SONY®

Digital Audio Processor

SRP-F300

Control Software Manual

(SRP-F300 Controller Ver 1.50)

Before You Begin

The SRP-F300 Controller software is used to control the SRP-F300 Digital Audio Processor from a PC. It provides an easy way of controlling the functions of the SRP-F300 Processor in most typical applications. However, you are free to custom our own control software designed with reference to the Communication Protocol Guide to suit your requirements best.

The SRP-F300 Controller has been thoroughly tested with the SRP-F300 Processor to provide maximum compatibility and convenience. To ensure smooth, trouble-free operation in actual applications, however, you should check and rehearse operations in the same conditions as the final installation environment.

Before operating the SRP-F300 Processor using this control program, please be sure to read the two other supplied manuals: the SRP-F300 Processor Operating Instructions and the Communication Protocol Guide.

Operating Environment

The SRP-F300 Controller runs on a PC using the Windows® 98/ME /2000 *operating system.
Connection to the SRP-F300 Digital Audio Processor is made via a serial communication port (COM port).
The PC display must provide more than 800 x 600 dot resolution and 256 color rendering performance.

An RS-232C null-modem cable(reversed connection type cable) is necessary for connection between the PC and the SRP-F300 Processor.
(Refer to page 4 for further details of the cable.)

*Microsoft Windows is a registered trademarks of Microsoft Corporation in the United States and/or other countries.

Installation

All you need to do to operate the SRP-F300 Controller is to install the F300C.exe file.
Without the need to use other files and libraries, installation is simple and easy.
The F300C.exe file can be copied into any folder of your choice on your PC.
However, it is recommended to create a new folder dedicated to storing the F300C.exe file together with the data created with the SRP-F300 Controller.

Major Functions of SRP-F300 Controller

The SRP-F300 Controller provides control over the SRP-F300 Processor connected to your PC via an RS-232C cable. Major functions include:

* Various parameters of the signal processing can be changed in real time, making precise adjustment possible while listening to the reproduced sound.
* The program (a set of parameter settings) created with the SRP-F300 Controller can be stored in the SRP-F300 Processor. Alternatively, any program stored in the SRP-F300 Processor can be recalled and deleted as necessary. Up to 50 programs can be stored in the unit.
* The program data on the SRP-F300 Processor can be saved as a file(.srp) on your PC. It is also possible to open the program file on your PC and transfer its contents to the SRP-F300 Processor.

SRP-F300 program can be created and edited even when the processor is disconnected from your PC.

Terminology

Parameter

A value that you add or alter to accomplish signal processing in the way you want. The SRP-F300 provides various parameters for tailoring the sound quality.

Program

A set of parameters that determines the total signal processing condition. The data of all parameters in the program is collectively called program data.

Up to 50 programs can be memorized in the SRP-F300 Processor.
Among the programs stored in the SRP-F300 Processor, the one in use is called the current program. The current program is stored in a temporary storage area, apart from the remaining programs.   Precisely speaking, therefore, the SRP-F300 Processor can hold up to 50 programs plus one current program.

Operation Overview

The SRP-F300 Controller can be used in the following two ways.

(1) Operation with the SRP-F300 Processor connected to the PC (Connected Condition)

The screen indications brought up by the SRP-F300 Controller show the current condition of the SRP-F300. Operations performed on the screen are immediately reflected by the changes in the active program of the SRP-F300 Processor. (These changes can be stored to PC or to the SRP-F300)

To operate the system under the "Connected" condition, start the SRP-F300 Controller software and select "Connect" from the Connect Menu. Refer to page 10 for further details.

(2) Operation without making connection between the SRP-F300 Processor and the PC (Disconnected Condition)
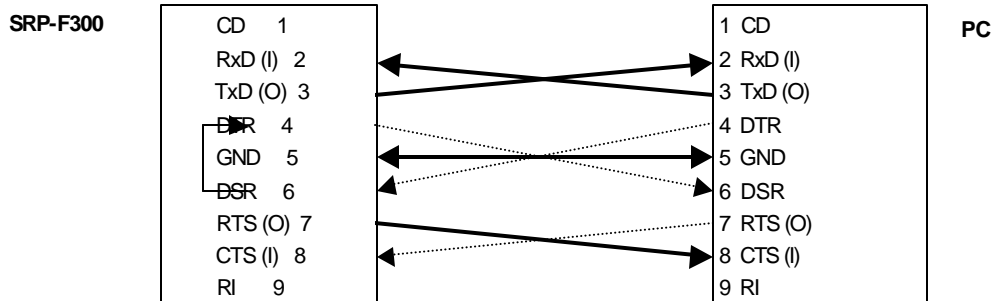
Program data can be edited and saved as a file on the PC. The file data can be uploaded to the SRP-F300 Processor any time after a connection is made.

Connection between PC and SRP-F300 Processor

Before starting operation with the SRP-F300 Controller, connect the SRP-F300 Processor to the PC using an RS-232C cable.

The rear panel of the SRP-F300 Processor offers a D-sub 9-pin male connector for remote connection to the PC. Make sure to select a cable that allows cross connections between Pins 2 and 3, as well as Pins 7 and 8.

SRP-F300

CD	1
RxD (I)	2
TxD (O)	3
DTR	4
GND	5
DSR	6
RTS (O)	7
CTS (I)	8
RI	9

PC

| 1 CD |
| 2 RxD (I) |
| 3 TxD (O) |
| 4 DTR |
| 5 GND |
| 6 DSR |
| 7 RTS (O) |
| 8 CTS (I) |
| 9 RI |

Remote ID Setting on SRP-F300 Processor

A remote ID needs to be specified in order to remote control the SRP-F300 Processor from the PC.

The remote ID is set on the SRP-F300 Processor using 2-digit decimal codes (01–99).
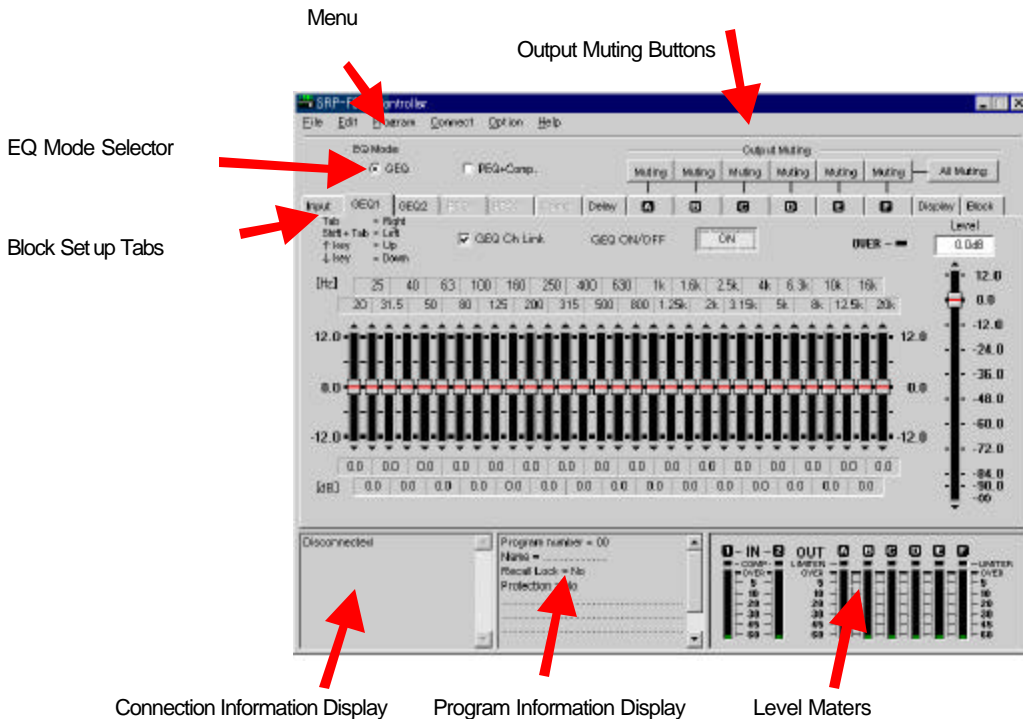The default value is factory-preset at "01".

