressing the UTILITY/PAGE key.

The display returns to the first page by pressing the UTILITY/PAGE key again. (Press the key twice when the parameters are divided over three pages.)

6. Call up other modules by using the EDIT < / > keys and edit the parameters as described above.

Helpful Hint:

Remember that the Edit mode consists of the following basic operations:

- Selecting the effect module (with EDIT < / > keys)
- Selecting the effect type (with DEC ▼/INC ▲ keys)
- Selecting the page (with UTILITY/PAGE key)
- Changing the parameters (with Data Entry Controls 1 - 4)

Compare

While you are editing the parameters, you can temporarily hear the original sound of the Patch, before it was changed, and compare it with the sound of the newly edited one. The compare function allows you to do this.

1. Press the PATCH ▲ key after changing the parameters in the Edit mode.

The display changes as shown below and the all the parameters of the Patch revert to the original settings.

```
▼ PATCH ▲
```
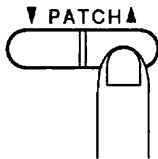
```
ADVANCED  PITCH2
COMPARE
```

2. Press one of the EDIT < / > keys once.

This returns operation to the Edit mode. The EXIT key or UTILITY/PAGE key can also be used instead of the EDIT < / > keys.

Helpful Hint:
The compare function is convenient for checking how much the entire sound is affected by editing a single parameter.

Storing the Edited Patch

Finishing up this Tutorial section is an explanation on storing a Patch to memory. Any editing you have done to the parameters so far is temporary and it will be irretrievably lost if you switch to editing another Patch before storing the current one to memory. To avoid this, make the following a habit: once you've created a Patch you like, IMMEDIATELY store it to memory.

1. Press the STORE/EXECUTE key in the Edit mode.

The following display appears when the STORE/EXECUTE key is pressed.

```
STORE
```

```
88  ADVANCED  PITCH2
▣→  ADVANCED  PITCH2
```
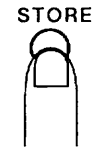
Press the STORE/EXECUTE key to memorize the Patch to the same same Patch number in the memory. The edited Patch is then stored to the same Patch number and operation returns to the Play mode.

Helpful Hint:
You can also change the name of a Patch when you store it to memory. See page 45 for more information.

2. Select the destination Patch number by using the PATCH ▼/▲ keys.

Assign the Patch number by using the PATCH ▼/▲ keys when storing the edited Patch to a different Patch number. (You can confirm the number from the PATCH NO. indicator.)

```
88  ADVANCED  PITCH2
▣→  TubeAmp  Sound
```

The destination Patch name is indicated in the bottom line of the display. The edited Patch is stored to the new Patch number and operation returns to the Play mode when you press the STORE/EXECUTE key. The store operation can be cancelled by pressing the EXIT key.

Note:
When the Patch is stored, the Patch which was previously stored to the destination memory space is automatically erased. Make absolutely sure that the Patch at the destination can be erased.

This completes the Tutorial section. We trust this has been helpful as an introduction to the basic operations of the 9030. Please go on to read the rest of the manual to get to know the 9030 better and learn more of its sophisticated and advanced functions.

The functions of the Play mode are fully explained in this section.

Functions of the Play mode

The Play mode is the basic mode of the 9030 in which Patches are selected and played. The following operations can be done in the Play mode:

• Selecting Patches
• Bypassing all effects
• Manually changing the master volume

Setting the 9030 to the Play Mode
When 9030 is in another mode, press the EXIT key repeatedly until the Play mode is selected. You can also turn the power off and back on again; when the power is turned on, the 9030 is automatically set to the Play mode.

Display of the Play mode
The following information is displayed on the panel from the Play mode.

• PATCH NO. indicator -- This indicates the selected Patch number (1 - 99).
• Display -- The following information is shown in the FL display:

(1) Patch name
(2) Output mode
(3) Master level (volume)

• Effect indicator -- Effect modules which are currently on in the selected Patch light up in red. Modules which are off in the Patch light up in green.

Selecting Patches
Use the PATCH ▼/▲ keys to select a Patch.
Press the PATCH ▲ key once to select the next highest Patch number, and press the PATCH ▼ key to select the next lowest Patch number. The values "wrap around"; if Patch number 99 is currently selected and you press the PATCH ▲ key, Patch number 1 will be selected. Similarly, if Patch number 1 is selected and you press the PATCH ▼ key, Patch number 99 will be selected.

16
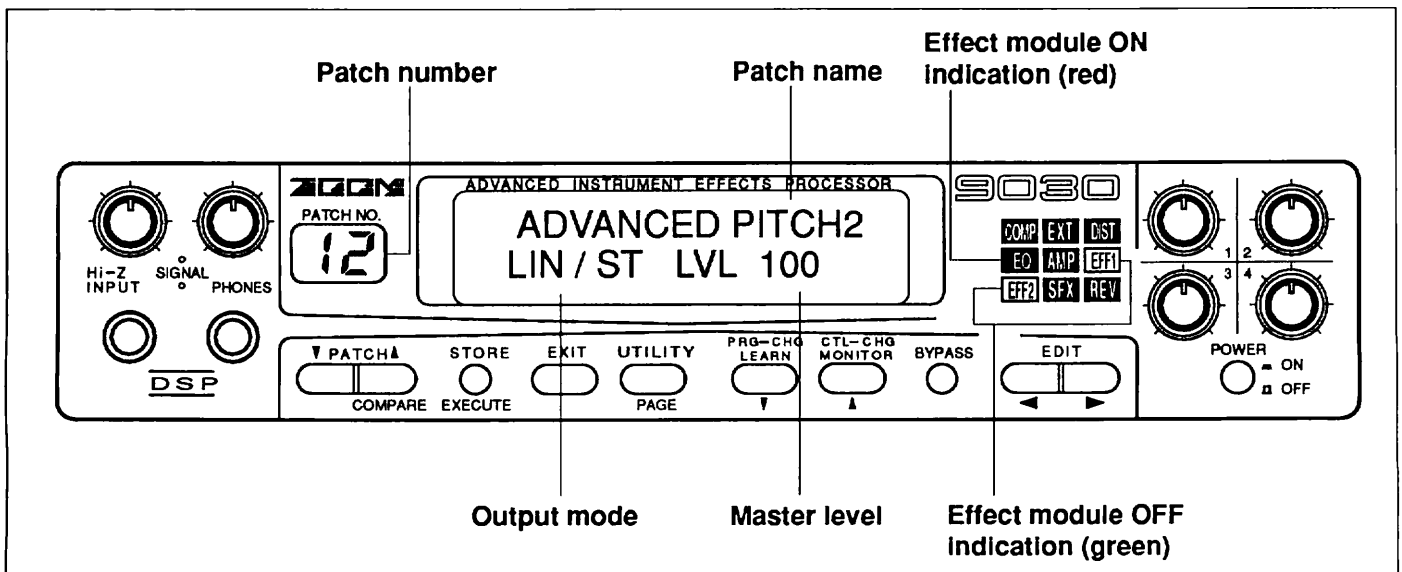
Bypassing All Effects

All effects can be bypassed by pressing the BYPASS key in the Play mode. The "BYP" indication in the display will flash. In the effect indicators, the indicator of the effect being used changes from red to amber, which indicates that the effect has been temporarily turned off.

```
ADVANCED PITCH2 |
LIN / ST  LVL  100  BYP
```

Note:
You cannot enter the Edit mode while using the bypass function.

The bypass function is released by pressing the BYPASS key again.

Changing the Master Level

The master level of a Patch (master volume of the direct sound and effect sound) can be changed in the Play mode by using Data Entry Control 1.
The master level value in the display is changed by rotating Data Entry Control 1, changing the entire volume of the 9030.

Helpful Hint:
The master volume setting made here can be set independently and stored for each Patch as part of the parameter data of the Patch. Refer to the following explanation on storing Patches.

Storing Patches from the Play Mode

Use this store operation when you wish to save the master level setting of a Patch or copy a Patch to a different Patch number.

Press the STORE/EXECUTE key after changing the master level in order to store the newly edited master level. The display changes as shown below.

```
88  ADVANCED  PITCH2
 �站→ ADVANCED  PITCH2
```

Pressing the STORE/EXECUTE key stores the Patch whose master level has been changed to the same Patch number. Cancel the store operation by pressing the EXIT key.

To store the Patch to a different Patch number, first press the STORE/EXECUTE key then select the destination Patch number with the PATCH ▼/▲ keys. (You can confirm the number from the PATCH NO. indicator.)

```
88  ADVANCED  PITCH2
 站→ TubeAmp  Sound
```

The Patch name is indicated next to the selected Patch number in the bottom line of the display. Pressing the STORE/EXECUTE key again stores the Patch to the new Patch number. Pressing the EXIT key cancels the store operation.

Note:
When a Patch is stored, the Patch which was previously stored at the destination Patch number is automatically erased. Make absolutely sure that the Patch at the destination can be erased.

Section IV: Edit Mode

This section explains the Patch programming operations of the Edit mode.

Patch Structure

In order for you to best understand how to program the effects of the 9030, you should first have a firm grasp of the structure of a Patch. The explanations that follow describe the different kinds of effect modules and effect types of the 9030 and how the signals are processed.

Effect Modules

The 9030 consists of the following effect modules:

• COMP (Compressor group)

• EXT (External effect)

• DIST (Distortion group)

• EQ (Equalizer group)

• AMP (Amp simulator group)

• EFF 1 (Miscellaneous effects 1)

• EFF 2 (Miscellaneous effects 2)

• SFX (Special effects)

• REV (Reverb & echo group)

Helpful Hint:

The master level (set in the Play mode) and Patch name (set in the Utility mode) are added to the settings of the effect module, and all are stored to memory as a Patch.

The SFX and EFF 1/2 modules above cannot be used simultaneously. For example, when the SFX module is selected, EFF 1/2 modules are automatically turned off. Likewise, selection of either EFF1 or EFF2 cancels the SFX module.

Effect Types

The following chart shows the effect type installed to each effect module. Effects marked with an asterisk (*) are stereo effects.

Structure of Effect Modules
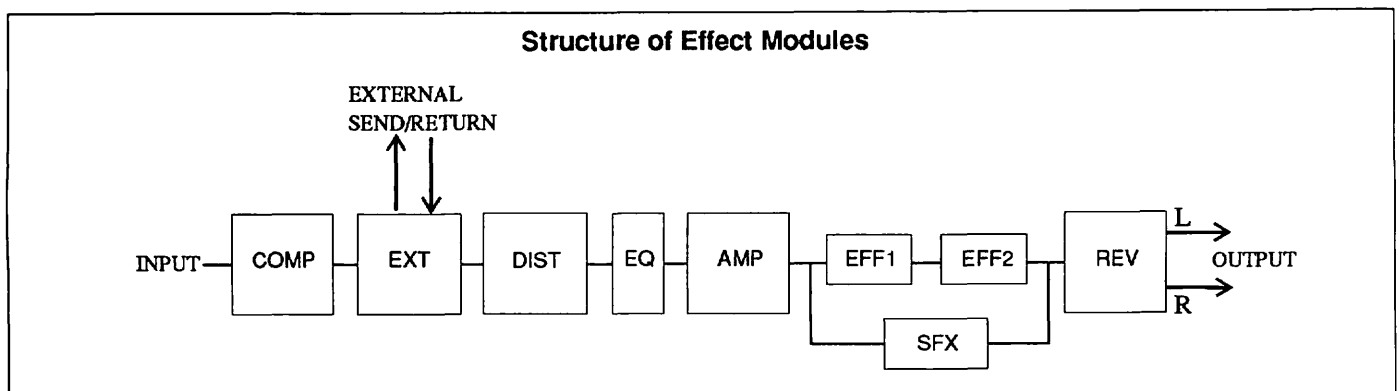
Effect Types of Each Effect Module

MODULE	EFFECT NAME
COMP	COMPRESSOR
	LIMITER
EXT	EXTERNAL Fx
DIST	DISTORTION
	OVER DRIVE
	CRUNCH
EQ	4 BAND GUITAR EQ
	3 BAND EQ
	ENHANCER
AMP	GUITAR AMP. SIMULATOR
	BASS AMP. SIMULATOR
EFF 1	PITCH SHIFTER
	PHASE
	FLANGER
	CHORUS
	AUTO WAH
	CRY
	METALIC
	DOUBLING
	COMB FILTER
	TREMOLO
	OCTAVE
	PEDAL WAH
EFF 2	PITCH 2
	PHASE 2
	PHASE 3 (*)
	CHORUS 2
	CHORUS 3 (*)
	FLANGER 2
	CRY 2
	TREMOLO 2
	STEP
	AUTO PANPOT (*)
	DELAY
	ECHO (*)
SFX	HARMONIZED PITCH SHIFTER
	ADVANCED FLANGER
	BEND CHORUS
	PICKING MODULATOR
	SUPER CRY
	BOMBER
	ZITAR
REV	REVERB 1 (*)
	REVERB 2 (*)
	E/R 1 (*)
	E/R 2 (*)
	MULTI TAP DELAY (*)
	PING PONG DELAY (*)

Routing

Routing refers to the path or configuration (parallel or series, stereo or mono) by which the signals are processed among the effect modules. The 9030 automatically switches among the following four routings depending on certain conditions. Consider carefully the routing to be used when programing Patches.

(1) Series 1 Routing

In this routing, stereo output is available only on the REV effect module. This routing is selected when all the following conditions are met:

- Effect module SFX is not selected.
- Effect module AMP is set to off or mono.
- A mono effect type has been selected for EFF2.
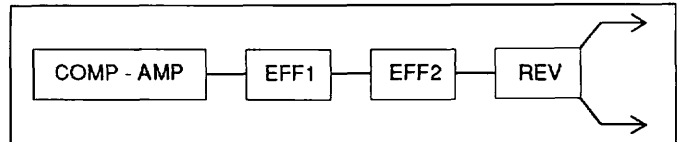
(2) Series 2 Routing

In this routing, stereo output is available only on the EFF2 and REV effect modules. This routing is selected when all the following conditions are met:

- Effect module SFX is not selected.
- Effect module AMP is set to off or mono.
- A stereo effect type has been selected for EFF2.
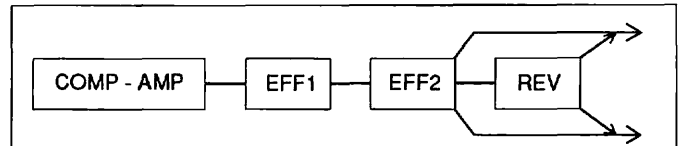
(3) Parallel Routing

In this routing, the output is sent in parallel fashion from the AMP effect module to EFF1 and EFF2. This routing is selected when all the following conditions are met:

- Effect module SFX is not selected.
- Effect module AMP is on and set to stereo.

The input source for effect module REV can be set to EFF1, EFF2, or both.
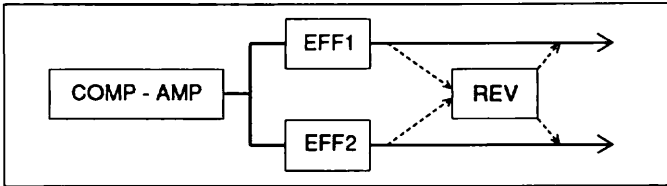
(4) SFX Routing

This routing is selected when the effect module SFX is on.
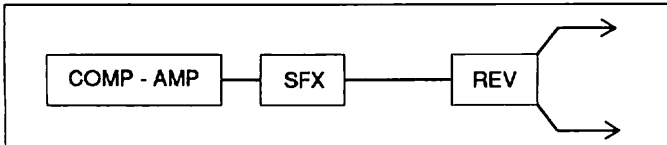
Edit Mode

What is the Edit Mode?

A Patch of the 9030 consists of various effect modules. The edit mode is used to select individual effect modules and set their parameters.

Entering the Edit Mode

Press either of the EDIT < / > keys from the Play mode. Pressing the EDIT < key calls up the display for editing the REV (reverb group) effect module, and pressing the EDIT > key calls up the display for editing the COMP (compressor group) effect module.

Selecting Effect Modules

Repeatedly press the EDIT < or EDIT > key of the same direction after entering the Edit mode, in order to select the effect module to be edited. (The effect indicator of the effect module which is to be edited will flash.)

Helpful Hint:

It may be easy to think of the operation as circulating around the Play mode through the edit display of each module. See the circulation chart on page 13 of the Tutorial section.

