Installation & Operation Manual
for the Ivie

i*Flex* 2400
DSP Automatic Mixer

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Introduction

The iFlex Integrated Automixer/Digital Signal Processor is an Ethernet® or USB controlled, 24 I/O port box. Any I/O port can be an input or output, as needed. There are three I/O cards available for loading into any I/O port: A microphone level input card (part #), a line input card (part #) and a line output card (part #). Additionally, there are 12 logic I/O ports (RJ-45 connectors) that can be used as logic inputs or outputs whose functions are programmable via the Sonata software.

System and Software Requirements

The iFlex Integrated Automixer comes with the Sonata software. Sonata is a Windows® application requiring a Windows® based computer running Windows XP, or Vista 32, with an Ethernet® port, and/or a USB port - the faster the computer, the better. The layout screen for Sonata will operate in an "off-line" mode without an iFlex actually being attached. However, if an iFlex is attached, the software will query the unit and display its actual settings, as well as provide a positive indication that remote controls, IR door sensors, inputs, outputs etc. are connected and operational. A mouse is required to use this program.

iFlex 2400 Hardware Overview

Power Supply

The iFlex uses the PCM50US24 single voltage, universal power supply. It is UL, CSA and CE approved, and will operate at line voltages from 100 VAC to 240 VAC, 47 Hz to 63 Hz. It comes with a United States standard, three pin power cable. Since the power cable plugs into the power supply, it can be replaced with a power cable having a connector other than the U.S. standard connector.

Power Failure

Context files are stored in nonvolatile memory, so the system will return to operation with the same logic that existed when the power was lost. Upon power up, the iFlex will check the state of system controls and evaluate the logic of the context file with the control states to determine operation.

Getting Started

Before getting started with the iFlex hardware, the layout file and module/control programming should be completed using the Sonata software. It is also recommended that the iFlex cable tester be used to validate cable connections, and control communications prior to attaching any controls to the mixer.

After checking cable integrity, and if the modules and controls are all programmed, any module can be plugged into any slot - the iFlex 2400 will find it and properly identify it. The same thing is true of the RJ-45 logic I/O ports. The "smart" remote controls, IR sensors etc. can be plugged into any I/O port.

The identity chips in the remote controls and IR sensors will tell the iFlex what the connected device is and the Sonata software will provide positive indication that a device is connected and operational. Phantom Power has been activated where necessary and nominal levels have been preprogrammed such that the system will essentially be "plug-and-play."
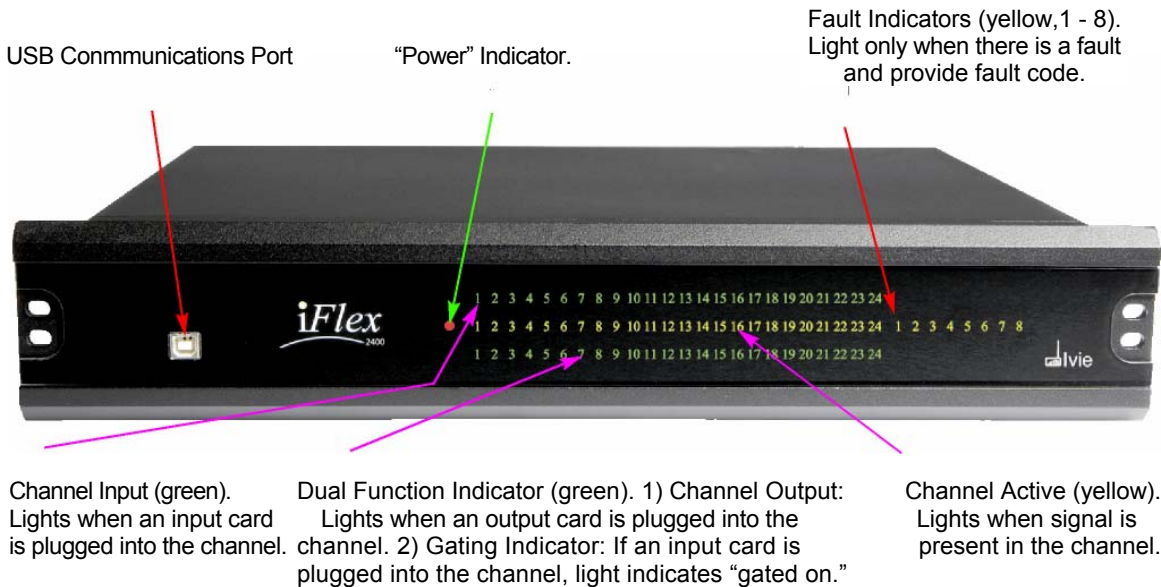

