INITIAL SETUP PROCEDURE
ESPEC Web Controller, Ver. 3

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Contents

Purpose

This document covers the necessary steps to set up and start your chamber with ESPEC Web Controller (EWC), Version 3.3 and later. The procedure in this document can be performed by ESPEC service technician, contractor or the technically-oriented owner of ESPEC chamber. EWC is capable of communicating and controlling ESPEC P300, SCP220, ES102, Watlow F4/F4T and Allen Bradley L30ER PLC with Firmware 46.21.01 and later.

EWC can operate both as a standalone system (with its touchscreen as the dedicated HMI) or as a networked system to offer remote access and operation of the chamber. Two types of

chambers configured by default to operate as a standalone system are T-series and custom F4T, both with a touchscreen. With other chambers, EWC is configured to operate as a networked system via a Dynamic Host Control Protocol (DHCP) network or a static network.

The following sections provide different scenarios to set up your chamber and EWC to provide the optimal and operational versatility.

1 DHCP Network: P300, SCP220, ES102 and F4T/F4

EWC applies DHCP protocol to obtain an IP address from the DHCP server to join the network. A PC is required to access EWC via a Web browser to control and operate the chamber.

1.1 EWC and Chamber with P300 or F4T Controller

The following procedure involves two stages: (1) connect the chamber and EWC to the main DHCP network and (2) look up the IP address of EWC on P300 or F4T controller. This IP address will be used to access EWC from a PC.

1. Plug an RJ-45 Ethernet cable into the Ethernet port on the chamber (see Figure 1.7).

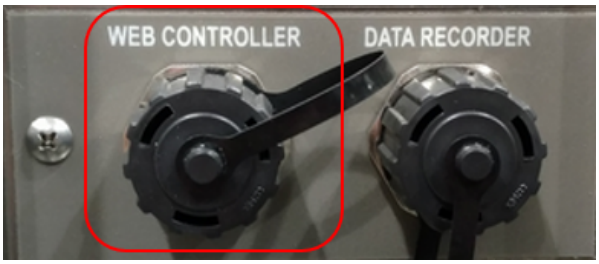

Figure 1.1: Network port on chambers with the following models: EP, EGN, EWP, EWS, EN

2. Plug the other end of the cable into an Ethernet port on the main network with DHCP server.
3. Verify that the PC (or a handheld device) is also on the same network (see Figure 1.8).

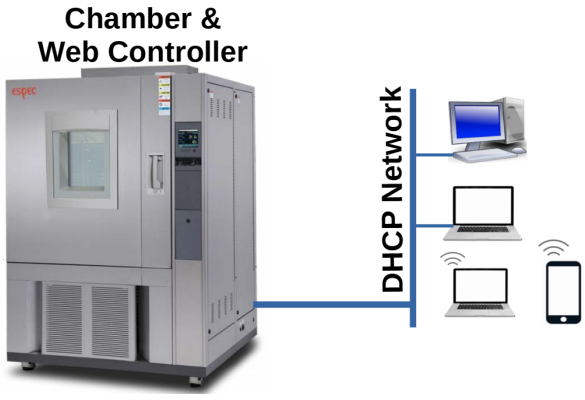

Figure 1.2: Network connection on a DHCP setup

4. Apply the main switch to turn on the chamber.

5. **P300 HMI**: When EWC starts and is in communication with the chamber, it posts its IP address on the P300 HMI, in the set LAN screen. Apply the following steps to obtain the IP address:

   (a) Press Chamber Setup

   (b) Press Configuration

   (c) Press Set Communication

   (d) Press Set LAN. Figure 1.3 depicts a typical IP address on the P300 Set LAN screen.

Figure 1.3: EWC IP address on P300 HMI

   To return to the P300 main screen: (1) press Quit, (2) Press Yes, (3) Press Close, (3) Press Close, and (4) Press the Monitor button.

6. **F4T HMI**: When EWC starts and is in communication with the chamber, it posts its hostname and IP address on the F4T HMI, in the Message screen. Apply the following steps to obtain the IP address:

   (a) Press the status button (top-middle button, see Figure 1.4)

   (b) Press the Message tab. Figure 1.4 depicts a typical hostname and IP address.