Display of the Edit Mode

The parameter names are shown in the top line of the display in the Edit mode, and the values of each parameter are shown in the bottom line. The FL display shown below is an example of the editing display for the REV effect module.
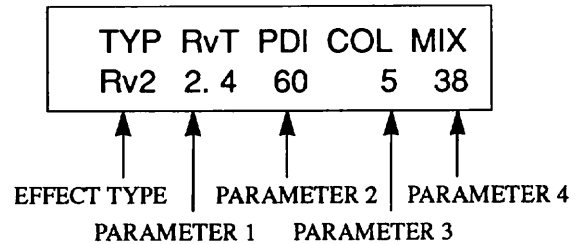
- Effect type -- This parameter is used to select the effect type installed in the effect module.
- Parameters 1 - 4 -- These are the corresponding parameters for the selected effect type.

Changing Parameter Values

The DEC ▼/INC ▲ keys are used for changing the effect type. The data of parameters 1 - 4 are also changed when the effect type is changed.

Data Entry Controls 1 - 4 are used to change the values of parameters 1 - 4. The indication " 日 " is shown at the left of the display when the value is changed. This indicates that a parameter in this Patch has been changed or edited.
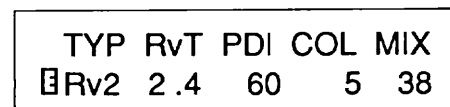
Selecting Pages

The parameters of each effect module are spread over two or three parameter pages. Pressing the UTILITY/PAGE key switches between the pages. When the effect module is selected by the EDIT < / > keys, the first page of the module is shown. Pressing the UTILITY/PAGE key after the module is selected displays the next page of the module in the FL display.

```
┌─────────────────────────────┐
│  TYP RvT PDI COL MIX        │
│  Rv2 2 .4  60    5  38       │
└─────────────────────────────┘

            UTILITY

┌─────────────────────────────┐
│  typ DES CTL (%) SRC        │
│  Rv2 RvT   1 -100   2        │
└─────────────────────────────┘
     ↑    ↑    ↑    ↑    ↑
 EFFECT TYPE │ PARAMETER 2│ PARAMETER 4
             │            │
         PARAMETER 1   PARAMETER 3
```
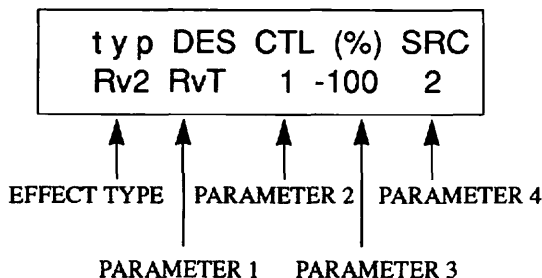
The method for changing parameter values are the same in all pages. Press the UTILITY/PAGE key once or twice in order to return to the first page.

Note:

The effect type can only be changed in the first page. The "TYP" in the display changes to small letters "typ" in the second and third pages.

Turning the Effect Module Off

The effect module is set to OFF when pressing the BYPASS key from the Edit mode. The display changes as shown below, and parameters cannot be changed. The effect indicator for the module which is off flashes in green.

```
┌─────────────────────────────┐
│  TYP                        │
│  Rv2    MODULE OFF           │
└─────────────────────────────┘
```

The module is turned back on when the BYPASS key is pressed again.

Note:

The EFF1, 2 and SFX effect modules cannot be used at the same time. For example, when the SFX module is selected, EFF 1/2 modules are automatically turned off. Likewise, selection of either EFF1 or EFF2 cancels the SFX module.

Real-time Modulation

In all of the effect types in each effect module, the parameters for setting real-time modulation are contained in the final display page.

Real-time modulation allows you to continuously change the effect parameters by using an external controller (such as the 8050, or a synthesizer). It is possible, for example, to synchronize the delay time of the 9030 to the timing by which the pedal of 8050 is repeatedly pressed, or to change the degree of the chorus effect by using the modulation wheel on a synthesizer.

The chart below indicates the display example of the last page. (1) - (3) are the parameters for real-time modulation, and they are common among all the effect types.

```
┌─────────────────────────────┐
│  typ DES  CTL ( % ) SRC     │
│  Rv2 RvT    1 -1 0 0   2      │
└─────────────────────────────┘
        ↑      ↑      ↑
       (1)    (2)    (3)
```
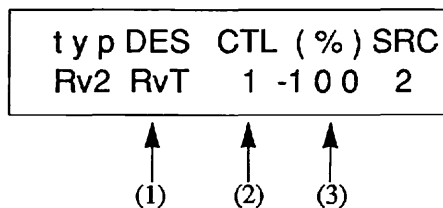
(1) Destination -- This determines the parameter which is affected by real-time modulation. The settings which can be selected here differ depending on the effect types.

(2) Control change number -- This determines the control change number which is used as the source of real-time modulation.

(3) Ratio -- This determines the range over which real-time modulation changes the parameter. It is expressed as a percentage of the currently set parameter value, and determines the maximum value that can be reached with real- time modulation.

Effect Types and Parameters

The parameters of all effect types of the 9030 are explained according to their respective display pages. For brevity, however, repeated listing of the same parameters that occur in different effects has been kept to a minimum. The numbers (1) - (4) indicate the corresponding Data Entry Controls.

■ Effect Module 1: Compressor (COMP)

The attack parameter of this compressor effect allows for a wide range of expression, making it ideal for use with guitar.

● Compressor (CMP)

[page 1]
(1) DPT (depth): 1 - 13
This determines the depth or degree of compression. The greater the value, the greater the degree of compression.

(2) ATK (attack): slw, fst
This determines the characteristic of the attack, slow (slw) or fast (fst), in the picked attack, for example, of a guitar sound.

(3) Bsw (bright switch): off, on
This emphasizes the high frequency range when it is set to ON, creating a bright sound.

(4) LVL (output level): 1 - 10
This determines the output level of the module.

[Page 2]
(1) DES (destination): DPT, ATK, Bsw, LVL
This determines the parameter which is to be affected by real-time modulation.

(2) CTL (control change number): 1 - 31, 63 - 95 (excluding 6, 7, 70 - 79, and 91)
This determines the control change number which is used as the source of real-time modulation.

(3) RATIO: -100 - +100%
This allows you to set the range, as a percentage, over which real-time modulation changes the parameter.

(4) LVL (output level): 1 - 10
This is the same parameter as (4) in display page 1. The same parameter is displayed even though the page is different.

● Limiter (LIM)

This effect type has a higher compression rate than the compressor. It is mainly used to make consistent the dynamic range of an instrumental sound that has widely fluctuating levels, or to ensure that a signal does not go beyond a certain level and prevent it from overloading the input of following modules.

[Page 1]
(1) DPT (depth): 1 - 13
This determines the depth of the limiter effect. The greater the value, the greater the degree of the effect.

(2) REL (release time): slw, fst
This determines the time (release time) from when the effect is first released until it reaches the normal condition (no effect at all). Slow (slw) and fast (fst) settings are available.

(3) LVL (output level): 1 - 10
This determines the output level of the module.

[Page 2]
(1) DES (destination): DPT, REL, LVL

(2) CTL (control change number): 1 - 31, 63 - 95 (excluding 6, 7, 70 - 79, and 91)

(3) RATIO: -100 - +100%

(4) LVL (output level): 1 - 10

■ Effect Module 2: External Effect (EXT)

This effect module controls the effect device which is connected to the external send/return terminal. There is only one effect type.

● External Effect: EXT

[Page 1]
(4) LVL (send level): 1 - 10
This determines the level which is output from the external send terminal.

[Page 2]
(1) DES (destination): LVL

(2) CTL (control change number): 1 - 31, 63 - 95 (excluding 6, 7, 70 - 79, and 91)

(3) RATIO: -100 - +100%

(4) LVL (send level): 1 - 10
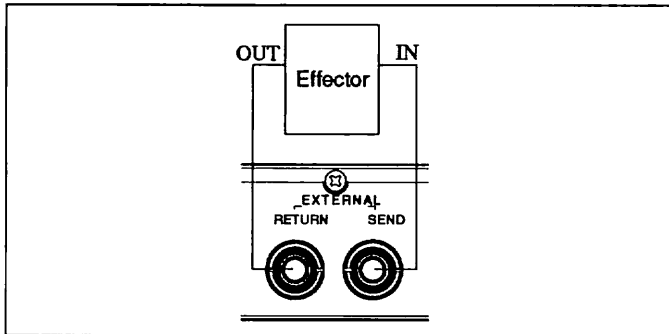
Note:
When connecting the 9030 to an external effect, make sure to always keep the external effect on, and switch it on and off from the 9030.

■ Effect Module 3: Distortion (DIST)

This module features three distortion effect types.

●Distortion (DST)

Hard analog distortion.

[Page 1]
(1) DST (distortion): 1 - 13
This determines the strength of the distortion. The greater the value, the greater the distortion.

(2) EQ (equalizer): 1 - 10
This determines the sound color or timbre of the distortion. The greater the value, the more the higher frequencies are emphasized.

(4) LVL (output level): 0 - 100
This determines the output level of the module.

[Page 2]
(1) DES (destination): DST, EQ, LVL

(2) CTL (control change number): 1 - 31, 63 - 95 (excluding 6, 7, 70 - 79, and 91)

(3) RATIO: -100 - +100%

(4) LVL (output level): 0 - 100

● Overdrive (OD)

This effect reproduces the natural distortion of a tube amplifier with the controls at full throttle.

[Page 1]
(1) DRV (drive): 1 - 13
This determines the degree of the overdrive effect. The greater the value, the greater the amount of overdrive.

(2) EQ (equalizer): 1 - 10
This determines the sound color or timbre of the distortion. The greater the value, the more the higher frequencies are emphasized.

(4) LVL (output level): 0 - 100
This determines the output level of the module.

[Page 2]
(1) DES (destination): DRV, EQ, LVL

(2) CTL (control change number): 1 - 31, 63 - 95 (excluding 6, 7, 70 - 79, and 91)

(3) RATIO: -100 - +100%

(4) LVL (output level): 0 - 100

● Crunch (CRU)

This effect produces a slightly distorted tube amplifier sound. It is suited for clipped guitar chords and repeated single notes.

[Page 1]
(1) DRV (drive): 1 - 13
This determines the degree of the overdrive effect.

(2) EQ (equalizer): 1 - 10
This determines the sound color or timbre of the distortion. The greater the value, the more the higher frequencies are emphasized.

(4) LVL (output level): 0 - 100
This determines the output level of the module.

[Page 2]
(1) DES (destination): DRV, EQ, LVL

(2) CTL (control change number): 1 - 31, 63 - 95 (exclud-

ing 6, 7, 70 - 79, and 91)

(3) RATIO: -100 - +100%

(4) LVL (output level): 0 - 100

■ Effect Module 4: Equalizer (EQ)

This is the effect module of the equalizer group.

● Four-band Guitar EQ (4Gt)

This effect is the same as a four-band equalizer on a guitar amplifier.

[Page 1]
(1) Low: 0 - 100
This determines the level of the low frequencies.

(2) Mid (middle): 0 - 100
This determines the level of the middle frequencies.

(3) Hi (high): 0 - 100
This determines the level of the high frequencies.

(4) Prs (presence): 0 - 100
This determines the level of the very high frequencies.

[Page 2]
(1) DES (destination): Low, Mid, Hi, Prs, LVL

(2) CTL (control change number): 1 - 31, 63 - 95 (excluding 6, 7, 70 - 79, and 91)

(3) RATIO: -100 - +100%

(4) LVL (output level): 0 - 100

● Three-band EQ (3EQ)

This is a parametric equalizer which allows you to determine the central frequency of the EQ effect.

[Page 1]
(1) LoG (low gain): -18 - +18 dB
This determines the gain of the low frequencies. Response is flat at a value of 0. It can be cut or boosted by up to 18 dB.

(2) MdF (middle frequency): 100 Hz - 4 kHz
This determines the central frequency of the middle frequencies.

(3) MdG (middle gain): -18 - +18 dB
This determines the gain of the middle frequencies.

(4) HiG (high gain): -18 - +18 dB
This determines the gain of the high frequencies.

[Page 2]
(1) DES (destination): LoG, MdF, MdG, HiG, LVL

(2) CTL (control change number): 1 - 31, 63 - 95 (excluding 6, 7, 70 - 79, and 91)

(3) RATIO: -100 - +100%

(4) LVL (output level): 0 - 100
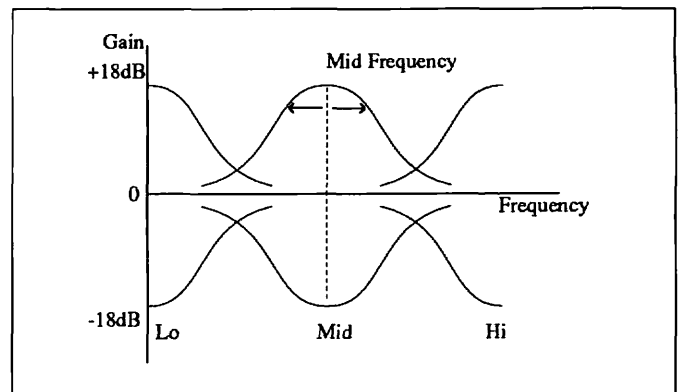
Parameters of Three-band EQ

● Enhancer (ENH)

This is a new type of enhancer that emphasizes the high frequencies depending on the dynamics of the signal. This effect gives the sound greater definition and clarity.

[Page 1]
(1) LoF (low frequency): 1 - 10
This determines the central area of the low frequencies that is to be emphasized.

(2) LoE (low enhance): 0 - 100
This determines the degree of enhancer effect applied to the low frequencies.

(3) HiF (high frequency): 1 - 10
This determines the central area of the high frequencies that is to be emphasized.

(4) HiE (high enhance): 0 - 100
This determines the degree of enhancer effect applied to the high frequencies.

[Page 2]
(1) DES (destination): LoF, LoE, HiF, HiE, LVL

(2) CTL (control change number): 1 - 31, 63 - 95 (excluding 6, 7, 70 - 79, and 91)

(3) RATIO: -100 - +100%

(4) LVL (output level): 0 - 100

■ Effect Module 5: Amp Simulator (AMP)

This effect module simulates the characteristics of a guitar amplifier or bass amplifier, and is especially convenient for use when recording direct with a line output, or when playing back through a conventional audio system.

● Guitar Amplifier Simulator (Gt A)

This effect simulates the sound of a guitar amplifier. Especially when combined with a distortion group effect, this program realistically reproduces the sound of an amplifier recorded through a microphone.

[Page 1]
(1) COL (color): 1 - 4
This determines the frequency response characteristics of the sound.

    1 -- Even, flat response
    2 -- Classic tube amplifier sound
    3 -- Dry sound with emphasis of the high frequencies
    4 -- Modern sound which strongly emphasizes both high frequencies and low frequencies

(2) BOX: COM, CMB, STK
This determines the overall sound quality with the simulation of three different amplifier/speaker types: compact (COM), combo (CMB), or stack (STK).

(3) DPT (depth): 0 - 100
This determines the degree of the overall processing. The

greater the value, the stronger the character of the sound.

(4) STR (stereo switch): off, on
This determines whether the output of this effect sent to the following modules is mono or stereo.

**[Page 2]**
(1) DES (destination): DPT, LVL

(2) CTL (control change number): 1 - 31, 63 - 95 (excluding 6, 7, 70 - 79, and 91)

(3) RATIO: -100 - +100%

(4) LVL (output level): 0 - 100

Helpful Hint:
Setting the stereo switch to ON enables you to use stereo processing after the amplifier effect module.

Note:
When the SFX effect module is used, the stereo switch parameter is unavailable.

● Bass Amplifier Simulator (Bs A)

This effect simulates the sound of a bass amplifier.

[Page 1]
(1) COL (color): 1 - 4
This determines the frequency response characteristics of the sound.

    1 -- Even, flat response
    2 -- Relatively full, bottom-heavy sound, with emphasis in the midrange frequencies
    3 -- Classic bass tube amplifier sound, with emphasis in the midrange frequencies
    4 -- Modern sound which strongly emphasizes both high frequencies and low frequencies

(2) BOX: COM, CMB, STK
This determines the overall sound quality with the simulation of three different enclosures.

(3) DPT (depth): 0 - 100
This determines the degree of the overall processing.

(4) STR (stereo switch): off, on
This determines whether the output of this effect sent to the

following modules is mono or stereo.

