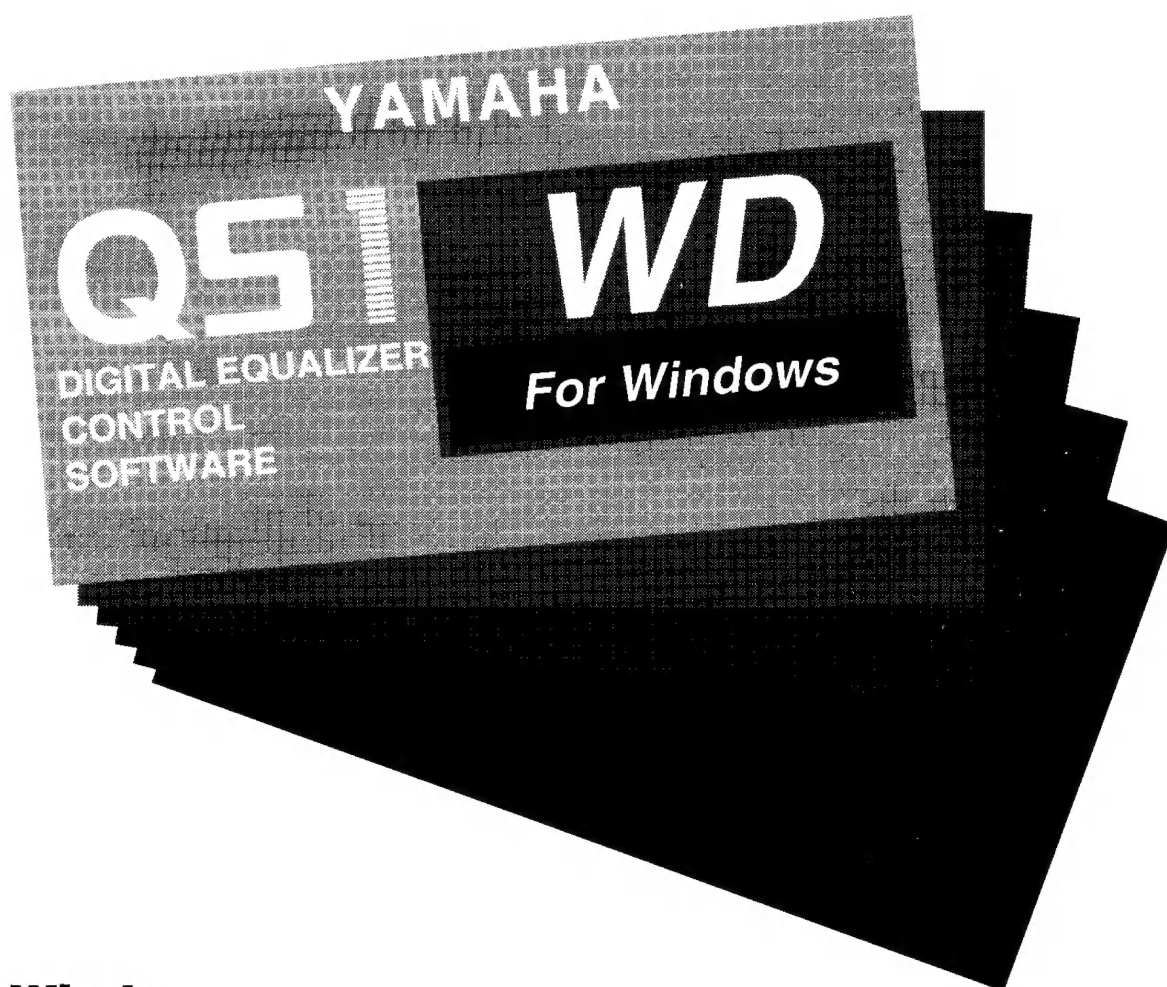


YAMAHA

Digital Equalizer Control Software

QS1-WD



for Windows

User Guide

Guide de l'utilisateur

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Introduction

Welcome

Thank you for purchasing and welcome to—the Yamaha QS1-WD Digital Equalizer software. QS1 is a member of the Yamaha Sound System Control Software Series. It allows you to control both large and small size sound systems easily. Before installing or using QS1, please read through this *User Guide*.

What is QS1?

QS1-WD Digital Equalizer software is a Windows application that allows you to control Yamaha digital equalizers from desktop and laptop computers. The following Yamaha digital equalizers can be used with QS1: DEQ5, DEQ5E, YDG2030, and YDP2006.

QS1 offers parameter control for up to 31 digital equalizers. The computer used to run QS1 can be situated at an ideal listening position. The sound engineer can then make adjustments while monitoring the results. QS1 Projects make it easy to manage equalizer data. Project data can be saved to disk and recalled for future use. Data from one device, or all devices can be saved and loaded.

A Project may contain up to 100 Scenes. A Scene allows you to recall Scene memories on all active equalizers simultaneously. Each Scene can be assigned a suitable icon, and the Scene change can be executed by double-clicking the icon.

QS1's GUI (Graphical User Interface) allows you to make adjustments just like you would using real equalizer controls. For example, sliders can be moved using the mouse, and buttons appear to depress when clicked. Commands can be accessed through familiar pull-down menus.

Graphic equalizer, parametric equalizer, and filter windows corresponding to a number of equalizers can be open simultaneously, allowing you to set up multiple equalizers with ease. The Curve window displays the resultant frequency response of the selected equalizer, providing visual feedback for your EQ adjustments.

Features

- Offstage remote-computer control of Yamaha digital equalizers
- Compatible with Yamaha DEQ5, DEQ5E, YDG2030, and YDP2006 digital equalizers
- On-screen parameter control for up to 31 equalizers
- Equalizer data can be saved to disk and recalled for future use
- Data from all devices or individual devices can be saved and loaded
- Projects provide easy data management
- Each Project may contain up to 100 Scenes
- Scenes can be assigned suitable icons for easy identification
- Double-clicking a Scene icon recalls the specified Programs in up to 31 equalizers simultaneously
- Multiple equalizer windows can be open at once
- Familiar GUI style user interface with full mouse control
- Command access via pull-down menus

About this Manual

This *User Guide* assumes that you have a basic knowledge of Windows and the following concepts: *point*, *click*, *double-click*, *Control-menu box*, and *drag*. For more information about these terms and others, please refer to your Windows *User's Guide*.

This User Guide should be used in conjunction with the documentation supplied with the IFU485 and EQ devices.

Package Contents

The following items are included in the package. Make sure that you have them all.

- QS1 Program Disk (3.5 inch 2HD)
- User Registration Card
- This *User Guide*
- IFU485 Interface Unit
- IFU485 *Owner's Manual*
- PA-1B AC Adaptor

Registering Your Software

To register yourself as an official QS1 user, please fill out the enclosed User Registration Card. If you don't register, you will not be entitled to any customer support.

Computer System Requirements

To run QS1, you need:

- IBM-PC compatible computer (80486 66 MHz or higher recommended)
- VGA or SVGA Windows compatible monitor (color recommended)
- 3.5 inch 1.44MB floppy disk drive
- Windows compatible mouse
- MS-DOS 3.3 or higher
- MS-Windows 3.1 or higher
- At least 4MB of RAM (6MB or higher recommended)
- At least 5MB of hard disk space

QS1 should run on any IBM-PC compatible personal computer that is running the Microsoft Windows 3.1 operating system software.

Backing Up the Program Disk

Before installing QS1, backup the original QS1 Program Disk, then store it in a safe place. See your Windows *User's Guide* for details about copying disks.

Chapter 1 – Getting Started

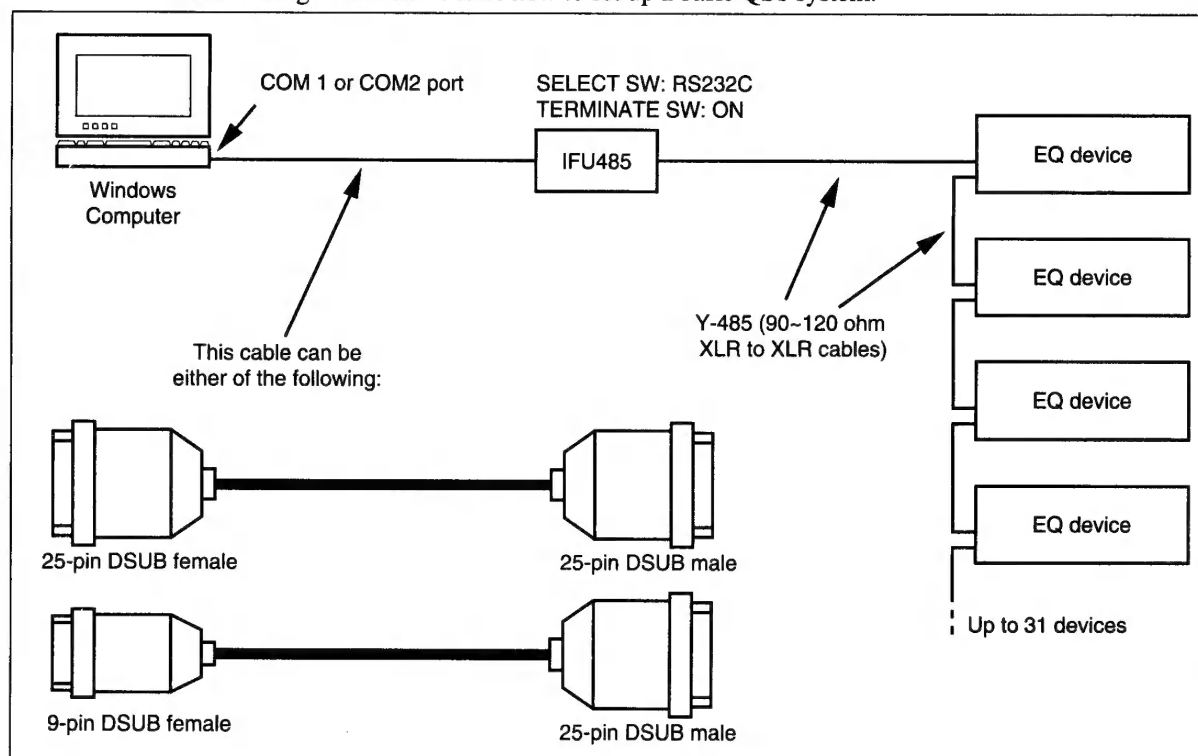
In this chapter we explain how to set up a QS1 system and install and start-up the QS1 software.