USB Conmmunications Port   "Power" Indicator.

Fault Indicators (yellow,1 - 8). Light only when there is a fault and provide fault code.

Channel Input (green). Lights when an input card is plugged into the channel.

Dual Function Indicator (green). 1) Channel Output: Lights when an output card is plugged into the channel. 2) Gating Indicator: If an input card is plugged into the channel, light indicates "gated on."

Channel Active (yellow). Lights when signal is present in the channel.

Figure 1

Successful Power Up

The PCM50US24 universal power supply is used with the iFlex and provides a broad mains voltage operating range: 100 to 240 VAC, 47 - 63 Hz. Successful powering of the iFlex can be verified by the lighting of the power indicator LED. When first powered on, the iFlex initiates a self test which checks a number of their operating parameters to verify proper performance. The flashing LED's on I/O cards give positive indication that the self test cycle is underway.

Front Panel

The front panel of the iFlex houses a USB port and 81 indicator lights. The USB connector is used to communicate with the iFlex using the Sonata software and a computer via USB connection. The indicator lights illuminate to show power, inputs, outputs, gating, channel active and malfunction status. Figure 1 illustrates the front panel indicator lights and their functions:

Rear Panel

The rear panel of the iFlex houses a power plug, programmable relay, 24 Vdc output to drive an external relay, USB port with associated push button, Ethernet port, 12 logic ports (RJ-45) and 24 I/O ports (channel inputs and outputs). Figure 2 below details these ports and plugs:
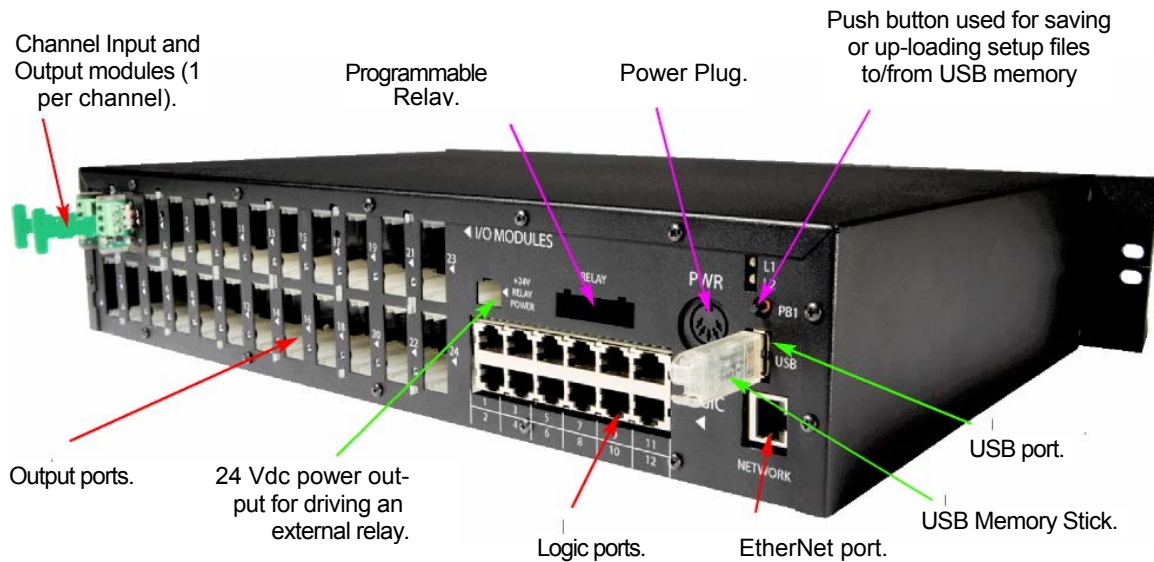