[Page 2]
(1) DES (destination): DPT, LVL

(2) CTL (control change number): 1 - 31, 63 - 95 (excluding 6, 7, 70 - 79, and 91)

(3) RATIO: -100 - +100%

(4) LVL (output level): 0 - 100

Note:
When the SFX effect module is used, the stereo switch parameter is unavailable.

■ Effect Module 6: Effect 1 (EFF1)

This module features twelve mono effects.

● Pitch Shifter (PIT)

This effect alters the pitch of the effect sound over a range of two octaves.

[Page 1]
(1) PIT (pitch): -12 - +12 half-steps
This determines the number of half-steps by which the pitch of the input signal is changed. The range is from one octave below to one octave above the input pitch.

(2) FIN (fine): -50 - +50 cents
This allows fine tuning of the pitch-shifted note, in units of 1 cent (1/100 half-step).

(3) BAL (balance): 0 - 100
This determines the level balance of the direct sound and pitch-shifted sound. Only the direct sound is output at 0, and only the pitch-shifted sound is output at 100.

(4) LVL (output level): 0 - 100
This determines the output level of the module.

[Page 2]
(1) DES (destination): PIT, FIN, BAL, LVL

(2) CTL (control change number): 1 - 31, 63 - 95 (excluding 6, 7, 70 - 79, and 91)

(3) RATIO: -100 - +100%

(4) LVL (output level): 0 - 100

● Phase (PHA)

This is a warm and natural phase sound.

[Page 1]
(1) DPT (depth): 0 - 100
This determines the depth of the tone change. The greater the value, the greater the change in the timbre of the sound.

(2) SPD (speed): 0.1 - 10 Hz
This determines the speed of the modulation effect, set in increments of 0.1 Hz.

(3) PK (peak): 0 - 100
This determines the emphasis or the special characteristics of the sound.

(4) LVL (output level): 0 - 100
This determines the output level of the module.

[Page 2]
(1) DES (destination): DPT, SPD, D+S, LVL
This determines the destination of the modulation effect. Modulation can be applied to both depth and speed when "D + S" is selected.

(2) CTL (control change number): 1 - 31, 63 - 95 (excluding 6, 7, 70 - 79, and 91)

(3) RATIO: -100 - +100%

(4) LVL (output level): 0 - 100

● Flanger (FLG)

This flanger is capable of a wide range of modulation effects, from a warm and subtle chorus to an intense, swirling flanging sound.

[Page 1]
(1) DPT (depth): 0 - 100
This determines the depth of the tone change. The greater the value, the greater the change in the timbre of the sound.

(2) SPD (speed): 0.1 - 10 Hz
This determines the speed of the modulation effect, set in increments of 0.1 Hz.

(3) MAN (manual): 0 - 100 ms
This determines the delay time, set in increments of 1 ms. This is the time that elapses between the start of the direct sound and the onset of the modulation effect.

(4) F.B (feedback): -98 - +98
This determines the amount of feedback. The greater the value, the greater the difference between the crest (the emphasized frequency) and the valley (the attenuated frequency) gets. The crest and valley points become reversed for negative values.

[Page 2]
(1) DES (destination): DPT, SPD, F.B, S + F, LVL
Modulation can be applied to both speed and feedback when "S + F" is selected.

(2) CTL (control change number): 1 - 31, 63 - 95 (excluding 6, 7, 70 - 79, and 91)

(3) RATIO: -100 - +100%

(4) LVL (output level): 0 - 100

● Chorus (CHO)

This is an easy-to-use, mono chorus effect. The speed of the modulation has been pre-programmed to give a rich, yet subtle chorus effect.

[Page 1]
(1) DPT (depth): 0 - 100
This determines the depth of the tone change. The greater the value, the greater the change in the timbre of the sound.

(3) MIX (effect mix): 0 - 100
This determines the mix amount of the effect sounds.

(4) LVL (output level): 0 - 100
This determines the output level of the module.

[Page 2]
(1) DES (destination): DPT, MIX, LVL

(2) CTL (control change number): 1 - 31, 63 - 95 (excluding 6, 7, 70 - 79, and 91)

(3) RATIO: -100 - +100%

(4) LVL (output level): 0 - 100

● Auto Wah (AWA)

This is a simple auto wah in which the degree of wah effect applied depends on the level of the input sound. With a guitar, for example, the effect will change depending on how hard you pick the strings.

[Page 1]
(1) SNS (sense): 1 - 100
This determines the sensitivity of the wah effect. When this is set to higher values, even softly picked notes will trigger the effect.

(2) MAN (manual): 1 - 100
This determines the lowest frequency to which the wah effect is applied. You should adjust this parameter to fit the particular instrument or sound used.

(3) PK (peak): 1 - 10
When this value is increased, the sound resonates strongly at the frequency to which the wah effect is set.

(4) TRG (trigger): pre, pos
This determines which point in the signal path supplies the sound for affecting or triggering the auto wah effect. When set to PRE, the level fluctuations at the input signal affect auto wah; when set to POS (post), the level fluctuations at the Amplifier effect module affect auto wah.

[Page 2]
(1) DES (destination): SNS, LVL

(2) CTL (control change number): 1 - 31, 63 - 95 ((excluding 6, 7, 70 - 79, and 91)

(3) RATIO: -100 - +100%

(4) LVL (output level): 0 - 100
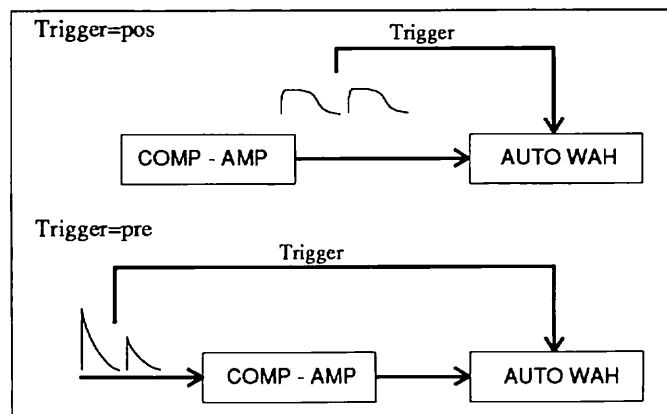
Assigning Auto Wah Trigger

Helpful Hint:
When using the auto wah effect with the compressor or distortion group modules, the auto wah effect is reduced since the input level is fairly uniform. In this situation, set the trigger parameter to "pre". The auto wah effect, which depends on the variations of dynamics in the sound, can be added to the signals through the compressor or distortion, since the trigger of the auto wah effect is applied with the direct signals to which effects have not yet been applied.

● Cry (CRY)

This is a unique auto wah effect in which the timbre changes as if modulated by voice.

[Page 1]
(1) SNS (sense): 1 - 100
This determines the sensitivity of the wah effect.

(2) DIR (direction): dwn, up
This determines the direction in which the timbre changes. The peak changes toward the lower frequency range when set to "dwn" and toward the higher frequencies when set to "up."

(3) TRG (trigger): pre, pos
This determines which point in the signal path supplies the sound for affecting or triggering the auto wah effect. When set to "pre," the level fluctuations at the input signal affect auto wah; when set to "pos" (post), the level fluctuations at the Amplifier effect module affect auto wah.

(4) LVL (output level): 0 - 100
This determines the output level of the module.

[Page 2]
(1) DES (destination): SNS, DIR, LVL

(2) CTL (control change number): 1 - 31, 63 - 95 (excluding 6, 7, 70 - 79, and 91)

(3) RATIO: -100 - +100%

(4) LVL (output level): 0 - 100

● Metallic (MET)

This effect creates a metallic sound by introducing an irregular series of harmonics, made by applying Amplitude Modulation (ring modulation) of an oscillator to the direct sound. A second modulation source for changing the frequency (vibrato), can also be applied to the main oscillator for the ring modulation.

[Page 1]
(1) FRQ (frequency): 1 - 100
This determines the frequency of the main oscillator for changing the tone.

(2) MOD (modulation depth): 0 - 100
This determines the depth of the frequency modulation of the oscillator with the LFO.

(3) SPD (speed): 0.1 - 10 Hz
This determines the speed of the tone change by LFO.

(4) LVL (output level): 0 - 100
This determines the output level of the module.
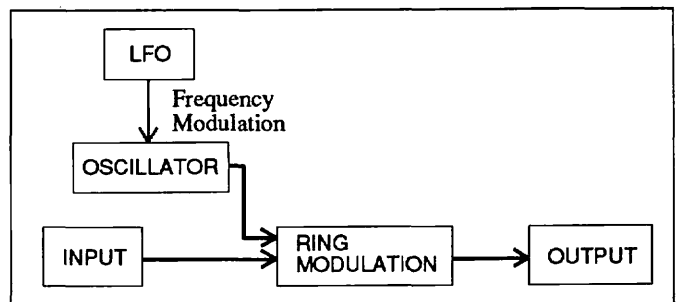
[Page 2]
(1) DES (destination): FRQ, MOD, SPD, LVL, M + S
Both the modulation depth and the speed of the LFO can be controlled when selecting M + S.

(2) CTL (control change number): 1 - 31, 63 - 95 (excluding 6, 7, 70 - 79, and 91)

(3) RATIO: -100 - +100%

(4) LVL (output level): 0 - 100

Metallic Parameters

● Doubling (DBL)

This effect provides a delayed repeat of the input sound, with a delay of less than 100 ms. It creates an ensemble sound, as if two or three musicians were playing together.

[Page 1]

(1) TT1 (tap 1 time): 1 - 100 ms
This determines the delay time of tap 1.

(2) TL1 (tap 1 level): 0 - 100
This determines the level of the delay sound of tap 1.

(3) TT2 (tap 2 time): 1 - 100 ms
This determines the delay time of tap 2.

(4) TL2 (tap 2 level): 0 - 100
This determines the level of the delay sound of tap 2.

[Page 2]

(1) DES (destination): TL1, TL2, L12, LVL
The levels of both tap 1 and tap 2 can be controlled when selecting L12.

(2) CTL (control change number): 1 - 31, 63 - 95 (excluding 6, 7, 70 - 79, and 91)

(3) RATIO: -100 - +100%

(4) LVL (output level): 0 - 100

● Comb Filter (COF)

This is an unusual effect that utilizes the comb filter like an equalizer. The effect is a result of locking a flanger. This lets you create original timbres such as phase sound, in which the phases of the picking (or attack sounds) are reversed, since peaks and valleys in the frequency characteristics are alternately created. Moreover, when the high damp parameter is increased, the original high frequency characteristics of the flanger are diminished, making it a more natural, acoustic-like effect.

[Page 1]

(1) FRQ (frequency): 20 Hz - 2 kHz
This determines the basic frequency.

(2) F.B (feedback): -98 - +98
This determines the amount of feedback for the flanger. It functions as a parameter for setting the degree of resonance.

Negative values result in reversed phase.

(3) HiD (high damp): 0 - 99
This determines the degree to which the high frequencies are gradually filtered out when feedback is applied.

(4) MIX: -98 - +98
This determines the balance of the effect sound and direct sound. Negative values result in reversed phase.

[Page 2]

(1) DES (destination): FRQ, F.B, HiD, MIX, LVL

(2) CTL (control change number): 1 - 31, 63 - 95 (excluding 6, 7, 70 - 79, and 91)

(3) RATIO: -100 - +100%

(4) LVL (output level): 0 - 100

Helpful Hint:

This effect can also be used as a flanger in which the modulation is controlled manually. Simply set the feedback parameter to the maximum value and use real-time modulation to control the FRQ parameter.

● Tremolo (TRM)

This is a tremolo effect which is capable of various effects.

[Page 1]

(1) DPT (depth): 0 - 100
This determines the depth of the tremolo effect.

(2) SPD (speed): 1.0 - 20 Hz
This determines the speed of the tremolo.

(3) WF (waveform): Tri, STd, STu
This determines the waveform used in the tremolo: triangle (Tri), saw down (STd), and saw up (STu).

(4) EDG (edge): 0 - 100
Increasing the value of this parameter effectively "clips" the top of the tremolo waveform, making it more like a trapezoid. In terms of sound, this makes it possible to create a strong periodic gating effect.

[Page 2]

(1) DES (destination): DPT, SPD, EDG, LVL

(2) CTL (control change number): 1 - 31, 63 - 95 (excluding 6, 7, 70 - 79, and 91)

(3) RATIO: -100 - +100%

(4) LVL (output level): 0 - 100

Tremolo Waveforms

Edge Effects

● Octave (OCT)

This effect adds a pitch-shifted sound two octaves lower than the input to the direct sound.

[Page 1]
(1) Low (low level): 0 - 100
This determines the level of the pitch-shifted effect sound.

(2) DiL (direct level): 0 - 100
This determines the level of the direct sound.

(3) LVL (output level): 0 - 100
This determines the output level of the module.

[Page 2]
(1) DES (destination): Low, DiL, LVL

(2) CTL (control change number): 1 - 31, 63 - 95 (excluding 6, 7, 70 - 79, and 91)

(3) RATIO: -100 - +100%

(4) LVL (output level): 0 - 100

● Pedal Wah (PWA)

This is a wah effect designed especially for real-time modulation. Use the optional 8050 foot controller or the FP01 expression pedal to control the wah effect by pedal.

[Page 1]
(1) FRQ (frequency): 1 - 100
This determines the basic frequency of the wah effect.

(2) LVL (output level): 0 - 100
This determines the output level of the module.

[Page 2]
(1) DES (destination): FRQ, LVL

(2) CTL (control change number): 1 - 31, 63 - 95 (excluding 6, 7, 70 - 79, and 91)

(3) RATIO: -100 - +100%

(4) LVL (output level): 0 - 100

■ Effect Module 7: Effect 2 (EFF2)

This module features twelve effects, including stereo effects.

● Pitch Shifter 2 (PT2)

This is the same effect as Pitch Shifter in EFF1.

● Phase 2 (PH2)

This is the same effect as Phase in EFF1.

● Phase 3 (PH3)

This is a phase shifter for stereo output.

[page 1]
(1) DPT (depth): 0 - 100
This determines the depth of the modulation. The greater the value, the greater the change in the timbre of the sound.

(2) SPD (speed): 0.1 - 10 Hz
This determines the speed of the modulation, set in units of 0.1 Hz.

(3) LVL (output level): 0 - 100
This determines the output level of the module.

[Page 2]
(1) DES (destination): DPT, SPD, LVL

(2) CTL (control change number): 1 - 31, 63 - 95 (excluding 6, 7, 70 - 79, and 91)

(3) RATIO: -100 - +100%

(4) LVL (output level): 0 - 100

● Chorus 2 (CH2)

This is a thick mono chorus with a deep, rich effect. Unlike the Chorus program of EFF1, Chorus 2 lets you program the speed of the modulation.

[Page 1]
(1) DPT (depth): 0 - 100
This determines the depth of the modulation.

(2) SPD (speed): 0.1 - 10 Hz
This determines the speed of the modulation.

(3) MIX (effect mix): 0 - 100
This determines the mix amount of the effect sounds.

(4) LVL (output level): 0 - 100
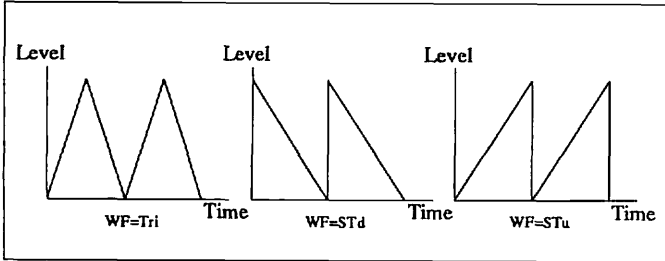This determines the output level of the module.
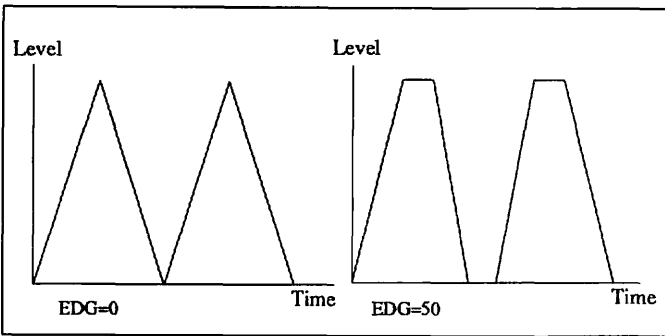
[Page 2]
(1) DES (destination): DPT, SPD, MIX, LVL

(2) CTL (control change number): 1 - 31, 63 - 95 (excluding 6, 7, 70 - 79, and 91)

(3) RATIO: -100 - +100%

(4) LVL (output level): 0 - 100

● Chorus 3 (CH3)

This is a stereo chorus that gives an expansive, spacious feeling. The parameter data is the same as that of Chorus 2.

