1. Welcome

This document contains Additional Reference Material for Field Technicians installing the new F@ST 2864, also known as “Connection Hub” modem on customer premises.

This guide contains information on how to navigate through the Modem GUI in order to perform various tasks and will explain the step by step process of performing these tasks in the subsequent sections below.

2. Connection Hub Overview

Package Contents include:

- Connection Hub modem with power supply and Ethernet cable
- Postage paid return label to Bell Canada

Note: The Connection Hub modem includes a New “SSID” and “WPA2” keys (see back of the Connection Hub modem) that can be used to re-create wireless home network or an existing “SSID” and “WPA2” keys can also be used, if available.

Please make sure to write this information down and keep it handy.
2.1 Connection Hub: Ports & Jacks

The figures below show the various ports and jacks available on the Connection Hub modem.

**USB Ports (2x)**
USB Ports for connecting Storage and Printer Devices (One on the back and one on the top of the Connection Hub)

**WAN Ethernet Port**
GigE WAN Ethernet Port for connection to FTTH ONT

**LAN Ethernet (4x)**
4x GigE LAN Ethernet Ports for connections to wired Ethernet devices.

**HPNA Port**
HPNA Port for Ethernet over COAX. This will only be used with IPTV service installations.

**Factory Reset Button**
Reboot:
- Press and Hold – Less Than 5 Seconds
- Factory Reset
- Press and Hold – More Than 5 Seconds (power LED turns off and reset occurs)

**DSL RJ11 Port**
To be connected via RJ11 for DSL connectivity (not used for FTTH installations)

**AC Power Jack**
To be connected using the provided Power Supply/Adapter for the Connection Hub
## 2.2 Connection Hub: Buttons & LED’s

Figure below shows the various **LED’s** available on the Connection Hub modem.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
</table>
| **Power** | Flashing green when powering up in progress.  
Solid green when powered up successfully and ready for use.  
Flashing red when an update is in progress. Do not power-off when flashing red. |
| **HPNA** | Solid blue when the coax is properly connected.  
Flashing blue when transmitting or receiving data over the coax connection. |
| **WAN Link** | Solid blue when successfully connected to WAN Ethernet or DSL.  
Flashing blue when attempting to synchronize DSL. |
| **Internet** | Solid blue when your Internet service is ready to use.  
Flashing blue when transmitting or receiving data over your Internet service.  
Solid red when there is a problem with your Internet service. |
| **TV** | Off when TV service is not configured.  
Solid blue when your TV service is ready for use.  
Flashing blue when TV service is in use.  
Solid red when there is a problem with your TV service. |
| **Wireless** | Off when your wireless network is disabled.  
Solid blue when your wireless network is ready for use.  
Flashing blue when transmitting or receiving data over your wireless network. |
| **WPS** | Off when WPS (Wi-Fi Protected Setup) is disabled.  
Solid green when WPS (Wi-Fi Protected Setup) is enabled and ready for use.  
Flashing green when attempting to connect to a WPS-enabled wireless client. |
Figure below shows the various **Buttons** available on the Connection Hub modem.

<table>
<thead>
<tr>
<th>None</th>
<th>None</th>
<th>This button is not used.</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Wireless" /></td>
<td><strong>Wireless</strong></td>
<td>Press this button to completely disable or enable your wireless network.</td>
</tr>
<tr>
<td><img src="image" alt="WPS" /></td>
<td><strong>WPS</strong></td>
<td>Press and hold this button until the WPS (Wi-Fi Protected Setup) light starts flashing to enable WPS push-button pairing mode.</td>
</tr>
</tbody>
</table>
2.3 Connection Hub GUI: Home Page

**Description:**

The **Home** page provides you with an overall status of the different services that are built into the Connection Hub.

The **Performance** section allows you to view the latency of the Internet and/or IPTV connection.

**Functionality:**

- Identifies the status of the Internet Connection, TV Status, WAN Connection, Wireless Connection and DLNA / UPnP statuses.
- Ability to enable and disable popular key features from the Home Page by selecting the appropriate radio buttons next to them. If changes are made, **click** on the **Save** button to apply the changes.

  **Note:** Wireless must be enabled for the Primary and / or Guest wireless to function.

- Support URL’s are provided and online support content may be accessed.
2.4 Connection Hub GUI: Language Settings

**Description:**

The **Language** section allows you to select the language that you would like the GUI firmware to appear in.

**Functionality:**

- *Click* on the **Language** link under **Home** to display the **Language** section.
- *Select* the preferable **language**; English/French by *clicking* the appropriate **radio button**.
- Once the language is set manually, the GUI will always appear in the selected language until set/saved in a different language.
- Once the preferred language is selected, *click* the **Save** button to apply the changes made or *Click Cancel* if you want to discard the changes.

