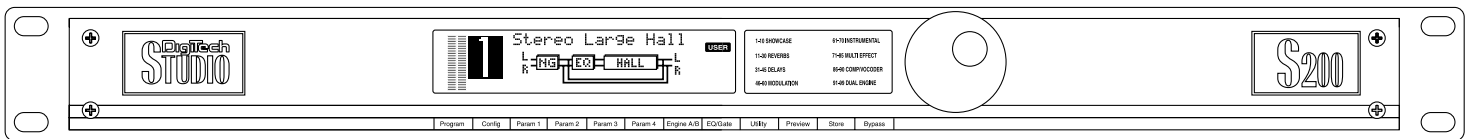
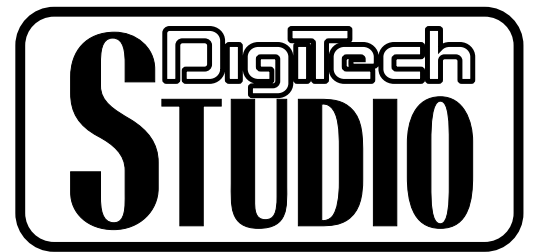


S200

Dual-Engine Multi-Effects Processor



User's Guide

Please visit Digitech Studio on the World Wide Web at <http://www.digitech.com>

H A Harman International Company



CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN



ATTENTION: RISQUE DE CHOC ELECTRIQUE - NE PAS OUVRIR

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE

The symbols shown above are internationally accepted symbols that warn of potential hazards with electrical products. The lightning flash with arrowpoint in an equilateral triangle means that there are dangerous voltages present within the unit. The exclamation point in an equilateral triangle indicates that it is necessary for the user to refer to the owner's manual.

These symbols warn that there are no user serviceable parts inside the unit. Do not open the unit. Do not attempt to service the unit yourself. Refer all servicing to qualified personnel. Opening the chassis for any reason will void the manufacturer's warranty. Do not get the unit wet. If liquid is spilled on the unit, shut it off immediately and take it to a dealer for service. Disconnect the unit during storms to prevent damage.

WARNING

FOR YOUR PROTECTION, PLEASE READ THE FOLLOWING:

WATER AND MOISTURE: Appliance should not be used near water (e.g. near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, etc). Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.

POWER SOURCES: The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.

GROUNDING OR POLARIZATION: Precautions should be taken so that the grounding or polarization means of an appliance is not defeated.

POWER CORD PROTECTION: Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.

SERVICING: To reduce the risk of fire or electric shock, the user should not attempt to service the appliance beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.

FOR UNITS EQUIPPED WITH EXTERNALLY ACCESSIBLE FUSE RECEPTACLE: Replace fuse with same type and rating only.

U.K. MAINS PLUG WARNING

A moulded mains plug that has been cut off from the cord is unsafe. Discard the mains plug at a suitable disposal facility. **NEVER UNDER ANY CIRCUMSTANCES SHOULD YOU INSERT A DAMAGED OR CUT MAINS PLUG INTO A 13 AMP POWER SOCKET.** Do not use the mains plug without the fuse cover in place. Replacement fuse covers can be obtained from your local retailer. Replacement fuses are 13 amps and **MUST** be ASTA approved to BS1362.

ELECTROMAGNETIC COMPATIBILITY

This unit conforms to the Product Specifications noted on the **Declaration of Conformity**. Operation is subject to the following two conditions:

- this device may not cause harmful interference, and
- this device must accept any interference received, including interference that may cause undesired operation. Operation of this unit within significant electromagnetic fields should be avoided.
- use only shielded interconnecting cables.

SAFETY INSTRUCTIONS

NOTICE FOR CUSTOMERS IF YOUR UNIT IS EQUIPPED WITH A POWER CORD.

WARNING: THIS APPLIANCE MUST BE EARTHED.

The cores in the mains lead are coloured in accordance with the following code:

GREEN and YELLOW - Earth BLUE - Neutral BROWN - Live

As colours of the cores in the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

- The core which is coloured green and yellow must be connected to the terminal in the plug marked with the letter E, or with the earth symbol, or coloured green, or green and yellow.
- The core which is coloured blue must be connected to the terminal marked N or coloured black.
- The core which is coloured brown must be connected to the terminal marked L or coloured red.

This equipment may require the use of a different line cord, attachment plug, or both, depending on the available power source at installation. If the attachment plug needs to be changed, refer servicing to qualified service personnel who should refer to the table below. The green/yellow wire shall be connected directly to the unit's chassis.

CONDUCTOR		WIRE COLOR	
L	Line	Brown	Black
N	Neutral	Blue	White
	Earth Grnd.	Green/Yel.	Green

WARNING: If the ground is defeated, certain fault conditions in the unit or in the system to which it is connected can result in full line voltage between chassis and earth ground. Severe injury or death can then result if the chassis and earth ground are touched simultaneously.

DECLARATION OF CONFORMITY

Manufacturer's Name: ***Digitech Studio***
Manufacturer's Address: 8760 S. Sandy Parkway
Sandy, Utah 84070, USA

declares that the product:

Product Name: ***S-200***
Product Options: **All**

conforms to the following Product Specifications:

Safety: EN 60065 (1993)
IEC 65 (1985) with Amendments 1, 2 & 3

EMC: EN 55013 (1990)
EN 55020 (1991)

Supplementary Information:

The product herewith complies with the requirements of the Low Voltage Directive 73/23/EEC and EMC Directive 89/336/EEC as amended by Directive 93/68/EEC.