● Flanger 2 (FL2)

This effect has a wide range of sound variation, which can be changed manually, and it can be also used as delayed flanger.

[Page 1]
(1) DPT (depth): 0 - 100
This determines the depth of the modulation.

(2) SPD (speed): 0.1 - 10 Hz
This determines the modulation speed.

(3) MAN (manual): 1 - 900 ms
This determines the delay time, set in increments of 1 ms, with a maximum delay time of 900 ms.

(4) F.B (feedback): -98 - +98
This determines the amount of feedback.

[Page 2]
(1) DES (destination): DPT, SPD, F.B, S + F, LVL
Modulation can be set to control both speed and feedback by selecting S + F.

(2) CTL (control change number): 1 - 31, 63 - 95 (excluding 6, 7, 70 - 79, and 91)

(3) RATIO: -100 - +100%

(4) LVL (output level): 0 - 100

Helpful Hint:
Use this effect as a delayed flanger by setting the manual parameter to around 300 ms - 900 ms.

● **Cry 2 (CR2)**

This is the same type effect as the Cry program of EFF1.

● **Tremolo 2 (TR2)**

This is the same type effect as the tremolo of EFF1.

● **Step (STP)**

This effect has a sample-and-hold function for creating automatic arpeggios.

[Page 1]
(1) DPT (depth): 1 - 100
This determines the depth of the pitch modulation. The greater the value, the greater the range of the pitch variation.

(2) FRQ (frequency): 1.0 - 10 Hz
This determines the sampling speed (the arpeggio rate).

(3) SPD (speed): slw, fst
This parameter allows you to create more dramatic effects by increasing the sampling speed. The "fst" parameter increases the speed by ten times.

(4) LVL (output level): 0 - 100
This determines the output level of the module.

[Page 2]
(1) DES (destination): DPT, FRQ, SPD, LVL

(2) CTL (control change number): 1 - 31, 63 - 95 (excluding 6, 7, 70 - 79, and 91)

(3) RATIO: -100 - +100%

(4) LVL (output level): 0 - 100

● **Auto Pan Pot (PAN)**

This is a stereo auto panning effect.

[Page 1]
(1) DPT (depth): 0 - 100
This determines the depth of the tone modulation.

(2) SPD (speed): 0.1 - 10 Hz
This determines the speed of the panning.

(3) LVL (output level): 0 - 100
This determines the output level of the module.

[Page 2]
(1) DES (destination): DPT, SPD, LVL

(2) CTL (control change number): 1 - 31, 63 - 95 (excluding 6, 7, 70 - 79, and 91)

(3) RATIO: -100 - +100%

(4) LVL (output level): 0 - 100
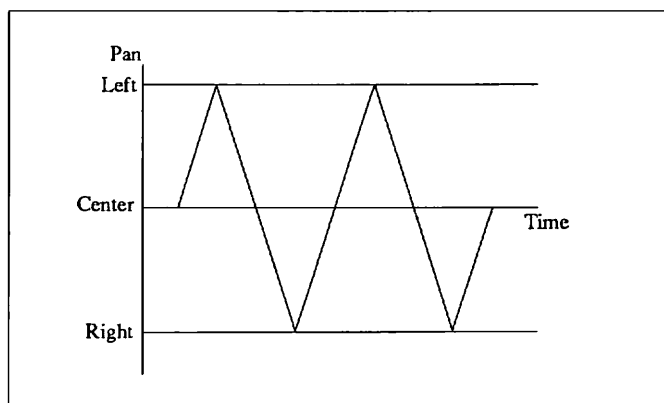
Auto Pan Pot

Helpful Hint:
This effect can be used as a stereo tremolo when parallel routing is selected. See page 19 for more information.

● **Delay (DEL)**

This is a long delay in which the delay time can be set up to 1000 ms. By using the 8050, it is also possible to keep the delay time in sync with the song simply by tapping the pedal switch in time with the tempo.

[Page 1]
(1) TM (delay time): 1 ms - 1 S
This determines the delay time.

(2) F.B (feedback): 0 - 98
This determines the amount of feedback of the delayed repeats.

(3) HiD (high damp): 0 - 99
This determines the degree to which the high frequencies are gradually filtered out when feedback is applied. When the value is set relatively high, this can recreate the sound of an analog delay or tape echo, in which successive delayed repeats have a warm, mellow timbre.

(4) BAL (balance): 0 - 100
This determines the balance of the effect sound and direct sound. Only the direct sound is output at 0, and only the effect sound is output at 100.

[Page 2]
(1) DES (destination): F.B, BAL, LVL, TM

(2) CTL (control change number): 1 - 31, 63 - 95 (excluding 6, 7, 70 - 79, and 91)

(3) RATIO: -100 - +100%, Tap (when DES is set to TM, Tap is indicated here)

(4) LVL (output level): 0 - 100

Helpful Hint:
The Tap value of the ratio parameter is a special setting for use with the 8050. The delay time can be set to match the timing by which the pedal switch of the 8050 is repeatedly pressed. (Refer to the owner's manual of the 8050 for more information.)

●Echo (ECH)

This is a stereo echo which can be easily used to create complicated delay patterns. It features two systems with feedback lines.

[Page 1]
(1) LT (left time): 1 ms - 1 S
This determines the time that elapses between the direct sound of the left channel and the first delay sound. This setting also determines sets the repeating interval of the delay feedback.

(2) FBT (feedback time): 1 ms - 1 S
This determines the repeating interval of the second delay system.

(3) RT (right time): 1 ms - 1 S
This determines the time that elapses between the direct sound of the right channel and the first delay sound.

(4) F.B (feedback): 0 - 98
This determines the number of delayed repeats of the sound of both systems.
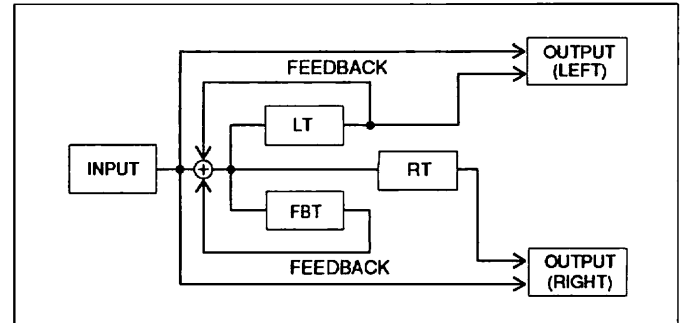

Echo Diagram

[Page 2]
(1) DES (destination): F.B, BAL

(2) CTL (control change number): 1 - 31, 63 - 95 (excluding 6, 7, 70 - 79, and 91)

(3) RATIO: -100 - +100%

(4) BAL (balance): 0 - 100

■ Effect Module 8: Special Effects (SFX)

This module features seven unusual special effects, providing an unprecedented degree of control and complex synthesizer-like effects far beyond the capabilities of conventional effect devices.

Note:
The SFX module cannot be used simultaneously with the EFF1 module or EFF2 module. When this module is on (set by the BYPASS key), the EFF1 and EFF2 modules are automatically turned off. Similarly, when EFF 1 or EFF2 are on, the SFX module is automatically turned off.

● Harmonized Pitch Shifter (HPS)

This is an intelligent pitch shifter designed for a guitar that allows you to automatically generate diatonic harmonies by setting the appropriate scale.

[Page 1]
(1) KEY (key): C, C#, D, D#, E, F, F#, G, G#, A, A#, B
This determines the scale in combination with parameter (2) below. The tonic (root) of the scale is selected here.

(2) INT (interval): 2nd, Ma3, Mi3, 4th, 5th, 6th, 7th
This determines the scale for which the note selected in parameter (1) above becomes the tonic.

(3) PIT (pitch): up, dwn
This determines the pitch of harmonization. Up (up) outputs a sound which is higher as the effect sound. Down (dwn) outputs a sound which is lower as the effect sound.

(4) BAL (balance): 0 - 100
This determines the balance of the effect sound and direct sound. Only the direct sound is output at 0, and only the effect sound is output at 100.

[Page 2]
(1) TRK (tracking): 1, 2
This determines the proper effect sound.

(4) LVL (output level): 0 - 100

[Page 3]
(1) DES (destination): BAL, LVL

(2) CTL (control change number): 1 - 31, 63 - 95 (excluding 6, 7, 70 - 79, and 91)

(3) RATIO: -100 - +100%

(4) LVL (output level): 0 - 100

Note:
This is effective only when playing one-note lines and melodies with a guitar tuned up in the correct pitch.

● Advanced Flanger (AFL)

This is a synthesizer-like flanger effect that responds to the input signal trigger, and changes the sound dynamically with an EG (envelope generator). It is capable of creating an envelope follower effect; for a sound which has a slow initial attack, the attack will speed up in time, using the input signals as triggers for depth and speed.

[Page 1]
(1) DPT (depth): 0 - 100
This determines the depth of the basic flanger effect.

(2) SPD (speed): 0.1 - 10 Hz
This determines the modulation speed of the flanger.

(3) EGD (EG depth): -98 - +98
This determines the modulation depth of the EG that is applied to the depth of the flanger.

(4) EGS (EG speed) -98 - +98
This determines the modulation depth of the EG that is applied to the speed of the flanger.

[Page 2]
(1) TDI (trigger delay): 0 ms - 1 S

Example of Harmonized Effect

KEY = C, INT = Ma3, PIT = up

This determines the time that elapses from when the trigger input is received to when the EG starts, and can be set in 1 ms increments.

(2) EGt (EG time): 1 - 100
This determines the rising or attack time of the EG.

(3) F.B (feedback): -98 - +98
This determines the feedback amount of the flanger.

(4) LVL (output level): 0 - 100
This determines the output level of the module.

[Page 3]
(1) DES (destination): DPT, SPD, EGt, F. B, LVL

(2) CTL (control change number): 1 - 31, 63 - 95 (excluding 6, 7, 70 - 79, and 91)

(3) RATIO: -100 - +100%

(4) LVL (output level): 0 - 100

● Bend Chorus (BND)

In this effect, the amount of pitch variation, or detuning, varies according to the level of the input signal.

[Page 1]
(1) DPT (depth): -98 - +98
This determines the width and direction of the pitch bend. Pitch is bent upward for positive values, and bent downward for negative values.

(2) BTm (bend time): 1 - 100
This determines the time it takes for the pitch bend to reach the maximum or minimum value.

(3) BAL(balance): 0-100
This determines the balance of the effect sound and direct sound.

(4) LVL (output level): 0 - 100
This determines the output level of the module.

[Page 2]
(1) DES (destination): DPT, BTm, BAL, LVL

(2) CTL (control change number): 1 - 31, 63 - 95 (excluding 6, 7, 70 - 79, and 91)

(3) RATIO: -100 - +100%

(4) LVL (output level): 0 - 100

● Picking Modulator (PIC)

This effect applies ring modulation to each sound that has a sharply picked attack.

[Page 1]
(1) FRQ (frequency): 1 - 100
This determines the frequency of the modulating oscillator.

(2) DEC (decay time): 1 - 100
This determines the time that elapses from the sharp picked attack (in the case of a guitar) until the release of the modulation.

(3) 2Dl (second transpose delay): 0 ms - 1 S
This determines the time that elapses before the transpose effect is applied.

(4) 2Rt (second transpose rise time): 0 - 100
This determines the speed of the rising time of the transpose effect. When this is set to 0, there is no transpose effect.

[Page 2]
(1) DES (destination): FRQ, DEC, 2Rt, LVL

(2) CTL (control change number): 1 - 31, 63 - 95 (excluding 6, 7, 70 - 79, and 91)

(3) RATIO: -100 - +100%

(4) LVL (output level): 0 - 100

● Super Cry (SCR)

This is an enhanced version of the Cry effect in the EFF1 and EFF2 modules, providing an excludingionally clear vocoder-like sound.

[Page 1]
(1) PTN (pattern): 1 - 5
This determines the pattern (1 - 5) which changes the timbre of the sound by the wah effect.

(4) LVL (output level): 0 - 100
This determines the output level of the module.

[Page 2]

(1) DES (destination): PTN, LVL

(2) CTL (control change number): 1 - 31, 63 - 95 (excluding 6, 7, 70 - 79, and 91)

(3) RATIO: -100 - +100%

(4) LVL (output level): 0 - 100

● **Bomber (BOM)**

This is an unusual special effect in which each initial signal input (such as the picking of a guitar) triggers an explosive sound.

[Page 1]

(1) TRG (trigger): mut, in
When this parameter is set to "mut," the trigger is cancelled. With the use of the 8050, you can conveniently switch this parameter on and off as needed.

(2) PTN (pattern): 1 - 3
This determines the tone of the explosion sound.

(3) DEC (decay): 1 - 100
This determines the decay speed of the explosion sound. The greater the value, the slower the decay.

(4) BAL (balance): 0 - 100
This determines the balance of the direct sound and effect sound.

[Page 2]

(1) DES (destination): TRG, PTN, DEC, BAL, MAN
When this parameter is set to MAN, the explosion sound is output at the point when the control change value increases from less than 63 to more than 64 regardless of the ratio.

(2) CTL (control change number): 1 - 31, 63 - 95 (excluding 6, 7, 70 - 79, and 91)

(3) RATIO: -100 - +100%

(4) LVL (output level): 0 - 100

Helpful Hint:
In order to produce the explosive sound without playing a note on your instrument, set the trigger to "mut," the destination to "MAN," and match the control change number with the pedal switch of the 8050 or the sustain pedal of a synthesizer. Then, just by pressing the pedal, you can produce the sound of a bomb exploding -- a useful sound effect for intros and endings.

● **ZITAR (ZIT)**

This is effect simulates the sound of a sitar.

[Page 1]

(1) DPT (depth): 0 - 10
This determines the depth of the apparent "bridge" of the sitar vibrates or resonates.

(2) RES (resonance): 0 - 10
This determines the amount of sympathetic resonance, or the drone sound of the sitar.

(3) LVL (output level): 0 - 100
This determines the output level of the module.

[Page 2]

(1) DES (destination): DPT, RES, LVL

(2) CTL (control change number): 1 - 31, 63 - 95 (excluding 6, 7, 70 - 79, and 91)

(3) RATIO: -100 - +100%

(4) LVL (output level): 0 - 100

■ Effect Module 9: Reverb (REV)

This effect module features six delay/reverb group effects.

● Reverb 1 (RV1)

This is an Hall - Type reverb effect, especially suited to adding rich ambience to strings sounds.

[Page 1]
(1) RvT (reverb time): 0.5 - 10 seconds
This determines the time it takes for the reverberation to decay. Increasing this value creates a larger apparent room size.

(2) PD1 (pre-delay): 0 - 100 ms
This determines the pre-delay time, or the time that elapses between the direct sound and the first of the reflections that make up the reverb sound.

(3) COL (color): 1 - 5
This determines the timbre of the reverb sound.

(4) MIX (mix level): 0 - 100
This determines the mix amount of the effect sound.

[Page 2]
(1) DES (destination): RvT, COL, MIX, INP
When INP is selected, the level of the input signal feeding the reverb can be controlled by real-time modulation.

(2) CTL (control change number): 1 - 31, 63 - 95 (excluding 6, 7, 70 - 79, and 91)

(3) RATIO: -100 - +100%

(4) SRC (input source): 1, 1 + 2, 2
This determines the source (effect module) that is input to the reverb module. EFF1, EFF2, or both EFF1 and EFF2 can be selected. However, this is only effective when EFF 1 and EFF2 are connected in parallel.

