Table of Contents

1. Overview ....................................................................................................................................................... 3

1.1. LEVITON Omni-Link Interface .................................................................................................................. 3

1.2. Bus Gateway .................................................................................................................................................. 4

2. TCPIP Network Setup ..................................................................................................................................... 5

3. USB Gateway Setup ......................................................................................................................................... 6

4. TCPIP Gateway Setup ..................................................................................................................................... 7

4.1. Enabling the TCPIP Gateway .................................................................................................................... 7

4.2. Connecting to the TCPIP Gateway from OMNIBUS ................................................................................. 8

4.3. Using the TCPIP Gateway ......................................................................................................................... 8

5. LEVITON Omni-Link Interface Setup ........................................................................................................... 9

5.1. Enabling the LEVITON Omni-Link RS232 Interface ................................................................................ 9

5.2. Enabling the LEVITON Omni-Link TCPIP Interface ............................................................................... 9

5.3. RS232 Interface Setup ............................................................................................................................... 10

5.4. TCPIP Interface Setup ............................................................................................................................... 11

6. Device Setup .................................................................................................................................................. 12

6.1. OMNIBUS Device Setup – Bus Devices – Method 1 ................................................................................. 12

6.2. OMNIBUS Device Setup – Bus Devices – Method 2 ............................................................................... 13

6.3. OMNIBUS Device Setup – RF Devices .................................................................................................. 14

7. LEVITON Omni Controller Setup .................................................................................................................. 15

7.1. RS232 Interface .......................................................................................................................................... 15

7.2. TCPIP Interface .......................................................................................................................................... 16

7.3. Unit Setup .................................................................................................................................................. 16

8. Diagnostics ...................................................................................................................................................... 17

8.1. Fatal Error Audio report ............................................................................................................................ 17

8.2. Non-Fatal Error Audio report ................................................................................................................... 18

8.3. General Audio reporting ............................................................................................................................ 18

9. Firmware Upgrade .......................................................................................................................................... 19

10. Hardware Connections .................................................................................................................................. 20

11. Omni-Link Serial Interface Cable Pinout ................................................................................................... 21
Note: For the purpose of this document it is assumed that the user is familiar with the general programming and setup procedures of the LEVITON and Omni-Bus systems. Please refer to the relevant documentation for more information.

This setup procedure requires OMNIBUS SOFTWARE V1.0.2 or newer and Interface Translator Hardware Rev 2 (117A00-1 Rev 2) with firmware release V2.20 or later.

Please visit www.leviton.com to download the latest OMNIBUS software.

1. Overview

1.1. LEVITON Omni-Link Interface

The Omni-Bus Interface (Translator) hardware communicates with the LEVITON controller via a RS232 serial connection or a TCPIP network connection.

Option 1: RS232

Option 2: TCPIP

The interface operates by creating a relationship between the Omni-Bus products and the LEVITON Controller. This relationship between the two products is achieved by cross referencing the serial number of the Omni-Bus product to an address number that correlates to the same address or unit number on the LEVITON Controller.

Addresses on the Omni-Bus system are assigned to each Omni-Bus Device using the OMNIBUS software.
1.2. **Bus Gateway**

The Omni-Bus Interface Translator can be utilized as a Gateway between the LEVITON OMNIBUS software and a Omni-Bus Bus Network utilizing a local area Ethernet network or USB connection.

The USB and TCPIP Bus Gateway functions can be used simultaneously with the LEVITON Omni-Link Interface.