Digitech Studio

President of Digitech Studio
8760 S. Sandy Parkway
Sandy, Utah 84070, USA
Tel: 801.566.8800
Fax: 801.566.7005

Effective May 1, 1998

European Contact: Your Local Digitech Studio Sales and Service Office or

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Amherst, New Hampshire 03031, USA
Tel: 603.672.4244
Fax: 603.672.4246

Table of Contents

Safety Information	
Declaration of Conformity.....	I
Table of Contents	II

Section 1 - Introduction

Congratulations.....	1
Included Items	1
S-200 Features	1
Warranty	2
A Quick Tour of the S-200	3
The Front Panel.....	3
The Rear Panel.....	4

Section 2 - Operation and Editing

Program Mode	5
Naming Program Storing Changes	5
Selecting Effect Configurations	6
Editing Engine A and B Engines	6
Selecting and Editing Effects	6
EQ and Noise Gate Adjustments.....	7
Adjusting the Dry Path Defeat	8
Adjusting the Display Contrast	9
MIDI Functions	9
MIDI Channel Selection	9
MIDI CC Command Information	10

Section 3 - Effects and Parameters

Modulation Effects	11
Pitch Shifters	12
Delay	12
Reverb	13
Other Effects (Vocoder, Ring Modulator, Compressor and De-Esser)	14

Section 4 - Appendix

Resetting the S-200	15
Footswitch Set-Up	16
Specifications.....	17
Program List	18

Section-1 Introduction

Congratulations...

... you are now the owner of a Digitech Studio S-200 multi-effects processor. The S-200 offers you Dual-Engine processing with Stereo input and output routings. The S-200 offers a full palette of Studio digital effects that can accommodate any studio or live situation, making the S-200 a true power plant effects processor.

This User's Guide is your key to understanding the powerful world of the S-200. Read it carefully. After you've had time to familiarize yourself with the unit, feel free to utilize the S-200 to its full processing potential. Good luck, and thank you for choosing Digitech Studio.

Your S-200 was carefully assembled and packaged at the factory. Before you proceed any further, make sure the following items are included:

- *(1) S-200 User's Guide*
- *(1) Digitech Studio S-200 Dual Engine Multi-Effects processor*
- *(1) Power Cord*
- *(1) Digitech Studio warranty card*

Please save all packing materials. They were designed to protect the unit from damage during shipping. In the unlikely event that the unit requires service, use only the factory supplied carton to return the unit.

S-200 Features:

- *Stereo Inputs and Outputs*
- *Dual-Engine Processing*
- *Large Custom Display*
- *24-bit signal path, 48-bit internal data path*
- *96 dB signal to noise ratio*
- *Vocoder Effect Module*
- *5 Effect Routing Configurations*
- *Studio Reverbs and Modulation Effects*
- *20 bit A/D and D/A Converters*
- *MIDI Program Change and CC Commands*
- *Footswitch Control*
- *Compressor and De-Esser Effects*

Warranty

We at **Digitech Studio** are very proud of our products and back-up each one we sell with the following *warranty*:

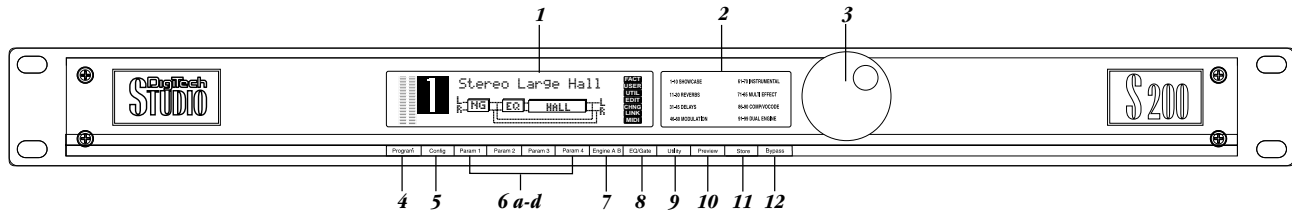
- 1. The warranty registration card must be mailed within ten days after purchase date to validate this warranty.*
- 2. Digitech Studio warrants this product, when used solely within the U.S., to be free from defects in materials and workmanship under normal use and service.*
- 3. Digitech Studio liability under this warranty is limited to repairing or replacing defective materials that show evidence of defect, provided the product is returned to Digitech Studio WITH RETURN AUTHORIZATION, where all parts and labor will be covered up to a period of one year. A Return Authorization number may be obtained from Digitech Studio by telephone. The company shall not be liable for any consequential damage as a result of the product's use in any circuit or assembly.*
- 4. Proof-of-purchase is considered to be the burden of the consumer.*
- 5. Digitech Studio reserves the right to make changes in design, or make additions to, or improvements upon this product without incurring any obligation to install the same on products previously manufactured.*
- 6. The consumer forfeits the benefits of this warranty if the product's main assembly is opened and tampered with by anyone other than a certified Digitech Studio technician or, if the product is used with AC voltages outside of the range suggested by the manufacturer.*
- 7. The foregoing is in lieu of all other warranties, expressed or implied, and Digitech Studio neither assumes nor authorizes any person to assume any obligation or liability in connection with the sale of this product. In no event shall Digitech Studio or its dealers be liable for special or consequential damages or from any delay in the performance of this warranty due to causes beyond their control.*

DigiTech Studio™ and S-200™ are registered trademarks of the Harman Music Group Incorporated.

NOTE: The information contained in this manual is subject to change at any time without notification. Some information contained in this manual may also be inaccurate due to undocumented changes in the product or operating system since this version of the manual was completed. The information contained in this version of the owner's manual supersedes all previous versions.