Each SRP-F300 Processor accommodates two REMOTE(RS-232C) connectors for daisy-chaining. When more than two units are daisy-chained, different remote ID's must be set on each SRP-F300 so that the PC can distinguish them individually.

<u>Remote ID confirmation/Modification Procedure</u>
1) Press the DISPLAY button, make the REMOTE/ID indicator illuminate and confirm the numeric indication of the ID. (The display is automatically switched to indicate the program number in approx. 4 seconds, so proceed to the next step while the remote ID is shown.)
2) Press the UP or DOWN button once. The ID number starts to blink, indicating that it is ready to be changed.
3) Repeatedly press the UP or DOWN button until the desired number is displayed. Keep the button pressed to consecutively increase or decrease the number.
4) Press the RECALL/ENTER button when the desired number is displayed. The number indication stays lit and operation is complete.

To quit in the middle of the ID modification process, simply stop operating the button. After approx. 8 seconds, the ID number is replaced by the current program number and the operations performed until then are ignored.

Menu

Output Muting Buttons

EQ Mode Selector

Block Set up Tabs

Connection Information Display   Program Information Display   Level Maters

Menu

Allows selection from 5 items of menus (File, Program, Edit and Connect, Option).

Connection Information Display

Indicates the connected SRP-F300 Processor (remote ID and user defined device information).

"Disconnec ted" is indicated when no connection is made.

Program Information Display

Shows user defined information on the program currently being edited.

Level Meters

Indicates the audio input /output signal levels according to the data received from the SRP-F300 Processor.

Nothing is indicated when the SRP-F300 Processor is disconnected.

EQ Mode Selector

Enables selection between a graphic equalizer (GEQ) or parametric equalizer (PEQ) for equalizing the master channels. A dynamics control becomes available w hen the parametric equalizer is selected.

Block Setup Tab Control Panels

Input Tab	Used for selecting input signals and setting the test signal oscillator.
GEQ1/GEQ2 Tab	Used to control the GEQ blocks (2 channels). -When GEQ mode is used.
PEQ1/PEQ2 Tab	Used to control the PEQ blocks (2 channels). -When PEQ is active.
Comp Tab	Used to control the compressor block (2 channels).
Delay Tab	Used to control the master delay and individual channel delay lines.
A - F Tab	Used to control the parameters of each output channel.
Display Tab	Used to bring up the panel for confirming the frequency ranges of the outputs from the

SRP-F300 Processor.

Block Tab   Used to confirm signal processing algorithms on the block diagram. To switch to the setup screen of the block you want to check, double-click on the indication corresponding to it.

Output Muting Buttons

Each operates independently muting one of the six output channels of the SRP-F300 Processor.

Menu Operation

File Menu

Lists the command choices available for accessing the SRP-F300 program, saving it in a PC file and editing it as required.

New

Cancels the edit results and recalls the default parameter settings.
Effective only when the SRP-F300 Processor is disconnected from the PC.

Open

Opens an SRP-F300 program data file(.srp) on the PC to allow editing of its contents.
Effective only when the SRP-F300 Processor is disconnected from the PC.

Save as

Saves the current program data as an .srp file.
Saving can be performed regardless of the connection between the SRP-F300 Processor and the PC.

Exit

Quit the SRP-F300 controller software. Any SRP-F300 connected are unaffected

Edit Menu

Enables editing of the parameters that cannot be accessed on the tab control panels.
(In the "Connected" condition, the current program of the SRP-F300 Processor is changed concurrently as editing is performed. In the "Disconnected" condition, the result of editing is reflected only on the file data on the PC.)

Name

Used to rename the current program.
Selecting this menu opens a dialog box, so type a new name and click the OK button.
Up to 21 alphanumerical characters can be used for the name. Do not use parentheses '('.

Information

Used for user defined text information about the current program.
For example, the date the program is created, the name of the person who created the program and a summary of the program contents can be described using up to 256 alphanumerical characters.
To modify this, select the Information menu, type the necessary text in the dialog box and click the OK button.
Do not use parentheses '(' in the character stream to be typed in the dialog box.

GEQ Flat

Used to reset all the frequency bands of the GEQ block to 0.0 dB.
On the dialog panel opened by selecting the GEQ Flat menu, check the box corresponding to the block (GEQ1 or GEQ2) that is to be reset, and click the OK button. Both blocks can be reset simultaneously if both boxes are checked.
The GEQ Flat menu cannot be used unless the EQ Mode switch is set to GEQ.

<u>GEQ Link On</u>

<u>GEQ Link Off</u>

Used to change the link condition between GEQ1 and GEQ2.

To establish a link between GEQ1 and GEQ2, select the Link On menu, specify which channel is the master, and execute. To disengage the connection between GEQ1 and GEQ2, select the Link Off menu and answer OK to the confirmation message that appears on the screen.

The link status is indicated in the check box on the GEQ1 or GEQ2 tab control panel. However, it is impossible to change the link setting on this panel.

The GEQ Link On/Off menu is effective only when the EQ Mode switch is set to GEQ.

During a system set-up, the GEQ can be linked, and small individual changes can be made by separating the two blocks.

<u>PEQ Flat</u>

Used to reset all the frequency bands of the PEQ block to 0.0 dB when EQ mode is PEQ+Comp mode.

<u>GEQ.PEQ Link On</u>

PEQ Link Off

Used to change the link condition between PEQ1 and PEQ2.

To establish a link between PEQ1 and PEQ2, select the Link On menu, specify which channel is subordinate to which, and execute. To dis engage the connection between PEQ1 and PEQ2, select the Link Off menu and answer OK to the confirmation message that appears on the screen.

The link status is indicated in the check box on the PEQ1 or PEQ2 tab control panel. However, it is impossible to change the link setting on this panel.

The PEQ Link On/Off menu is effective only when the EQ Mode switch is set to PEQ + Compressor.

<u>Output Ch – LinkCh</u>

Used to set links between the 6 output channels of the SRP-F300 Processor. (e.g. stereo pairs)

All linked channels operate using the same parameters, and are adjusted simultaneously.

The link status is indicated on the output channel tab control panel.

