# Updating Wi-Fi Settings and IP Addresses on the Tempus IC™.


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## Table of Contents

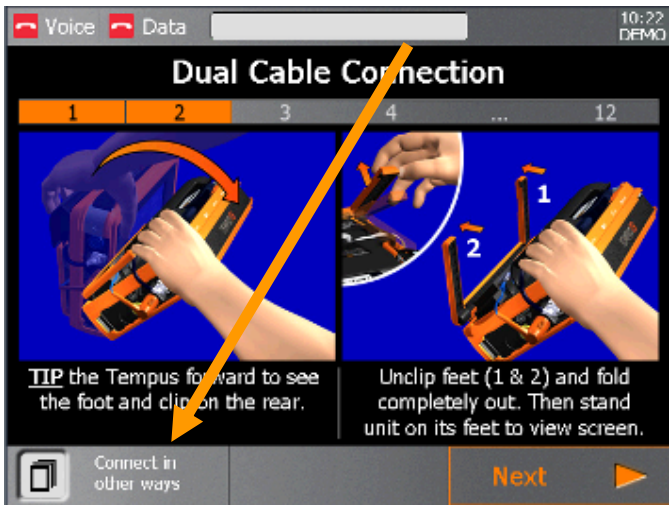
The purpose of this guide is to provide you with the information you need to make changes to your **Tempus IC**™ WiFi and/or IP address settings.

This guide is designed to be used in conjunction with support from RDT and is not an exhaustive instruction.

**Important Note:**
Please note that your unit may have multiple WiFi modes. Confirm before the changes are made that you are in the correct mode.

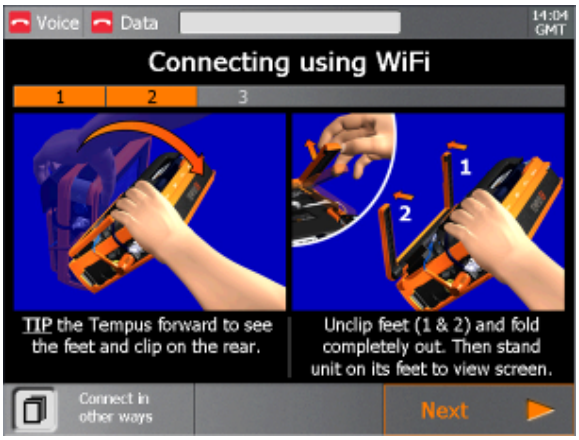
Switch on the Tempus by pressing the power button  to the left of the display until the green LED begins to flash.

Once the unit has switched on you will be in a connection screen i.e. Dual cable connection, Ethernet connection or WiFi connection. If the mode you are in is not in the mode which requires the new settings then select "Connect in different ways in the bottom left.

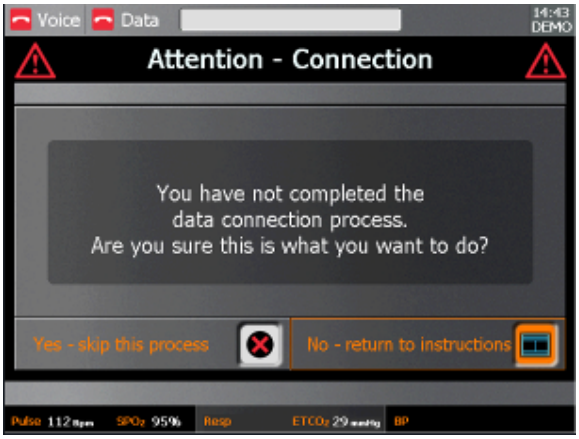



This will take you to the modes menu like the one shown below.

Please be aware that your menu may be different from the one shown. Select the mode that requires the new settings i.e. WiFi mode.




Once in the correct mode press the  button. An error screen will display to say that you have not dialled.

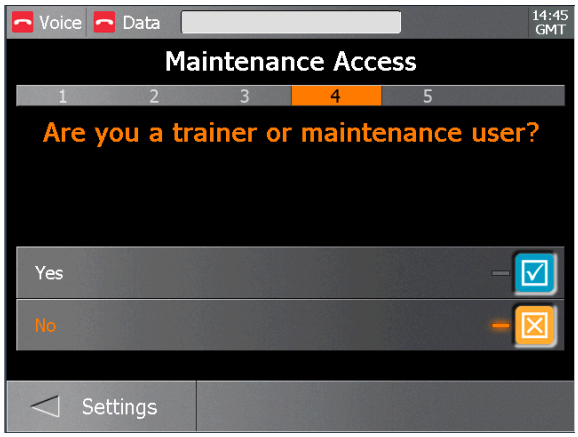



Select "**Yes – Skip this process**"