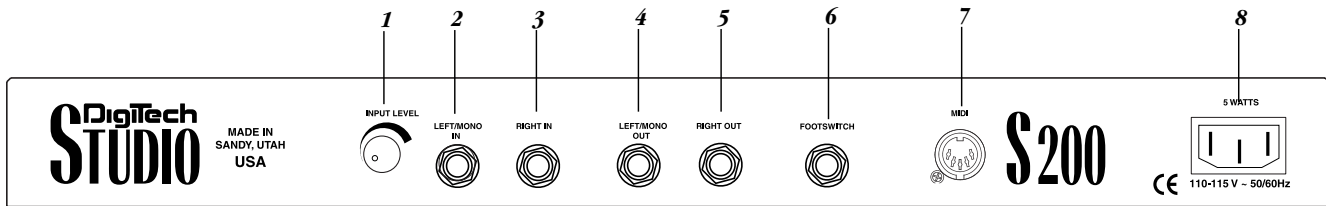
A Quick Tour of the S-200

The Front Panel



- 1) **Display** - This large custom display is where you receive information for programming and operation of the S-200. This information includes: effect types and parameters and all Utility mode functions including Contrast, Dry level, MIDI program information, Factory Reset and Footswitch set-up.
- 2) **Program Descriptions** - This list tells you the factory program list of all Factory 99 programs in the S-200.
- 3) **Program/Data Wheel** - In Program mode, this wheel is used to change programs and when the unit is in Edit mode it is used to select effects and change parameters.
- 4) **Program Button** - This button returns the S-200 to program mode when pressed.
- 5) **Configuration Button** - This button is used to select Configuration mode. Once pressed, use the <Program/Data> wheel to select a different effect configuration for the selected program.
- 6 a-d) **Effect Parameter Editing Buttons** - These four buttons allow you to do all parameter editing of effects in Edit and Utility modes in conjunction with the <Program/Data> wheel.
- 7) **Engine A/B Select** - This button selects the Engine A and B effect engine modules. Successive presses of this button will toggle between Engines A/B in effect configurations 2-5. Once this button is pressed and the Engine effect module has been selected, use the <Program/Data> wheel to select the effect to be used in this effect engine module.
- 8) **EQ/Gate** - This button (in conjunction with the four parameter buttons) are used to adjust the three band EQ and Noise gate threshold and release. Press once to select the EQ and press twice to select the Noise Gate.
- 9) **Utility** - This button is used to access all Utility mode functions including: Dry signal path On and Off, selecting the MIDI channel, adjusting the display contrast and footswitch set-up.
- 10) **Preview** - This button produces a brief reference tone to audition effect sounds without the use of an input signal.
- 11) **Store Button** - This button is used to store program modifications in the S-200.
- 12) **Bypass** - This button is used to Bypass all of the digital effects in the S-200 and allow the original dry signal to pass through the S-200.

The Rear Panel



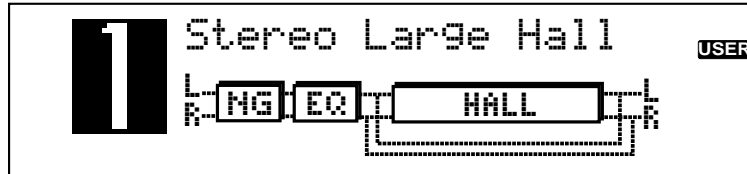
- 1) **Input Level** - This knob controls the level of signal entering the S-200. For optimal performance, set this level so the Input level indicators (located on the front panel) occasionally peak the bargraph.
- 2) **Left/Mono Input** - This Input jack is used for the Left or Mono input. When only the Left input jack is used, the signal is sent to both Left and Right S-200 inputs.
- 3) **Right Input** - This is the Right Input jack for the S-200 that when used with Left input will preserve stereo imaging.
- 4) **Left/Mono Output** - This is the S-200's left audio output. This output must be used if a mono effect is desired.
- 5) **Right Output** - This is the S-200's right audio output. Use both left and right outputs to take advantage of stereo effects.
- 6) **Footswitch Jack** - This jack is used for the insertion of the Digitech FS-300 footswitch that will control multiple functions of the S-200.
- 7) **MIDI** - This MIDI jack is used for receiving MIDI program change and CC information.
- 8) **AC Line Input** - This is the AC power receptacle. Please use only the supplied power cord.

Section-2 Operation and Editing

This section will provide you with all of the information necessary to help optimize the digital signal processing power of the S-200.

Program Mode

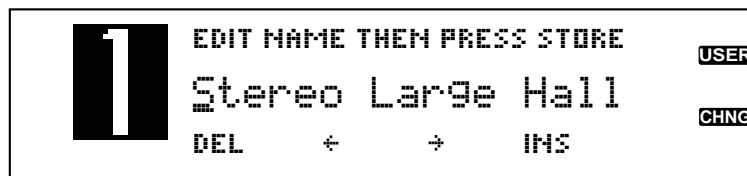
When the S-200 is in Program mode, you can move from one program to the next by either using the **<Program/Data>** wheel, the optional Digitech FS-300 footswitch or incoming MIDI program change commands from another device such as a sequencer or keyboard. Upon power-up, the S-200 display will appear something like this:



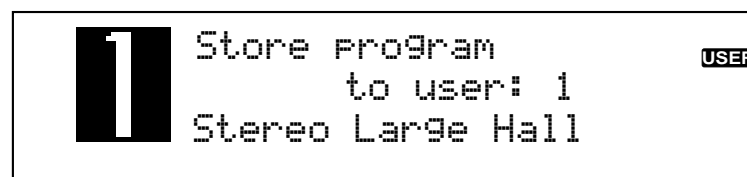
When the S-200 is in any other mode and you wish to abort and return to program mode, simply press the **<Program>** button.