*Note: If the language option has not been set manually, by default the GUI will be presented in the language of the Internet Browser accessing the GUI.*
2.5 Connection Hub GUI: Account Settings

![Connection Hub GUI](image)

**Description:**

The **Account Settings** section of the firmware allows you to modify the firmware password. This will be required each time the GUI is accessed via 192.168.2.1 or http://home.

**Functionality:**

- **Click** on the **Account Settings** link under Home to display the section.
- **Enter** the username in the **Username** field.
- **Enter** the existing password in the **Current Password** field.
- **Enter** the new password in the **New Password** and **New Password (again)** fields in order to accept the new password.
- **Click** the **Save** button to apply the changes or **click Cancel** to discard the changes made.
2.6 Connection Hub GUI: Resets

Description:

The **Resets** section of the firmware allows you to **Reboot** and/or Reset the Connection Hub to the factory settings.

A **Factory Reset** will return the Connection Hub’s settings to factory default. Rebooting may allow you to fix minor connectivity issues with the hardware and/or the Bell connection.

Functionality:

- **Click** on the **Resets** link under **Home** to display the section.
- **Click** the **Reset** button to perform a **Factory Reset**
- **Click** the **Reboot** button to reboot the Connection Hub.
2.7 Connection Hub GUI: Internet Settings

Description:
This section allows for the network access credentials to be populated in order to establish the PPPoE connection to allow for Internet Access on the Bell DSL network.

Functionality:
- **Click** on the Internet link under Settings to display the Internet section.
- **Enter** the User ID which is the “Bell Internet B1 Number” in the User ID (b1xx) field.
- **Enter** the password in the Password field to establish PPPoE connection.
- **Click** on the Save button to apply the changes or **click** the Cancel button to discard the changes.

*Note: If wrong credentials are entered, the PPPoE connection will NOT be authenticated and the Home Page will display an error message under PPPoE Status.*
2.8 Connection Hub GUI: Wireless Settings

**Description:**

This Wireless Settings section allows to perform various tasks accessed through **General**, **Network** and **MAC Filtering** tabs.

**Functionality:**

- **Click** on the **Wireless** link under Settings to display the **Wireless** section.
2.8.1 Connection Hub GUI: Wireless Settings – Network Tab

**Description:**
This section allows for configuring the wireless features of the Connection Hub.

- Setting up the **Guest** network will allow your friends to surf using your network using their laptops without compromising the integrity of your private network – No access to your files and media

**Functionality:**
- **Click** on the **Wireless** link under **Settings** to display the **Wireless** section.
- **Click** on the **Network Tab** to display the network configuration settings.
- **Enable** or **Disable** the **Primary Wireless Network** & **Broadcast Primary SSID** fields by **clicking** the appropriate radio buttons – both are Enabled by default.

**Note:** The Primary SSID MUST be **ENABLED** first in order to Enable the Guest SSID.

- **Enter** the primary SSID number in the **SSID** filed.
- **Enter** the password in the **Password** field.
- From the **Wireless Security Type** drop down selection box, **select** the **WPA2-PSK (AES)** encryption method.

**Note:**
To use WPA/WPA2 encryption methods, customers must be running Windows XP (Service Pack 3 or later), Windows Vista or Windows 7. Otherwise, WEP 64 bit or 128 bit must be used instead.
2.8.2 Connection Hub GUI: Wireless Settings – General Tab

Description:
This section allows for configuring the General settings for the Connection Hub to use wireless network.

- The Connection Hub provides wireless B/G/N connectivity. As per existing process, WPA/WPA2 encryption method is the preferred method to be used.

Functionality:

- Click on the Wireless link under Settings to display the Wireless section.
- Click the General Tab to display the General Wireless Settings section.
- Enable or Disable the Wireless by clicking the appropriate radio buttons as required.
- From the Interface Type drop down selection box, select auto b/g/n.

Note: Selecting the B/G/N interface type will NOT allow users to use WEP encryption method. However, selecting B or G or N separately WILL allow the users to use WEP as the encryption method.

- Leave the Select Channel Bandwidth (Auto by default) and Select the Transmitted Power (100 percent by default) (%) field values at default.
- Enable or Disable WMM and WMM Power Save fields as required – Enabled by default.
- Click on the Save button to apply the changes or click the Cancel button to discard the changes.
2.9 Connection Hub GUI: Network

Description:
This Network section allows to configure various networking settings. These settings can be accessed through DHCP, Port-Forwarding, DMZ, UPnP and DynDNS tabs.