Note:
For the reverb (REV) effect module, parameter (4) in the last page is used to select the input source. This parameter is effective only when the routing is parallel.
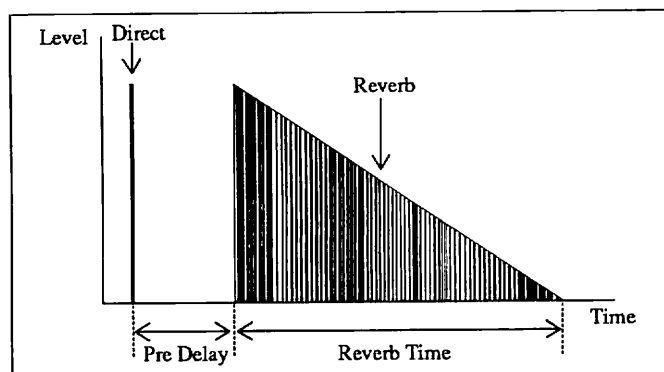
Reverb Parameters

● Reverb 2 (RV2)

The density of the reverberation of Reverb 2 is thicker than that of Reverb 1, making it effective for percussive sounds.

[page 1]
(1) RvT (reverb time): 0.5 - 10 seconds
This determines the time it takes for the reverberation to decay.

(2) PD1 (predelay): 0 - 100 ms
This determines the pre-delay time, or the time that elapses between the direct sound and the first of the reflections that make up the reverb sound.

(3) COL (color): 1 - 5
This determines the apparent size of the room. The greater the value, the larger the apparent room size.

(4) MIX (mix level): 0 - 100
This determines the mix amount of the effect sound.

[page 2]
(1) DES (destination): RvT, MIX, INP, HLD ("HLD" is effective only when the color parameter is set to 5.)
When "INP" is selected, the input level of the reverb can be controlled by realtime modulation. Selecting "HLD" creates an "infinite" reverb effect in which the reverb sound is "held. " In this case, regardless of the ratio, the hold starts when the value of the control change is increased from a value of 63 or less to greater than 64, and the hold is stopped when the value decreases to 63 or less.

(2) CTL (control change number): 1 - 31, 63 - 95 (excluding 6, 7, 70 - 79 and 91)

(3) RATIO: -100 - +100%

(4) SRC (input source): 1, 1 + 2, 2

This determines the source (effect module) that is input to the reverb module. It can be selected from EFF1, EFF2, or both EFF1 and EFF2. However, it is effective only when EFF1 and EFF2 are connected in parallel.

Helpful Hint:

When the color parameter is set to "5," the destination is set to "HLD," and the control change number is matched with the pedal switch of the 8050 or the sustain pedal of a synthesizer, an "infinite" reverb effect can be turned on and off by pressing the pedal.

● Early Reflection 1 (ER1)

This reverb effect emphasizes the simulated early reflections over the reverberant wash. It is capable of reproducing a spacious ambience without sacrificing the clarity and definition of the original sound. The decay portion of this effect has a "rougher" sound than that of reverb.

[Page 1]

(1) RmS (room size): 1 - 100
This determines the apparent room size of the effect.

(2) PDl (pre-delay): 0 - 100 ms
This determines the pre-delay time, or the time that elapses between the direct sound and the first of the reflections that make up the reverb sound.

(3) HiC (high cut): 0 - 10
This determines the degree to which high frequencies are filtered out of the reverb sound. This parameter makes it possible to recreate the effect of different reflective surfaces by cutting the amount of high frequencies in the sound.

(4) MIX (mix level): 0 - 100
This determines the mix amount of the effect sound.

[Page 2]

(1) DES (destination): RmS, MIX, INP

(2) CTL (control change number): 1 - 31, 63 - 95 (excluding 6, 7, 70 - 79, and 91)

(3) RATIO: -100 - +100%

(4) SRC (input source): 1, 1 + 2, 2

● Early Reflection 2 (ER2)

This is a random pattern early reflection program.

[Page 1]

(1) RmS (room size): 1 - 100
This determines the apparent room size of the effect.

(2) PDl (pre-delay): 0 - 100 ms
This determines the pre-delay time, or the time that elapses between the direct sound and the first of the reflections that make up the reverb sound.

(3) ENV (envelope): -10 - +10
This determines the shape of the gate.

(4) MIX (mix level): 0 - 100
This determines the mix amount of the effect sound. The final level is decided by the master level.

[Page 2]

(1) DES (destination): RmS, ENV, MIX, INP

(2) CTL (control change number): 1 - 31, 63 - 95 (excluding 6, 7, 70 - 79, and 91)

(3) RATIO: -100 - +100%

(4) SRC (input source): 1, 1 + 2, 2
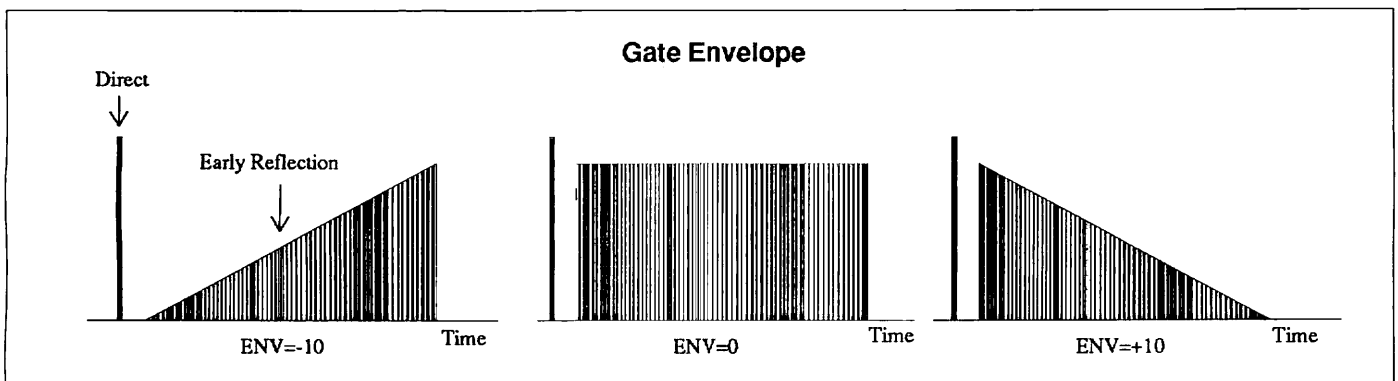
Gate Envelope

Helpful Hint:

With effective use of the envelope, you can create a powerful gate reverb effect. Gate reverb is an artificial- sounding reverb that adds the reverb sound at the attack or abruptly cuts off the reverb sound. It is often used for snare and bass drums.

● **Multi-tap Delay (MTD)**

This is a multi-tap delay in which the tap interval can also be made to change over time.

[Page 1]

(1) TM (delay time): 10 - 900 ms
This determines the delay time of the final tap. It can be set from a short delay of 10ms to a long delay of 900 ms.

(2) INT (interval): -10 - +10
This determines whether and how the tap interval changes over time. When set to 0, the tap interval is equal throughout. The tap interval gradually becomes shorter when set to positive values, and longer when set to negative values.

(3) PTN (pattern): L --> R, L <-- R, L -- R, P -- P
This determines the direction of the tap delay in the stereo image. The delay moves in a single direction for the "L --> R" and "L <-- R" settings; the delay moves from right to left and back to right again continuously when set to "L -- R."

"P -- P" allows you to create a ping-pong effect in which the delay sound is heard alternately from the left and right sides.

(4) SLO (slope): - 10 - +10
This determines the crescendo and decrescendo of the delay sound.

[Page 2]

(1) HiC (high cut): 0 - 10
This determines the degree to which high frequencies are filtered out of the delay sound.

(4) MIX (mix level): 0 - 100

[Page 3]

(1) DES (destination): ITV, PTN, SLO, MIX, INP

(2) CTL (control change number): 1 - 31, 63 - 95 (excluding 6, 7, 70 - 79, and 91)

(3) RATIO: -100 - +100%

(4) SRC (input source): 1, 1 + 2, 2

● **Ping-pong Delay (PPD)**

This is a special delay effect in which the delayed repeats alternate between the left and right channels.

[Page 1]

(1) TM (delay time): 10 - 900 ms
This determines the delay time.

(2) F.B (feedback): 0 - 98
This determines the amount of delayed repeats in the sound.
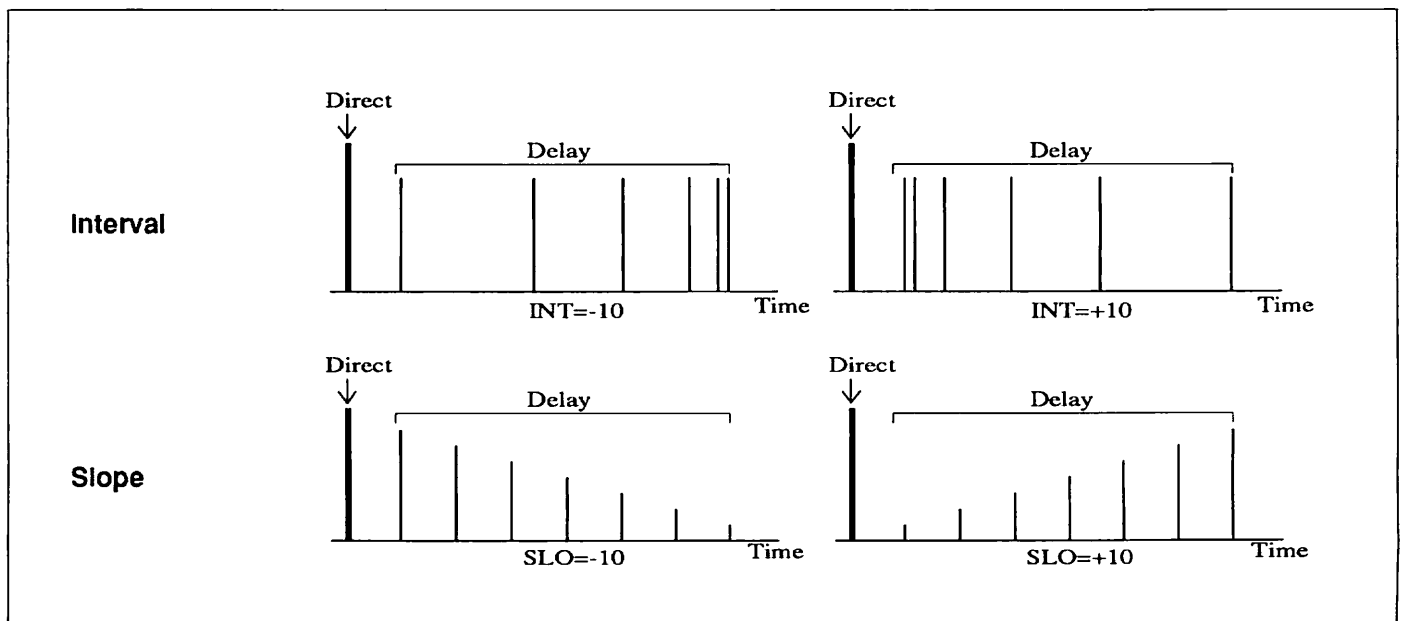
(3) HiD (high damp): 0 - 10

This determines the degree to which high frequencies are filtered out of the delayed repeats set in the feedback parameter.

(4) MIX (mix level): 0 - 100

[Page 2]

(1) DES (destination): F.B, MIX, INP, TM

(2) CTL (control change number): 1 - 31, 63 - 95 (excluding 6, 7, 70 - 79, and 91)

(3) RATIO: -100 - +100%, Tap (when DES is set to TM, Tap is indicated here)

(4) SRC (input source): 1, 1 + 2, 2

Helpful Hint:

When the ratio is set to "Tap," the delay time can be set to match the timing by which the pedal switch of the 8050 is repeatedly pressed. (Refer to the owner's manual of the 8050 for more information.)

Compare

By pressing the PATCH▲ key, you can monitor either the Patch currently being edited or the original Patch (the Patch as it was before editing), and switch between the two to compare them.

The display changes as shown below, and all the parameters of the Patches return to their original values, before they were changed.

```
ADVANCED  PITCH2
COMPARE
```

Pressing the EDIT < / > keys again returns operation to the Edit mode.

Helpful Hint:

When the Patch is selected, the Patch data in the memory is copied to a separate memory area for editing, which is called the edit buffer. In other words, when you are editing parameters in the Edit mode, actually you are editing the Patch in the edit buffer.

Memory Areas and Buffers

The 9030 has two memory areas (for permanent data storage) and three buffers (for temporary data storage). When Patches are selected or when the compare function is used during editing, Patch data is transferred among the memory areas and buffers. This section explains in detail the functions of the two types of memory storage.

• Memory Area --

The location where Patch data is permanently stored is called a memory area. There are two types of memory areas, User memory and ROM memory.

User memory: Data from this memory can be called up directly in the Play mode. It is used for storing edited Patches.

ROM memory: ROM stands for "read only memory," and data cannot be stored or rewritten to this area. However, you can use the ROM Patch Call function in the Utility mode to select a ROM Patch, then edit the Patch normally and store it to User memory. (See page 49 for information on the ROM Patch Call function.) The Patches are the same as those stored to User memory at the factory.

• Buffer --

The location where Patch data is temporarily stored is called a buffer. There are three different buffers: the Edit buffer, the Recall buffer, and the Compare buffer.

Edit Buffer: This is used when selecting Patches or editing.

Recall Buffer: If Patch data is being edited (and, thus, is stored in the edit buffer), and another Patch is called up either from ROM or with the normal Patch select operation, the Patch currently in the edit buffer is temporarily stored to the recall buffer. This data can be returned to the edit buffer by the Patch recall function. (See page 49 for information on the Patch recall function.)

Compare Buffer: This is used for monitoring purposes, and allows you to compare the original Patch before editing with the edited Patch.

The relationships between memory areas and buffers are described below. It is convenient to keep these points in mind, especially when executing ROM Patch Call and Patch recall operations.

(1) When you select a Patch, the data of that Patch is copied from user memory to the edit buffer. (In our example, we will refer to this data as Patch X.) When you edit a Patch, you are actually editing or rewriting the data in the edit buffer. The edited data (in which the parameter values are changed) of Patch X will be referred to as Xe.
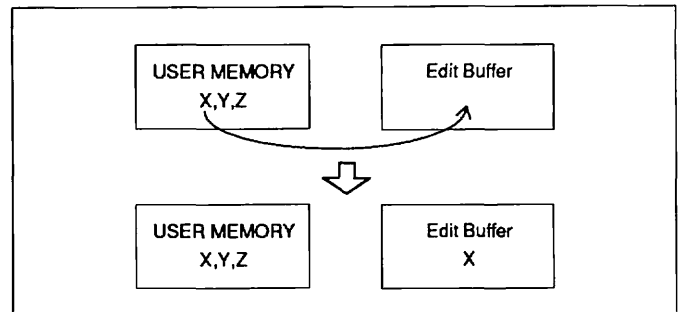
Selecting Patch X
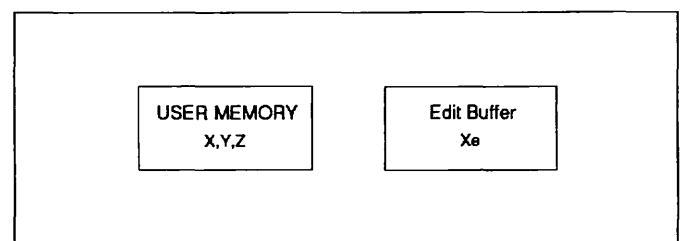
Editing Patch X

(2) If you store the new Patch Xe to the space in user memory previously occupied by Patch X, the data of Patch X in user memory is rewritten to Xe, and the original data of Patch X is deleted.
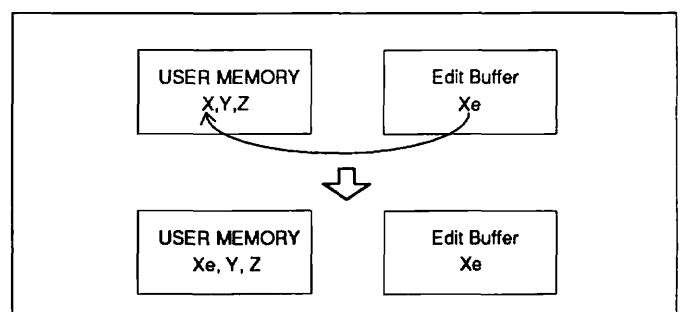
Storing Patch Xe

(3) If you stop editing and select a new Patch (referred to here as Patch Y), the data being edited (Patch Xe) will be temporarily stored to the recall buffer and the data of Patch Y will be copied to the edit buffer. Also, when a Patch is called up from ROM, the data being edited will be temporarily stored to the recall buffer, and the ROM Patch data (referred to here as Patch @) will be copied to the edit buffer. (See page 49 for information on the ROM Patch Call function.)