1.2.1. **USB Bus Gateway**

1.2.2. **TCPIP Bus Gateway**
2. TCPIP Network Setup

- In OMNIBUS, go to the Interface Translator setup form (double click on the Translator after a List Devices)
- Set the Translator Ethernet network settings for the local network by clicking on the Network Setup Tab (consult your network administrator to obtain the necessary TCPIP network settings for the Interface Translator)
  - Ethernet Port Enabled: Enable or disable the ethernet port on the translator.
  - Obtain an IP Address Automatically: Select to get an IP address for the Translator from the DHCP server on the network.
  - Use the following IP Address: Select to set a fixed IP address for the Translator.
  - IP Address: Fixed IP address that will be used by the Translator to connect to the local network. This is also the Bus gateway address that will used by OMNIBUS to connect to the Translator in TCPIP Communication mode.
  - Subnet Mask: Network subnet mask.
  - Default Gateway: Network gateway.
  - TCP Port Number: The Bus Gateway port number used by OMNIBUS.
  - Password: Used by OMNIBUS when connecting to the Translator in TCPIP Communication mode.
- In DHCP mode, the IP address assigned to the Translator by the DHCP server will be displayed at the bottom of the Network Setup screen.

- To restore the network settings to the factory default values:
  - Unplug the Translator from the Bus network or external power supply.
  - While pressing and holding the button at the bottom of the unit, restore power to the Translator.
  - Keep the button pressed in until the Translator sounds 3 beeps (after approximately 10 seconds).
  - Release the button. The Translator will automatically restart with the following default settings:
    - Ethernet Port: Enabled
    - Obtain an IP Address Automatically: Enabled
    - TCP Port Number: 43690
    - Password: Enabled
    - Code: 1234
3. **USB Gateway Setup**

- The USB Gateway is always active (enabled) on the Interface Translator. No further setup procedure is required on the Interface Translator.
- The USB connection can be used by OMNIBUS Installation Software for further setup and mode configuration of the Interface Translator and as a programming interface to the Omni-Bus network.
- In OMNIBUS go to **Setup, Communication Port Setup**.
- Under **INTERFACE**, select **USB: 117A00-1 Interface Translator Rev 2**
- Click the **OK** button
- Connect a standard printer USB cable (not included) between the Interface and a spare USB port on the computer.
- Wait for driver installation to complete. The interface uses the standard HID drivers included in the Windows operating system and no additional driver files are required.
- A green tick mark in OMNIBUS indicates that the USB port is connected to the Interface.
4. TCPIP Gateway Setup

4.1. Enabling the TCPIP Gateway

• In OMNIBUS, go to the Interface Translator setup form (double click on the Translator after a List Devices)
• Click on the CBIT Profile Tab.
• Click on DEFAULT PROFILE for a new setup or UPLOAD FROM CBIT to change an existing setup.
• Under MODE(S), set the TCPIP Bus Gateway checkbox to enable the Bus gateway mode.
• Click on DOWNLOAD TO CBIT to download the profile to the CBIT controller.
• Click on REBOOT CBIT for changes to take effect.
4.2. Connecting to the TCPIP Gateway from OMNIBUS

- In OMNIBUS go to Setup, Communication Port Setup.
- Under INTERFACE, select TCP/IP: 117A00-1 Interface Translator Rev 2
- Up to 10 different configurations can be saved.
- Select one of the positions on the dropdown list.
- Change the Description for the connection if required.
- Enter the Interface IP address (See 2. TCPIP Network Setup) or a Domain name, Translator TCPIP Bus Gateway Port number and Password.
- Click on SAVE to save the configuration.
- Click OK.

- On the Main form, a Green tick mark indicates that a TCPIP connection to the Interface is active. A connection to the Interface will only be established when an action is performed such as a LIST DEVICES. After an inactivity timeout period of approximately 90 seconds the Interface will automatically disconnect from CLBUS unless the “Keep Connection alive when connected” option was selected.