However, changes must be made on the Output Ch – LinkCh menu.
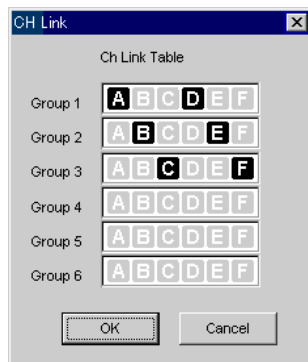
Selecting the Output Ch – LinkCh menu opens the dialog panel shown at the left.

Click to highlight the channels (A to F) to be linked in each group.

In the example shwon, channels A and D are linked and assigned to Group 1. (The same can be said of channels B and E in Group 2 and channels C and F in Group 3.)

Caution !

When changing a link, consideration must be given to channel priority which decreases in the order A to F. When channels A and D are linked, for example, the parameter settings of channel A are copied to channel D. It is recommended that channels are linked before program editing is begun to prevent loss of data.

The linked channels provide exactly the same parameter settings except the Source parameter.

<Tip>

The link function is especially convenient when processing stereo signals.

Suppose that you want to assign channels A, B and C to the low, mid and high ranges of CH-1 (left channel) and channels D, E and F to the same of CH-2 (right channel). In this case, the same parameter setting is normally used for channels A and D, B and E, and C and F, making it time- and labor-saving to link the channels in these combinations. The Source parameter, however, cannot be included in the list of parameters for linked channels because it has to route channels A, B and C to the left channel and D, E and F to the right channel.

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Program Menu

Used to manipulate the SRP-F300 Processor's internal program data.

Accordingly, this menu can be used only under the "Connected" condition.

Store

Stores the current program data in the flash memory of the SRP-F300 Processor.

Input the desired program number on the panel opened by clicking "Store". The screen shows the current program information, together with the information about the selected program number(01-50). Execute if the displayed content is acceptable.

List

Displays a list of all the programs stored in the currently connected SRP-F300 Processor.

Select the desired program and click one of the following buttons corresponding to the operation you want to perform.

> Recall (for recalling the selected program into the SRP-F300)
> Delete (for deleting the selected program)
> Recall Lock (for setting Recall Lock condition)
> Protection (for prohibiting overwrite)

It takes about 20 seconds to access all the programs in the SRP-F300 Processor and list them on the screen in the form of a list. As shown below, each line of the list consists of the program number, followed by Recall Lock and Protection setting indications, and the user defined program name.

> e.g.) 01:L:P:Default Preset…….
>> L = Indicates that the program is recall-locked.
>> P = Indicates that overwriting is prohibited.

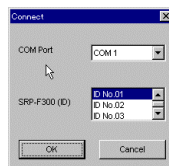Note that the default preset(=01) cannot be deleted or overwritten.

Connect Menu
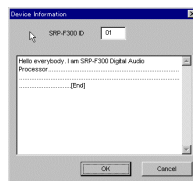
Used to specify the connection between the SRP-F300 Processor and Controller.

Connect

Provides connection to the SRP-F300 Processor. (Cable connection must be made in advance.)

(1) Input the following on the dialog panel opened by selecting "Connect".
  1) COM port on the PC
  2) Remote ID of the SRP-F300 Processor that you want to connect

(2) If connection is made successfully, the screen is switched to show the remote ID specified in Step (1), along with the device information on the SRP-F300 Processor. Click the OK button to continue. Click the Cancel button to discontinue.
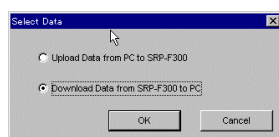
(3) When the OK button is clicked, select between the following two operations.

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1) Uploading the program on the PC to the SRP-F300 Processor

2) Downloading the current program of the SRP-F300 Processor to the PC

Downloading in no way affects the settings of the SRP-F300 Processor or the data downloaded and displayed on the control screen. In contrast, precautions must be taken when uploading the data from the PC. The settings of the SRP-F300 Processor instantly change according to the uploaded data, sometimes causing the output sound conditions to change considerably.

(4) Connection is complete when the message, "Connection Completed", appears on the screen. Click the OK button and proceed to the next step.

<u>Disconnect</u>

Disconnects the SRP-F300 Processor.

Selecting this menu brings up a confirmation message. Click the OK button to confirm. Disconnecting the SRP-F300 Processor has no effect on the conditions of either the Processor or the Controller.

<u>Information</u>

Opens the dialog box for typing device information about each SRP-F300 Processor (installation site, output routing, connection conditions, owner's name, etc.). The device information can be described using up to 256 alphanumerical characters and is stored in the SRP-F300 Processor when the OK button is pressed.

(Do not use parentheses '(' in the description)

<u>Panel Lock</u>

Used to set whether to allow recall and ID change operations using the front panel controls of the SRP-F300.

Select "Lock Off" (changes are possible) or "Lock On" (changes are impossible) and click the OK button.

Note: Lock LED on the apparatus keeps light until this GUI will be disconnected.

Option Menu

Used to select the level meter resolution or select ion of unit for Delay parameter input.

<u>Level Meter</u>

Select "Fine" to indicate in high resolution mode.

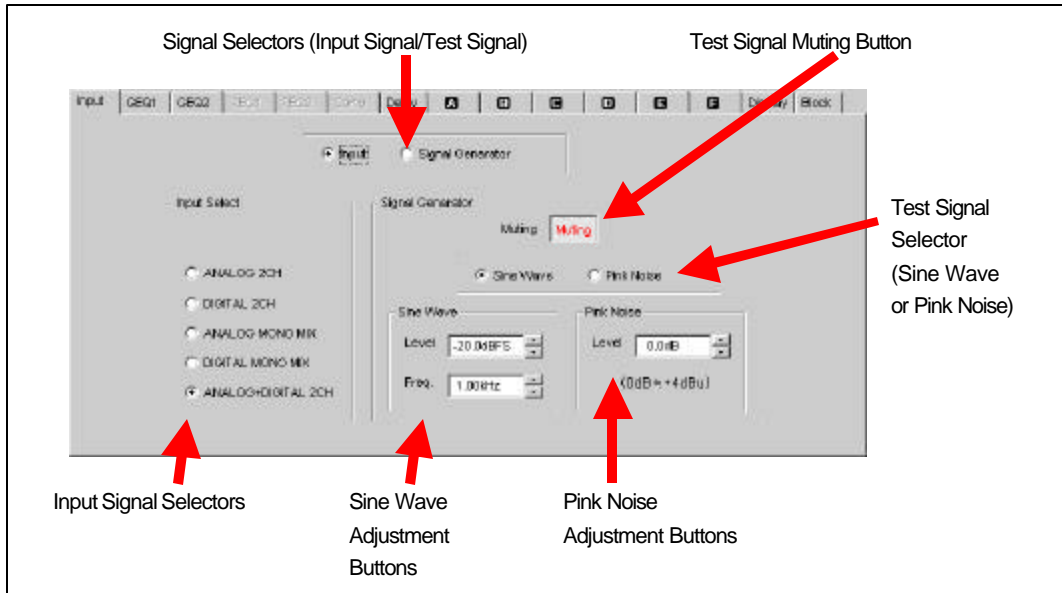Select "Coarse" to indicate in low resolution mode that is as same as the apparatus.

<u>Unit of Delay</u>

Select "meters" or "Feet/ inches " for the unit of delay function parameters.