USER MEMORY X,Y,Z	Edit Buffer Xe	Recall Buffer
USER MEMORY X,Y,Z	Edit Buffer Y	Recall Buffer Xe

Selecting Patch Y

ROM MEMORY @	Edit Buffer Xe	Recall Buffer
ROM MEMORY @	Edit Buffer @	Recall Buffer Xe

Executing the ROM Patch Call Function

(4) Even after editing Patch Y in the edit buffer (the data of Patch Y becomes Patch Ye after editing), you can use the Patch recall function to restore the data of Patch Xe, which was stored to the recall buffer. (See page 49 for information on the Patch recall function.) The data of Patch Ye which was being edited is deleted.

USER MEMORY X,Y,Z	Edit Buffer Ye	Recall Buffer Xe
USER MEMORY X,Y,Z	Edit Buffer Xe	Recall Buffer Xe

Executing Patch Recall

(5) When you have finished editing Patch Y and select a new Patch (Patch Z), the data of Patch Xe in the recall buffer is deleted and the data of Patch Ye (which was in the edit buffer) takes its place. (The data of Patch Xe cannot be restored.)

USER MEMORY X,Y,Z	Edit Buffer Ye	Recall Buffer Xe
USER MEMORY X,Y,Z	Edit Buffer Z	Recall Buffer Ye
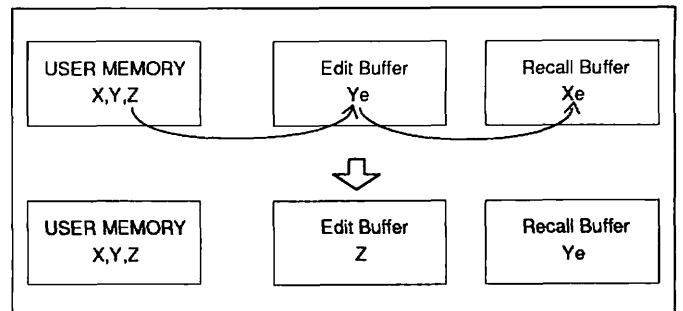
Selecting Patch Z

(6) If the data in the edit buffer has not been edited, it will not be transferred, even when a Patch has been selected or called up from ROM. As a result, in this case, the data of Patch Xe which was already transferred to the recall buffer can be restored.

USER MEMORY X,Y,Z	Edit Buffer Y	Recall Buffer Xe
USER MEMORY X,Y,Z	Edit Buffer Z	Recall Buffer Xe

Selecting Patch Z

Storing In the Edit mode

Store the Patch after you've completed editing.

Press the STORE/EXECUTE key. The display changes as shown below.

```
8 8  ADVANCED  PITCH2
🔲→ ADVANCED  PITCH2
```

Press the STORE/EXECUTE key so that the Patch whose master level has been changed is stored to the same Patch number.

To store the Patch to a different Patch number, first press the STORE/EXECUTE key then select the destination Patch number with the PATCH ▼/▲ keys. Press the STORE/EXECUTE key again and the Patch will be stored to the new Patch number.

Section V: Utility Mode and Pop-up Menu

This section explains the functions of the Utility mode and the pop-up menu.

Utility Mode

In the Utility mode you can:

• Set the characteristics and configuration of the playback system.

• Enter Patch names.

• Execute various MIDI operations.

• Use the Patch recall function.

• Call up Patches from ROM.

• Adjust the brightness of the display.

Helpful Hint :
All parameter changes made in the Utility mode, with the exception of Patch name changes, are automatically stored directly to the memory of the 9030. Unlike in the Edit mode, it is not necessary to save these changes manually.

Entering the Utility Mode
Press the UTILITY/PAGE key from the Play mode.

```
UTY1  OUTPUT  MODE
  ▶ LINE        STEREO
```

Note:
You cannot enter the Utility mode directly from the Edit mode.

Exiting From the Utility Mode
To exit from the Utility mode and return to the Play mode, press the EXIT key repeatedly until the Play mode display appears.

Selecting Display Pages
The Utility mode is divided into several display pages. Press the UTILITY/PAGE key repeatedly to select the various pages.

```
UTY1  OUTPUT  MODE
  ▶ LINE        STEREO
```

UTILITY

```
UTY2  PATCH  NAMING
BS  [ULTRA  SUPER  CH_]
```

Utility Mode Pages

1. Output Mode

This page sets the characteristics and playback configuration of the 9030 to match the playback system.

```
UTY1  OUTPUT  MODE
  ▶ LINE        STEREO
         ↑           ↑
        (1)         (2)
```

(1) LINE/AMP -- This determines the output characteristics of the 9030 so as to match the characteristics of the playback system. Select LINE when using a conventional audio or P. A. system, and select AMP when using a guitar amplifier.

(2) **STEREO/MONO** -- This switches the output between stereo and mono. The same signals are output when set to MONO, even when separate cables are connected to the left and right OUTPUT terminals.

When the output mode is set to MONO, the signals of the effect module outputs are mixed and are the same for the left and right channels, even when the final output of effect module is in stereo. This setting is convenient especially when two outputs of the same signals are required, such as in feeding the same signal to a PA and a monitor system.

When the final effect module's output is stereo and the output mode parameter above is set to STEREO, the left and right channels are not mixed, and a cable connected to the L/MONO output terminal receives only the left channel output.

Functions of the Panel Keys

• **UTILITY key** -- Moves to the second page (Patch name).
• **DEC ▼/INC ▲ keys** -- Change the parameter settings.
• **EDIT < / > keys** -- Move the cursor.

2. Naming Patches

```
UTY2 PATCH NAMING
BS [ULTRA  SUPER CH_]
```

This page lets you name the Patch which was previously selected in the Play mode. Names can be up to fifteen characters in length. Available characters (letters and numbers) are shown below.

0123456789 (Space)
ABCDEFGHIJKLMNOPQRSTUVWXYZ (Space)
abcdefghijklmnopqrstuvwxyz (Space)
@!?$¥£%&"'(),.:;+-*/=<>^` {}|→←↑↓
(Space)

Move the cursor (indicated as an underline in the FL display) by using the EDIT < / > keys, and select characters by using either the DEC ▼/INC ▲ keys or Data Entry Control 2.

You can delete or insert characters by using the STORE/EXECUTE key. To delete or insert a character,

select the appropriate function (either delete or insert; the selected function is displayed at the bottom left of the display) by using Data Entry Control 1, then press the STORE/EXECUTE key to execute.

• **BS (Backspace)** -- This deletes the character preceding the cursor, and all characters and spaces following the cursor are moved one to the left to close the space. When selected, backspace is executed by pressing the STORE/EXECUTE key.

• **INS (Insert)** -- This inserts a space at the cursor position, and all characters and spaces following the cursor are moved to the right. When selected, insert is executed by pressing the STORE/EXECUTE key.

• **DEL (Delete)** -- This deletes the character at the cursor position, and all characters and spaces following the cursor are moved one to the left to close the space. When selected, delete is executed by pressing the STORE/EXECUTE key.

Functions of the Panel Keys

• **UTILITY key** -- Moves to page 3-1 (Selecting the MIDI Channel).
• **Data Entry Control 1** -- Selects the function which is to be executed by the STORE/EXECUTE key.
• **Data Entry Control 2** -- Selects characters.
• **DEC ▼/INC ▲ keys** -- Select characters.
• **EDIT < / > keys** -- Move the cursor.
• **STORE/EXECUTE key** -- Executes backspace or insert functions.

Helpful Hint:
When changing the name of Patch, select the Patch in the Play mode then call up this page. (You can only change the names of Patches that are in the edit buffer.)

Note:
The Patch name is one of the Patch parameters. Therefore, it is necessary to store the Patch to memory in order to confirm the change of the Patch name. When the Patch name has been changed, return to the Play mode ("🛭", which means that the Patch is being edited, appears in the FL display), then store it to memory. See page 17 for information on storing.

45

3. MIDI/Remote Setup

This page lets you make settings for MIDI and the ZOOM remote terminal. (These two settings cannot be made separately.) Since there are many parameters to be set in this page, the page is actually divided into five smaller sub-pages (3-1 – 3-6). The EDIT < / > keys is used to move among the sub-pages.

3-1 Selecting the MIDI Channel (MIDI CH SEL)

This is the display page for setting the MIDI receive channel.

```
┌─────────────────────────┐
│ UTY 3 - 1 MIDI CH SEL   │
│ CH =▶ 1    OMNI=  ON    │
└─────────────────────────┘
        ↑            ↑
       (1)          (2)
```
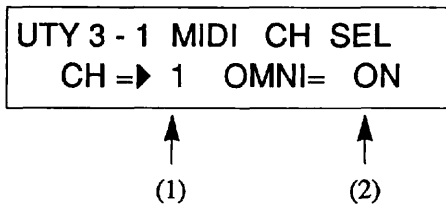
(1) MIDI channel -- This determines the MIDI channel over which the 8050 transmits and receives program change and control change messages. The range is 1 - 16.

(2) Omni on/off -- When omni is set to ON, messages over all MIDI channels are received regardless of the MIDI channel settings.

Match the MIDI send channel of your MIDI controller with the MIDI receive channel of the 9030, or set omni to ON when remotely controlling the 9030 from the 8050 or other MIDI equipment.

Functions of the Panel Keys

• **UTILITY key** -- Moves to page 4 (Patch recall).
• **DEC ▼/INC ▲ keys** -- Set the parameter values.
• **EDIT < / > keys** -- Move the cursor. Pressing the EDIT > key when the cursor is at the OMNI parameter calls up display page 3-2.

3-2 Setting the Program Change Table

This page is used to set the program change table.

```
┌─────────────────────────────┐
│ UTY 3 - 2 PRG - CHG TABLE   │
│ A :  PRG▶ 127  = PATCH 99   │
└─────────────────────────────┘
        ↑              ↑
       (1)            (2)
```
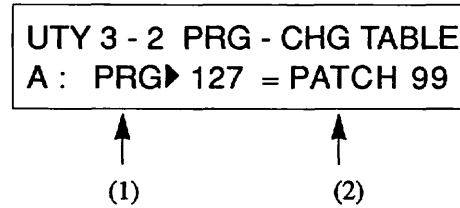
The program change table is a convenient remote control feature of the 9030 that allows you to assign any MIDI program change number (0 - 127) to any Patch number (1 - 99) of the 9030.

(1) Program change number -- This determines the program change number which is assigned to a 9030 Patch.

(2) Patch number -- This determines the Patch number of the 9030 to which the above program change number is assigned.

Functions of the Panel Keys

• **UTILITY key** -- Moves to the next page (Patch recall).
• **DEC ▼/INC ▲ keys** -- Set the parameter values.
• **EDIT < / > keys** -- Move the cursor. Pressing the EDIT < key when the cursor is at the PRG parameter calls up display page 3-1; pressing the EDIT > key when the cursor is at the Patch parameter calls up page 3-3 (selection of table bank).

Helpful Hint:
It is also possible to easily set the program change table by using the pop-up menu. See page 50 for more information.

3-3 Selecting the Table Bank

The program change table is selected from four banks, A - D, in this display.

```
UTY3 - 3 TABLE  BANK
  TABLE BANK➡A :
```
            ▲
            │
           (1)

You can create four separate program change tables, labeled A through D, for convenient selection of different program change/Patch assignments. To call up one of the banks for setting or normal use, press the DEC ▼/INC ▲ keys.

(1) Bank name -- For selection of the bank name (A - D).

Helpful Hint:

This function is convenient for pre-programming several different banks, each designed for a different performance or recording application. Once you've programmed the banks, simply select a bank when you need it, and the 9030 completely reconfigures the program change/Patch assignments.

Functions of the Panel Keys

• **UTILITY key** -- Moves to page 4 (Patch recall).
• **DEC ▼/INC ▲ keys** -- Set the parameter values.
• **EDIT < / > keys** -- Move the cursor. Pressing the EDIT < key calls up display page 3-2, and pressing the EDIT > key calls up page 3-4 (setting mode).

3-4 Setting the MIDI/Remote Mode

This page allows you to select the terminal, remote or MIDI, by which the 9030 will be remotely controlled.

```
UTY 3-4 MIDI / RMT MODE
  ▶ MIDI OUT MODE
```

Three modes are available in this page, as described below. The function of the MIDI OUT terminal changes depending on the mode selected.

• **MIDI OUT MODE** -- In this mode, the 9030 can be remotely controlled by data received via the MIDI IN terminal. (The REMOTE terminal cannot be used.) In this case, the MIDI OUT terminal functions normally (as a MIDI OUT terminal). However, this received data is not output. System exclusive data can be transmitted through the MIDI OUT terminal.

• **MIDI THRU MODE** -- In this mode, the 9030 is remotely controlled by data received via the MIDI IN terminal. (The REMOTE terminal cannot be used.) In this case, the MIDI OUT terminal functions as a MIDI THRU terminal. Data originating from the 9030 cannot be transmitted.

• **REMOTE MODE** -- In this mode, the 9030 is remotely controlled by data received via the REMOTE terminal. (Remote control via the MIDI terminals is not possible in this mode.) The MIDI OUT terminal functions as a MIDI THRU terminal, outputting the signals received via the REMOTE terminal.

Functions of the Panel Keys

•**UTILITY key** -- Moves to the next page (Patch recall).
• **DEC ▼/INC ▲ keys** -- Set the parameter values.
• **EDIT < / > keys** -- Pressing the EDIT < key moves back to page 3-3, and pressing the EDIT > key moves to page 3-5 (MIDI Bulk Dump).

3-5 MIDI Bulk Dump

The bulk dump function can be executed from this page.

```
UTY3 - 5    BULK  DUMP
    ▶ PATCH MEM   OK?
```

Bulk dump is a function that lets you transmit via MIDI all of the Patch setting and MIDI setting data of the 9030.

Helpful Hint:
When a bulk dump is executed, MIDI system exclusive messages are transmitted via the MIDI OUT terminal. If you have a sequencer or computer software program capable of recording system exclusive messages, you can store all settings of the 9030 to a floppy disk. The bulk dump function can also be used to copy the data to another 9030.

Select the type of data to be output by using the DEC ▼/INC ▲ keys and execute the bulk dump by pressing the STORE/EXECUTE key. The following types can be selected:

• ALL -- All settings of the 9030
• Patch -- All Patch memories from 1 to 99 (including Patch names)
• SYSTEM -- Settings of the Utility mode, excluding Patch names
• EDIT BUFFER -- Data of the edit buffer (including Patch names)

Functions of the Panel Keys

• **UTILITY key** -- Moves to the next page (Patch recall).
• **DEC ▼/INC ▲ keys** -- Set the parameter values.
• **EDIT < / > keys** -- Pressing the EDIT < key moves back to page 3-4, and pressing the EDIT > key moves to page 3-6 (MIDI bulk load).

Note:
In order to execute the bulk dump, the MIDI/remote mode parameter (page 47) must be set to MIDI OUT MODE. The following error message is displayed when this setting has not been made.

```
UTY3-5    BULK DUMP
Set  to MIDI  OUT  MODE
```

3-6 Loading MIDI Bulk Data

This function lets you load data via bulk dump to the internal memory of the 9030.

```
UTY3-6   BULK  LOAD
Now wai t i ng
```

There is no particular parameter to be set in this display. The 9030 receives system exclusive messages from the MIDI IN terminal only when this display is called up.

Helpful Hint:
This function is used to reload data to 9030 that was previously recorded to a sequencer or computer. This display should also be used when executing a bidirectional data transfer with a computer, or when receiving data from another 9030.

Functions of the Panel Keys

• **UTILITY key** -- Moves to the next page (Patch recall).
• **EDIT < / > keys** -- Pressing the EDIT < key moves back to page 3-5, and pressing the EDIT > key moves to page 3-1.

Note:
In order to execute this bulk load operation, the MIDI/remote mode parameter (page 47) must be set to MIDI OUT MODE. The following error message is displayed when this setting has not been made.

```
UTY3-6    BULK LOAD
Set  to MIDI  OUT  MODE
```

4. Patch Recall

This function is used to call up a Patch from the recall buffer. (See page 41 for more information on the recall buffer.)

```
UTY4  PATCH RECALL
     EDIT RECALL  OK?
```

The following Patches can be recalled by this function:

• The Patch which was last being edited before selecting a new Patch in the Play mode.
• The Patch which was last being edited before selecting a ROM Patch. (See page 41.)