4.3. Using the TCPIP Gateway

- The TCPIP Gateway can be used as a Programming Interface to the Omni-Bus network from the OMNIBUS Installation software.
- On the OMNIBUS main form, set the Bus Gateway checkbox to enable the gateway. All Bus devices connected to the Bus network will be listed on a LIST DEVICES command.
- Uncheck the Bus Gateway checkbox to disable the gateway. Only the Translator will be listed on a LIST DEVICES command.
5. **LEVITON Omni-Link Interface Setup**

5.1. **Enabling the LEVITON Omni-Link RS232 Interface**

- In OMNIBUS, go to the Interface Translator setup form (double click on the Translator after a List Devices)
- Click on the CBIT Profile Tab.
- Click on **DEFAULT SETUP** for a new setup or **UPLOAD FROM CBIT** or **OPEN FILE** to change an existing setup. A product file from a Rev 1 Interface Translator (non-ethernet version) can also be opened by clicking on the **IMPORT V1 FILE** button.
- Under **MODE(S)** set the **LEVITON Omni-Link RS232** checkbox to enable the LEVITON Serial RS232 Interface.

5.2. **Enabling the LEVITON Omni-Link TCPIP Interface**

- In OMNIBUS, go to the Interface Translator setup form (double click on the Translator after a List Devices)
- Click on the CBIT Profile Tab.
- Click on **DEFAULT SETUP** for a new setup or **UPLOAD FROM CBIT** or **OPEN FILE** to change an existing setup.
- Under **MODE(S)** set the **LEVITON Omni-Link TCPIP** checkbox to enable the LEVITON TCPIP Interface.
5.3. **RS232 Interface Setup**

- Click on the LEVITON Omni-Link tab.

![RS232 Interface Setup](image)

- **Baud Rate**: Sets the baud rate (speed) of the RS232 port on the Translator module. The baud rate range from 9600 to 115200. Set to **9600** for optimal performance. The selected baud rate must correspond to the baud rate selected on the LEVITON Omni Controller (see 7. LEVITON Omni Controller Setup).

- **Password**: User code for the LEVITON Omni Controller (see 7. LEVITON Omni Controller Setup)

- **First/Last Unit**: Only devices within this range will be addressed by the Translator module.

- **Startupstatus** is the method that the Translator is going to use to initialize its unit statuses, i.e. must the Translator retrieve the unit status from the Omni-Bus network or the Controller during the start-up procedure following a normal start-up or following a power interruption. Options are: LEVITON or BUS.

- Click **DOWNLOAD TO CBIT** to download the profile to the Translator and reboot the Translator by clicking on the **REBOOT CBIT** button
5.4. **TCPIP Interface Setup**

- Click on the **LEVITON Omni-Link** tab.

![TCPIP Interface Setup Diagram](image)

- **Controller IP Address**: The Network IP address for the LEVITON Omni Controller *(see 7. LEVITON Omni Controller Setup)*. (default: 192.168.0.101)

- **TCP Port Number**: The Network Port Number for the LEVITON Omni Controller *(see 7. LEVITON Omni Controller Setup)* (default: 4369)

- **Network Encryption Key**: The Network Encryption Key for the LEVITON Omni Controller *(see 7. LEVITON Omni Controller Setup)* (default: FF-FF-FF—…)

- **First/Last Unit**: Only devices within this range will be addressed by the Translator module.

- The **Startupstatus** is the method that the Translator is going to use to initialize its unit statuses, i.e. must the Translator retrieve the unit status from the Omni-Bus network or the Controller during the start-up procedure following a normal start-up or following a power interruption. Options are: LEVITON or BUS.

- Click **DOWNLOAD TO CBIT** to download the profile to the Translator and reboot the Translator by clicking on the **REBOOT CBIT** button
6. Device Setup

6.1. OMNIBUS Device Setup – Bus Devices – Method 1

- For each Omni-Bus Device to be controlled from LEVITON, enable and assign a unique device address (unit number) from 1 to 512 to the device.
6.2. **OMNIBUS Device Setup – Bus Devices – Method 2**

- The Bus Device address cross reference list can also be manually defined. This list is downloaded to and stored in the Translator.
- Go to the Interface Translator Setup page by double clicking on the Translator after a LIST DEVICES.
- Click on the **CBIT Profile** Tab.
- Click on the **UPLOAD FROM CBIT** function to retrieve the current profile from the Translator or open an existing profile by clicking on the **OPEN FILE** button.
- Click on the **BUS Devices** Tab