Figure 2

Rear Panel USB Port

The rear panel USB Port (see Figure 2, page 3) is a dedicated function port and is intended for use with a USB memory stick. The push button above the USB port and the indicator LED's facillitate downloading the iFlex's setup file to a memory stick, or uploading a setup file from a memory stick to an iFlex. Inserting a memory stick into the USB port and pushing the pushbotton will cause setup files to be downloaded from the iFlex to the memory stick. Inserting a memory stick into the USB port and holding the push button down will upload a setup file from the memory stick to the iFlex. The LED's give visual indication of the successful downloading or uploading of setup files.

Rear Panel Ethernet Port

The rear panel Ethernet Port (see Figure 2), allows connections to the iFlex mixer via Ethernet. If connected to a router, the iFlex unit will receive an IP address and subnet settings from the DHCP server at the time of connection. If the connection is directly from the PC to the iFlex mixer, the mixer will reconfigure it's IP address and subnet settings to work with those currently in the PC.

Rear Panel Logic I/O Ports

iFlex remote controls, RMPC pc board adapters, and IR-3 Infrared Door Sensors have IC's in them that identify them to the iFlex. Connecting them is as simple as attaching a CAT5 cable with RJ-45 connectors into the remote and any of the I/O ports of the iFlex. Wiring diagrams for connecting analog devices to an RMPC pc board adapter is provided on the RMPC pc board, and on the programming window of the Sonata hardware programmer. For schematics on wiring analog devices directly to the I/O port via CAT5 cable, contact the factory.

I/O Ports: Channel Inputs and Outputs

At the point of connecting input and output modules to the iFlex mixer, all input and output cards should have been pre-labeled and programmed. Connection to the iFlex is as simple as identifying the proper incoming and outgoing cables, connecting the wires to the corresponding I/O card and plugging the card into the iFlex chassis. Figure 3 shows unwired I/O cards plugged into an iFlex chassis. It is extremely important to tighten the holding screw on the I/O cards to the iFlex chassis. This not only holds the card firmly in place, but the ground connection it makes is also a fundemental component of the transient voltage protection built into the iFlex. I/O cards also provide an integral strain relief feature in the pc board design.

Connect the wires to the proper terminals.
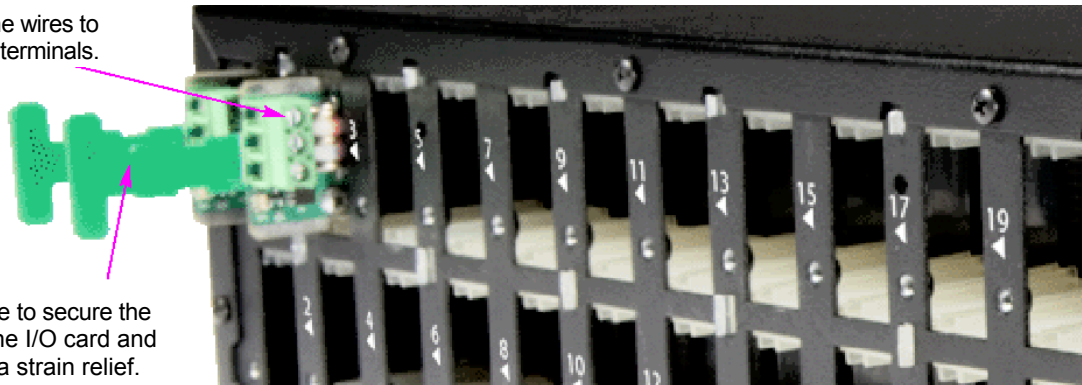
Use a wire to secure the cable to the I/O card and provide a strain relief.

Figure 3