Functions of the Panel Keys

•UTILITY key -- Moves to page 5 (ROM Patch Call).
•STORE/EXECUTE key -- Executes the Patch Recall.

Helpful Hint:

This function is convenient when you have selected a new Patch but have forgotten to store the previous Patch that you were editing. You may want to store the Patch to memory since Patches in the recall buffer are transferred to the edit buffer when the Patch recall function is executed.

When there is a edited patch in the edit buffer, the message "Are you sure ? "is displayed for confirmation. Press the STORE/EXECUTE key again and the Patch recall function is executed.

5. Calling Up Patches from ROM (ROM Patch CALL)

There are 99 different Patches available in the ROM (Read Only Memory) of the 9030. The data in ROM is permanent; data can be read from ROM, but not written to it. Patches in ROM cannot be called up by normal operations. From this display, check the sound of the Patches one by one, then transfer them individually to the edit buffer.

Helpful Hint:

The Patches in ROM are the same as the ones which are loaded to the internal memory at the factory. Even if you mistakenly edit a Patch which you often use, you can restore the original Patch from this display.

```
UTY5 ROM PATCH CALL
01  DOUBLE WAH        ?
```

Select the Patch by using the DEC ▼/INC ▲ keys and actually load it by using the STORE/EXECUTE key. Operation automatically returns to the Play mode after the loading is completed. (The "🅴" mark in the display lights up, indicating that the Patch is being edited.)

Functions of the Panel Keys

•UTILITY key -- Moves to page 6 (adjustment of the display brightness).
•DEC ▼/INC ▲ keys -- Select the Patch to be read from ROM.
•STORE/EXECUTE key -- Loads the selected Patch.

Note:

The Patch which is called up with this operation is transferred to the edit buffer. If you wish to keep this Patch or edit it, you should store it to memory.

6. Adjusting the Display Brightness (DISPLAY DIMMING)

This display lets you adjust the brightness of the FL display. Change this setting when studio or stage lighting conditions make the display difficult to read.

```
UTY6 DISPLAY  DIMMING
     DIMMING=▶60%
```

The brightness of the display can be adjusted by using the DEC ▼/INC ▲ keys. The value can be changed in five 20-percent steps, from 20% to 100%.

Functions of the Panel Keys

• UTILITY key -- Returns to the first page.
• DEC ▼/INC ▲ keys -- Adjusts the brightness.

Pop-up Menu

What is the Pop-up Menu?

The pop-up menu is a menu that lets you assign the settings of various functions, such as monitoring of the control change and program change numbers, to the pop-up keys so that they can be immediately called up. It is independent from the other functions of the 9030.

1. Memorizing Program Change Numbers (PRG-CHG LEARN)

This is a pop-up menu that registers or memorizes program change numbers, received from external MIDI equipment such as the 8050, into the program change table. In this way, Patches can easily be assigned to the program change table. (See page 46.)

In order to use this function, MIDI equipment such as the 8050 or a synthesizer must be connected to the REMOTE IN terminal or MIDI IN terminal of the 9030. (See page 52 - 54.)

After you've selected the Patch that is to be registered to the program change table by pressing the PRG-CHG LEARN (DEC ▼key) in the Play mode, then continue holding down the key. The display changes as shown below when holding down the PRG-CHG LEARN (DEC ▼ key).

```
PRG-CHG  LEARN
A: w a i t i n g =PATCH88
```

The Patch number of the Patch which is being selected is indicated at the bottom right of the display, and "waiting" is displayed at the bottom left. (This indicates that the 9030 is waiting for the program change number.) While pressing the PRG-CHG LEARN (DEC ▼ key), transmit the program change message from the 8050 or the connected MIDI equipment. The program change number which is received is indicated at the bottom left.

```
PRG-CHG  LEARN
A: PRG  127 = PATCH88
```

The program change number has now been memorized. (In this example, Patch number 88 is assigned to program change number 127.) Releasing the PRG-CHG LEARN (DEC ▼ key) returns operation to the Play mode.

Note:
This setting is only effective for the table bank which was selected in the Utility mode. (See page 47.)

2. Monitoring of the Control Change Number (CTL-CHG MONITOR)

This pop-up menu allows you to view the control change messages received from an external controller such as the 8050 and connected MIDI equipment. This function is convenient when selecting the real-time modulation source.

In order to use this function, MIDI equipment such as the 8050 or a synthesizer must be connected to the REMOTE IN terminal or MIDI IN terminal of the 9030.

Press the CTL-CHG MONITOR (INC ▲) key in the Play mode, and continue to hold it down. While the key is pressed, the display changes as shown below.

```
CTL - CHG  MONITOR
CH - -  CTL- -  VAL- - -
```

Transmit the control change message from the 8050 or connected MIDI equipment while holding down the CTL-CHG MONITOR key on the 9030. The MIDI channel, control number and the value of the transmitted control change message are indicated at the bottom of the display.

```
CTL - CHG  MONITOR
CH -1  CTL64  VAL127
```

Note:
Control change numbers which can be monitored are 0 to 95. Control change numbers from 96 to 127 are ignored. Control change numbers from 32 to 64 are indicated as 0 to 31. When data made up of two bytes is received, only the upper data of 0 to 31 are indicated as the value for the control change number. (Data of 32 to 64 are lower.) The "→" (arrow) is shown at the right side of the value to indicate that the data is made up of two bytes.

Self-introduction Function

This function is an automatic routine in which the 9030 "introduces" itself.

In order to start the self-introduction function:

Turn on the power while simultaneously holding down both PATCH ▼/▲ keys.

The self-introduction appears in the display.

In order to stop the self-introduction:

Press the EXIT key. The self-introduction stops and operation returns to the Play mode.

Section VI: Example Applications -- Remote Control and Real-time Modulation

Remote control and real-time modulation of the 9030 can be accomplished by using MIDI equipment such as the 8050 (optional) or other MIDI instruments.

Controlling the 9030 from the 8050

With the 8050 foot controller, you can switch among the Patches of the 9030 and bypass specific effect modules by using your foot. You can also control effect parameters of the 9030 in real time by connecting the FP01 expression pedal to the 8050.

Equipment Connections and Settings

1. Connect the 8050 and the 9030.

Connect the REMOTE OUT erminal of the 8050 to the REMOTE IN terminal of the 9030 by using the remote cable (RC05) included with the 8050. The 8050 does not require an AC adaptor, since power is supplied from the 9030 through the REMOTE terminal.

2. Set the 8050 as shown below.

• MIDI send channel: 1
• Mode: Standard mode
• Control change number of expression pedal 1: No. 7
• Control change number of expression pedal: No. 1
• Control change number of BYPASS pedal switch: No. 91

The above settings are programmed at the factory. You need not carry out this operation if the settings have not been changed.

3. Make sure that the MIDI receive channel of the 9030 and the MIDI send channel of the 8050 are the same.

Call up the page for selecting the MIDI channel in the Utility mode and either set the MIDI channel to 1 or set OMNI to ON.

The display below appears when the MIDI channel is set to 1.

```
UTY 3 - 1  MIDI  CH  SEL
CH =▶ 1    OMNI= OFF
```

The display on the next page appears when the MIDI channel is set to omni on.

9030   8050
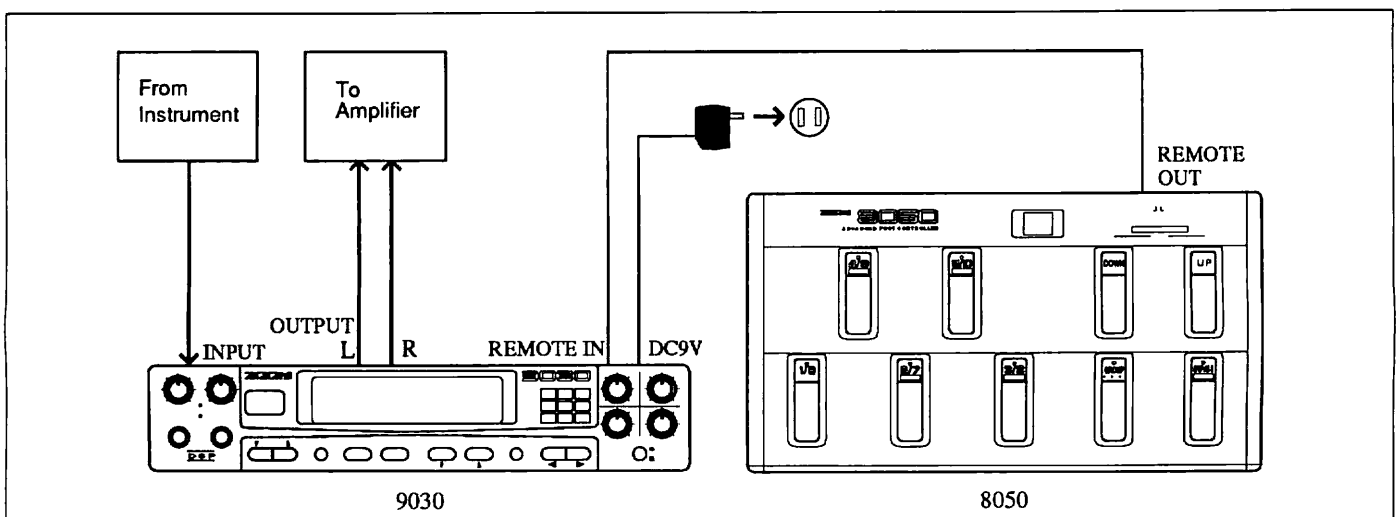
```
UTY 3 - 1   MIDI  CH  SEL
    CH =   2    OMNI=▶ON
```

4. Set the 9030 so that it can be controlled from the REMOTE terminal.

Call up the MIDI/Remote Mode page in the Utility mode and select "REMOTE MODE."

```
UTY 3 - 4   MIDI/ RMT  MODE
       ▶   REMOTE MODE
```

5. Return to the Play mode by pressing the EXIT key.

Selecting a Patch from the 8050

This section explains how to select a Patch of the 9030 from the 8050.

1. Register beforehand the Patch and the program number to be used in the program change table of the 9030.

Helpful Hint:
Use the program change learn function (PRG-CHG LEARN) of the pop-up menu for assigning the values. (See page 50.)

2. Transmit the program change message by using the BANK pedal switch UP/DOWN, GROUP pedal switch and number pedal swich 1 - 5 of 8050.

The 9030 switches to the appropriate Patch according to the assignment in the selected program change table.

Bypassing All Effects from the 8050

It is possible to bypass all effects of the 9030 by using the BYPASS pedal switch of the 8050.

1. Press the BYPASS pedal switch of the 8050.

All the effects of the 9030 are now bypassed. This operation is exactly the same as pressing the BYPASS key on the 9030. At the moment the BYPASS pedal switch of 8050 is pressed down, control change number 91 is sent to 9030. This control change number is compatible with the bypass function of the 9030 and can be used in this way.

2. Press the BYPASS pedal switch of the 8050 again.

The effect bypass function is released.

Turning Off Each Effect Module from the 8050

It is possible to turn off each 9030 effect module independently by using the Extended mode of the 8050.

1. Set the 8050 to the Extended mode, and select the group CONT with GROUP pedal switch.

Now all the number pedals of the 8050 can be used as control pedals. The control number of each pedal of 8050 has been programmed at the factory to switch off a specific effect module of the 9030 according to the assignments shown below.

Number pedal switch 1 --
    CMP (control change number 70)
Number pedal switch 2 --
    DST (control change number 72)
Number pedal switch 3 --
    EFF1/SFX (control change number 75)
Number pedal switch 4 --
    EFF2 (control change number 76)
Number pedal switch 5 --
    REV (control change number 77)

2. Press down number pedals 1 - 5 of the 8050 several times while playing the connected musical instrument.

Notice that the various effect modules of the 9030 are turned on and off as you press the pedals.

Helpful Hint:
You can also bypass other effect modules by changing the control change number of the BYPASS pedal of the 8050.

Real-time Modulation Using the 8050

The effect parameters of the 9030 can be changed continuously in real time with the connection of the optional FP-01 expression pedal to the EXP. PEDAL 1 and 2 terminals of the 8050.

1. Connect the FP01 to the 2 terminal of the 8050.

The 8050 is programmed at the factory so that control change number 1 is output when the expression pedal connected to the EXP. PEDAL 2 terminal is moved.

2. Set the 9030 to the Edit mode, and call up the last page of the effect type to which you wish to apply real-time modulation.

In the example below, effect type Reverb 2 (Rv2) has been selected from the REV effect module.

```
typ DES CTL (%) SRC
Rv2 RvT  15 +50   2
```

3. Change the CTL (control change number) and DES (destination) parameters as shown below.

```
typ DES CTL (%) SRC
Rv2 MIX   1 +50   2
```

Now the MIX (effect level) parameter can be controlled by the FP01 (via control change number 1).

4. Return to the Play mode by pressing the EXIT key, and store the Patch for future recall, if you wish.

Helpful Hint:
The 9030 and the 8050 can be used together in a wide variety of applications. Try out various assignment configurations and discover for yourself some interesting effects.

Controlling the 9030 with a Synthesizer

This section explains how to use a MIDI keyboard or synthesizer for remotely controlling the 9030 and applying real-time modulation to its effect parameters.

Connections

1. Connect the 9030 and the synthesizer.

Connect the MIDI OUT terminal of the synthesizer to the MIDI IN terminal of the 9030 with a MIDI cable. Connect the audio cables as you normally do when applying the effects of the 9030 to the synthesizer output(s).

Equipment Settings

1. Set the synthesizer as shown below.

MIDI send channel: 1
Program change send enable: On
Control change send enable: On
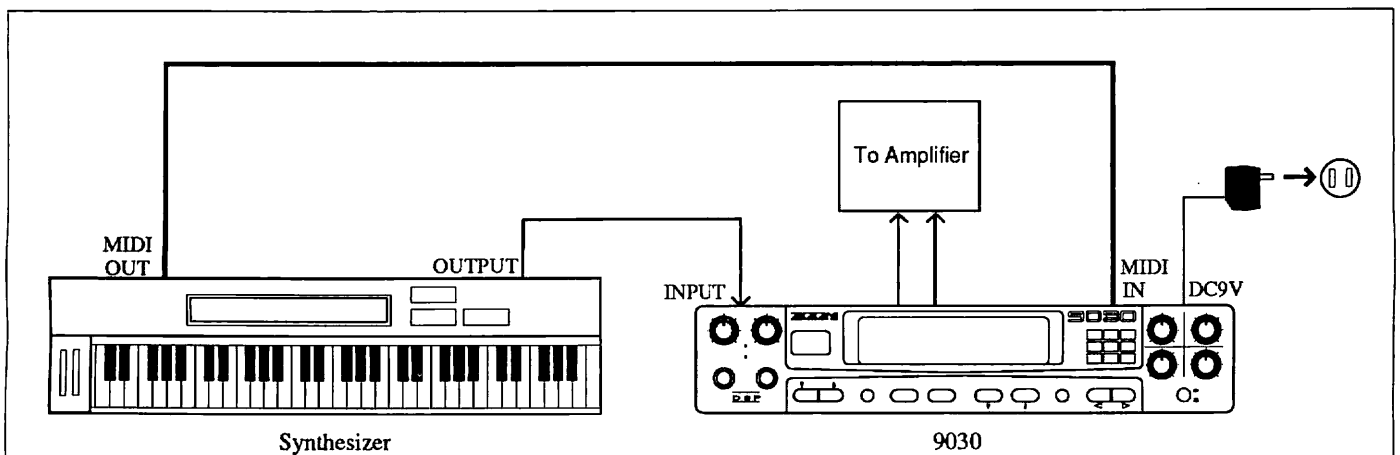
Synthesizer   9030

2. Match the MIDI receive channel of the 9030 with the MIDI send channel of the synthesizer.

Call up the page for selecting the MIDI channel in the Utility mode and either set the MIDI channel to 1 or set OMNI to ON.

3. Set the 9030 so that it can be controlled from the MIDI terminal.

Set the MIDI/Remote mode in the Utility mode as shown below.

```
UTY 3 - 4  MIDI/ RMT MODE
   ▶  MIDI  OUT  MODE
```

4. Return to the Play mode by pressing the EXIT key.

Selecting Patches of the 9030 from the Synthesizer

1. Change the sound program or voice on the synthesizer.

When you select a program on the synthesizer, a program change message is output from the MIDI OUT terminal, which changes the Patch on the 9030 to that which is registered in the program change table.