Naming Programs and Storing Changes

1. Anytime a program has been modified, the **CHNG** icon in the display will appear, indicating that the currently selected program has been modified. To name and store changes: press the **<Store>** button once. The display will now appear something like this, prompting you to re-name the program:



2. At this point, if you wish to change the program name, you can use the parameter **<1>** button to delete character spaces. The **<2>** and **<3>** buttons to select the character position. The **<4>** button is used to insert character spaces and the **<Program/Data>** wheel to change characters.
3. Once the desired name is in place, press the **<Store>** button again and the display will now appear like this:



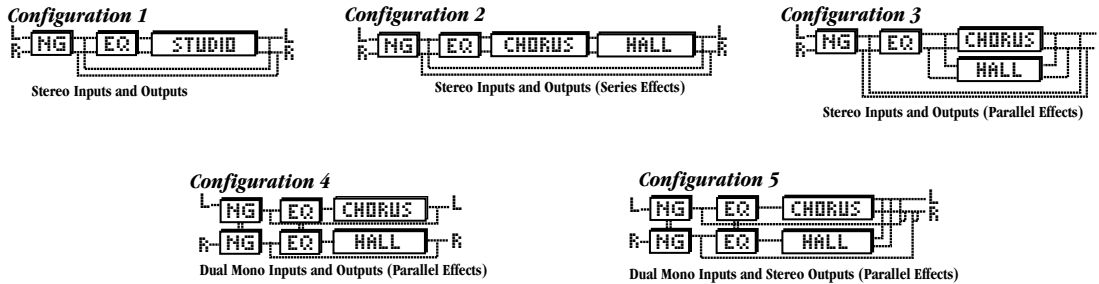
4. Now use the **<Data/Program>** wheel to select the desired User program location that you wish to store the program to. Once the location has been chosen, press the **<Store>** button again and the display will briefly read:

```
***STORING***
***PROGRAM***
```

5. You will now be returned to Program mode.

Selecting Effect Configurations

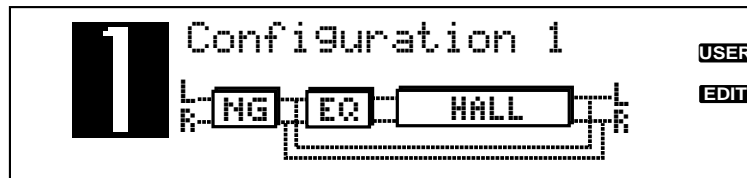
The S-200 provides you with five different effect configurations that allow you ultimate flexibility and versatility in effect routing. The five effect configurations available in the S-200 are located in the Configuration menu and are as follows:



Effect Configuration 1 uses one effect module because both processing engines are combined for maximum processing power. This larger module allows you to have longer delay times and more dense sounding reverbs. Effect configurations 2-5 use Dual-Engine effect modules which allow you to use two effects per program.

To select any one of these five different effect engine configurations, simply perform the following procedure:

1. Press the **<Config>** button and the display will appear something like this, indicating that you are in the configuration select mode.



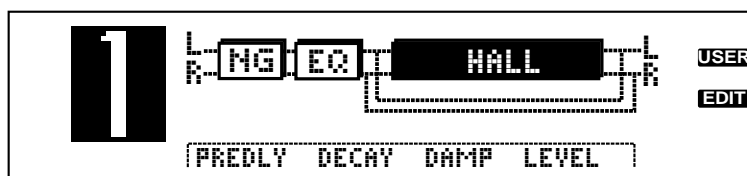
2. Now simply turn the **<Program/Data>** wheel until the desired configuration (1-5) appears in the display.
3. Once the desired effect configuration has been selected, simply press the **<Store>** button to store the configuration change at the desired program location.

Editing Engine A and B Effect Modules

Because of its processing power, the S-200 gives you two Engine Effect modules that are fully programmable. The following section explains the simple procedure for Engine A and B editing.

Selecting and Editing Effects

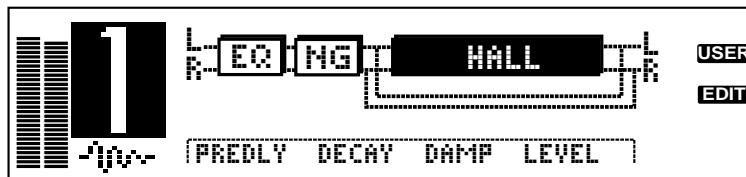
1. From Program mode, press the **<Engine A/B>** button and the display will appear something like this:



Note- Dual Engine effect configurations are used in configurations 2-5. If a dual-engine effect configuration is currently in use, successive presses of the <Engine A/B> button will toggle between Engines A and B.

- Now turn the <Program/Data> wheel to select the effect to be used. The selected effect's name will change as new effects are selected.

EFFECT PREVIEW At this point, the S-200 has a <Preview> button that will allow you to instantly hear any one of the effects in the S-200. When you have an effect that you wish to audition, press the <Preview> button and the S-200 will play a brief sample and the display will appear as follows:



- Once the effect to be used has been selected, you can use the <Parameter 1-4> edit buttons (Which are located directly below the corresponding available parameters names) to select and modify the parameters of the selected effect by pressing the desired parameter button and then turning the <Program/Data> wheel to change the parameter values.

For a complete list of the Effects available in the S-200 and their respective parameters, please see Section 3 on pages 11-14.

- Once all of the edits have been made to the selected program, make sure to store any changes.