What You Need to Run QS1

- A Windows computer (see “Computer System Requirements” on page 2)
- 25-pin to 25-pin, or 9-pin to 25-pin DSUB cable
- Yamaha IFU485 Interface Unit
- XLR to XLR cable. Use AES/EBU digital audio cables (90–120 ohm)
- A least one Yamaha digital equalizer: DEQ5, DEQ5E, YDG2030, or YDP2006.

Connecting the System

The following illustration shows how to set up a basic QS1 system.



System Settings

The following basic settings must be made. Please refer to the documentation supplied with the IFU485 and EQ devices for full details.

- Set the IFU485 SELECT switch to RS-232C.
- If the IFU485 is the last device on the network, set the TERMINATE switch to ON.

Device Settings

- DEQ5, DEQ5E, YDG2030, YDP2006: In the Utility RS485 NETWORK menu, set the baud rate (see “Config” on page 11). The local address number can be set in the same menu. In the RS485 COMM.I/O menu, set the I/O Comm to ALL.
- DEQ5, YDG2030, YDP2006: Set the Remote Address to an unused address. For example, 7.31. Do not set it to * (asterisk).
- DEQ5: Set the rear panel MEMORY PROTECT switch to OFF.
- DEQ5E: first set up the DEQ5 or QS1, then set the Remote Address in the Utility window.
- Assign local address numbers exclusively to all devices (see “What is an Address?” on page 6)

Installing QS1

See “Backing Up the Program Disk” on page 2 before proceeding.

Use the backup copy for installation.

1. **Power on your computer.**
2. **Start Windows (type win at the MS-DOS prompt).**
3. **Insert the backup copy of the QS1 Program Disk into the disk drive.**
4. **In the Program Manager window, choose Run from the File menu.**
5. **Type A:\setup in the dialog box.**
6. **Press Enter.**
7. **Follow the instructions that appear on the screen.**

The QS1 Setup program creates a group window called Yamaha. An icon for QS1 appears in this window.

Starting QS1

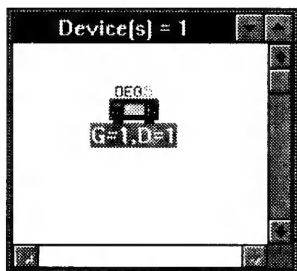
Before starting QS1, power on all equalizers, your computer, then the IFU485.

To start QS1:

1. **Start Windows (type win at the MS-DOS prompt).**
2. **Choose Yamaha QS1-WD from the Program Manager Window menu.**
3. **Double-click the QS1-WD icon.**



When QS1 starts up, it checks to see what devices are connected. An icon for each active device is displayed in the Device window. Inactive devices appear with gray icons. The Device window below shows an active DEQ5.



Dummy Device

If no active devices are found, QS1 gives you the option to add a Dummy device. You cannot control a Dummy device, but it does allow you to complete QS1 start up, view the various equalizer windows, and check Scene data stored in existing Projects. Dummy devices can be created at anytime, and are useful when, for example, you want to check Project data on your home computer before the next day's big event.

What to Do When Devices Are Not Recognized

If QS1 does not detect connected devices:

- Make sure that all devices are powered on
- Check the connecting cables
- Check the IFU485 settings
- Check the equalizers' settings
- Restart QS1.

Note: Do not power off the IFU485 or devices while QS1 is running. Doing so may cause QS1 to crash.

In cases where QS1 works incorrectly due to a cable disconnection or equipment power off, turn your amplifier's volume down to minimum, then power on your equipment in the following order:

- Devices (digital equalizers)
- Computer
- IFU485
- Power amplifier

Finally, restart QS1 and set it up ready for use.

Quitting QS1

There are four ways to quit QS1:

- Choose Quit from the File menu.
- Double-click the Control-menu box.
- Click-open the Control-menu box and choose Close.
- Press Alt+F4

Chapter 2 – EQ Devices

In this chapter we explain about devices and the Option menu commands.

What is a Device?

A device is a QS1 compatible digital equalizer. QS1 is compatible with the following Yamaha digital equalizers: DEQ5, DEQ5E, YDG2030, and YDP2006.

Device data is stored in Device files. If you have only one or two devices, Device files can be used to store data. However, in a large system with many devices, it is better to handle data as a Project. In a Project all device data is stored in one Project file.

What is an Address?

Each device on the network must be assigned an exclusive address number. An address consists of two parts: Group ID and Device ID. For example, G=1, D=5 indicates device 5 of group 1.

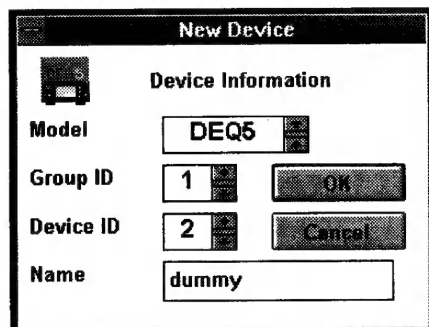
***Note:** Make sure that addresses are assigned exclusively. QS1 does not detect shared addresses. If two or more devices share the same address, operation will be unpredictable. The devices' Remote Addresses should be assigned unused addresses. Broadcast addresses may occasionally cause malfunction.*

Adding a Device

The New Device command allows you to add new devices to the Device window. Normally, active devices are automatically added during QS1 start up. This command allows you to add Dummy devices for experimentation, or to set up a device or Project off site.

1. Choose New Device from the Edit menu.

The following dialog box appears.



Device Information: shows an icon of the selected device.

Model: click the up/down arrows to select a Model. Alternatively, double-click the Model icon.

Group ID: click the up/down arrows to set the Group ID number.

Device ID: click the up/down arrows to set the Device ID number.

Group ID and Device ID are automatically set to the next available address.

Name: enter a name up to 16 characters long. The device name appears under the icon in the Device window. The name can also be entered in the Device Edit window. Naming devices makes it easy to identify them. For example, you could use names like Stage Left, Side Fill Right, Drum Mon, etc.

2. Click OK to add the new device to the Device window.

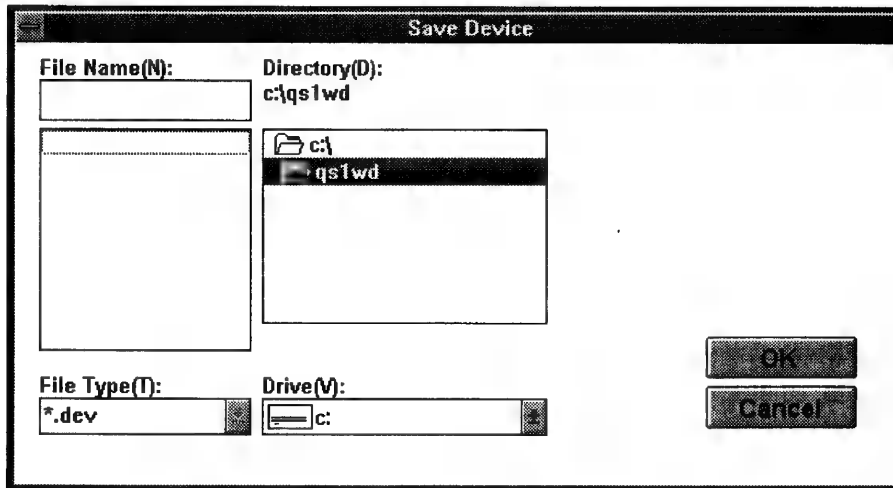
Deleting a Device

1. To delete a device, select it in the Device window.
2. Choose Delete Device from the Edit menu.
An alert box appears.
3. Click OK to delete, or Cancel.

Note: You cannot delete an active device. Devices whose icons are gray, however, can be deleted.

Saving a Device

1. To save a device, select the device in the Device window.
The name under the selected device's icon becomes highlighted.
2. Choose Save Device (F2) from the File menu.
The following dialog box appears.



3. Click in the File Name text field.
4. Enter a file name up to eight characters long.
The dev extension is added automatically.
5. Click OK.

Note: When Master Select in Config Option is set to Device, this function is not available.