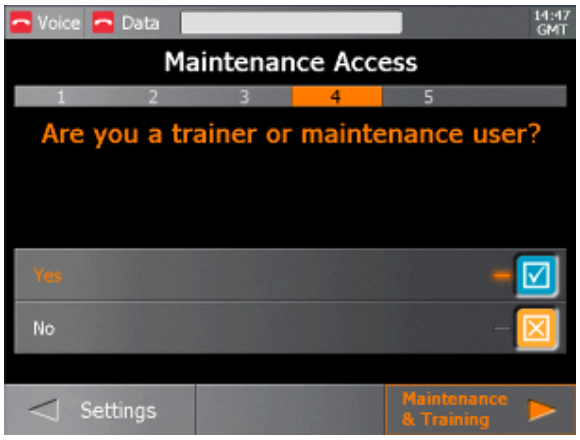

Select '**Cleaning & Repacking**' bottom right


And then '**Settings**' bottom right

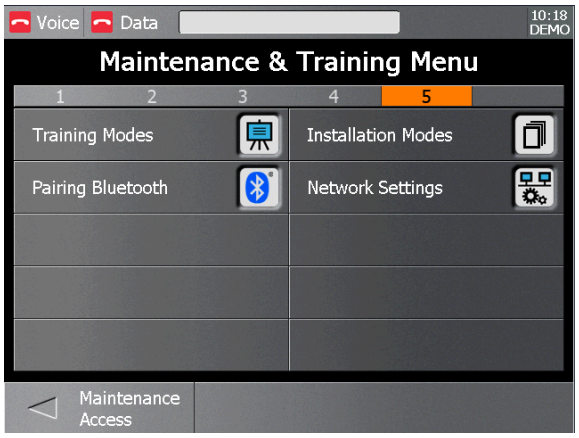

And '**Maintenance Access**' also bottom right



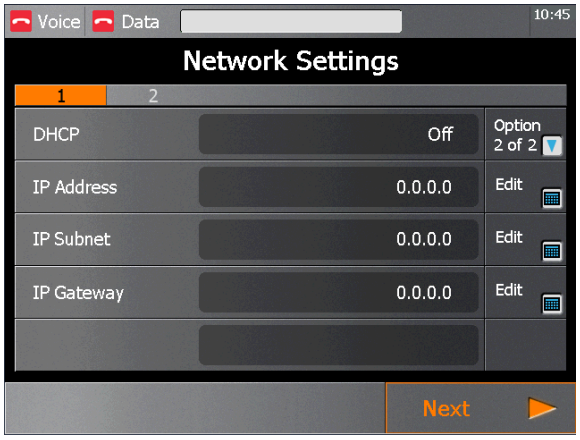

Select '**yes**' to '**Are you a trainer or maintenance user**?'.



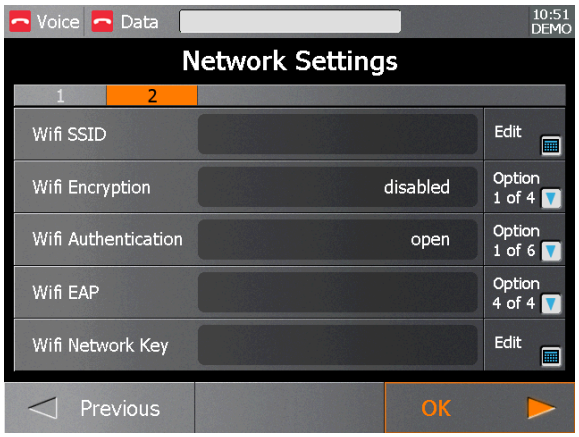

You will notice, once you have selected '**Yes**' a new option appears in the bottom right – Select '**Maintenance and Training**'.




Now select "**Network Settings**" from the menu.




Page 1 (Ethernet and WiFi modes)




Page 2 (WiFi modes only)

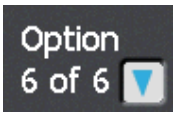
There are two pages in the network settings in WiFi modes and only one in Ethernet. The page you are on is highlighted in orange at the top of the menu.

Page one is used for setting IP addresses and page two is for WiFi encryption details.

You can move between the two pages by using the 'Next' and 'Previous' options at the bottom of the display. To leave the pages use the 'OK' option on page two in WiFi mode or page one in Ethernet mode.