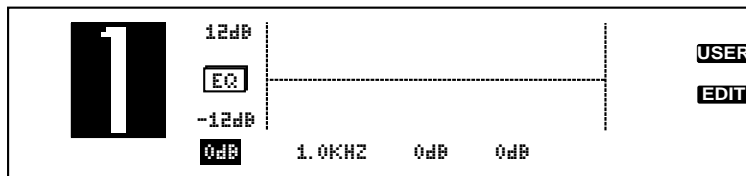
EQ and Noise Gate Adjustments

This editing function allows you to make EQ and Noise Gate modifications to each program. The procedure for both is as follows:

Adjusting the EQ

The S-200 offers a three band EQ with Low Shelf (200Hz) EQ Frequency, Parametric Frequency, Parametric Level and Hi Shelf (3 kHz) EQ Frequency parameters. To adjust any one of these four, perform the following procedure:

- From Program mode, press the <EQ/Gate> button once and the display will appear something like this:



- Now to make adjustments to the four different EQ parameters use the <Parameter 1-4> buttons and the <Program/Data> wheel. Parameter and value range for each is listed below.

Parameter 1 - Low Shelf EQ Frequency (200Hz) - Range for the Low EQ is from -12 to +12 dB.

Parameter 2 - Parametric Frequency - Range for the Parametric Frequency is from 25Hz to 20.0Khz.

Parameter 3 - Parametric Level - Range for the Parametric Level is from -12 to +12 dB.

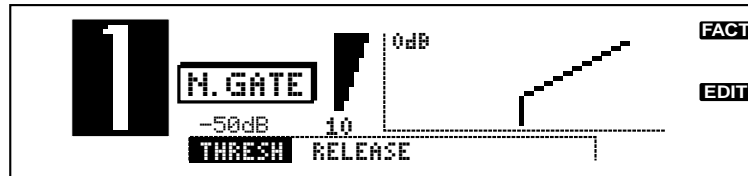
Parameter 4 - High Shelf EQ Frequency (3kHz) - Range for the High EQ is from -12 to +12 dB.

- Once the modifications have been made, remember to store any changes and press the **<Program>** button to return to Program mode.

Adjusting the Noise Gate

The S-200 gives you the ability to custom tailor the Noise gate parameters (Threshold and Release) for each program by performing the following procedure:

- From Program mode, press the **<EQ/Gate>** button twice. The display will appear something like this, indicating that you are in Noise Gate edit mode:



- Now press the **<Parameter 1>** button and Threshold parameter becomes active for adjustment by turning the **<Program/Data>** wheel. The range for the Noise gate Threshold is from: Off, -99 to 0 dB.
- To adjust the Noise Gate Release, press the **<Parameter 2 >** and the Release parameter now becomes active for adjustment by turning the **<Program/Data>** wheel to adjust the Noise Gate Release parameter. Release time range is from 1 to 10. Release times are as follows: 1). 10ms, 2).100ms 3).200ms 4). 300ms 5). 400ms 6). 500ms 7). 600ms 8). 700ms 9). 800ms 10). 900ms.
- Once all Noise gate modifications have been made, remember to store the changes and press the **<Program>** button to return to program mode.

Adjusting the Dry Path Defeat

This editing procedure will allow you to globally turn a Dry signal path **Off** for use with a mixing consoles' effects sends or **On** for use with single instrument input signals (such as guitar, saxophone and others). The procedure is as follows:

- To defeat the Dry signal within the effect configuration of the S-200 (turning it On or Off), press the **<Utility>** button once and the display will appear like this:



- This now indicates that the Dry signal has been turned Off in individual programs, creating a 100% Wet signal globally in the S-200. To exit this mode, press the **<Program>** button.

Note: The Dry path will automatically be turned off when either a Tremolo, Panner, Vocoder, Compressor, Rotary Speaker, Reverse Reverb or De-Esser effect is used in a program, since the dry signal is already included in these effects.

Adjusting the Display Contrast

1. To adjust the display contrast in the S-200, simply press the <Utility> button and then press the <Parameter 4> button and the display will appear something like this:



2. At this point, simply turn the <Program/Data> wheel to select the desired display contrast. To exit this or any other utility mode function, simply press the <Program> button.

MIDI Functions of the S-200

Within the Utility menu of the S-200, several MIDI functions are available including: MIDI Channel selection and MIDI CC Commands. The following, will show you how to access and optimize these features.

Select MIDI Channel

1. To select the MIDI channel in which the S-200 receives program change information, from Program mode, press the <Utility> button and then press the <Parameter 2> and the display will appear as follows:



2. At this point, simply turn the <Program/Data> wheel to select the desired MIDI channel. The options for the MIDI channel selection ranges from: 1-16, ALL and Off.

MIDI program change numbers are as follows:

- 1-99 = Programs
- 100 = Effects Bypass
- 101 = Exit Effects Bypass
- 102 = Effect Bypass Toggle
- 103 = Selects User Program Bank
- 104 = Selects Factory Program Bank

3. To exit the MIDI channel menu, press the <Program> button.

MIDI CC Information

The S-200 will also receive MIDI CC information for parameter control of the following parameters:

Engine A

Parameter 1 - CC 16

Parameter 2 - CC 17

Parameter 3 - CC 18

Parameter 4 - CC 19

Engine B

Parameter 1 - CC 20

Parameter 2 - CC 21

Parameter 3 - CC 22

Parameter 4 - CC 23

EQ

Low Shelf - CC 24

Frequency - CC 25

Frequency Level - CC 26

High Shelf - CC 27

Noise Gate

Threshold - CC 28

Release - CC 29

Dry Level - On/Off - CC 7

Section - 3 Effects and Parameters

This section provides you with a detailed description of the Digital effects available in the S-200 and their parameters and values.