Figure 1.4: The Watlow F4T message screen

7. On the PC that is dedicated for accessing EWC, launch a Web browser.

8. Enter the IP address of EWC found on Step 5 or Step 6 into the Web browser URL as follows: `http://IP-address/`.

   Example: `http://10.30.200.254/`

9. The user interface of EWC appears in the Web browser as depicted in Figure 1.5.

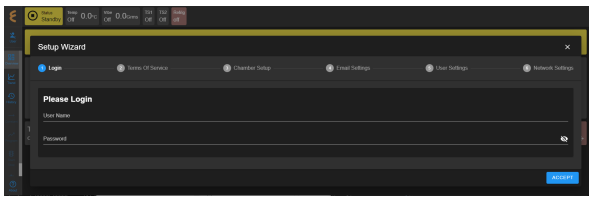

Figure 1.5: Login prompt in the Setup Wizard page.

10. Proceed to Section 3 to complete EWC initial setup and begin using your chamber.

1.2 EWC and Chamber with SCP220, F4 or ES102

For a chamber with SCP220, ES102 or F4, EWC can be accessed with its hostname via a PC on a DHCP network. The hostname of EWC is based on the chamber serial with the following format: `http://especSN.local/` where *SN* is the serial number of the chamber, as depicted in Figure 1.6.

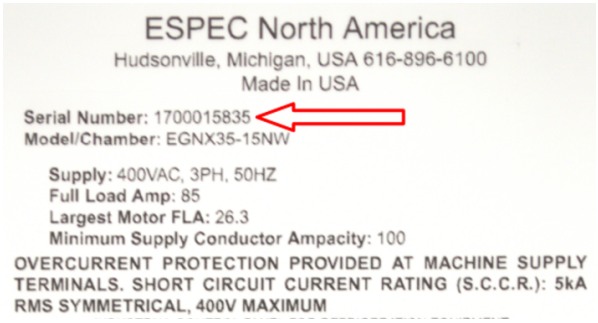

Figure 1.6: Serial number of the chamber

Complete the following steps:

1. Plug an RJ-45 Ethernet cable into the Ethernet port on the chamber (see Figure 1.7).

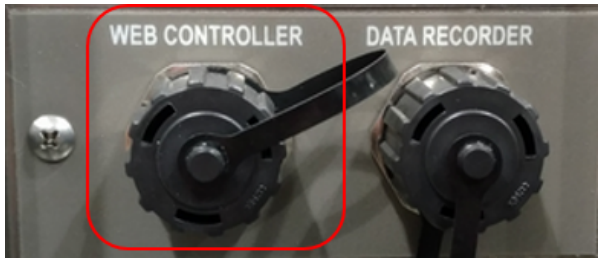

Figure 1.7: Network port on chambers with the following models: EP, EGN, EWP, EWS, EN

2. Plug the other end of the cable into an Ethernet port on the main network with DHCP server.
3. Verify that the PC (or a handheld device) is also on the same network (see Figure 1.8).

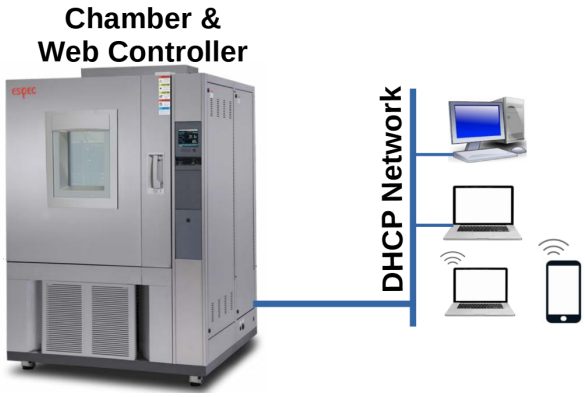

Figure 1.8: Network connection on a DHCP setup

4. Apply the main switch to turn on the chamber.
5. On the PC that is dedicated for accessing EWC, launch a Web browser.
6. Enter `http://especSN.local/` in the URL address field. Refer to Figure 1.6.

   Example: `http://espec1700015835.local/`
7. The user interface of EWC appears in the Web browser as depicted in Figure 1.9.

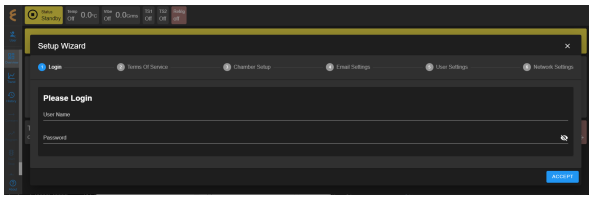

Figure 1.9: Login prompt in the Setup Wizard page.