![Image of the Interface Translator Setup page]

- Click on the **ADD** button to add devices to the list.
- Choose **ADD FROM DEVICE LIST** to select a device from the currently listed devices or choose **ENTER DEVICE SERIAL NUMBER** to select a device not currently listed.
- Enter an address or unit number from 1 to 512 for the device. It is possible to assign duplicate addresses or an address already assigned to a RF device so that multiple Omni-Bus devices can be controlled from a single LEVITON unit.

![Image of the Device to add dialog box]

- Use the **EDIT** button to change the properties for a specific device.
6.3. OMNIBUS Device Setup – RF Devices

- A cross reference between an Omni-Bus remote control (key-fob or wall mount remote) and the controller unit number can be assigned manually via the CBIT Profile setup.
- Go to the Translator Setup page by double clicking on the CBIT Interface (Translator) after a LIST DEVICES and clicking on the CBIT Profile tab.
- Click on the UPLOAD FROM CBIT function to retrieve the current profile from the Translator or open an existing profile by clicking on the OPEN FILE button. A product file from a Rev 1 Interface Translator (non-ethernet version) can also be opened by clicking on the IMPORT V1 FILE button.
- Click on the RF Device Tab
- Add the corresponding RF Remote channel for each RF Device to be monitored from the LEVITON controller and set the address for each device to a number from 1 to 512.

Use the EDIT button after selecting a device on the list to change the properties of the RF device.
  - ALIAS: Optional description of the device
  - ADDRESS: Unit address for device.
7. LEVITON Omni Controller Setup

7.1. RS232 Interface

- **In Dealer PC Access:**
  
  - Under **Expansion, Serial**, set the Baud rate for the appropriate port to the value selected in the Interface Translator Setup (see 5.3 RS232 Interface Setup) and set the **Function** value to Omni-Link. Set the baud rate to **9600** for optimal performance.

  ![RS232 Interface Setup Diagram]

  - Under **Codes**, set the last Code in the list to the Password specified in the Interface Translator Setup (see 5.3 RS232 Interface Setup) and set the code authority as **Master**.

    ![Code Setup Diagram]
7.2. **TCPIP Interface**

- **In Dealer PC Access:**
  
  - Under **Options**, select **Network**.
  
  ![Network Options](image)

  - For an existing installation, take care when changing any network settings as other systems may rely on these settings for proper operation and interaction with the LEVITON system.
  - Click on **Show Keys** to show the current Network Encryption Key.
  - Under **Preferred Protocol** select TCP (Omni-Link II).
  - Use the values entered here to setup the Translator TCPIP Interface (see 5.4 TCPIP Interface Setup).

7.3. **Unit Setup**

- **In Dealer PC Access:**

  - **Assign Units** to correspond to the OmniBus Device addresses as set up on the OmniBus system or in the CBIT Profile (see 6. Device Setup)
8. **Diagnostics**

8.1. **Fatal Error Audio report**

Fatal error conditions are reported by generating Audible beeps on the Translator module.

Fatal errors are reported by a number of long high beeps.

Each beep within the set is separated by a 2 second pause.

Each set of beeps are separated by a 5 second pause before the fatal error message is repeated.

**RS232 Fatal Error beeps:**

- 1 long high beep: The Translator module is not connected to the Controller (Check that the product is connected and then reboot or power-cycle the Translator).

- 2 long high beeps: The Translator module is not connected to the Omni-Bus network (Check that the product is connected and then reboot or power-cycle the Translator).

- 4 long high beeps followed by a chime: The password specified in the CBIT Profile is not valid for the log-on procedure to the LEVITON controller. Correct the password in the CBIT Profile or on the LEVITON controller board.