Note:

The sound program number of the synthesizer and the actual program change number that is output may not be the same. Refer to the owner's manual of the device for more information.

Real-time Modulation Using the Modulation Wheel

The effect parameters of the 9030 can be changed in real time by using the modulation wheel of the synthesizer.

1. Set the 9030 to the Edit mode, and call up the last page of the effect type to which you wish to apply real-time modulation.

In the example below, effect type Reverb 2 (Rv2) has been selected from the REV effect module.

```
t y p  DES  CTL  (%)  SRC
Rv2  RvT  15  +50   2
```

2. Change the CTL (control change number) and DES (destination) parameters as shown below.

Since the control change number of the modulation wheel is usually 1, set the CTL parameter to 1, and DES to "MIX."

```
t y p  DES  CTL  (%)  SRC
Rv2  MIX   1   +50   2
```

Now the MIX (effect level) parameter can be controlled by moving the modulation wheel.

3. Return to the Play mode by pressing the EXIT key, and store the Patch for future recall, if you wish.

9030

SPECIFICATIONS

Effect Programs:	47 programs
Patch Memory:	99 (programmable)
Sampling Quantization:	16bit

Input
(Front) :   1/4" x 1 (-10 to -40dBm/470kΩ)
(Rear) :   1/4" x 1 (-10 to -40dBm/100kΩ)
                        * The front is prior to the rear.

Output: 1/4" x 2 (-10dBm)

External Connection
(Send):   1/4" x 1 (-10dBm)
(Return):   1/4" x 1 (-10dBm)

Display: 20 characters x 2 Lines VFD
                        Patch Number; 7 segment LED x 2
                        Effect; LED x 9
                        Input Indicator; LED x 2

Control In/Out: MIDI In
                        MIDI Out
                        Remote In

Power Supply: DC 9V 1A
                        AC adaptor AD0002

Dimensions: 220 (W) x 187 (D) x 46 (H) mm

Weight: 1.2kg

Accessory: AC Adaptor AD0002

BLOCK DIAGRAM
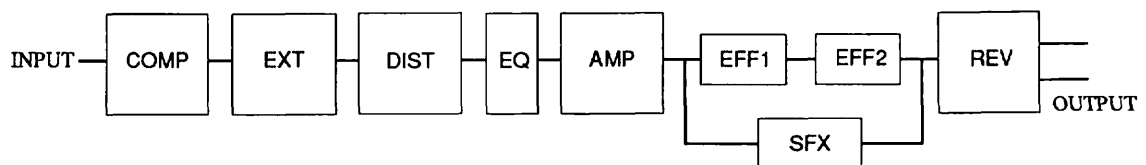
* SFX and EFF1 + EFF2 can not used simultaneously.

* Specifications are subject to change without notice.

9030

MIDI IMPLEMENTATION

1.TRANSMITTED DATA

1) CHANNEL VOICE MESSAGES

STATUS	SECOND	THIRD	DESCRIPTION
1011 nnnn	0ccc cccc	0vvv vvvv	CONTROL CHANGE
			ccc cccc : Control No.
			vvv vvvv : Control Value
1100 nnnn	0ppp pppp	---- ----	PROGRAM CHANGE
			ppp pppp : Program Number

NOTE:
   * nnnn = MIDI Channel Number (0000 - 1111)

   These messages are transmitted in Remote Mode only.

2.RECOGNIZED DATA

1) CHANNEL VOICE MESSAGES

STATUS	SECOND	THIRD	DESCRIPTION
1011 nnnn	0ccc cccc	0vvv vvvv	CONTROL CHANGE ccc cccc : Control No. (1-5,8-31,33-37,40-69,80-90,92-95) vvv vvvv : Real time modulation control Value (See NOTE 1)
	0000 0111	0vvv vvvv	Master Output Level vvv vvvv : Level
	0100 0110	0vvv vvvv	Compressor vvv vvvv : Comp ON/OFF (See NOTE 2)
	0100 0111	0vvv vvvv	External Effect vvv vvvv : EXT ON/OFF (See NOTE 2)
	0100 1000	0vvv vvvv	Distortion vvv vvvv : DIST ON/OFF (See NOTE 2)
	0100 1001	0vvv vvvv	Equalizer vvv vvvv : EQ ON/OFF (See NOTE 2)
	0100 1010	0vvv vvvv	Amp Simulator vvv vvvv : AMP ON/OFF (See NOTE 2)
	0100 1011	0vvv vvvv	Effect1 vvv vvvv : EFF1 ON/OFF (See NOTE 2)
	0100 1100	0vvv vvvv	Effect2 vvv vvvv : EFF2 ON/OFF (See NOTE 2)
	0100 1101	0vvv vvvv	Reverb vvv vvvv : REV ON/OFF (See NOTE 2)
	0100 1110	0vvv vvvv	Special Effects vvv vvvv : SFX ON/OFF (See NOTE 2)
	0101 1011	0vvv vvvv	All bypass vvv vvvv : Bypass ON/OFF (See NOTE 3)
1100 nnnn	0ppp pppp	---- ----	PROGRAM CHANGE ppp pppp : Program Number (See NOTE 4)

NOTE:
      * nnnn = MIDI Channel Number (0000 - 1111)

     1. CONTROL CHANGE message is recognized only when the control number is
        matched with Control numbers selected by panel.

     2. Effect module ON/OFF function is always recognized in BASIC Channel.
        When value vvvvvvv is   0, module is turned off.
        When value vvvvvvv is 127, module is turned on.

     3. Bypass function is always recognized in BASIC Channel.
        When value vvvvvvv is   0, Bypass is turned off.
        When value vvvvvvv is 127, Bypass is turned on.

     4. Relationship between MIDI Program No. and Patch No. is assignable.

3.SYSTEM EXCLUSIVE MESSAGE

All System Exclusive Messages are recognized in BULK LOAD MENU only.

1) Identity Request

BYTE	DESCRIPTION
1111 0000	Exclusive Status
0111 1110	Universal System Exclusive Non-Real Time Header
0nnn nnnn	Channel nnn nnnn : channel 00H-0FH or 7FH (See NOTE 1)
0000 0110	General Information (Sub-ID #1)
0000 0001	Identity Request (Sub-ID #2)
1111 0111	EOX

NOTE:
   * Recognized only.

   1. When this message is received with channel No. 7fh, it should be recognized with any channel. Then, Identity Reply Message is transmitted with Basic Channel.
   (Rule of Universal System Exclusive Message Communication)

2) Identity Reply

BYTE	DESCRIPTION

1111 0000 Exclusive Status

0111 1110 Universal System Exclusive Non-Real Time Header

0nnn nnnn Channel   nnn nnnn : channel 00H-0FH

0000 0110 General Information (Sub-ID #1)

0000 0010 Identity Reply   (Sub-ID #2)

0101 0010 ZOOM ID   52H

0000 0011 DEVICE ID 03H (ZOOM 9030)

0000 0000 Reserved of MSB of device code

0000 0000 Reserved of MSB of device code

0000 0000 Reserved of MSB of device code

0sss ssss 1st character of Software Revision Code

0sss ssss 2nd character of Software Revision Code

0sss ssss 3rd character of Software Revision Code

0sss ssss 4th character of Software Revision Code

1111 0111 EOX

NOTE:
      * Transmitted when Identity Request Message is recognized.
        Software revision code is 4-digits ASCII characters.

3)Patch Dump

BYTE	DESCRIPTION	
1111 0000	EXCLUSIVE STATUS	
0101 0010	ZOOM ID	52H
0nnn nnnn	CHANNEL	nnn nnnn : channel 00H-0FH or 7FH (See NOTE 1)
0000 0011	DEVICE ID	03H : device No. (ZOOM 9030)
0010 0001	FUNCTION ID	21H : Patch Dump
0vvv vvvv : 0vvv vvvv	Patch Data in Edit Buffer (148bytes)(See NOTE 2)	
1111 0111	EOX	

NOTE:
    1. When this message is received with channel No. 7fh, it should be recognized with any channel.
    2. 8-7 Conversion technique is used while Patch Data is transmitted.

4)Patch Dump Request

BYTE	DESCRIPTION	
1111 0000	EXCLUSIVE STATUS	
0101 0010	ZOOM ID	52H
0nnn nnnn	CHANNEL	nnn nnnn : channel 00H-0FH or 7FH (See NOTE 1)
0000 0011	DEVICE ID	03H : device No. (ZOOM 9030)
0001 0001	FUNCTION ID	11H : Patch Dump Request
1111 0111	EOX	

NOTE:
    * Recognized only.
    When this message is recognized, Patch Dump Message will be transmitted.

    1. When this message is received with channel No. 7fh, it should be recognized with any channel. Then, Patch Dump Message is transmitted with Basic Channel.

5) Write Request

BYTE	DESCRIPTION	
1111 0000	EXCLUSIVE STATUS	
0101 0010	ZOOM ID	52H
0nnn nnnn	CHANNEL	nnn nnnn : channel 00H-0FH or 7FH (See NOTE 1)
0000 0011	DEVICE ID	03H : device No. (ZOOM 9030)
0001 0010	FUNCTION ID	12H : Write Request
0ppp pppp	PATCH No.	ppp pppp : 1 - 99
1111 0111	EOX	

NOTE:
    * Recognized only.
     When this message is recognized, 9030 stores the Patch Data in Edit Buffer
     into Patch memory #<PATCH No.> .

    1. When this message is received with channel No. 7fh, it should be recognized
       with any channel.

6) Write Completed

BYTE	DESCRIPTION	
1111 0000	EXCLUSIVE STATUS	
0101 0010	ZOOM ID	52H
0nnn nnnn	CHANNEL	nnn nnnn : channel 00H-0FH
0000 0011	DEVICE ID	03H : device No. (ZOOM 9030)
0001 0100	FUNCTION ID	14H : Write Completed
1111 0111	EOX	

NOTE:
    * When Write operation is completed for Write Request Message, this message is
     transmitted.

7)All Patches Dump

BYTE	DESCRIPTION	
1111 0000	EXCLUSIVE STATUS	
0101 0010	ZOOM ID	52H
0nnn nnnn	CHANNEL	nnn nnnn : channel 00H-0FH or 7FH (See NOTE 1)
0000 0011	DEVICE ID	03H : device No. (ZOOM 9030)
0010 0010	FUNCTION ID	22H : All Patches Dump
0vvv vvvv : 0vvv vvvv	whole of Patch Data in Memory (14743bytes)(See NOTE 2)	
1111 0111	EOX	

NOTE:
> 1. When this message is received with channel No. 7fh, it should be recognized
>   with any channel.
>
> 2. 8-7 Conversion technique is used while Patch Data is transmitted.

8)All Patch Dump Request

BYTE	DESCRIPTION	
1111 0000	EXCLUSIVE STATUS	
0101 0010	ZOOM ID	52H
0nnn nnnn	CHANNEL	nnn nnnn : channel 00H-0FH or 7FH (See NOTE 1)
0000 0011	DEVICE ID	03H : device No. (ZOOM 9030)
0001 0011	FUNCTION ID	13H : All Patch Dump Request
1111 0111	EOX	

NOTE:
> * Recognized only.
> When this message is recognized, All Patch Dump Message will be Transmitted.
>
> 1. When this message is received with channel No. 7fh, it should be recognized
>   with any channel. Then, All Patch Dump Message is transmitted with Basic
>   Channel.

9) System data Dump

BYTE	DESCRIPTION	
1111 0000	EXCLUSIVE STATUS	
0101 0010	ZOOM ID	52H
0nnn nnnn	CHANNEL	nnn nnnn : channel 00H-0FH or 7FH (See NOTE 1)
0000 0011	DEVICE ID	03H : device No. (ZOOM 9030)
0010 0010	FUNCTION ID	23H : System data Dump
0vvv vvvv : 0vvv vvvv	system data (516bytes) (NOTE 2)	
1111 0111	EOX	

NOTE:

1. When this message is received with channel No. 7fh, it should be recognized with any channel.
2. System Data Dump Includes Output Mode, MIDI channel, OMNI On/Off, Program Change Table and Dimming Level.

10) System Data Dump Request

BYTE	DESCRIPTION	
1111 0000	EXCLUSIVE STATUS	
0101 0010	ZOOM ID	52H
0nnn nnnn	CHANNEL	nnn nnnn : channel 00H-0FH or 7FH (See NOTE 1)
0000 0011	DEVICE ID	03H : device No. (ZOOM 9030)
0001 0011	FUNCTION ID	16H : System data Dump Request
1111 0111	EOX	

NOTE:
* Recognized only.
  When this message is recognized, System data Dump Message will be Transmitted.

1. When this message is received with channel No. 7fh, it should be recognized with any channel. Then, System Data Dump Message is transmitted with Basic Channel.

11)Dump Processed

BYTE	DESCRIPTION	
1111 0000	EXCLUSIVE STATUS	
0101 0010	ZOOM ID	52H
0nnn nnnn	CHANNEL	nnn nnnn : channel 00H-0FH
0000 0011	DEVICE ID	03H : device No. (ZOOM 9030)
0001 0101	FUNCTION ID	15H : Dump Processed
1111 0111	EOX	

NOTE:
    * When transmitted Patch Dump or All Patch Dump is processed successfully,
    this message is transmitted.

* 8-7 Conversion

To transmit 8bit-byte data in MIDI SysEx, any data bytes should be 7bit-byte data.

First, strip out bit7(MSB) from source 7 bytes of data, and built 1 byte data attaching
MSB=0.
Then send this byte first, and send 1st - 7th data without MSB. These 8 bytes are
combined to 1 block.(Fig.1)

If stream of data is less than 7 bytes, stream bytes + 1 will be a size of the block.
(Fig.2)

Fig.1
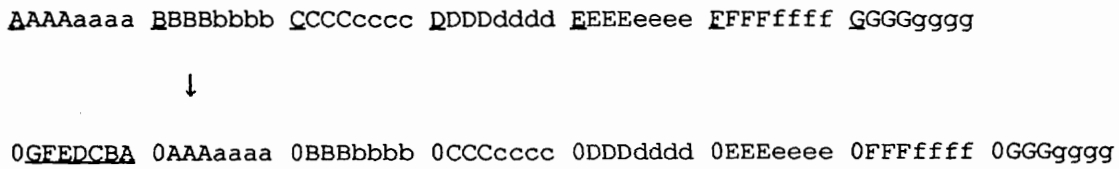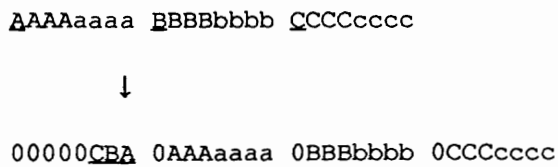
 AAAAaaaa BBBBbbbb CCCCcccc DDDDdddd EEEEeeee FFFFffff GGGGgggg

            ↓

 0GFEDCBA 0AAAaaaa 0BBBbbbb 0CCCcccc 0DDDdddd 0EEEeeee 0FFFffff 0GGGgggg

Fig.2

 AAAAaaaa BBBBbbbb CCCCcccc

        ↓

 00000CBA 0AAAaaaa 0BBBbbbb 0CCCcccc

Function ...	Transmitted	Recognized	Remarks
Basic Default Channel Changed	1 - 16 1 - 16	1 - 16 1 - 16	Memorized

Mode   Default
          Messages
          Altered
	1, 3
	×
	*****************
		1, 3
		×
			Memorized

Note Number | True voice	× *****************	×	
Velocity Note ON Note OFF	× ×	× ×	
After Key's Touch Ch's	× ×	× ×	
Pitch Bend	×	×	

Control
 	
Change
	○	○
		1-5, 8-31, 33-37,
		40-69, 80-90, 92-95
		7
		70-78
		91
			Real time modulation
			control
			  Master Output level
			  Effect module on/off
			  All bypass

Prog Change | True #	○ (0-127) *****************	○ (0-127) *****************	
System Exclusive	○	○	
System | Song Pos | Song Sel Common | Tune	× × ×	× × ×	
System | Clock Real Time | Commands	× ×	× ×	
Aux | Local ON/OFF | All Notes OFF Mes- | Active Sense sages | Reset	× × × ×	× × × ×	
Notes			

Mode 1 : OMNI ON, POLY   Mode 2 : OMNI ON, MONO   o : Yes
Mode 3 : OMNI OFF, POLY   Mode 3 : OMNI OFF, MONO   x : No