



ZL7760A1020

LONSPEC™

This document provides a quick resource to assist a user in the initial setup of LonSpec and establish connectivity. It is not intended for use as a comprehensive user's guide.

Congratulations on purchasing LONSPEC™, the one stop solution for configuring, commissioning, monitoring, calibrating and diagnosing the following family of Honeywell controllers:

- **Excel 10 controllers**
- **Excel 15C Plant controllers**
- **Excel 15A and Excel 15B Building Managers**
- **T7300/Q7300 controllers**
- **T7350 Communicating Subbases**

LONSPEC™ belongs to the Light Commercial Building System (LCBS) suite of products. The following section provides you a brief listing of the advantages of using LCBS suite of products.

About LCBS

- Three-way savings—from initial purchase/setup, to daily operations, to low life-cycle costs—make the LCBS the best value of any building management system today.
- Easy installation and simple configuration—no line-by-line programming required.
- Flexible mounting options and easy wiring.
- Quick startup using real-time monitoring.
- Remote dial-in to speed service calls and keep customers happy.
- Advanced energy management features like Adaptive Intelligence Recovery®, Demand Limit Control, and Time-of-Day scheduling to maximize your customer's investment.
- Scaleable and expandable to simplify future additions.
- LonMark® Open Systems ensure your customers of lasting investment value.

About the LonSpec™ Quick Reference Guide

This quick reference guide provides you a brief overview about LONSPEC™, new features for the current release, initial setup procedure, and the different network interfaces that can be used for establishing connectivity.

NOTE: It is not intended for use as a comprehensive user's guide.

What's New in LONSPEC™ 05.01.00

1. LONSPEC™ enables you to configure the following controllers:
 - T7350
 - NX VFD
2. LONSPEC™ enables you to configure Excel 15B DLC service offline.

Configuring T7350

T7350 is a full-featured commercial programmable thermostat that communicates with other controller nodes, monitoring controllers, and engineering tools using a LonWorks® digital data network. You can configure the following settings:

- Keypad and Display Settings
- Setpoints
- Equipment Control Settings
- Enable T7350 as a Time Master
- Schedules and Holidays.

In addition, you can also perform the following tasks:

- Copy schedule configuration from one day or event to another day or event.
- Save/restore schedule and holiday configurations across multiple T7350s on the network.
- Assign a maximum of six configured US holidays to the unconfigured holiday schedules.
- Assign T7350's schedules to a maximum of 120 controllers that includes both Excel 10 and Excel 15C controllers.
- Select the Model Type as:
 - 'T7350H1009'
 - 'T7350H1017'
- Set the Day Light Savings

Configuring NX VFD

VACON NX frequency converter (NXVFD) enables you to control speed and torque of three-phase alternating current (AC) motors. You can connect it to the LonWorks® network using a Fieldbus board. Also, you can configure the following settings:

- Motor parameters
- Transmission control parameters

NOTE: For more information on configuring T7350 and NX VFD controllers, refer to LONSPEC™ online help. To view the help for a particular task or feature, click the 'Help' button on the related LONSPEC™ window.

Configuring Excel 15B DLC Service Offline

Demand Limit Control (DLC) continuously monitors the building's rate of energy consumption by automatically shedding or restoring loads to prevent the demand (load) from exceeding the maximum allowable level or configured setpoint.

NOTE: DLC sheds or adjusts the loads during peak usage only.

In addition to configuring Excel 15B Trends, Schedules, and Alarms offline from LONSPEC™, you can also do the following:

- Configure DLC parameters and loads (Off-Continuous, Rotating, and Last Resort)
- Assign configured loads to various Excel 10 and Excel 15C objects
- View the DLC Load Status
- Override Selected Loads
- Select an Excel 15C as the Pulse Meter.

NOTE: Ensure that the selected Excel 15C has a pulse meter attached to it. For more information on performing all the above-mentioned DLC related tasks, refer to LONSPEC™ online help.

Excel LONSPEC™ Features

User Friendly Interface

1. The LONSPEC™ Interface consists of the following window panes:
 - Project Directory: displays all the projects you create, in a tree structure; these projects store all the site (network) and controller configurations.
 - Toolbar: displays intuitive icons for the various LONSPEC™ offline/online tasks and controllers supported by LONSPEC™.
 - Workspace: displays virtual layout with all sites you create, as tabs. Each site in turn displays its associated subnet (channel) as a straight line with virtually attached controllers.