8. Proceed to Section 3 to complete EWC initial setup and begin using your chamber.

2 Static Network: P300, SCP220, ES102 and F4T/F4

EWC is preconfigured to use a Class C static network protocol with the following settings:

```
IP Address:  192.168.0.83     (called fallback static IP)
Subnet Mask: 255.255.255.0
Gateway:     192.168.0.1
```

This protocol occurs when EWC is connected directly to a computer or a network hub without DHCP service. Note: Modern devices can connect directly to each other with a standard CAT 5/6 cable without the need for a cross-over cable.

2.1 Static Network Connection

Complete the following steps to connect the chamber and EWC to a static network.

1. Plug an RJ-45 Ethernet cable into the Ethernet port on the chamber (see Figure 2.1).

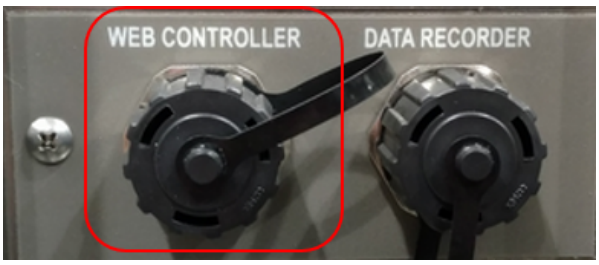

Figure 2.1: Network port on chambers with the following models: EP, EGN, EWP, EWS, EN

2. Plug the other end of the cable into the PC Ethernet port or a network hub (see Figure 2.2).

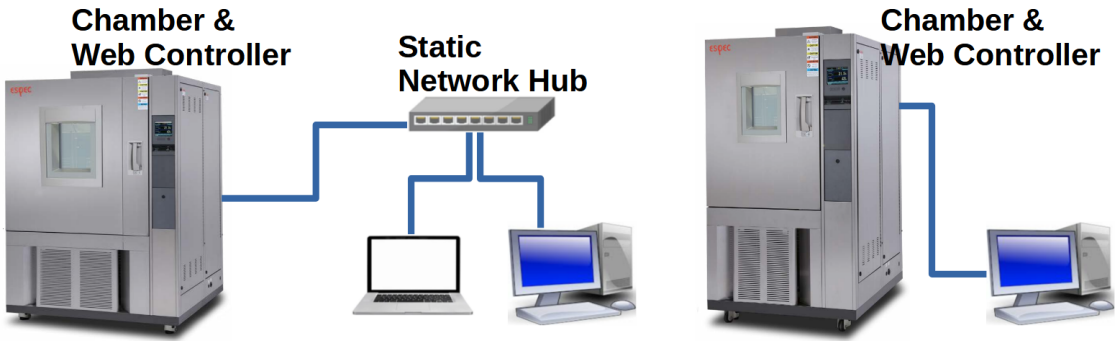

Figure 2.2: Network connection on a static setup

3. Proceed to Section 2.2 to complete the static IP setting on the PC.

2.2 Static IP on your PC

In order for the PC to communicate with EWC, it must also use a Class C static network protocol configured as follows:

```
IP Address:           192.168.0.84  (recommended IP)
Subnet Mask:          255.255.255.0
Gateway:              192.168.0.1
Preferred DNS server: 8.8.8.8
Alternate DNS server: 8.8.4.4
```

Complete the following steps on MS Windows 8/10/11:

1. Hold down the **Windows** key and press **R** to launch the Run Command dialog box.
2. Enter **ncpa.cpl** into the Open box field and press **Enter** or click OK.
3. Point and Right-Click the “Local Area Connection” icon, then click Properties from the drop-down menu (see Figure 2.3). Verify that the correct Ethernet port is selected, if your PC has multiple ports.

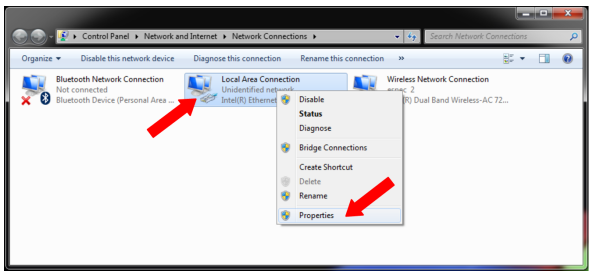

Figure 2.3: Selecting the right Local Area Connection

4. In the “Local Area Connection Properties” window, confirm or place the check mark in front of “Internet Protocol Version 4 (TCP/IPv4)”(see Figure 2.4).