Functionality:
- **Click** on the Network link under Settings to display the Network Settings section.
2.9.1 Connection Hub GUI: Home Networking – DHCP

**Description:**
The DHCP section of the firmware allows to enable and configure or disable DHCP service.

**Functionality:**
- **Click** on the DHCP link from within the Network Settings.
- **Enable** or **Disable** the DHCP service by **clicking** the appropriate radio button for **DHCP Status** field.
- The standard Bell Internet settings should be used in this section. In the **Router IP Address** field, enter `192.168.2.1` IP address.
- In the **Subnet Mask** field, **select** `255.255.255.0` from the drop down menu.
- For the **IP Address Range**, set the **Start** to `192.168.2.10` and **End** to `192.168.2.254`.
- **Enter** the DHCP IP Address lease time in minutes in the **Lease** field.
- A **Private Fixed IP Address** can be assigned to a specific computer on the network by **selecting** the **Device Name**, **MAC Address** & **IP Address**.
- **Click** on the **Save** button to apply the changes or **click** the **Cancel** button to discard the changes.
2.9.2 Connection Hub GUI: Network – Port-Forwarding

Description:

The Port-Forwarding section of the firmware allows to setup any port forwarding rules that may be required.

Functionality:

- As per Bell Canada’s existing process, this functionality is **NOT** supported.
- **Click** on the **Save** button to apply the changes or **click** the **Cancel** button to discard the changes.
2.9.3 Connection Hub GUI: Network – De-Militarized Zone (DMZ)

**Description:**

A DMZ allows a single device on the customer’s Local Area Network (LAN) to be completely exposed to the Internet connection, without the protection of the Connection Hub’s firewall.

External hackers will have access to the DMZ device, unlike any other part of the home network.

The DMZ section allows to enable or disable the DMZ functionality.

**Functionality:**

- **Click** on the DMZ link from within the Network Settings.
- **Enable** or **Disable** the DMZ service by **clicking** the appropriate radio button for DMZ Status field.
- **Click** on the **Save** button to apply the changes or **click** the **Cancel** button to discard the changes.
2.9.4 Connection Hub GUI: Network – UPnP

**Description:**

The UPnP section of the firmware allows to enable UPnP for file/media sharing across shared home networking devices.

The **Digital Living Network Alliance (DLNA)** is a non-profit collaborative trade organization comprising more than 250 member companies in the mobile, consumer electronics, PC, and service provider industries.

Alliance members have stated the common goal of using standards-based technology to make it easier for consumers to use, share and enjoy their digital photos, music and videos. As of May 2010, more than 8,000 different devices had obtained "DLNA Certified" status, indicated by a logo on their packaging and confirming their interoperability with other devices.

By enabling DLNA the user is able to connect their DLNA certified TV and other DLNA certified devices to the network either through wired or wireless connection types. By doing so the user is able to view media files on their TV that are streamed from a storage device that may be connected to the network via the USB ports provided on the Connection Hub.

**Functionality:**

- **Click** on the UPnP link from within the Home Network Settings.
- **Enable** or **Disable** the UPnP service by **clicking** the appropriate radio button for UPnP Status field.
- **Enable** or **Disable** the DLNA service by **clicking** the appropriate radio button for DLNA Status field.

  *Note: Enabling DLNA will allow sharing of compatible media formats like video, music and pictures contained on USB storage device connected via Connection Hub ports.*

- **Click** on the Save button to apply the changes or **click** the Cancel button to discard the changes.
2.10 Connection Hub GUI: Games & Applications

Description:
This Games and Applications section provide the ability to configure the F@ST 2864 Integrated Home Gateway to allow games or applications to pass through it easily so that the gaming experience is not compromised by having to deal with a difficult router setup.

Functionality:

- **Click** on the Games and Applications link under Settings to display the Configure Games & Applications section.
- **Select** the game(s) or application(s) from the Games or Applications drop down menu.
- **Select** the computer name or IP address from the Name Of The Computer Or IP Address drop down menu.
- **Click** on the Save button to apply the changes or **click** the Cancel button to discard the changes.
2.11 Connection Hub GUI: Advanced Settings – WAN Mode

**Description:**

The **Advanced Settings** under the **WAN Mode** section provides the functionality to change the WAN mode on the Connection Hub.