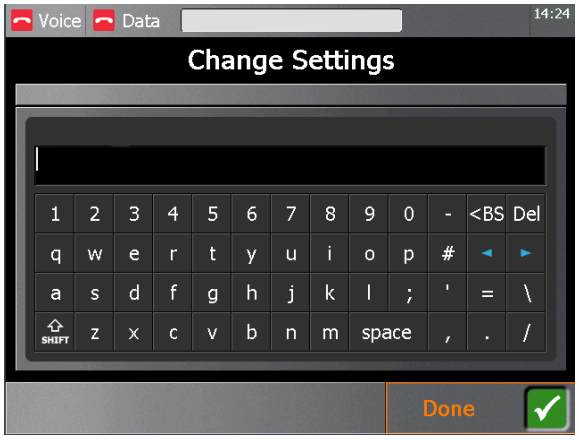
To make a change to a field you must select the change button to the right of each field.

There are two types of change button:




The 'Option' button allows you to toggle through the avalible preferences'. This is used when there are set preferences' available e.g. DHCP on or off.
The amount of preferences' available is shown by the X of X number on the button.


The 'Edit' button will bring up a 'Change Settings' keyboard (shown below). This can be used to input information like SSID or IP addresses.



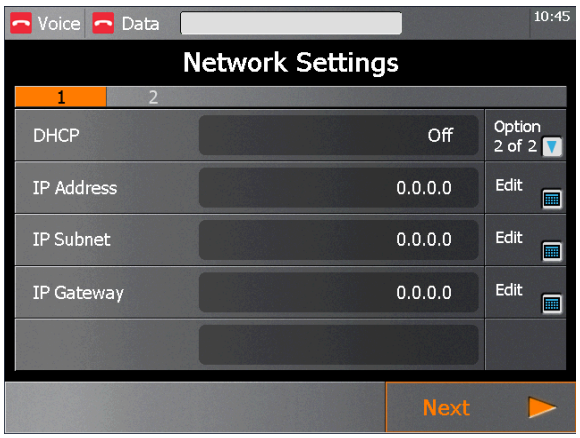
Shown above is the change settings keyboard that will appear if you press the edit option next to the field to be changed. To get uppercase letters or extra symbol options select the shift key (as shown below).


To return to lowercase press the shift key again. Once the information has been typed correctly then press 'Done' in the bottom right.

## IP Address Changes

The Tempus is configured to get its IP addresses by default using DHCP. If you require to 'fix' an IP address, then this can be done on page one of the Network Settings menu.

**Important Note:**
If you fix an IP address you may need to do it in both Ethernet and WiFi modes, depending on your requirements.




### Step 1 – DHCP

There are two options for this setting. Select the option button to the right to toggle through the options.

**Important Note:**
If you leave the DHCP 'ON' but fix IP addresses, the address will be over written when you next connect.


The 'ON' option is default and should be used if you want Tempus to get an IP address automatically from the DHCP Router/Server. This service must be enabled on your network.


The 'OFF' option is to be used if you want to fix your own IP addresses.

**Important Note:**
Be aware that your Ethernet network may sometimes uses a different IP address range than the WiFi network.

### Step 2 – IP Address

To input an IP address, select the edit button next to the option. Pressing this button will display the change settings On-Screen keyboard.

Input the IP address as required. Please be aware that this address must match the address range of the Server/Router it is being connected to. It must also be an address that is not in use by any other device e.g. laptop, PC or IP phone.

Once the IP address is correct select 'Done' at the bottom right.

### Step 3 – Subnet mask

Like adding an IP address, to input a Subnet mask, select the edit button next to the option. Pressing this button will display the change settings On-Screen keyboard.

Input the Subnet mask as required. Please be aware that this address must match the Subnet mask of the network it is being connected to e.g. 255.255.255.0. Once the address has been input correctly, select 'Done' in the bottom right corner.

**Important Note:**
If you are fixing an IP address you must fill in all three fields i.e. IP Address, Subnet mask and Default Gateway.

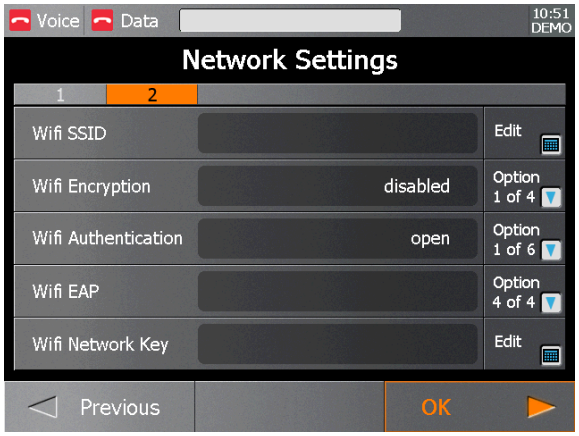
**Step 4 – Default gateway**

Like the previous two steps, select the edit option next to the default gateway field. Pressing this button will display the change settings On-Screen keyboard.

Input the Default Gateway of the network being connected to. Once the address has been input correctly, select 'Done' in the bottom right corner.

Confirmed that the details are correct on the Network settings page and if you don't need to set the WiFi settings (WiFi mode only) then you can select 'OK' and the details should now be stored.