Loading Device Data

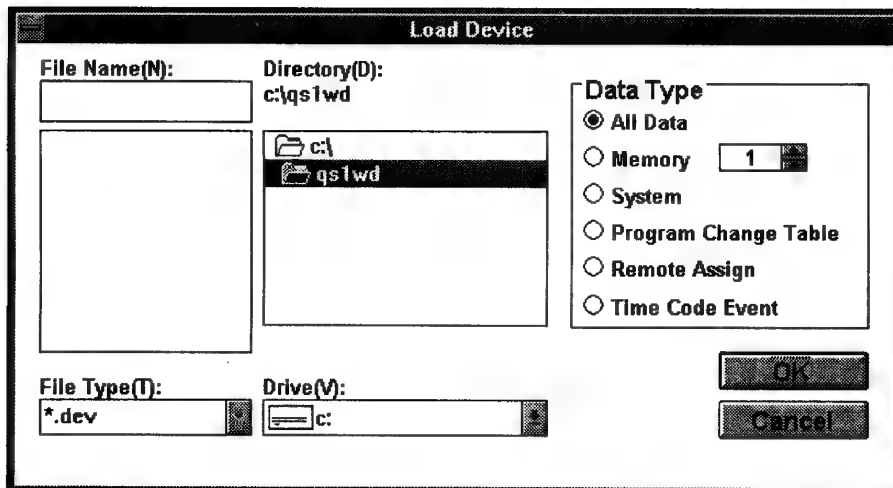
The Load Device command allows you to load data from an individual Device file.

1. **Select the device that you want to load the data to in the Device window.**

The name under the selected device's icon becomes highlighted.

2. **Choose Load Device (F1) from the File menu.**

The following dialog box appears.



3. **Select a Device file.**
4. **Select the Data Type.**

The following Data Types can be selected:

All Data: all data.

Memory: click the up/down arrows to select a memory (Program).

System: system data.

Program Change Table: Program Change table data.

Remote Assign: remote assign data.

Time Code Event: time code event list data.

5. **Click OK.**

The specified data is loaded to the selected device. When Master Select is set to Host, data is loaded and transmitted simultaneously.

Note: You cannot exchange device data between different models. For example, you cannot load DEQ5 data to a YDG2030.

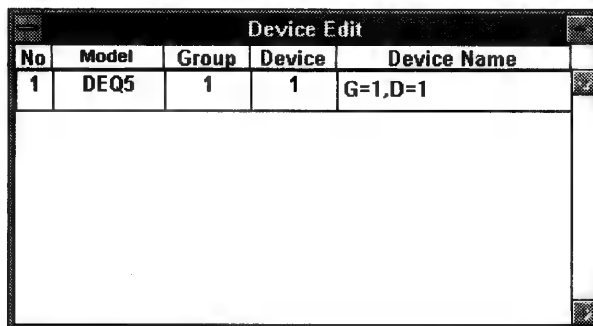
Note: When Master Select in Config Option is set to Device, this function is not available.

Device Edit

The Device Edit window displays information about the devices in the Device window.

1. Choose Device from the Edit menu.

The following window appears.



Device Edit				
No	Model	Group	Device	Device Name
1	DEQ5	1	1	G=1,D=1

The Device Edit window displays Model, Group, Device, and Device Name information for all devices in the Device window. You can change the device names, which can be up to 16 characters long. If you change a name, you must press the Enter key to confirm the change, otherwise the previous name remains active. The device name appears under the respective icon in the Device window. Naming devices makes it easy to identify them. For example, you could use names like Stage Left, Side Fill Right, Drum Mon, etc.

Device Window

The Device and Scene commands in the Window menu are used to select the Device and Scene windows. Only one window can be active at a time. A check symbol appears before the name of the currently selected window.

Equalizer Type

The Graphic Equalizer and Parametric Equalizer commands allow you to set a device to either Graphic or Parametric mode.

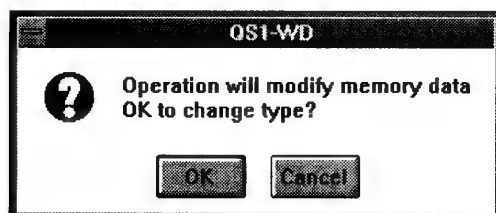
1. **Double-click a device icon in the Device window to open an equalizer window.**

Note: The Equalizer Type function is not available for the YDG2030 and YDP2006.

2. **Choose Graphic Equalizer or Parametric Equalizer from the Option menu.**

A check symbol appears before the name of the current mode.

The following dialog box appears.



3. **Click OK to continue, or Cancel.**

Parameter Linking

The Parameter Linking command allows you to turn Parameter Linking on and off.

Note: The Parameter Linking function is not available for YDP2006 Mono mode.

1. **Double-click a device icon in the Device window to open an equalizer window.**
2. **Choose Parameter Linking from the Option menu.**

When Parameter Linking is on, a check symbol appears before the command name in the pull-down menu. Parameter Linking can also be set on the Equalizer and Filter windows.

Bypass

The Bypass command allows you to turn Bypass on and off.

1. **Double-click a device icon in the Device window to open an equalizer window.**
2. **Choose Bypass from the Option menu.**

When Bypass is on, a check symbol appears before the command name in the pull-down menu. Bypass can also be set on the Equalizer and Filter windows.

Config

The Config Option window allows you to make various QS1 settings.

1. Choose Config (Ctrl+C) from the Option menu.

The following window appears.

The screenshot shows a window titled "Config Option" with six sections, each containing radio button options:

- Master Select:** ☐ Device, ☒ Host
- Auto Polling:** ☐ On, ☒ Off
- Protect:** ☐ On, ☒ Off
- Confirm:** ☒ On, ☐ Off
- Port Select:** ☐ COM1, ☒ COM2
- Baud Rate:** ☒ 9600, ☐ 38400

Master Select: this parameter is used to select the control master: Device or Host computer. Normally, the host computer is used as the master controller, since that's what QS1 is all about. However, this parameter can be used when QS1 is introduced into an existing equalizer system, and Scene data, etc., already exists in each equalizer. When the master is changed from Device to Host, QS1 requests and receives the data from all equalizers. The data in QS1 then matches that of the equalizers, and subsequent control can be performed from QS1.

When Master Select is Device: (initial setting) the device data is the main data. The Parameter Change On/Off buttons on the Load Project window determine whether the device data is changed when Project data is loaded. EQ adjustments made on the host will affect the device. When ■ Program recall is initiated on the host, the host requests the corresponding Program data from the device. EQ adjustments and Program recalls initiated on the device are not echoed to the host.

When Master Select is Host: the host data is the main data. Loading Project data will affect the host data and the device data. Initiating a Program recall on the host sends only a Program Change message to the device. See also "Master Select" on page 29.

Protect: this parameter allows you to protect your EQ data. When set to Off, operation is as normal. When set to On, EQ adjustments cannot be made, you can only transmit scene changes, and the following menu commands are inactive:

Load Device, Save Device, Bulk In, Bulk Out, Device Edit, Delete Device, New Device, Delete Scene, New Scene, Load project, Save Project, Eq.Com, Filter, Curve, Utility, Time Code, Graphic Equalizer, Parametric Equalizer, Parameter Linking, and Bypass.

Note: When you change one of the following parameters, you must restart QS1 to activate it.

Port Select: this parameter is used to select the serial port.

Auto Polling: this parameter is used to turn Auto Polling on and off. When Auto Polling is on, QS1 regularly checks the status of each device.

Confirm: this parameter determines if and when alert boxes appear. When set to On, alert boxes appear as normal. When set to Off, alert boxes appear only when fatal errors occur.

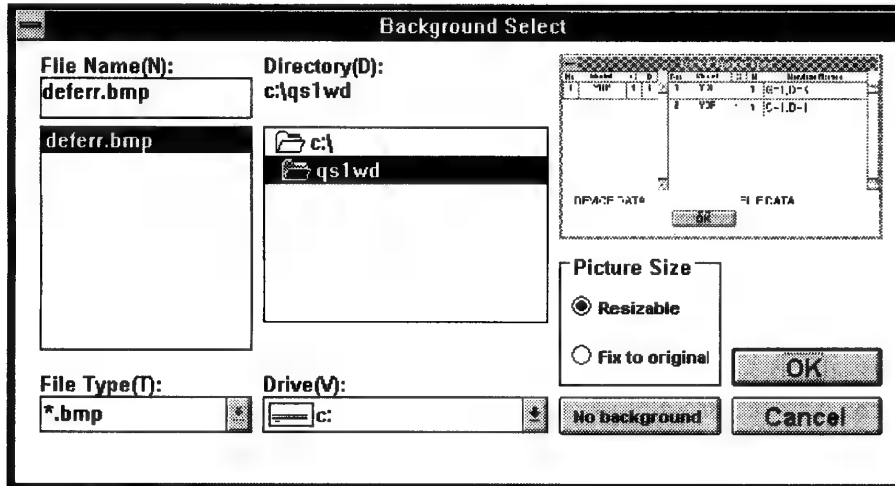
Baud Rate: this parameter is used to select the baud rate. For serial connections, 9600 is the more common baud rate. Whether you can use 38400 depends on your computer.

Device Window Background

The Background command allows you to select a background picture for the Device window. You can select the backgrounds supplied with QS1, or create your own using a paint or draw application that supports BMP, which is a standard graphic file format for many Windows applications.

1. To select a background, choose **Background (Ctrl+B)** from the Option menu.

The following dialog box appears.



2. Click a background to select it.

A preview of the selected image appears.

3. Click OK.

Other options in the Background dialog box are:

No Background: this allows you to select no background.

Picture Size: this option determines how the background picture is sized. When Resizable is selected, the background picture will automatically resize to fit the Device window. When Fix to Original is selected, the background picture will remain at its original size regardless of the Device window size.

Chapter 3–Windows

In this chapter we explain the Window menu commands and EQ control windows.

Device/Scene

The Device and Scene commands in the Window menu are used to select the Device and Scene windows. Only one window can be active at a time. A check symbol appears before the name of the currently selected window.