NOTE: Project Directory and the Workspace are mirror images of each other. Any task performed in the Workspace is automatically updated in the Project Directory pane and vice-versa.

2. The LONSPEC™ Drag and Drop feature enables you to just click a controller on the toolbar, drag and drop it into the virtual site of your choice in the Workspace.
3. LONSPEC™ operations involves the creation of the following basic structures:
 - Project: collection of sites; you can create a single or multiple projects in LONSPEC™.
 - Network: collection of subnet and point groups. You can add only one subnet to a current site.
 - Subnet: collection of a maximum of 120 controllers, inclusive of four Excel 15As.

NOTE: You have to add a repeater if there are more than 60 controllers on a subnet. Furthermore, there can be only one Excel 15B Building Manager in a network.

4. LONSPEC™ menu options are just a right click away. Right click a project, network, subnet, point group or a controller to view and access its related menu options.

5. Different colored legends provided in the Workspace help you to know the current controller status:
- Red dot: Not Assigned (controller is not yet assigned a Neuron® ID)
 - Blue dot: Not Commissioned (controller is assigned a Neuron® ID but not yet commissioned).
 - Green dot: Commissioned (controller is commissioned)

LONSPEC™ Offline Features

LONSPEC™ enables you to perform the following offline tasks:

1. Create and manage projects, networks, subnets, controllers, and point groups.
2. Manually assign Neuron® IDs to controllers.
3. Customize the default display units as either 'English' or 'Metric' (Ctrl+U).
4. Create bindings between controllers locally or at remote locations for easy sharing of data, using LONSPEC™ 'Data Sharing' feature (Refer Points/Alt+F5).

NOTE: Binding is possible only between specific nvis' and nvos' of controllers. Refer to System Engineering Guide (74-3679-1 - Appendix A Refer Points Tables).

5. Select and configure controllers associated with the current site using LONSPEC™ 'Application Selection' feature (Ctrl+Alt+S).
6. Easily replicate controller configuration from the current project onto another site within the same project or a different project, using LONSPEC™ 'Replicate Controller' feature (Ctrl+Alt+R). Replication does not completely replicate on Excel 15A, Excel 15C, CD, CD2, Q7300, and RF Gateway. Here's a list of what is not replicated within or across network(s) for each controller:
 - Excel 15A: Generally alarms, trend, runtimes, bypass logs, schedule assignments, alarm mapping, and DLC assignments are not replicated.
 - If replicated within the same network, the remote output points are not replicated.
 - If replicated across networks, both poll points and remote points are not replicated.
 - Excel 15C
 - If replicated within the same network, remote output points are not replicated.
 - If replicated across networks, both remote poll points and remote output points are not replicated.
 - CD: The configuration with respect to other controllers is not replicated.
 - CD2:
 - If replicated within the same network, the entire configuration is copied.
 - If replicated across networks, the logical object configuration is not copied.
 - Q7300H: The schedule assignment details are not replicated.
 - RF Wireless Receiver (Q7790A): The Excel 10 controller configuration is not replicated.

- Excel 15B: Only schedule configurations are replicated. You need to configure the alarms, trends, DLC and schedule assignments again.
- T7350: All configuration details except the schedule assignment and remote input point configurations are replicated.

NOTE: All the inputs or outputs using remote points of an associated RIO are not replicated in both Excel 15A and Excel 15C.

7. Group related points from multiple controllers (local/remote locations) for future monitoring purpose using LONSPEC™ 'Point Group' feature (Shift+Alt+P).
8. Directly migrate from SLTA-10 to RapidLink using LONSPEC™ 'Replace SLTA with RapidLink' feature (Ctrl+Alt+S).

NOTE: After replacing SLTA-10 with RapidLink, commission RapidLink to enable Excel 15A dial out alarms using RapidLink.

9. Configure Excel 15A and T7350 to drive schedules and act as Time Masters. Excel 15B and Q7300 can also be configured to drive schedules.
10. Configure entire control loops. No line-by-line programming is needed.
11. Take a backup of the current project or any other LONSPEC™ project using LONSPEC™ 'Backup' feature (Ctrl+B).
12. Restore the current version's or previous version's backed up file, when required or in case of data corruption, using LONSPEC™ 'Restore' feature (Shift+Ctrl+B).