5. Click to highlight “Internet Protocol Version 4 (TCP/IPv4)” and then click Properties in the lower-right corner.

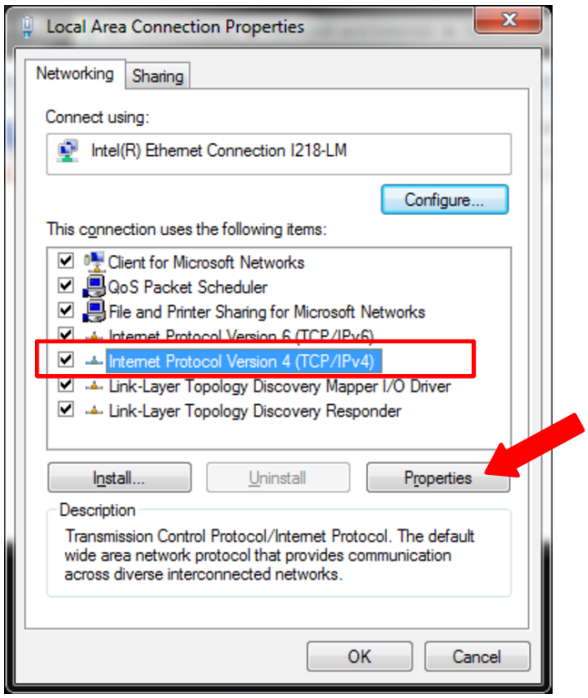

Figure 2.4: Setting TCP/IPv4 properties

6. In the “Internet Protocol Version (TCP/IPv4) Properties” window, turn on the radio button for “Use the following IP address:” and enter these settings (see Figure 2.5 for detail):

```
IP Address:  192.168.0.84
Subnet Mask: 255.255.255.0
Gateway:     192.168.0.1
```

7. In the “Use the following DNS server addresses:” section, enter the following settings (Figure 2.5):

```
Preferred DNS server: 8.8.8.8
```

```
Alternate DNS server: 8.8.4.4
```

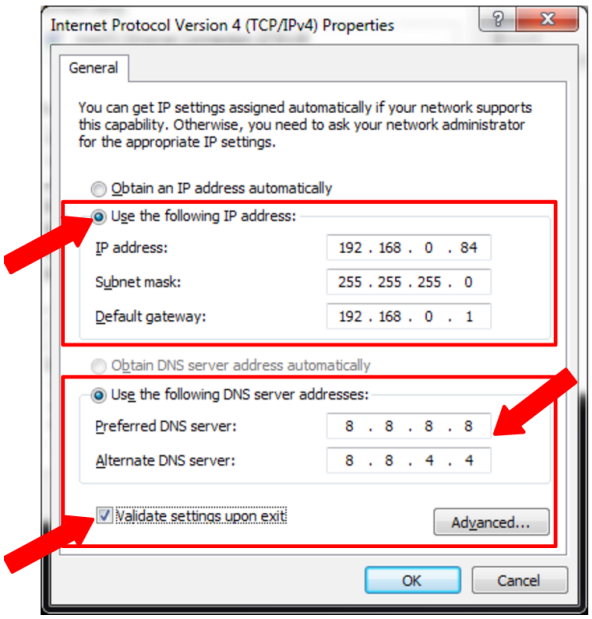

Figure 2.5: The complete static IP config on the TCP/IPv4 connection

8. Turn on “Validate settings upon exit” with a check mark and click OK (Figure 2.5).
9. Click OK to close “Local Area Connection Properties” window.
10. Close out the Network Connections window.
11. Open a Web browser and navigate to: `http://192.168.0.83/` to access EWC.
12. The user interface of EWC appears in the Web browser as depicted in Figure 2.6.

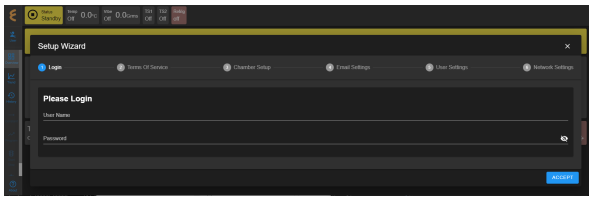

Figure 2.6: Login prompt in the Setup Wizard page.