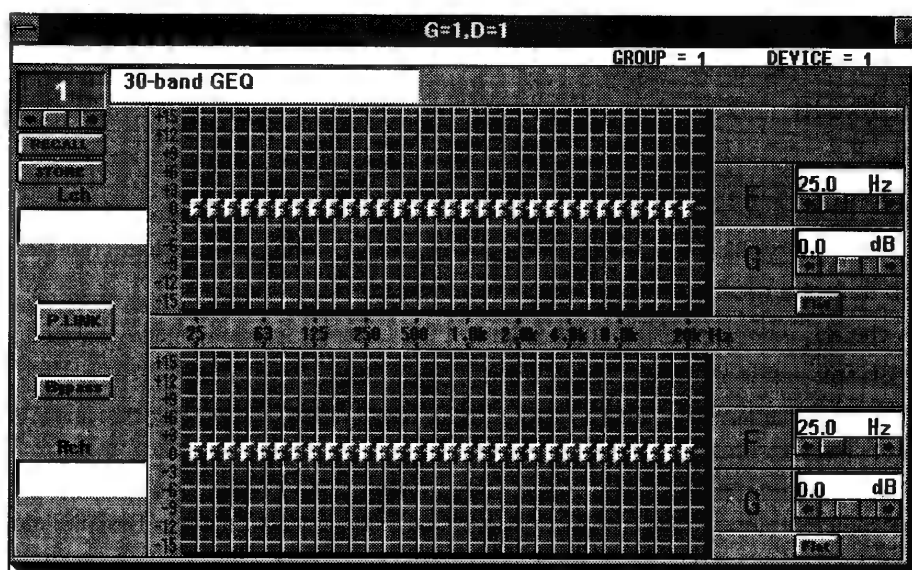
Graphic Equalizer

The Graphic Equalizer window provides access to the graphic EQ functions.

Note: Refer to the device's operating manual for a full explanation of the equalizer functions.

1. **To select the Graphic Equalizer window, double-click a device icon in the Device window.**

The Graphic Equalizer window appears.



Note: If the device is in Parametric Equalizer mode, the Parametric Equalizer window appears.

Several Graphic Equalizer windows can be open simultaneously.

To close a Graphic Equalizer window, double-click the Control-menu box.

The device name appears in the title bar, and the group number and device number, just below it.

Note: When the Config option Protect is set to On, you cannot open Graphic Equalizer windows.

2. **To adjust a slider, simply drag it. See also EQ Operating Modes below.**

The color of the selected slider button changes to indicate that it is the active slider.

The current Program number is displayed in the top left-hand corner, and the Program name is displayed to its right. You can enter a name up to 16 characters long for the Program.

Note: The name is displayed using the system font, so if some characters are cutoff, adjust the system font.

To select another Program, click the arrows below the Program number. Left arrow to decrease, right arrow to increase. Holding down an arrow button causes the Program number to change continuously. When a different Program number is selected, the number blinks. This means that the selected Program number does not correspond to the last stored or recalled Program. If the last Program number is selected again, or another window is activated, the number stops blinking.

Once you've selected a Program number, click RECALL to recall it, or STORE to store it. An alert box may appear asking for confirmation. Click OK to continue, or Cancel.

***Note:** You cannot store Programs when the device's Software Protect function is on.*

It may take a second to complete a Program recall. When completed, the Program number stops blinking, and the Program and channel names, if previously stored, appear.

Other parameters on the Graphic Equalizer window are:

F: click the arrows or drag the scroll box to select the frequency bands.

G: click the arrows or drag the scroll box to set the gain.

Flat: click to set the equalizer to a flat response.

Lch: enter a name up to eight characters long for the left channel.

Rch: enter a name up to eight characters long for the right channel.

P.LINK: click to turn the Parameter Link function on and off.

Bypass: click to turn the Bypass function on and off.

12dB/6dB: (YDG2030 only) click these buttons to set the device gain to 6dB or 12dB.

EQ Operating Modes

The EQ sliders have four operating modes: Normal, Drawing, Sweep, and Triangle.

1. To select a mode, choose from the Mode menu.

A check symbol appears before the name of the currently selected mode.

Normal: in this mode, you can drag sliders individually.

Drawing: in this mode, you can actually draw the EQ curve by dragging the mouse across the slider area. The slider buttons display the path traced by the mouse.

Sweep: in this mode, you can quickly sweep through the frequency bands. This is useful for locating troublesome frequency bands, such as those causing feedback. Drag the mouse across the slider area at any level. Sliders move in turn, with each slider returning to its previous position when the next slider is selected.

Triangle: in this mode, you can set the EQ curve by specifying three points. QS1 joins up these points, creating an angled EQ curve. First, set the sliders at the ends of the angle, then drag the slider at the angle point. The sliders in-between these points move to create an angled looking response.

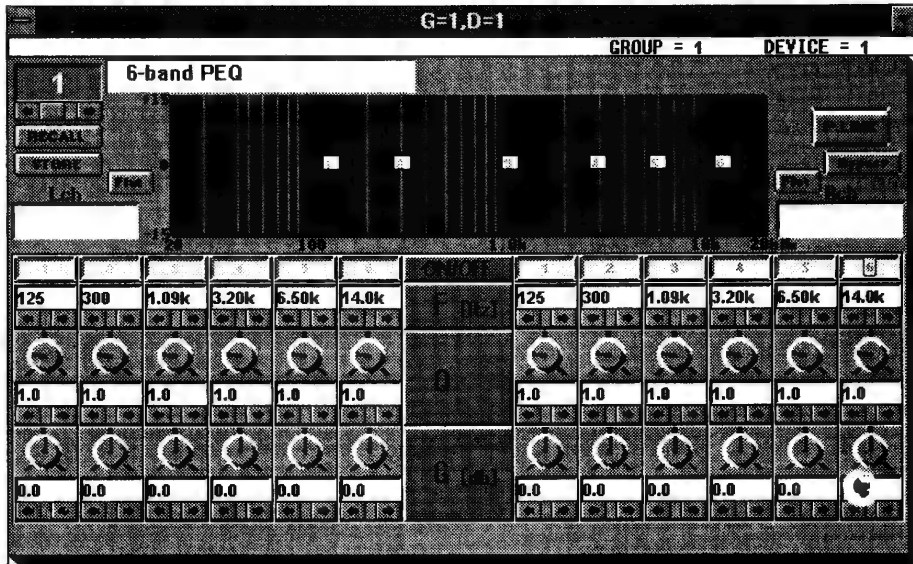
Parametric Equalizer

The Parametric Equalizer window provides access to the parametric EQ functions.

Note: Refer to the device's operating manual for a full explanation of the equalizer functions.

1. To open the Parametric Equalizer window, double-click a device icon in the Device window.

The Parametric Equalizer window appears.



Note: If the device is in Graphic Equalizer mode, the Graphic Equalizer window appears.

Several Parametric Equalizer windows can be open simultaneously.

To close a Parametric Equalizer window, double-click the Control-menu box.

The device name appears in the title bar, and the group number and device number, just below it.

The current Program number is displayed in the top left-hand corner, and the Program name is displayed to its right. You can enter a name up to 16 characters long for the Program.

To select another Program, click the arrows below the Program number. Left arrow to decrease, right arrow to increase. Holding down an arrow button causes the Program number to change continuously. When a different Program number is selected, the number blinks. This means that the selected Program number does not correspond to the last stored or recalled Program. If the last Program number is selected again, or another window is activated, the number stops blinking.

Once you've selected a Program number, click **RECALL** to recall it, or **STORE** to store it. An alert box may appear asking for confirmation. Click **OK** to continue, or **Cancel**.

Note: You cannot store Programs when the device's Software Protect function is on.

It may take a second to complete a Program recall. When completed, the Program number stops blinking, and the Program and channel names, if previously stored, appear.

Other parameters on the Parametric Equalizer window are:

F: click these arrows to set the center frequency.

Center frequency can also be set by dragging the number boxes on the response graph to the left and right.

Q: click these arrows to set the Q.

The rotary controls move as the Q is adjusted.

G: click these arrows to set the gain.

Gain can also be set by dragging the number boxes on the response graph up and down.

The rotary controls move as the gain is adjusted.

Flat: click to set the equalizer to a flat response.

Lch: enter a name up to eight characters long for the left channel.

Rch: enter a name up to eight characters long for the right channel.

P.LINK: click to turn the Parameter Link function on and off.

Note: When a YDP2006 is set to Mono mode, Param Link is inactive.

Bypass: click to turn the Bypass function on and off.

12dB/6dB: (YDP2006 only) click these buttons to set the device gain to 6dB or 12dB.

STEREO/MONO: (YDP2006 only) click these buttons to set the device to Stereo or Mono Parametric mode.

Eq. Com

The Common window provides access to common functions.

Note: Refer to the device's operating manual for a full explanation of the common functions.

1. To open the Common window, select an open Graphic or Parametric window, and choose Eq.Com (Ctrl+M) from the Window menu.

The Common window appears. This is the DEQ5 and DEQ5E Common window.

Equalizer Common			
Device Name = G=1,D=1		PGM = 30-band GEQ Mem No = 1	
Hum Cancel <input type="radio"/> On <input checked="" type="radio"/> Off			
Hum Cancel <input checked="" type="radio"/> Auto <input type="radio"/> Manual Frequency 60 Threshold -75		Hum Cancel <input checked="" type="radio"/> Auto <input type="radio"/> Manual Frequency 60 Threshold -75	
Polarity <input checked="" type="radio"/> Normal <input type="radio"/> Reverse		Polarity <input checked="" type="radio"/> Normal <input type="radio"/> Reverse	
Delay Unit <input checked="" type="radio"/> Milliseconds <input type="radio"/> Meters/Millimeters <input type="radio"/> Feet/Inches			
Delay 5.333ms		Delay 5.333ms	
Att. In 0 dB Out 0 dB		Att. In 0 dB Out 0 dB	

This is the YDG2030 and YDP2006 Common window. The Hum Cancel function is not active, and the Polarity function is replaced with Delay Off/On parameters.