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Parameter Operations on Tab Control Panels

Input Tab Control Panel

Enable various settings related to input signals.

Input Signal Selectors

Selection can be made from the following five types of signals.

1) 2-channel analog inputs   2) 2-channel digital inputs   3) Mono-mix signal (two analog channels)

4) Mono-mix signal (two digital channels)   5) Mixed analog/digital signals

Input Signal/Test Signal Selector

Allows the use of the SRP-F300 Processor's internally generated test signal instead of the input signal.

When you switch to the test signal, the test signal is automatically Muted.

Test Signal Muting Button

Mutes the test signal.

Test Signal Selector

Switches between the sine wave and pink noise test signals.

When you change selection, the test signal is automatically Muted.

Sine Wave Adjustment Buttons

The level and frequency of the sine wave signal can be adjusted using the respective arrow buttons.

The level indicates the peak level expressed in dBFS (decibel value proportionate to the digital full-scale level).

This means –20dBFS is equivalent to the analog reference input level of +4dBu. (FS stands for Full Scale.)
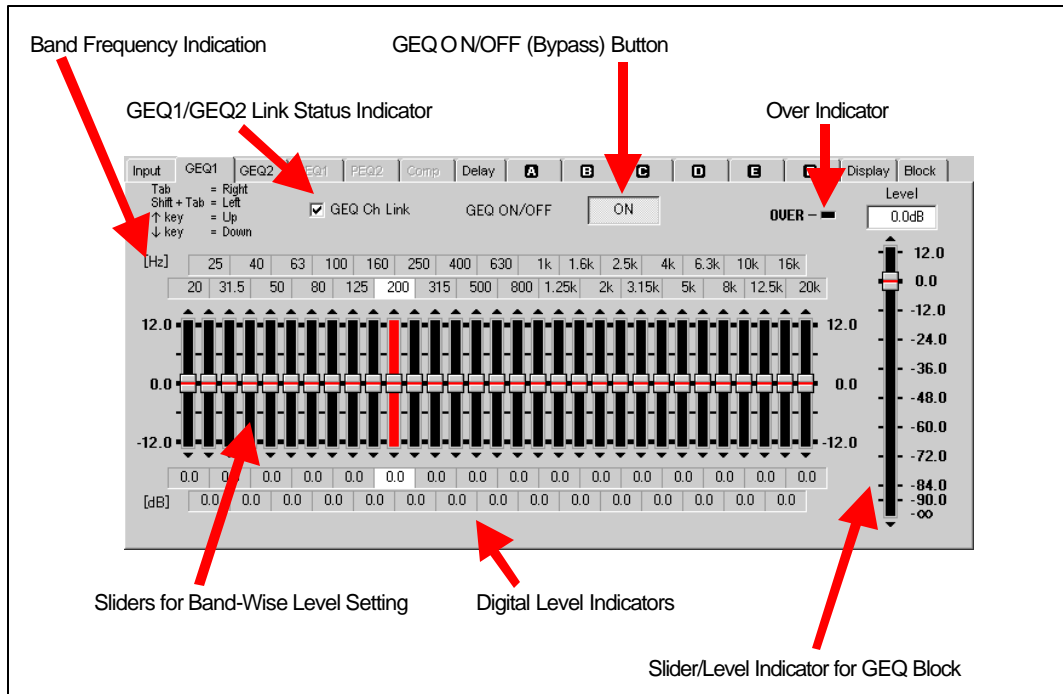
Frequency can be set within the range from 20Hz to 20kHz in 1/12oct steps.

The default level is set to –20dBFS.

Pink Noise Adjustment Buttons

Using the arrow buttons, the pink noise level can be varied within the range from $-\infty$ dB to +12.0dB in 0.5dB steps. The 0.0dB level of the pink noise corresponds apprximately to the analog reference input level of +4dBu.

GEQ1/GEQ2 Tab Control Panel

Band Frequency Indication

GEQ ON/OFF (Bypass) Button

GEQ1/GEQ2 Link Status Indicator

Over Indicator

Sliders for Band-Wise Level Setting

Digital Level Indicators

Slider/Level Indicator for GEQ Block

GEQ (Graphic Equalizer) settings cannot be changed on this panel unless the equalizer mode is set to GEQ.

GEQ1/GEQ2 Link Status Indicator

A link can be established between GEQ1 and GEQ2 to keep both equalizers in the same status.

The link status indicator is used to show whether GEQ1 and GEQ2 are linked or not. The setting can be changed by clicking the check box (or in the Edit Menu).

GEQ1 and GEQ2 are linked when a check mark is shown in the indication box and not linked when the box remains unchecked. When linked, all the settings (GEQ ON/OFF and levels of 31 frequency bands of the GEQ block) performed on the GEQ tab control screen for either one of the equalizers are copied automatically to the other. When not linked, both equalizers must be set individually.

Sliders for Band-Wise Level Setting

Moved up and down using the mouse, these sliders are used to adjust the levels of the 31 frequency bands within the range from -12.0dB to +12.0dB in 0.5dB steps. The digital indication below each slider provides an easy way of confirming the level setting.   See below for how to operate the sliders.

Slider Operation (1): Sliding the knob up and down using the mouse
Place the pointer on the knob, keep the mouse left button pressed and move the mouse up and down.
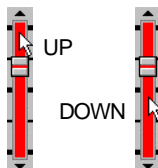
Slider Operation (2): Shifting the knob position step by step by clicking the mouse repeatedly
To raise the level, point the slider above the knob position and left-click the mouse. To lower the level, left-click the mouse with the pointer placed at a location below the knob. The level increases or decreases 0.5dB each time the mouse is clicked. The same can be achieved by clicking the arrow marks ($\Delta\nabla$) at the top and bottom ends of the slider. The level can be changed continuously by keeping the mouse button pressed.

Slider Operation (3): Aligning the knobs along the line drawn by the mouse

With the [Ctrl] key kept pressed on the keyboard, move the mouse as described below to set the levels consecutively for all or part of the bands.

(1) Place the pointer at the left edge of the slide groove for the 20Hz band (or the band of your choice). The vertical position of the pointer should be determined according to the level you want to set.
(See Fig. GEQ-1.)

(2) Press the [Ctrl] key on the keyboard, and while keeping it pressed, press the mouse left button.

(3) With the buttons kept pressed on both the keyboard and the mouse, move the mouse towards the right. At every slider, the knob automatically moves to the position where the pointer crosses the slide groove.