13. Proceed to Section 3 to complete EWC initial setup and begin using your chamber.

3 EWC Initial Setup: First-Time Use

When EWC is powered on for the first time, it presents a Setup Wizard for post installation that includes e-mail alert and/or password recovery, password reset and network settings.

The following steps continue from Step 10 of Section 1.1, Step 8 of Section 1.2, or Step 13 of Section 2.2.

IMPORTANT NOTE: If you click **SKIP** on any of the following **Setup Wizard** pages, they will reappear every time you restart and log into EWC.

3.1 Login

A log-in screen is depicted in Figure 3.1. If an error in red appears in the background, chamber interface has not been set up properly. Section 3.3 will go over the setup procedure.

Enter username and password:

```
username: admin
password: admin
```

and click ACCEPT to log in.

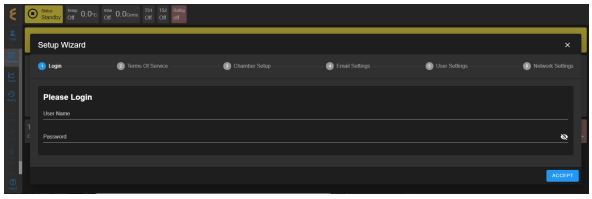

Figure 3.1: Login prompt in the Setup Wizard page.

3.2 Terms of Service

Apply the scroll bar to read through the **Terms of Service**, then click ACCEPT to accept the terms.

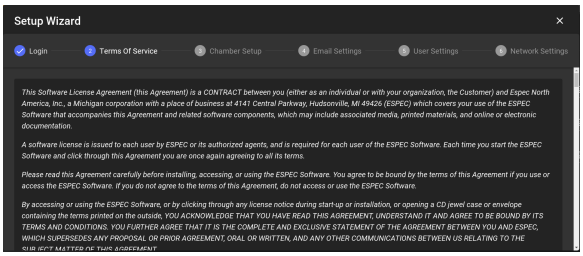

Figure 3.2: Terms of service and agreement.

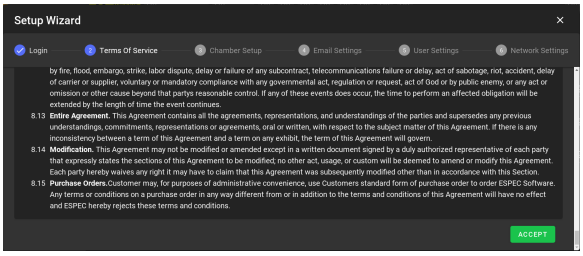

Figure 3.3: Accepting the Terms of service.

3.3 Chamber Configuration and Confirmation

Chamber configuration status may display communication error in the **Email settings** page as shown in Figure 3.4. If the **Email settings** page displays chamber status as depicted in Figure 3.6, proceed to the next section. Otherwise, click the BACK button to return to the **Chamber Setup** page (see Figure 3.5) to confirm or reconnect the chamber with the correct model, type and options. Proceed to configure the chamber interface with the following steps using Figure 3.5 as a referrence. Example is shown for a Mechanical HALT chamber with P300.

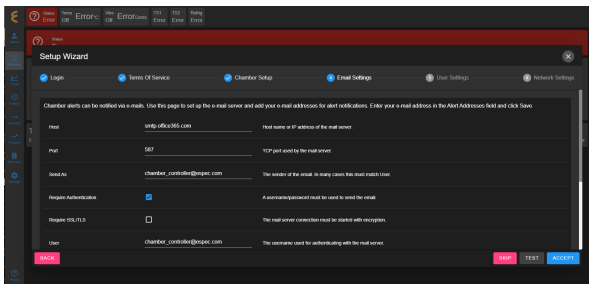

Figure 3.4: Chamber communication error in the **Email Settings** page. A reconfiguration of chamber interface is required by stepping back to the **Chamber Setup** page. Example is shown for a P300 HALT chamber.

1. Confirm or select **EQ: Mechanical HALT Chamber** under the Chamber Category.
2. Select Model/Type as shown. Refer to your chamber operation manual for this information.
3. Verify and confirm that the interface type is **Serial** with baud rate 19200. Serial port should be `/dev/ttyUSB0`.
4. Under the **Optional Features** column, check any box that applies to your chamber.
5. Click ACCEPT to apply the settings.
6. Click APPLY DEFAULTS in the pop-up window.