**TCPIP Fatal Error beeps:**

- 1 long high beep: The Translator module is not connected to the Controller (Check that the product is connected, network settings have been entered correctly and then reboot or power-cycle the Translator).

- 2 long high beeps: The Translator module is not connected to the Omni-Bus network (Check that the product is connected and then reboot or power-cycle the Translator).

- 4 long high beeps followed by a chime: The Translator module cannot establish a secure connection to the LEVITON Controller. Check that the network key specified in the CBIT Profile corresponds to the LEVITON controller network key. Correct the key in the CBIT profile or on the LEVITON controller board.
8.2. Non-Fatal Error Audio report

Non-Fatal error conditions are reported by generating Audible beeps on the Translator module.

Once the fatal error checking has completed successfully the Translator will start checking for non-fatal errors. Non-fatal errors are verified sequentially and reported sequentially. Correct the relevant errors and then reboot or power-cycle the Translator.

Non-Fatal errors are reported by an audible code of beeps comprising of an index beep followed by counter beep that indicates the number of the same error occurring.

Non-fatal errors:

The codes are shown as [Index beep(s)] – [Counter beep(s)] where index beep(s) indicate the error code, this beep is followed by a short pause and then followed by counter beep(s) indicating how many of the same error occurred during start up.

For example 2 – 3 represents index beep of 2 followed by a pause and then by 3 short beeps. Each error code is repeated 3 times. If there are multiple error types the error message will be separated by a 5 second delay between each type of error.

Index beep 1-X is related to errors encountered within the CBIT Profile:

- 1-X: This error is caused by clashing unit numbers in the CBIT Profile, one or more of the entries in the profile has the same unit number. The number of clashes is represented by the number of X-beeps.

Index beep 2-X is related to errors encountered within the Omni-Bus Addressing:

- 2-X: This error is caused by clashing address numbers on the Omni-Bus network; one or more bus devices have the same address number. The number of clashes is represented by the number of X-beeps.

Index beep 3-X is related to errors encountered between the CBIT Profile and the Omni-Bus Addressing:

- 3-X: This error is caused by one or more Omni-Bus devices having a corresponding unit number in the CBIT Profile. The number of clashes is represented by the number of X-beeps.

8.3. General Audio reporting

Further audible reporting has been incorporated within the CBIT module to facilitate checking for errors and generating a warning while the user is updating the systems or making any changes.

- 2 short beeps: The user added / changed a bus address number (unit number) using an external tool (for example the OMNIBUS installer program).

These audible beeps will only sound once while changes are made to the Omni-Bus network.
9. **Firmware Upgrade**

- Obtain the latest firmware file from Home Automation, Inc
- In OMNIBUS software, perform a LIST DEVICES.
- Double click on the TRANSLATOR in the list to enter the device setup.
- On the Setup Tab, select UPGRADE APPLICATION FIRMWARE.
- Browse and select the appropriate firmware file. The file will be in the following format:
  - OBIT_RRR.BIN where RRR is the revision number (ex OBIT_123.BIN for firmware revision V1.23).
- Wait for the download to complete.
- The unit will automatically restart after a successful firmware download.
- In case of an unsuccessful download, the interface will revert back to the previous version.
- In case of corrupt application firmware (device does not list in OMNIBUS), the Interface can be forced into the FIRMWARE LOADER mode by pressing the BUTTON on the front of the Interface while powering up the unit. Release the button when the top LED starts flashing green continuously. Perform a LIST DEVICES in OMNIBUS and select the Interface from the device list (shows as CBIT FWLOADER in the list). Repeat the above download procedure.
10. **Hardware Connections**

**BUS**: RJ45 CAT5 connection to Omni-Bus Network.

**USB**: USB interface connection to computer running OMNIBUS Installation software

**P1, P2**: 16 – 24VAC/DC supply input (Required current rating = 250mA + current required for any additional Omni-Bus devices powered from the Translator)