**Functionality:**

- **Click** on the **Advanced Settings** link under **Settings** to display the **Advanced Settings** section.
- **Click** on the **WAN Mode** link from within the Advanced Settings.
- **Select** the appropriate WAN mode from the WAN Mode drop down list.
  - **List options:**
    - VDSL
    - ADSL
    - VDSL2
    - ADSL2+
    - FTTH
    - AUTO – Default selection

**Note:** *If the customer switches from Ethernet to xDSL mode, then the RG must be factory Rest and ALL settings will be lost. This will put the modem in auto mode again for initialization.*

- **Click** on the **Save** button to apply the changes or **click** the **Cancel** button to discard the changes.
2.11.1 Connection Hub GUI: Advanced Settings – Services

**Description:**

The **Advanced Settings** under the **Services** section provides the functionality to change the services of the customer by selecting the correct one.

**Functionality:**

- **Click** on the **Advanced Settings** link under **Settings** to display the **Advanced Settings** section.
- **Click** on the **Services Tab** from within the Advanced Settings.
- **Select** the appropriate service - **Internet** or **Internet + TV**
- **Select** **PPPoE** credential for **IPTV** from the drop down list when **Internet + TV** option is selected.
- **Click** on the **Save** button to apply the changes or **click** the **Cancel** button to discard the changes.

**Note:** For Internet settings, please refer to Section 4.5.
2.12 Connection Hub GUI: Network Device(s)

**Description:**

The **Home Networking Device(s)** section provides the customer with an overall view of all of the devices that are connected to their network.

Also provided is device specific information such as the device’s **Host Name**, **MAC Address**, and **IP Address** as well as whether or not the device is connected or disconnected from the network.

**Functionality:**

- **Click** on the **Home Networking Device(s)** link under **Device Status Management** to display the overall **Network Diagram**.

  *Note: Shows ALL static information that CANNOT be changed.*
2.13 Connection Hub GUI: USB Connected Device(s) – Storage Devices

Description:

The **USB Connected Device(s)** under the **Storage Devices** section provides the ability to view and configure storage devices on the customers network.

As mentioned earlier, through the use of DLNA the user may wish to connect a media rich USB storage device to the Connection Hub so that they can access the media from any of the DLNA certified televisions that they have in their home.

Functionality:

- **Click** on the **USB Connected Device(s)** link under **Device Status Management** to display the **Storage Devices** section.
- If the user connects a USB HD or any other type of USB storage device to the Connection Hub, it will be listed under the Storage Devices section.
Note:
- Bell Internet Technical Support team DOES NOT support these features.
- User should be EJECTING the USB device before disconnecting.
- There are two USB ports on the Connection Hub. During launch of the FTTH service, the only USB devices that will be supported are Storage Devices and Printers.

**Example:** Click `\mynetwork` to access files on USB storage

**Supported File Formats for DLNA:**
- Wma
- Ogg
- Flac
- M3u
- M3u8
- Wpl
- Pls
- Htm
- Html
- Jpg
- Jpeg
- Png
- Tif
- Tiff
- Bmp
- Gif
- Avi
- Mpeg
- Mpeg2
- Mts
- M2ts
- M2t
- Ts
- Divx
- Spts
- M2p
- M2v
- Mp2t
- Mp2p
- Mpg2
- Vdr
- Dvr-ms

**Supported File Systems for USB Storage Device:**
- EXT2
- EXT3
- FAT32
- HFS
- NTFS

**Unsupported File formats:**
- EXT4
- FAT16
- HFS
- Linux-SWAP
- Reiserfs
- Reiser4
- UFS
- XFS
2.13.1 Connection Hub GUI: USB Connected Device(s) – Printers

Description:

The **USB Connected Device(s)** under the **Printers** section of the firmware provides the customer with a view of the printer(s) that are connected to their network.

Functionality:

- *Click* on the **Printers** link from within the **USB Connected Device(s)** section to display the **Printers** section.
- If the user connects a printer to the USB port on the Connection Hub, the Customer is responsible for the installation of appropriate drivers on their PC for communication to the printer.

*Note:*  
- Bell Internet Technical Support team DOES NOT support these features.  
- There are two USB ports on the Connection Hub. During launch of the FTTH service, the only USB devices that will be supported are Storage Devices and Printers.

Example: *Click* **\mynetwork** to access USB printer connected to the Connection Hub.
2.14 Connection Hub GUI: Statistics

Description:
The Statistics section allows the user to view throughput statistics, error messages, configuration messages, parameters and status of 2864 Connection Hub.

Functionality:
- Click on the Statistic link under Device Status Management to display the Connection Hub Statistics section
2.15 Connection Hub GUI: About Connection Hub

Description:

The About Connection Hub section provides the user with information like: Router/Modem Name, MAC Address, Firmware Version and Hardware Version. It also provides the user a Legend of LED lights and Buttons available on the Connection Hub.

Functionality:

- **Click** on the About Connection Hub link to display the Connection Hub section.

*Note: All System information that CANNOT be modified by the user.*