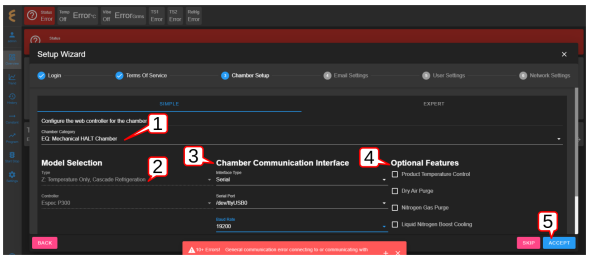

Figure 3.5: Selecting the correct chamber type and optional features.

Once chamber connection has been established, the Setup Wizard returns (i.e., forwards) to the **Email Setting** page as depicted in Figure 3.6.

3.4 Email Settings

For a standalone system, this setup page can be left with its default setting. Click ACCEPT in Figure 3.6 to continue.

For a networked system (Section 1), and if this system has access to the Internet, alert e-mail and account recovery e-mail can be configured at this time. However, these settings can be configured later using the **Settings** menu. This setup page can be left with its default setting. Click ACCEPT in Figure 3.6 to continue.

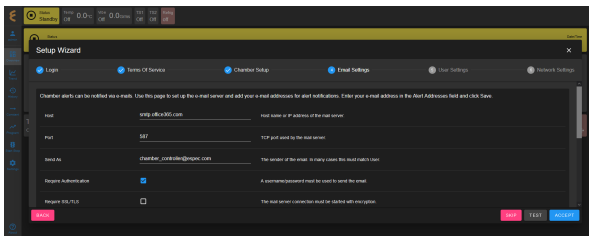

Figure 3.6: E-mail alert and password recovery settings.

3.5 User Settings

It is imperative that the admin password be changed to something secure to protect both your chamber and EWC. Figure 3.7 presents a first chance to reset the admin password.

1. Enter current password: **admin**
2. Enter new password twice.
3. Click ACCEPT.

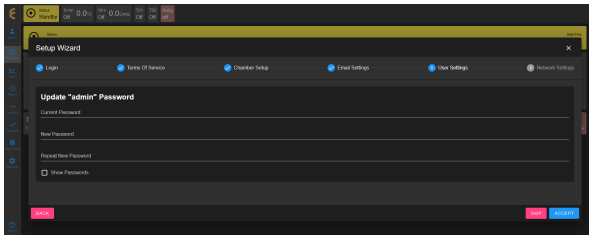

Figure 3.7: Changing the administrator's password.

NOTE: An error message, as depicted in Figure 3.8, will be displayed if the admin password has not been reset. You can still use the factory password but you will put your system at high risks of security breach. This admin password can be reset later via the **Settings** menu.

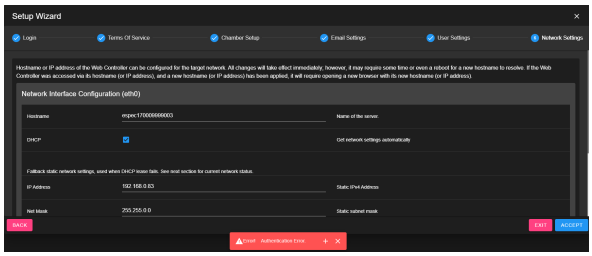

Figure 3.8: Error message for skipping admin password.

3.6 Network Settings

The Network Settings page displays hostname and network protocol (DHCP or static) and fallback static IP settings assigned to the ETH-0 port of EWC (called eth0), as depicted in Figure 3.9.

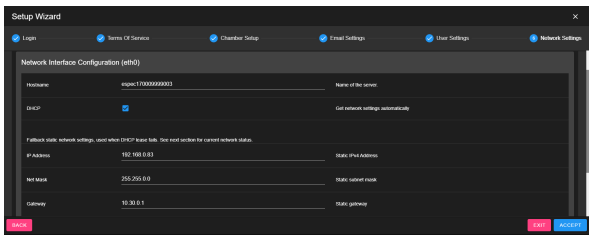

Figure 3.9: Network Settings page displaying network information.