(4) Release the [Ctrl] key and the mouse left button when the pointer reaches the 20kHz band (or the last band you want to set). Operation is now complete. (See Fig. GEQ-2.)
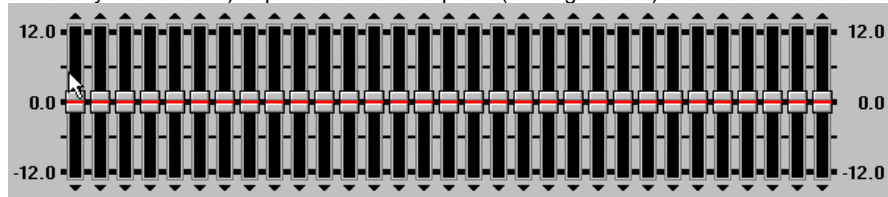

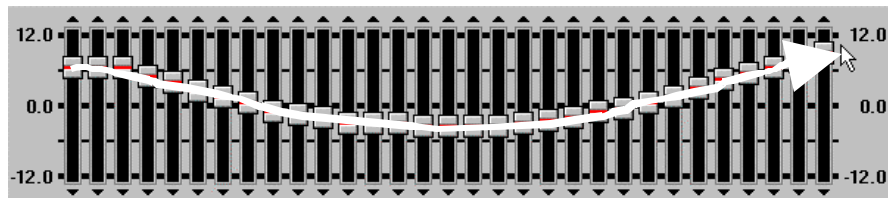Fig. GEQ-1: Starting Consecutive Level Setting

Fig. GEQ-2: Completing Consecutive Level Setting

Slider Operation (4): Keyboard operation

Band select

Tab key : next right band

Shift + Tab key : next left band

Level adjust

[↑] key : 1 step (0.5dB) up

[↓] key : 1 step (0.5dB) down

GEQ ON/OFF Button

Used to turn on and off the equalizer(s) to check equalization effects.

This setting is affected by the PEQ Link conditions.

Slider/Level Indicator for GEQ Block

Located at the last stage of the GEQ block, this slider is used to control the GEQ output level. The adjustable range is -∞dB to +12.0dB in 0.5dB steps. In addition to the slider knob position, the numerc indication above the slider can be used to confirm the adjusted level.

Level adjustment can be performed as follows using the mouse.

∗ Sliding the knob up and down using the mouse

Place the pointer on the knob, click the mouse left button, and while keeping the button pressed, move the mouse up and down.

∗ Step-by-step level adjustment by clicking the mouse repeatedly

To raise the level, point the slider above the knob position and left-click the mouse. To lower the level, left-click the mouse with the pointer placed at a location below the knob. The level increases or decreases 0.5dB each time the mouse is clicked. The same operation can be performed by clicking the arrow marks ($\Delta\nabla$) at the top and bottom ends of the slider. Furthermore, the level can be changed continuously by keeping the mouse button pressed.

The GEQ output level set by this slider is affected by the GEQ Link conditions.
However, it remains unaffected by the GEQ on/off.

<u>Over Indicator</u>

Illuminates when the level is too high, i.e., the output signal from the GEQ block exceeds the internal digital clipping level (+36dBFS).

If this indicator lights frequently, it is necessary to decrease the signal level of the suspicious band(s) or the overall level of the output from the GEQ block. Such cases, however, will be very rare because of the high internal headroom of 36dB in the SRP-F300.

PEQ1/PEQ2 Tab Control Panel
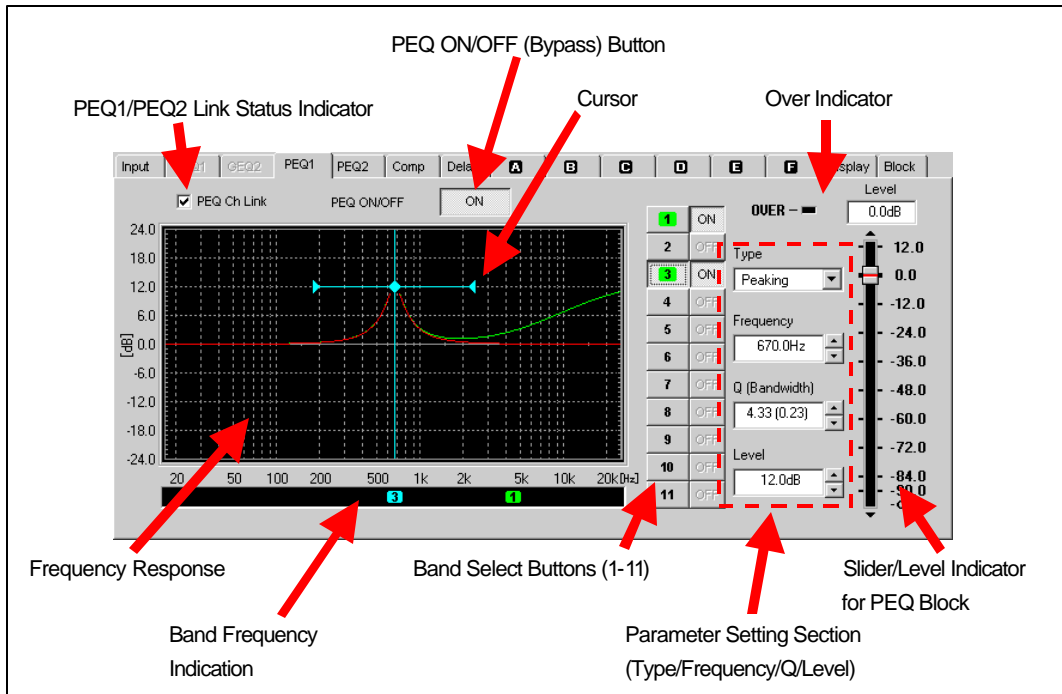
PEQ (Parametric Equalizer) settings cannot be changed on this tab screen unless the equalizer mode is set to PEQ + Comp.

PEQ1/PEQ2 Link Status Indicator

    A link can be established between PEQ1 and PEQ2 to set and adjust both equalizers simultaneously.

    The link status indicator is used to show whether PEQ1 and PEQ2 are linked or not. The setting can be changed by clicking the check box (or in the Edit Menu).

    PEQ1 and PEQ2 are linked when a check mark is shown in the indication box and not linked when the box remains unchecked. When linked, all the settings (PEQ ON/OFF, as well as level and PEQ settings of 11 frequency bands) performed on the tab screen for either one of the equalizers are copied automatically to the other. When not linked, both equalizers must be set individually.

Band Select Buttons (1-11)

Parameter Setting Section (Type/Frequency/Q/Level)

    These combine to afford convenient frequency band parameter setting.

    Select the desired band by clicking one of the 11 buttons. The currently used parameters (type, frequency, Q and level) of the selected band are displayed in the respective boxes, ready to be changed as described below. The green number on button means the band is used.

    Note: The parameter unnecessary for a specific type is nullified. That is, the box remains in the same color as the periphery. Also, the arrow buttons are inoperative.

(1)To Input "type".

Select " Peaking", "Bandpass", "Hi-Shelf", "Lo-Shelf", or "Notch Filter" from the drop-down list.

Then, the other boxes are shown to enable adjustment of the remaining three parameters (frequency, Q and level).

Frequency

1.00kHz

Q (Bandwidth)

4.33 (0.23)

Level

5.5dB
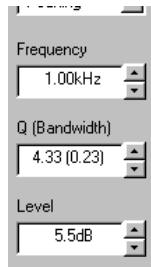
(2) How to input "frequency", "Q "and "level"

There are three ways to input parameters.

a)The arrow buttons at the right of the box provide step-by-step increments and decrements. Repeatedly click the buttons until the desired value is indicated in the box. (The indication box for the nullified parameter is shown in the same color as the panel. In addition, the arrow buttons are inoperative.)

The adjustable range for each parameter is as follows.

Frequency: 20Hz to 20kHz in 1/12 octave steps

Q: 73 steps in a range from 0.31to 19.4

Level: -12.0dB to +12.0dB in 0.5dB steps

b) Drag & releasing the cursor indicated in light blue on frequency response graph.