**RS232**: RS232 Port

- Pin 1: DCD input
- Pin 2: RXD input
- Pin 3: TXD output
- Pin 4: DTR output
- Pin 5: GND
- Pin 6: DSR input
- Pin 7: RTS output
- Pin 8: CTS input
- Pin 9: RI input

**LAN**: RJ45 CAT5 connection to Ethernet Local area network.

**ANT**: 433.92MHz antenna connector for internal RF Receiver (For use with supplied antenna).

**JP1**: Power supply options jumper:

- ![JP1 settings](image)
  
  Unit is supplied with power from the Omni-Bus network (no need for a supply input on P1 or P2)

- ![JP1 settings](image)
  
  Unit supplies power to the Omni-Bus Network (300mA max) (must have a supply input on P1 or P2)

**RES**: Reset button. Press and release to reboot unit. Press and hold 3 seconds while applying power to run firmware loader. Press and hold 10 seconds while applying power to reset network settings to factory default values.
11. Omni-Link Serial Interface Cable Pinout

![Diagram of RJ11 connector showing pinout]

TO OMNI CONTROLLER

RJ11 (4 LOADED CONTACTS)

1
2
3
4

DB9F

1
2
3
4
5
6
7
8
9

TO INTERFACE RS232 PORT
FOR CANADA ONLY
For warranty information and/or product returns, residents of Canada should contact Leviton in writing at Leviton Manufacturing of Canada Ltd to the attention of the Quality Assurance Department, 165 Hymus Blvd, Pointe-Claire (Quebec), Canada H9R 1E9 or by telephone at 1 800 405-5320.

LEVITON LIMITED WARRANTY
Leviton warrants to the original consumer purchaser and not for the benefit of anyone else that products manufactured by Leviton under the Leviton brand name ("Product") will be free from defects in material and workmanship for the time periods indicated below, whichever is shorter:

- **OmniPro II and Lumina Pro:** three (3) years from installation or 42 months from manufacture date.
- **OmniLT, Omni IIe, and Lumina:** two (2) years from installation or 30 months from manufacture date.
- **Thermostats, Accessories:** two (2) years from installation or 30 months from manufacture date.
- **Batteries:** Rechargeable batteries in products are warranted for ninety (90) days from date of purchase. **Note:** Primary (non-rechargeable) batteries shipped in products are not warranted.

Products with Windows® Operating Systems: During the warranty period, Leviton will restore corrupted operating systems to factory default at no charge, provided that the product has been used as originally intended. Installation of non-Leviton software or modification of the operating system voids this warranty. Leviton's obligation under this Limited Warranty is limited to the repair or replacement, at Leviton's option, of Product that fails due to defect in material or workmanship. Leviton reserves the right to replace product under this Limited Warranty with new or remanufactured product. Leviton will not be responsible for labor costs of removal or reinstallation of Product. The repaired or replaced product is then warranted under the terms of this Limited Warranty for the remainder of the Limited Warranty time period or ninety (90) days, whichever is longer. This Limited Warranty does not cover PC-based software products. **Leviton is not responsible for conditions or applications beyond Leviton's control. Leviton is not responsible for issues related to improper installation, including failure to follow written installation and operation instructions, normal wear and tear, catastrophe, fault or negligence of the user or other problems external to the Product.** To view complete warranty and instructions for returning product, please visit us at www.leviton.com.

Copyright and Trademark Information
This document and all its contents herein are subject to and protected by international copyright and other intellectual property rights and are the property of Leviton Manufacturing Co., Inc, its subsidiaries, affiliates and/or licensors. © 2013 Leviton Manufacturing Co., Inc. All rights reserved.

Use herein of third party trademarks, service marks, trade names, brand names and/or product names are for informational purposes only, are/may be the trademarks of their respective owners; such use is not meant to imply affiliation, sponsorship, or endorsement.

No part of this document may be reproduced, transmitted or transcribed without the express written permission of Leviton Manufacturing Co., Inc.