NOTE: Ensure that the project backup files are saved outside the LONSPEC™ folder. You can also restore multiple projects at one shot using LONSPEC™ 'Batch Restore' feature.

13. Create a new project file from an existing project file without performing the backup and restore operations, using LONSPEC™ 'Replicate' feature (Shift+Ctrl+P).
14. Generate Reports to view the following:
 - Controller's online/offline status and project details
 - History of recent alarms and current configured alarms
 - List of unconfigured points when Excel 15A or Excel 15C was replicated

LONSPEC™ Online Features

LONSPEC™ enables you to perform the following online tasks:

1. Discover and create a network of controllers using LONSPEC™ 'Create Network' feature (Shift+Alt+N).
2. Assign Neuron® IDs to controllers manually or by pressing the controller's service pin, using LONSPEC™ 'Assign Neuron® ID' feature (Ctrl+Alt+A).
3. Download a controller's configuration from LONSPEC™ to the respective controller on the Lon® network, using LONSPEC™ 'Commission' feature (Ctrl+Alt+C).

NOTE: CD and CD2 must be the last nodes to be commissioned on a Lon® network.

4. Update an existing controller's configuration using LONSPEC™ 'Re-Commission' feature (Ctrl+Alt+X).
5. Exclusively commission RapidLink (Ctrl+Alt+P), SLTA-10 (Ctrl+Alt+L), and Excel 15B (Ctrl+Alt+X).

NOTE: You can commission Excel 15B only with LONSPEC™ online and Excel 15B as the network interface. It is not possible to commission Excel 15B through SLTA-10 or RapidLink.

6. Upload a controller in LONSPEC™ with its latest configuration from the Lon® network, using LONSPEC™ 'Upload' feature (Ctrl+Alt+U).

NOTE: Information related to network bindings, alarm configuration details, runtimes, trends, exception names, alarms, display engineering units, and controllers' subnet node IDs are not uploaded.

7. Connect LONSPEC™ to Excel 15B and upload all the controllers' configurations present in Excel 15B to LONSPEC™.

NOTE: You can connect only one LONSPEC™ to Excel 15B at any given point in time. You cannot complete the upload process if the controllers present in Excel 15B are unavailable in the LONSPEC™ network. LONSPEC™ will not upload any configuration on unsupported controllers.

8. Store and restore LONSPEC™ details in Excel 15B. Excel 15B is capable of maintaining the latest LONSPEC™ file that contains network configurations.

NOTE: You must ensure that the file stored in Excel 15B is of the latest configuration as Excel 15B does not verify the version when storing the file.

9. Replace a controller on the network by unassigning its Neuron® ID using LONSPEC™ 'UnAssign' feature (Ctrl+Alt+O).

10. Read Excel 15A Alarms Notifications logged from remote nodes using LONSPEC™ 'Read Alarms and Logs' Feature (Ctrl+Alt+G).
11. Reset Counters and Runtime Logs on Excel 15A or Excel 15C using LONSPEC™ 'Reset Counters and Runtime' feature (Ctrl+Alt+I).
12. View the calculated and actual flow linearization values of VAV II controller using LONSPEC™ 'View Flow Linearization Values' feature (Ctrl+Alt+V).
13. Get/Set time in Time Masters using LONSPEC™ 'Network Time' feature (Shift+Alt+T).
14. Monitor (Ctrl+Alt+M), calibrate (Ctrl+Alt+B), and diagnose (Ctrl+Alt+T) controllers.

NOTE: Commission the controller before calibrating its input sensors. Equipment damage is possible. Verifying a controller's performance (Diagnostics) can cause short-cycling of compressors or damage to other heating or cooling equipment.