Drag the center cursor to input "level" .

Drag the left or right wing of cursor to input "Q".

C) Typing numerals into each boxes with key board.

Frequency Response Indication

Provides graphic indication of the PEQ frequency response.

The green curve shows the overall response of all 11 bands. If one of the bands is selected with the band select button, a red line is displayed additionally to show the frequency response of that particular band. The frequency setting for that band is represented by a vertical line in light blue.

Band Frequency Indication

The number of each band is indicated in green at the position corresponding to its frequency setting.

(No indication for the bands whose type is set to OFF.)

The number of the band selected with the band select button is shown in light blue.

PEQ ON/OFF Button

Used to turn on and off the PEQ to check the effect of equalization.

This setting is affected by the PEQ Link conditions.

Slider/Level Indicator for PEQ Block

Located at the last stage of the PEQ block, this slider is used to control the PEQ output level. The adjustable range is -∞dB to +12.0dB in 0.5dB steps. The numeral level indication above the slider makes it easy and precise to confirm the adjusted level.

Adjustment can be performed as follows using the mouse.

∗ Sliding the knob up and down using the mouse

Place the pointer on the knob, click the mouse left button, and while keeping the button pressed, move the mouse up and down.

∗ Step-by-step level adjustment by clicking the mouse repeatedly

To raise the level, point the slider above the knob position and left-click the mouse. To lower the level, left-click the mouse with the pointer placed at a location below the knob. The level increases or decreases 0.5dB each time the mouse is clicked. The same operation can be performed by clicking the arrow marks (Δ▽) at the top and bottom ends of the slider. The level can be changed continuously by keeping the mouse button pressed.

The PEQ output level set by this slider is affected by the PEQ Link conditions but remains unaffected by the PEQ on/off.
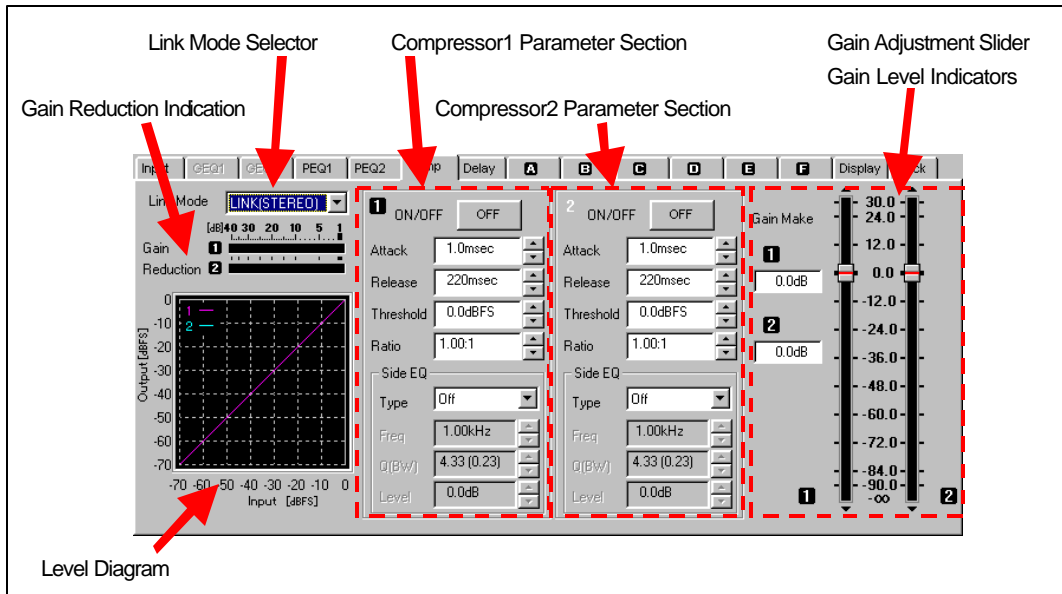
<u>Over Indicator</u>

Illuminates when the level is too high, i.e., the output signal from the PEQ block exceeds the internal digital clipping level. (+36dBFS)

If this indicator lights frequently, it is necessary to decrease the signal level of the suspicious band(s) or the overall level of the output from the PEQ block. Such cases, however, will be very rare because of the high internal headroom of 36dB in the SRP-F300.

Comp Tab Control Panel

Link Mode Selector

Compressor1 Parameter Section

Gain Adjustment Slider

Gain Level Indicators

Gain Reduction Indication

Compressor2 Parameter Section

Level Diagram

Compressor adjustment on this tab control panel is impossible unless the equalizer mode is set to PEQ + Comp.

Link Mode Selector

The following four modes can be selected for linking the compressors (2 channels).

(1) INDIVIDUAL

The two compressors operate independently. All parameters must be set individually for each compressor.

(2) LINK(STEREO)

Both compressors are linked to provide the same gain reduction, making it possible to compress the signal without affecting the stereo sound balance. In this mode, gain reduction is calculated based on the mono-mixed signal and performed in accordance with the parameters set for Compressor 1. Adjustment of the parameters for Compressor 2 is disabled.

(3) LINK(IN-1)

Both compressors are linked, with Compressor 1 used for calculating gain reduction based on the channel-1 signal. It is impossible to adjust the parameters for Compressor 2.

(4) LINK(IN-2)

Both compressors are linked, with Compressor 2 used for calculating gain reduction based on the channel-2 signal. It is impossible to adjust the parameters for Compressor 1.

Compressor 1 Parameter Control Section

Compressor 2 Parameter Control Section

Used to set the parameters for Compressor 1 and Compressor 2.

In the INDIVIDUAL mode, parameter setting can be performed individually for both compressors.

In the LINK (STEREO) and LINK (IN-1) modes, Compressor 1 and its parameters are effective. Compressor cannot be adjusted separately.

In the LINK (IN-2) MODE, Compressor 2 and its parameters are effective. Compressor cannot be adjusted separately.

(1) Attack

Enables adjustment of the response speed of the compressor to increasing signal level.

The attack time can be set at 49 different levels in a range from 0.01msec to 1000msec. Naturally, the shorter the attack time, the faster the response.

(2) Release

Enables adjustment of the response speed of the compressor to decreasing signal level.

The release time can be set at 49 different levels in a range from 1msec to 1000msec. Like the attack time, the shorter the release time, the faster the response.

(3) Threshold

Allows setting of the signal level for activating gain reduction. The signal level is expressed in dBFS representing the decibel value in proportion to the digital full-scale level for input/output signals. (This is a more logical way of working when dealing with digital sysytems which have a fixed maximum signal level, compared to analog systems where the real headroom varies from unit to unit.) The analog reference input level of +4dBu, for example, can be expressed as   -20dBFS. The threshold level can be adjusted within the range from –48dBFS to 0.0dBFS in 0.5dB steps.

(4) Ratio

Enables adjustment of the ratio for reducing the gain for the signal exceeding the threshold level. The ratio can be set at 101 different levels in a range from 1:1 to ∞:1. No reduction occurs when set at 1:1

Note: Gain reduction is performed only for the part of the signal above the threshold level.

The relationship between the threshold level and ratio can be confirmed on the input/output level diagram.