## WiFi Setting changes




In WiFi modes only, the second page of the network settings allows you to change the encryption details.

Below is a table showing **examples** of the typical information required for each field for most common encryption types. This information is provided for guidance only.

**Important Note:**
The only time a field should be left blank is if the unit is to be used on an unsecured network as shown in the table otherwise all fields have to be configured.

| Data Configuration Setting | Unsecured | WEP | WPA-PSK | WPA2-PSK |
|---|---|---|---|---|
| **WiFi SSID** | Myhouse | MyYacht | MyAircraft | MySpaceShip |
| **WiFi Encryption** | disabled | wep | Tkip or aes | aes |
| **WiFi Authentication** | open | open | wpa-psk | wpa2-psk |
| **WiFi EAP** | <blank> | tls | tls | tls |
| **WiFi Network Key** | <blank> | 12345678AB FE45678901 23456 | Owner | Crew |

### Step 1 – Wi-Fi SSID

**Important Note:**
The SSID and Network Key are case sensitive

To input an SSID, select the edit button next to the WiFi SSID field. Pressing this button will display the change settings On-Screen keyboard.

Type in the SSID to the network to be used i.e. MYyacht. Remember that the SSID is case sensitive. Once the SSID is correct select 'Done' bottom right.

### Step 2 – WiFi Encryption

There are four options for this setting. Select the option button to the right to toggle through the options.


Option one is disabled for use with unsecured networks only.


Option two is 'wep' and is to be used with WEP (Wired Equivalent Privacy) encrypted networks only.


Option three is 'tkip' (Temporal Key Integrity Protocol) and is to be used for WPA-PSK (Wireless Protected Access – Pre shared key), WPA-None and WPA.


Option four is 'aes' (Advanced Encryption Standard) and can be used with WPA-PSK, WPA-None, WPA or WPA2-PSK.

**Step 2 – WiFi Authentication**

There are six options for this setting. Select the option button to the right to toggle through the options.


Option one is 'open' and is normally used for unsecured connections and WEP.


Option two is 'Shared' and is normally used for unsecured connections and WEP.


Option three is 'wpa-psk' and is used with wpa-psk. This is the encryption type we recommend with WPA 1 type connections as it is the most commonly used.

Option four is ‘wpa-none’ and is used for setting WPA-None.


Option five is ‘wpa’ and is used to set WPA. This option should not be mistaken for WPA 1 and is really used.


Option six is ‘wpa2-psk’ and is used to set WPA2.

**Step 3 – WiFi EAP (Extensible Authentication Protocol)**

There are four options for this setting. Select the option button to the right to toggle through the options.

**Important Note:**
When setting EAP protocols it is our recommendation that you use ‘Blank’ (option 4) for unsecured connections and ‘tls’ (option 1) for all other Encryption types


Option one is ‘tls’ (Transport Layer Security). If you are not sure on your networks settings, this is the one we recommend to set on the Tempus as it is the most commonly supported EAP protocol.


Option two is ‘peap’ (Protected Extensible Authentication Protocol). This is the second most common EAP protocol used.


Option three is ‘md5’ (Message-digest Algorithm 5). This EAP protocol is really used.

**Important Note:**
The SSID is case sensitive but the network key is not. All other fields should be in lower case as shown in the table.


Option four is ‘<Blank>’ which is used when you want to switch off EAP protocols. We recommend using this for unsecured connections

**Step 4 – Wi-Fi Network Key**

To input a Network Key, select the edit button next to the WiFi Network Key field. Pressing this button will display the change settings On-Screen keyboard.

**WEP:** Needs to be put in as a hex code which is normally 10 characters longs for 64 bit encryption and 26 characters long for 128 bit encryption.

The code is normally made up of numbers and letters and normally in lower case i.e. 128 bit Hex code = 123456789abcdef123456789ab

**WPA1 and WPA2:** This can be input in the same way as it is on the WiFi access point.

It is normally a word or phrase and is a maximum key length of 63 characters, but it is case sensitive e.g. WPA1 or WPA2 = Crew.

Once the Network Key is correct select 'Done' bottom right.

Once you have confirmed that the details are correct on the Network settings page and if you don't need to set the WiFi settings (WiFi mode only) then you can select 'OK' and the details should now be stored.

## Testing your WiFi details

During a connection attempt the dialogue box at the top of the screen will first show 'Finding Network', if this changes to 'Data Connecting' then you will know that your WiFi details are correct. If the unit fails whilst still in 'Finding Network' then the details are most likely incorrect or the Tempus is out of range of the WiFi network.

For further testing information please see the '**Tempus IC**™ commissioning (Ethernet - WiFi)' document which can also be supplied by RDT on request.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