Modulation Effects

<i>Effect Name</i>	<i>Parameter 1</i>	<i>Parameter 2</i>	<i>Parameter 3</i>	<i>Parameter 4</i>
<i>Chorus</i>	<i>Speed</i>	<i>Depth</i>	<i>Delay</i>	<i>Level</i>
<i>Flange</i>	<i>Speed</i>	<i>Depth</i>	<i>Feedback</i>	<i>Level</i>
<i>Phaser</i>	<i>Speed</i>	<i>Depth</i>	<i>Feedback</i>	<i>Level</i>
<i>Tremolo</i>	<i>Speed</i>	<i>Depth</i>	<i>N/A</i>	<i>Level</i>
<i>Panner</i>	<i>Speed</i>	<i>Depth</i>	<i>N/A</i>	<i>Level</i>
<i>Rotary Speaker</i>	<i>Speed</i>	<i>Type</i>	<i>X-over Freq</i>	<i>Level</i>

The Modulation effects menu offers a vast list of modulating effects ranging from Chorus to a Rotary Speaker simulator. These modulation effects are ideal for producing lush sounding effects that can add dimension to any signal. The parameters and values for the modulation effects are as follows:

Speed	The Speed parameter controls the speed of the Modulation in the effect. Range is from 0 to 99 or Slow to Fast.
Depth	This parameter controls the amount of depth of the Modulation effect. Range is from 0 to 99.
Delay	This parameter controls the delay time within the Chorus effect. Range is from 0 to 40 milliseconds.
Feedback	This parameter controls the amount of regeneration feedback in the Flange and Phaser effects. Range is from 0 to 99%.
Type	This parameter selects between six various Rotary Speaker Simulator settings. Odd numbered types are Brake (no Rotor movement) To Fast with 3 different speed and depth combinations. Even numbered types are slow to fast with 3 different speed and depth combinations.
Cross-over Frequency	This parameter selects the frequency where the signal is split between the Rotor and the Horn. Range is from 100 to 800 Hz.
Level	This parameter allows you to set the overall level of the selected effect. Range is from 0 to 100.

Pitch Shifters

Effect Name	Parameter 1	Parameter 2	Parameter 3	Parameter 4
Pitch Shift	Shift	Tracking	N/A	Level
Detuner	Detune Amt	N/A	N/A	Level

The Pitch Shifting effects menu includes a Pitch Shifting effect that allows you to shift the original signal to help produce Harmony effects, while the Detuner effect will help you thicken up any signal to add dimension to your sound. Parameters for the Pitch Shifting Effects are as follows:

Shift	This parameter sets how far the signal is shifted. Range is from -24 to +24 semi-tones.
Tracking	This lets you select the tracking of the Pitch shifter effects. Range is from 1 to 3.
Detune Amount	This parameter sets the amount of Detune in the effect. Range is from -24 to +12 cents.
Level	This parameter sets the overall level of the Pitch shifter effect. Range is from 0 to 100.

Delay

Effect Name	Parameter 1	Parameter 2	Parameter 3	Parameter 4
Mono Delay	Delay Coarse	Delay Fine	Feedback	Level
Stereo Delay	Delay Coarse	Delay Fine	Feedback	Level
2-Tap	Delay Coarse	Delay Fine	Feedback	Level
Karaoke	Echo	N/A	Repeats	Level

The S-200 offers three different Delay effects including: Mono, Stereo and 2-Tap, offering the ultimate flexibility in digital delay applications. The S-200 also offers a Karaoke delay effect. The parameters and their values are as follows:

Note: When Delay effects are used in Effect Configuration 1 (which is a Combined Engine effect module), longer delay times are available. These Delay time differences are marked C (Combined) and S(Single) in the Maximum delay time chart which follows.

Maximum Delay times

- D-1 Mono (Single =1000 milliseconds and Combined=2000 milliseconds)
- D-2 Stereo (Single =700 milliseconds and Combined =1000 milliseconds)
- D-3 2-Tap (Single=1000 milliseconds and Combined=2000 milliseconds)

Delay Coarse	This parameter controls the length of the Delay Coarse time Range is from 100 milliseconds to 2 seconds).
---------------------	---

Delay Fine	This parameter controls the length of the Delay Fine time. Range is from 0 to 99 milliseconds.
Echo	This parameter controls the length of the Echo that is offered in the Karaoke. Echo settings are 1-5.
Feedback	This parameter controls the amount of delay repeats in the delay effect. Range is from 0 to 99% and repeat-hold.
Repeat	This parameter controls the number of delay repeats in the D-4 Karaoke effect. Range is from 1 to 10.
Level	This parameter allows you to set the overall level of the selected effect. Range is from 0 to 100.

Reverb

<i>Effect Name</i>	<i>Parameter 1</i>	<i>Parameter 2</i>	<i>Parameter 3</i>	<i>Parameter 4</i>
<i>Stage</i>	<i>Predelay</i>	<i>Decay</i>	<i>Damping</i>	<i>Level</i>
<i>Room</i>	<i>Predelay</i>	<i>Decay</i>	<i>Damping</i>	<i>Level</i>
<i>Hall</i>	<i>Predelay</i>	<i>Decay</i>	<i>Damping</i>	<i>Level</i>
<i>Plate</i>	<i>Predelay</i>	<i>Decay</i>	<i>Damping</i>	<i>Level</i>
<i>Chamber</i>	<i>Predelay</i>	<i>Decay</i>	<i>Damping</i>	<i>Level</i>
<i>Cathedral</i>	<i>Predelay</i>	<i>Decay</i>	<i>Damping</i>	<i>Level</i>
<i>Arena</i>	<i>Predelay</i>	<i>Decay</i>	<i>Damping</i>	<i>Level</i>
<i>Gated</i>	<i>Predelay</i>	<i>Decay</i>	<i>Diffusion</i>	<i>Level</i>
<i>Reverse</i>	<i>Predelay</i>	<i>Decay</i>	<i>Diffusion</i>	<i>Level</i>

Reverb is the perfect effect for adding dimension to any recording or live application where you need to emulate the size and shapes of different types of rooms. The following explains the parameters that are available in the Reverb effects.