Network Interfaces for LONSPEC™

LONSPEC™ enables you to connect to the network using:

- Direct connection
- Remote connection

Direct/Local Connection: Communicate with LonWorks® network using the following network interfaces:

- RapidLink™ Dialup Network Adapter with standard RS 232 9 pin male to 9 pin female cable - recommended for best results.
- External Serial LonTalk® Adapter, SLTA-10, FT-10 (O.S. Number Q7760A2001) with standard RS 232 9 pin male to 9 pin female cable (refer to form, 95-7511-2).
- Internal LonTalk® Adapter, PCLTA-10, PCLTA-20 FT-10 (Use manufacturers instructions to install and commission it).
- Internal LonTalk® Adapter for laptops, PCMCIA (refer to form, 95-7613) PCC-10, FT-10 (O.S. Number Q7752B2009).

NOTES:

- Ensure that the pc is within 49 ft. (15m) of the controller. At greater distances (maximum 3281 ft. [1000m]), add a line driver.
- RapidLink Flasher version 02.00.01, shipped with LonStation™ 05.01.00 provides Internationalization Support enabling you to download country specific modem settings to RapidLink.
- Setting up the Site using Serial LonTalk Adapter (SLTA-10)/RapidLink:
 1. Use a 9-pin to 9-pin cable to connect the RS-232 Interface
 2. Then, power the RapidLink/SLTA-10 (Q7760A 2001) with the appropriate power supply.

- 9V AC/DC to 24V AC/DC, 250mA, 50/60 Hz, NEC Class 2 wiring in case of RapidLink
- 9v DC in case of SLTA-10.

NOTE: Before powering up SLTA-10, set the following DIP switch settings: Switch 5 up (1) and Switches 1, 2, 3, 4, 6, 7, and 8 down (0).

3. Connect the EIA-232 port of the pc to the SLTA-10/RapidLink EIA-232 port with serial 9 pin male-to-female cable.
4. Use cable 205979 to connect the SLTA-10 to the LonWorks® bus connection or to a network hub (orange screw terminal block).

NOTES:

- For SLTA-10 Installation and Specification details, refer to 74-2954 and 95-7511 documents
- For RapidLink Installation and Specification details, refer to 74-3981 and 95-7700 documents. Refer to the LonWorks® Bus Wiring Guidelines section in 74-2865.
- Setting up the site using PCMCIA/PCLTA
 1. For PCMCIA, install the PCLTA card in the pc. (In case of PCLTA, Install the PCC -10 card in the PCMCIA card that is available on the pc).
 2. Run the 'Echelon® Setup for Drivers' that is provided along with the PCLTA card.
 3. On the Windows® taskbar, click 'Start' > 'Settings' > 'Control Panel'. If the PCLTA card is installed properly, then the LONSPEC™ 'Plug and Play' icon is displayed in the Control Panel window.
 4. Click the 'Plug and Play' icon to know the Lon® controller name that is used and also to verify if the card is functioning properly.
 5. Select the 'System' icon in the 'Control Panel' window. The 'System Properties' window is displayed.
 6. Among the tabs displayed, select the 'Device Settings' tab.
 7. Under the item 'LonWorks® Interface', check for the entry: 'PCLTA Lonworks® network Interface'. (In case of PCLTA, check for the entry: 'PCC - 10 Lonworks® Network Interface'). If the card is not installed properly, a red cross is displayed for this entry.

NOTE: Refer to Echelon® PCLTA manual (In case of PCLTA, refer to PCC-10 manual) and re-install the PCLTA card, if required. Once card is installed properly, you can view the Lon® controllers' names that are displayed in the LONSPEC™ 'Communication Settings' window, like the 'PCCLON1' and 'PCCLON2'.

- Verifying SLTA-10 or RapidLink Connection

1. Start LONSPEC™.
2. Create a new Project (Ctrl + N) and enter a unique project name.
3. Create a new Network (Alt + W) and enter a unique network name.
4. Connect to site (F3).

NOTE: When LONSPEC™ is connected to the site, the status bar in the lower right corner indicates online and the connection icon changes to yellow.

5. If LONSPEC™ cannot find SLTA-10 or fails to connect to the site, a message indicates that LONSPEC™ is unable to connect to the network.
6. Check all SLTA-10 connections and make sure that the correct COM port is selected for communication.
7. Switch off SLTA-10 and wait for 30 seconds.
8. Then, switch on SLTA-10 and click 'OK' to clear the message. The title bar displays "(User) Not Connected".
9. Retry connecting to the site. LONSPEC™ performs a thorough search for SLTA-10. If it fails again, the SLTA-10 might be faulty.