Equalizer Common			
Device Name = dummy		PGM = 6-band PEQ 1 Mem No = 1	
Hum Cancel <input type="radio"/> On <input type="radio"/> Off			
Hum Cancel <input type="radio"/> Auto <input type="radio"/> Manual Frequency Threshold		Hum Cancel <input type="radio"/> Auto <input type="radio"/> Manual Frequency Threshold	
Delay <input type="radio"/> Off <input checked="" type="radio"/> On		Delay <input type="radio"/> Off <input checked="" type="radio"/> On	
Delay Unit <input checked="" type="radio"/> Milliseconds <input type="radio"/> Meters/Millimeters <input type="radio"/> Feet/Inches			
Delay 0.000ms		Delay 0.000ms	
Att. In 0 dB Out dB		Att. In 0 dB Out dB	

Left channel functions appear on the left-hand side. Right channel functions on the right-hand side.

In YDP2006 Mono mode, only parameters on the left-hand side of the window are active.

To close a Common window, double-click the Control-menu box.

Common window functions are:

Hum Cancel On/Off: these buttons are used to turn the Hum Cancel function on and off.

Hum Cancel: these are used to set the Hum Cancel function to Auto or Manual and set the Frequency and Threshold. Click the up/down arrows to set the Frequency and Threshold.

Polarity: these buttons are used to set the output polarity to Normal or Reverse.

Delay Units: these buttons are used to set the delay units. The device will not use a new setting until the delay time is adjusted.

Delay: this is used to set the delay time. Drag the slider, or click the up/down arrows to set it.

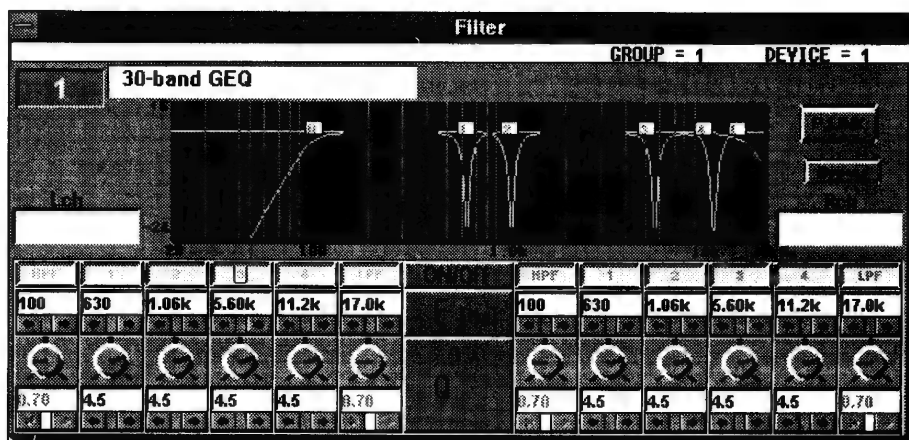
Att.: these are used to set the amount of input and output attenuation. Drag a slider, or click the up/down arrows to set them. A setting of * (asterisk) means infinity (∞).

Filter

The Filter window provides access to the filter controls.

1. To open the Common window, select an open Graphic or Parametric window, and choose Filter (Ctrl+F) from the Window menu.

The Filter window appears.



To close the Filter window, double-click the Control-menu box.

The left channel response curve is shown in blue, the right channel, in red.

Lch: shows the left channel name.

Rch: shows the right channel name.

P.LINK: click to turn the Parameter Link function on and off.

Bypass: click to turn the Bypass function on and off.

ON/OFF: click the ON/OFF buttons to turn the individual filters on and off.

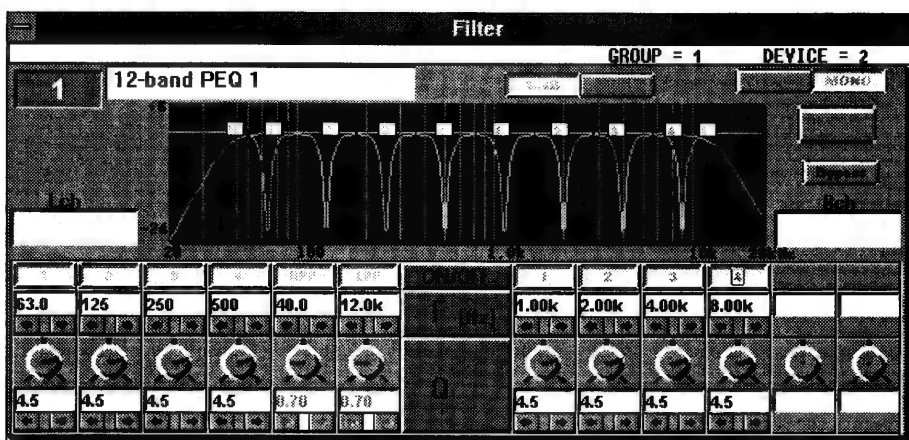
F (Hz): click the arrows to set the filter frequency.

Filter frequency can also be set by dragging the number boxes on the filter response graph.

Q: click the arrows to set the filter Q.

Note: The HPF and LPF do not have Q parameters.

For YDP2006 Mono mode, filters appear in a different order, as shown below.

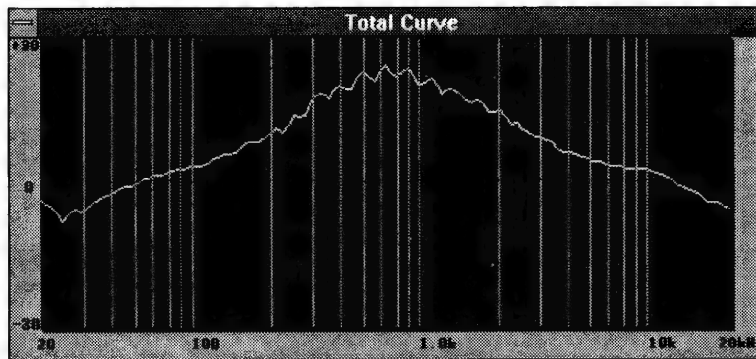


Frequency Curve

The Frequency Curve window displays a device's frequency response.

1. **To open the Frequency Curve window, select an open Graphic or Parametric window, and choose Curve (Ctrl+A) from the Window menu.**

The Frequency Curve window appears.



Several Frequency Curve windows can be open simultaneously.

The frequency curve is updated in real time as EQ adjustments are made.

To close a Frequency Curve window, double-click the Control-menu box.

Utility

The Utility window provides access to the utility functions.

Note: Refer to the device's operating manual for a full explanation of the utility functions.

1. To open the Utility window, select an open Graphic or Parametric window, and choose **Utility (Ctrl+U)** from the Window menu.

The Utility window appears.

The screenshot shows the 'Utility' window with the following settings:

- Sampling Frequency =** 48.0 kHz
- PLL Lock =** ON
- I/O Mode:**
 - ☒ Analog
 - ☐ Pre Send
 - ☐ Post Send
 - ☐ Digital
- CLock:**
 - ☒ Internal
 - ☐ Word clock
 - ☐ AES/EBU
 - ☐ Y2
- In Format:**
 - ☐ AES/EBU
 - ☒ Y2
- Bit shift:**
 - Y2: 0
 - AES/EBU: 0
- Remote Address:**
 - Group: 7
 - Device: 31
- Emphasis:**
 - ☐ On
 - ☒ Off
 - ☐ Auto

To close a Utility window, double-click the Control-menu box.

Utility window functions are:

Sampling Frequency: this indicates the device's Sampling Frequency.

PLL Lock: this indicates whether PLL Lock is ON or OFF.

I/O Mode: these buttons are used to set the I/O mode.

Clock: these buttons are used to set the device's Clock Source.

In Format: these buttons are used to set the device's digital Input Format.

Bit Shift: these are used to set the device's digital Input Bit Shift. Click the up/down arrows to set the Bit Shift.

Note: Bit Shift is not available on the DEQ5E.

Emphasis: these buttons are used to set the Emphasis function to On, Off, or Auto.

Remote Address: these are used to set the device's remote address (group, device).

On the YDG2030 and YDP2006 Utility windows, parameters that are not available are dimmed.

Time Code Event

The Time Code Event window allows you to enter Program recall events.

Note: Refer to the device's operating manual for a full explanation of time code events.

1. To open the Time Code Event window, select an open Graphic or Parametric window, and choose Time Code (Ctrl+T) from the Window menu.

The Time Code Event window appears.

No	H	M	S	F	Pgm
1	0	1	0	0	2
2	0	1	10	0	3
3	0	1	50	0	5
4	0	2	10	0	3
5					NOP

Note: Time code events are available on the DEQ5 only.

Use the scroll bars to view all entries in the Event List.

2. Use the Event On and Off buttons to turn the Time Code Event function on and off.
3. Set the time code type using the up/down arrows: 30, 30D, 25, 24.
4. Enter times into the H, M, S, and F boxes, enter Program numbers into the Pgm boxes (NOP means no Program).

Use the mouse to select the H, M, S, and F boxes, or press the Tab key to move forward, and the Shift+Tab keys to move backward.

5. Double-click the Control-menu box to close the Time Code Event window.
6. Click OK to transmit the time code settings to the device, or Cancel.