Note: When Reverb is used in Effect Configuration 1 (Whole effect module) larger and denser sounding Reverbs can be attained.

Pre Delay	Controls the length of time before the reverb reflections are heard. Range is from 0 to 99 ms.
Decay	This parameter controls the decay length (reverb time) of the reverberation. Range is from 1 to 10.
Damping	This parameter controls the high frequency decay of the reverb effect and ranges from 1 to 10.
Diffusion	This parameter controls the reverb smoothness and ranges from 1 to 10.
Level	This parameter allows you to set the overall level of the selected effect. Range is from 0 to 100.

Other Effects

<i>Effect Name</i>	<i>Parameter 1</i>	<i>Parameter 2</i>	<i>Parameter 3</i>	<i>Parameter 4</i>
<i>Ring Modulator</i>	<i>Frequency</i>	<i>N/A</i>	<i>N/A</i>	<i>Level</i>
<i>Compressor</i>	<i>Threshold</i>	<i>Ratio</i>	<i>Attack</i>	<i>Gain</i>
<i>Vocoder</i>	<i>Sibilance</i>	<i>Source</i>	<i>Type</i>	<i>Level</i>
<i>De-Esser</i>	<i>Threshold</i>	<i>Ratio</i>	<i>Attack</i>	<i>Gain</i>

The S-200 also offers an additional menu of hard to find effects including: a 16-band **Vocoder** which takes a vocal signal (using the Left input) and superimposes it onto another input signal such as a keyboard or the built-in Tone Generator (using the Right input) to produce a vocal effect that sounds more robotic than human. This menu also provides you with a **Ring modulator** that can produce mathematically-based harmonic effects. Also included is a state-of-the-art **Compressor** that is ideal for making any signal stand out with the right amount of compression. A special **De-Esser** is also included to fine-tune vocal tracks. The parameters for these effects are as follows:

Frequency	This parameter sets the modulation frequency of the Ring Modulator effect. The Frequency range is from 300Hz to 1500Hz.
Threshold	This parameter sets the level at which Compression (or De-Essing) begins. Range is -60 dB to 0 dB.
Ratio	This parameter sets the ratio of Compression (or De-Essing). Range is from 1:1 to ∞:1.
Attack	This parameter controls the attack time of the Compressor or De-Esser. Range is from 0.1 ms to 15 ms.
Gain	This parameter allows you to set the overall gain of the selected effect. Range is from -19dB to 20dB.
Sibilance	This parameter allows you to set the amount of Vocal High Frequency that is passed through the Vocoder effect. Range is from 0 to 100.
Source	This parameter allows you to select an internal tonal frequency reference generator or external (Keyboard) source for which the Vocal input will be routed through. Range is from: Instrument Input, or 20Hz to 600Hz (Tone Generator).
Type	This parameter allows you to select different settings of the Vocoder in the S-200. These settings vary in the placement of the frequency bands. There are five different type settings in this parameter.
Level	This parameter allows you to set the overall level of the selected effect. Range is from 0 to 100.

Section - 4 Appendix

This section provides you with information to Factory Reset the S-200, Foot switch menu set-up, Specification page and a Program list

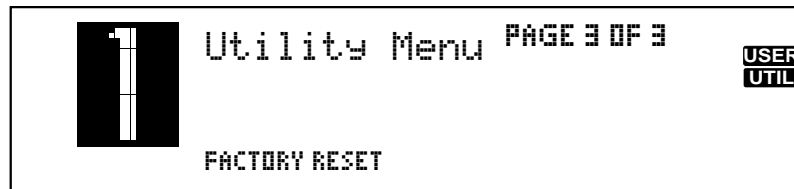
Resetting the S-200

The following Factory reset procedures all you to reset the S-200 from Utility menu or from power up.

Warning- All User program information will be deleted when the reset is performed

Utility Menu Factory Reset

1. From Program mode, press the <Utility> button three times until you reach page three and the display will appear something like this:



2. To proceed with the reset, press the <Param 2> and the display will now read: **ARE YOU SURE ?**
3. If you wish to reset, press the <Param 4> button and the S-200 will proceed to reset. If you wish to abort, press the <Param 3> button and press the <Program> button to return to Program mode.

Power Up Reset

1. To perform a factory reset from power up on the S-200, simply press and hold the <Program> button while applying power to the unit. An asterisk will appear in the top line of the display and will appear like this:

**

2. Now release the <Program> button and immediately press the <Config> button and the S-200 will proceed to reset. In the process of resetting, the S-200 will briefly display the current software version number and then return to Program mode.

Footswitch Set-Up Menu

The S-200 allows you to custom configure the footswitch menu for use with the Digitech FS-300 footswitch to perform numerous functions such as:

Program Up
Rotary Speaker On/Off

Program Down
Delay Time Tap

Bypass
Repeat Hold

The procedure for setting up the footswitch assignment is as follows:

1. From Program mode, press the **<Utility>** button twice until you reach page 2 and the display will appear something like this:



2. To make function assignments to any one of the three footswitches on the FS-300, press the **<Param 2>** button for switch A, press the **<Param 3>** button for switch B and press **<Param 4>** to select switch C.
3. Once the desired footswitch has been selected, use the **<Program/Data>** wheel to scroll through the available footswitch function options available for each switch.
4. Once the footswitch assignments have been made, notice that these assignments function the same in all programs globally and can be changed at anytime.
5. To exit this menu, press the **<Program>** button and you will be returned to program mode.