Remote Connection: Communicate with the LonWorks® network using the following network interfaces:

- Honeywell RapidLink with a telephone line connection Special NULL modem cable(s).
- External Modem(s): 3COM U.S. Robotics 5686D, V.90/V.92 56K Standard compatible.
- Honeywell XM500-US TCP/IP modem for LAN/WAN connection, instead of telephone line connection.

NOTE: If LonWorks® network is connected to an Excel 15B Building Manager, you can also use Excel 15B as a network interface for LONSPEC™ to connect to the LonWorks® network; you need to give the appropriate IP address, User ID, and password details.

- Setting up the site using Modem and SLTA-10
 1. Use only US Robotics 56K modems with V.90/V.92 protocol.
 2. Connect modem to a SLTA-10.
 3. Change SLTA-10 DIP switch settings:
 - Switches 2, 6, and 8 up (1)
 - Switches 1, 3, 4, 5, and 7 down (0).
 4. Power SLTA-10 with one of the following: Transformer with dc output of 9V, 500 mA. or 24 Vac output and a black screw terminal block.
 5. Connect SLTA-10 to the modem using only Honeywell part number 32002517 Null modem cable.

- Setting up the Site using RapidLink
 1. Connect phone line directly to RapidLink
 2. Power RapidLink with one of the following: Transformer with Vdc output of 9V, 500 mA or Vac output of 24 and a black screw terminal block.
 3. Connect Serial EIA-232 port of the PC to the modem with a 9 to 25 pin Null modem cable.
- Verifying Modem Connection
 1. Start LONSPEC™.
 2. Create a new project (Ctrl + N) and enter the project name.
 3. Create a new network (Alt + W) and enter the network name.
 4. Enter the telephone number.
 5. Create a new subnet (Alt + S) and enter the subnet name.
 6. Set the communication settings (Ctrl + C).
 7. Select the modem.
 8. Verify the COM port of modem (default selection is COM 1).
 9. Verify the baud rate (default is 38400).
 10. Connect to the site (F3).
 11. Verify if LONSPEC™ can dial out and connect to site. If LONSPEC™ cannot connect to the network, a message indicates that there is a connection failure.
 12. Wait for 30 seconds and verify if all the communication settings are correct.
 13. Retry connecting to the network. If LONSPEC™ fails again, contact your distributor.

Installing LONSPEC™

NOTE: Please ensure that any older version of LONSPEC™, if present in the machine, is uninstalled before installing the newer version of LONSPEC™

- System Requirements:
 - Microsoft® Windows® 2000 Professional Edition with Service Pack (SP) 3 or Microsoft® Windows® XP Professional/Home edition with SP1 or SP2 and a CD-ROM drive.
 - Microsoft® Internet Explorer 6.0 with SP1
 - 500 Megahertz microprocessor or higher for better performance
 - Minimum 100 MB free disk space
 - Minimum 128 MB RAM or higher for better performance.
 - Super VGA monitor with minimum 1024 x 768 resolution.

For installing LonSpec™, insert the CD-Rom; setup launches automatically. If not, open Windows® Explorer, locate the Setup.exe available on the CD-ROM, and double-click the Setup.exe file.

NOTE: For technical support, contact your authorized distributor.

Accessing LONSPEC™

After successfully installing LONSPEC™, follow these steps to access LONSPEC™:

1. Start LONSPEC™
 - From the Desktop Icon: Double-click the LONSPEC™ icon on the Desktop.
 - From the Start Menu: Click 'Start' on the task bar and point to 'Programs' > 'LONSPEC™' and click 'LONSPEC™'.
2. Observe LONSPEC™ startup.
3. Create a new project (Ctrl + N) and enter a unique project name.
4. Create a new network (Alt + W) and enter a unique network name.
5. Create a new subnet (Alt + S) and enter a unique subnet name.
6. Add controllers to the subnet.
7. Configure controllers.
8. Assign Neuron® IDs or automatically discover nodes on network.
9. Commission controllers.
10. Perform controller monitoring, calibration, and diagnostics.

NOTE: For more information on LONSPEC™, refer to LONSPEC™ Software Release Bulletin 74-3961, LONSPEC™ online help, or LONSPEC™ user guide that is provided along with the LONSPEC™ CD.

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