(5) Side EQ

The side (chain) EQ adds equalization of the input signal to the level detection block to enable frequency-dependent compression. With the gain controlled according to the level of the equalized signal, it becomes possible to apply compression to specific frequency components determined by the equalizer setting.

The parameters pre-settable for the side EQ are the same as for the PEQ.

Gain Adjustment Slider

Used to control the gain of Compressor 1 and Compressor 2 in a range from -∞dB to +30dB in 0.5dB steps.

Up to +30dB gain make-up control is also possible to compensate for gain reduction.

The gain must be set individually in the INDIVIDUAL mode. Both compressors function in tandem when linked in one of the LINK modes.
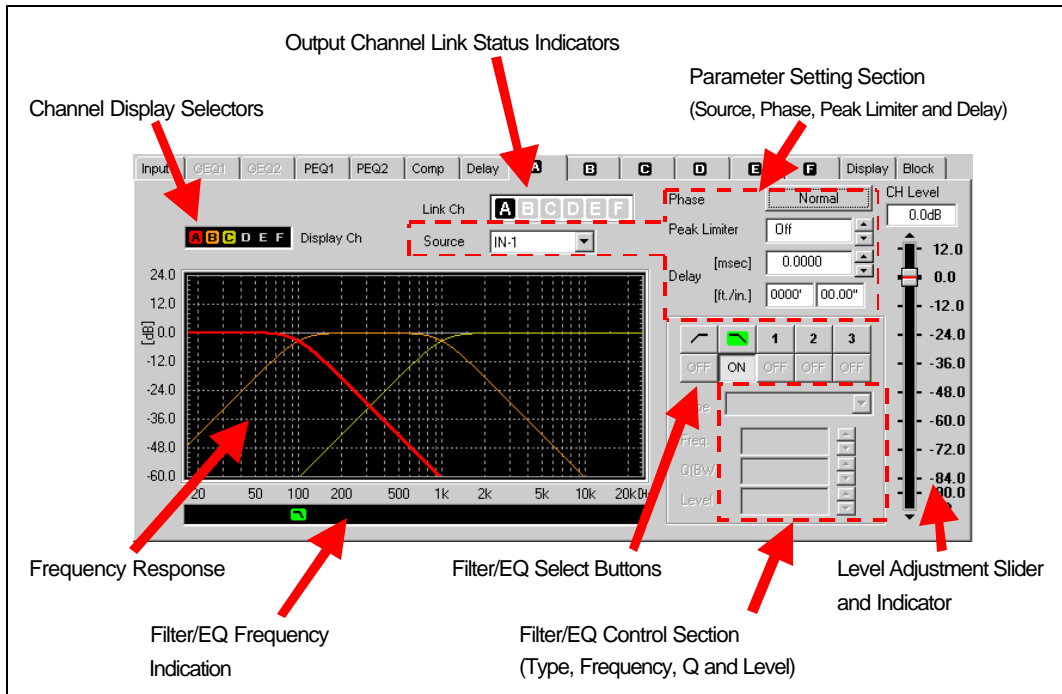
The setting of the gain adjustment slider is reflected by the indication on the input/output level diagram.

Gain reduction Indicators

Each indicates gain reduction level based on information from the SRP-F300 Processor.

No indication appears when the processor is not connected to the PC.

Output (OUT‑A, OUT‑B, OUT‑C, OUT‑D, OUT‑E and OUT‑F) Tab Control Panel

Output Channel Link Status Indicators

Parameter Setting Section
(Source, Phase, Peak Limiter and Delay)

Channel Display Selectors

Frequency Response

Filter/EQ Select Buttons

Level Adjustment Slider and Indicator

Filter/EQ Frequency Indication

Filter/EQ Control Section
(Type, Frequency, Q and Level)

Output Channel Link Status Indicators

All the six output channels can be linked, and the status is indicated on this output tab screen.

The setting can be changed in the dialog box, which opens by clicking on the indicator s.

The highlighted channel indicators indicate the linked channels. The channel indicator corresponding to the currently selected output channel tab will always be highlighted. That is, when the OUT‑A tab is selected and channel D is linked to channel A, both A and Dchannel indicators will be highlighted as illustrated above. Furthermore, changes made to the parameters of one of the linked channels will be reflected as changes in the other. (The source parameter setting remains unchanged regardless of the link status.)

Parameter Setting Section (Source)

The source box and button are used to select the signal from master channels.

Selection can be made from IN‑1, IN‑2 and mixed IN‑1/IN‑2 signals.

The source parameter is not subject to output channel link operation.

Filter/EQ Select Buttons

Filter/EQ Control Section (Type, Frequency, Q and Level)

Using the filter/EQ select buttons, select the desired crossover filter or equalizer band.

Selecting the low‑cut filter or ⌐ high‑cut filter ⌐ brings up the indications of roll‑off characteristics (the "type" parameter) and cut‑off frequency in the text boxes at the right of the buttons. Selecting one of the three equalizer bands brings up the selected band's parameter indications (type, frequency, Q and level).

In either case, the indicated parameters are ready to be modified at any time.

(In the case of the equalizer, any parameter unnecessary for the selected type is grayed‑out. The arrow buttons are inoperative.). The green indication on button means the filter/EQ is used .
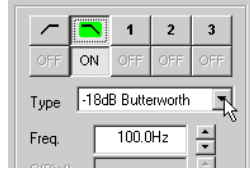
How to change the crossover filter type

Select one from the drop-down list. (12 types including Butterworth 2nd to 6th, Bessel 2nd to 6th and Linkwitz -Riley 2nd or 4th).

How to input the cut-off frequency

There are three ways to input parameters

a) The arrow buttons at the right of the indication box allow step-by-step adjustment in a range from 20Hz to 20kHz in 1/12oct. steps.

The "off " setting for the low -cut filter can be specified at a position below 20Hz. Similarly, the high-cut filter can be turned off at a position above 20kHz.

easing the cursor indicated in light blue allows easier input.

) Typing numerals into each boxes with key board.
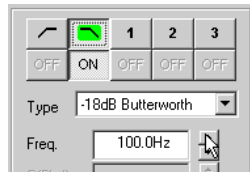
How to input 3-band equalizer's type

Select the desired type from the drop-down list (Off, Peaking, Bandpass, High-Shelving, Low -Shelving and Notch Filter). Then, the other boxes are shown to enable adjustment of the remaining three parameters (frequency, Q and level).
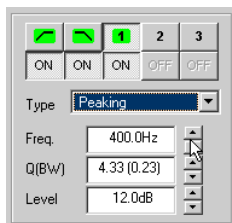
How to input the channel 3-band PEQ's frequency, Q and level

There are three ways to input parameters.

a) The arrow buttons at the right of the box provide step-by-step increments and decrements. Repeatedly click the buttons until the desired value is indicated in the box. (The indication box for the nullified parameter is shown in the same color as the panel. In addition, the arrow buttons are inoperative.)

The adjustable range for each parameter is as follows.

Frequency: 20Hz to 20kHz in 1/12 oct. steps

Q: 73 steps in a range from 0.31 to 19.4

Level: -12.0dB to +12.0dB in 0.5dB steps

b) Drag & releasing the cursor indicated in light blue on frequency response graph.

Drag the center cursor to input "level' .