Specifications

Frequency Response:	20-20kHz +/-0.5dB
Signal-to-Noise Ratio:	96dB (A-Weighted ref=Max signal 22kHz measurement bandwidth)
THD:	Less than 0.008%
Memory Allocations:	99 User - 99 Factory Programs
Sampling Rate:	46.875kHz
A/D Converter:	20 bit, 128 oversampled
D/A Converter:	20 bit, 128 oversampled
Internal Signal Path Width:	24 bits
Multiplier Size:	24 bits x 24 bits
Inputs:	Stereo (2) 1/4" Unbalanced - Max In + 18 dBu
Outputs:	Stereo (2) 1/4" Impedance Balanced - Max + 18 dBu
MIDI:	MIDI In Program Changes, Program Dump and MIDI CCs
Power Consumption:	10 watts
Power Requirements:	Internal
Net Weight:	4.2lbs (1.91kg)

Program List

The following is a list of all the factory Programs in the S-200

Showcase

- 1 Stereo Large Hall
- 2 Deep Phaser and Delay
- 3 Deep Chorus and Reverb Parallel
- 4 Gold Foil Plate
- 5 Octave Down Pitch & Parallel Detune
- 6 4 Voice Chorus
- 7 Karaoke VIP
- 8 Panning Detune
- 9 Deep Space
- 10 Ballad Delay Verb

Reverbs

- 11 Warm Hall
- 12 Motion Hall
- 13 Open Arena
- 14 Concert Stadium
- 15 Gliss Sizzle Verb
- 16 Cathedral
- 17 Vocal Plate
- 18 Small Bright Room
- 19 Bright Chamber
- 20 Wood Studio
- 21 Thick Studio
- 22 Studio Vocal Rev/Dly
- 23 Warm Chamber
- 24 Percussion Plate
- 25 Gated Drum in Room
- 26 Opera Hall
- 27 250ms Gated Reverb
- 28 500ms Gated Reverb
- 29 500ms Reverse Reverb
- 30 Squashed Plate

Modulation

- 31 Light Chorus
- 32 Deep Chorus
- 33 4 Voice Chorus
- 34 Vibrato Chorus
- 35 Medium Flange
- 36 Deep Flange
- 37 Medium Phaser
- 38 Deep Phaser
- 39 Deep Slow Tremolo
- 40 Fast Shallow Tremolo
- 41 Slow Wide Panner
- 42 Rotary Slow to Fast
- 43 Rotary Stop to Fast
- 44 Mild Detune
- 45 Heavy Detune

Delay / Karaoke

- 46 1 Second Ping-Pong
- 47 Doubling Delay
- 48 Stereo 250ms Echo
- 49 Stereo 500ms Echo
- 50 500ms 2-Tap Delay

- 51 Stereo 1 Second Delay
- 52 120 bpm 1/4 Note
- 53 150 bpm 1/4 Note
- 54 200 bpm 1/4 note
- 55 Karaoke Room
- 56 Panning Delay
- 57 Live Vocal Delay
- 58 2 Second Delay Loop
- 59 Tape Delay
- 60 KTV Lounge

Instrumental

- 61 Guitar - SlapBack
- 62 Guitar - Jazz Club
- 63 Sax - Sultry Hall
- 64 Organ - RotSpeaker
- 65 Drums - HipHopGruv
- 66 Drums - Piers Room
- 67 Piano - Recital
- 68 Piano - New Age
- 69 Keys - PhaseStrngs
- 70 Keys - Brite Rhodes

Multi-Effects

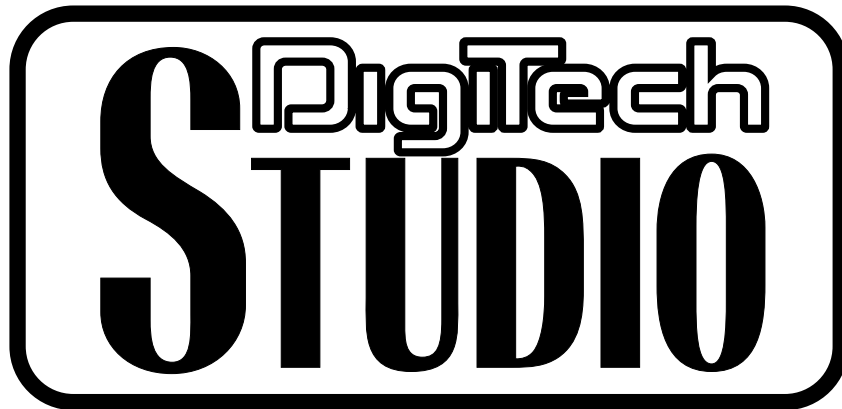
- 71 Psycho Reverse
- 72 Chord Quiver
- 73 OctaBass Room
- 74 Horn Hit Reverb
- 75 Triplet Chorus
- 76 Panner and Cathedral
- 77 Martian Drum Room
- 78 Triplet Reverse
- 79 Stretched Vibrato
- 80 Detune/Room Reverb
- 81 Animated Hall
- 82 Honkey Tonk Piano
- 83 Compressed HallRvb
- 84 Tremolo and Echo
- 85 Delayed Reverb

Compressor / Vocoder Effects

- 86 Vocal Compressor
- 87 Pop/Slap Bass
- 88 Tight Drum Kit
- 89 Vocoder with External Source
- 90 Vocoder with Internal Tone Generator

Dual Engine Programs

- 91 Phaser Left - Pitch Right Split
- 92 Delay Left - Gated Reverb Right Summed
- 93 2 Tap Room Delay
- 94 Short Plate - Hall Right Summed
- 95 Panner Left - Compressor Right Summed
- 96 Reverse Reverb Left - Ring Modulator Split Right
- 97 Slap Delay Left - Room Reverb Right Split
- 98 Octave Up Left - Octave Down Right Summed
- 99 Fast Phase Left - Arena Reverb Right Split



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*Printed In U.S.A. 5/98
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S-200 18-2218-A

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