Note: The device will not receive the Event List if it's in Utility mode.

Chapter 4 – Projects

In this chapter we explain about Projects; what they are and how to use them.

What is a Project?

A Project is an ideal way to manage equalizer data in a multiple equalizer system. A Project contains data for all equalizers. In addition, up to 100 Scenes allow you to recall Programs on a number of equalizers simultaneously. Each Scene can be assigned a suitable icon, and the Scene change can be executed by double-clicking the icon. The positions of device icons in the Device window are also stored within a Project.

Creating a New Project

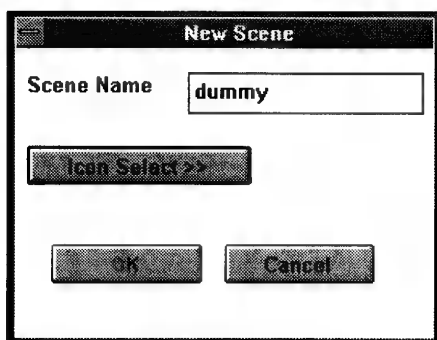
1. To create a new Project, choose Scene from the Window menu.

An empty Scene window appears.

Adding Scenes to a Project

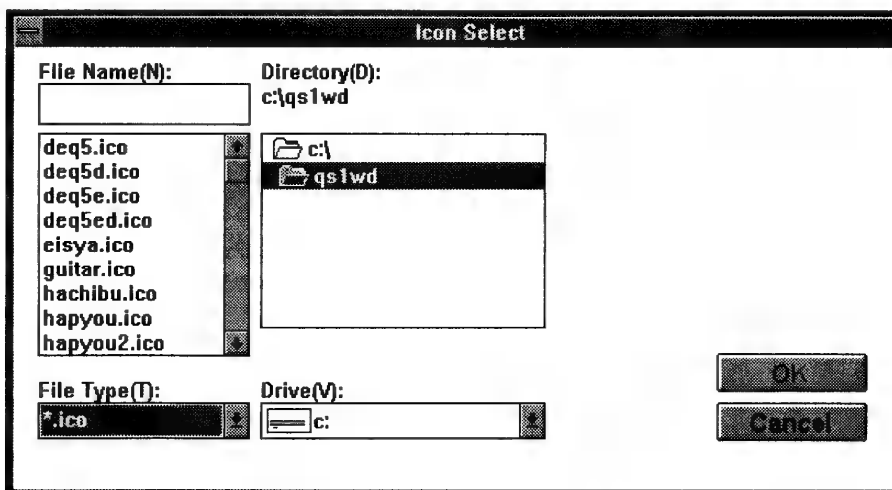
1. To add a Scene to a Project, choose New Scene from the Edit menu.

The New Scene dialog box appears.



2. Click Icon Select.

The Icon Select dialog box appears.

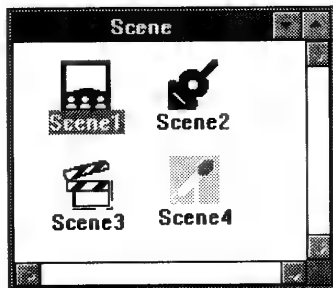


3. Select an icon for the new scene.

4. Click OK.
5. Enter a scene name up to 16 characters long in the New Scene dialog box.
6. Click OK.

A new Scene icon appears in the Scene window.

The following Scene window shows a number of scene icons.



Custom Scene Icons

You can create your own scene icons using a paint or draw application that supports the ICO or BMP format. You can then select the icon in the Icon Select dialog box.

Editing Scenes

1. To edit a Scene, select it in the Scene window.
2. Choose Scene from the Edit menu.

The Edit Scene window appears.

Scene1					
No	Model	Group	Device	Device Name	Pgm No
1	DEQ5	1	1	G=1,D=1	1
2	DEQ5E	1	2	G=1,D=2	21
3	YDG	1	3	G=1,D=3	23

The Edit Scene window displays Model, Group, Device, and Device Name information for all devices in the Device window. The name of the scene is shown in the title bar.

3. Enter program numbers from 1 to 40 into the Pgm No boxes.

Use the mouse to select the Pgm No boxes, or press the Tab key to move forward, and the Shift+Tab keys to move backward.

4. Double-click the Control-menu box to close the Edit Scene window.

Executing Scene Changes

A Scene change can be executed in one of two ways:

1. **Double-click the Scene icon. Or, select the Scene icon and choose Transmit Scene from the Project menu.**

An alert box appears.

2. **Click OK to execute the scene change, or Cancel.**

Note: Do not set the broadcast address to a device's remote address. If you do, scene changes may not work correctly.

Note: Executing scene changes on many devices may take some time. Once you've set up your devices, setting Protect in Config Option to On speeds up scene change execution a little.

Deleting Scenes

1. **To delete a Scene, select the Scene icon in the Scene window.**
2. **Choose Delete Scene from the Edit menu.**

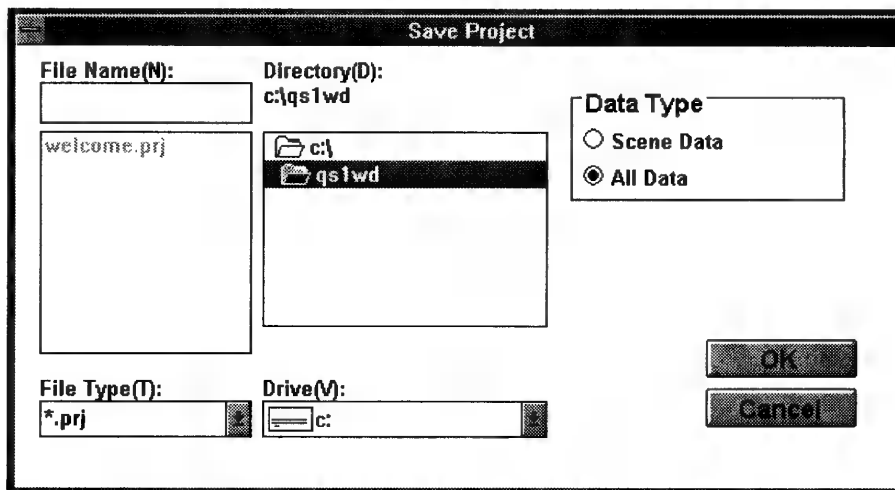
An alert box appears.

3. **Click OK to delete the scene, or Cancel.**

Saving a Project

1. **To save a Project, choose Save Project (F4) from the Project menu.**

The Save Project dialog box appears.



2. **Click in the File Name text field.**
3. **Enter a file name up to eight characters long.**

The prj extension is added automatically.

4. **Select the Data Type.**

Scene Data: save only scene data.

All Data: save all data.

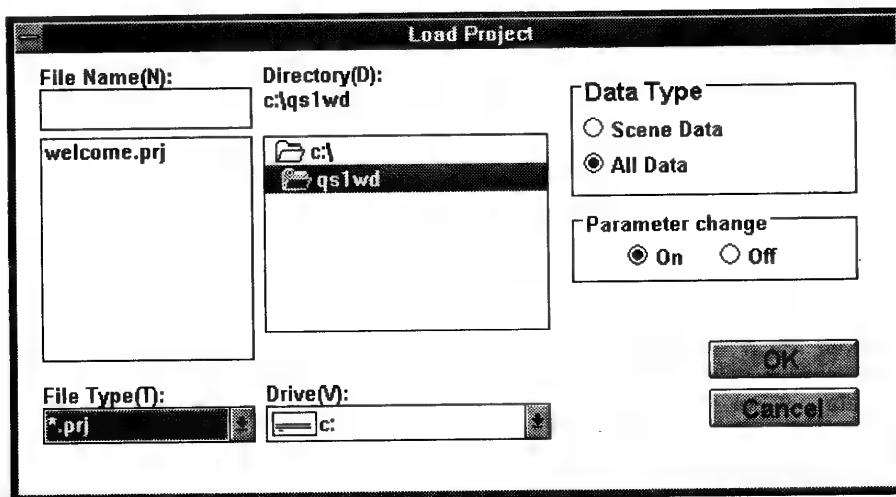
5. **Click OK.**

Note: When Master Select is set to Device and there is no Scene data, you cannot save a Project.

Loading a Project

1. To load a Project, choose Load Project (F3) from the Project menu.

A dialog box appears.



2. Select the Project.
3. Select the Data Type.

Scene Data: load just the scene data.

All Data: load all data (device and scene).

4. Set the Parameter Change.

On: Project data is loaded into host and transmitted to the devices.

Off: Project data is loaded into host only.

5. Click OK.

Note: Only one Project can be open at a time.

For Project Save and Load operations, files are saved with the following extensions:

When Master Select is set to Host: “.prj”.

When Master Select is set to Device: “.scn”.

Chapter 5 – Bulk Data

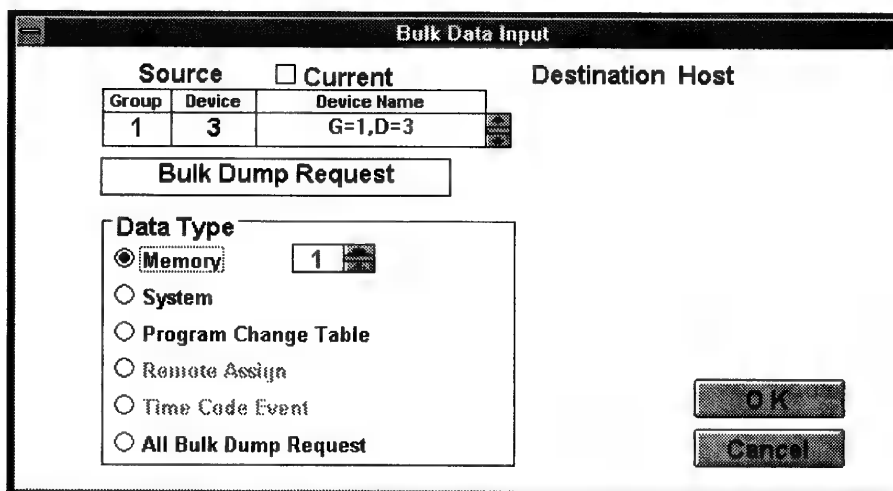
In this chapter we explain how to receive and transmit device bulk data.