The DHCP box is checked by default such that EWC is ready to use DHCP when it detects one. The IP address leased by a DHCP server to EWC can be found under the Network Settings submenu (under **Settings** in the menu bar). If DHCP is not detected (or not available), EWC uses its fallback static IP address (192.168.0.83) as shown in 3.9. The DHCP box is still checked when EWC uses its fallback static IP settings.

1. Click ACCEPT to continue.
2. The Setup Wizard is complete. EWC now displays its home page in **Overview** mode and is ready for chamber operation.

Single-User or Multi-User:

1. If multiple operators need to control and operate the chamber, they each should have a separate account on the system. Consult our ESPEC Web Controller User's Manual which can be found in Section 5 for detail on how to create different accounts and privileges for these operators.

   Users may begin to log into EWC to operate the chamber as soon as their account has been created.

2. If this is a single-user system, EWC is now ready for operation. Refer to Section 5 for detail on how to access the online wiki manual or the embedded PDF manual under the **About** menu.

4 Custom Static Network Setting

A static network other than a Class C type can be set on EWC. The configuration of such static network can be done by using either Section 1 or Section 2 as a starting point. If your IT requires that each device on the main network must use a static IP address (even on DHCP network), the best approach would be to start from Section 2.

Complete the following steps:

1. Obtain the complete IP information from your IT. Refer to Figure 4.1 as a example.
2. Log in as admin.
3. Click Settings (in the menu bar).
4. Click Network Settings (in the submenu bar).

5. Uncheck the DHCP box.
6. Edit the IP address field (replacing 192.168.0.83 with a new value). Refer to Figure 4.1 as an example.
7. Enter the appropriate values for Net Mask, Gateway, DNS1 and DNS2.
8. Click Save in upper-right corner.
9. Open a new Web browser and navigate to EWC with the new IP address.

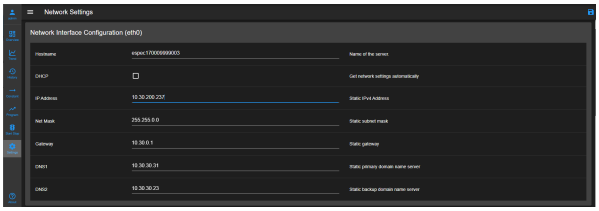

Figure 4.1: Example of a static network configuration.

Warning! To revert EWC to use DHCP protocol and its preconfigured static network setting, you must check the DHCP box and also enter `192.168.0.83` in the IP address field (and save the settings) before you reboot and connect EWC back to a DHCP or Class C static network. If you failed to apply these settings, EWC will still be using the custom static IP address as its fallback static network protocol.

5 User Manual

The Operation Manual for ESPEC Web Controller is available in two formats, embedded PDF and online wiki.

1. **Embedded PDF:** The embedded PDF is accessible from the MANUAL tab under the **About** menu, as depicted in Figure 5.1. To view the PDF manual, access the buttons according to the numbered labels in the figure.

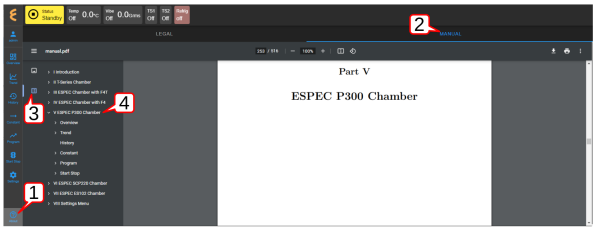

Figure 5.1: Embedded Manual

2. **Online Wiki:** The EWC online wiki manual is freely available and accessible at:

   - Chamber w/ F4T: `https://bitbucket.org/especnorthamerica/especweb/wiki/EWC_v3.3-F4T-manual`
   - Chamber w/ F4T (touchscreen): `https://bitbucket.org/especnorthamerica/especweb/wiki/EWC_v3.3-F4T-MIMO-manual`

- Chamber w/ F4: https://bitbucket.org/especnorthamerica/especweb/wiki/EWC_v3.3-F4-manual
- Chamber w/ FES102: https://bitbucket.org/especnorthamerica/especweb/wiki/EWC_v3.3-ES102-manual
- Chamber w/ SCP220: https://bitbucket.org/especnorthamerica/especweb/wiki/EWC_v3.3-SCP220-manual
- Chamber w/ P300: https://bitbucket.org/especnorthamerica/especweb/wiki/EWC_v3.3-P300-manual

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Initial Setup Procedure
for ESPEC Chamber and ESPEC Web Controller, Ver. 3

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