Drag the left or right wing of cursor to input "Q".

C) Typing numerals into each boxes with key board.

Frequency Response Indication

Graphically indicates the channel -wise filter and EQ settings in the form of frequency response.

Each line, a different color for each channel, represents the overall frequency characteristics of the filter and 3-band EQ, plus the channel level setting.

When one of the filter and EQ select buttons is pressed, a vertical blue line is indicated at the position corresponding to its frequency setting.

Filter/EQ Frequency Indication

At the bottom of the frequency response chart, a green filter mark or band number is displayed to show the frequency setting of the corresponding filter or EQ. (No indication when the type is set to OFF.)

When selected with the filter/EQ select button, the indication color is blue.

Simultaneous Multi-Channel Display

Frequency response indications for other channels can be overlaid on the currently displayed response curve.

Click on the channel display selectors (A to F) corresponding to the channels you want to add.(or remove)
The frequency response of each selected channel will be indicated in the same color as the tag. The tags of the unselected channels remain grayed-out. Furthermore, a thinner line is used to indicate the newly added channel's response in order to make it easy to distinguish it from currently adjusted channels.

Level Adjustment Slider and Indicator
This slider provides control over each channel's output level. The adjustable range is-∞dB to +12.0dB in 0.5dB steps. The numerical level indication above the slider makes it easy to precisely confirm the adjusted level. Adjustment can be performed as follows using the mouse.

∗ Sliding the knob up and down using the mouse
Place the pointer on the knob, click the mouse left button, and while keeping the button pressed, move the mouse up and down.
∗ Step-by-step level adjustment by clicking the mouse repeatedly
To raise the level, point the slider above the knob position and left-click the mouse. To lower the level, left-click the mouse with the pointer placed at a location below the knob. The level increases or decreases 0.5dB each time the mouse is clicked. The same operation can be performed by clicking the arrow marks (Δ∇) at the top and bottom ends of the slider. The level can be changed continuously by keeping the mouse button pressed.

The output level set by this slider is affected by the CH Link conditions.

Parameter Setting Section (Peak Limiter)
Used to set the peak limiter threshold level.
The peak limiter eliminates excessive peaks in the signal waveform after having been subjected to level adjustment control. The adjustable range is –20.0dBFS to +6dBFS. Precisely speaking, the peak limiter is activated at a level 6dB below the threshold level. Accordingly, the threshold level can be a maximum of +6dBFS. The LIMITER indicator on the SRP-F300 Processor's front panel illuminates when the signal is limited

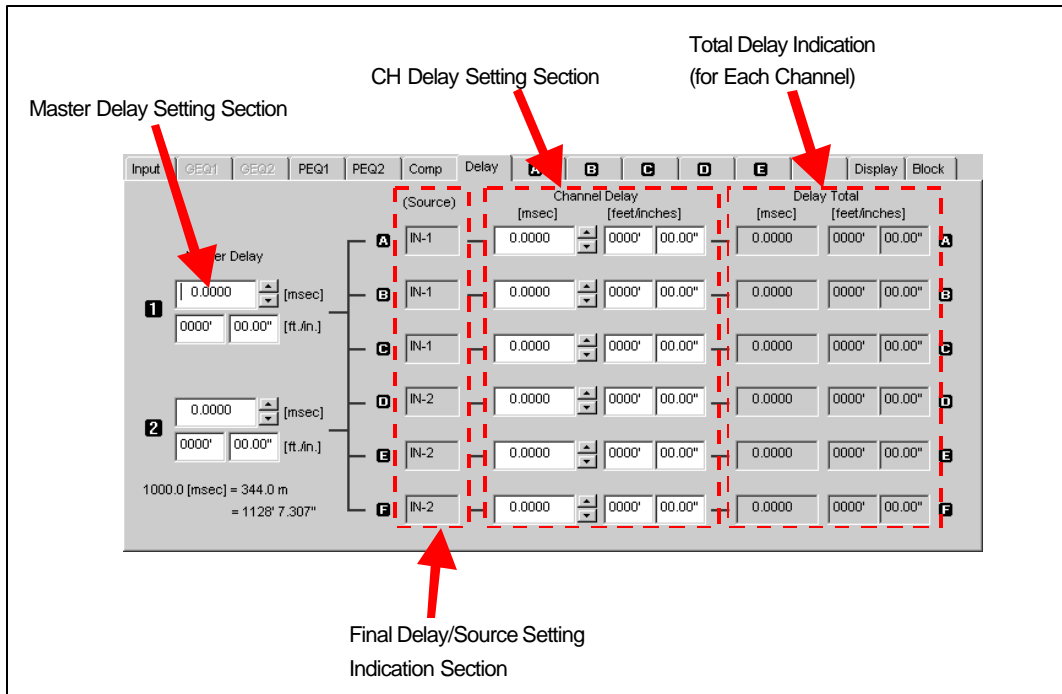Parameter Setting Section (Phase)
Used to invert the signal phase(180).

Parameter Setting Section (Delay)
Enables channel delay adjustment in a range from 0msec to approx. 1365msec in 1/96000sec (approx. 10.4μsec) steps. The delayed amount is indicated in both msec and meters or feet / inches
(calculated with sound velocity as 344m/sec).
* The delay time setting can be performed either on the delay tab control panel or on the
A--F control panel.
* The units of meters and feet / inches can be selected on "Option" menu. (refer to page10)

Delay Tab Control Panel

The delay parameters ([msec] and [meter] or [feet / inches]) can be set by typing in each box.

Master Delay Setting Section
> Allows master delay time adjustment.
> By clicking the arrow buttons, the delay time can be increased or decreased by 1/96000 sec (approx. 10.4µsec).
> To change continuously, keep the mouse button pressed. The adjustable range is 0msec to approx. 1365msec.
> The delayed amount is indicated in both msec and distance (calculated with sound velocity as 344m/sec).

CH Delay Setting Section
> Enables individual delay time setting for the output channels.
> By clicking the arrow buttons, the delay time can be increased or decreased by 1/96000 sec (approx. 10.4µsec).
> To change continuously, keep the mouse button pressed. The adjustable range is 0msec to approx. 1365msec.
> The delayed amount is indicated in both msec and distance (calculated with sound velocity as 344m/sec).

Total Delay/Source Setting Indication Section
> The final amount of delay for each output channel is indicated together with the source parameter setting for that channel.
> Basically, the final amount of delay is calculated by adding the master delay time to the channel delay time.
> When MIX is selected for the source parameter, however, the master delay time is not added and the channel delay time becomes the total delay time. The source setting is indicated to make this distinction.

Display Tab Control Panel

The SRP-F300 Processor offers an automatic function for indicating the frequency ranges of the output channels based on the frequency settings for the channel crossover filters. At the time of setting up the system or changing the program using the recall function, this provides a fail-safe way of confirming the output frequency ranges for the purpose of eliminating damage to the speaker systems.

The display tab is used to restore the frequency range indications on the PC display.

Block Tab Control Panel

Shows the block diagram for signal processing with the SRP-F300 Processor.

To jump to the tab panel of a specific block, place the mouse on cursor of that block and double-click the mouse.

Note:

The gray-out block cannot be selected to jump.

The green indication on button means the specific block is used.