Receiving Bulk Data

The Bulk In command allows you to request and receive bulk dump data from a device.

1. **Select the icon of the destination device.**
2. **Choose Bulk In (Ctrl+I) from the File menu.**

The following dialog box appears.



The dialog box is titled "Bulk Data Input". It contains a "Source" section with a table and a "Destination Host" label. The table has columns "Group", "Device", and "Device Name". The first row shows "1", "3", and "G=1,D=3". There is a "Current" checkbox and a "Bulk Dump Request" button. Below this is a "Data Type" section with radio buttons for "Memory", "System", "Program Change Table", "Remote Assign", "Time Code Event", and "All Bulk Dump Request". The "Memory" option is selected, and there is a small box with the number "1". At the bottom right are "OK" and "Cancel" buttons.

Group	Device	Device Name
1	3	G=1,D=3

3. **Click the up/down arrows next to the Group, Device, Device Name box to select the source device.**

Clicking the Current box selects the current device automatically.

When copying data from a device other than the current device, you must use the Bulk Dump Transmit function to transmit the data once it has been received by the host. Otherwise, the host data and device data will be different.

4. **Select the data type.**

The following data types are available:

Memory: individual memories (Programs). Click the up/down arrows to a memory from 1 to 40.

System: system data.

Program Change Table: Program Change table data.

Remote Assign: remote assign data.

Time Code Event: time code event list data.

All Bulk Dump Request: all the above data (initial setting).

5. **Click OK to receive, or Cancel.**

Data receive may take a few seconds.

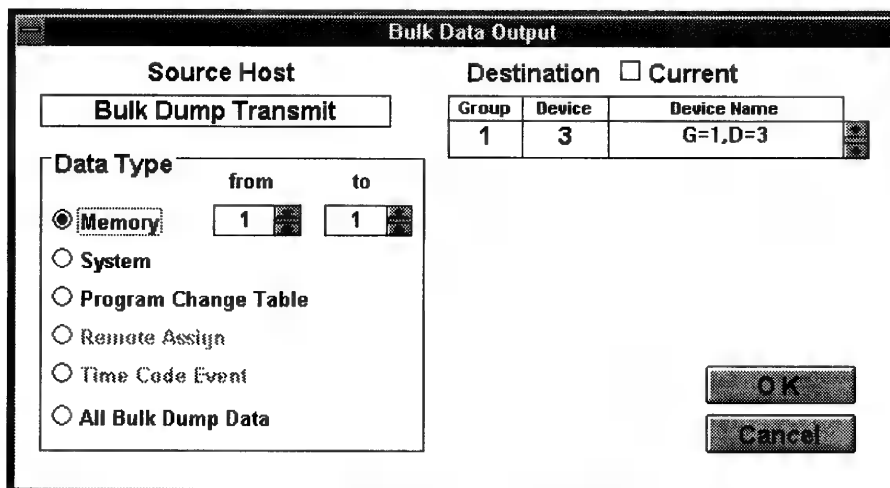
Note: Once the data has been received, you should transmit it to the corresponding active device. Otherwise, the device data and the host data will not match. See "Transmitting Bulk Data" on page 28. Bulk data can be received even when the destination is a Dummy device.

Transmitting Bulk Data

The Bulk Out command allows you to send bulk dump data to a device.

1. **Choose Bulk Out (Ctrl+O) from the File menu.**

The following dialog box appears.



The dialog box is titled "Bulk Data Output". It contains two main sections: "Source Host" and "Destination".

Source Host: A button labeled "Bulk Dump Transmit" is located at the top. Below it is a "Data Type" section with a "from" and "to" range selector. The "Memory" option is selected with a radio button. The range is set from 1 to 1. Other options include "System", "Program Change Table", "Remote Assign", "Time Code Event", and "All Bulk Dump Data".

Destination: A checkbox labeled "Current" is checked. Below it is a table with three columns: "Group", "Device", and "Device Name". The table contains one row with the values "1", "3", and "G=1,D=3".

At the bottom right of the dialog box are two buttons: "OK" and "Cancel".

2. **Click the up/down arrows next to the Group, Device, Device Name box to select the destination device.**

When the current device is selected, the Current box is checked.

Clicking the Current box selects the current device automatically.

3. **Select the data type.**

The following data types are available:

Memory: individual memories or a range (Programs). Click the up/down arrows to select a memory from 1 to 40, or a range.

System: system data.

Program Change Table: Program Change table data.

Remote Assign: remote assign data.

Time Code Event: time code event list data.

All Bulk Dump: all the above data (initial setting).

4. **Click OK to transmit, or Cancel.**

Data transmission may take a few seconds.

Master Select

This section provides more details about Master Select. During normal operation the master device data is not destroyed. Initially, Master Select is set to Device.

When Master is Host

- The host data is the main data.
- When a Project is loaded, the host data and device data are updated.

When Master is Device

- The device data is the main data.
- All parameter changes made on the host affect the device data.

When Master Select is changed from Device to Host, the host receives bulk data from all active devices.

Basic Operation

1. To control the system from the host computer and update the data of all devices so that it matches that of the host:

If multiple devices are used, power on all devices and set the local address (Group, Device) for each device. Then connect them together using Y-485.

Power on the host computer, and start up QS1. QS1 searches the network for active devices, which are then added to the Device window. Make sure that all devices have been added, and that their local addresses are correct.

Set the Master Select parameter in Config to Host.

The data from all active devices is transmitted to the host computer. All parameter adjustments performed on the host will be reflected on the active devices.

When a Project file is loaded, if the Parameter Change option on the Load Project window is set to On, the host data and device data are updated simultaneously.

2. To use the device data as the main data:

If you want fine-tune the current data without changing the data in the devices:

Set the Master Select parameter in Config Option to Device. Device data will not be changed. Changes only will be reflected on the devices.

When a Project file is opened, only the host data is updated, no data is transmitted to the devices.

If a program number on the host is changed, data is received from each device. Data in the host computer always functions as a temporary buffer.

Default Project Error Window

The Default Project Error window appears during start up if the Device data (current device settings) and File data (data when QS1 was used last) do not match. It appears only if Master Select is set to Host, and some EQ devices are connected. It does not appear if the only difference is the addition of some more devices.

A typical Default Project Error window is shown below.

Default Project Error				
No	Model	G	D	Device Name
1	DEQ5	1	1	
1	DEQ5	1	1	G=1,D=1
2	DEQ5	1	2	G=1,D=2

DEVICE DATA FILE DATA

OK

What to Do If the Default Project Error Window Appears

1. Check that all devices that were active last time QS1 was used are still connected. Also check whether an address is assigned to an incorrect model.
2. Correct the device addresses as appropriate. Device names can also be changed at the same time.
3. Click OK.
4. If an error message appears, click OK, then try to correct the addresses again.
5. Once you have corrected the addresses, receive all data from the devices.

If Device data (current device settings) and File data (data when QS1 was used last) exists with the same address, the File data (data when QS1 was used last) is used.

Note: If you cannot proceed even after making changes in the Default Project Error window, open the "QS1-WD.INI" file (in the "Windows" directory) in a text editor, and under "[Master Select]", change "Master=Host" to "Master=Device". Then restart QS1 and set Master Select in Config Option back to Host.

Troubleshooting

If QS1 does not appear to be working as expected, look up the symptoms in the following table and see what to do.

Symptom		What to Do
QS1 starts, but no device icons appear and nothing can be controlled.	IFU485 BUSY indicator is OFF when QS1 starts.	Power on the system in the following order: devices, computer, IFU485, then start QS1.
		Try the QS1 (set in Config) and IFU485 at 9600 and 38400 baud rates.
	IFU485 BUSY indicator is ON when QS1 starts.	Make sure that the QS1 baud rate (set in Config) matches that of the IFU485.
		Check the following IFU485 settings: POWER switch set to ON. TERMINATE switch set to ON. SELECT switch set to RS-232C. Internal baud switch (initial setting: 9600).
		Check the following device settings: Comm, I/O, ALL. Local address, Remote address. Baud rate.
	Finally, consult your Yamaha dealer.	
QS1 operation stops intermittently.		In Config, set Auto Polling to Off. When auto polling is on, QS1 regularly polls the network to check the status of connected devices. This polling may interrupt normal QS1 operation.
A device icon is inactive.		Set Auto Polling to ON. See Auto Polling on page 11.
Some menu commands are inactive.		When Protect is set to On and when Master Select is set to Device, some commands are not available, and confirmation dialog box messages are different. The commands available at any given time depends on the currently selected device and active window.
Keyboard shortcuts do not work.		Make sure that the QS1-WD title bar is highlighted. If not, click it.
The message, "Can't create..." appears and you cannot create a file.		If you are running QS1 from a hard disk, make sure that there is enough free space on the disk for the new file.
TSR (Terminate and Stay Resident) programs.		QS1 maybe incompatible with some TSR programs. In Mouse Manager, for example, the Extra Points Locate and Magnify functions cannot be used while QS1 is running.

Glossary

Active device — A working EQ device detected by QS1.

Active window — The window with a colored title bar in front of all others. It typically belongs to the currently active application.

Auto Polling — A background process whereby QS1 checks the status of connected devices at regular intervals.

Baud Rate — The number of data bits transmitted in one second.

BMP — A bitmap graphic file format synonymous with Windows. You can create your own backgrounds for the Device window using a paint or draw application that supports the BMP format.

Check box — A small box that typically appears on dialog boxes and windows. It is used to turn options on and off. An option is on when the check box is crossed.

Control-menu box — A small box in the top-left hand corner of a window. It contains window commands such as Move, Size, and Close, and is useful when you are not using a mouse. You can also double-click it to close a window.

Device — A generic term that refers to the digital equalizer units that can be controlled by QS1. A Device maybe ■ graphic equalizer, parametric equalizer, etc.

Device address — An exclusive identity number that is assigned to each EQ device on the network. *See also* Device ID and Group ID.

Device file — A QS1 file that is used to store device data.

Device ID — The portion of a Device address that indicates what number a device is in a group.

Dummy device — A dummy device allows you to start up QS1, view the various graphic equalizer windows, and check scene data when there are no active devices connected.

Group ID — The portion of a Device address that indicates which group ■ device belongs to.

ICO — A Windows bitmap icon file. You can create your own icons for Scenes using ■ paint or draw application that supports the ICO format.

Maximize button — A small box in the top-right hand corner of a window (up pointing arrowhead). Clicking it enlarges the active window to the full size of the desktop.

Minimize button — A small box in the top-right hand corner of a window (down pointing arrowhead). Clicking it reduces the active window to an icon.

Network — A number of devices connected for communications.

Program — A set of equalizer settings stored in ■ device.

Project — A convenient way to manage EQ data in ■ system that contains many equalizers.

Project file — A QS1 file that is used to store Project data.

RS-232C — A serial communication protocol used on PC-AT and compatible computers, typically ■ 9-pin or 25-pin DSUB type connection.

RS-422 — A balanced serial communication protocol used on Macintosh computers, typically an 8-pin mini DIN type connection.

Scene — A convenient way to manage Program changes. Program Change messages can be transmitted to ■ number of devices simultaneously. Transmission can be instigated by double-clicking an icon.

Text Field — A rectangular box on a dialog box or window that accepts text input.

Y-485 — A serial communication protocol used by Yamaha digital equalizers.

Appendix

QS1WD.INI File

These are the QS1WD.INI file default settings. This file resides in the Windows directory.

```
[COM]
;Example COM=COM1 or COM=COM2
COM=COM2

[Baud Rate]
;Example RATE=9600 or RATE=38400
RATE=9600

[Ver.]
VER=1.00

[Master Select]
;Example MASTER=HOST or MASTER=DEVICE
MASTER=HOST

[Auto Polling]
;Example AUTOPOLLING=ON or AUTOPOLLING=OFF
AUTOPOLLING=OFF

[confirm]
;Example CONFIRM=ON or CONFIRM=OFF
CONFIRM=ON

[Protect]
;Example PROTECT=ON or PROTECT=OFF
PROTECT=OFF

[Default Directory]
DIR=C:\QS1WD\

[Default File]
FILE=WELCOME.PRJ

[Device Icons]
DEQ5=DEQ5.ICO
DEQ5E=DEQ5E.ICO
YDG=YDG.ICO
YDP=YDP.ICO
UNK=UNK.ICO
DEQ5D=DEQ5D.ICO
DEQ5ED=DEQ5ED.ICO
YDGD=YDGD.ICO
YDPD=YDPD.ICO
UNKD=UNK.ICO

[Reserve]
```

Confirmation Messages

1) Changing master OK to receive all data?

Level: Confirm

When: Config Window
Changing Master to Host.

OK: Receive ALL data from the connected devices.

Cancel: Do nothing.

2) Data are edited OK to recall #mm?

(mm = memory number)

Level: Confirm

When: Equalizer window
When the RECALL button is pressed.

OK: Change the Program, and receive the data.

Cancel: Do nothing.

3) Operation will modify memory data OK to change type?

Level: Confirm

When: Equalizer window (PEQ<->GEQ)
When changed via menu (DEQ5/DEQ5E only).

OK: Change the Equalizer type.

Cancel: Do nothing.

4) Operation will modify memory data OK to store #mm?

(mm = memory number)

Level: Confirm

When: Equalizer window
When the STORE button is pressed.

OK: Save the current data.

Cancel: Do nothing.

5) Operation will modify memory data OK to change?

Level: Confirm

When: Equalizer window (MONO<->STEREO)
When the STEREO button or MONO button is pressed (YDP2006 only).

OK: Change the Equalizer mode.

Cancel: Do nothing.

6) Operation will modify memory data**OK to change gain?**

Level: Confirm

When: Equalizer window (6dB<->12dB)

When the 6dB button or 12dB button is pressed (YDP2006/YDG2030 only).

OK: Change the Equalizer mode.

Cancel: Do nothing.

7) Gain will be zero**OK to set EQ flat?**

Level: Confirm

When: Equalizer window

When the Flat button is pressed.

OK: Set the Gain value to zero.

Cancel: Do nothing.

8) Closing Time Code Event**Transmit Time Code**

Level: Confirm

When: Close Time Code Event window (DEQ5 only).

OK: Send the Time Code Event Bulk Data, and close the Time Code Event window.

Cancel: Send nothing, and close the Time Code Event window.

9) Changing to protect ON**Close active windows**

Level: Information

When: Config window

Protect changed from OFF to ON.

OK: If Equalizer window is open, unload.

(No cancel function)

10) Closing Utility**Transmit setup data**

Level: Information

When: Close Utility window.

OK: Send the System Setup Bulk Data.

(No cancel function)

11) Closing Eq.Com**Transmit setup data**

Level: Information

When: Close Equalizer Common window

OK: Send the System Setup Bulk Data

(No cancel function)

12)xxxxxx OK to update file?

xxxxxxxx=Drive:\Directory\File name
(example) a:\qs1wd\ohishi.prj

Level: Confirm

When: Save Project selected
Save Device selected
File with the same name exists when OK is pressed.

OK: Overwrite the file.

Cancel: Cancel.

13)OK to change scene?

Level: Confirm

When: Double-click the scene icon
Select Transmit Scene from the menu.

OK: Change the scene.

Cancel: Do nothing.

Note: Messages 1–13 do not appear when the Confirm option in Config is set to OFF.

The following messages appear regardless of the Confirm option setting.

OK to erase all changes?

Level: Confirm

When: Load Project
Load Device
BULK OUT
BULK IN

OK: Continue.

Cancel: Do nothing.

Delete 'xxxxx'? (xxxx=label name)

Level: Confirm

When: When Delete Device or Delete Scene is selected.

OK: Delete.

Cancel: Do nothing.

**No devices connected
Do you want to add a dummy device?**

Level: Confirm

When: No Devices are found during start up.

OK: Add dummy device.

Cancel: Do nothing.

**Changing to protect OFF
Save current data**

Level: Information

When: Config window
Change Protect from OFF to ON

OK: Save all data of connected devices.

Warning Messages

Drive not ready

Level: Warning

When: Background (*. Select BMP) window

Save Project Select window

Save Device Select window

Load Project Select window

Load Device Select window

Scene Icon Select window

Meaning: Selected drive was not recognized (no floppy disk).

Load/Save file?

Enter file name

Level: Warning

When: Save Project window selected

Save Device window selected

Load Project window selected

Load Device window selected

Meaning: File name is not set.

Illegal group NO. or device NO.

Level: Warning

When: When MASTER is HOST, File Assign window.

Load Project window is open, File Assign window.

Meaning: When Group number and Device number clash with those of another device.

Illegal device NO.

Level: Warning

When: When MASTER is HOST, File Assign window.

Load Project window is open, File Assign window.

Meaning: Device number is wrong.

Illegal group NO.

Level: Warning

When: When MASTER is HOST, start up File Assign window.

Load Project window is open, File Assign window.

File Assign window when Load Project Select window is selected.

Meaning: Group No. is wrong.

Delete device

Cannot delete active device

Level: Warning

When: Delete Device is chosen from the Edit menu.

Meaning: You tried to delete something other than a dummy Device.

(When you try to delete connected devices)

Program number must be set from 1 to 40

Level: Warning

When: Scene Edit window is selected.

Meaning: Program number is incorrect.

Add new device

Duplicate ID

Level: Warning

When: New Device chosen from Edit menu when Device window is selected.

Meaning: Device in the group with the same Group/Device ID already exists.

Add new device

Cannot add new device

Level: Warning

When: New Device chosen from Edit menu when Device window is selected.

Meaning: You can not add a new Device.

Model mismatch

Level: Warning

When: When MASTER is HOST, start up File Assign window.

Meaning: When the File Assign window was closed, device data and file data with the same address but different model assignments was found.

Receive/Transmit bulk

Model mismatch

Level: Warning

When: Bulk IN Select window.

Bulk OUT Select window.

Meaning: You can't do Bulk IN/Bulk OUT because the model is incorrect.

Frame data incorrect

Level: Warning

When: Time Code Event window.

Meaning: Frame type and Frame data are incorrect.

Illegal data format 'xxxxxxx' (xxxxxxxFile name (including Directory))

Level: Warning

When: Bitmap file open.

Meaning: An read error occurred because the picture file is of the wrong format.
File does not exist.

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